LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 18

2020

Bate Stamp Numbers
00979682 – 00981424

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976–2020

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

VOLUME 18

2020

A. Title: (8d. cont'd) Appendix F (cont'd) to Report – Quarterly Evaluation Report, 2nd Quarter (April–June) 2020 Groundwater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Bhate Environmental Associates, Inc.
Recipient: U.S. Army Corps of Engineers – Tulsa District
Date: August 27, 2020
Bate Stamp: 00979682 – 00980093

B. Title: (8e.) Appendix F (cont'd) to Report – Quarterly Evaluation Report, 2nd Quarter (April–June) 2020 Groundwater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Bhate Environmental Associates, Inc.
Recipient: U.S. Army Corps of Engineers – Tulsa District
Date: August 27, 2020
Bate Stamp: 00980094 – 00980902

C. Title: (8f.) Appendix F (cont'd) to Report – Quarterly Evaluation Report, 2nd Quarter (April–June) 2020 Groundwater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Bhate Environmental Associates, Inc.
Recipient: U.S. Army Corps of Engineers – Tulsa District
Date: August 27, 2020
Bate Stamp: 00980903 – 00981424

Sample Report

Sample Table

Sample Name	LCS-153375
Data File Name	059SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\051
Acq Date Time	2020-05-11T14:53:46-05:00
Sample Type	Sample
Dilution	1
Comment	DOD B 153375
ISTD Ref FileName	019CALB.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
Be	9	1	nogas	45.561	45.561	1.68	146564	0.03	2000	
B	11	1	nogas	2.205	2.205	2.51	14731	0.01	2000	
Al	27	1	nogas	57.062	57.062	1.35	505885	0.01	2000	
Ca	44	1	nogas	4906.703	4906.703	2.78	1343308	0.37	200000	
Ti	47	1	nogas	48.755	48.755	2.16	36419	0.13	2000	
Cr	52	1	nogas	44.646	44.646	2.76	476256	0.01	2000	
Co	59	1	nogas	50.034	50.034	2.73	457391	0.01	2000	
Cu	63	1	nogas	51.056	51.056	2.57	240251	0.02	2000	
Zn	66	1	nogas	50.613	50.613	0.88	70208	0.07	2000	
Se	77	1	nogas	-51.771	-51.771	-45.05	26436	-0.20	2000	
Se	82	1	nogas	51.226	51.226	3.14	4010	1.28	2000	
Sr	88	1	nogas	0.032	0.032	68.69	1713	0.00	2000	
Mo	95	1	nogas	47.581	47.581	1.58	113459	0.04	2000	
Ag	107	1	nogas	50.043	50.043	2.27	285643	0.02	2000	
Cd	111	1	nogas	49.095	49.095	0.44	58126	0.08	2000	
Sn	118	1	nogas	0.091	0.091	36.01	800	0.01	2000	
Sb	121	1	nogas	49.587	49.587	0.71	239376	0.02	2000	
Ba	137	1	nogas	47.531	47.531	1.25	87414	0.05	2000	
Tl	205	1	nogas	42.329	42.329	1.02	478597	0.01	2000	
Pb	208	1	nogas	45.310	45.310	1.13	668371	0.01	2000	
U	238	1	nogas	0.001	0.001	49.68	57	0.00	2000	
Li	7	1	nogas	0.059	0.059	132.23	51699	0.00	1000	
Si	28	1	nogas	587.647	587.647	70.61	7309129	0.01	2000	
Tl	203	1	nogas	45.336	45.336	2.18	201977	0.02	2000	
Na	23	2	He	4898.766	4898.766	0.73	3738555	0.13	200000	
Mg	24	2	He	4985.586	4985.586	1.91	2066969	0.24	200000	
Al	27	2	He	54.444	54.444	3.02	11280	0.48	2000	
K	39	2	He	4955.086	4955.086	2.58	1641482	0.30	200000	
Ca	43	2	He	4581.816	4581.816	3.25	4491	102.03	200000	
Ca	44	2	He	4663.486	4663.486	1.63	77464	6.02	200000	
V	51	2	He	44.498	44.498	0.62	139265	0.03	2000	
Cr	52	2	He	46.891	46.891	2.08	156963	0.03	2000	
Mn	55	2	He	46.711	46.711	1.62	99319	0.05	2000	
Fe	56	2	He	4664.191	4664.191	0.38	13677008	0.03	200000	
Co	59	2	He	47.186	47.186	0.26	226480	0.02	2000	
Ni	60	2	He	48.607	48.607	1.43	59065	0.08	2000	
Cu	63	2	He	48.718	48.718	1.88	153319	0.03	2000	
Zn	66	2	He	47.631	47.631	1.42	28693	0.17	2000	

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As	75	2	He	47.785	47.785	1.54	18893	0.25	2000	
Sb	121	2	He	46.726	46.726	1.86	114328	0.04	2000	
Se	78	2	He	48.105	48.105	4.66	1439	3.34	2000	
Ti	47	2	He	47.907	47.907	2.06	4671	1.03	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1195497	0.69	1296302	92.22	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1199824	1.31	1353535	88.64	70	120	
Li	6	1	nogas	620945	1.23	656425	94.59	70	120	
Bi	209	1	nogas	1039427	1.43	1092467	95.14	70	120	
Ge	72	2	He	337934	0.02	366638	92.17	70	120	
In	115	2	He	468713	1.14	519818	90.17	70	120	

Sample Report

Sample Table

Sample Name	HS20050176-01SD
Data File Name	061SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\051
Acq Date Time	2020-05-11T14:58:33-05:00
Sample Type	Sample
Dilution	5
Comment	DOD B 153375
ISTD Ref FileName	019CALB.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
Be	9	1	nogas	0.009	0.045	62.86	80	0.01	2000	
B	11	1	nogas	9.201	46.003	0.25	27615	0.03	2000	
Al	27	1	nogas	10.927	54.636	3.86	107623	0.01	2000	
Ca	44	1	nogas	1397.885	6989.427	0.47	434827	0.32	200000	
Ti	47	1	nogas	0.987	4.933	5.10	830	0.12	2000	
Cr	52	1	nogas	0.209	1.047	58.75	51211	0.00	2000	
Co	59	1	nogas	0.492	2.458	1.95	4447	0.01	2000	
Cu	63	1	nogas	1.421	7.103	4.36	7595	0.02	2000	
Zn	66	1	nogas	12.321	61.603	1.54	17622	0.07	2000	
Se	77	1	nogas	-39.329	-196.645	-9.44	25502	-0.15	2000	
Se	82	1	nogas	0.387	1.937	342.17	-67	-0.58	2000	
Sr	88	1	nogas	30.549	152.747	0.41	373535	0.01	2000	
Mo	95	1	nogas	0.422	2.108	12.38	1017	0.04	2000	
Ag	107	1	nogas	-0.056	-0.281	-19.76	97	-0.06	2000	
Cd	111	1	nogas	0.031	0.157	43.17	47	0.07	2000	
Sn	118	1	nogas	0.069	0.346	10.70	687	0.01	2000	
Sb	121	1	nogas	0.294	1.468	8.59	1743	0.02	2000	
Ba	137	1	nogas	13.247	66.233	1.60	23420	0.06	2000	
Tl	205	1	nogas	0.018	0.089	20.88	250	0.01	2000	
Pb	208	1	nogas	0.049	0.247	22.66	997	0.00	2000	
U	238	1	nogas	0.064	0.320	8.04	1040	0.01	2000	
Li	7	1	nogas	3.857	19.283	4.84	84555	0.00	1000	
Si	28	1	nogas	35531.367	177656.837	1.51	19713413	0.18	2000	>LDR
Tl	203	1	nogas	0.019	0.093	12.43	100	0.02	2000	
Na	23	2	He	61837.333	309186.666	1.78	45218286	0.14	200000	
Mg	24	2	He	2358.731	11793.657	0.88	942901	0.25	200000	
Al	27	2	He	9.966	49.832	9.97	2317	0.43	2000	
K	39	2	He	298.546	1492.732	0.55	135017	0.22	200000	
Ca	43	2	He	1559.339	7796.695	7.98	1477	105.59	200000	
Ca	44	2	He	1464.524	7322.622	1.94	23782	6.16	200000	
V	51	2	He	-1.400	-7.001	-4.84	6575	-0.02	2000	
Cr	52	2	He	1.055	5.274	3.45	4067	0.03	2000	
Mn	55	2	He	24.392	121.958	1.92	50045	0.05	2000	
Fe	56	2	He	46.283	231.417	3.01	136214	0.03	200000	
Co	59	2	He	0.436	2.179	4.50	2093	0.02	2000	
Ni	60	2	He	1.085	5.425	11.08	1320	0.08	2000	
Cu	63	2	He	0.695	3.477	5.12	2767	0.03	2000	
Zn	66	2	He	11.497	57.486	5.02	7338	0.16	2000	

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As	75	2	He	0.180	0.898	67.73	167	0.11	2000	
Sb	121	2	He	0.285	1.424	10.57	910	0.03	2000	
Se	78	2	He	0.156	0.779	199.90	35	0.45	2000	
Ti	47	2	He	0.082	0.412	197.33	17	0.49	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1122192	1.11	1296302	86.57	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1143488	0.09	1353535	84.48	70	120	
Li	6	1	nogas	599639	0.83	656425	91.35	70	120	
Bi	209	1	nogas	959409	1.63	1092467	87.82	70	120	
Ge	72	2	He	325766	0.72	366638	88.85	70	120	
In	115	2	He	454066	0.94	519818	87.35	70	120	

Sample Report

Sample Table

Sample Name	HS20050176-01MS
Data File Name	062SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\051
Acq Date Time	2020-05-11T15:00:55-05:00
Sample Type	Sample
Dilution	1
Comment	DOD B 153375
ISTD Ref FileName	019CALB.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
Be	9	1	nogas	46.254	46.254	0.37	139289	0.03	2000	
B	11	1	nogas	34.328	34.328	2.96	73371	0.05	2000	
Al	27	1	nogas	98.924	98.924	3.22	811672	0.01	2000	
Ca	44	1	nogas	12458.297	12458.297	0.54	3052326	0.41	200000	
Ti	47	1	nogas	54.325	54.325	1.77	38243	0.14	2000	
Cr	52	1	nogas	46.203	46.203	1.18	462962	0.01	2000	
Co	59	1	nogas	50.727	50.727	1.03	437264	0.01	2000	
Cu	63	1	nogas	61.937	61.937	3.48	274540	0.02	2000	
Zn	66	1	nogas	108.273	108.273	1.61	139198	0.08	2000	
Se	77	1	nogas	-38.099	-38.099	-70.18	25685	-0.15	2000	
Se	82	1	nogas	49.633	49.633	5.72	3661	1.36	2000	
Sr	88	1	nogas	158.100	158.100	2.13	1894490	0.01	2000	
Mo	95	1	nogas	49.132	49.132	1.83	109735	0.04	2000	
Ag	107	1	nogas	47.050	47.050	2.23	251568	0.02	2000	
Cd	111	1	nogas	46.549	46.549	1.17	51616	0.09	2000	
Sn	118	1	nogas	0.051	0.051	21.24	613	0.01	2000	
Sb	121	1	nogas	49.466	49.466	1.75	225147	0.02	2000	
Ba	137	1	nogas	111.266	111.266	1.18	191301	0.06	2000	
Tl	205	1	nogas	42.366	42.366	1.41	431664	0.01	2000	
Pb	208	1	nogas	44.926	44.926	0.70	597212	0.01	2000	
U	238	1	nogas	0.356	0.356	4.32	5504	0.01	2000	
Li	7	1	nogas	18.051	18.051	1.55	207407	0.01	1000	
Si	28	1	nogas	174309.270	174309.270	0.41	71074347	0.25	2000	>LDR
Tl	203	1	nogas	45.221	45.221	1.03	181582	0.02	2000	
Na	23	2	He	310443.565	310443.565	2.93	221440450	0.14	200000	>LDR
Mg	24	2	He	16732.723	16732.723	3.07	6524824	0.26	200000	
Al	27	2	He	100.292	100.292	1.00	19227	0.52	2000	
K	39	2	He	6557.680	6557.680	3.57	2030129	0.32	200000	
Ca	43	2	He	11925.409	11925.409	8.18	10980	108.61	200000	
Ca	44	2	He	12177.677	12177.677	4.03	189496	6.43	200000	
V	51	2	He	45.736	45.736	2.67	134376	0.03	2000	
Cr	52	2	He	48.514	48.514	2.92	152741	0.03	2000	
Mn	55	2	He	167.160	167.160	1.99	334119	0.05	2000	
Fe	56	2	He	4959.472	4959.472	1.65	13682394	0.04	200000	
Co	59	2	He	49.700	49.700	3.35	224385	0.02	2000	
Ni	60	2	He	51.250	51.250	3.66	58577	0.09	2000	
Cu	63	2	He	49.030	49.030	3.79	145131	0.03	2000	
Zn	66	2	He	104.640	104.640	2.49	58279	0.18	2000	

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As	75	2	He	49.064	49.064	3.71	18245	0.27	2000	
Sb	121	2	He	47.601	47.601	5.48	109525	0.04	2000	
Se	78	2	He	49.547	49.547	5.53	1393	3.56	2000	
Ti	47	2	He	51.023	51.023	5.67	4677	1.09	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1127100	0.38	1296302	86.95	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1123741	0.65	1353535	83.02	70	120	
Li	6	1	nogas	581214	1.34	656425	88.54	70	120	
Bi	209	1	nogas	936646	0.54	1092467	85.74	70	120	
Ge	72	2	He	318007	1.83	366638	86.74	70	120	
In	115	2	He	453621	1.21	519818	87.27	70	120	

Sample Report

Sample Table

Sample Name	HS20050176-01MSD
Data File Name	063SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\051
Acq Date Time	2020-05-11T15:03:18-05:00
Sample Type	Sample
Dilution	1
Comment	DOD B 153375
ISTD Ref FileName	019CALB.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
Be	9	1	nogas	48.698	48.698	1.26	147069	0.03	2000	
B	11	1	nogas	37.465	37.465	0.99	79443	0.05	2000	
Al	27	1	nogas	108.276	108.276	3.14	886954	0.01	2000	
Ca	44	1	nogas	13067.202	13067.202	1.24	3198528	0.41	200000	
Ti	47	1	nogas	56.666	56.666	0.66	39917	0.14	2000	
Cr	52	1	nogas	49.340	49.340	1.65	491369	0.01	2000	
Co	59	1	nogas	53.329	53.329	2.10	459959	0.01	2000	
Cu	63	1	nogas	74.582	74.582	2.71	330621	0.02	2000	
Zn	66	1	nogas	113.854	113.854	1.06	146382	0.08	2000	
Se	77	1	nogas	-33.275	-33.275	-56.65	25975	-0.13	2000	
Se	82	1	nogas	48.933	48.933	3.09	3612	1.35	2000	
Sr	88	1	nogas	167.326	167.326	2.11	2006685	0.01	2000	
Mo	95	1	nogas	52.275	52.275	2.45	116851	0.04	2000	
Ag	107	1	nogas	49.130	49.130	0.96	262912	0.02	2000	
Cd	111	1	nogas	49.380	49.380	2.62	54799	0.09	2000	
Sn	118	1	nogas	0.061	0.061	32.58	647	0.01	2000	
Sb	121	1	nogas	53.382	53.382	1.11	243098	0.02	2000	
Ba	137	1	nogas	117.998	117.998	1.80	203029	0.06	2000	
Tl	205	1	nogas	44.733	44.733	2.01	451778	0.01	2000	
Pb	208	1	nogas	48.284	48.284	2.69	636099	0.01	2000	
U	238	1	nogas	0.359	0.359	4.89	5501	0.01	2000	
Li	7	1	nogas	19.128	19.128	1.92	217590	0.01	1000	
Si	28	1	nogas	188006.453	188006.453	1.25	76187289	0.25	2000	>LDR
Tl	203	1	nogas	47.776	47.776	2.43	190127	0.03	2000	
Na	23	2	He	326128.957	326128.957	1.95	235002943	0.14	200000	>LDR
Mg	24	2	He	17678.986	17678.986	1.30	6965302	0.25	200000	
Al	27	2	He	98.164	98.164	3.20	19013	0.52	2000	
K	39	2	He	6693.726	6693.726	1.40	2092995	0.32	200000	
Ca	43	2	He	12276.467	12276.467	6.78	11420	107.50	200000	
Ca	44	2	He	12672.296	12672.296	3.55	199195	6.36	200000	
V	51	2	He	49.063	49.063	1.07	144877	0.03	2000	
Cr	52	2	He	51.835	51.835	0.96	164833	0.03	2000	
Mn	55	2	He	173.078	173.078	1.67	349446	0.05	2000	
Fe	56	2	He	5093.214	5093.214	2.11	14192191	0.04	200000	
Co	59	2	He	50.636	50.636	1.96	230965	0.02	2000	
Ni	60	2	He	53.893	53.893	1.46	62232	0.09	2000	
Cu	63	2	He	51.213	51.213	3.64	153106	0.03	2000	
Zn	66	2	He	111.251	111.251	1.38	62547	0.18	2000	

Sample Report

As	75	2	He	52.003	52.003	2.56	19529	0.27	2000	
Sb	121	2	He	49.711	49.711	3.95	115553	0.04	2000	
Se	78	2	He	52.513	52.513	3.68	1490	3.52	2000	
Ti	47	2	He	53.271	53.271	3.74	4934	1.08	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1127994	1.43	1296302	87.02	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1124669	0.33	1353535	83.09	70	120	
Li	6	1	nogas	582957	0.87	656425	88.81	70	120	
Bi	209	1	nogas	928520	1.48	1092467	84.99	70	120	
Ge	72	2	He	321200	1.42	366638	87.61	70	120	
In	115	2	He	446091	0.70	519818	85.82	70	120	

Sample Report

Sample Table

Sample Name	HS20050176-01PDS
Data File Name	064SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\051
Acq Date Time	2020-05-11T15:05:40-05:00
Sample Type	Sample
Dilution	1
Comment	DOD B 153375
ISTD Ref FileName	019CALB.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
Be	9	1	nogas	97.645	97.645	1.11	294559	0.03	2000	
B	11	1	nogas	35.270	35.270	0.67	75284	0.05	2000	
Al	27	1	nogas	161.919	161.919	0.58	1332185	0.01	2000	
Ca	44	1	nogas	17877.016	17877.016	0.67	4389311	0.41	200000	
Ti	47	1	nogas	109.270	109.270	0.74	77768	0.14	2000	
Cr	52	1	nogas	95.661	95.661	1.28	917115	0.01	2000	
Co	59	1	nogas	103.730	103.730	2.02	905278	0.01	2000	
Cu	63	1	nogas	133.969	133.969	3.69	599737	0.02	2000	
Zn	66	1	nogas	164.859	164.859	1.53	213545	0.08	2000	
Se	77	1	nogas	3.097	3.097	638.43	28316	0.01	2000	
Se	82	1	nogas	100.068	100.068	6.98	7572	1.32	2000	
Sr	88	1	nogas	165.913	165.913	2.28	1980697	0.01	2000	
Mo	95	1	nogas	104.616	104.616	2.08	232727	0.04	2000	
Ag	107	1	nogas	95.664	95.664	1.17	509275	0.02	2000	
Cd	111	1	nogas	100.841	100.841	0.83	111406	0.09	2000	
Sn	118	1	nogas	0.063	0.063	37.26	650	0.01	2000	
Sb	121	1	nogas	91.836	91.836	2.76	422947	0.02	2000	
Ba	137	1	nogas	168.417	168.417	3.92	288293	0.06	2000	
Tl	205	1	nogas	90.667	90.667	1.55	925011	0.01	2000	
Pb	208	1	nogas	95.957	95.957	1.12	1277027	0.01	2000	
U	238	1	nogas	0.329	0.329	1.55	5091	0.01	2000	
Li	7	1	nogas	18.574	18.574	1.21	212473	0.01	1000	
Si	28	1	nogas	178580.917	178580.917	1.46	73580612	0.24	2000	>LDR
Tl	203	1	nogas	96.328	96.328	3.52	387234	0.02	2000	
Na	23	2	He	315512.935	315512.935	1.45	230126343	0.14	200000	>LDR
Mg	24	2	He	21955.995	21955.995	1.20	8754550	0.25	200000	
Al	27	2	He	153.559	153.559	5.57	29878	0.51	2000	
K	39	2	He	11539.916	11539.916	1.34	3621250	0.32	200000	
Ca	43	2	He	17073.951	17073.951	0.85	16080	106.18	200000	
Ca	44	2	He	17137.387	17137.387	1.31	272520	6.29	200000	
V	51	2	He	96.843	96.843	0.75	279250	0.03	2000	
Cr	52	2	He	97.906	97.906	0.94	314505	0.03	2000	
Mn	55	2	He	216.491	216.491	0.75	442393	0.05	2000	
Fe	56	2	He	10028.787	10028.787	1.08	28281792	0.04	200000	
Co	59	2	He	98.746	98.746	1.51	455817	0.02	2000	
Ni	60	2	He	100.708	100.708	1.93	117660	0.09	2000	
Cu	63	2	He	98.532	98.532	0.91	297599	0.03	2000	
Zn	66	2	He	155.797	155.797	1.50	88295	0.18	2000	

Sample Report

As	75	2	He	102.009	102.009	0.52	38684	0.26	2000	
Sb	121	2	He	87.184	87.184	0.18	204987	0.04	2000	
Se	78	2	He	100.680	100.680	3.10	2864	3.52	2000	
Ti	47	2	He	103.925	103.925	3.92	9736	1.07	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1141578	0.73	1296302	88.06	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1119779	1.62	1353535	82.73	70	120	
Li	6	1	nogas	582403	1.27	656425	88.72	70	120	
Bi	209	1	nogas	938019	1.13	1092467	85.86	70	120	
Ge	72	2	He	325064	0.30	366638	88.66	70	120	
In	115	2	He	450149	1.15	519818	86.60	70	120	

Sample Report

Sample Table

Sample Name	HS20050177-01
Data File Name	065SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\051
Acq Date Time	2020-05-11T15:08:01-05:00
Sample Type	Sample
Dilution	1
Comment	DOD B 153375
ISTD Ref FileName	019CALB.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
Be	9	1	nogas	0.160	0.160	21.04	565	0.03	2000	
B	11	1	nogas	33.183	33.183	2.63	75711	0.04	2000	
Al	27	1	nogas	47.722	47.722	0.98	419010	0.01	2000	
Ca	44	1	nogas	20203.117	20203.117	2.03	5086833	0.40	200000	
Ti	47	1	nogas	4.014	4.014	6.16	3080	0.13	2000	
Cr	52	1	nogas	1.277	1.277	49.08	63524	0.00	2000	
Co	59	1	nogas	7.498	7.498	0.93	67524	0.01	2000	
Cu	63	1	nogas	6.368	6.368	6.67	30676	0.02	2000	
Zn	66	1	nogas	24.145	24.145	1.83	34032	0.07	2000	
Se	77	1	nogas	-54.395	-54.395	-48.55	25812	-0.21	2000	
Se	82	1	nogas	1.558	1.558	59.36	23	6.91	2000	
Sr	88	1	nogas	375.903	375.903	1.29	4764060	0.01	2000	
Mo	95	1	nogas	0.567	0.567	4.44	1400	0.04	2000	
Ag	107	1	nogas	-0.037	-0.037	-22.03	207	-0.02	2000	
Cd	111	1	nogas	0.169	0.169	60.69	210	0.08	2000	
Sn	118	1	nogas	0.011	0.011	183.14	503	0.00	2000	
Sb	121	1	nogas	3.461	3.461	12.92	16815	0.02	2000	
Ba	137	1	nogas	346.609	346.609	2.19	629857	0.06	2000	
Tl	205	1	nogas	0.078	0.078	18.13	910	0.01	2000	
Pb	208	1	nogas	0.161	0.161	6.28	2603	0.01	2000	
U	238	1	nogas	0.113	0.113	8.55	1870	0.01	2000	
Li	7	1	nogas	19.228	19.228	0.47	231458	0.01	1000	
Si	28	1	nogas	247069.191	247069.191	1.39	102025018	0.24	2000	>LDR
Tl	203	1	nogas	0.080	0.080	11.43	363	0.02	2000	
Na	23	2	He	115860.038	115860.038	2.20	87053182	0.13	200000	
Mg	24	2	He	16161.656	16161.656	1.22	6638011	0.24	200000	
Al	27	2	He	47.412	47.412	5.60	9783	0.48	2000	
K	39	2	He	931.858	931.858	0.73	341121	0.27	200000	
Ca	43	2	He	19285.180	19285.180	0.48	18710	103.08	200000	
Ca	44	2	He	19266.059	19266.059	0.65	315546	6.11	200000	
V	51	2	He	-0.632	-0.632	-2.53	8954	-0.01	2000	
Cr	52	2	He	1.934	1.934	3.96	7085	0.03	2000	
Mn	55	2	He	392.446	392.446	0.70	826057	0.05	2000	
Fe	56	2	He	1495.104	1495.104	1.44	4347927	0.03	200000	
Co	59	2	He	6.960	6.960	3.66	33160	0.02	2000	
Ni	60	2	He	8.932	8.932	5.57	10797	0.08	2000	
Cu	63	2	He	3.743	3.743	5.79	12301	0.03	2000	
Zn	66	2	He	23.718	23.718	0.51	14609	0.16	2000	

Sample Report

As	75	2	He	1.174	1.174	10.49	559	0.21	2000	
Sb	121	2	He	2.401	2.401	4.50	6054	0.04	2000	
Se	78	2	He	0.974	0.974	7.96	59	1.64	2000	
Ti	47	2	He	1.112	1.112	36.30	117	0.95	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1173952	0.34	1296302	90.56	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1188927	0.72	1353535	87.84	70	120	
Li	6	1	nogas	617561	0.96	656425	94.08	70	120	
Bi	209	1	nogas	990577	2.04	1092467	90.67	70	120	
Ge	72	2	He	334867	1.38	366638	91.33	70	120	
In	115	2	He	458174	2.15	519818	88.14	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	067_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\051
Acq Date Time	2020-05-11T15:13:28-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	019CALB.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
Be	9	1	nogas	96.428	1.141	295066	2.40	100	96.4	90	110	
B	11	1	nogas	438.645	1.660	836862	2.24	500	87.7	90	110	CCV Main CR1-2 Failed
Al	27	1	nogas	99.748	0.284	852135	0.70	100	99.7	90	110	
P	31	1	nogas	517.991	1.318	272512	1.18	500	103.6	90	110	
Ca	44	1	nogas	10159.174	1.665	2612487	1.65	10000	101.6	90	110	
Ti	47	1	nogas	102.451	1.197	74984	1.79	100	102.5	90	110	
Cr	52	1	nogas	96.815	0.885	953734	0.27	100	96.8	90	110	
Co	59	1	nogas	104.091	1.162	934169	1.78	100	104.1	90	110	
Cu	63	1	nogas	104.336	1.771	480643	2.28	100	104.3	90	110	
Zn	66	1	nogas	103.569	0.592	138758	0.12	100	103.6	90	110	
Se	77	1	nogas	29.709	56.595	30643	3.59	100	29.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	100.016	4.442	7785	4.82	100	100.0	90	110	
Sr	88	1	nogas	94.568	0.778	1187328	0.25	100	94.6	90	110	
Mo	95	1	nogas	100.087	0.061	234056	0.57	100	100.1	90	110	
Ag	107	1	nogas	99.517	1.804	556810	1.38	100	99.5	90	110	
Cd	111	1	nogas	99.915	0.650	116021	1.28	100	99.9	90	110	
Sn	118	1	nogas	99.351	0.860	353156	0.50	100	99.4	90	110	
Sb	121	1	nogas	104.802	1.645	496290	2.25	100	104.8	90	110	
Ba	137	1	nogas	99.632	0.440	179431	0.59	100	99.6	90	110	
Tl	205	1	nogas	92.060	2.978	995055	2.09	100	92.1	90	110	
Pb	208	1	nogas	98.003	1.187	1381841	0.31	100	98.0	90	110	
U	238	1	nogas	96.365	1.641	1570713	0.90	100	96.4	90	110	
Li	7	1	nogas	97.692	0.085	926196	1.31	100	97.7	90	110	
Si	28	1	nogas	6265.087	4.879	9360152	0.74	5000	125.3	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	97.764	3.732	416405	2.82	100	97.8	90	110	
Na	23	2	He	10130.493	0.915	7419983	1.03	10000	101.3	90	110	
Mg	24	2	He	10115.691	1.126	4038208	1.19	10000	101.2	90	110	
Al	27	2	He	97.949	2.446	19223	2.34	100	97.9	90	110	
K	39	2	He	10240.502	2.096	3221810	2.06	10000	102.4	90	110	
Ca	43	2	He	9927.346	2.198	9363	2.08	10000	99.3	90	110	
Ca	44	2	He	10122.692	1.446	161351	1.33	10000	101.2	90	110	
V	51	2	He	98.961	0.500	285448	0.52	100	99.0	90	110	
Cr	52	2	He	98.874	0.664	317961	0.55	100	98.9	90	110	
Mn	55	2	He	98.607	0.467	201785	0.49	100	98.6	90	110	
Fe	56	2	He	9873.643	0.380	27874915	0.30	10000	98.7	90	110	
Co	59	2	He	101.613	0.934	469568	1.00	100	101.6	90	110	
Ni	60	2	He	102.011	0.644	119314	0.52	100	102.0	90	110	
Cu	63	2	He	102.729	0.948	310592	1.04	100	102.7	90	110	
Zn	66	2	He	99.433	1.138	56731	1.22	100	99.4	90	110	
As	75	2	He	99.642	1.305	37830	1.28	100	99.6	90	110	
Sb	121	2	He	100.622	1.931	236810	1.99	100	100.6	90	110	
Se	78	2	He	102.180	2.265	2909	2.18	100	102.2	90	110	
Ti	47	2	He	104.775	1.783	9826	1.69	100	104.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1173772	0.63	1296302	90.55	70	120	
In	115	1	nogas	1176856	0.63	1353535	86.95	70	120	
Li	6	1	nogas	590664	1.28	656425	89.98	70	120	
Bi	209	1	nogas	993842	0.93	1092467	90.97	70	120	
Ge	72	2	He	325423	0.13	366638	88.76	70	120	
In	115	2	He	464348	1.15	519818	89.33	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	068_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\051
Acq Date Time	2020-05-11T15:15:51-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	019CALB.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
Be	9	1	nogas	0.033	24.7	158	16.2	1	
B	11	1	nogas	6.782	9.6	23728	5.5	10	
Al	27	1	nogas	-0.387	-21.3	18593	1.8	5	
P	31	1	nogas	-1.351	-274.8	54886	1.4	10	
Ca	44	1	nogas	-165.704	-6.6	70572	2.4	100	
Ti	47	1	nogas	0.112	73.0	233	27.6	2.5	
Cr	52	1	nogas	-1.674	-6.8	36446	2.8	2.5	
Co	59	1	nogas	0.019	30.0	420	10.9	2.5	
Cu	63	1	nogas	0.254	17.3	2617	6.4	2	
Zn	66	1	nogas	-0.876	-16.2	1040	16.2	2.5	
Se	77	1	nogas	-121.111	-23.2	22257	8.3	2.5	
Se	82	1	nogas	0.059	2478.2	-97	-119.9	2	
Sr	88	1	nogas	0.009	76.2	1433	6.3	2.5	
Mo	95	1	nogas	0.172	16.4	477	14.0	2.5	
Ag	107	1	nogas	-0.036	-46.7	220	43.4	2.5	
Cd	111	1	nogas	0.007	213.2	20	86.6	1	
Sn	118	1	nogas	0.412	7.6	1977	5.6	5	
Sb	121	1	nogas	0.899	4.4	4744	3.1	2.5	
Ba	137	1	nogas	0.024	170.5	337	22.7	2.5	
Tl	205	1	nogas	0.126	18.7	1457	19.3	1	
Pb	208	1	nogas	0.027	31.8	733	17.7	2.5	
U	238	1	nogas	0.095	40.8	1613	41.3	2.5	
Si	28	1	nogas	637.930	118.1	7282146	3.5	5	CCB Main CR1 Failed
Na	23	2	He	121.589	3.6	115229	2.9	100	CCB Main CR1 Failed
Mg	24	2	He	1.245	15.2	923	8.4	100	
Al	27	2	He	0.305	175.0	470	22.4	5	
K	39	2	He	9.314	25.3	46264	1.6	100	
Ca	43	2	He	7.534	209.8	13	114.6	100	
Ca	44	2	He	-5.204	-78.1	413	16.1	100	
V	51	2	He	-2.019	-1.7	4978	1.9	2.5	
Cr	52	2	He	-0.013	-121.5	653	7.9	2.5	
Mn	55	2	He	-0.003	-692.7	103	40.3	2.5	
Fe	56	2	He	1.096	22.3	8766	8.1	100	
Co	59	2	He	0.016	40.9	153	19.9	2.5	
Ni	60	2	He	0.029	32.8	87	13.3	2.5	
Cu	63	2	He	0.091	13.1	967	3.9	2	
Zn	66	2	He	-0.797	-23.1	437	24.3	2.5	
As	75	2	He	0.020	91.9	109	6.4	2.5	
Sb	121	2	He	0.924	10.4	2477	9.3	2.5	
Se	78	2	He	0.426	83.4	43	23.7	2	
Ti	47	2	He	-0.095	0.0	0	#DIV/0!	2.5	

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1188248	2.19	1296302	91.66	70	120	
In	115	1	nogas	1209333	0.35	1353535	89.35	70	120	
Li	6	1	nogas	618975	0.24	656425	94.29	70	120	
Bi	209	1	nogas	1011833	1.70	1092467	92.62	70	120	
Ge	72	2	He	334059	0.08	366638	91.11	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	2	He	469865	0.38	519818	90.39	70	120	

Tune Report

Batch Folder C:\Agilent\ICPMH\1\DATA\051120A.b
Report Comment
Instrument Name G3281A JP11080910

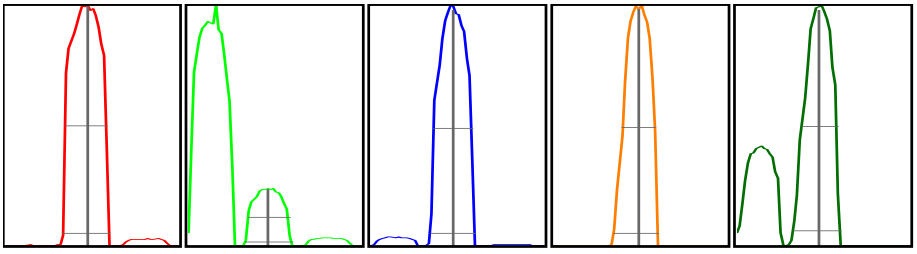
[nogas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		16086				NaN	-	
24		48970				NaN	-	
59		48547				NaN	-	
115		59390				NaN	-	
208		38431				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	0.53	5.00				
24	0.66	5.00				
59	0.70	5.00				
115	0.55	5.00				
208	0.34	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	16131	16031	16071	16207	15988
24	49498	48962	48984	48735	48671
59	48792	48454	48339	48156	48995
115	59490	59285	59623	58873	59677
208	38480	38277	38609	38340	38448

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	2420.83	8.95	8.9 - 9.1		0.70	0.793		
24	7802.29	23.90	23.9 - 24.1		0.68	0.805		
59	8039.18	58.95	58.9 - 59.1		0.64	0.776		
115	10501.28	115.00	114.9 - 115.1		0.59	0.759		
208	6612.50	207.95	207.9 - 208.1		0.60	0.813		

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 168.5 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.45 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	10.0 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-50 V
Omega Bias	-100 V	Cell Exit	-50 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	false	3rd Gas Flow	0 %		

RIGHT SOLUTIONS | RIGHT PARTNER

Tune Report

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		397				NaN	-	
24		3321				NaN	-	
59		27454				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	4.42	5.00				
24	1.03	5.00				
59	0.35	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	402	394	368	409	412
24	3322	3368	3331	3274	3308
59	27467	27392	27618	27398	27394

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	62.64	8.90	8.9 - 9.1		0.68	0.794		
24	521.12	23.95	23.9 - 24.1		0.68	0.795		
59	4551.46	59.00	58.9 - 59.1		0.64	0.769		

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 100.6 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.45 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	2.0 V
Extract 2	-200.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-100 V	Cell Exit	-60 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	4.3 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

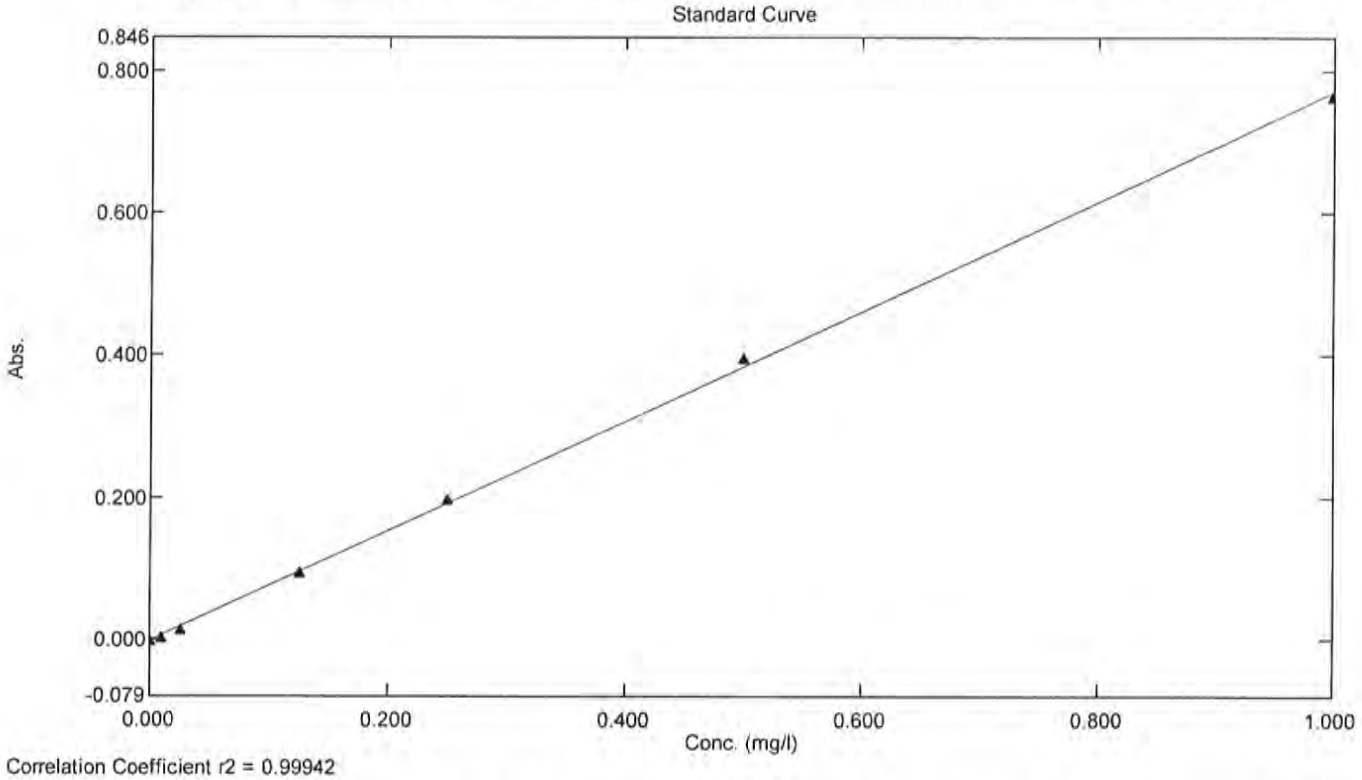
HS20050177 WC CR

ALS WO# HS20050177

Standard Table Report

05/28/2020 04:45:35 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2020\05062020CR6_W_.pho



Correlation Coefficient r2 = 0.99942

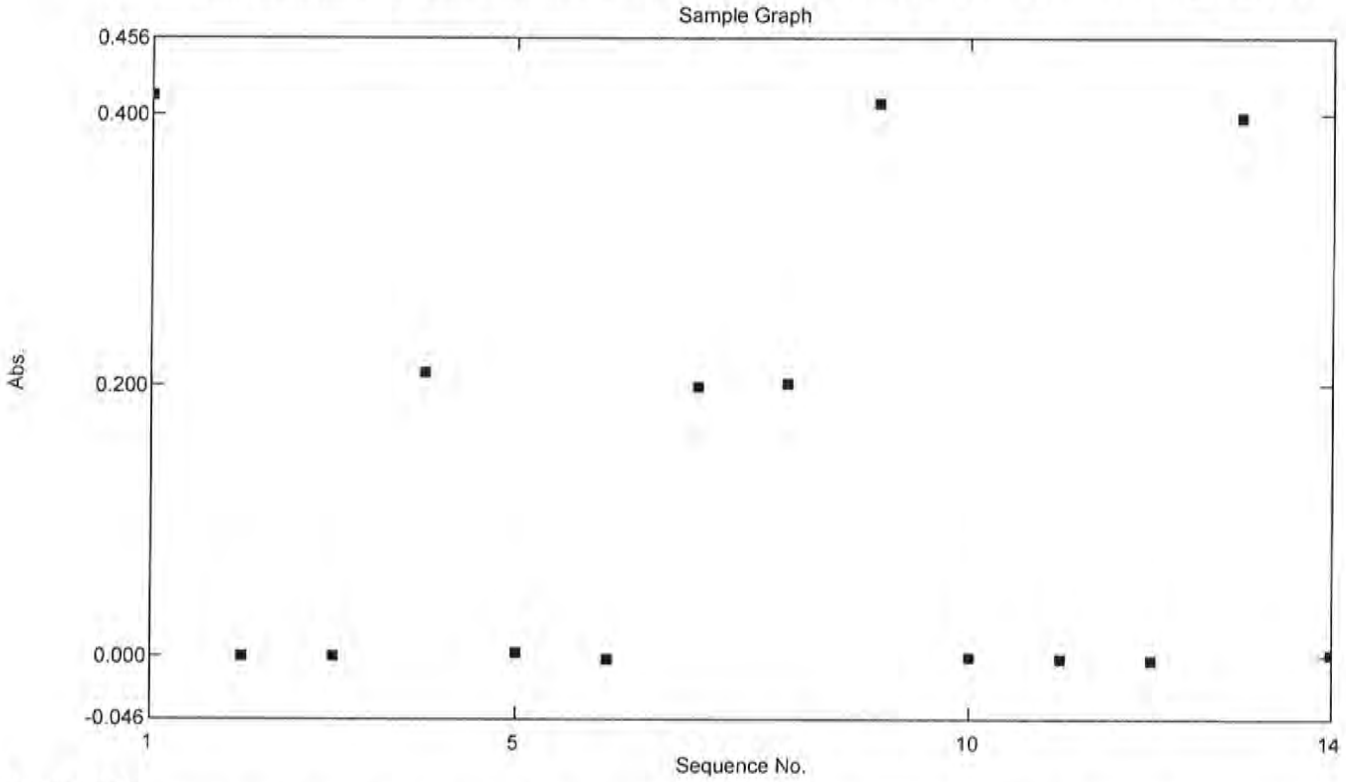
Standard Table

	Sample ID	Type	Ex	Conc	WL540.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.002	1.000	
2	STD2	Standard		0.010	0.002	1.000	
3	STD3	Standard		0.025	0.013	1.000	
4	STD4	Standard		0.125	0.094	1.000	
5	STD5	Standard		0.250	0.197	1.000	
6	STD6	Standard		0.500	0.397	1.000	
7	SYD7	Standard		1.000	0.763	1.000	
8							

Sample Table Report

05/28/2020 04:45:38 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2020\05062020CR6_W_.pho



Sample Table

	Sample ID	Type	Ex	Conc	WL540.0	Comments
1	CCV	Unknown		0.539	0.414	313104511 WC-14
2	CCB	Unknown		0.001	-0.001	313102507 WC-13
3	MBLK	Unknown		0.001	-0.000	313103411 WC-13
4	LCS	Unknown		0.273	0.209	313104510 WC-14
5	20050177.01	Unknown		0.005	0.002	1:33PM SAMP-BKG=TOTAL
6	20050177.01BKG	Unknown		-0.001	-0.002	1:34PM 0.005
7	20050177.01MS	Unknown		0.259	0.198	1:35PM
8	20050177.01MSD	Unknown		0.262	0.201	1:36PM
9	CCV2	Unknown		0.531	0.408	
10	CCB2	Unknown		-0.000	-0.002	
11	20050176.01	Unknown		-0.002	-0.003	2:00PM 0
12	20050176.01BKG	Unknown		-0.004	-0.004	2:00PM
13	CCV3	Unknown		0.517	0.397	
14	CCB3	Unknown		0.002	0.000	
15						

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WorkOrder: HS20050178

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

29-May-2020

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
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HS20050178

ALS WO# HS20050178

HS20050178 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS20050178

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Houston, TX 77099
T: +1 281 530 5656
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May 21, 2020

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS20050178**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia,

ALS Environmental received 2 sample(s) on May 06, 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: 21-May-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20050178

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20050178-01	LH18/24-SP650_050520	Water		05-May-2020 14:00	06-May-2020 09:00	☐
HS20050178-02	LH18/24-SP650_050520-BIX	Water		05-May-2020 14:00	06-May-2020 09:00	☐

ALS Houston, US Date: 21-May-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20050178

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.

WetChemistry by Method E365.3

Batch ID: R361404

Sample ID: LH18/24-SP650_050520 (HS20050178-01)

• Sample was analyzed outside of the holding time due to laboratory error. Sample results should be considered estimated.

WetChemistry by Method E350.3

Batch ID: R361370

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

ALS Houston, US Date: 21-May-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20050178
Sample ID: LH18/24-SP650_050520
Lab ID:HS20050178-01
Collection Date: 05-May-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: YP
Nitrogen, Ammonia (As N)	**3.7**	a	**0.20**	**0.10**	**0.20**	**mg/L**	1	11-May-2020 13:00
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**0.804**	Ha	**0.0100**	**0.0250**	**0.0250**	**mg/L**	1	12-May-2020 12:01
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	15-May-2020 15:30

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

ALS Houston, US Date: 21-May-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Weekly Samples WorkOrder:HS20050178
Sample ID: LH18/24-SP650_050520-BIX Lab ID:HS20050178-02
Collection Date: 05-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	21-May-2020 10:37

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

ALS Houston, US Date: 21-May-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20050178

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R361370 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20050178-01	LH18/24-SP650_050520	05 May 2020 14:00			11 May 2020 13:00	1
Batch ID: R361404 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20050178-01	LH18/24-SP650_050520	05 May 2020 14:00			12 May 2020 12:01	1
Batch ID: R361636 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20050178-01	LH18/24-SP650_050520	05 May 2020 14:00			15 May 2020 15:30	1
Batch ID: R361905 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20050178-02	LH18/24-SP650_050520-BIX	05 May 2020 14:00			21 May 2020 10:37	1

ALS Houston, US Date: 21-May-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20050178

QC BATCH REPORT

Batch ID: R361370 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY SM4500 NH3-D (ISE)**

MBLK Sample ID: **MBLK-R361370** Units: **mg/L** Analysis Date: **11-May-2020 13:00**
Client ID: Run ID: **WetChem_HS_361370** SeqNo: **5580661** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (as N)	0.10	0.20								U

LCS Sample ID: **LCS-R361370** Units: **mg/L** Analysis Date: **11-May-2020 13:00**
Client ID: Run ID: **WetChem_HS_361370** SeqNo: **5580660** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (as N)	10.38	0.20	10	0	104	85 - 115				

MS Sample ID: **HS20050114-01MS** Units: **mg/L** Analysis Date: **11-May-2020 13:00**
Client ID: Run ID: **WetChem_HS_361370** SeqNo: **5580663** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (as N)	10.2	0.20	10	0	102	80 - 120				

MSD Sample ID: **HS20050114-01MSD** Units: **mg/L** Analysis Date: **11-May-2020 13:00**
Client ID: Run ID: **WetChem_HS_361370** SeqNo: **5580662** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (as N)	10.35	0.20	10	0	103	80 - 120	10.2	1.45	20	

The following samples were analyzed in this batch: HS20050178-01

ALS Houston, US Date: 21-May-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20050178

QC BATCH REPORT

Batch ID: R361404 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

MBLK Sample ID: **MBLK-361404** Units: **mg/L** Analysis Date: **12-May-2020 12:01**
Client ID: Run ID: **UV-2450_361404** SeqNo: **5581239** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0250	0.0250								U

LCS Sample ID: **LCS-361404** Units: **mg/L** Analysis Date: **12-May-2020 12:01**
Client ID: Run ID: **UV-2450_361404** SeqNo: **5581240** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.25	0.0250	0.25	0	100	85 - 115				

LCSD Sample ID: **LCSD-361404** Units: **mg/L** Analysis Date: **12-May-2020 12:01**
Client ID: Run ID: **UV-2450_361404** SeqNo: **5581247** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.247	0.0250	0.25	0	98.8	85 - 115	0.25	1.21	20	

The following samples were analyzed in this batch: HS20050178-01

ALS Houston, US Date: 21-May-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20050178**

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

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 21-May-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20050178

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20050178-01	LH18/24-SP650_050520	Login	5/6/2020 12:14:27 PM	PMG	WET326
HS20050178-01	LH18/24-SP650_050520	Login	5/6/2020 12:14:27 PM	PMG	WET326
HS20050178-01	LH18/24-SP650_050520	Login	5/6/2020 12:14:27 PM	PMG	Sub
HS20050178-02	LH18/24-SP650_050520-BIX	Login	5/6/2020 12:14:27 PM	PMG	Sub

ALS Houston, US Date: 21-May-20

Sample Receipt Checklist

Work Order ID: HS20050178 **Date/Time Received:** 06-May-2020 09:00

Client Name: Bhate Environmental **Received by:** Asad Chaudhry

Completed By: /S/ Paresh M. Giga (eSignature) 06-May-2020 12:16 (Date/Time) **Reviewed by:** /S/ RJ Modashia (eSignature) 06-May-2020 14:49 (Date/Time)

Matrices: **Water** Carrier name: **FedEx**

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 ☐	COC IDs:None
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):	1.4C U/C	IR25	
Cooler(s)/Kit(s):	43868		
Date/Time sample(s) sent to storage:	5/6/2020 12:25		
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: BHATE
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS20050178

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_050520	Water	05/05/20 / 14:00		3	X	X			H2SO4	
LH18/24-SP650_050520	Water	05/05/20 / 14:00		1			X		NONE	
LH18/24-SP650_050520_BIX	Water	05/05/20 / 14:00		1				X	NONE	

Additional Remarks: **Standard TAT on all parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	05/05/20	14:30							AC	5/6/20	09:00

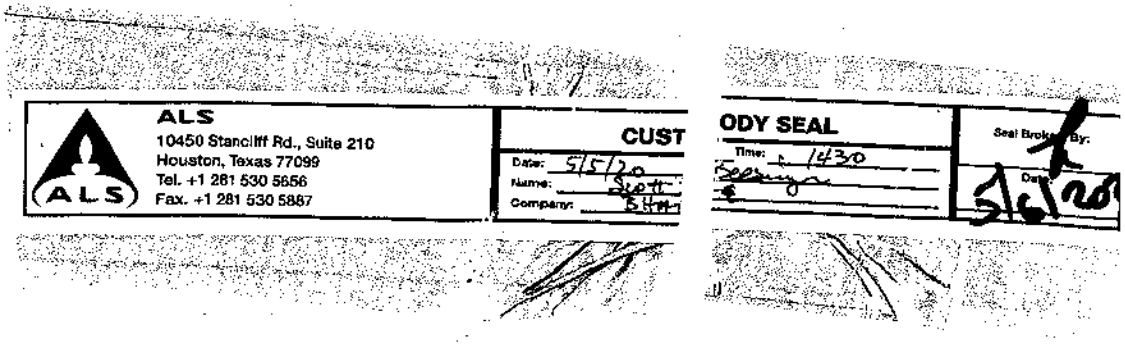
For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

C/C 1-4 IR#25 cf#s 43868

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



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

CUST
Date: 5/5/20
Name: Scott
Company: SHA

ODY SEAL
Time: 1430
Seal Broke By:
Date: 5/6/20

ORIGIN ID:SGRA (303) 597-2450
SCOTT BEESINGER
SHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 07APR20
ACTWGT: 1.00 LB MAN
CAD: 3001307CAFE3211
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5856
REF: ADDITIONAL BOTTLES-BO 71321-RJ

43868

RMA:

FedEx Express

FedEx
TRK# 0221 1251 0296 2152

WED - 06 MAY 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

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www.alsglobal.com

May 15, 2020

Analytical Report for Service Request No: K2003793

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

RE: ALS Houston DOD TOC / HS20050178

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 08, 2020
For your reference, these analyses have been assigned our service request number **K2003793.**

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: Water

Service Request: K2003793
Date Received: 05/08/2020

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:

One water sample was received for analysis at ALS Environmental on 05/08/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The sample was 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 05/15/2020

Chain of Custody

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K2003793

10450 Stancliff Rd, Ste 210
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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **13862**

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:	
Email:	

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20050178
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20050178-01**	**LH18/24-SP650_050520**	**Water**	**05 May 2020 14:00**
	TOC Analysis for DOD Level IV			20 May 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. Murphy Date/Time: 5/7/20 18:00

Received By: Date/Time: 5/8/20 1000

Cooler ID(s): Temperature(s):

PC KL

Cooler Receipt and Preservation Form

Client Air - Houston Service Request K20 03793

Received: 5/8/20 Opened: 5/8/20 By: BR Unloaded: 5/8/20 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

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID NA	Tracking Number NA	Filed
–	3.2	3.4	3.6	3.3	48900483		1251029684600	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA Y N

   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	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:**	K2003793
Project:	ALS Houston DOD TOC/HS20050178	**Date Collected:**	05/5/20
Sample Matrix:	Water	**Date Received:**	05/8/20
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
LH18/24-SP650_050520	K2003793-001	**2.34**	0.50	0.20	0.07	1	05/13/20 09:38	
Method Blank	K2003793-MB	ND U	0.50	0.20	0.07	1	05/12/20 23:41	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project ALS Houston DOD TOC/HS20050178
Sample Matrix: Water

Service Request: K2003793
Date Collected: 05/05/20
Date Received: 05/08/20
Date Analyzed: 05/13/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name: LH18/24-SP650_050520
Lab Code: K2003793-001

Units: mg/L
Basis: NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2003793-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	2.34	2.37	2.36	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:**	K2003793
Project:	ALS Houston DOD TOC/HS20050178	**Date Analyzed:**	05/12/20
Sample Matrix:	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:	679905

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2003793-LCS	25.5	25.0	102	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2003793
Project: ALS Houston DOD TOC/HS20050178

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	679905	KQ2006459-01	05/12/20 23:11	25.0	26.0	104	90-110
CCV2	679905	KQ2006459-02	05/13/20 03:00	25.0	25.9	104	90-110
CCV3	679905	KQ2006459-03	05/13/20 08:11	25.0	25.8	103	90-110
CCV4	679905	KQ2006459-04	05/13/20 12:54	25.0	26.0	104	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2003793
Project: ALS Houston DOD TOC/HS20050178

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	679905	KQ2006459-05	05/12/20 23:26	0.50	0.20	0.07	0.09	J
CCB2	679905	KQ2006459-06	05/13/20 03:16	0.50	0.20	0.07	ND	U
CCB3	679905	KQ2006459-07	05/13/20 08:26	0.50	0.20	0.07	0.15	J
CCB4	679905	KQ2006459-08	05/13/20 13:09	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # Original ( ) K2003631, 3711, 3723, 3737, 3742, 3746, 3791, 3792, 3793, 3814, 3842

Tier: IV II I II II II IV IV IV IV II

Date Analyzed: 5/12/20

Analyst: BCP

Analysis: TOC/DOC

TOC: 679905, 679906

Run # DOC: 679907

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 BCP 5/14/20
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: K2003737-MD, 3792-1, 3792-5, 3814-1, 3814-2, 3814-3, 3842-10, 3842-4, 3842-5, 3842-6, 3842-7 and respective dups report a high %RSD. However, these samples are less than 5x the MRL.

Final Approved by: _____ Date: 5/14/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 679905 **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
K2003631-010	Carbon, Total Organic	N/A		Water	0.05 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 10:06:00	N	IV
K2003711-001	Carbon, Total Organic	N/A		Drinking Water	0.57 mg/L	10 mL	0.57 mg/L	1	0.07	0.50			5/13/20 00:39:00	N	II
K2003723-001	Carbon, Total Organic	N/A		Water	5.89 mg/L	10 mL	589 mg/L	100	7	50			5/13/20 02:04:00	N	I
K2003737-001	Carbon, Total Organic	N/A		Drinking Water	0.73 mg/L	10 mL	0.73 mg/L	1	0.07	0.50			5/13/20 02:32:00	N	II
K2003742-001	Carbon, Total Organic	N/A		Water	6.84 mg/L	10 mL	6.84 mg/L	1	0.07	0.50			5/13/20 01:36:00	N	II
K2003746-001	Carbon, Total Organic	N/A		Water	2.22 mg/L	10 mL	2.22 mg/L	1	0.07	0.50			5/13/20 03:30:00	N	II
K2003791-001	Carbon, Total Organic	N/A		Ground Water	2.64 mg/L	10 mL	2.64 mg/L	1	0.07	0.50			5/13/20 03:59:00	N	IV
K2003791-002	Carbon, Total Organic	N/A		Ground Water	16.72 mg/L	10 mL	334 mg/L	20	2	10			5/13/20 04:27:00	N	IV
K2003791-003	Carbon, Total Organic	N/A		Ground Water	4.37 mg/L	10 mL	4.37 mg/L	1	0.07	0.50			5/13/20 04:55:00	N	IV
K2003791-004	Carbon, Total Organic	N/A		Ground Water	4.52 mg/L	10 mL	4.52 mg/L	1	0.07	0.50			5/13/20 05:23:00	N	IV
K2003791-005	Carbon, Total Organic	N/A		Ground Water	24.99 mg/L	10 mL	25.0 mg/L	1	0.07	0.50			5/13/20 05:51:00	N	IV
K2003792-001	Carbon, Total Organic	N/A		Ground Water	2.14 mg/L	10 mL	2.14 mg/L	1	0.07	0.50			5/13/20 06:19:00	N	IV
K2003792-002	Carbon, Total Organic	N/A		Ground Water	1.96 mg/L	10 mL	1.96 mg/L	1	0.07	0.50			5/13/20 06:47:00	N	IV
K2003792-003	Carbon, Total Organic	N/A		Ground Water	1.40 mg/L	10 mL	1.40 mg/L	1	0.07	0.50			5/13/20 07:15:00	N	IV
K2003792-004	Carbon, Total Organic	N/A		Ground Water	1.25 mg/L	10 mL	1.25 mg/L	1	0.07	0.50			5/13/20 07:43:00	N	IV
K2003792-005	Carbon, Total Organic	N/A		Ground Water	1.14 mg/L	10 mL	1.14 mg/L	1	0.07	0.50			5/13/20 09:10:00	N	IV
K2003793-001	Carbon, Total Organic	N/A		Water	2.34 mg/L	10 mL	2.34 mg/L	1	0.07	0.50			5/13/20 09:38:00	N	IV
K2003814-001	Carbon, Total Organic	N/A		Water	0.42 mg/L	10 mL	0.42 mg/L J	1	0.07	0.50			5/13/20 10:34:00	N	IV
K2003814-002	Carbon, Total Organic	N/A		Water	0.40 mg/L	10 mL	0.40 mg/L J	1	0.07	0.50			5/13/20 11:02:00	N	IV
K2003814-003	Carbon, Total Organic	N/A		Water	0.41 mg/L	10 mL	0.41 mg/L J	1	0.07	0.50			5/13/20 11:30:00	N	IV
KQ2006459-01	Carbon, Total Organic	CCV		Drinking Water	26.03 mg/L	10 mL	26.0 mg/L	1					5/12/20 23:11:00	N	II
KQ2006459-02	Carbon, Total Organic	CCV		Drinking Water	25.90 mg/L	10 mL	25.9 mg/L	1					5/13/20 03:00:00	N	II
KQ2006459-03	Carbon, Total Organic	CCV		Drinking Water	25.77 mg/L	10 mL	25.8 mg/L	1					5/13/20 08:11:00	N	II
KQ2006459-04	Carbon, Total Organic	CCV		Drinking Water	26.05 mg/L	10 mL	26.0 mg/L	1					5/13/20 12:54:00	N	II
KQ2006459-05	Carbon, Total Organic	CCB		Drinking Water	0.09 mg/L	10 mL	0.09 mg/L J	1	0.07	0.50			5/12/20 23:26:00	N	II
KQ2006459-06	Carbon, Total Organic	CCB		Drinking Water	0.03 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 03:16:00	N	II
KQ2006459-07	Carbon, Total Organic	CCB		Drinking Water	0.15 mg/L	10 mL	0.15 mg/L J	1	0.07	0.50			5/13/20 08:26:00	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-03 **Analyst:** BDITZLER **Analysis Lot:** 679905 **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
KQ2006459-08	Carbon, Total Organic	CCB		Drinking Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 13:09:00	N	II
KQ2006459-09	Carbon, Total Organic	MB		Drinking Water	0.03 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/12/20 23:41:00	N	II
KQ2006459-10	Carbon, Total Organic	LCS		Drinking Water	25.46 mg/L	10 mL	25.5 mg/L	1	0.07	0.50	102		5/12/20 23:55:00	N	II
KQ2006459-11	Carbon, Total Organic	MS	K2003711-001	Drinking Water	26.26 mg/L	10 mL	26.3 mg/L	1	0.07	0.50	103		5/13/20 01:07:00	N	II
KQ2006459-12	Carbon, Total Organic	DUP	K2003631-010	Water	0.01 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	5/13/20 10:06:00	N	IV
KQ2006459-13	Carbon, Total Organic	DUP	K2003711-001	Drinking Water	0.57 mg/L	10 mL	0.57 mg/L	1	0.07	0.50		<1	5/13/20 00:39:00	N	II
KQ2006459-14	Carbon, Total Organic	DUP	K2003723-001	Water	6.19 mg/L	10 mL	619 mg/L	100	7	50		5	5/13/20 02:04:00	N	I
KQ2006459-15	Carbon, Total Organic	DUP	K2003737-001	Drinking Water	0.58 mg/L	10 mL	0.58 mg/L	1	0.07	0.50		23*	5/13/20 02:32:00	N	II
KQ2006459-16	Carbon, Total Organic	DUP	K2003742-001	Water	6.87 mg/L	10 mL	6.87 mg/L	1	0.07	0.50		<1	5/13/20 01:36:00	N	II
KQ2006459-17	Carbon, Total Organic	DUP	K2003746-001	Water	2.10 mg/L	10 mL	2.10 mg/L	1	0.07	0.50		5	5/13/20 03:30:00	N	II
KQ2006459-18	Carbon, Total Organic	DUP	K2003791-002	Ground Water	17.08 mg/L	10 mL	342 mg/L	20	2	10		2	5/13/20 04:27:00	N	IV
KQ2006459-19	Carbon, Total Organic	DUP	K2003791-001	Ground Water	2.51 mg/L	10 mL	2.51 mg/L	1	0.07	0.50		5	5/13/20 03:59:00	N	IV
KQ2006459-20	Carbon, Total Organic	DUP	K2003791-003	Ground Water	4.37 mg/L	10 mL	4.37 mg/L	1	0.07	0.50		<1	5/13/20 04:55:00	N	IV
KQ2006459-21	Carbon, Total Organic	DUP	K2003791-004	Ground Water	4.29 mg/L	10 mL	4.29 mg/L	1	0.07	0.50		5	5/13/20 05:23:00	N	IV
KQ2006459-22	Carbon, Total Organic	DUP	K2003791-005	Ground Water	25.28 mg/L	10 mL	25.3 mg/L	1	0.07	0.50		1	5/13/20 05:51:00	N	IV
KQ2006459-23	Carbon, Total Organic	DUP	K2003792-002	Ground Water	1.87 mg/L	10 mL	1.87 mg/L	1	0.07	0.50		5	5/13/20 06:47:00	N	IV
KQ2006459-24	Carbon, Total Organic	DUP	K2003792-001	Ground Water	1.48 mg/L	10 mL	1.48 mg/L	1	0.07	0.50		37*	5/13/20 06:19:00	N	IV
KQ2006459-25	Carbon, Total Organic	DUP	K2003792-003	Ground Water	1.27 mg/L	10 mL	1.27 mg/L	1	0.07	0.50		10	5/13/20 07:15:00	N	IV
KQ2006459-26	Carbon, Total Organic	DUP	K2003792-004	Ground Water	1.18 mg/L	10 mL	1.18 mg/L	1	0.07	0.50		6	5/13/20 07:43:00	N	IV
KQ2006459-27	Carbon, Total Organic	DUP	K2003792-005	Ground Water	1.01 mg/L	10 mL	1.01 mg/L	1	0.07	0.50		12*	5/13/20 09:10:00	N	IV
KQ2006459-28	Carbon, Total Organic	DUP	K2003793-001	Water	2.37 mg/L	10 mL	2.37 mg/L	1	0.07	0.50		1	5/13/20 09:38:00	N	IV
KQ2006459-29	Carbon, Total Organic	DUP	K2003814-001	Water	0.38 mg/L	10 mL	0.38 mg/L J	1	0.07	0.50		11*	5/13/20 10:34:00	N	IV
KQ2006459-30	Carbon, Total Organic	DUP	K2003814-002	Water	0.34 mg/L	10 mL	0.34 mg/L J	1	0.07	0.50		15*	5/13/20 11:02:00	N	IV
KQ2006459-31	Carbon, Total Organic	DUP	K2003814-003	Water	0.35 mg/L	10 mL	0.35 mg/L J	1	0.07	0.50		15*	5/13/20 11:30:00	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-03 **Analyst:** BDITZLER **Analysis Lot:** 679906 **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
K2003842-001	Carbon, Total Organic	N/A		Water	1.82 mg/L	10 mL	1.82 mg/L	1	0.07	0.50			5/13/20 11:58:00	N	II
K2003842-002	Carbon, Total Organic	N/A		Water	1.08 mg/L	10 mL	1.08 mg/L	1	0.07	0.50			5/13/20 12:26:00	N	II
K2003842-003	Carbon, Total Organic	N/A		Water	0.62 mg/L	10 mL	0.62 mg/L	1	0.07	0.50			5/13/20 13:24:00	N	II
K2003842-004	Carbon, Total Organic	N/A		Water	0.56 mg/L	10 mL	0.56 mg/L	1	0.07	0.50			5/13/20 13:52:00	N	II
K2003842-005	Carbon, Total Organic	N/A		Water	0.58 mg/L	10 mL	0.58 mg/L	1	0.07	0.50			5/13/20 14:20:00	N	II
K2003842-006	Carbon, Total Organic	N/A		Water	0.54 mg/L	10 mL	0.54 mg/L	1	0.07	0.50			5/13/20 14:48:00	N	II
K2003842-007	Carbon, Total Organic	N/A		Water	0.43 mg/L	10 mL	0.43 mg/L J	1	0.07	0.50			5/13/20 15:16:00	N	II
K2003842-008	Carbon, Total Organic	N/A		Water	0.59 mg/L	10 mL	0.59 mg/L	1	0.07	0.50			5/13/20 15:44:00	N	II
K2003842-009	Carbon, Total Organic	N/A		Water	0.71 mg/L	10 mL	0.71 mg/L	1	0.07	0.50			5/13/20 16:12:00	N	II
K2003842-010	Carbon, Total Organic	N/A		Water	0.18 mg/L	10 mL	0.18 mg/L J	1	0.07	0.50			5/13/20 16:40:00	N	II
K2003842-011	Carbon, Total Organic	N/A		Water	0.56 mg/L	10 mL	0.56 mg/L	1	0.07	0.50			5/13/20 17:08:00	N	II
K2003842-012	Carbon, Total Organic	N/A		Water	0.81 mg/L	10 mL	0.81 mg/L	1	0.07	0.50			5/13/20 18:50:00	N	II
K2003842-013	Carbon, Total Organic	N/A		Water	0.96 mg/L	10 mL	0.96 mg/L	1	0.07	0.50			5/13/20 19:18:00	N	II
K2003842-014	Carbon, Total Organic	N/A		Water	0.46 mg/L	10 mL	0.46 mg/L J	1	0.07	0.50			5/13/20 19:46:00	N	II
K2003842-015	Carbon, Total Organic	N/A		Water	0.41 mg/L	10 mL	0.41 mg/L J	1	0.07	0.50			5/13/20 20:15:00	N	II
KQ2006460-01	Carbon, Total Organic	CCV		Water	25.77 mg/L	10 mL	25.8 mg/L	1					5/13/20 08:11:00	N	II
KQ2006460-02	Carbon, Total Organic	CCV		Water	26.05 mg/L	10 mL	26.0 mg/L	1					5/13/20 12:54:00	N	II
KQ2006460-03	Carbon, Total Organic	CCV		Water	25.97 mg/L	10 mL	26.0 mg/L	1					5/13/20 18:06:00	N	II
KQ2006460-04	Carbon, Total Organic	CCV		Water	25.18 mg/L	10 mL	25.2 mg/L	1					5/13/20 22:08:00	N	II
KQ2006460-05	Carbon, Total Organic	CCB		Water	0.15 mg/L	10 mL	0.15 mg/L J	1	0.07	0.50			5/13/20 08:26:00	N	II
KQ2006460-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 13:09:00	N	II
KQ2006460-07	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 18:21:00	N	II
KQ2006460-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 22:23:00	N	II
KQ2006460-09	Carbon, Total Organic	MB		Water	0.03 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 08:41:00	N	II
KQ2006460-10	Carbon, Total Organic	LCS		Water	25.27 mg/L	10 mL	25.3 mg/L	1	0.07	0.50	101		5/13/20 08:55:00	N	II
KQ2006460-11	Carbon, Total Organic	MS	K2003842-011	Water	26.42 mg/L	10 mL	26.4 mg/L	1	0.07	0.50	103		5/13/20 17:37:00	N	II
KQ2006460-12	Carbon, Total Organic	DUP	K2003842-015	Water	0.39 mg/L	10 mL	0.39 mg/L J	1	0.07	0.50		7	5/13/20 20:15:00	N	II
KQ2006460-13	Carbon, Total Organic	DUP	K2003842-001	Water	1.81 mg/L	10 mL	1.81 mg/L	1	0.07	0.50		<1	5/13/20 11:58:00	N	II
KQ2006460-14	Carbon, Total Organic	DUP	K2003842-002	Water	1.07 mg/L	10 mL	1.07 mg/L	1	0.07	0.50		<1	5/13/20 12:26:00	N	II
KQ2006460-15	Carbon, Total Organic	DUP	K2003842-003	Water	0.58 mg/L	10 mL	0.58 mg/L	1	0.07	0.50		7	5/13/20 13:24:00	N	II
KQ2006460-16	Carbon, Total Organic	DUP	K2003842-004	Water	0.53 mg/L	10 mL	0.53 mg/L	1	0.07	0.50		7	5/13/20 13:52:00	N	II
KQ2006460-17	Carbon, Total Organic	DUP	K2003842-005	Water	0.55 mg/L	10 mL	0.55 mg/L	1	0.07	0.50		5	5/13/20 14:20:00	N	II
KQ2006460-18	Carbon, Total Organic	DUP	K2003842-006	Water	0.54 mg/L	10 mL	0.54 mg/L	1	0.07	0.50		<1	5/13/20 14:48:00	N	II
KQ2006460-19	Carbon, Total Organic	DUP	K2003842-007	Water	0.41 mg/L	10 mL	0.41 mg/L J	1	0.07	0.50		5	5/13/20 15:16:00	N	II
KQ2006460-20	Carbon, Total Organic	DUP	K2003842-008	Water	0.56 mg/L	10 mL	0.56 mg/L	1	0.07	0.50		5	5/13/20 15:44:00	N	II
KQ2006460-21	Carbon, Total Organic	DUP	K2003842-009	Water	0.69 mg/L	10 mL	0.69 mg/L	1	0.07	0.50		3	5/13/20 16:12:00	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-03 **Analyst:** BDITZLER **Analysis Lot:** 679906 **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
KQ2006460-22	Carbon, Total Organic	DUP	K2003842-010	Water	0.13 mg/L	10 mL	0.13 mg/L J	1	0.07	0.50		34*	5/13/20 16:40:00	N	II
KQ2006460-23	Carbon, Total Organic	DUP	K2003842-011	Water	0.53 mg/L	10 mL	0.53 mg/L	1	0.07	0.50		7	5/13/20 17:08:00	N	II
KQ2006460-24	Carbon, Total Organic	DUP	K2003842-012	Water	0.75 mg/L	10 mL	0.75 mg/L	1	0.07	0.50		8	5/13/20 18:50:00	N	II
KQ2006460-25	Carbon, Total Organic	DUP	K2003842-013	Water	0.91 mg/L	10 mL	0.91 mg/L	1	0.07	0.50		5	5/13/20 19:18:00	N	II
KQ2006460-26	Carbon, Total Organic	DUP	K2003842-014	Water	0.44 mg/L	10 mL	0.44 mg/L J	1	0.07	0.50		4	5/13/20 19:46:00	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-03 **Analyst:** BDITZLER **Analysis Lot:** 679907 **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
K2003842-001	Carbon, Dissolved Organic (DOC)	N/A		Water	1.24 mg/L	10 mL	1.24 mg/L	1	0.07	0.50			5/13/20 21:11:00	N	II
K2003842-002	Carbon, Dissolved Organic (DOC)	N/A		Water	0.71 mg/L	10 mL	0.71 mg/L	1	0.07	0.50			5/13/20 22:37:00	N	II
K2003842-003	Carbon, Dissolved Organic (DOC)	N/A		Water	0.33 mg/L	10 mL	0.33 mg/L J	1	0.07	0.50			5/13/20 23:06:00	N	II
K2003842-004	Carbon, Dissolved Organic (DOC)	N/A		Water	0.31 mg/L	10 mL	0.31 mg/L J	1	0.07	0.50			5/13/20 23:34:00	N	II
K2003842-005	Carbon, Dissolved Organic (DOC)	N/A		Water	0.34 mg/L	10 mL	0.34 mg/L J	1	0.07	0.50			5/14/20 00:02:00	N	II
K2003842-006	Carbon, Dissolved Organic (DOC)	N/A		Water	0.28 mg/L	10 mL	0.28 mg/L J	1	0.07	0.50			5/14/20 00:30:00	N	II
K2003842-007	Carbon, Dissolved Organic (DOC)	N/A		Water	0.14 mg/L	10 mL	0.14 mg/L J	1	0.07	0.50			5/14/20 00:58:00	N	II
K2003842-008	Carbon, Dissolved Organic (DOC)	N/A		Water	0.37 mg/L	10 mL	0.37 mg/L J	1	0.07	0.50			5/14/20 01:26:00	N	II
K2003842-009	Carbon, Dissolved Organic (DOC)	N/A		Water	0.40 mg/L	10 mL	0.40 mg/L J	1	0.07	0.50			5/14/20 01:54:00	N	II
K2003842-010	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 02:22:00	N	II
K2003842-011	Carbon, Dissolved Organic (DOC)	N/A		Water	0.45 mg/L	10 mL	0.45 mg/L J	1	0.07	0.50			5/14/20 02:50:00	N	II
K2003842-012	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 03:48:00	N	II
K2003842-013	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 04:16:00	N	II
K2003842-014	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 04:44:00	N	II
K2003842-015	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 05:12:00	N	II
KQ2006461-01	Carbon, Dissolved Organic (DOC)	CCV		Water	25.97 mg/L	10 mL	26.0 mg/L	1					5/13/20 17:52:00	N	II
KQ2006461-02	Carbon, Dissolved Organic (DOC)	CCV		Water	25.18 mg/L	10 mL	25.2 mg/L	1					5/13/20 22:08:00	N	II
KQ2006461-03	Carbon, Dissolved Organic (DOC)	CCV		Water	24.88 mg/L	10 mL	24.9 mg/L	1					5/14/20 03:33:00	N	II
KQ2006461-04	Carbon, Dissolved Organic (DOC)	CCV		Water	24.56 mg/L	10 mL	24.6 mg/L	1					5/14/20 05:40:00	N	II
KQ2006461-05	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 18:06:00	N	II
KQ2006461-06	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 22:23:00	N	II
KQ2006461-07	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 03:48:00	N	II
KQ2006461-08	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 05:55:00	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-03 **Analyst:** BDITZLER **Analysis Lot:** 679907 **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
KQ2006461-09	Carbon, Dissolved Organic (DOC)	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 18:21:00	N	II
KQ2006461-10	Carbon, Dissolved Organic (DOC)	LCS		Water	25.22 mg/L	10 mL	25.2 mg/L	1	0.07	0.50	101		5/14/20 18:36:00	N	II
KQ2006461-11	Carbon, Dissolved Organic (DOC)	MS	K2003842-001	Water	26.67 mg/L	10 mL	26.7 mg/L	1	0.07	0.50	102		5/13/20 21:39:00	N	II
KQ2006461-12	Carbon, Dissolved Organic (DOC)	DUP	K2003842-015	Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	5/14/20 05:12:00	N	II
KQ2006461-13	Carbon, Dissolved Organic (DOC)	DUP	K2003842-001	Water	1.20 mg/L	10 mL	1.20 mg/L	1	0.07	0.50		3	5/13/20 21:11:00	N	II
KQ2006461-14	Carbon, Dissolved Organic (DOC)	DUP	K2003842-002	Water	0.68 mg/L	10 mL	0.68 mg/L	1	0.07	0.50		4	5/13/20 22:37:00	N	II
KQ2006461-15	Carbon, Dissolved Organic (DOC)	DUP	K2003842-003	Water	0.30 mg/L	10 mL	0.30 mg/L J	1	0.07	0.50		9	5/13/20 23:06:00	N	II
KQ2006461-16	Carbon, Dissolved Organic (DOC)	DUP	K2003842-004	Water	0.27 mg/L	10 mL	0.27 mg/L J	1	0.07	0.50		14*	5/13/20 23:34:00	N	II
KQ2006461-17	Carbon, Dissolved Organic (DOC)	DUP	K2003842-005	Water	0.27 mg/L	10 mL	0.27 mg/L J	1	0.07	0.50		23*	5/14/20 00:02:00	N	II
KQ2006461-18	Carbon, Dissolved Organic (DOC)	DUP	K2003842-006	Water	0.25 mg/L	10 mL	0.25 mg/L J	1	0.07	0.50		12*	5/14/20 00:30:00	N	II
KQ2006461-19	Carbon, Dissolved Organic (DOC)	DUP	K2003842-007	Water	0.16 mg/L	10 mL	0.16 mg/L J	1	0.07	0.50		12*	5/14/20 00:58:00	N	II
KQ2006461-20	Carbon, Dissolved Organic (DOC)	DUP	K2003842-008	Water	0.36 mg/L	10 mL	0.36 mg/L J	1	0.07	0.50		3	5/14/20 01:26:00	N	II
KQ2006461-21	Carbon, Dissolved Organic (DOC)	DUP	K2003842-009	Water	0.39 mg/L	10 mL	0.39 mg/L J	1	0.07	0.50		4	5/14/20 01:54:00	N	II
KQ2006461-22	Carbon, Dissolved Organic (DOC)	DUP	K2003842-010	Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	5/14/20 02:22:00	N	II
KQ2006461-23	Carbon, Dissolved Organic (DOC)	DUP	K2003842-011	Water	0.42 mg/L	10 mL	0.42 mg/L J	1	0.07	0.50		5	5/14/20 02:50:00	N	II
KQ2006461-24	Carbon, Dissolved Organic (DOC)	DUP	K2003842-012	Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	5/14/20 03:48:00	N	II
KQ2006461-25	Carbon, Dissolved Organic (DOC)	DUP	K2003842-013	Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	5/14/20 04:16:00	N	II
KQ2006461-26	Carbon, Dissolved Organic (DOC)	DUP	K2003842-014	Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	5/14/20 04:44:00	N	II

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

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	26.246	0.2169	26.0292	26.02924	26.0	5/12/2020
3	ccb	1	0.306	0.2169	0.0893	0.08934	<0.5	5/12/2020
4	mb	1	0.251	0.2169	0.0337	0.03374	<0.5	5/12/2020
5	lcs	1	25.675	0.2169	25.4577	25.45774	25.5	5/12/2020
6	K2003711-001	1	0.791	0.2169	0.5742	0.57424	0.57	5/13/2020
7	K2003711-001	1	0.788	0.2169	0.5707	0.57074	0.6	5/13/2020
8	K2003711-001ms	1	26.474	0.2169	26.2573	26.25734	26	5/13/2020
9	K2003742-001	1	7.054	0.2169	6.8371	6.83714	6.84	5/13/2020
10	K2003742-001	1	7.087	0.2169	6.8697	6.86974	6.87	5/13/2020
11	K2003723-001	100	6.107	0.2169	5.8905	589.054	589.1	5/13/2020
12	K2003723-001	100	6.404	0.2169	6.1867	618.674	618.67	5/13/2020
13	K2003737-001	1	0.947	0.2169	0.7300	0.73004	0.73	5/13/2020
14	K2003737-001	1	0.796	0.2169	0.5787	0.57874	0.58	5/13/2020
15	ccv	1	26.117	0.2169	25.8997	25.89974	25.9	5/13/2020
16	ccb	1	0.242	0.2169	0.0250	0.02504	<0.5	5/13/2020
17	K2003746-001	1	2.433	0.2169	2.2165	2.21654	2.22	5/13/2020
18	K2003746-001	1	2.316	0.2169	2.0995	2.09954	2.1	5/13/2020
19	K2003791-001	1	2.857	0.2169	2.6398	2.63984	2.6	5/13/2020
20	K2003791-001	1	2.728	0.2169	2.5109	2.51094	2.51	5/13/2020
21	K2003791-002	20	16.934	0.2169	16.7174	334.3488	334.35	5/13/2020
22	K2003791-002	20	17.298	0.2169	17.0808	341.6168	341.6	5/13/2020
23	K2003791-003	1	4.588	0.2169	4.3706	4.37064	4.4	5/13/2020
24	K2003791-003	1	4.588	0.2169	4.3712	4.37124	4.37	5/13/2020
25	K2003791-004	1	4.735	0.2169	4.5185	4.51854	4.52	5/13/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

		date	time
Analyzed By: KP	Date Analyzed	5/12/20	
Reviewed By:	Date Reviewed	5/14/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2003791-004	1	4.506	0.2169	4.2891	4.28914	4.29	5/13/2020
27	K2003791-005	1	25.209	0.2169	24.9917	24.99174	24.99	5/13/2020
28	K2003791-005	1	25.496	0.2169	25.2794	25.27944	25.3	5/13/2020
29	K2003792-001	1	2.361	0.2169	2.1438	2.14384	2.1	5/13/2020
30	K2003792-001	1	1.697	0.2169	1.4797	1.47974	1.5	5/13/2020
31	K2003792-002	1	2.180	0.2169	1.9627	1.96274	2.0	5/13/2020
32	K2003792-002	1	2.087	0.2169	1.8704	1.87044	1.9	5/13/2020
33	K2003792-003	1	1.614	0.2169	1.3968	1.39684	1.4	5/13/2020
34	K2003792-003	1	1.486	0.2169	1.2690	1.26904	1.3	5/13/2020
35	K2003792-004	1	1.465	0.2169	1.2482	1.24824	1.2	5/13/2020
36	K2003792-004	1	1.397	0.2169	1.1798	1.17984	1.2	5/13/2020
37	ccv	1	25.990	0.2169	25.7728	25.77284	25.8	5/13/2020
38	ccb	1	0.372	0.2169	0.1549	0.15494	<0.5	5/13/2020
39	K2003792-005	1	1.353	0.2169	1.1357	1.13574	1.1	5/13/2020
40	K2003792-005	1	1.228	0.2169	1.0106	1.01064	1.0	5/13/2020
41	K2003793-001	1	2.559	0.2169	2.3419	2.34194	2.3	5/13/2020
42	K2003793-001	1	2.591	0.2169	2.3744	2.37444	2.4	5/13/2020
43	K2003631-010	1	0.267	0.2169	0.0505	0.05054	<0.5	5/13/2020
44	K2003631-010	1	0.229	0.2169	0.0124	0.01244	<0.5	5/13/2020
45	K2003814-001	1	0.636	0.2169	0.4191	0.41914	<0.5	5/13/2020
46	K2003814-001	1	0.592	0.2169	0.3750	0.37504	<0.5	5/13/2020
47	K2003814-002	1	0.618	0.2169	0.4015	0.40154	<0.5	5/13/2020
48	K2003814-002	1	0.561	0.2169	0.3439	0.34394	<0.5	5/13/2020
49	K2003814-003	1	0.624	0.2169	0.4070	0.40704	<0.5	5/13/2020
50	K2003814-003	1	0.569	0.2169	0.3518	0.35184	<0.5	5/13/2020

Analyzed By:	BCH	Date Analyzed	5/12/20
Reviewed By:	JC	Date Reviewed	5/14/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
51	ccv	1	26.263	0.2169	26.0461	26.04614	26.05	5/13/2020
52	ccb	1	0.181	0.2169	-0.0363	-0.03626	<0.5	5/13/2020
53		1		0.0000	0.0000	0	<0.5	
54		1		0.0000	0.0000	0	<0.5	
55		1		0.0000	0.0000	0	<0.5	
56		1		0.0000	0.0000	0	<0.5	
57		1		0.0000	0.0000	0	<0.5	
58		1		0.0000	0.0000	0	<0.5	
59		1		0.0000	0.0000	0	<0.5	
60		1		0.0000	0.0000	0	<0.5	
61		1		0.0000	0.0000	0	<0.5	
62		1		0.0000	0.0000	0	<0.5	
63		1		0.0000	0.0000	0	<0.5	
64		1		0.0000	0.0000	0	<0.5	
65		1		0.0000	0.0000	0	<0.5	
66		1		0.0000	0.0000	0	<0.5	
67		1		0.0000	0.0000	0	<0.5	
68		1		0.0000	0.0000	0	<0.5	
69		1		0.0000	0.0000	0	<0.5	
70		1		0.0000	0.0000	0	<0.5	
71		1		0.0000	0.0000	0	<0.5	
72		1		0.0000	0.0000	0	<0.5	
73		1		0.0000	0.0000	0	<0.5	
74		1		0.0000	0.0000	0	<0.5	
75		1		0.0000	0.0000	0	<0.5	

Analyzed By:	BKP	Date Analyzed	5/12/20
Reviewed By:	JC	Date Reviewed	5/13/2 5/14/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	25.990	0.2169	25.7728	25.77284	25.8	5/13/2020
3	ccb	1	0.372	0.2169	0.1549	0.15494	<0.5	5/13/2020
4	mb	1	0.251	0.2169	0.0344	0.03444	<0.5	5/13/2020
5	lcs	1	25.492	0.2169	25.2747	25.27474	25.3	5/13/2020
6	K2003842-001	1	2.041	0.2169	1.8245	1.82454	1.82	5/13/2020
7	K2003842-001	1	2.027	0.2169	1.8102	1.81024	1.8	5/13/2020
8	K2003842-002	1	1.295	0.2169	1.0776	1.07764	1	5/13/2020
9	K2003842-002	1	1.284	0.2169	1.0672	1.06724	1.07	5/13/2020
10	ccv	1	26.263	0.2169	26.0461	26.04614	26.05	5/13/2020
11	ccb	1	0.181	0.2169	-0.0363	-0.03626	<0.5	5/13/2020
12	K2003842-003	1	0.840	0.2169	0.6233	0.62334	0.62	5/13/2020
13	K2003842-003	1	0.801	0.2169	0.5840	0.58404	0.58	5/13/2020
14	K2003842-004	1	0.780	0.2169	0.5629	0.56294	0.56	5/13/2020
15	K2003842-004	1	0.742	0.2169	0.5253	0.52534	0.5	5/13/2020
16	K2003842-005	1	0.794	0.2169	0.5773	0.57734	0.6	5/13/2020
17	K2003842-005	1	0.766	0.2169	0.5487	0.54874	0.55	5/13/2020
18	K2003842-006	1	0.755	0.2169	0.5382	0.53824	0.5	5/13/2020
19	K2003842-006	1	0.759	0.2169	0.5418	0.54184	0.5	5/13/2020
20	K2003842-007	1	0.642	0.2169	0.4254	0.42544	<0.5	5/13/2020
21	K2003842-007	1	0.623	0.2169	0.4056	0.40564	<0.5	5/13/2020
22	K2003842-008	1	0.804	0.2169	0.5870	0.58704	0.6	5/13/2020
23	K2003842-008	1	0.778	0.2169	0.5608	0.56084	0.6	5/13/2020
24	K2003842-009	1	0.924	0.2169	0.7072	0.70724	0.71	5/13/2020
25	K2003842-009	1	0.903	0.2169	0.6865	0.68654	0.69	5/13/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

		date	time
Analyzed By: BCP	Date Analyzed	5/12/20	
Reviewed By: JC	Date Reviewed	5/14/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2003842-010	1	0.398	0.2169	0.1812	0.18124	<0.5	5/13/2020
27	K2003842-010	1	0.345	0.2169	0.1282	0.12824	<0.5	5/13/2020
28	K2003842-011	1	0.781	0.2169	0.5641	0.56414	0.6	5/13/2020
29	K2003842-011	1	0.745	0.2169	0.5282	0.52824	0.5	5/13/2020
30	K2003842-011ms	1	26.641	0.2169	26.4239	26.42394	26.4	5/13/2020
31	ccv	1	26.186	0.2169	25.9687	25.96874	26.0	5/13/2020
32	ccb	1	0.089	0.2169	-0.1280	-0.12796	<0.5	5/13/2020
33	K2003842-012	1	1.025	0.2169	0.8082	0.80824	0.8	5/13/2020
34	K2003842-012	1	0.966	0.2169	0.7487	0.74874	0.7	5/13/2020
35	K2003842-013	1	1.175	0.2169	0.9580	0.95804	1.0	5/13/2020
36	K2003842-013	1	1.124	0.2169	0.9072	0.90724	0.9	5/13/2020
37	K2003842-014	1	0.681	0.2169	0.4641	0.46414	<0.5	5/13/2020
38	K2003842-014	1	0.661	0.2169	0.4443	0.44434	<0.5	5/13/2020
39	K2003842-015	1	0.629	0.2169	0.4125	0.41254	<0.5	5/13/2020
40	K2003842-015	1	0.603	0.2169	0.3857	0.38574	<0.5	5/13/2020
41	ccv	1	25.401	0.2169	25.1845	25.18454	25.2	5/13/2020
42	ccb	1	0.013	0.2169	-0.2036	-0.20356	<0.5	5/13/2020
43	K2003631-010	1	0.267	0.2169	0.0505	0.05054	<0.5	5/13/2020
44	K2003631-010	1	0.229	0.2169	0.0124	0.01244	<0.5	5/13/2020
45	K2003814-001	1	0.636	0.2169	0.4191	0.41914	<0.5	5/13/2020
46	K2003814-001	1	0.592	0.2169	0.3750	0.37504	<0.5	5/13/2020
47	K2003814-002	1	0.618	0.2169	0.4015	0.40154	<0.5	5/13/2020
48	K2003814-002	1	0.561	0.2169	0.3439	0.34394	<0.5	5/13/2020
49	K2003814-003	1	0.624	0.2169	0.4070	0.40704	<0.5	5/13/2020
50	K2003814-003	1	0.569	0.2169	0.3518	0.35184	<0.5	5/13/2020

Analyzed By:	BLP	Date Analyzed	5/12/20
Reviewed By:		Date Reviewed	5/14/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	26.186	0.2169	25.9687	25.96874	26.0	5/13/2020
3	ccb	1	0.089	0.2169	-0.1280	-0.12796	<0.5	5/13/2020
4	mb	1	0.160	0.2169	-0.0570	-0.05696	<0.5	5/13/2020
5	lcs	1	25.441	0.2169	25.2239	25.22394	25.2	5/13/2020
6	K2003842-001.06 doc	1	1.456	0.2169	1.2386	1.23864	1.24	5/13/2020
7	K2003842-001.06 doc	1	1.417	0.2169	1.2003	1.20034	1.2	5/13/2020
8	2003842-001.06 ms d	1	26.884	0.2169	26.6668	26.66684	27	5/13/2020
9	ccv	1	25.401	0.2169	25.1845	25.18454	25.18	5/13/2020
10	ccb	1	0.013	0.2169	-0.2036	-0.20356	<0.5	5/13/2020
11	K2003842-002.06 doc	1	0.930	0.2169	0.7128	0.71284	0.7	5/13/2020
12	K2003842-002.06 doc	1	0.902	0.2169	0.6847	0.68474	0.68	5/13/2020
13	K2003842-003.06 doc	1	0.550	0.2169	0.3330	0.33304	<0.5	5/13/2020
14	K2003842-003.06 doc	1	0.522	0.2169	0.3047	0.30474	<0.5	5/13/2020
15	K2003842-004.06 doc	1	0.531	0.2169	0.3145	0.31454	<0.5	5/13/2020
16	K2003842-004.06 doc	1	0.491	0.2169	0.2744	0.27444	<0.5	5/13/2020
17	K2003842-005.06 doc	1	0.558	0.2169	0.3415	0.34154	<0.5	5/14/2020
18	K2003842-005.06 doc	1	0.488	0.2169	0.2706	0.27064	<0.5	5/14/2020
19	K2003842-006.06 doc	1	0.494	0.2169	0.2768	0.27684	<0.5	5/14/2020
20	K2003842-006.06 doc	1	0.463	0.2169	0.2461	0.24614	<0.5	5/14/2020
21	K2003842-007.06 doc	1	0.359	0.2169	0.1416	0.14164	<0.5	5/14/2020
22	K2003842-007.06 doc	1	0.377	0.2169	0.1601	0.16014	<0.5	5/14/2020
23	K2003842-008.06 doc	1	0.583	0.2169	0.3663	0.36634	<0.5	5/14/2020
24	K2003842-008.06 doc	1	0.572	0.2169	0.3552	0.35524	<0.5	5/14/2020
25	K2003842-009.06 doc	1	0.621	0.2169	0.4042	0.40424	<0.5	5/14/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

	date	time
Analyzed By: BCD	Date Analyzed 5/12/20	
Reviewed By: JC	Date Reviewed 5/14/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2003842-009.06 doc	1	0.607	0.2169	0.3900	0.39004	<0.5	5/14/2020
27	K2003842-010.06 doc	1	0.193	0.2169	-0.0235	-0.02346	<0.5	5/14/2020
28	K2003842-010.06 doc	1	0.137	0.2169	-0.0801	-0.08006	<0.5	5/14/2020
29	K2003842-011.06 doc	1	0.662	0.2169	0.4451	0.44514	<0.5	5/14/2020
30	K2003842-011.06 doc	1	0.640	0.2169	0.4229	0.42294	<0.5	5/14/2020
31	ccv	1	25.097	0.2169	24.8796	24.87964	24.9	5/14/2020
32	ccb	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
33	K2003842-012.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
34	K2003842-012.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
35	K2003842-013.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
36	K2003842-013.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
37	K2003842-014.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
38	K2003842-014.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
39	K2003842-015.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
40	K2003842-015.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
41	ccv	1	24.776	0.2169	24.5592	24.55924	24.6	5/14/2020
42	ccb	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
43		1			0.0000	0	<0.5	
44		1			0.0000	0	<0.5	
45		1			0.0000	0	<0.5	
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By: BKD	Date Analyzed 5/12/20
Reviewed By:	Date Reviewed 5/14/20

TOC: 679905, 679906
DOC: 679907

Schedule: 05122020

Version: 2
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/05/12 20:13 - Tuesday

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 [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	LOT 041320-3DQL	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
4	Sample	K2003711-001.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2003711-001.02 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
6	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
7	Sample	K2003742-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2003723-001.01 100x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2003737-001.01	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	K2003746-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2003791-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2003791-002.01 20x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2003791-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2003791-004.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2003791-005.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2003792-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2003792-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2003792-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2003792-004.01	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 [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2003792-005.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2003793-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2003631-010.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2003814-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2003814-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2003814-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2003842-001.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2003842-002.02	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	K2003842-003.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2003842-004.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2003842-005.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2003842-006.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2003842-007.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2003842-008.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2003842-009.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2003842-010.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K2003842-011.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K2003842-011.02 ms	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

Schedule: 05122020

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
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
40	Sample	K2003842-012.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
41	Sample	K2003842-013.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
42	Sample	K2003842-014.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
43	Sample	K2003842-015.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
44	Sample	FB 5/12/2020 1819	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
45	Sample	K2003842-001.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
46	Sample	K2003842-001.06 ms doc	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
47	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
48	Sample	K2003842-002.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
49	Sample	K2003842-003.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
50	Sample	K2003842-004.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
51	Sample	K2003842-005.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
52	Sample	K2003842-006.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
53	Sample	K2003842-007.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
54	Sample	K2003842-008.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
55	Sample	K2003842-009.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
56	Sample	K2003842-010.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
57	Sample	K2003842-011.06 doc	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	K2003842-012.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
59	Sample	K2003842-013.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
60	Sample	K2003842-014.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
61	Sample	K2003842-015.06 doc	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 - 05122020
Tuesday, May 12, 2020 08:22 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/05/14 09:15 - Thursday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	05122020	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)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/05/12 20:22

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	10.91	18.44	7.53	49.78	07:58
2	TC Clean	19.05	23.51	4.47	49.55	07:17
3	TC Clean	2.85	7.17	4.32	49.56	07:02
4	TC Clean	2.04	6.17	4.13	49.57	07:02

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/05/12 20:56

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.19	5.33	4.14	49.83	07:59
2	TC Clean	5.70	9.81	4.11	49.59	07:18
3	TC Clean	2.16	6.30	4.14	49.61	07:02
4	TC Clean	1.68	5.83	4.14	49.62	07:01

Sample Type: Clean

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/05/12 21:31

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.03	5.25	4.22	49.87	08:01
2	TC Clean	5.31	9.47	4.15	49.63	07:17
3	TC Clean	2.60	6.72	4.13	49.64	07:05
4	TC Clean	1.90	6.02	4.12	49.65	07:04

Sample Type: Blank (Creating v1382)

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/05/12 22:05

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.00	5.17	4.17	49.89	08:02
2	TC Clean	5.31	9.57	4.27	49.66	07:16
3	TC Clean	2.42	6.66	4.24	49.68	07:01
4	TC Clean	2.21	6.28	4.07	49.67	07:03
5	Reagent Blank	8.08	12.04	3.97	49.70	08:11
6	Acid Blank	1.48	5.63	4.15	49.92	08:01

Sample Type: Sample

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.5610 ppm	0.0000 ppm	0.0000%	2020/05/12 22:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5610	5.6098	10.80	15.06	4.26	49.64	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 2

	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)	26.2461 ppm (PASS)	0.0000 ppm	0%	2020/05/12 23:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.2461	262.4610	193.46	197.82	4.36	49.68	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	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)	0.3062 ppm (PASS)	0.0000 ppm	0%	2020/05/12 23:26

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3062	3.0618	9.14	13.48	4.34	49.72	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.2506 ppm	0.0000 ppm	0.0000%	2020/05/12 23:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2506	2.5065	8.59	12.72	4.12	49.74	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

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 [24.0 ppm]	0 / infinity (NA / NA)	25.6746 ppm (PASS)	0.0000 ppm	0%	2020/05/12 23:55

Pos	Base Analysis	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time

	Type									
C	TOC	25.0 ppm	1	25.6746	256.7456	189.40	193.45	4.06	49.74	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	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	0.8501 ppm	0.0000 ppm	0.0000%	2020/05/13 00:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8501	8.5005	12.85	17.07	4.22	49.77	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	LOT 041320-3DQL	0.2298 ppm	0.0000 ppm	0.0000%	2020/05/13 00:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2298	2.2982	8.44	12.54	4.10	49.79	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2003711-001.02	0.7893 ppm	0.0025 ppm	0.3200%	2020/05/13 00:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7911	7.9108	12.43	16.56	4.13	49.80	10:26
2	TOC	0.7876	7.8757	12.41	16.51	4.10	49.79	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2003711-001.02 ms	26.4742 ppm	0.0000 ppm	0.0000%	2020/05/13 01:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.4742	264.7415	194.92	199.03	4.11	49.81	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	RB	0.2847 ppm	0.0000 ppm	0.0000%	2020/05/13 01:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2847	2.8470	8.83	12.98	4.15	49.78	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2003742-001.01	7.0703 ppm	0.0231 ppm	0.3300%	2020/05/13 01:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.0540	70.5398	56.93	61.07	4.14	49.83	10:28
2	TOC	7.0866	70.8663	57.16	61.22	4.05	49.83	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2003723-001.01 100x	6.2555 ppm	0.2095 ppm	3.3500%	2020/05/13 02:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.1074	61.0737	50.20	54.35	4.15	49.84	10:28
2	TOC	6.4036	64.0362	52.31	56.53	4.22	49.83	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2003737-001.01	0.8712 ppm	0.1070 ppm	12.2800%	2020/05/13 02:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9469	9.4688	13.54	17.65	4.11	49.81	10:28
2	TOC	0.7956	7.9559	12.46	16.80	4.33	49.84	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	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)	26.1166 ppm (PASS)	0.0000 ppm	0%	2020/05/13 03:00

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.1166	261.1662	192.54	196.67	4.13	49.86	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	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)	0.2419 ppm (PASS)	0.0000 ppm	0%	2020/05/13 03:16

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2419	2.4187	8.69	12.92	4.23	49.86	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2003746-001.01	2.3749 ppm	0.0827 ppm	3.4800%	2020/05/13 03:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4334	24.3337	24.10	28.15	4.05	49.88	10:28
2	TOC	2.3164	23.1641	23.27	27.58	4.31	49.88	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2003791-001.01	2.7923 ppm	0.0912 ppm	3.2600%	2020/05/13 03:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8567	28.5671	27.11	31.38	4.27	49.88	10:27
2	TOC	2.7278	27.2780	26.19	30.32	4.13	49.89	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2003791-002.01 20x	17.1160 ppm	0.2570 ppm	1.5000%	2020/05/13 04:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.9343	169.3429	127.13	131.34	4.20	49.91	10:28
2	TOC	17.2977	172.9768	129.72	133.98	4.26	49.90	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2003791-003.01	4.5878 ppm	0.0004 ppm	0.0100%	2020/05/13 04:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.5875	45.8752	39.41	43.63	4.22	49.90	10:28
2	TOC	4.5881	45.8809	39.41	43.48	4.07	49.91	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2003791-004.01	4.6207 ppm	0.1622 ppm	3.5100%	2020/05/13 05:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.7354	47.3544	40.46	44.52	4.07	49.92	10:27
2	TOC	4.5060	45.0604	38.83	43.02	4.19	49.94	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2003791-005.01	25.3525 ppm	0.2034 ppm	0.8000%	2020/05/13 05:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	25.2086	252.0863	185.93	190.25	4.32	49.94	10:25
2	TOC	25.4963	254.9630	187.97	192.29	4.32	49.94	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2003792-001.01	2.0287 ppm	0.4696 ppm	23.1500%	2020/05/13 06:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3607	23.6075	23.58	27.81	4.23	49.94	10:27
2	TOC	1.6966	16.9660	18.87	23.07	4.21	49.97	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC)	CAS_salt_010711	CAS_salt_010711

(v1382) (v4) (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2003792-002.01	2.1335 ppm	0.0653 ppm	3.0600%	2020/05/13 06:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1796	21.7962	22.30	26.53	4.23	49.99	10:28
2	TOC	2.0873	20.8729	21.64	25.67	4.03	49.97	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2003792-003.01	1.5498 ppm	0.0904 ppm	5.8300%	2020/05/13 07:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6137	16.1370	18.28	22.32	4.04	49.96	10:30
2	TOC	1.4859	14.8591	17.37	21.48	4.11	49.97	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2003792-004.01	1.4309 ppm	0.0484 ppm	3.3800%	2020/05/13 07:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4651	14.6508	17.22	21.36	4.14	49.96	10:28
2	TOC	1.3967	13.9668	16.73	20.89	4.16	49.97	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	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)	25.9897 ppm (PASS)	0.0000 ppm	0%	2020/05/13 08:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.9897	259.8968	191.63	195.74	4.11	49.96	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB

From Schedule Version 2

	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)	0.3718 ppm (PASS)	0.0000 ppm	0%	2020/05/13 08:26

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3718	3.7177	9.61	13.81	4.20	49.92	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	20	TOC	MB2	0.2513 ppm	0.0000 ppm	0.0000%	2020/05/13 08:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2513	2.5135	8.60	12.85	4.26	49.91	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

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 [24.0 ppm]	0 / infinity (NA / NA)	25.4916 ppm (PASS)	0.0000 ppm	0%	2020/05/13 08:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.4916	254.9160	188.10	192.35	4.26	49.91	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	25 ppmC

Sample Type: Sample

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2003792-005.01	1.2901 ppm	0.0885 ppm	6.8600%	2020/05/13 09:10

Rep	Base			Adjusted		Baseline	Pressure	Run

#	Analysis Type	ppm	µg	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1	TOC	1.3526	13.5263	16.42	20.76	4.34	49.91	10:30
2	TOC	1.2275	12.2752	15.53	19.53	4.00	49.91	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2003793-001.01	2.5750 ppm	0.0230 ppm	0.8900%	2020/05/13 09:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.5588	25.5877	24.99	29.15	4.15	49.88	10:26
2	TOC	2.5913	25.9128	25.22	29.33	4.11	49.92	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2003631-010.01	0.2483 ppm	0.0270 ppm	10.8600%	2020/05/13 10:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2674	2.6739	8.71	12.70	3.99	49.88	10:28
2	TOC	0.2293	2.2925	8.44	12.56	4.12	49.85	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2003814-001.01	0.6140 ppm	0.0311 ppm	5.0700%	2020/05/13 10:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6360	6.3599	11.33	15.40	4.07	49.86	10:30
2	TOC	0.5919	5.9194	11.02	15.10	4.09	49.86	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2003814-002.01	0.5896 ppm	0.0407 ppm	6.9000%	2020/05/13 11:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6184	6.1840	11.20	15.33	4.12	49.84	10:31
2	TOC	0.5608	5.6083	10.80	14.90	4.10	49.83	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6239	6.2389	11.24	15.28	4.04	49.83	10:29
2	TOC	0.5687	5.6872	10.85	15.00	4.14	49.84	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2003842-001.02	2.0342 ppm	0.0102 ppm	0.5000%	2020/05/13 11:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0414	20.4141	21.32	25.53	4.22	49.81	10:26
2	TOC	2.0271	20.2706	21.21	25.37	4.16	49.81	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2003842-002.02	1.2893 ppm	0.0074 ppm	0.5700%	2020/05/13 12:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2945	12.9451	16.01	20.17	4.16	49.78	10:26
2	TOC	1.2841	12.8409	15.93	19.92	3.98	49.79	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	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)	26.2630 ppm (PASS)	0.0000 ppm	0%	2020/05/13 12:54

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.2630	262.6299	193.58	197.63	4.06	49.79	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	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)	0.1806 ppm (PASS)	0.0000 ppm	0%	2020/05/13 13:09

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.1806	1.8064	8.25	12.40	4.15	49.68	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2003842-003.02	0.8206 ppm	0.0278 ppm	3.3800%	2020/05/13 13:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8402	8.4020	12.78	16.79	4.01	49.73	10:26
2	TOC	0.8009	8.0094	12.50	16.64	4.14	49.76	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2003842-004.02	0.7610 ppm	0.0266 ppm	3.4900%	2020/05/13 13:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7798	7.7982	12.35	16.48	4.12	49.71	10:31
2	TOC	0.7422	7.4225	12.08	16.16	4.08	49.74	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2003842-005.02	0.7799 ppm	0.0202 ppm	2.5900%	2020/05/13 14:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7942	7.9418	12.45	16.41	3.96	49.75	10:29
2	TOC	0.7656	7.6561	12.25	16.21	3.96	49.74	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time

◆	32	TOC	K2003842-006.02	0.7569 ppm	0.0026 ppm	0.3400%	2020/05/13 14:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7551	7.5505	12.18	16.24	4.07	49.69	10:28
2	TOC	0.7587	7.5871	12.20	16.30	4.10	49.72	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	33	TOC	K2003842-007.02	0.6324 ppm	0.0140 ppm	2.2200%	2020/05/13 15:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6423	6.4232	11.37	15.36	3.98	49.74	10:28
2	TOC	0.6225	6.2248	11.23	15.10	3.87	49.72	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	34	TOC	K2003842-008.02	0.7908 ppm	0.0185 ppm	2.3400%	2020/05/13 15:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8039	8.0389	12.52	16.65	4.13	49.69	10:27
2	TOC	0.7777	7.7771	12.34	16.41	4.07	49.70	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	35	TOC	K2003842-009.02	0.9137 ppm	0.0146 ppm	1.6000%	2020/05/13 16:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9241	9.2408	13.38	17.26	3.88	49.66	10:25
2	TOC	0.9034	9.0339	13.23	17.22	3.99	49.66	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	K2003842-010.02	0.3716 ppm	0.0375 ppm	10.1000%	2020/05/13 16:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3981	3.9814	9.64	13.65	4.01	49.64	10:31
2	TOC	0.3451	3.4508	9.26	13.32	4.06	49.64	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	37	TOC	K2003842-011.02	0.7630 ppm	0.0254 ppm	3.3300%	2020/05/13 17:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7810	7.8095	12.36	16.39	4.03	49.64	10:26
2	TOC	0.7451	7.4506	12.10	16.19	4.09	49.62	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	38	TOC	K2003842-011.02 ms	26.6408 ppm	0.0000 ppm	0.0000%	2020/05/13 17:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.6408	266.4079	196.10	200.12	4.01	49.61	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	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)	26.1856 ppm (PASS)	0.0000 ppm	0%	2020/05/13 17:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.1856	261.8559	193.03	197.08	4.06	49.58	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	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)	0.0889 ppm (PASS)	0.0000 ppm	0%	2020/05/13 18:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time

D	TOC	0 ppm	1	0.0889	0.8888	7.60	11.54	3.94	49.57	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.1599 ppm	0.0000 ppm	0.0000%	2020/05/13 18:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1599	1.5987	7.95	11.94	4.00	49.54	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

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)	25.4408 ppm (PASS)	0.0000 ppm	0%	2020/05/13 18:36

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.4408	254.4079	187.73	191.70	3.97	49.56	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	25 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	40	TOC	K2003842-012.02	0.9954 ppm	0.0421 ppm	4.2300%	2020/05/13 18:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0251	10.2513	14.09	18.39	4.30	49.58	10:28
2	TOC	0.9656	9.6560	13.67	17.71	4.03	49.59	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	41	TOC	K2003842-013.02	1.1495 ppm	0.0359 ppm	3.1300%	2020/05/13 19:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1749	11.7488	15.16	19.14	3.98	49.61	10:27
2	TOC	1.1241	11.2407	14.80	18.78	3.99	49.64	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	42	TOC	K2003842-014.02	0.6711 ppm	0.0140 ppm	2.0900%	2020/05/13 19:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6810	6.8103	11.65	15.60	3.95	49.62	10:29
2	TOC	0.6612	6.6118	11.51	15.47	3.96	49.67	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	43	TOC	K2003842-015.02	0.6160 ppm	0.0189 ppm	3.0700%	2020/05/13 20:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6294	6.2937	11.28	15.43	4.15	49.67	10:31
2	TOC	0.6026	6.0263	11.09	15.30	4.21	49.70	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	44	TOC	FB 5/12/2020 1819	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/13 20:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.32	10.50	4.17	49.70	10:25
2	TOC	0.0000	0.0000	6.23	10.23	4.00	49.71	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	45	TOC	K2003842-001.06 doc	1.4364 ppm	0.0271 ppm	1.8800%	2020/05/13 21:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4555	14.5551	17.15	21.18	4.03	49.75	10:30
2	TOC	1.4172	14.1723	16.88	20.86	3.98	49.77	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC)	CAS_salt_010711	CAS_salt_010711

(v1382) (v4) (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	46	TOC	K2003842-001.06 ms doc	26.8837 ppm	0.0000 ppm	0.0000%	2020/05/13 21:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.8837	268.8371	197.83	201.92	4.10	49.77	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	47	TOC	RB	0.0577 ppm	0.0000 ppm	0.0000%	2020/05/13 21:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0577	0.5769	7.22	11.30	4.08	49.80	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	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)	25.4014 ppm (PASS)	0.0000 ppm	0%	2020/05/13 22:08

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.4014	254.0139	187.45	191.64	4.19	49.80	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	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)	0.0133 ppm (PASS)	0.0000 ppm	0%	2020/05/13 22:23

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0133	0.1331	7.06	10.91	3.85	49.80	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D

Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	48	TOC	K2003842-002.06 doc	0.9156 ppm	0.0199 ppm	2.1700%	2020/05/13 22:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9297	9.2971	13.42	17.48	4.06	49.82	10:30
2	TOC	0.9016	9.0156	13.22	17.31	4.09	49.85	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	49	TOC	K2003842-003.06 doc	0.5357 ppm	0.0200 ppm	3.7300%	2020/05/13 23:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5499	5.4986	10.72	14.74	4.02	49.84	10:31
2	TOC	0.5216	5.2157	10.52	14.68	4.17	49.86	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	50	TOC	K2003842-004.06 doc	0.5114 ppm	0.0284 ppm	5.5500%	2020/05/13 23:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5314	5.3142	10.59	14.80	4.22	49.86	10:27
2	TOC	0.4913	4.9131	10.30	14.46	4.16	49.86	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	51	TOC	K2003842-005.06 doc	0.5230 ppm	0.0502 ppm	9.5900%	2020/05/14 00:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5584	5.5844	10.78	14.94	4.16	49.87	10:30
2	TOC	0.4875	4.8751	10.27	14.37	4.10	49.89	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◆	52	TOC	K2003842-006.06 doc	0.4784 ppm	0.0217 ppm	4.5400%	2020/05/14 00:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4937	4.9370	10.32	14.55	4.23	49.87	10:27
2	TOC	0.4630	4.6302	10.10	14.19	4.09	49.88	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	53	TOC	K2003842-007.06 doc	0.3677 ppm	0.0131 ppm	3.5700%	2020/05/14 00:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3585	3.5845	9.36	13.52	4.16	49.91	10:28
2	TOC	0.3770	3.7703	9.49	13.59	4.10	49.89	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	54	TOC	K2003842-008.06 doc	0.5777 ppm	0.0079 ppm	1.3600%	2020/05/14 01:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5832	5.8321	10.95	15.09	4.14	49.89	10:27
2	TOC	0.5721	5.7209	10.88	14.94	4.06	49.90	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	55	TOC	K2003842-009.06 doc	0.6140 ppm	0.0101 ppm	1.6400%	2020/05/14 01:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6211	6.2107	11.22	15.39	4.17	49.93	10:29
2	TOC	0.6069	6.0686	11.12	15.29	4.16	49.92	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	56	TOC	K2003842-010.06 doc	0.1651 ppm	0.0400 ppm	24.2300%	2020/05/14 02:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1934	1.9336	8.18	12.25	4.07	49.92	10:25
2	TOC	0.1368	1.3679	7.78	11.99	4.20	49.94	10:25

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	57	TOC	K2003842-011.06 doc	0.6509 ppm	0.0157 ppm	2.4200%	2020/05/14 02:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6620	6.6203	11.51	15.65	4.14	49.95	10:26
2	TOC	0.6398	6.3979	11.36	15.34	3.99	49.96	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	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)	25.0965 ppm (PASS)	0.0000 ppm	0%	2020/05/14 03:18

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0965	250.9655	185.29	189.37	4.08	49.92	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	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%	2020/05/14 03:33

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.62	10.70	4.08	49.96	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	58	TOC	K2003842-012.06 doc	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/14 03:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.27	10.10	3.83	49.97	10:27
2	TOC	0.0000	0.0000	5.89	9.90	4.00	49.98	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	59	TOC	K2003842-013.06 doc	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/14 04:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.25	10.24	4.00	49.98	10:28
2	TOC	0.0000	0.0000	5.76	9.81	4.05	50.01	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	60	TOC	K2003842-014.06 doc	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/14 04:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.64	9.81	4.17	50.00	10:28
2	TOC	0.0000	0.0000	5.67	9.69	4.02	50.01	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	61	TOC	K2003842-015.06 doc	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/14 05:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.84	10.05	4.21	50.05	10:28
2	TOC	0.0000	0.0000	5.77	9.69	3.92	50.05	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	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)	24.7761 ppm (PASS)	0.0000 ppm	0%	2020/05/14 05:40

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	24.7761	247.7608	183.01	187.21	4.20	50.04	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	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%	2020/05/14 05:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.44	10.65	4.21	50.06	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	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
v1381	1.1450	0.7350	0.0000	0.0000	0.0000	2020/05/09 14:55	Fusion1 (Fusion1)
v1382	2.6923	1.4840	0.0000	0.0000	0.0000	2020/05/12 22:56	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v35
Ver Creation: 2020/05/09 16:50
Comment:
Operator: Fusion1 (Fusion1)
Basic Analysis Type: TOC

Calibration curve formula: TOC: y = 7.105x + 6.969
r^2 value: TOC: r^2 = 0.99936

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	6.6220	0.0000		2020/05/09 15:23

0.500 ppm	9.3820	0.5000		2020/05/09 15:38
1.0 ppm	12.1910	1.0000		2020/05/09 15:52
5.0 ppm	39.9300	5.0000		2020/05/09 16:06
10 ppm	81.4900	10.0000		2020/05/09 16:20
25 ppm	190.3090	25.0000		2020/05/09 16:35
50 ppm	358.9940	50.0000		2020/05/09 16:49

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	2020/05/14 06:10

ALS Environmental

StarLIMS Run: 679905, 679906, 679907

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 11-GEN-05-82C 50 ppm LCS: 11-GEN-05-79J 25.0 ppm

ICAL Date: 5/9/20

ICAL ID: 19-GEN-17-E->J

ICS ID: 19-GEN-8-4-G

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-08-17-K

21 % H3PO4: 19-GEN-08-17-L

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: Ber	Date Analyzed: 5/12/20
Reviewed By:	Date Reviewed: 5/14/20

May 20, 2020 Service Request No:E2000409

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

Laboratory Results for: HS20050178

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 06, 2020
For your reference, these analyses have been assigned our service request number **E2000409.**

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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Certificate of Analysis

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ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000409
Project:	HS20050178	**Date Received:**	05/06/20
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

One sample was received for analysis at ALS Environmental in Houston on 05/06/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000173: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. MS/MSD 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:**E2000409
Project: HS20050178

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000409-001	LH18/24-SP650_050520_BIX	5/5/2020	1400

Service Request Summary

Folder #: **E2000409**
Client Name: ALS Environmental - US
Project Name: HS20050178
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: 05/06/20
Internal Due Date: 5/20/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20050178
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 3B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000409-001	LH18/24-SP650_050520_BIX	Water	05/05/20 1400	**IV**

Service Request Summary

Folder #: **E2000409**
Client Name: ALS Environmental - US
Project Name: HS20050178
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: 05/06/20
Internal Due Date: 5/20/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20050178
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 3B
Pressure Gas:

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.
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.
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.
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.

Data Qualifiers

Lab Standard

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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State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Arizona Department of Health Services	AZ0793	5/27/2020
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611	6/30/2020
Hawaii Department of Health	2020	4/30/2021
Kansas Department of Health and Environment	E-10352	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Center for Disease Control and Prevention	201815	6/5/2020
Maryland Department of the Environment	343	6/30/2020
Minnesota Department of Health	1785988	12/31/2020
Nevada Department of Concervation and Natural Resources	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

ALS

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
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E2000409 5
ALS Laboratory Group
HS20050178

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:** **13861**

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:	
Email:	

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20050178
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20050178-02**	**LH18/24-SP650_050520-BIX**	**Water**	**05 May 2020 14:00**
	SUB_Perch-6850			20 May 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. Modashia Date/Time: 5/6/20 14:40

Received By: COURIER Date/Time: 5/6/20 14:40

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS-H

Thermometer ID SMOM / IR 11

Date/Time Received: 5/6/20 Initials: CH Date/Time Logged in: 5/6/20 Initials CH

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?
-		5/6/20	1440	CH	1.5	☒
						☐
						☐
						☐

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: E2000409 5

ALS Laboratory Group HS20050178

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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
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Preparation Information Benchsheet

Prep Run#: 358306 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/KBROWN **Prep Method:** Method **Prep Date/Time:** 5/12/20 09:34

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000382-001	LH18/24-SP650_042820_BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000404-001	04WW02-200504	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000404-002	04WW06-200504	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000404-003	LHSMW02-200504	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000404-004	LHSMW02-200504-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000404-005	04WW11-200504	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000404-006	04WW04-200504	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000405-001	04WW05-200505	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000405-002	04WW09-200505	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000405-003	04WW10-200505	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000405-004	04WW10-200505-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2000405-005	04WW07-200505	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2000406-001	04WW08-200504	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2000406-002	LHSMW01-200504	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2000406-003	04WW01-200504	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2000407-001	LH18/24-SP650_050520_BIX	.01	6850/ClO4 DOD			Water	10mL	
17	E2000408-001	LH18/24-SP140_050520	.01	6850/ClO4 DOD			Water	10mL	
18	E2000409-001	LH18/24-SP650_050520_BIX	.01	6850/ClO4 DOD			Water	10mL	
19	EQ2000173-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2000173-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000173-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000173-04	04WW06-200504 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2000173-05	04WW06-200504 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 202037 Logbook Ref: Sodium Perchlorate Expires On: 05/22/2021

E2000382-001	100.00µL	E2000404-001	100.00µL	E2000404-002	100.00µL	E2000404-003	100.00µL	E2000404-004	100.00µL	E2000404-005	100.00µL
E2000404-006	100.00µL	E2000405-001	100.00µL	E2000405-002	100.00µL	E2000405-003	100.00µL	E2000405-004	100.00µL	E2000405-005	100.00µL
E2000406-001	100.00µL	E2000406-002	100.00µL	E2000406-003	100.00µL	E2000407-001	100.00µL	E2000408-001	100.00µL	E2000409-001	100.00µL
EQ2000173-01	100.00µL	EQ2000173-02	100.00µL	EQ2000173-03	100.00µL	EQ2000173-04	100.00µL	EQ2000173-05	100.00µL		

Name: Perchlorate Intermediate Stock1 Inventory ID 204799 Logbook Ref: 200657 1.0ug/mL KN Expires On: 05/15/2020

EQ2000173-02	1.00µL	EQ2000173-03	1.00µL	EQ2000173-04	1.00µL	EQ2000173-05	1.00µL

Preparation Information Benchsheet

Prep Run#: 358306 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/KBROWN **Prep Method:** Method **Prep Date/Time:** 5/12/20 09:34

Preparation Steps

Step: Preparation
Started: 5/12/20 09:34
Finished: 5/12/20 12:00
By: KBROWN
Comments

Comments: _____

Reviewed By: GR Date: 5/12/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston HRMS
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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000409
Project:	HS20050178	**Date Collected:**	5/ 5/20 1400
Sample Matrix:	Water	**Date Received:**	5/ 6/20
Sample Name:	LH18/24-SP650_050520_BIX	**Units:**	µg/L
Lab Code:	E2000409-001	**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	5/12/20	5/13/20 14:20	358306	680124	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000409
Project:	HS20050178	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000173-01	**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	5/12/20	5/12/20 12:50	358306	679868	

Accuracy & Precision

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

QA/QC Report

Client: ALS Environmental - US
Project: HS20050178
Sample Matrix: Water

Service Request: E2000409
Date Analyzed: 5/12/20

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: 358306

	Lab Control Sample EQ2000173-02			Duplicate Lab Control Sample EQ2000173-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.105	0.100	105	0.107	0.100	107	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:**	E2000409
Project:	HS20050178	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000173-02	**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	**0.105**		0.100	0.0500	0.0250	1	5/12/20	5/12/20 12:58	358306	679868	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000409
Project:	HS20050178	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000173-03	**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	**0.107**		0.100	0.0500	0.0250	1	5/12/20	5/12/20 13:06	358306	679868	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000409
Project:	HS20050178	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	5/12/20 - 5/13/20

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:	E2000404-002	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		Batch QCMS			Batch QCDMS					
		Matrix Spike			**Duplicate Matrix Spike**					
		EQ2000173-04			EQ2000173-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	ND	0.111	0.100	111	0.0929	0.100	93	84 - 119	18 *	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:**	E2000409
Project:	HS20050178	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000173-04	**Basis:**	NA
Run Type:	Matrix Spike		

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	**0.111**		0.100	0.0500	0.0250	1	5/12/20	5/12/20 13:21	358306	679868	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000409
Project:	HS20050178	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000173-05	**Basis:**	NA
Run Type:	Duplicate Matrix Spike		

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	**0.0929**	J	0.100	0.0500	0.0250	1	5/12/20	5/13/20 14:12	358306	680124	

Initial Calibration

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

20200420

ICAL Date: 4/20/2020
Cal. Std. xp: 5/14/2020
ICAL ID: **EC2000003**

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100803-09 **B:** MeOH 3100802-01

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
	null		20200420_001	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:01
	null		20200420_002	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:06
	DIBLK		20200420_003	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:11
	IB		20200420_004	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:19
	PERCHLORATE7		20200420_005	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 13:27
	LODV		20200420_006	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:35
	PERCHLORATE1		20200420_007	Perchlorate6850b.lcm	1x	☒	3100804-05	4/20/2020 13:43
	PERCHLORATE2		20200420_008	Perchlorate6850b.lcm	1x	☒	3100804-06	4/20/2020 13:51
	PERCHLORATE3		20200420_009	Perchlorate6850b.lcm	1x	☒	3100804-07	4/20/2020 13:58
	PERCHLORATE4		20200420_010	Perchlorate6850b.lcm	1x	☒	3100804-08	4/20/2020 14:06
	PERCHLORATE5		20200420_011	Perchlorate6850b.lcm	1x	☒	3100804-09	4/20/2020 14:14
	PERCHLORATE6		20200420_012	Perchlorate6850b.lcm	1x	☒	3100805-01	4/20/2020 14:22
	PERCHLORATE8		20200420_013	Perchlorate6850b.lcm	1x	☒	3100805-03	4/20/2020 14:30
	PERCHLORATE9		20200420_014	Perchlorate6850b.lcm	1x	☒	3100805-04	4/20/2020 14:38
	PERCHLORATE10		20200420_015	Perchlorate6850b.lcm	1x	☒	3100805-05	4/20/2020 14:46
	ICV		20200420_016	Perchlorate6850b.lcm	1x	☒	3100805-06	4/20/2020 14:54
	LODV		20200420_017	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:02
	EQ2000143-01		20200420_018	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:10
	EQ2000143-02		20200420_019	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:18
	EQ2000143-03		20200420_020	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:26
	E2000275-001		20200420_021	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:33
	E2000275-002		20200420_022	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:41
	E2000275-003		20200420_023	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:49
	E2000287-001		20200420_024	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:57
	E2000303-001		20200420_025	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:05
	E2000304-001		20200420_026	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:13
	E2000305-001		20200420_027	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:21
	PERCHLORATE7		20200420_028	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 16:29
	E2000303-001		20200420_029	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:47
	E2000304-001		20200420_030	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:55
	PERCHLORATE7		20200420_031	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 17:02

Initial Calibration - Detailed Report

Calibration ID: EC2000003 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
08	EC2000003-08	PERCHLORATE7	20200420_005	04/20/2020 13:27
01	EC2000003-01	PERCHLORATE1	20200420_007	04/20/2020 13:43
02	EC2000003-02	PERCHLORATE2	20200420_008	04/20/2020 13:51
03	EC2000003-03	PERCHLORATE3	20200420_009	04/20/2020 13:58
04	EC2000003-04	PERCHLORATE4	20200420_010	04/20/2020 14:06
05	EC2000003-05	PERCHLORATE5	20200420_011	04/20/2020 14:14
06	EC2000003-06	PERCHLORATE6	20200420_012	04/20/2020 14:22
07	EC2000003-07	PERCHLORATE8	20200420_013	04/20/2020 14:30
09	EC2000003-09	PERCHLORATE9	20200420_014	04/20/2020 14:38
10	EC2000003-10	PERCHLORATE10	20200420_015	04/20/2020 14:46

Analyte **Curve Fit** **Weighting**

Perchlorate **Average RF** **RSD = 8.066** **Average RF = 0.1368**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1558	02	0.5000	0.1297	03	0.7000	0.1277	04	1.0000	0.1397
05	2.0000	0.1298	06	5.0000	0.1245	07	20.0000	0.1341	08	10.0000	0.1562
09	30.0000	0.1365	10	50.0000	0.1345						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.114	13.9	02	0.5000	0.474	-5.2	03	0.7000	0.653	-6.7
04	1.0000	1.02	2.1	05	2.0000	1.90	-5.1	06	5.0000	4.55	-9.0
07	20.0000	19.6	-2.0	08	10.0000	11.4	14.2	09	30.0000	29.9	-0.2
10	50.0000	49.1	-1.7								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000003	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200420_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000003-11	T	Average RF	10	11.345	ng/mL	13.4	<= 15

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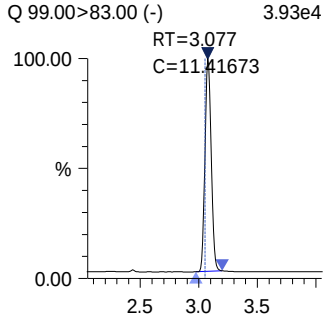
PERCHLORATE7

Date acquired: 4/20/2020 1:27:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_005.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	4/20/2020 1:27:21 PM	144494	11.41673	20200420_005	3.077	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	4/20/2020 1:27:21 PM	92497	1.00000	20200420_005	3.076	25.0000	1.0000	3

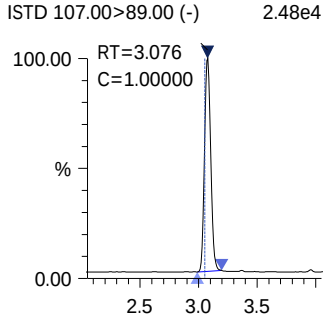
Perchlorate

Conc 11.41673
Area 144494



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 92497



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PERCHLORATE1

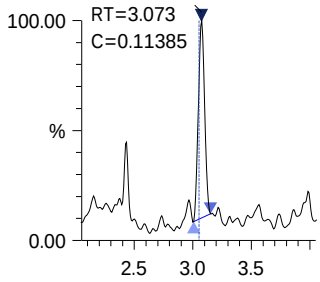
Date acquired: 4/20/2020 1:43:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_007.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	4/20/2020 1:43:09 PM	1840	0.11385	20200420_007	3.073	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	4/20/2020 1:43:09 PM	118078	1.00000	20200420_007	3.073	25.0000	1.0000	5

Perchlorate

Conc 0.11385
Area 1840

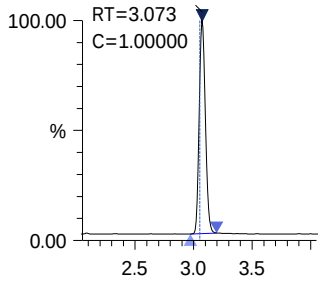
Q 99.00>83.00 (-) 5.37e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 118078

ISTD 107.00>89.00 (-) 3.18e4



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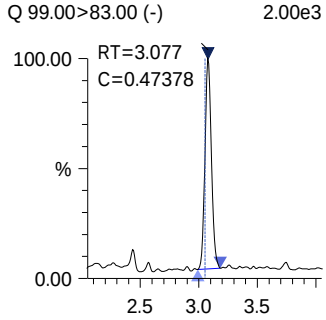
PERCHLORATE2

Date acquired: 4/20/2020 1:51:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_008.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	4/20/2020 1:51:02 PM	7551	0.47378	20200420_008	3.077	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	4/20/2020 1:51:02 PM	116479	1.00000	20200420_008	3.075	25.0000	1.0000	6

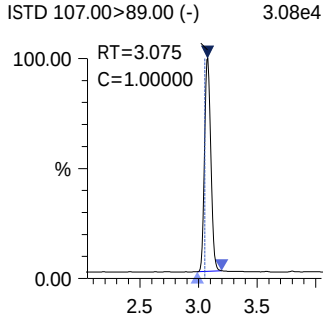
Perchlorate

Conc 0.47378
Area 7551



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 116479



ALS Group Houston

PERCHLORATE3

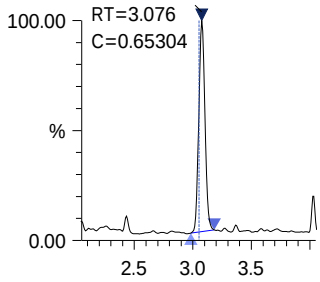
Date acquired: 4/20/2020 1:58:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_009.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	4/20/2020 1:58:56 PM	11235	0.65304	20200420_009	3.076	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	4/20/2020 1:58:56 PM	125731	1.00000	20200420_009	3.073	25.0000	1.0000	7

Perchlorate

Conc 0.65304
Area 11235

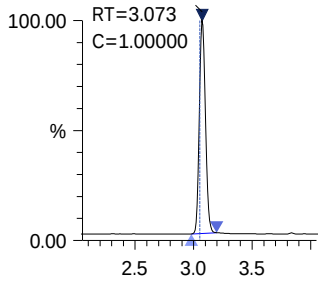
Q 99.00>83.00 (-) 3.12e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 125731

ISTD 107.00>89.00 (-) 3.41e4



ALS Group Houston

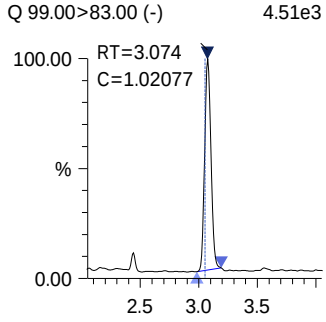
PERCHLORATE4

Date acquired: 4/20/2020 2:06:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_010.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	4/20/2020 2:06:51 PM	16670	1.02077	20200420_010	3.074	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	4/20/2020 2:06:51 PM	119354	1.00000	20200420_010	3.074	25.0000	1.0000	8

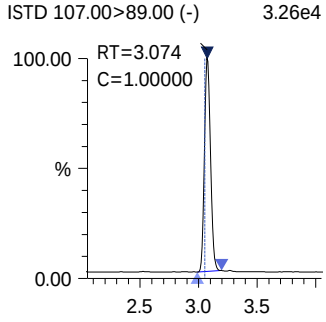
Perchlorate

Conc 1.02077
Area 16670



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 119354



ALS Group Houston

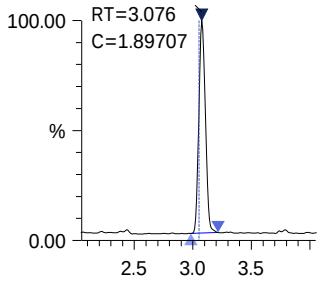
PERCHLORATE5

Date acquired: 4/20/2020 2:14:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_011.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	4/20/2020 2:14:45 PM	33786	1.89707	20200420_011	3.076	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	4/20/2020 2:14:45 PM	130159	1.00000	20200420_011	3.075	25.0000	1.0000	9

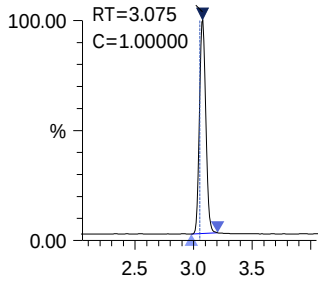
Perchlorate

Conc 1.89707
Area 33786
Q 99.00>83.00 (-) 8.73e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130159
ISTD 107.00>89.00 (-) 3.41e4



ALS Group Houston

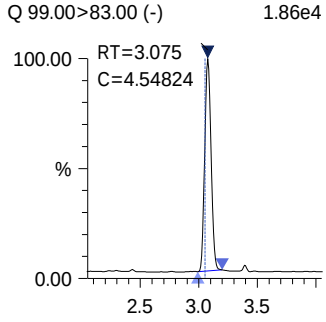
PERCHLORATE6

Date acquired: 4/20/2020 2:22:39 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_012.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	4/20/2020 2:22:39 PM	69848	4.54824	20200420_012	3.075	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	4/20/2020 2:22:39 PM	112235	1.00000	20200420_012	3.074	25.0000	1.0000	10

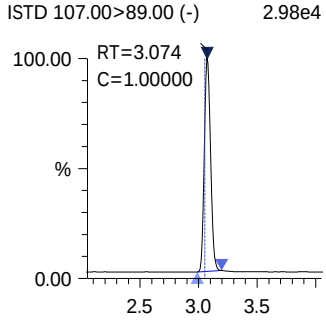
Perchlorate

Conc 4.54824
Area 69848



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 112235



ALS Group Houston

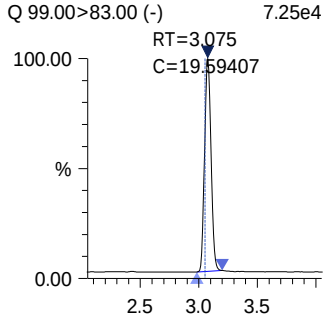
PERCHLORATE8

Date acquired: 4/20/2020 2:30:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_013.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	4/20/2020 2:30:36 PM	275854	19.59407	20200420_013	3.075	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	4/20/2020 2:30:36 PM	102890	1.00000	20200420_013	3.072	25.0000	1.0000	11

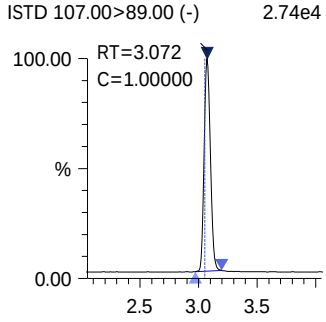
Perchlorate

Conc 19.59407
Area 275854



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 102890



ALS Group Houston

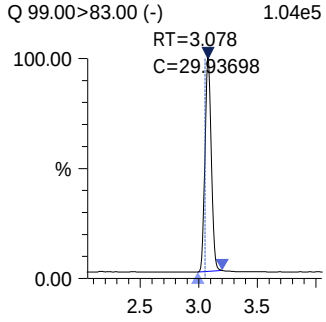
PERCHLORATE9

Date acquired: 4/20/2020 2:38:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_014.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	4/20/2020 2:38:33 PM	390068	29.93698	20200420_014	3.078	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	4/20/2020 2:38:33 PM	95225	1.00000	20200420_014	3.075	25.0000	1.0000	12

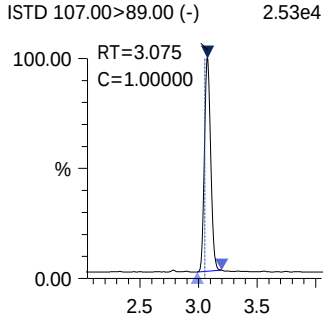
Perchlorate

Conc 29.93698
Area 390068



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 95225



ALS Group Houston

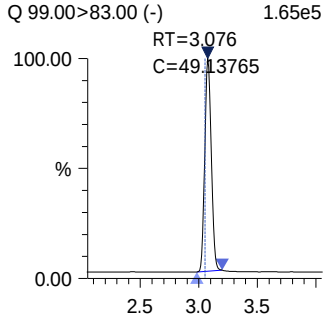
PERCHLORATE10

Date acquired: 4/20/2020 2:46:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_015.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	4/20/2020 2:46:25 PM	632804	49.13765	20200420_015	3.076	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	4/20/2020 2:46:25 PM	94118	1.00000	20200420_015	3.075	25.0000	1.0000	13

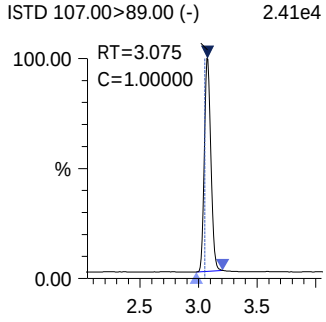
Perchlorate

Conc 49.13765
Area 632804



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 94118



ALS Group Houston

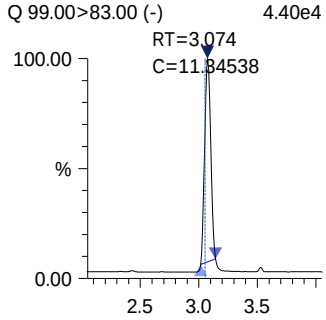
PERCHLORATEICV

Date acquired: 4/20/2020 2:54:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_016.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	4/20/2020 2:54:20 PM	149807	11.34538	20200420_016	3.074	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	4/20/2020 2:54:20 PM	96501	1.00000	20200420_016	3.072	25.0000	1.0000	14

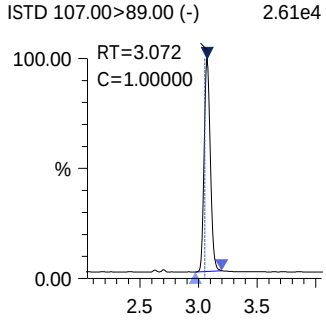
Perchlorate

Conc 11.34538
Area 149807



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 96501



Chromatograms

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

20200512

ICAL Date: 4/20/2020
Cal. Std. xp: 5/14/2020
ICAL ID: **EC2000003**

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100803-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
	null		20200512_001	Perchlorate6850b.lcm	1x	☒		5/12/2020 12:09
	null		20200512_002	Perchlorate6850b.lcm	1x	☒		5/12/2020 12:14
	IB		20200512_003	Perchlorate6850b.lcm	1x	☒		5/12/2020 12:19
	PERCHLORATE7		20200512_004	Perchlorate6850b.lcm	1x	☒	3100805-02	5/12/2020 12:27
	LODV		20200512_005	Perchlorate6850b.lcm	1x	☒		5/12/2020 12:35
	EQ2000173-01		20200512_006	Perchlorate6850b.lcm	1x	☒		5/12/2020 12:50
	EQ2000173-02		20200512_007	Perchlorate6850b.lcm	1x	☒		5/12/2020 12:58
	EQ2000173-03		20200512_008	Perchlorate6850b.lcm	1x	☒		5/12/2020 13:06
	E2000404-002		20200512_009	Perchlorate6850b.lcm	1x	☒		5/12/2020 13:13
	EQ2000173-04		20200512_010	Perchlorate6850b.lcm	1x	☒		5/12/2020 13:21
	EQ2000173-05		20200512_011	Perchlorate6850b.lcm	1x	☒	do not use	5/12/2020 13:29
	E2000382-001		20200512_012	Perchlorate6850b.lcm	1x	☒		5/12/2020 13:37
	PERCHLORATE7		20200512_013	Perchlorate6850b.lcm	1x	☒	3100805-02	5/12/2020 13:45
	E2000404-001		20200512_014	Perchlorate6850b.lcm	1x	☒		5/12/2020 13:53
	E2000404-003		20200512_015	Perchlorate6850b.lcm	1x	☒		5/12/2020 14:01
	E2000404-004		20200512_016	Perchlorate6850b.lcm	1x	☒		5/12/2020 14:09
	E2000404-005		20200512_017	Perchlorate6850b.lcm	1x	☒		5/12/2020 14:17
	E2000404-006		20200512_018	Perchlorate6850b.lcm	1x	☒		5/12/2020 14:25
	E2000405-001		20200512_019	Perchlorate6850b.lcm	1x	☒		5/12/2020 14:32
	E2000405-002		20200512_020	Perchlorate6850b.lcm	1x	☒		5/12/2020 14:40
	E2000405-003		20200512_021	Perchlorate6850b.lcm	1x	☒		5/12/2020 14:48
	E2000405-004		20200512_022	Perchlorate6850b.lcm	1x	☒		5/12/2020 14:56
	E2000405-005		20200512_023	Perchlorate6850b.lcm	1x	☒		5/12/2020 15:04
	PERCHLORATE7		20200512_024	Perchlorate6850b.lcm	1x	☒	3100805-02	5/12/2020 15:12
	E2000406-001		20200512_025	Perchlorate6850b.lcm	1x	☒		5/12/2020 15:20
	E2000406-002		20200512_26	Perchlorate6850b.lcm	1x	☒		5/12/2020 15:28
	E2000406-003		20200512_027	Perchlorate6850b.lcm	1x	☒		5/12/2020 15:36
	E2000407-001		20200512_028	Perchlorate6850b.lcm	1x	☒		5/12/2020 15:44
	E2000408-001		20200512_029	Perchlorate6850b.lcm	1x	☒	dilution	5/12/2020 15:51
	E2000409-001		20200512_030	Perchlorate6850b.lcm	1x	☒	RR-poss carry-over	5/12/2020 15:59
	EQ2000173-05		20200512_031	Perchlorate6850b.lcm	1x	☒	do not use	5/12/2020 16:07
	PERCHLORATE7		20200512_032	Perchlorate6850b.lcm	1x	☒	3100805-02	5/12/2020 16:15

20200513

ICAL Date: 4/20/2020
Cal. Std. xp: 5/14/2020
ICAL ID: **EC2000003**

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100803-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
	null		20200513_001	Perchlorate6850b.lcm	1x	☒		5/13/2020 11:40
	null		20200513_002	Perchlorate6850b.lcm	1x	☒		5/13/2020 11:45
	IB		20200513_003	Perchlorate6850b.lcm	1x	☒		5/13/2020 11:50
	PERCHLORATE7		20200513_004	Perchlorate6850b.lcm	1x	☒	3100805-02	5/13/2020 11:58
	LODV		20200513_005	Perchlorate6850b.lcm	1x	☒		5/13/2020 12:06
	EQ2000179-01		20200513_006	Perchlorate6850b.lcm	1x	☒		5/13/2020 12:14
	EQ2000179-02		20200513_007	Perchlorate6850b.lcm	1x	☒		5/13/2020 12:22
	EQ2000179-03		20200513_008	Perchlorate6850b.lcm	1x	☒		5/13/2020 12:29
	EQ2000179-04		20200513_009	Perchlorate6850b.lcm	1x	☒		5/13/2020 12:37
	EQ2000179-05		20200513_010	Perchlorate6850b.lcm	1x	☒		5/13/2020 12:45
	E2000410-001		20200513_011	Perchlorate6850b.lcm	1x	☒		5/13/2020 12:53
	E2000410-002		20200513_012	Perchlorate6850b.lcm	1x	☒		5/13/2020 13:01
	E2000410-003		20200513_013	Perchlorate6850b.lcm	1x	☒		5/13/2020 13:09
	E2000410-004		20200513_014	Perchlorate6850b.lcm	1x	☒		5/13/2020 13:17
	E2000410-005		20200513_015	Perchlorate6850b.lcm	1x	☒		5/13/2020 13:25
	PERCHLORATE7		20200513_016	Perchlorate6850b.lcm	1x	☒	3100805-02	5/13/2020 13:33
	E2000410-006		20200513_017	Perchlorate6850b.lcm	1x	☒		5/13/2020 13:41
	E2000410-007		20200513_018	Perchlorate6850b.lcm	1x	☒		5/13/2020 13:49
	E2000408-001X200		20200513_019	Perchlorate6850b.lcm	200x	☒		5/13/2020 13:56
	PERCHLORATE7		20200513_020	Perchlorate6850b.lcm	1x	☒	3100805-02	5/13/2020 14:04
	EQ2000173-05		20200513_021	Perchlorate6850b.lcm	1x	☒		5/13/2020 14:12
	E2000409-001		20200513_022	Perchlorate6850b.lcm	1x	☒		5/13/2020 14:20
	PERCHLORATE7		20200513_023	Perchlorate6850b.lcm	1x	☒	3100805-02	5/13/2020 14:28

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20050178

Service Request: E2000409
Date Analyzed: 5/12/20

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\20200512\20200512_004

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 679868
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.9	0.1368	0.1485	8.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20050178

Service Request: E2000409
Date Analyzed: 5/12/20

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\20200512\20200512_013

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 679868
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.0	0.1368	0.1502	9.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20050178

Service Request: E2000409
Date Analyzed: 5/13/20

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\20200513\20200513_004

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 680124
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.1	0.1368	0.1520	11.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20050178

Service Request: E2000409
Date Analyzed: 5/13/20

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\20200513\20200513_016

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 680124
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.3	0.1368	0.1546	13.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20050178

Service Request: E2000409
Date Analyzed: 5/13/20

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\20200513\20200513_020

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 680124
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.7	0.1368	0.1461	6.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20050178

Service Request: E2000409
Date Analyzed: 5/13/20

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\20200513\20200513_023

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 680124
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.1	0.1368	0.1523	11.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20050178

Service Request: E2000409
Date Analyzed: 5/12/20 12:27

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20200512\20200512_004
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000176-01
Analysis Lot: 679868
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000176-01	77,004	3.01
Method Blank	EQ2000173-01	95,026	2.94
Lab Control Sample	EQ2000173-02	108,592	3.00
Duplicate Lab Control Sample	EQ2000173-03	109,300	3.00
Batch QC	E2000404-002	104,595	2.99
Batch QCMS	EQ2000173-04	114,639	2.99

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:**	E2000409
Project:	HS20050178	**Date Analyzed:**	5/12/20 13:45

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200512\20200512_013	**Lab Code:**	EQ2000176-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	679868
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000176-02	99,187	2.99

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:**	E2000409
Project:	HS20050178	**Date Analyzed:**	5/13/20 11:58

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200513\20200513_004	**Lab Code:**	EQ2000186-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	680124
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000186-01	106,329	3.00

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:**	E2000409
Project:	HS20050178	**Date Analyzed:**	5/13/20 13:33

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200513\20200513_016	**Lab Code:**	EQ2000186-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	680124
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000186-02	116,942	3.00

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:**	E2000409
Project:	HS20050178	**Date Analyzed:**	5/13/20 14:04

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200513\20200513_020	**Lab Code:**	EQ2000186-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	680124
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000186-03	120,816	3.00
Batch QCDMS	EQ2000173-05	141,444	2.98
LH18/24-SP650_050520_BIX	E2000409-001	114,588	2.98

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:**	E2000409
Project:	HS20050178	**Date Analyzed:**	5/13/20 14:28

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200513\20200513_023	**Lab Code:**	EQ2000186-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	680124
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000186-04	117,011	2.99

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

ALS Group Houston

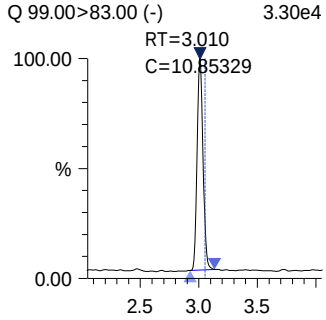
PERCHLORATE7

Date acquired: 5/12/2020 12:27:44 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200512\20200512_004.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	5/12/2020 12:27:44 PM	114355	10.85329	20200512_004	3.010	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	5/12/2020 12:27:44 PM	77004	1.00000	20200512_004	3.008	25.0000	1.0000	3

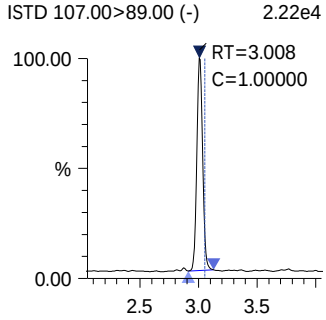
Perchlorate

Conc 10.85329
Area 114355



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 77004



ALS Group Houston

EQ2000173-01

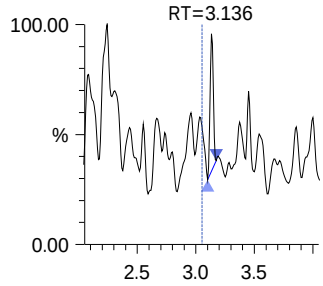
Date acquired: 5/12/2020 12:50:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200512\20200512_006.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000173-01	5/12/2020 12:50:12 PM	----	----	20200512_006	----	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	EQ2000173-01	5/12/2020 12:50:12 PM	95026	1.00000	20200512_006	2.942	25.0000	1.0000	5

Perchlorate

Conc ----
Area ----

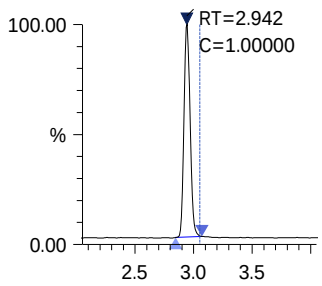
Q 99.00>83.00 (-) 3.00e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 95026

ISTD 107.00>89.00 (-) 2.66e4



ALS Group Houston

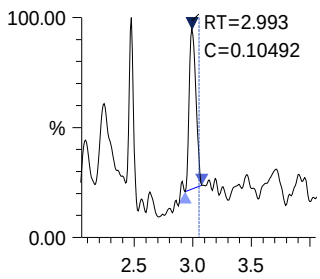
EQ2000173-02

Date acquired: 5/12/2020 12:58:07 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200512\20200512_007.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	EQ2000173-02	5/12/2020 12:58:07 PM	1559	0.10492	20200512_007	2.993	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	EQ2000173-02	5/12/2020 12:58:07 PM	108592	1.00000	20200512_007	3.004	25.0000	1.0000	6

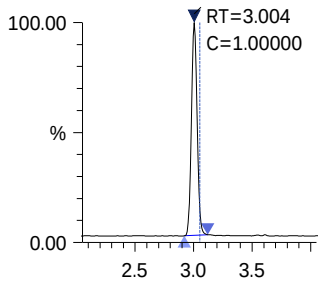
Perchlorate

Conc 0.10492
Area 1559
Q 99.00>83.00 (-) 5.16e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 108592
ISTD 107.00>89.00 (-) 3.19e4



ALS Group Houston

EQ2000173-03

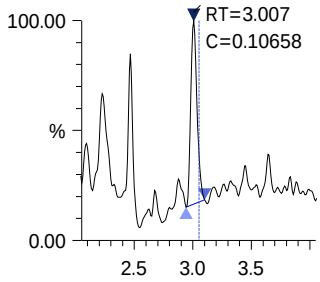
Date acquired: 5/12/2020 1:06:00 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200512\20200512_008.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000173-03	5/12/2020 1:06:00 PM	1594	0.10658	20200512_008	3.007	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	EQ2000173-03	5/12/2020 1:06:00 PM	109300	1.00000	20200512_008	3.004	25.0000	1.0000	7

Perchlorate

Conc 0.10658
Area 1594

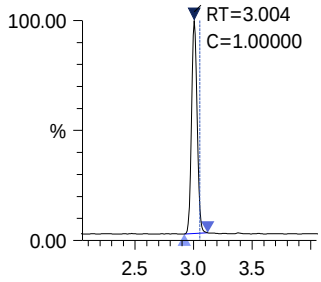
Q 99.00>83.00 (-) 4.99e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 109300

ISTD 107.00>89.00 (-) 3.26e4



ALS Group Houston

EQ2000173-04

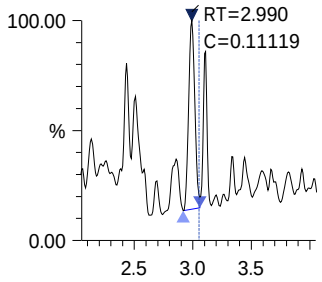
Date acquired: 5/12/2020 1:21:48 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200512\20200512_010.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000173-04	5/12/2020 1:21:48 PM	1744	0.11119	20200512_010	2.990	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	EQ2000173-04	5/12/2020 1:21:48 PM	114639	1.00000	20200512_010	2.990	25.0000	1.0000	9

Perchlorate

Conc 0.11119
Area 1744

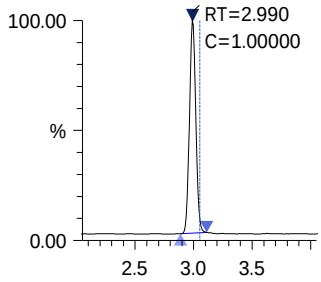
Q 99.00>83.00 (-) 5.32e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 114639

ISTD 107.00>89.00 (-) 3.06e4



ALS Group Houston

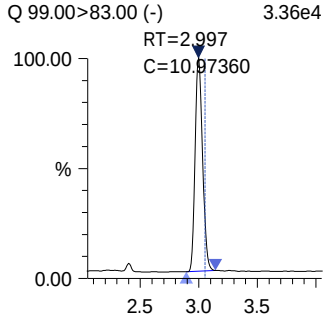
PERCHLORATE7

Date acquired: 5/12/2020 1:45:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200512\20200512_013.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	5/12/2020 1:45:33 PM	148931	10.97360	20200512_013	2.997	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	5/12/2020 1:45:33 PM	99187	1.00000	20200512_013	2.994	25.0000	1.0000	3

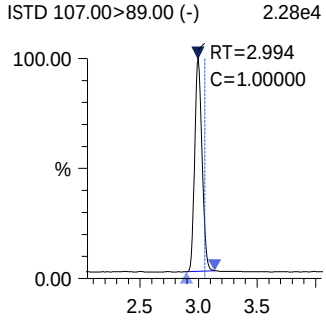
Perchlorate

Conc 10.97360
Area 148931



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 99187



ALS Group Houston

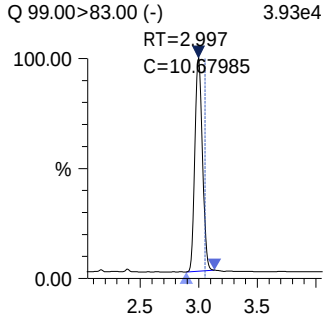
PERCHLORATE7

Date acquired: 5/13/2020 2:04:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200513\20200513_020.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	5/13/2020 2:04:49 PM	176552	10.67985	20200513_020	2.997	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	5/13/2020 2:04:49 PM	120816	1.00000	20200513_020	2.995	25.0000	1.0000	3

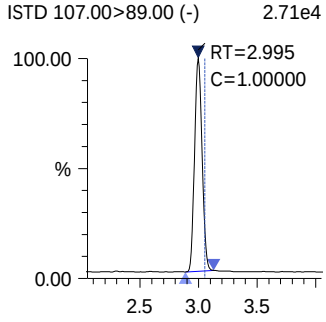
Perchlorate

Conc 10.67985
Area 176552



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 120816



ALS Group Houston

EQ2000173-05

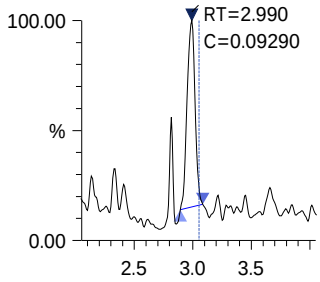
Date acquired: 5/13/2020 2:12:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200513\20200513_021.lcd
Vial: 18 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000173-05	5/13/2020 2:12:40 PM	1798	0.09290	20200513_021	2.990	25.0000	1.0000	18
Sodium Perchlorate-18O4_IS	EQ2000173-05	5/13/2020 2:12:40 PM	141444	1.00000	20200513_021	2.980	25.0000	1.0000	18

Perchlorate

Conc 0.09290
Area 1798

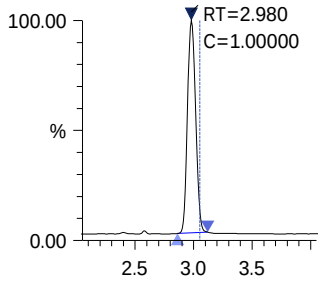
Q 99.00>83.00 (-) 4.31e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 141444

ISTD 107.00>89.00 (-) 2.95e4



ALS Group Houston

E2000409-001

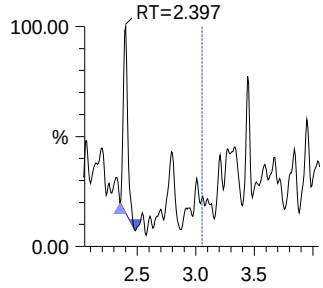
Date acquired: 5/13/2020 2:20:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200513\20200513_022.lcd
Vial: 19 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	E2000409-001	5/13/2020 2:20:36 PM	----	----	20200513_022	----	25.0000	1.0000	19
Sodium Perchlorate-18O4_IS	E2000409-001	5/13/2020 2:20:36 PM	114588	1.00000	20200513_022	2.978	25.0000	1.0000	19

Perchlorate

Conc ----
Area ----

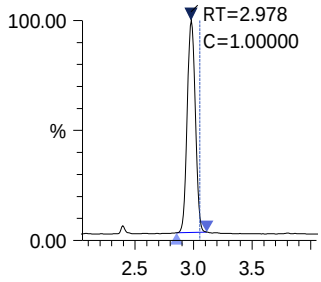
Q 99.00>83.00 (-) 1.81e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 114588

ISTD 107.00>89.00 (-) 2.41e4



ALS Group Houston

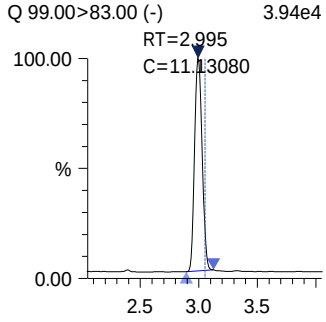
PERCHLORATE7

Date acquired: 5/13/2020 2:28:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200513\20200513_023.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	5/13/2020 2:28:31 PM	178211	11.13080	20200513_023	2.995	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	5/13/2020 2:28:31 PM	117011	1.00000	20200513_023	2.992	25.0000	1.0000	3

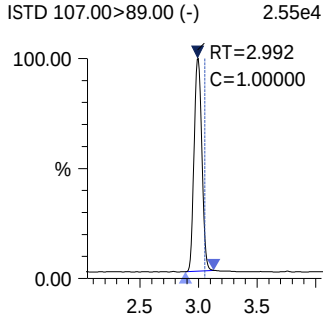
Perchlorate

Conc 11.13080
Area 178211



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 117011



HS20050178 WC NIT_AMN_ISE

ALS WO# HS20050178

N17_ANNM_W_ISE / 350-3

ALS Laboratory Group

Logbook **31105**

Ion Selective Electrode Logbook

Analyst: YP				Date: 5/11/20 1:00 PM	
Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F					
Probe Calibration Date: 5/11/20		Cal Std ID: 31310478 - 12		Probe ID: X01-11806	
Std Level		mV	Conc., mg/L:	Sodium Thiosulfate ID:	
STD 1 (mg/L):	0.2	134.3	0.200	Std Level	mV / Conc., mg/L:
STD 2 (mg/L):	1	94	1.002	STD 4 (mg/L): 10	35.6 / 9.997
STD 3 (mg/L):	5	53.9	5.003	STD 5 (mg/L): 50	-5.9 / 49.973
LSC / MS Spike ID:	3100609707			ICAL Date & Slope:	
ICV Cal STD ID:	31310479 07			100.7 / -59.4 mV	
DPD Reagent ID:	3100401821				

WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Chlorine Check (+/-)	Comments
ICV		50ml	50ml		10.153			
CCB		"	"		0.016			
MBLK					0.014			
LCS					10.375			
HS200501114-1					0.100		+ve	Rechecked
50114-01 MS					10.200		+ve	Rechecked
50114-01MSD					10.349		+ve	Rechecked.
HS200501178-01					3.659		-ve	
CCV					10.274			
CCB		"	"		0.017			

(YP)

Batch ID:	Reported By	Reviewed By:
361368 / 361370	YP	MP

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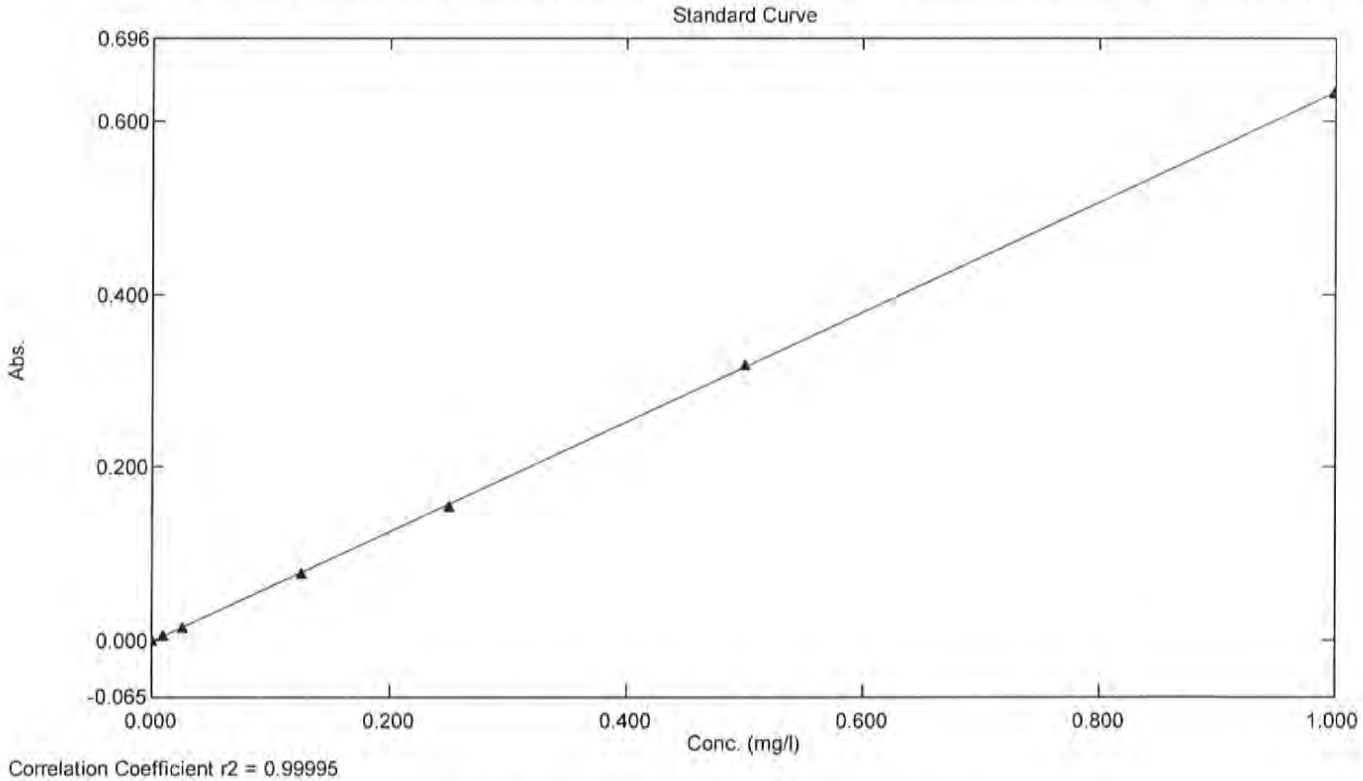
HS20050178 WC P_ORTHO

ALS WO# HS20050178

Standard Table Report

05/28/2020 04:46:11 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\05122020_PORTHO.pho..



Correlation Coefficient r2 = 0.99995

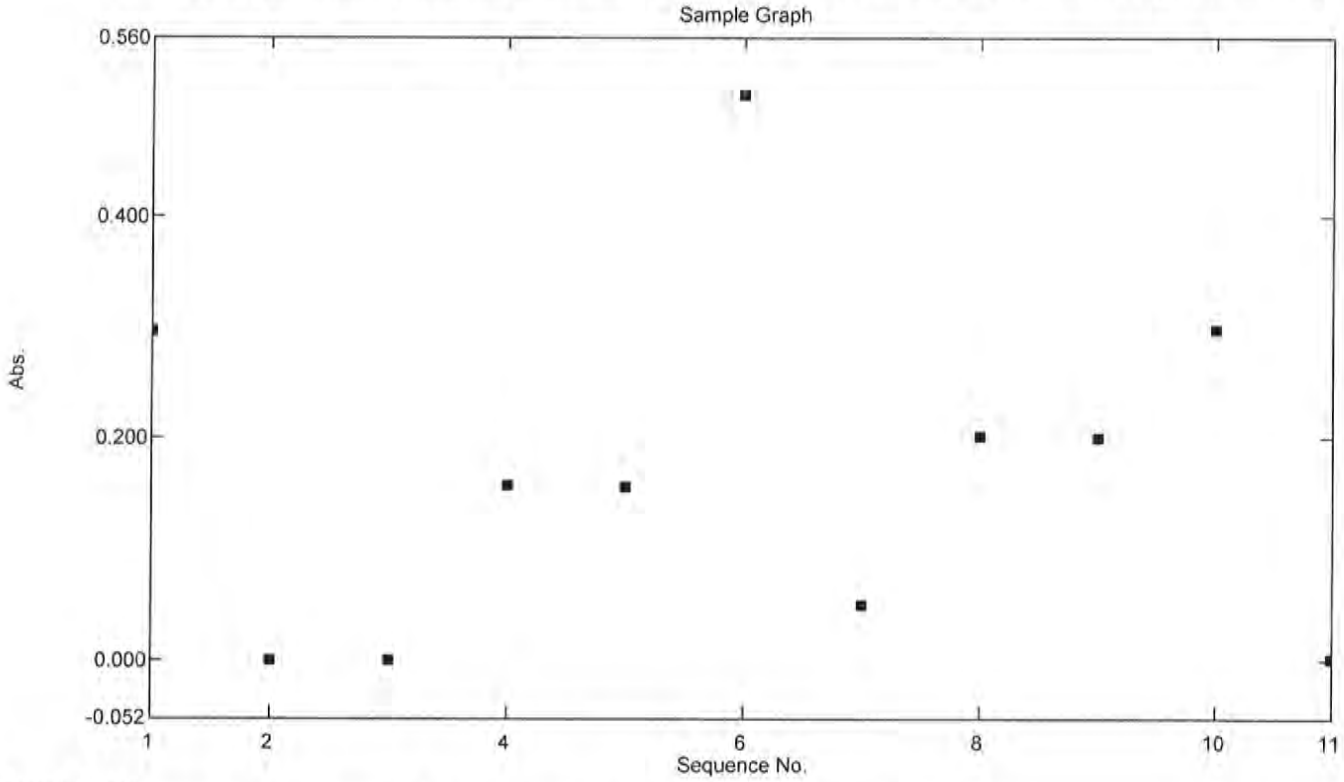
Standard Table

	Sample ID	Type	Ex	Conc	WL880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	-0.001	1.000	
2	STD2	Standard		0.010	0.006	1.000	
3	STD3	Standard		0.025	0.013	1.000	
4	STD4	Standard		0.125	0.077	1.000	
5	STD5	Standard		0.250	0.155	1.000	
6	STD6	Standard		0.500	0.319	1.000	
7	STD7	Standard		1.000	0.633	1.000	
8							

Sample Table Report

05/28/2020 04:46:14 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\05122020_PORTHO.pho..



Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.468	0.296	313103401 WC-14
2	CCB	Unknown		0.002	-0.001	
3	MBLK	Unknown		0.001	-0.001	
4	LCS	Unknown		0.250	0.157	313103402 WC-14
5	LCSD	Unknown		0.247	0.155	
6	20050178.01	Unknown		0.804	0.509	11:56AM
7	20050178.01.	Unknown		0.082	0.050	PF:10X,12:01PM
8	20050178.01MS	Unknown		0.319	0.201	PF:10X,12:01PM
9	20050178.01MSD	Unknown		0.318	0.200	PF:10X,12:01PM
10	CCV2	Unknown		0.472	0.298	
11	CCB2	Unknown		0.003	0.000	C-313104804 UV-11
12						

N17_AMM_W_ISE 1350-3

00979851

Logbook **31105**

ALS Laboratory Group

Ion Selective Electrode Logbook

Analyst: YP					Date: 5/11/20 1:00 PM		
Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F							
Probe Calibration Date: 5/11/20		Cal Std ID: 3131047B-12			Probe ID: X01-11806		
Std Level		mV	Conc., mg/L:		Sodium Thiosulfate ID:		
STD 1 (mg/L):	0.2	134.3	0.200		Std Level	mV	Conc., mg/L:
STD 2 (mg/L):	1	94	1.002		STD 4 (mg/L): 10	35.6	9.997
STD 3 (mg/L):	5	53.9	5.003		STD 5 (mg/L): 50	-5.9	49.973
LSC / MS Spike ID:	3100601707				ICAL Date & Slope:		
ICV Cal STD ID:	3131047D7				100.7+/-59.4mV		
DPD Reagent ID:	3100601821						

WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Chlorine Check (+/-)	Comments
ICV		50ml	50ml		10.153			
CCB					0.016			
MBLK					0.014			
LCS					10.375			
HS2001701114-1					0.100		+ve	Reheated
501114-01MS					10.200		+ve	Reheated
501114-01MSD					10.349		+ve	Reheated.
HS2005007B-01					3.659		-ve	
CCV					10.274			
CCB					0.017			

(YP)

Batch ID:	Reported By	Reviewed By:
361368 / 361370	YP	MP

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WorkOrder: HS20050456

LHAAP 18 24

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

03-Jun-2020

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  - QC
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  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList
  - COC
- HS20050456 8260 Raw Data
- HS20050456 Wet Chem Raw Data (IC)

HS20050456 LHAAP 18 24 Final

ALS WO# HS20050456

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May 19, 2020

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS20050456**

Laboratory Results for: **LHAAP 18 24**

Dear Marcia,

ALS Environmental received 1 sample(s) on May 13, 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: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Work Order: HS20050456

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20050456-01	LH 18/24-SP650_051220	Water		12-May-2020 14:00	13-May-2020 12:20	☐

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Work Order: HS20050456

CASE NARRATIVE

GCMS Volatiles by Method SW8260

Batch ID: R361521

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

WetChemistry by Method E300

Batch ID: R361694

Sample ID: LH 18/24-SP650_051220 (HS20050456-01MS)

- The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. Chloride

Batch ID: R361772

Sample ID: HS20050610-01MS

- MS and MSD are for an unrelated sample

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: LH 18/24-SP650_051220
Collection Date: 12-May-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20050456
Lab ID:HS20050456-01
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	13-May-2020 17:18
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	13-May-2020 17:18
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	13-May-2020 17:18
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	13-May-2020 17:18
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	13-May-2020 17:18
1,2-Dichloroethane	**0.97**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	13-May-2020 17:18
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	13-May-2020 17:18
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	13-May-2020 17:18
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	13-May-2020 17:18
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	13-May-2020 17:18
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	13-May-2020 17:18
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	13-May-2020 17:18
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	13-May-2020 17:18
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	13-May-2020 17:18
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	13-May-2020 17:18
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	13-May-2020 17:18
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	13-May-2020 17:18
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	13-May-2020 17:18
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	13-May-2020 17:18
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18

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

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: LH 18/24-SP650_051220
Collection Date: 12-May-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20050456
Lab ID:HS20050456-01
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
cis-1,2-Dichloroethene	**20**		**0.20**	**0.50**	**1.0**	**UG/L**	1	13-May-2020 17:18
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	13-May-2020 17:18
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	13-May-2020 17:18
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	13-May-2020 17:18
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	13-May-2020 17:18
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	13-May-2020 17:18
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
Trichloroethene	**4.0**		**0.20**	**0.50**	**1.0**	**UG/L**	1	13-May-2020 17:18
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	13-May-2020 17:18
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	13-May-2020 17:18
Surr: 1,2-Dichloroethane-d4	*89.8*			**0**	*81-118*	*%REC*	*1*	*13-May-2020 17:18*
Surr: 4-Bromofluorobenzene	*99.1*			**0**	*85-114*	*%REC*	*1*	*13-May-2020 17:18*
Surr: Dibromofluoromethane	*91.7*			**0**	*80-119*	*%REC*	*1*	*13-May-2020 17:18*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*13-May-2020 17:18*
ANIONS BY E300.0		**Method:E300**						Analyst: JHD
Chloride	**400**		**2.00**	**5.00**	**5.00**	**mg/L**	10	16-May-2020 04:44
Sulfate	**31.6**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-May-2020 22:20

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

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS20050456

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R361521 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20050456-01	LH 18/24-SP650_051220	12 May 2020 14:00			13 May 2020 17:18	1
Batch ID: R361694 (0)	**Test Name :** ANIONS BY E300.0				**Matrix:** Water	
HS20050456-01	LH 18/24-SP650_051220	12 May 2020 14:00			16 May 2020 04:44	10
Batch ID: R361772 (0)	**Test Name :** ANIONS BY E300.0				**Matrix:** Water	
HS20050456-01	LH 18/24-SP650_051220	12 May 2020 14:00			18 May 2020 22:20	1

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS20050456

QC BATCH REPORT

Batch ID: R361521 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200513** Units: **UG/L** Analysis Date: **13-May-2020 12:29**
Client ID: Run ID: **VOA6_361521** SeqNo: **5584115** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS20050456

QC BATCH REPORT

Batch ID: R361521 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200513** Units: **UG/L** Analysis Date: **13-May-2020 12:29**
Client ID: Run ID: **VOA6_361521** SeqNo: **5584115** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.94*	*1.0*	*50*	*0*	*89.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.25*	*1.0*	*50*	*0*	*96.5*	*85 - 114*				
Surr: Dibromofluoromethane	*46.27*	*1.0*	*50*	*0*	*92.5*	*80 - 119*				
Surr: Toluene-d8	*54.47*	*1.0*	*50*	*0*	*109*	*89 - 112*				

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS20050456

QC BATCH REPORT

Batch ID: R361521 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200513** Units: **UG/L** Analysis Date: **13-May-2020 11:41**
Client ID: Run ID: **VOA6_361521** SeqNo: **5584114** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.12	1.0	20	0	95.6	78 - 124				
1,1,1-Trichloroethane	18.69	1.0	20	0	93.5	74 - 131				
1,1,2,2-Tetrachloroethane	18.64	1.0	20	0	93.2	71 - 121				
1,1,2-Trichloroethane	19.25	1.0	20	0	96.2	80 - 119				
1,1-Dichloroethane	18.03	1.0	20	0	90.1	77 - 125				
1,1-Dichloroethene	18	1.0	20	0	90.0	71 - 131				
1,1-Dichloropropene	17.72	1.0	20	0	88.6	78 - 125				
1,2,3-Trichlorobenzene	20.82	1.0	20	0	104	69 - 129				
1,2,3-Trichloropropane	19.02	1.0	20	0	95.1	73 - 122				
1,2,4-Trichlorobenzene	19.46	1.0	20	0	97.3	69 - 130				
1,2,4-Trimethylbenzene	17.01	1.0	20	0	85.1	76 - 124				
1,2-Dibromo-3-chloropropane	20.38	1.0	20	0	102	62 - 128				
1,2-Dibromoethane	20.53	1.0	20	0	103	77 - 121				
1,2-Dichlorobenzene	17.68	1.0	20	0	88.4	80 - 119				
1,2-Dichloroethane	20.84	1.0	20	0	104	73 - 128				
1,2-Dichloropropane	18.36	1.0	20	0	91.8	78 - 122				
1,3,5-Trimethylbenzene	16.68	1.0	20	0	83.4	75 - 124				
1,3-Dichlorobenzene	17.72	1.0	20	0	88.6	80 - 119				
1,3-Dichloropropane	19.56	1.0	20	0	97.8	80 - 119				
1,4-Dichlorobenzene	17.25	1.0	20	0	86.3	79 - 118				
2,2-Dichloropropane	19.56	1.0	20	0	97.8	60 - 139				
2-Butanone	43.05	2.0	40	0	108	56 - 143				
2-Chlorotoluene	16.73	1.0	20	0	83.6	79 - 122				
2-Hexanone	36.63	2.0	40	0	91.6	57 - 139				
4-Chlorotoluene	16.94	1.0	20	0	84.7	78 - 122				
4-Isopropyltoluene	16.41	1.0	20	0	82.0	77 - 127				
4-Methyl-2-pentanone	35.63	2.0	40	0	89.1	67 - 130				
Acetone	33.52	2.0	40	0	83.8	39 - 160				
Benzene	18.35	1.0	20	0	91.8	79 - 120				
Bromobenzene	18.03	1.0	20	0	90.2	80 - 120				
Bromochloromethane	19.33	1.0	20	0	96.7	78 - 123				
Bromodichloromethane	19.83	1.0	20	0	99.1	79 - 125				
Bromoform	19.74	1.0	20	0	98.7	66 - 130				
Bromomethane	20.57	1.0	20	0	103	53 - 141				

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS20050456

QC BATCH REPORT

Batch ID: R361521 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200513** Units: **UG/L** Analysis Date: **13-May-2020 11:41**
Client ID: Run ID: **VOA6_361521** SeqNo: **5584114** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	36.7	2.0	40	0	91.8	64 - 133				
Carbon tetrachloride	17.72	1.0	20	0	88.6	72 - 136				
Chlorobenzene	18.53	1.0	20	0	92.7	82 - 118				
Chloroethane	17.73	1.0	20	0	88.6	60 - 138				
Chloroform	19.97	1.0	20	0	99.9	79 - 124				
Chloromethane	17.04	1.0	20	0	85.2	50 - 139				
cis-1,2-Dichloroethene	19.77	1.0	20	0	98.9	78 - 123				
cis-1,3-Dichloropropene	19.41	1.0	20	0	97.1	75 - 124				
Dibromochloromethane	19.78	1.0	20	0	98.9	74 - 126				
Dibromomethane	20.27	1.0	20	0	101	79 - 123				
Dichlorodifluoromethane	18.65	1.0	20	0	93.3	32 - 152				
Ethylbenzene	17.83	1.0	20	0	89.1	79 - 121				
Hexachlorobutadiene	21.36	1.0	20	0	107	66 - 134				
Isopropylbenzene	16.83	1.0	20	0	84.2	72 - 131				
m,p-Xylene	34.87	2.0	40	0	87.2	80 - 121				
Methylene chloride	18.89	2.0	20	0	94.5	74 - 124				
Naphthalene	18.46	1.0	20	0	92.3	61 - 128				
n-Butylbenzene	16.51	1.0	20	0	82.6	75 - 128				
n-Propylbenzene	15.94	1.0	20	0	79.7	76 - 126				
o-Xylene	17.56	1.0	20	0	87.8	78 - 122				
sec-Butylbenzene	15.74	1.0	20	0	78.7	77 - 126				
Styrene	18.85	1.0	20	0	94.3	78 - 123				
tert-Butylbenzene	15.69	1.0	20	0	78.5	78 - 124				
Tetrachloroethene	16.98	1.0	20	0	84.9	74 - 129				
Toluene	18.62	1.0	20	0	93.1	80 - 121				
trans-1,2-Dichloroethene	19.89	1.0	20	0	99.4	75 - 124				
trans-1,3-Dichloropropene	19.37	1.0	20	0	96.8	73 - 127				
Trichloroethene	18.72	1.0	20	0	93.6	79 - 123				
Trichlorofluoromethane	18.54	1.0	20	0	92.7	65 - 141				
Vinyl chloride	17.19	1.0	20	0	86.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.49*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.03*	*1.0*	*50*	*0*	*104*	*85 - 114*				
Surr: Dibromofluoromethane	*52.17*	*1.0*	*50*	*0*	*104*	*80 - 119*				
Surr: Toluene-d8	*51.18*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS20050456

QC BATCH REPORT

Batch ID: R361521 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050423-01MS** Units: **UG/L** Analysis Date: **13-May-2020 16:05**
Client ID: Run ID: **VOA6_361521** SeqNo: **5584119** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.12	1.0	20	0	106	78 - 124				
1,1,1-Trichloroethane	19.1	1.0	20	0	95.5	74 - 131				
1,1,2,2-Tetrachloroethane	21.17	1.0	20	0	106	71 - 121				
1,1,2-Trichloroethane	20.26	1.0	20	0	101	80 - 119				
1,1-Dichloroethane	17.01	1.0	20	0	85.0	77 - 125				
1,1-Dichloroethene	17.7	1.0	20	0	88.5	71 - 131				
1,1-Dichloropropene	19.64	1.0	20	0	98.2	78 - 125				
1,2,3-Trichlorobenzene	20.85	1.0	20	0	104	69 - 129				
1,2,3-Trichloropropane	21.18	1.0	20	0	106	73 - 122				
1,2,4-Trichlorobenzene	19.42	1.0	20	0	97.1	69 - 130				
1,2,4-Trimethylbenzene	22.01	1.0	20	0	110	76 - 124				
1,2-Dibromo-3-chloropropane	24.4	1.0	20	0	122	62 - 128				
1,2-Dibromoethane	21.37	1.0	20	0	107	77 - 121				
1,2-Dichlorobenzene	20.78	1.0	20	0	104	80 - 119				
1,2-Dichloroethane	20.3	1.0	20	0	102	73 - 128				
1,2-Dichloropropane	18.42	1.0	20	0	92.1	78 - 122				
1,3,5-Trimethylbenzene	21.52	1.0	20	0	108	75 - 124				
1,3-Dichlorobenzene	20.66	1.0	20	0	103	80 - 119				
1,3-Dichloropropane	20.36	1.0	20	0	102	80 - 119				
1,4-Dichlorobenzene	20.35	1.0	20	0	102	79 - 118				
2,2-Dichloropropane	18.95	1.0	20	0	94.7	60 - 139				
2-Butanone	38.93	2.0	40	0	97.3	56 - 143				
2-Chlorotoluene	20.9	1.0	20	0	105	79 - 122				
2-Hexanone	41.36	2.0	40	0	103	57 - 139				
4-Chlorotoluene	20.48	1.0	20	0	102	78 - 122				
4-Isopropyltoluene	20.55	1.0	20	0	103	77 - 127				
4-Methyl-2-pentanone	41.66	2.0	40	0	104	67 - 130				
Acetone	33.4	2.0	40	4.694	71.8	39 - 160				
Benzene	19.17	1.0	20	0	95.8	79 - 120				
Bromobenzene	21.3	1.0	20	0	106	80 - 120				
Bromochloromethane	17.79	1.0	20	0	89.0	78 - 123				
Bromodichloromethane	19.69	1.0	20	0	98.4	79 - 125				
Bromoform	21	1.0	20	0	105	66 - 130				
Bromomethane	16.73	1.0	20	0	83.6	53 - 141				

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS20050456

QC BATCH REPORT

Batch ID: R361521 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050423-01MS** Units: **UG/L** Analysis Date: **13-May-2020 16:05**
Client ID: Run ID: **VOA6_361521** SeqNo: **5584119** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	32.81	2.0	40	0	82.0	64 - 133				
Carbon tetrachloride	19.98	1.0	20	0	99.9	72 - 136				
Chlorobenzene	20.4	1.0	20	0	102	82 - 118				
Chloroethane	15	1.0	20	0	75.0	60 - 138				
Chloroform	18.21	1.0	20	0	91.0	79 - 124				
Chloromethane	13.36	1.0	20	0	66.8	50 - 139				
cis-1,2-Dichloroethene	18.41	1.0	20	0	92.0	78 - 123				
cis-1,3-Dichloropropene	19.68	1.0	20	0	98.4	75 - 124				
Dibromochloromethane	21.49	1.0	20	0	107	74 - 126				
Dibromomethane	19.78	1.0	20	0	98.9	79 - 123				
Dichlorodifluoromethane	10.55	1.0	20	0	52.7	32 - 152				
Ethylbenzene	21.48	1.0	20	0	107	79 - 121				
Hexachlorobutadiene	15.11	1.0	20	0	75.5	66 - 134				
Isopropylbenzene	21.17	1.0	20	0	106	72 - 131				
m,p-Xylene	42.92	2.0	40	0	107	80 - 121				
Methylene chloride	16.93	2.0	20	0	84.7	74 - 124				
Naphthalene	23.71	1.0	20	0	119	61 - 128				
n-Butylbenzene	19.67	1.0	20	0	98.3	75 - 128				
n-Propylbenzene	21.06	1.0	20	0	105	76 - 126				
o-Xylene	21.27	1.0	20	0	106	78 - 122				
sec-Butylbenzene	19.56	1.0	20	0	97.8	77 - 126				
Styrene	20.55	1.0	20	0	103	78 - 123				
tert-Butylbenzene	20.97	1.0	20	0	105	78 - 124				
Tetrachloroethene	21.62	1.0	20	0	108	74 - 129				
Toluene	21.77	1.0	20	0	109	80 - 121				
trans-1,2-Dichloroethene	18.65	1.0	20	0	93.2	75 - 124				
trans-1,3-Dichloropropene	19.9	1.0	20	0	99.5	73 - 127				
Trichloroethene	20.03	1.0	20	0	100	79 - 123				
Trichlorofluoromethane	18.59	1.0	20	0	92.9	65 - 141				
Vinyl chloride	14.57	1.0	20	0	72.8	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.9*	*1.0*	*50*	*0*	*89.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.1*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*44.92*	*1.0*	*50*	*0*	*89.8*	*80 - 119*				
Surr: Toluene-d8	*52.77*	*1.0*	*50*	*0*	*106*	*89 - 112*				

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS20050456

QC BATCH REPORT

Batch ID: R361521 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050423-01MSD** Units: **UG/L** Analysis Date: **13-May-2020 16:30**
Client ID: Run ID: **VOA6_361521** SeqNo: **5584120** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.98	1.0	20	0	99.9	78 - 124	21.12	5.52	20	
1,1,1-Trichloroethane	18.7	1.0	20	0	93.5	74 - 131	19.1	2.09	20	
1,1,2,2-Tetrachloroethane	20.61	1.0	20	0	103	71 - 121	21.17	2.65	20	
1,1,2-Trichloroethane	19.9	1.0	20	0	99.5	80 - 119	20.26	1.82	20	
1,1-Dichloroethane	16.54	1.0	20	0	82.7	77 - 125	17.01	2.82	20	
1,1-Dichloroethene	16.96	1.0	20	0	84.8	71 - 131	17.7	4.26	20	
1,1-Dichloropropene	18.43	1.0	20	0	92.2	78 - 125	19.64	6.33	20	
1,2,3-Trichlorobenzene	24.53	1.0	20	0	123	69 - 129	20.85	16.2	20	
1,2,3-Trichloropropane	20.76	1.0	20	0	104	73 - 122	21.18	1.99	20	
1,2,4-Trichlorobenzene	21.11	1.0	20	0	106	69 - 130	19.42	8.35	20	
1,2,4-Trimethylbenzene	20.82	1.0	20	0	104	76 - 124	22.01	5.53	20	
1,2-Dibromo-3-chloropropane	23.7	1.0	20	0	118	62 - 128	24.4	2.91	20	
1,2-Dibromoethane	21.59	1.0	20	0	108	77 - 121	21.37	1.03	20	
1,2-Dichlorobenzene	20.11	1.0	20	0	101	80 - 119	20.78	3.27	20	
1,2-Dichloroethane	20.17	1.0	20	0	101	73 - 128	20.3	0.642	20	
1,2-Dichloropropane	17.04	1.0	20	0	85.2	78 - 122	18.42	7.83	20	
1,3,5-Trimethylbenzene	20.48	1.0	20	0	102	75 - 124	21.52	4.97	20	
1,3-Dichlorobenzene	20.33	1.0	20	0	102	80 - 119	20.66	1.62	20	
1,3-Dichloropropane	19.77	1.0	20	0	98.9	80 - 119	20.36	2.94	20	
1,4-Dichlorobenzene	19.58	1.0	20	0	97.9	79 - 118	20.35	3.84	20	
2,2-Dichloropropane	17.52	1.0	20	0	87.6	60 - 139	18.95	7.83	20	
2-Butanone	37.45	2.0	40	0	93.6	56 - 143	38.93	3.88	20	
2-Chlorotoluene	19.64	1.0	20	0	98.2	79 - 122	20.9	6.2	20	
2-Hexanone	40.49	2.0	40	0	101	57 - 139	41.36	2.11	20	
4-Chlorotoluene	19.7	1.0	20	0	98.5	78 - 122	20.48	3.88	20	
4-Isopropyltoluene	19.41	1.0	20	0	97.0	77 - 127	20.55	5.69	20	
4-Methyl-2-pentanone	41.96	2.0	40	0	105	67 - 130	41.66	0.704	20	
Acetone	34.12	2.0	40	4.694	73.6	39 - 160	33.4	2.15	20	
Benzene	18.19	1.0	20	0	91.0	79 - 120	19.17	5.2	20	
Bromobenzene	20.99	1.0	20	0	105	80 - 120	21.3	1.44	20	
Bromochloromethane	17.23	1.0	20	0	86.2	78 - 123	17.79	3.22	20	
Bromodichloromethane	18.61	1.0	20	0	93.0	79 - 125	19.69	5.66	20	
Bromoform	20.82	1.0	20	0	104	66 - 130	21	0.832	20	
Bromomethane	15.36	1.0	20	0	76.8	53 - 141	16.73	8.5	20	

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS20050456

QC BATCH REPORT

Batch ID: R361521 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050423-01MSD** Units: **UG/L** Analysis Date: **13-May-2020 16:30**
Client ID: Run ID: **VOA6_361521** SeqNo: **5584120** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	31.37	2.0	40	0	78.4	64 - 133	32.81	4.49	20	
Carbon tetrachloride	19.13	1.0	20	0	95.7	72 - 136	19.98	4.31	20	
Chlorobenzene	19.77	1.0	20	0	98.9	82 - 118	20.4	3.1	20	
Chloroethane	15.91	1.0	20	0	79.5	60 - 138	15	5.89	20	
Chloroform	18.02	1.0	20	0	90.1	79 - 124	18.21	1.05	20	
Chloromethane	12.36	1.0	20	0	61.8	50 - 139	13.36	7.83	20	
cis-1,2-Dichloroethene	17.46	1.0	20	0	87.3	78 - 123	18.41	5.27	20	
cis-1,3-Dichloropropene	18.52	1.0	20	0	92.6	75 - 124	19.68	6.09	20	
Dibromochloromethane	21.19	1.0	20	0	106	74 - 126	21.49	1.39	20	
Dibromomethane	19.3	1.0	20	0	96.5	79 - 123	19.78	2.44	20	
Dichlorodifluoromethane	10.46	1.0	20	0	52.3	32 - 152	10.55	0.835	20	
Ethylbenzene	20.32	1.0	20	0	102	79 - 121	21.48	5.54	20	
Hexachlorobutadiene	16.51	1.0	20	0	82.5	66 - 134	15.11	8.87	20	
Isopropylbenzene	20.31	1.0	20	0	102	72 - 131	21.17	4.14	20	
m,p-Xylene	40.98	2.0	40	0	102	80 - 121	42.92	4.61	20	
Methylene chloride	16.93	2.0	20	0	84.7	74 - 124	16.93	0.00995	20	
Naphthalene	25.47	1.0	20	0	127	61 - 128	23.71	7.15	20	
n-Butylbenzene	19.04	1.0	20	0	95.2	75 - 128	19.67	3.23	20	
n-Propylbenzene	20.14	1.0	20	0	101	76 - 126	21.06	4.45	20	
o-Xylene	20.89	1.0	20	0	104	78 - 122	21.27	1.79	20	
sec-Butylbenzene	19.02	1.0	20	0	95.1	77 - 126	19.56	2.81	20	
Styrene	20.02	1.0	20	0	100	78 - 123	20.55	2.61	20	
tert-Butylbenzene	20.19	1.0	20	0	101	78 - 124	20.97	3.82	20	
Tetrachloroethene	21.03	1.0	20	0	105	74 - 129	21.62	2.76	20	
Toluene	20.66	1.0	20	0	103	80 - 121	21.77	5.25	20	
trans-1,2-Dichloroethene	17.8	1.0	20	0	89.0	75 - 124	18.65	4.64	20	
trans-1,3-Dichloropropene	19.05	1.0	20	0	95.3	73 - 127	19.9	4.35	20	
Trichloroethene	18.9	1.0	20	0	94.5	79 - 123	20.03	5.83	20	
Trichlorofluoromethane	17.32	1.0	20	0	86.6	65 - 141	18.59	7.08	20	
Vinyl chloride	13.49	1.0	20	0	67.4	58 - 137	14.57	7.72	20	
Surr: 1,2-Dichloroethane-d4	*46.21*	*1.0*	*50*	*0*	*92.4*	*81 - 118*	*44.9*	*2.86*	*20*	
Surr: 4-Bromofluorobenzene	*49.46*	*1.0*	*50*	*0*	*98.9*	*85 - 114*	*50.1*	*1.28*	*20*	
Surr: Dibromofluoromethane	*45.76*	*1.0*	*50*	*0*	*91.5*	*80 - 119*	*44.92*	*1.87*	*20*	
Surr: Toluene-d8	*53.98*	*1.0*	*50*	*0*	*108*	*89 - 112*	*52.77*	*2.26*	*20*	

ALS Houston, US Date: 19-May-20

Client:	Bhate Environmental Associates, Inc.
Project:	LHAAP 18 24
WorkOrder:	HS20050456

QC BATCH REPORT

Batch ID:	**R361521 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20050456-01

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS20050456

QC BATCH REPORT

Batch ID: R361694 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY E300.0

MBLK Sample ID: **MBLK051520** Units: **mg/L** Analysis Date: **15-May-2020 18:10**
Client ID: Run ID: **ICS-Integrion_361694** SeqNo: **5587284** PrepDate: DF: **1**

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

LCS Sample ID: **LCS051520** Units: **mg/L** Analysis Date: **15-May-2020 18:28**
Client ID: Run ID: **ICS-Integrion_361694** SeqNo: **5587285** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.5	0.500	20	0	97.5	90 - 110				

MS Sample ID: **HS20050539-02MS** Units: **mg/L** Analysis Date: **15-May-2020 21:47**
Client ID: Run ID: **ICS-Integrion_361694** SeqNo: **5587296** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.78	0.500	10	11.88	99.1	80 - 120				

MS Sample ID: **HS20050456-01MS** Units: **mg/L** Analysis Date: **16-May-2020 05:02**
Client ID: **LH 18/24-SP650_051220** Run ID: **ICS-Integrion_361694** SeqNo: **5587370** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	422.6	5.00	100	400	22.6	80 - 120				SO

MSD Sample ID: **HS20050539-02MSD** Units: **mg/L** Analysis Date: **15-May-2020 22:05**
Client ID: Run ID: **ICS-Integrion_361694** SeqNo: **5587297** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.84	0.500	10	11.88	99.6	80 - 120	21.78	0.257	20	

MSD Sample ID: **HS20050456-01MSD** Units: **mg/L** Analysis Date: **16-May-2020 05:20**
Client ID: **LH 18/24-SP650_051220** Run ID: **ICS-Integrion_361694** SeqNo: **5587371** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	420.4	5.00	100	400	20.4	80 - 120	422.6	0.522	20	SO

The following samples were analyzed in this batch: HS20050456-01

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS20050456

QC BATCH REPORT

Batch ID: R361772 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY E300.0**

MBLK Sample ID: **MBLK051820** Units: **mg/L** Analysis Date: **18-May-2020 11:28**
Client ID: Run ID: **ICS-Integrion_361772** SeqNo: **5588815** 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: **LCS051820** Units: **mg/L** Analysis Date: **18-May-2020 11:46**
Client ID: Run ID: **ICS-Integrion_361772** SeqNo: **5588816** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	19.12	0.500	20	0	95.6	90 - 110				

LCSD Sample ID: **LCSD051820** Units: **mg/L** Analysis Date: **18-May-2020 12:05**
Client ID: Run ID: **ICS-Integrion_361772** SeqNo: **5588817** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	18.96	0.500	20	0	94.8	90 - 110	19.12	0.804	20	

MS Sample ID: **HS20050610-01MS** Units: **mg/L** Analysis Date: **18-May-2020 12:41**
Client ID: Run ID: **ICS-Integrion_361772** SeqNo: **5588889** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	121.3	0.500	10	113.5	78.3	80 - 120				SEO

MS Sample ID: **HS20050590-02MS** Units: **mg/L** Analysis Date: **18-May-2020 17:12**
Client ID: Run ID: **ICS-Integrion_361772** SeqNo: **5588891** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	35.85	0.500	10	27.6	82.5	80 - 120				

MSD Sample ID: **HS20050610-01MSD** Units: **mg/L** Analysis Date: **18-May-2020 12:59**
Client ID: Run ID: **ICS-Integrion_361772** SeqNo: **5588890** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	122.3	0.500	10	113.5	88.2	80 - 120	121.3	0.818	20	EO

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS20050456

QC BATCH REPORT

Batch ID: R361772 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY E300.0

MSD Sample ID: **HS20050590-02MSD** Units: **mg/L** Analysis Date: **18-May-2020 17:30**
Client ID: Run ID: **ICS-Integrion_361772** SeqNo: **5588826** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	36.73	0.500	10	27.6	91.3	80 - 120	37.14	1.12	20	

The following samples were analyzed in this batch: HS20050456-01

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: **HS20050456**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 19-May-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Work Order: HS20050456

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20050456-01	LH 18/24-SP650_051220	Login	5/13/2020 3:03:56 PM	NDR	Disposed
HS20050456-01	LH 18/24-SP650_051220	Login	5/13/2020 3:03:56 PM	NDR	Disposed

ALS Houston, US Date: 19-May-20

Sample Receipt Checklist

Work Order ID: HS20050456 **Date/Time Received:** 13-May-2020 12:20

Client Name: Bhate Environmental **Received by:** Jared R. Makan

Completed By:	/S/ Nilesh D. Ranchod	13-May-2020 15:07	**Reviewed by:**	/S/ Corey Grandits	13-May-2020 17:25
	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 ☐	COC IDs:N/A
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):	1.3c UC/C	IR11
Cooler(s)/Kit(s):	45956	
Date/Time sample(s) sent to storage:	05/13/2020 16:00	

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 listed on COC not Received.

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 ATTN: R.J. Modashia

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

Project No.
NWO1312.0150.0
16.0001

Job:
GROUNDWATER TREATMENT PLANT
BI-WEEKLY SAMPLES

Prepared By:
Scott Beesinger

P.O Number

HS20050456
Bhate Environmental Associates, Inc.
LHAAP 18 24

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC	Analyses: CHLORIDE, SULFATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_051220	Water	05/12/20 / 14:00		3	3		HCL	
LH18/24-SP650_051220	Water	05/12/20 / 14:00		1		1	NONE	
Trip Blank	Water	05/12/20		2	2		HCL	

Additional Remarks: **Standard TAT**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	05/12/20	14:30									

9For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Summers	5/13/20	12:20							

Remarks
Cooler - 45956 IR4
Temp 1.3 CF0.0

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly


ALS
10450 Stanhift Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5687
Date:
Name:
Company:
Validate
Prepar
De
CUSTODY SEAL
Temp:
1430
Seal Broken By:
Date:
WED - 13 MAY 10:30A
PRIORITY OVERNIGHT
FedEx

HS20050456 8260 Raw Data

ALS WO# HS20050456

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050456

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-200513	104	103	102	104	0
02	VBLKW-200513	92	90	109	96	0
03	HS20050423-01	90	90	106	100	0
04	HS20050423-01	92	92	108	99	0
05	HS20050456-01	92	90	108	99	0
06						
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		QC LIMITS
SMC1	= Dibromofluoromethane	(74-125)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(71-125)
SMC3 (TOL)	= Toluene-d8	(78-123)
OTHER	= 4-Bromofluorobenzene	(70-125)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050456

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Bromochloromethane	50.00	47.43	95	80-120
Vinyl Chloride	50.00	46.46	93	80-120
Chloromethane	50.00	44.04	88	80-120
Bromomethane	50.00	50.90	102	80-120
Chloroethane	50.00	44.86	90	80-120
Methylene Chloride	50.00	47.67	95	80-120
Acetone	100.00	96.04	96	80-120
1,1-Dichloroethene	50.00	47.66	95	80-120
trans-1,2-Dichloroethen	50.00	47.92	96	80-120
Carbon Tetrachloride	50.00	47.41	95	80-120
Bromodichloromethane	50.00	48.69	97	80-120
1,1-Dichloroethane	50.00	45.20	90	80-120
1,2-Dichloropropane	50.00	47.53	95	80-120
2-Butanone	100.00	107.79	108	80-120
cis-1,3-Dichloropropene	50.00	49.61	99	80-120
Dibromochloromethane	50.00	49.74	99	80-120
cis-1,2-Dichloroethene	50.00	47.90	96	80-120
1,1,2-Trichloroethane	50.00	47.86	96	80-120
Benzene	50.00	47.92	96	80-120
Chloroform	50.00	48.19	96	80-120
trans-1,3-Dichloroprope	50.00	49.97	100	80-120
Bromoform	50.00	50.11	100	80-120
4-Methyl-2-Pentanone	100.00	92.90	93	80-120
1,1,1-Trichloroethane	50.00	47.51	95	80-120
2-Hexanone	100.00	94.75	95	80-120
1,2-Dichloroethane	50.00	49.48	99	80-120
1,1,2,2-Tetrachloroetha	50.00	46.16	92	80-120
Trichloroethene	50.00	49.38	99	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 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050456

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Toluene	50.00	48.70	97	80-120
Dichlorodifluoromethane	50.00	46.95	94	80-120
Trichlorofluoromethane	50.00	48.67	97	80-120
Tetrachloroethene	50.00	49.21	98	80-120
1,2-Dibromoethane	50.00	50.22	100	80-120
Chlorobenzene	50.00	48.90	98	80-120
1,3-Dichlorobenzene	50.00	48.89	98	80-120
1,4-Dichlorobenzene	50.00	47.77	96	80-120
Ethylbenzene	50.00	48.80	98	80-120
1,2-Dichlorobenzene	50.00	48.42	97	80-120
m,p-Xylenes	100.00	98.10	98	80-120
o-Xylene	50.00	49.08	98	80-120
Styrene	50.00	49.46	99	80-120
Carbon Disulfide	100.00	95.54	96	80-120
2,2-Dichloropropane	50.00	47.48	95	80-120
1,1-Dichloropropene	50.00	48.00	96	80-120
Dibromomethane	50.00	49.84	100	80-120
1,3-Dichloropropane	50.00	48.33	97	80-120
1,1,1,2-Tetrachloroetha	50.00	48.99	98	80-120
Isopropylbenzene	50.00	49.54	99	80-120
Bromobenzene	50.00	48.32	97	80-120
1,2,3-Trichloropropane	50.00	46.59	93	80-120
n-Propylbenzene	50.00	48.00	96	80-120
2-Chlorotoluene	50.00	46.75	94	80-120
1,3,5-Trimethylbenzene	50.00	49.68	99	80-120
4-Chlorotoluene	50.00	47.20	94	80-120
tert-Butylbenzene	50.00	48.50	97	80-120
1,2,4-Trimethylbenzene	50.00	49.86	100	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 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050456

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
sec-Butylbenzene	50.00	48.50	97	80-120
p-Isopropyltoluene	50.00	50.33	101	80-120
n-Butylbenzene	50.00	50.73	101	80-120
1,2-Dibromo-3-Chloropro	50.00	46.37	93	80-120
1,2,4-Trichlorobenzene	50.00	47.52	95	80-120
Hexachlorobutadiene	50.00	49.71	99	80-120
Naphthalene	50.00	53.21	106	80-120
1,2,3-Trichlorobenzene	50.00	54.69	109	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 GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050456

Lab File ID: X051101 BFB Injection Date: 05/11/20

Instrument ID: VOA6 BFB Injection Time: 1248

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	24.2
75	30.0 - 60.0% of mass 95	46.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.4 (0.7)1
174	Greater than 50.0% of mass 95	58.1
175	5.0 - 9.0% of mass 174	5.0 (8.6)1
176	95.0 - 101.0% of mass 174	57.6 (99.1)1
177	5.0 - 9.0% of mass 176	4.7 (8.2)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	VSTD000.5	VSTD000.5	X051103	05/11/20	1400
02	VSTD001	VSTD001	X051104	05/11/20	1424
03	VSTD002	VSTD002	X051105	05/11/20	1448
04	VSTD005	VSTD005	X051106	05/11/20	1512
05	VSTD020	VSTD020	X051107	05/11/20	1536
06	VSTD050	VSTD050	X051108	05/11/20	1600
07	VSTD100	VSTD100	X051109	05/11/20	1624
08	VSTD150	VSTD150	X051110	05/11/20	1647
09	VSTD200	VSTD200	X051111	05/11/20	1711
10	ICV	ICV	X051114	05/11/20	1823
11					
12					
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FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050456

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF0.5: X051103 RF1: X051104 RF2: X051105
RF5: X051106 RF20: X051107 RF50: X051108

COMPOUND	RF0.5	RF1	RF2	RF5	RF20	RF50
Bromochloromethane	0.363	0.313	0.285	0.299	0.276	0.275
Vinyl Chloride	0.756	0.651	0.677	0.656	0.679	0.684
Chloromethane	2464	4677	8356	19497	77009	185773
Bromomethane	1460	2788	5327	11539	40170	86417
Chloroethane	1364	2214	3636	10011	35750	85402
Methylene Chloride	1939	3655	6641	14433	52520	120730
Acetone	1874	3027	5040	9390	35665	95313
1,1-Dichloroethene	0.461	0.404	0.370	0.376	0.386	0.384
trans-1,2-Dichloroethene	0.523	0.408	0.446	0.450	0.457	0.446
Carbon Tetrachloride	0.629	0.525	0.488	0.473	0.462	0.468
Bromodichloromethane	0.525	0.432	0.461	0.461	0.456	0.457
1,1-Dichloroethane	1.312	1.108	1.104	1.086	1.050	1.019
1,2-Dichloropropane	0.483	0.403	0.398	0.404	0.401	0.395
2-Butanone	0.188	0.183	0.186	0.220	0.241	0.263
cis-1,3-Dichloropropene	0.603	0.536	0.520	0.534	0.536	0.541
Dibromochloromethane	0.441	0.380	0.411	0.397	0.396	0.396
cis-1,2-Dichloroethene	0.543	0.472	0.583	0.527	0.536	0.514
1,1,2-Trichloroethane	0.332	0.252	0.293	0.293	0.271	0.267
Benzene	1.483	1.317	1.243	1.210	1.258	1.234
Chloroform	1.057	0.803	0.890	0.923	0.881	0.861
trans-1,3-Dichloropropene	0.537	0.462	0.480	0.485	0.483	0.486
Bromoform	0.318	0.258	0.306	0.286	0.283	0.274
4-Methyl-2-Pentanone	0.503	0.400	0.504	0.456	0.451	0.430
1,1,1-Trichloroethane	0.928	0.796	0.766	0.770	0.780	0.766
2-Hexanone	0.373	0.243	0.350	0.304	0.307	0.304
1,2-Dichloroethane	0.587	0.485	0.477	0.510	0.523	0.527
1,1,2,2-Tetrachloroethane	0.939	0.812	0.883	0.798	0.789	0.746
Trichloroethene	0.425	0.329	0.342	0.341	0.347	0.350
Toluene	1.729	1.419	1.522	1.489	1.484	1.431
Dichlorodifluoromethane	1503	2633	5304	13068	55700	135443
Trichlorofluoromethane	0.888	0.754	0.749	0.761	0.781	0.796
Tetrachloroethene	0.362	0.327	0.345	0.324	0.321	0.319
1,2-Dibromoethane	0.385	0.308	0.373	0.358	0.364	0.351
Chlorobenzene	1.224	0.910	1.008	0.984	0.965	0.948
1,3-Dichlorobenzene	1.771	1.441	1.502	1.497	1.508	1.462
1,4-Dichlorobenzene	2.196	1.462	1.507	1.543	1.491	1.488
Ethylbenzene	0.595	0.494	0.526	0.496	0.513	0.506
1,2-Dichlorobenzene	1.694	1.345	1.445	1.362	1.340	1.326
m,p-Xylenes	0.749	0.582	0.637	0.617	0.627	0.617
o-Xylene	0.671	0.590	0.652	0.604	0.617	0.595
Styrene	1.220	1.068	1.068	1.028	1.061	1.034
Carbon Disulfide	1.559	1.278	1.317	1.321	1.317	1.321
2,2-Dichloropropane	0.934	0.845	0.817	0.768	0.765	0.739
1,1-Dichloropropene	0.542	0.467	0.464	0.436	0.437	0.429

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005045

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF0.5: X051103 RF1: X051104 RF2: X051105
RF5: X051106 RF20: X051107 RF50: X051108

COMPOUND	RF0.5	RF1	RF2	RF5	RF20	RF50
Dibromomethane	0.272	0.187	0.211	0.223	0.213	0.217
1,3-Dichloropropane	0.667	0.536	0.609	0.586	0.581	0.558
1,1,1,2-Tetrachloroethane	0.441	0.401	0.388	0.383	0.384	0.380
Isopropylbenzene	1.838	1.487	1.440	1.550	1.543	1.499
Bromobenzene	1.160	0.908	0.931	0.886	0.907	0.902
1,2,3-Trichloropropane	0.825	0.629	0.829	0.664	0.661	0.681
n-Propylbenzene	4.517	3.295	3.337	3.514	3.496	3.465
2-Chlorotoluene	2.730	2.379	2.191	2.204	2.100	2.070
1,3,5-Trimethylbenzene	2.835	2.374	2.552	2.616	2.533	2.515
4-Chlorotoluene	3.235	2.656	2.511	2.448	2.492	2.419
tert-Butylbenzene	2.511	2.130	2.115	2.215	2.151	2.088
1,2,4-Trimethylbenzene	3.200	2.288	2.506	2.550	2.590	2.573
sec-Butylbenzene	3.786	2.605	2.991	3.022	2.939	2.872
p-Isopropyltoluene	3.242	2.169	2.411	2.533	2.612	2.578
n-Butylbenzene	2.569	1.648	1.842	2.072	2.142	2.132
1,2-Dibromo-3-Chloropropane	114	128	532	1596	5237	12187
1,2,4-Trichlorobenzene	505	762	1924	5746	23261	54809
Hexachlorobutadiene	605	736	2177	5460	21311	41952
Naphthalene	0.460	0.409	1047	0.433	0.467	0.465
1,2,3-Trichlorobenzene	385	431	1047	3164	11186	27245
Dibromofluoromethane	1793	3147	5198	14036	51294	118264
1,2-Dichloroethane-d4	2117	3902	7290	17135	62012	143586
Toluene-d8	5920	10982	18430	47142	176771	410250
4-Bromofluorobenzene	2708	6819	8380	19241	69563	152557

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005045

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF100: X051109 RF150: X051110 RF200: X051111

COMPOUND	RF100	RF150	RF200
Bromochloromethane	0.269	0.272	0.259
Vinyl Chloride	0.715	0.722	0.698
Chloromethane	352150	510038	668216
Bromomethane	166042	236806	301011
Chloroethane	162411	229270	289295
Methylene Chloride	224234	318789	395941
Acetone	157042	214208	
1,1-Dichloroethene	0.398	0.407	0.394
trans-1,2-Dichloroethene	0.457	0.461	0.444
Carbon Tetrachloride	0.489	0.496	0.491
Bromodichloromethane	0.466	0.477	0.465
1,1-Dichloroethane	1.046	1.051	1.004
1,2-Dichloropropane	0.399	0.395	0.384
2-Butanone	0.253	0.253	0.241
cis-1,3-Dichloropropene	0.550	0.556	0.544
Dibromochloromethane	0.410	0.407	0.403
cis-1,2-Dichloroethene	0.526	0.533	0.512
1,1,2-Trichloroethane	0.267	0.266	0.262
Benzene	1.256	1.263	1.238
Chloroform	0.878	0.889	0.859
trans-1,3-Dichloropropene	0.504	0.517	0.506
Bromoform	0.283	0.285	0.285
4-Methyl-2-Pentanone	0.441	0.443	0.435
1,1,1-Trichloroethane	0.796	0.813	0.790
2-Hexanone	0.303	0.300	0.298
1,2-Dichloroethane	0.527	0.530	0.518
1,1,2,2-Tetrachloroethane	0.749	0.756	0.761
Trichloroethene	0.367	0.367	0.360
Toluene	1.433	1.414	1.396
Dichlorodifluoromethane	264084	377623	499972
Trichlorofluoromethane	0.833	0.843	0.836
Tetrachloroethene	0.326	0.324	0.320
1,2-Dibromoethane	0.352	0.357	0.348
Chlorobenzene	0.963	0.964	0.949
1,3-Dichlorobenzene	1.500	1.522	1.508
1,4-Dichlorobenzene	1.506	1.517	1.512
Ethylbenzene	0.523	0.514	0.512
1,2-Dichlorobenzene	1.337	1.360	1.327
m,p-Xylenes	0.622	0.618	0.610
o-Xylene	0.603	0.605	0.588
Styrene	1.048	1.031	1.019
Carbon Disulfide	1.365	1.385	1.334
2,2-Dichloropropane	0.754	0.769	0.733
1,1-Dichloropropene	0.452	0.452	0.441

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005045

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF100: X051109 RF150: X051110 RF200: X051111

COMPOUND	RF100	RF150	RF200
Dibromomethane	0.222	0.224	0.218
1,3-Dichloropropane	0.557	0.557	0.550
1,1,1,2-Tetrachloroethane	0.387	0.387	0.385
Isopropylbenzene	1.568	1.560	1.547
Bromobenzene	0.907	0.911	0.925
1,2,3-Trichloropropane	0.669	0.656	0.658
n-Propylbenzene	3.577	3.585	3.566
2-Chlorotoluene	2.149	2.144	2.118
1,3,5-Trimethylbenzene	2.613	2.611	2.585
4-Chlorotoluene	2.476	2.464	2.454
tert-Butylbenzene	2.180	2.179	2.160
1,2,4-Trimethylbenzene	2.630	2.656	2.612
sec-Butylbenzene	3.026	3.020	2.996
p-Isopropyltoluene	2.679	2.702	2.709
n-Butylbenzene	2.216	2.237	2.212
1,2-Dibromo-3-Chloropropane	23938	35913	47270
1,2,4-Trichlorobenzene	103966	161556	221042
Hexachlorobutadiene	77175	122993	160116
Naphthalene	0.480	0.544	0.572
1,2,3-Trichlorobenzene	50765	82626	114644
Dibromofluoromethane	228909	320906	412124
1,2-Dichloroethane-d4	281127	402302	508534
Toluene-d8	778769	1109628	1416689
4-Bromofluorobenzene	294185	420723	537390

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005045

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	COEFFICENTS A2	%RSD OR R^2	MAX %RSD OR R^2
Bromochloromethane	AVRG		0.29010501		10.972	15.000
Vinyl Chloride	AVRG		0.69311531		4.827	15.000
Chloromethane	LINR	1.254e-002	1.25307618		0.9996990	0.9900000
Bromomethane	LINR	-1.49e-002	2.76010828		0.9992442	0.9900000
Chloroethane	LINR	-8.42e-003	2.85056864		0.9990197	0.9900000
Methylene Chloride	LINR	-2.15e-002	2.07576331		0.9984246	0.9900000
Acetone	LINR	-5.26e-002	5.86673099		0.9980780	0.9900000
1,1-Dichloroethene	AVRG		0.39779340		6.695	15.000
trans-1,2-Dichloroethene	AVRG		0.45484162		6.601	15.000
Carbon Tetrachloride	AVRG		0.50236564		10.139	15.000
Bromodichloromethane	AVRG		0.46672354		5.340	15.000
1,1-Dichloroethane	AVRG		1.08665862		8.445	15.000
1,2-Dichloropropane	AVRG		0.40699172		7.156	15.000
2-Butanone	AVRG		0.22534364		14.170	15.000
cis-1,3-Dichloropropene	AVRG		0.54659701		4.308	15.000
Dibromochloromethane	AVRG		0.40468890		4.114	15.000
cis-1,2-Dichloroethene	AVRG		0.52746114		5.587	15.000
1,1,2-Trichloroethane	AVRG		0.27813289		8.790	15.000
Benzene	AVRG		1.27806051		6.430	15.000
Chloroform	AVRG		0.89352495		7.768	15.000
trans-1,3-Dichloropropene	AVRG		0.49569616		4.508	15.000
Bromoform	AVRG		0.28647071		5.980	15.000
4-Methyl-2-Pentanone	AVRG		0.45144990		7.411	15.000
1,1,1-Trichloroethane	AVRG		0.80070947		6.298	15.000
2-Hexanone	AVRG		0.30919632		11.650	15.000
1,2-Dichloroethane	AVRG		0.52059797		6.006	15.000
1,1,2,2-Tetrachloroethane	AVRG		0.80353274		8.275	15.000
Trichloroethene	AVRG		0.35876630		7.774	15.000
Toluene	AVRG		1.47974156		6.910	15.000
Dichlorodifluoromethane	LINR	2.129e-002	1.67614322		0.9997226	0.9900000
Trichlorofluoromethane	AVRG		0.80446144		5.962	15.000
Tetrachloroethene	AVRG		0.32982532		4.351	15.000
1,2-Dibromoethane	AVRG		0.35522808		5.929	15.000
Chlorobenzene	AVRG		0.99065323		9.243	15.000
1,3-Dichlorobenzene	AVRG		1.52362325		6.309	15.000
1,4-Dichlorobenzene	AVRG		1.58040454		14.681	15.000
Ethylbenzene	AVRG		0.51992575		5.830	15.000
1,2-Dichlorobenzene	AVRG		1.39289493		8.511	15.000
m,p-Xylenes	AVRG		0.63108004		7.383	15.000
o-Xylene	AVRG		0.61400525		4.669	15.000
Styrene	AVRG		1.06414813		5.759	15.000
Carbon Disulfide	AVRG		1.35528961		6.080	15.000
2,2-Dichloropropane	AVRG		0.79166371		8.135	15.000
1,1-Dichloropropene	AVRG		0.45772621		7.432	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005045

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Dibromomethane	AVRG		0.22074683		10.081	15.000
1,3-Dichloropropane	AVRG		0.57818454		6.898	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.39300458		4.846	15.000
Isopropylbenzene	AVRG		1.55920520		7.226	15.000
Bromobenzene	AVRG		0.93740919		9.001	15.000
1,2,3-Trichloropropane	AVRG		0.69674447		10.773	15.000
n-Propylbenzene	AVRG		3.59467414		10.034	15.000
2-Chlorotoluene	AVRG		2.23175124		9.279	15.000
1,3,5-Trimethylbenzene	AVRG		2.58168968		4.708	15.000
4-Chlorotoluene	AVRG		2.57286118		10.008	15.000
tert-Butylbenzene	AVRG		2.19201247		5.722	15.000
1,2,4-Trimethylbenzene	AVRG		2.62277408		9.226	15.000
sec-Butylbenzene	AVRG		3.02845002		10.363	15.000
p-Isopropyltoluene	AVRG		2.62630864		10.952	15.000
n-Butylbenzene	AVRG		2.11900949		12.212	15.000
1,2-Dibromo-3-Chloropropane	LINR	2.938e-002	12.1217534		0.9986839	0.9900000
1,2,4-Trichlorobenzene	LINR	5.285e-002	2.62316086		0.9957908	0.9900000
Hexachlorobutadiene	LINR	1.932e-002	3.59227170		0.9969896	0.9900000
Naphthalene	AVRG		0.47073223		11.912	15.000
1,2,3-Trichlorobenzene	2ORDR	-8.18e-003	6.59831211	-2.0506170	0.9995281	0.9900000
Dibromofluoromethane	LINR	-4.86e-003	2.01455990		0.9994974	0.9900000
1,2-Dichloroethane-d4	LINR	-7.35e-004	1.62396266		0.9990167	0.9900000
Toluene-d8	LINR	-9.31e-003	0.80376231		0.9999444	0.9900000
4-Bromofluorobenzene	LINR	-1.54e-002	2.12571618		0.9999166	0.9900000

FORM VI VOA

MSVOA06 -Logbook

Batch: 40533
Date: 05-11-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	05-11-2020 12:48 pm	1.00	50 mL	50 mL	X051101.D	Liquid	Y	NA
	Auto find / Purged									
2	VSTD000.25	ICAL1	05-11-2020 01:12 pm	1.00	50 mL	50 mL	X051102.D	Liquid	Y	NA
	0.10 uL cal std/100 mL DI									
3	VSTD000.5	ICAL2	05-11-2020 02:00 pm	1.00	50 mL	50 mL	X051103.D	Liquid	Y	NA
	0.10 uL cal std/50 mL DI									
4	VSTD001	ICAL3	05-11-2020 02:24 pm	1.00	50 mL	50 mL	X051104.D	Liquid	Y	NA
	0.20 uL cal std/50 mL DI									
5	VSTD002	ICAL4	05-11-2020 02:48 pm	1.00	50 mL	50 mL	X051105.D	Liquid	Y	NA
	0.40 uL cal std/50 mL DI									
6	VSTD005	ICAL5	05-11-2020 03:12 pm	1.00	50 mL	50 mL	X051106.D	Liquid	Y	NA
	1.0 uL cal std/50 mL DI									
7	VSTD020	ICAL6	05-11-2020 03:36 pm	1.00	50 mL	50 mL	X051107.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
8	VSTD050	ICAL7	05-11-2020 04:00 pm	1.00	50 mL	50 mL	X051108.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
9	VSTD100	ICAL8	05-11-2020 04:24 pm	1.00	50 mL	50 mL	X051109.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
10	VSTD150	ICAL9	05-11-2020 04:47 pm	1.00	50 mL	50 mL	X051110.D	Liquid	Y	NA
	30 uL cal std/50 mL DI									
11	VSTD200	ICAL	05-11-2020 05:11 pm	1.00	50 mL	50 mL	X051111.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLANK	SAMP	05-11-2020 05:35 pm	1.00	50 mL	50 mL	X051112.D	Liquid	Y	NA
13	BLANK	SAMP	05-11-2020 05:59 pm	1.00	50 mL	50 mL	X051113.D	Liquid	Y	NA
14	ICV	CCV	05-11-2020 06:23 pm	1.00	50 mL	50 mL	X051114.D	Liquid	Y	NA
	10 uL icv std/50 mL DI									
15	BLANK	SAMP	05-11-2020 06:47 pm	1.00	50 mL	50 mL	X051115.D	Liquid	Y	NA
16	VLCSW-200511	LCS	05-11-2020 07:11 pm	1.00	50 mL	50 mL	X051116.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
17	BLANK	SAMP	05-11-2020 07:35 pm	1.00	50 mL	50 mL	X051117.D	Liquid	Y	NA
18	BLANK	SAMP	05-11-2020 07:59 pm	1.00	50 mL	50 mL	X051118.D	Liquid	Y	NA
19	VBLKW-200511	MBLK	05-11-2020 08:24 pm	1.00	50 mL	50 mL	X051119.D	Liquid	Y	NA
20	HS20050202-17	SAMP	05-11-2020 08:48 pm	1.00	50 mL	50 mL	X051120.D	Liquid	Y	NA
	neat samples									
21	HS20050202-18	SAMP	05-11-2020 09:12 pm	1.00	50 mL	50 mL	X051121.D	Liquid	Y	NA
22	HS20050202-18	SAMP	05-11-2020 09:36 pm	5.00	10 mL	50 mL	X051122.D	Liquid	Y	NA
23	HS20050292-01	SAMP	05-11-2020 10:00 pm	1.00	50 mL	50 mL	X051123.D	Liquid	Y	NA
24	HS20050292-02	SAMP	05-11-2020 10:24 pm	1.00	50 mL	50 mL	X051124.D	Liquid	Y	NA
25	HS20050292-03	SAMP	05-11-2020 10:48 pm	1.00	50 mL	50 mL	X051125.D	Liquid	Y	<2
26	HS20050292-03MS	MS	05-11-2020 11:12 pm	1.00	50 mL	50 mL	X051126.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
27	HS20050292-03MSD	MSD	05-11-2020 11:36 pm	1.00	50 mL	50 mL	X051127.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
28	CCV-END	CCV	05-12-2020 12:00 am	1.00	50 mL	50 mL	X051128.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
29	HS20050337-02	SAMP	05-12-2020 12:24 am	1.00	50 mL	50 mL	X051129.D	Liquid	Y	<2

MSVOA06 -Logbook

Chemical	Value
SURR SPK ID	31106-26-06
IS ID	31106-26-06
CAL STD ID	31106-29-01/02
BFB ID	31106-26-06
pH Paper	634-64-11

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051101.D

Date : 11-MAY-2020 12:48

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

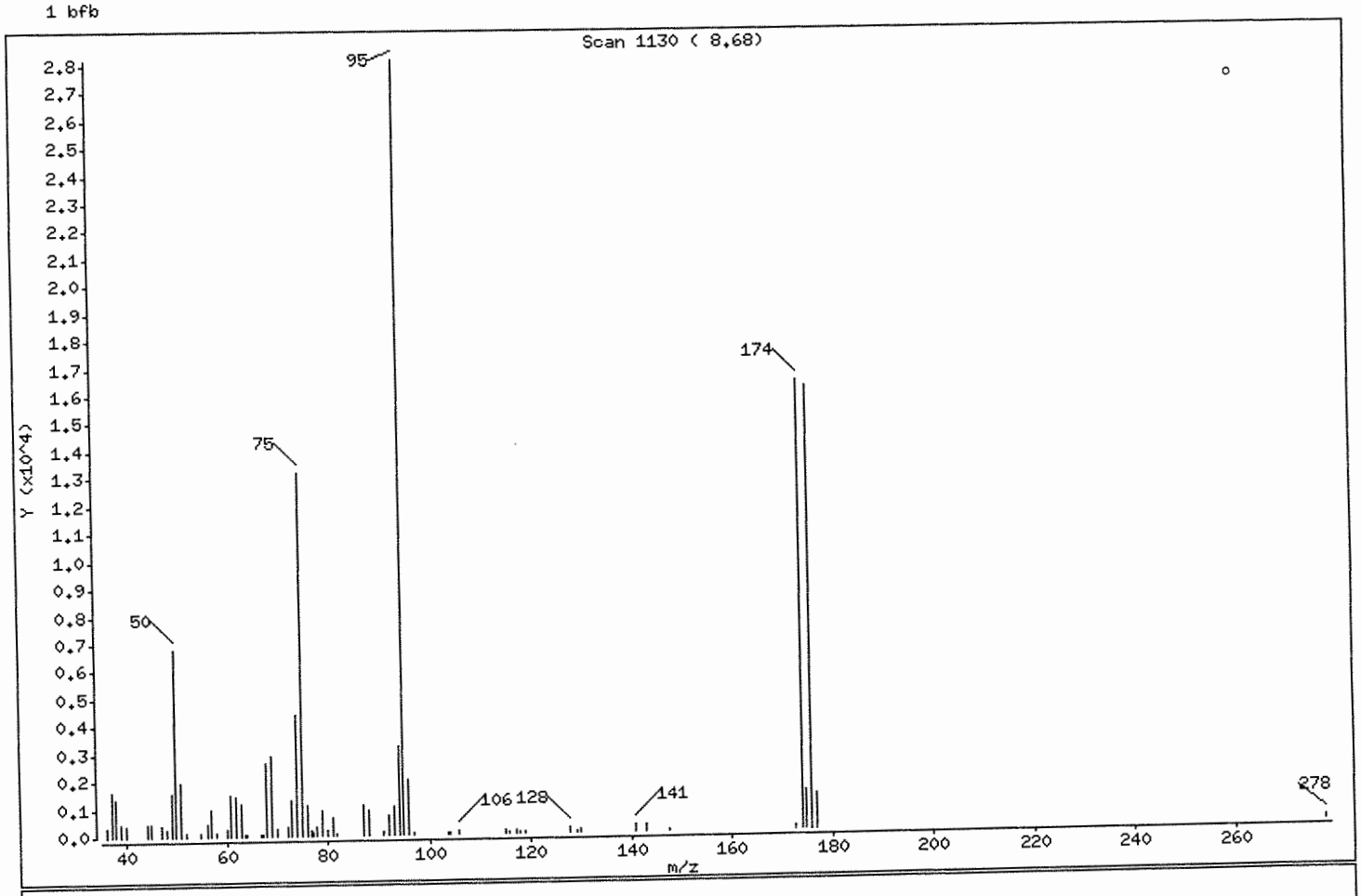
Volume Injected (uL): 2.0

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	24.23
75	30.00 - 60.00% of mass 95	46.94
96	5.00 - 9.00% of mass 95	7.07
173	Less than 2.00% of mass 174	0.40 (0.70)
174	Greater than 50.00% of mass 95	58.12
175	5.00 - 9.00% of mass 174	5.01 (8.63)
176	95.00 - 101.00% of mass 174	57.57 (99.06)
177	5.00 - 9.00% of mass 176	4.70 (8.16)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051101.D

Date : 11-MAY-2020 12:48

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: X051101.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 69

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	344	61.00	1469	78.80	878	117.00	116
37.00	1597	62.00	1437	80.00	215	118.00	62
38.00	1339	63.00	1157	80.90	656	119.00	80
39.00	476	63.80	94	81.90	63	127.90	221
40.00	388	64.00	94	87.00	1132	129.00	87
44.10	480	66.70	60	88.00	930	130.00	133
45.00	427	67.10	88	91.10	98	141.00	245
47.00	412	68.00	2631	92.00	714	142.90	244
48.00	286	69.00	2930	93.00	1015	147.70	93
49.00	1548	70.00	291	94.00	3223	172.70	114
50.00	6829	72.00	332	95.00	28184	174.00	16380
51.00	1936	73.00	1275	96.00	1993	174.90	1413
52.10	99	74.00	4408	96.90	91	176.00	16226
55.00	155	75.00	13230	103.60	76	176.90	1324
56.10	426	76.00	1105	104.00	94	277.90	107
57.00	975	76.80	194	105.80	140		
58.00	122	77.10	149	114.90	135		
60.10	288	77.90	324	115.70	61		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051101.D

Date : 11-MAY-2020 12:48

Client ID: BFB

Instrument: voa6.i

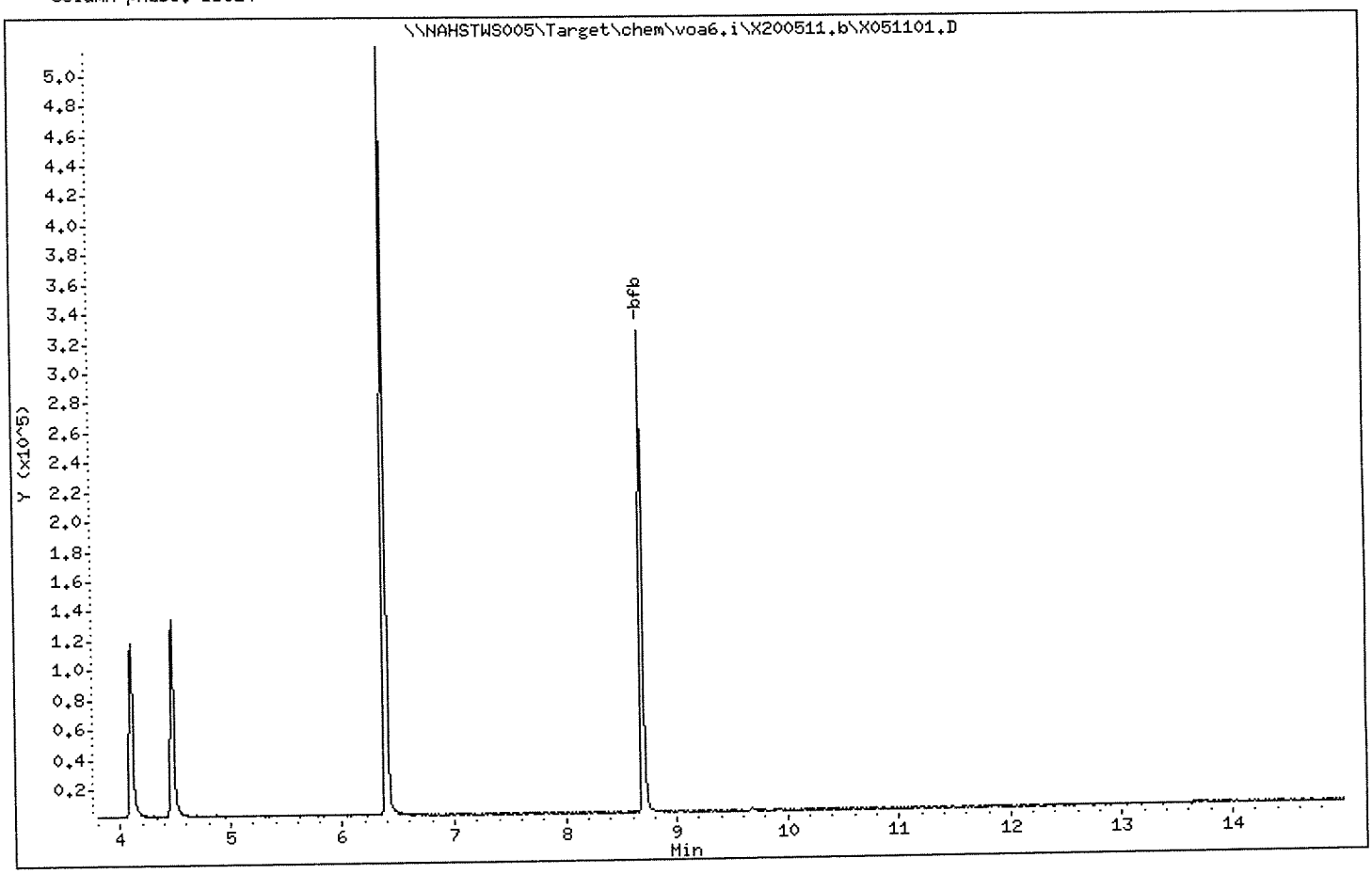
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 11-MAY-2020 14:00
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\X200511.b\8260W.m
Meth Date : 01-Jun-2020 14:06 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

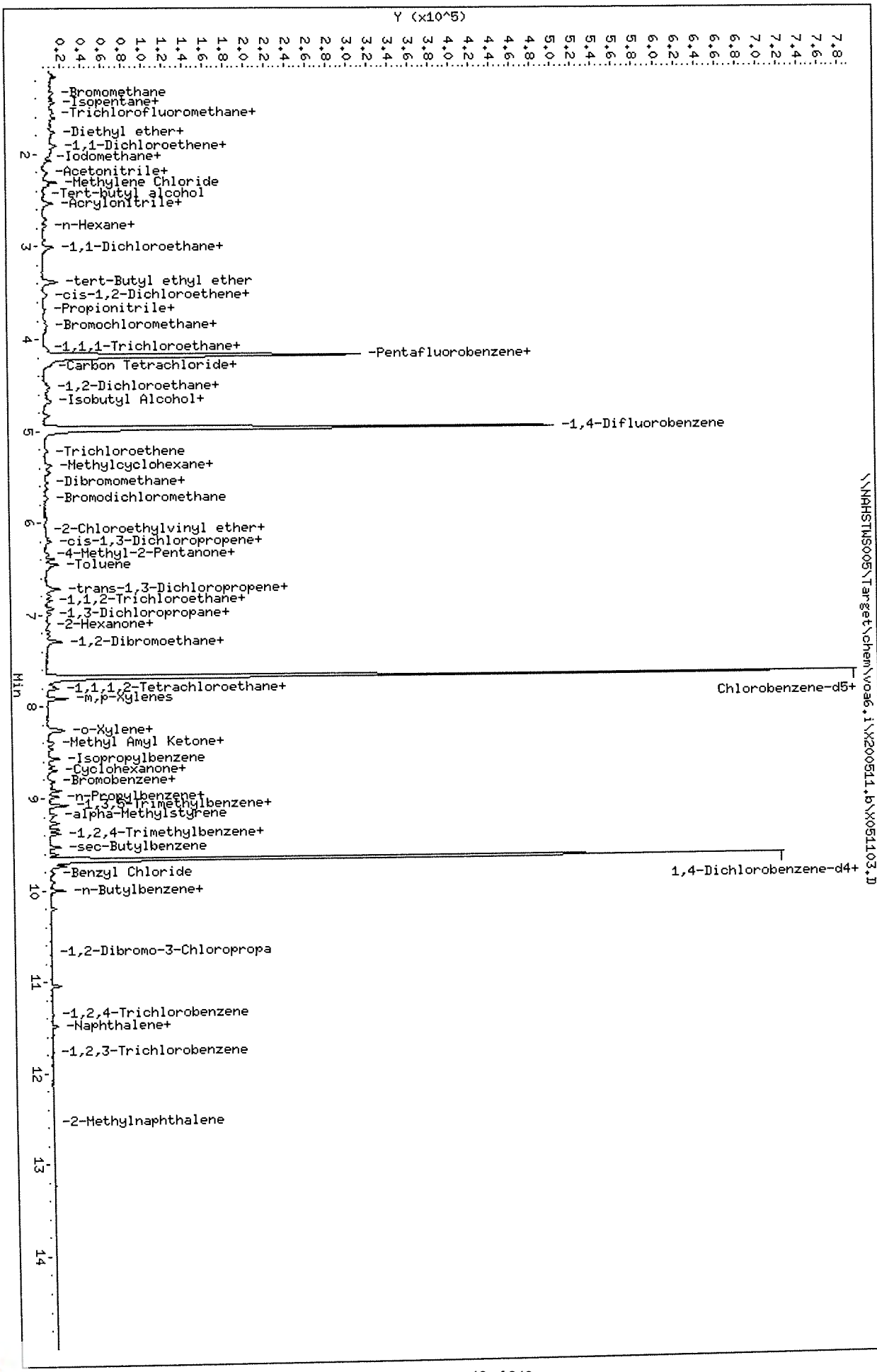
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	264457	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	403047	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	360066	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	172614	50.0000	
$ 30 Dibromofluoromethane	113	4.118	4.118	(0.985)	1793	0.50000	0.43(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	2117	0.50000	0.61(TaM)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	5920	0.50000	0.19(Ta)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2708	0.50000	0.02(aM)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1589	0.50000	0.56(a)
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	2455	0.50000	0.57(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1621	0.50000	0.58(aM)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	1197	0.50000	0.59(a)
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	3470	0.50000	0.60(Ta)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1219	0.50000	0.57(a)
32 1,1-Dichloropropene	75	4.290	4.290	(0.863)	2183	0.50000	0.59(aM)
93 1,2,3-Trichlorobenzene	180	11.768	11.768	(1.218)	385	0.50000	0.32(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	1424	0.50000	0.59(aM)
90 1,2,4-Trichlorobenzene	180	11.352	11.352	(1.175)	505	0.50000	3.02(aM)
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	5523	0.50000	0.60(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.104)	114	0.50000	1.86(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	1387	0.50000	0.54(a)
88 1,2-Dichlorobenzene	146	10.006	10.006	(1.036)	2924	0.50000	0.60(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D Page 2
Report Date: 01-Jun-2020 14:06

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	2366	0.50000	0.56 (a)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	1947	0.50000	0.59 (aM)
75	1,3,5-Trimethylbenzene	105	9.074	9.074	(0.939)	4894	0.50000	0.54 (a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	3057	0.50000	0.58 (a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	2403	0.50000	0.57 (a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	3791	0.50000	0.69 (aM)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	2471	0.50000	0.59 (aM)
24	2-Butanone	43	3.609	3.609	(0.863)	996	1.00000	0.83 (aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.930)	4712	0.50000	0.61 (a)
52	2-Hexanone	43	7.105	7.105	(0.926)	2689	1.00000	1.20 (a)
77	4-Chlorotoluene	91	9.082	9.082	(0.940)	5584	0.50000	0.62 (a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	5597	0.50000	0.61 (a)
45	4-Methyl-2-Pentanone	43	6.338	6.338	(0.826)	3621	1.00000	1.11 (a)
37	Benzene	78	4.519	4.519	(0.909)	5977	0.50000	0.58 (a)
74	Bromobenzene	156	8.817	8.817	(0.913)	2002	0.50000	0.61 (a)
29	Bromochloromethane	128	3.817	3.817	(0.913)	960	0.50000	0.62 (aM)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	2116	0.50000	0.56 (aM)
66	Bromoform	173	8.415	8.415	(1.097)	1144	0.50000	0.55 (aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	8247	1.00000	1.15 (a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	2535	0.50000	0.62 (a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	4408	0.50000	0.61 (a)
7	Chloroethane	64	1.403	1.403	(0.336)	1364	0.50000	0.31 (aM)
28	Chloroform	83	3.917	3.917	(0.937)	2796	0.50000	0.59 (aM)
3	Chloromethane	50	1.073	1.073	(0.257)	2464	0.50000	1.21 (a)
27	cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	1435	0.50000	0.51 (a)
46	cis-1,3-Dichloropropene	75	6.166	6.166	(1.241)	2430	0.50000	0.55 (a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	1589	0.50000	0.54 (a)
44	Dibromomethane	93	5.557	5.557	(1.118)	1096	0.50000	0.61 (a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1503	0.50000	1.54 (aM)
61	Ethylbenzene	106	7.799	7.799	(1.017)	2144	0.50000	0.57 (a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	605	0.50000	1.59 (aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	6620	0.50000	0.58 (a)
62	m,p-Xylenes	106	7.914	7.914	(1.032)	5392	1.00000	1.18 (a)
87	n-Butylbenzene	91	9.998	9.998	(1.035)	4435	0.50000	0.60 (a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	7797	0.50000	0.62 (a)
92	Naphthalene	128	11.567	11.567	(1.197)	795	0.50000	0.48 (a)
63	o-Xylene	106	8.244	8.244	(1.075)	2416	0.50000	0.54 (a)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	6535	0.50000	0.62 (a)
64	Styrene	104	8.272	8.272	(1.078)	4394	0.50000	0.57 (a)
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	4334	0.50000	0.57 (aM)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	1303	0.50000	0.54 (a)
50	Toluene	91	6.460	6.460	(0.842)	6225	0.50000	0.58 (a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	1384	0.50000	0.57 (a)
51	trans-1,3-Dichloropropene	75	6.696	6.696	(1.347)	2163	0.50000	0.54 (a)
38	Trichloroethene	130	5.221	5.221	(1.050)	1714	0.50000	0.59 (a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	2348	0.50000	0.55 (a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	1998	0.50000	0.54 (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\X200511.b\X051103.D
Date : 11-MAY-2020 14:00
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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 11-MAY-2020 14:24
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\X200511.b\8260W.m
Meth Date : 01-Jun-2020 14:06 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 14:00 Cal File: X051103.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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	4.182	4.182	(1.000)	275272	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	406059	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	364006	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	178611	50.0000	
$	30 Dibromofluoromethane	113	4.111	4.111	(0.983)	3147	1.00000	0.90(a)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	3902	1.00000	1.11
$	48 Toluene-d8	98	6.396	6.396	(0.834)	10982	1.00000	0.74(a)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	6819	1.00000	1.22(M)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	2921	1.00000	1.02(a)
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	4385	1.00000	0.99(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	2901	1.00000	1.01(aM)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	1834	1.00000	0.90(a)
	22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	6103	1.00000	1.02
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	2222	1.00000	1.01(a)
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	3792	1.00000	1.02(a)
	93 1,2,3-Trichlorobenzene	180	11.753	11.753	(1.216)	431	1.00000	0.38(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	2246	1.00000	0.90(aM)
	90 1,2,4-Trichlorobenzene	180	11.352	11.352	(1.174)	762	1.00000	3.20(aM)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	8175	1.00000	0.87(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	128	1.00000	1.90(aM)
	57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	2246	1.00000	0.86(a)
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	4805	1.00000	0.96(a)

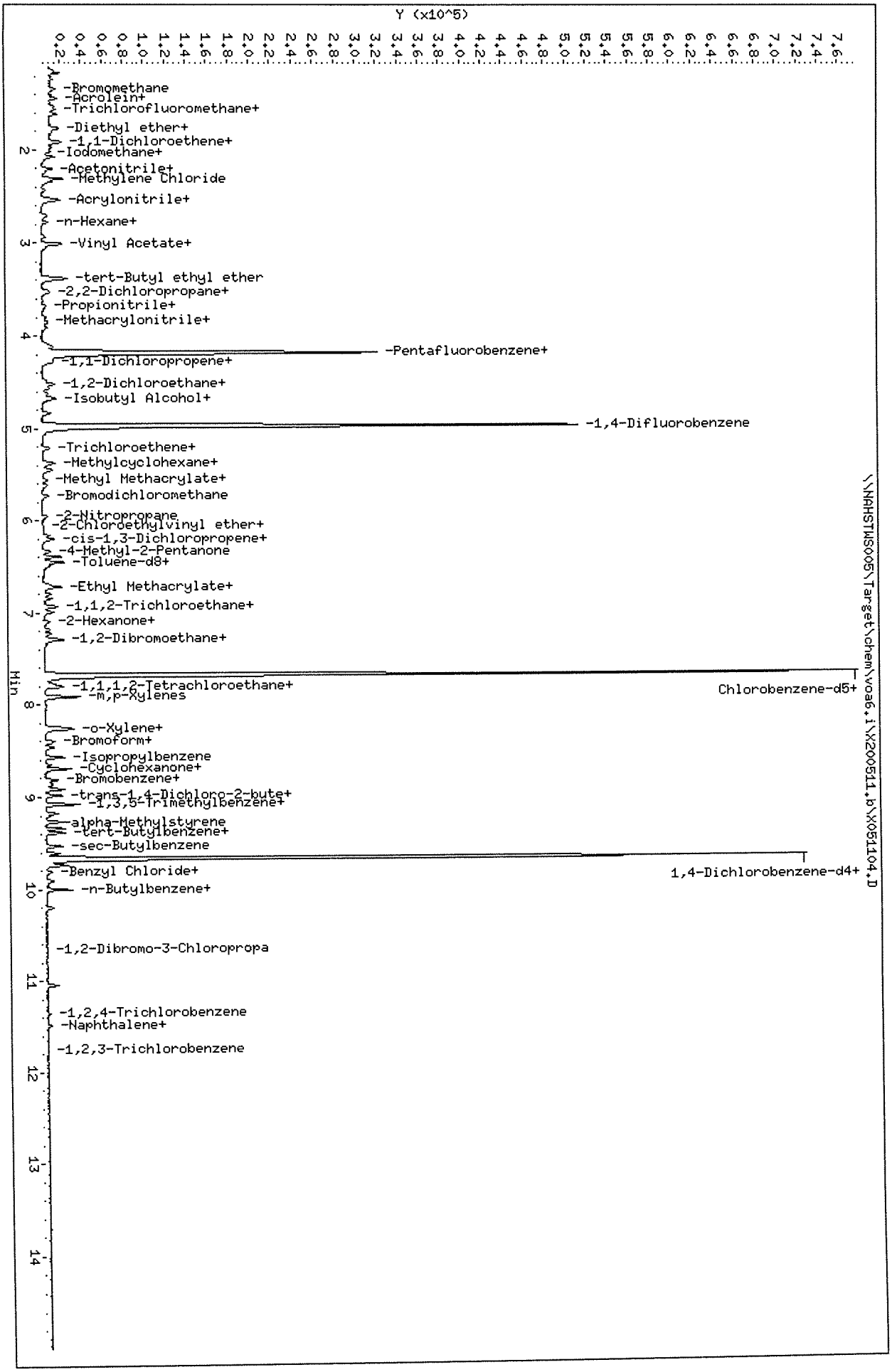
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	3942	1.00000	0.93(a)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	3276	1.00000	0.99(aM)
75	1,3,5-Trimethylbenzene	105	9.074	9.074	(0.939)	8480	1.00000	0.91(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	5149	1.00000	0.94(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	3905	1.00000	0.92(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	5222	1.00000	0.92(a)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	4652	1.00000	1.06(a)
24	2-Butanone	43	3.616	3.616	(0.865)	2014	2.00000	1.62(aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	8499	1.00000	1.06(a)
52	2-Hexanone	43	7.097	7.097	(0.925)	3544	2.00000	1.57(a)
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	9489	1.00000	1.03(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	7748	1.00000	0.82(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	5818	2.00000	1.77(a)
37	Benzene	78	4.519	4.519	(0.909)	10698	1.00000	1.03
74	Bromobenzene	156	8.809	8.809	(0.911)	3242	1.00000	0.96(a)
29	Bromochloromethane	128	3.810	3.810	(0.911)	1724	1.00000	1.07(aM)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	3508	1.00000	0.92(aM)
66	Bromoform	173	8.415	8.415	(1.097)	1878	1.00000	0.90(Ta)
6	Bromomethane	94	1.338	1.338	(0.320)	2788	1.00000	0.65(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	14075	2.00000	1.88(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	4264	1.00000	1.04(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	6626	1.00000	0.91(a)
7	Chloroethane	64	1.403	1.403	(0.336)	2214	1.00000	0.72(aM)
28	Chloroform	83	3.917	3.917	(0.937)	4419	1.00000	0.89(a)
3	Chloromethane	50	1.073	1.073	(0.257)	4677	1.00000	1.69(a)
27	cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	2598	1.00000	0.89(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	4354	1.00000	0.98(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	2769	1.00000	0.93(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	1516	1.00000	0.84(a)
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	2633	1.00000	1.86(a)
61	Ethylbenzene	106	7.807	7.807	(1.018)	3595	1.00000	0.94(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	736	1.00000	1.70(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	10828	1.00000	0.95(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	8477	2.00000	1.84(a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	3655	1.00000	0.30(aM)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	5888	1.00000	0.77(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	11772	1.00000	0.91(a)
92	Naphthalene	128	11.567	11.567	(1.196)	1462	1.00000	0.86(a)
63	o-Xylene	106	8.244	8.244	(1.075)	4297	1.00000	0.96(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	9307	1.00000	0.86(a)
64	Styrene	104	8.265	8.265	(1.078)	7774	1.00000	1.00
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	7608	1.00000	0.97(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	2384	1.00000	0.99(a)
50	Toluene	91	6.453	6.453	(0.841)	10333	1.00000	0.95(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	2248	1.00000	0.89(a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	3756	1.00000	0.93(a)
38	Trichloroethene	130	5.221	5.221	(1.050)	2673	1.00000	0.91(a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	4149	1.00000	0.93(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	3583	1.00000	0.93(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D
Date : 11-MAY-2020 14:24
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\X200511.b\X051105.D Page 1
Report Date: 01-Jun-2020 14:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 11-MAY-2020 14:48
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 01-Jun-2020 14:06 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 14:24 Cal File: X051104.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

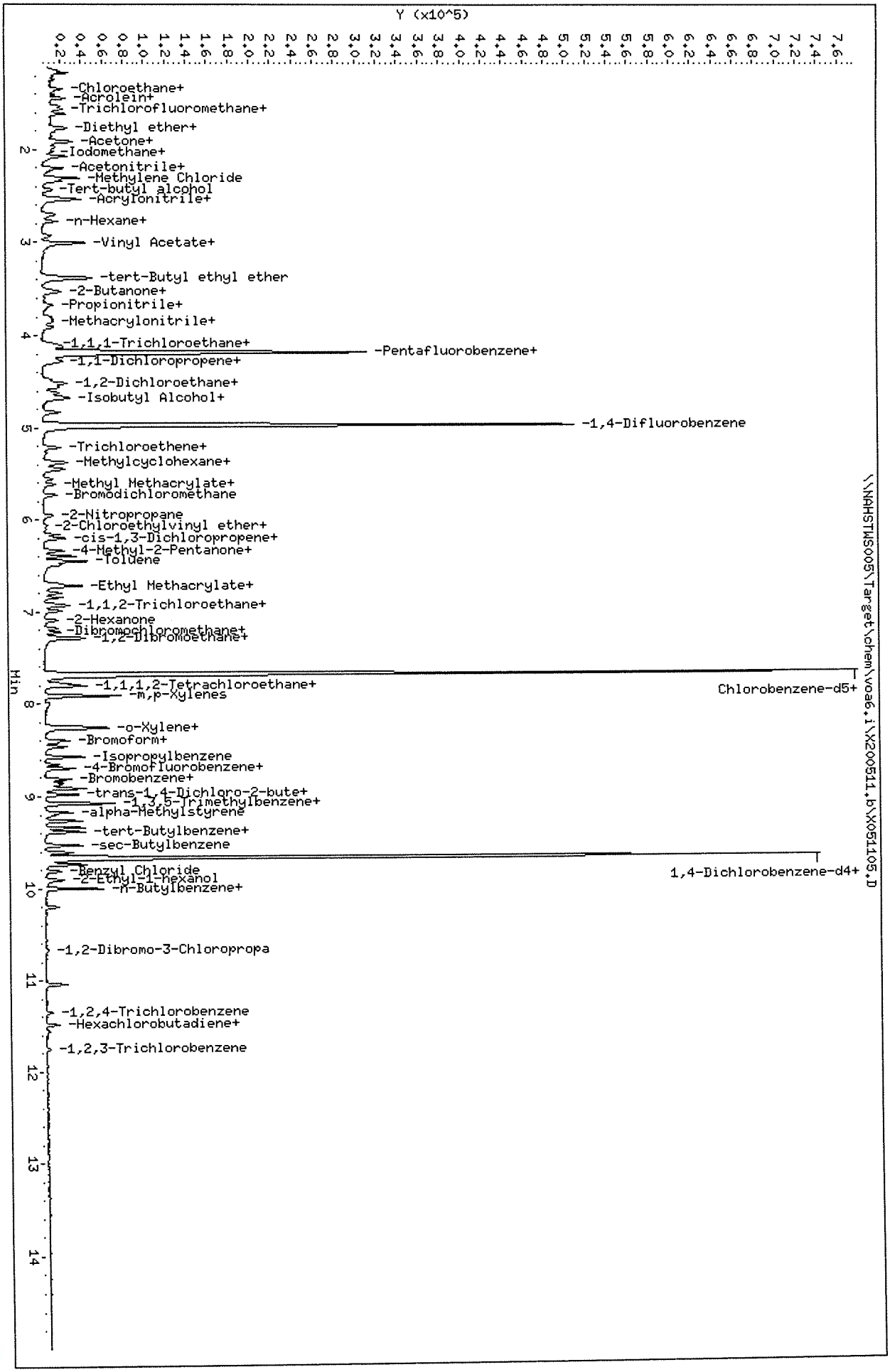
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	263591	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	396279	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	351963	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	178242	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	5198	2.00000	1.74
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	7290	2.00000	2.20
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	18430	2.00000	1.63
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	8380	2.00000	1.75
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	5459	2.00000	1.97(a)
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	8079	2.00000	1.91
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	6293	2.00000	2.19(aM)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	4127	2.00000	2.10(a)
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	11643	2.00000	2.03
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	3905	2.00000	1.86(a)
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	7360	2.00000	2.02(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	1047	2.00000	1.52(a)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	5909	2.00000	2.37(aM)
90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	1924	2.00000	4.05(a)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	17865	2.00000	1.91(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.104)	532	2.00000	3.27(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	5252	2.00000	2.10
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	10304	2.00000	2.07(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D Page 2
Report Date: 01-Jun-2020 14:06

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.569	4.569	(0.919)	7567	2.00000	1.83
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	6309	2.00000	1.95(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	18199	2.00000	1.97(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	10710	2.00000	1.97(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	8570	2.00000	2.10(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	10744	2.00000	1.90(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	8610	2.00000	2.06(a)
24	2-Butanone	43	3.595	3.595	(0.860)	3931	4.00000	3.30
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	15622	2.00000	1.96(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	9844	4.00000	4.52(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	17906	2.00000	1.95(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	17190	2.00000	1.83(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	14181	4.00000	4.46(a)
10	Acetone	43	1.969	1.969	(0.471)	5040	4.00000	2.97(a)
37	Benzene	78	4.519	4.519	(0.909)	19710	2.00000	1.94
74	Bromobenzene	156	8.810	8.810	(0.912)	6636	2.00000	1.98(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	3004	2.00000	1.96(a)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	7310	2.00000	1.97(a)
66	Bromoform	173	8.416	8.416	(1.097)	4311	2.00000	2.13(Ta)
6	Bromomethane	94	1.339	1.339	(0.320)	5327	2.00000	2.04(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	27764	4.00000	3.88(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	7736	2.00000	1.94(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	14195	2.00000	2.03
7	Chloroethane	64	1.403	1.403	(0.336)	3636	2.00000	1.54(a)
28	Chloroform	83	3.917	3.917	(0.937)	9385	2.00000	1.99
3	Chloromethane	50	1.074	1.074	(0.257)	8356	2.00000	2.61(a)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	6149	2.00000	2.21(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	8237	2.00000	1.90(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	5789	2.00000	2.03(a)
44	Dibromomethane	93	5.558	5.558	(1.118)	3352	2.00000	1.91(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	5304	2.00000	2.75(a)
61	Ethylbenzene	106	7.800	7.800	(1.017)	7402	2.00000	2.02
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	2177	2.00000	3.15(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	20273	2.00000	1.84(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	17933	4.00000	4.03
17	Methylene Chloride	84	2.306	2.306	(0.551)	6641	2.00000	1.54(aM)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	13137	2.00000	1.73(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	23793	2.00000	1.85(a)
92	Naphthalene	128	11.553	11.553	(1.196)	2896	2.00000	1.72(a)
63	o-Xylene	106	8.244	8.244	(1.075)	9179	2.00000	2.12
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	21323	2.00000	1.97(a)
64	Styrene	104	8.265	8.265	(1.078)	15041	2.00000	2.00
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	15079	2.00000	1.92(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	4860	2.00000	2.09
50	Toluene	91	6.453	6.453	(0.841)	21432	2.00000	2.05
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	4704	2.00000	1.96(a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	7614	2.00000	1.93(a)
38	Trichloroethene	130	5.214	5.214	(1.049)	5425	2.00000	1.90
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	7899	2.00000	1.86(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	7135	2.00000	1.95(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\X200511.b\X051105.D
Date : 11-MAY-2020 14:48
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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 11-MAY-2020 15:12
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\X200511.b\8260W.m
Meth Date : 01-Jun-2020 14:06 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 14:48 Cal File: X051105.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

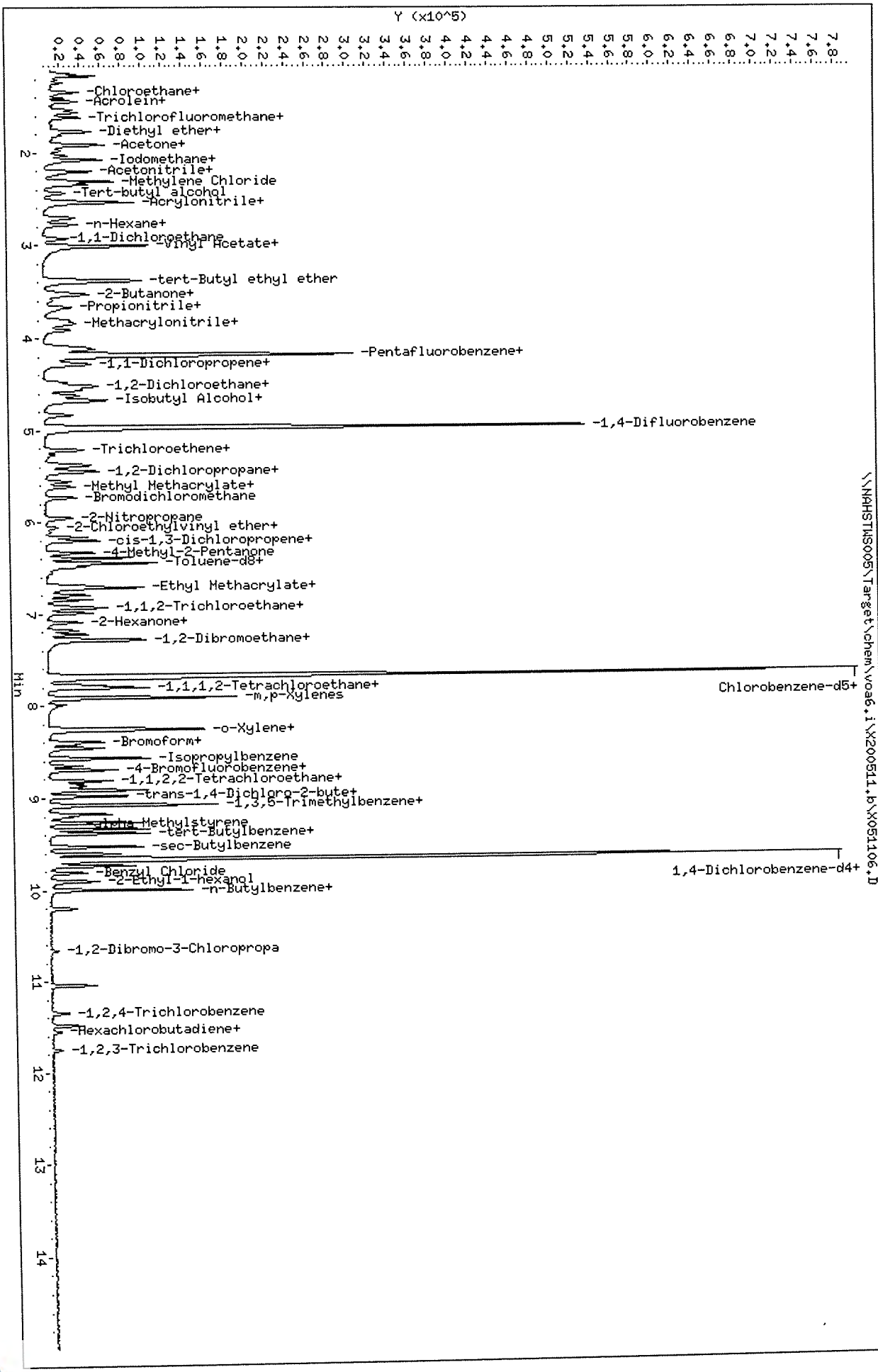
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	260790	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	393985	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	352401	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	175544	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.983)	14036	5.00000	5.17
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	17135	5.00000	5.29
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	47142	5.00000	4.91
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	19241	5.00000	5.03
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	13494	5.00000	4.87(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	20093	5.00000	4.81
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	14006	5.00000	4.96(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	10314	5.00000	5.26
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	28324	5.00000	4.99
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	9809	5.00000	4.72(a)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	17168	5.00000	4.75(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	3164	5.00000	5.50
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	11655	5.00000	4.76(aM)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	5746	5.00000	6.93
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	44767	5.00000	4.86(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.103)	1596	5.00000	6.97
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	12610	5.00000	5.03
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	23909	5.00000	4.88(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D Page 2
Report Date: 01-Jun-2020 14:06

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	20100	5.00000	4.89
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	15911	5.00000	4.96(a)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	45927	5.00000	5.06
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	26279	5.00000	4.91(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	20663	5.00000	5.07
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	27091	5.00000	4.88(a)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	20032	5.00000	4.85(a)
24	2-Butanone	43	3.588	3.588	(0.858)	11452	10.0000	9.74
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	38693	5.00000	4.93(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	21406	10.0000	9.82
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	42965	5.00000	4.75(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	44464	5.00000	4.82(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	32131	10.0000	10.09
10	Acetone	43	1.976	1.976	(0.473)	9390	10.0000	7.93
37	Benzene	78	4.519	4.519	(0.909)	47662	5.00000	4.73
74	Bromobenzene	156	8.809	8.809	(0.911)	15558	5.00000	4.72(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	7793	5.00000	5.15
39	Bromodichloromethane	83	5.729	5.729	(1.153)	18153	5.00000	4.93(a)
66	Bromoform	173	8.416	8.416	(1.097)	10062	5.00000	4.98(a)
6	Bromomethane	94	1.338	1.338	(0.320)	11539	5.00000	5.35(M)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	68909	10.0000	9.74
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	18629	5.00000	4.70(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	34696	5.00000	4.96
7	Chloroethane	64	1.403	1.403	(0.336)	10011	5.00000	5.05
28	Chloroform	83	3.910	3.910	(0.935)	24061	5.00000	5.16
3	Chloromethane	50	1.073	1.073	(0.257)	19497	5.00000	5.31
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	13752	5.00000	4.99(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	21020	5.00000	4.88(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	13999	5.00000	4.90(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	8792	5.00000	5.05
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	13068	5.00000	5.26
61	Ethylbenzene	106	7.800	7.800	(1.017)	17464	5.00000	4.76
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	5460	5.00000	6.55
67	Isopropylbenzene	105	8.566	8.566	(1.117)	54621	5.00000	4.97(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	43516	10.0000	9.78
17	Methylene Chloride	84	2.305	2.305	(0.551)	14433	5.00000	4.67(aM)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	36372	5.00000	4.88(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	61681	5.00000	4.88(a)
92	Naphthalene	128	11.546	11.546	(1.194)	7604	5.00000	4.60(a)
63	o-Xylene	106	8.244	8.244	(1.075)	21272	5.00000	4.91
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	53044	5.00000	4.98(a)
64	Styrene	104	8.265	8.265	(1.078)	36239	5.00000	4.83
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	38878	5.00000	5.05
56	Tetrachloroethene	164	6.933	6.933	(0.904)	11417	5.00000	4.91
50	Toluene	91	6.446	6.446	(0.840)	52487	5.00000	5.03
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	11735	5.00000	4.94(a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	19122	5.00000	4.89(a)
38	Trichloroethene	130	5.206	5.206	(1.048)	13453	5.00000	4.75
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	19847	5.00000	4.73(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	17119	5.00000	4.73(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\X200511.b\X051106.D
Date : 11-MAY-2020 15:12
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\X200511.b\X051107.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 11-MAY-2020 15:36
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\X200511.b\8260W.m
Meth Date : 01-Jun-2020 14:06 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 15:12 Cal File: X051106.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

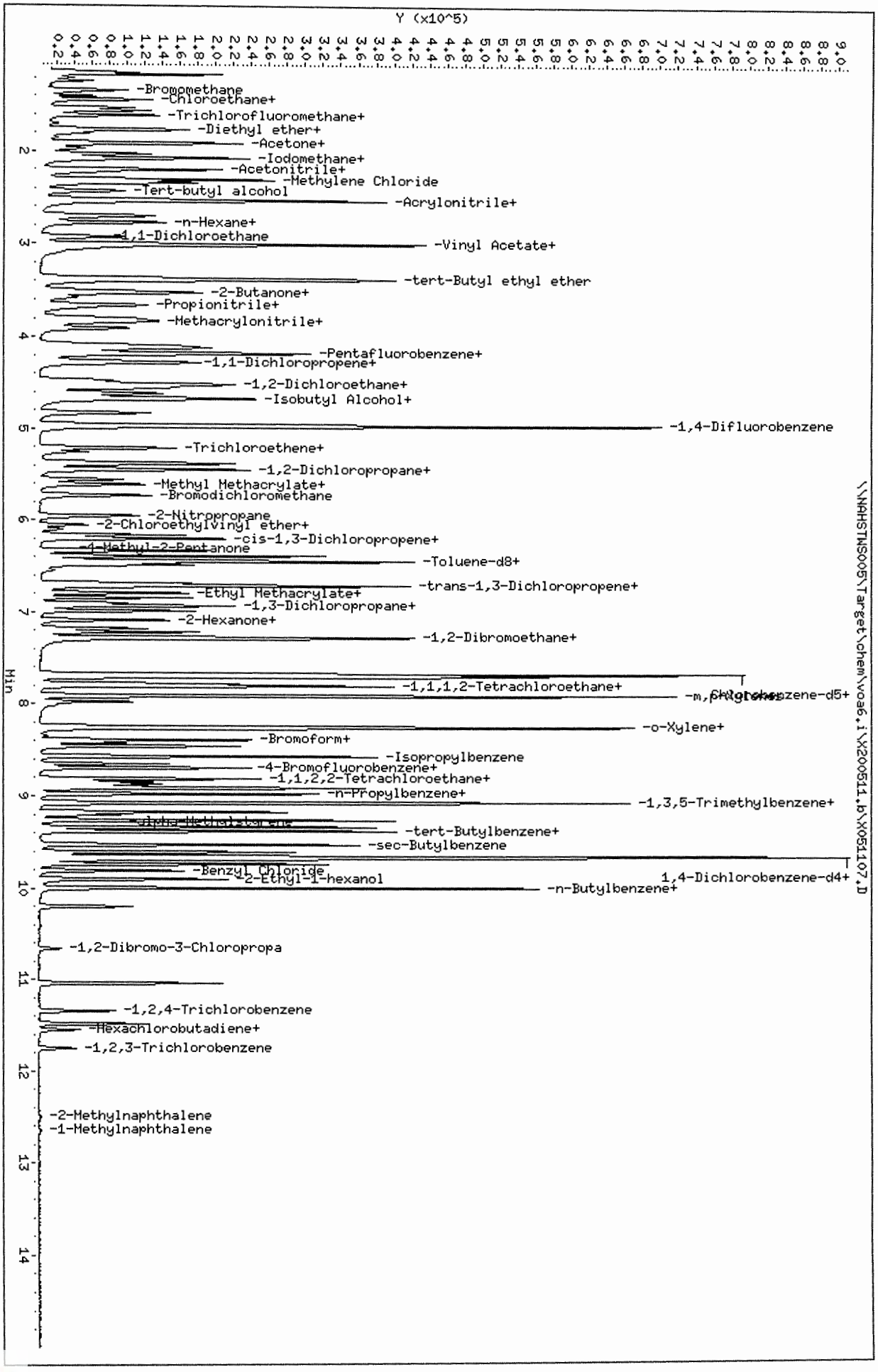
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	255700	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	378254	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	339256	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	171130	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	51294	20.0000	19.96
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	62012	20.0000	19.65
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	176771	20.0000	20.47
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	69563	20.0000	21.02
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	52095	20.0000	19.53
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	79732	20.0000	19.47
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	53986	20.0000	19.63
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	36817	20.0000	19.50
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	107343	20.0000	19.31
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	39440	20.0000	19.38
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	66167	20.0000	19.10
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	11186	20.0000	20.71
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	45232	20.0000	18.96(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	23261	20.0000	20.47
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	177262	20.0000	19.74
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.103)	5237	20.0000	20.01
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	49329	20.0000	20.46
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	91741	20.0000	19.24

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051107.D Page 2
Report Date: 01-Jun-2020 14:06

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	79106	20.0000	20.08
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	60696	20.0000	19.71
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	173374	20.0000	19.62
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	103242	20.0000	19.79
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	78846	20.0000	20.09
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	102094	20.0000	18.87
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	78288	20.0000	19.33
24	2-Butanone	43	3.580	3.580	(0.856)	49330	40.0000	42.80
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	143786	20.0000	18.82
52	2-Hexanone	43	7.090	7.090	(0.924)	83306	40.0000	39.70
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	170619	20.0000	19.37
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	178794	20.0000	19.89
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	122401	40.0000	39.95
10	Acetone	43	1.969	1.969	(0.471)	35665	40.0000	38.28
37	Benzene	78	4.512	4.512	(0.908)	190323	20.0000	19.68
74	Bromobenzene	156	8.809	8.809	(0.912)	62061	20.0000	19.34
29	Bromochloromethane	128	3.795	3.795	(0.908)	28180	20.0000	18.99
39	Bromodichloromethane	83	5.729	5.729	(1.153)	69054	20.0000	19.55
66	Bromoform	173	8.415	8.415	(1.097)	38468	20.0000	19.79
6	Bromomethane	94	1.338	1.338	(0.320)	40170	20.0000	20.93
19	Carbon Disulfide	76	2.069	2.069	(0.495)	269383	40.0000	38.86
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	69941	20.0000	18.40
59	Chlorobenzene	112	7.699	7.699	(1.004)	130918	20.0000	19.47
7	Chloroethane	64	1.403	1.403	(0.336)	35750	20.0000	19.50
28	Chloroform	83	3.910	3.910	(0.935)	90107	20.0000	19.71
3	Chloromethane	50	1.073	1.073	(0.257)	77009	20.0000	19.49
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	54813	20.0000	20.32
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	81116	20.0000	19.61
55	Dibromochloromethane	129	7.176	7.176	(0.936)	53715	20.0000	19.56
44	Dibromomethane	93	5.557	5.557	(1.118)	32219	20.0000	19.29
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	55700	20.0000	19.32
61	Ethylbenzene	106	7.799	7.799	(1.017)	69660	20.0000	19.74
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	21311	20.0000	23.33
67	Isopropylbenzene	105	8.566	8.566	(1.117)	209344	20.0000	19.78
62	m,p-Xylenes	106	7.907	7.907	(1.031)	170236	40.0000	39.75
17	Methylene Chloride	84	2.305	2.305	(0.551)	52520	20.0000	20.24
87	n-Butylbenzene	91	9.998	9.998	(1.035)	146592	20.0000	20.21
73	n-Propylbenzene	91	8.917	8.917	(0.923)	239282	20.0000	19.44
92	Naphthalene	128	11.546	11.546	(1.195)	31970	20.0000	19.84
63	o-Xylene	106	8.244	8.244	(1.075)	83788	20.0000	20.11
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	201174	20.0000	19.40
64	Styrene	104	8.258	8.258	(1.077)	143940	20.0000	19.93
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	147263	20.0000	19.62
56	Tetrachloroethene	164	6.933	6.933	(0.904)	43566	20.0000	19.46
50	Toluene	91	6.446	6.446	(0.840)	201457	20.0000	20.06
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	46791	20.0000	20.11
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	73152	20.0000	19.50
38	Trichloroethene	130	5.206	5.206	(1.048)	52492	20.0000	19.34
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	79846	20.0000	19.40
5	Vinyl Chloride	62	1.138	1.138	(0.272)	69422	20.0000	19.58

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTNS005\Target\chem\voa6.i\X200511.b\X051107.D
Date : 11-MAY-2020 15:36
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\X200511.b\X051108.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 11-MAY-2020 16:00
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\X200511.b\8260W.m
Meth Date : 01-Jun-2020 14:06 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 15:36 Cal File: X051107.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

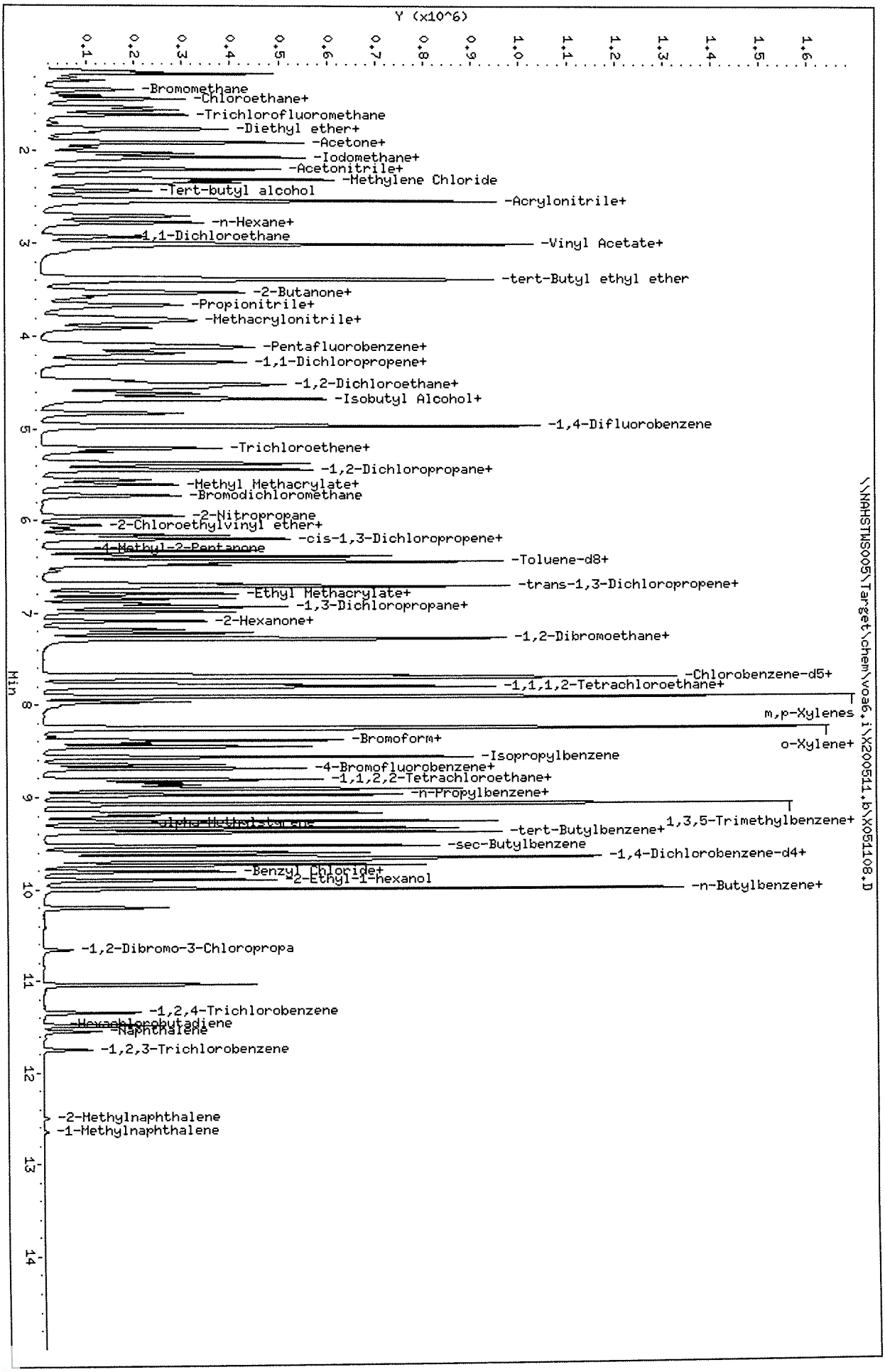
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	244879	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	357125	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	326341	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	163130	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	118264	50.0000	48.40
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	143586	50.0000	47.57
$	48 Toluene-d8	98	6.388	6.388	(0.833)	410250	50.0000	50.05
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	152557	50.0000	48.91
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	124113	50.0000	48.38
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	187573	50.0000	47.83
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	121679	50.0000	46.41
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	87053	50.0000	47.95
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	249560	50.0000	46.89
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	94156	50.0000	48.32
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	153095	50.0000	46.82
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	27245	50.0000	51.83
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	111062	50.0000	48.85(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	54809	50.0000	46.70
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	419671	50.0000	49.04
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	12187	50.0000	46.74
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	114686	50.0000	49.46
	88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	216357	50.0000	47.60

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	188212	50.0000	50.61
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	141074	50.0000	48.53
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	410269	50.0000	48.70
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	238547	50.0000	47.98
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	182269	50.0000	48.29
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	242693	50.0000	47.06
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	180990	50.0000	46.68
24	2-Butanone	43	3.573	3.573	(0.854)	128765	100.000	116.67
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	337693	50.0000	46.37
52	2-Hexanone	43	7.083	7.083	(0.923)	198319	100.000	98.27
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	394561	50.0000	47.00
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	420632	50.0000	49.08
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	280968	100.000	95.35
10	Acetone	43	1.969	1.969	(0.471)	95313	100.000	111.54
37	Benzene	78	4.512	4.512	(0.908)	440626	50.0000	48.26
74	Bromobenzene	156	8.809	8.809	(0.911)	147210	50.0000	48.13
29	Bromochloromethane	128	3.795	3.795	(0.908)	67372	50.0000	47.41
39	Bromodichloromethane	83	5.729	5.729	(1.153)	163351	50.0000	49.00
66	Bromoform	173	8.415	8.415	(1.097)	89604	50.0000	47.92
6	Bromomethane	94	1.338	1.338	(0.320)	86417	50.0000	47.95
19	Carbon Disulfide	76	2.069	2.069	(0.495)	646964	100.000	97.46
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	167086	50.0000	46.56
59	Chlorobenzene	112	7.699	7.699	(1.004)	309412	50.0000	47.85
7	Chloroethane	64	1.403	1.403	(0.336)	85402	50.0000	49.28
28	Chloroform	83	3.910	3.910	(0.935)	210954	50.0000	48.20
3	Chloromethane	50	1.073	1.073	(0.257)	185773	50.0000	48.15
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	126004	50.0000	48.77
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	193147	50.0000	49.47
55	Dibromochloromethane	129	7.176	7.176	(0.936)	129345	50.0000	48.96
44	Dibromomethane	93	5.557	5.557	(1.118)	77674	50.0000	49.26
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	135443	50.0000	47.41
61	Ethylbenzene	106	7.799	7.799	(1.017)	165225	50.0000	48.68
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	41952	50.0000	47.15
67	Isopropylbenzene	105	8.566	8.566	(1.117)	489328	50.0000	48.08
62	m,p-Xylenes	106	7.907	7.907	(1.031)	402602	100.000	97.74
17	Methylene Chloride	84	2.305	2.305	(0.551)	120730	50.0000	50.09
87	n-Butylbenzene	91	9.998	9.998	(1.034)	347792	50.0000	50.30
73	n-Propylbenzene	91	8.917	8.917	(0.922)	565315	50.0000	48.20
92	Naphthalene	128	11.546	11.546	(1.194)	75806	50.0000	49.35
63	o-Xylene	106	8.244	8.244	(1.075)	194330	50.0000	48.49
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	468460	50.0000	47.41
64	Styrene	104	8.258	8.258	(1.077)	337378	50.0000	48.57
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	340560	50.0000	47.61
56	Tetrachloroethene	164	6.933	6.933	(0.904)	104173	50.0000	48.39
50	Toluene	91	6.446	6.446	(0.840)	467021	50.0000	48.35
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	109110	50.0000	48.98
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	173577	50.0000	49.02
38	Trichloroethene	130	5.206	5.206	(1.048)	124926	50.0000	48.75
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	194926	50.0000	49.47
5	Vinyl Chloride	62	1.138	1.138	(0.272)	167564	50.0000	49.36

QC Flag Legend

M - Compound response manually integrated.



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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\X200511.b\X051109.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 11-MAY-2020 16:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 01-Jun-2020 14:06 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

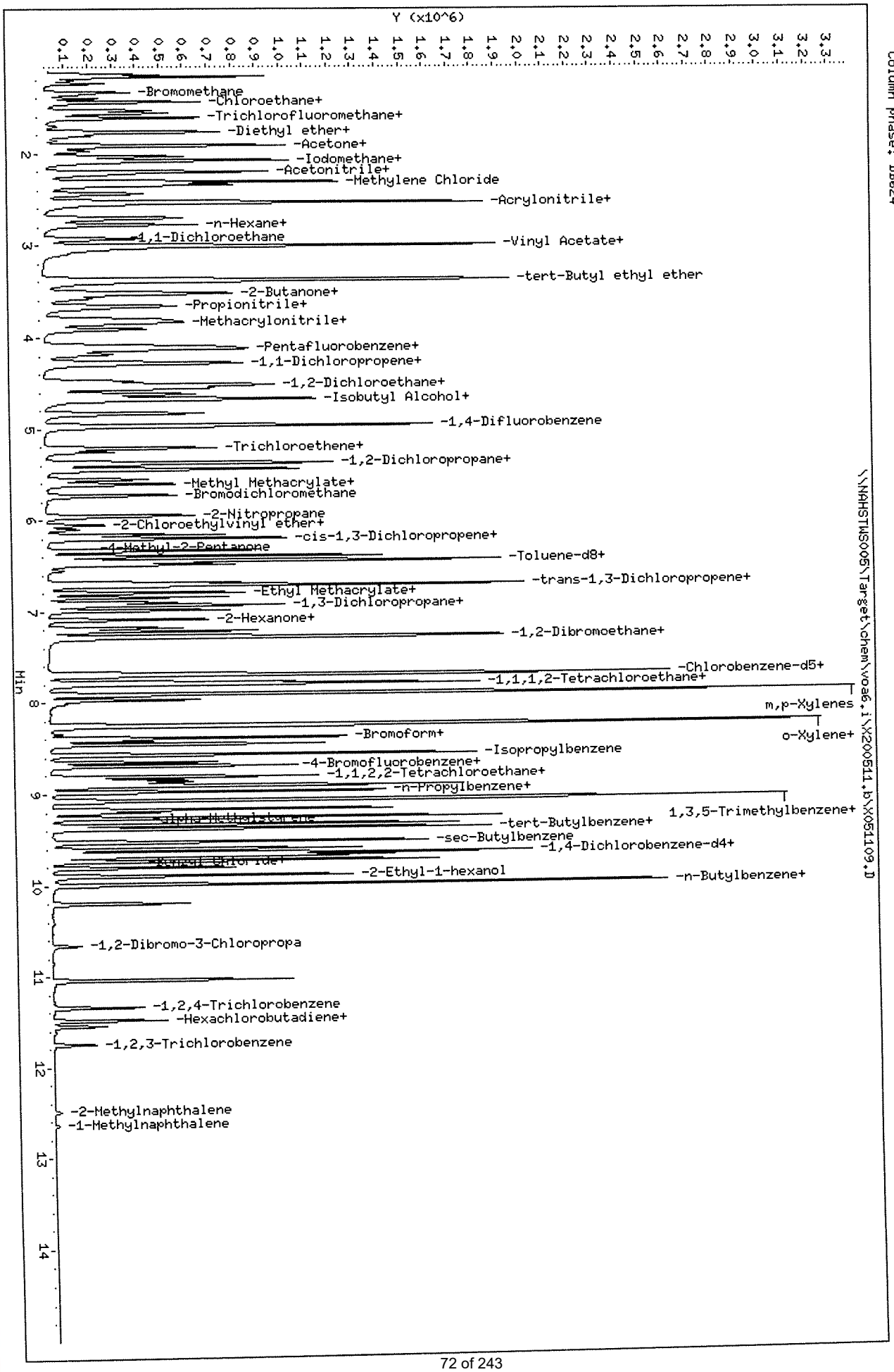
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	226332	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	331288	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	309250	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	155032	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	228909	100.000	101.63
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	281127	100.000	100.81
$	48 Toluene-d8	98	6.388	6.388	(0.833)	778769	100.000	100.73
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	294185	100.000	100.33
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	239360	100.000	98.47
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	360299	100.000	99.40
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	232257	100.000	93.22
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	165216	100.000	96.04
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	473292	100.000	96.21
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	180100	100.000	100.01
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	299678	100.000	98.81
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	50765	100.000	96.62
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	207372	100.000	95.98(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	103966	100.000	90.59
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	815497	100.000	100.27
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	23938	100.000	95.05
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	217918	100.000	99.18
	88 1,2-Dichlorobenzene	146	9.991	9.991	(1.033)	414523	100.000	95.97

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	349387	100.000	101.29 (A)
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	264442	100.000	98.06
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	810286	100.000	101.22
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	465093	100.000	98.44
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	344709	100.000	96.39
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	467125	100.000	95.32
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	341084	100.000	95.17
24 2-Butanone	43	3.573	3.573	(0.854)	229095	200.000	224.59 (A)
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	666346	100.000	96.29
52 2-Hexanone	43	7.090	7.090	(0.924)	374858	200.000	196.01
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	767875	100.000	96.25
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	830752	100.000	102.01
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	545954	200.000	195.52
10 Acetone	43	1.969	1.969	(0.471)	157042	200.000	200.90
37 Benzene	78	4.512	4.512	(0.908)	832105	100.000	98.26
74 Bromobenzene	156	8.810	8.810	(0.911)	281193	100.000	96.74
29 Bromochloromethane	128	3.795	3.795	(0.908)	121892	100.000	92.82
39 Bromodichloromethane	83	5.729	5.729	(1.153)	308906	100.000	99.89
66 Bromoform	173	8.416	8.416	(1.097)	175012	100.000	98.77
6 Bromomethane	94	1.331	1.331	(0.318)	166042	100.000	100.49
19 Carbon Disulfide	76	2.069	2.069	(0.495)	1236060	200.000	201.47 (A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	324110	100.000	97.37
59 Chlorobenzene	112	7.699	7.699	(1.004)	595488	100.000	97.18
7 Chloroethane	64	1.396	1.396	(0.334)	162411	100.000	101.85
28 Chloroform	83	3.910	3.910	(0.935)	397623	100.000	98.30
3 Chloromethane	50	1.073	1.073	(0.257)	352150	100.000	98.11
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	238323	100.000	99.81
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	364351	100.000	100.60
55 Dibromochloromethane	129	7.176	7.176	(0.936)	253688	100.000	101.35
44 Dibromomethane	93	5.558	5.558	(1.118)	146927	100.000	100.45
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	264084	100.000	98.85
61 Ethylbenzene	106	7.800	7.800	(1.017)	323615	100.000	100.63 (A)
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	77175	100.000	90.37
67 Isopropylbenzene	105	8.566	8.566	(1.117)	969801	100.000	100.56
62 m,p-Xylenes	106	7.907	7.907	(1.031)	769824	200.000	197.22
17 Methylene Chloride	84	2.306	2.306	(0.551)	224234	100.000	101.75
87 n-Butylbenzene	91	9.999	9.999	(1.034)	687209	100.000	104.59
73 n-Propylbenzene	91	8.917	8.917	(0.922)	1109073	100.000	99.50
92 Naphthalene	128	11.546	11.546	(1.194)	148845	100.000	101.97
63 o-Xylene	106	8.244	8.244	(1.075)	372835	100.000	98.17
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	938229	100.000	99.91
64 Styrene	104	8.258	8.258	(1.077)	648150	100.000	98.47
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	675938	100.000	99.45
56 Tetrachloroethene	164	6.933	6.933	(0.904)	201864	100.000	98.95
50 Toluene	91	6.446	6.446	(0.840)	886141	100.000	96.82
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	207011	100.000	100.54
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	333810	100.000	101.63
38 Trichloroethene	130	5.207	5.207	(1.048)	243052	100.000	102.24 (A)
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	376917	100.000	103.50
5 Vinyl Chloride	62	1.138	1.138	(0.272)	323682	100.000	103.16

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



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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\X200511.b\X051110.D Page 1
Report Date: 01-Jun-2020 14:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 11-MAY-2020 16:47
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 01-Jun-2020 14:06 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:24 Cal File: X051109.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

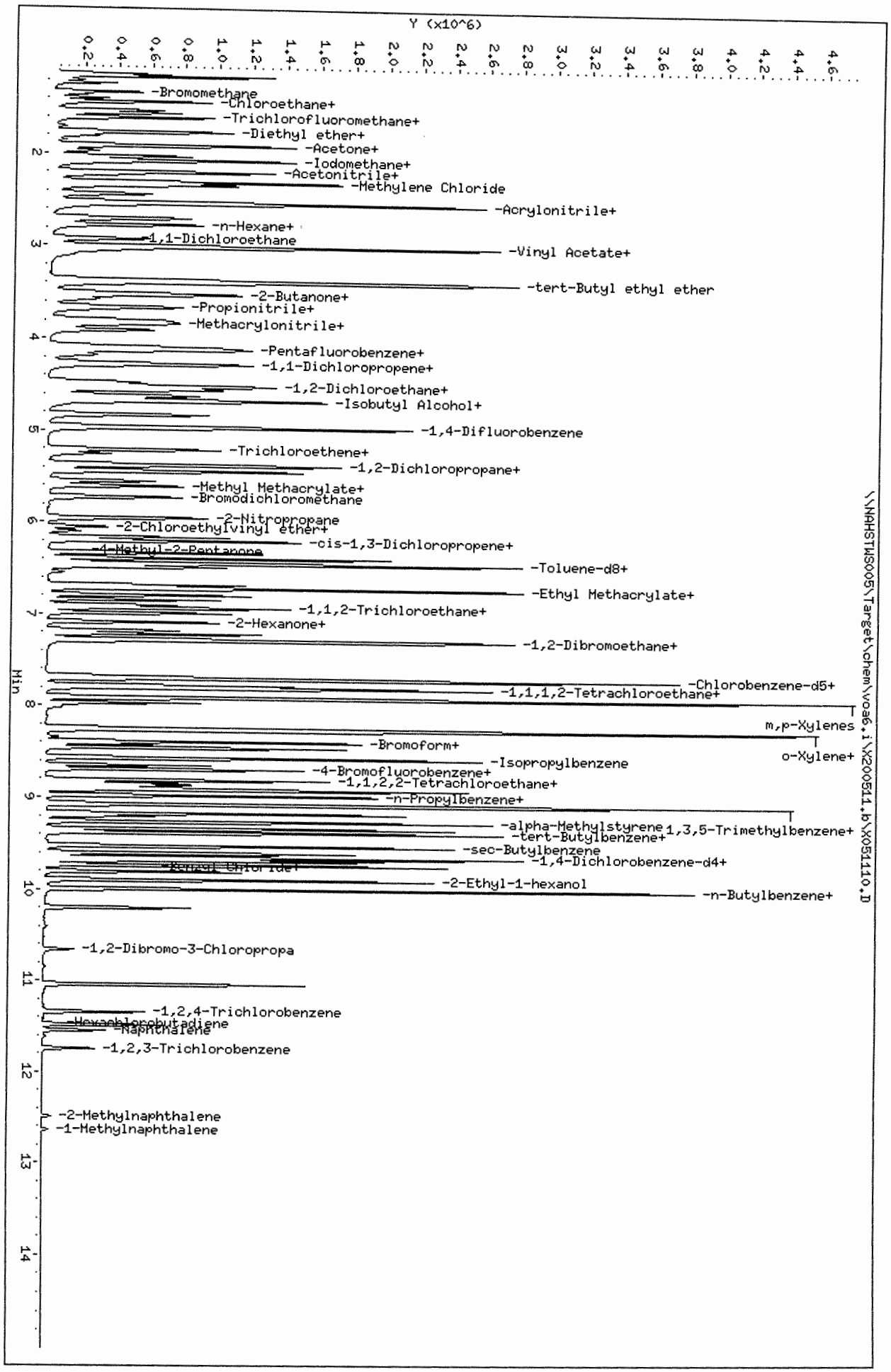
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	210896	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	312188	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	295010	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	147624	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	320906	150.000	153.02
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	402302	150.000	154.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1109628	150.000	150.69
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	420723	150.000	150.80
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	342668	150.000	147.77
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	514515	150.000	152.34(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	334626	150.000	141.04
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	235212	150.000	143.33
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	664765	150.000	145.03(A)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	257690	150.000	153.58
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	423104	150.000	148.04
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	82626	150.000	152.12
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	290589	150.000	141.25(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	161556	150.000	146.17
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	1176422	150.000	151.92
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	35913	150.000	148.91
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	315920	150.000	150.73(A)
88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	602146	150.000	146.41

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D Page 2
Report Date: 01-Jun-2020 14:06

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	496703	150.000	152.80(A)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	369792	150.000	145.52
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1156269	150.000	151.69
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	674171	150.000	149.86
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	493264	150.000	144.59
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	672004	150.000	144.01
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	486844	150.000	145.79
24 2-Butanone	43	3.573	3.573	(0.854)	320319	300.000	337.00(A)
76 2-Chlorotoluene	91	8.981	8.981	(0.929)	949403	150.000	144.08
52 2-Hexanone	43	7.090	7.090	(0.924)	531716	300.000	291.45
77 4-Chlorotoluene	91	9.074	9.074	(0.939)	1091030	150.000	143.62
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1196736	150.000	154.33
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	784939	300.000	294.68
10 Acetone	43	1.969	1.969	(0.471)	214208	300.000	295.31
37 Benzene	78	4.512	4.512	(0.908)	1182839	150.000	148.22(A)
74 Bromobenzene	156	8.809	8.809	(0.911)	403596	150.000	145.82
29 Bromochloromethane	128	3.795	3.795	(0.908)	172062	150.000	140.61
39 Bromodichloromethane	83	5.729	5.729	(1.153)	446504	150.000	153.22
66 Bromoform	173	8.415	8.415	(1.097)	252342	150.000	149.29
6 Bromomethane	94	1.331	1.331	(0.318)	236806	150.000	154.21
19 Carbon Disulfide	76	2.069	2.069	(0.495)	1753146	300.000	306.68(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	464237	150.000	148.00
59 Chlorobenzene	112	7.699	7.699	(1.004)	852770	150.000	145.89(A)
7 Chloroethane	64	1.396	1.396	(0.334)	229270	150.000	154.52
28 Chloroform	83	3.910	3.910	(0.935)	562576	150.000	149.27(A)
3 Chloromethane	50	1.073	1.073	(0.257)	510038	150.000	152.15
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	337533	150.000	151.71(A)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	521162	150.000	152.70
55 Dibromochloromethane	129	7.176	7.176	(0.936)	360158	150.000	150.83
44 Dibromomethane	93	5.557	5.557	(1.118)	209387	150.000	151.91
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	377623	150.000	151.12
61 Ethylbenzene	106	7.799	7.799	(1.017)	454714	150.000	148.22(A)
91 Hexachlorobutadiene	225	11.488	11.488	(1.188)	122993	150.000	150.61
67 Isopropylbenzene	105	8.566	8.566	(1.117)	1380555	150.000	150.06
62 m,p-Xylenes	106	7.907	7.907	(1.031)	1094132	300.000	293.84(A)
17 Methylene Chloride	84	2.305	2.305	(0.551)	318789	150.000	155.81
87 n-Butylbenzene	91	9.998	9.998	(1.034)	990914	150.000	158.38
73 n-Propylbenzene	91	8.917	8.917	(0.922)	1587708	150.000	149.59
92 Naphthalene	128	11.546	11.546	(1.194)	240798	150.000	173.25
63 o-Xylene	106	8.244	8.244	(1.075)	535459	150.000	147.80(A)
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	1337568	150.000	149.59
64 Styrene	104	8.265	8.265	(1.078)	912591	150.000	145.34(A)
78 tert-Butylbenzene	119	9.339	9.339	(0.966)	965175	150.000	149.13
56 Tetrachloroethene	164	6.933	6.933	(0.904)	286458	150.000	147.20(A)
50 Toluene	91	6.446	6.446	(0.840)	1251009	150.000	143.28(A)
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	291868	150.000	152.13
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	484238	150.000	156.45
38 Trichloroethene	130	5.206	5.206	(1.048)	343427	150.000	153.31(A)
8 Trichlorofluoromethane	101	1.553	1.553	(0.371)	533118	150.000	157.11
5 Vinyl Chloride	62	1.138	1.138	(0.272)	457160	150.000	156.37

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D
Date : 11-MAY-2020 16:47
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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051111.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 11-MAY-2020 17:11
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\X200511.b\8260W.m
Meth Date : 01-Jun-2020 14:06 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:47 Cal File: X051110.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

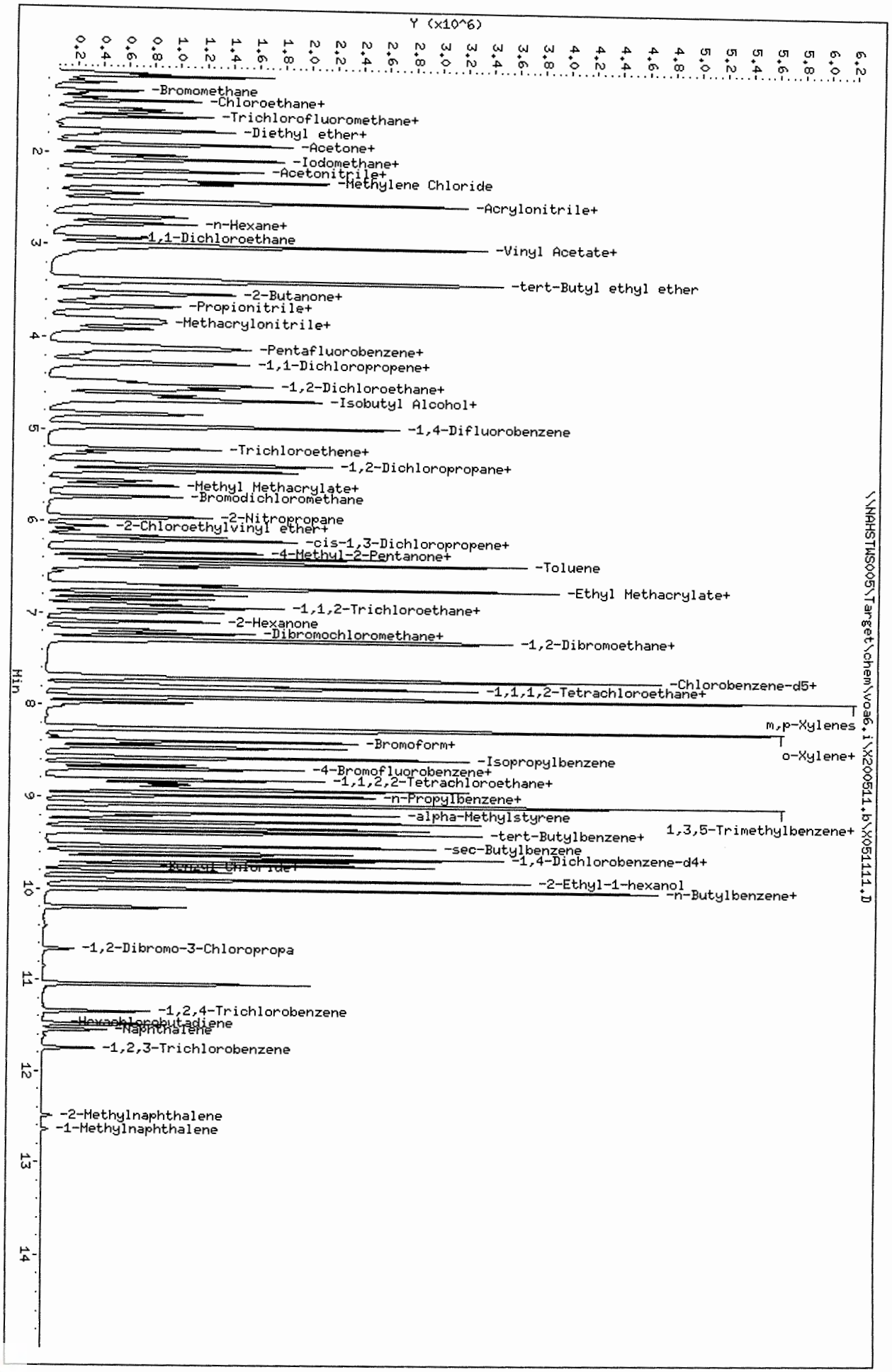
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	210247	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	305929	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	285371	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	141643	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	412124	200.000	197.20
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	508534	200.000	196.36
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1416689	200.000	199.04
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	537390	200.000	199.37
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	439976	200.000	196.15
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	664524	200.000	197.36(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	431093	200.000	189.38
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	299144	200.000	188.44
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	844374	200.000	184.79(A)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	331210	200.000	198.00
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	539478	200.000	192.62
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	114644	200.000	199.45
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	372645	200.000	188.79(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	221042	200.000	207.32(A)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1480057	200.000	199.20
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	47270	200.000	203.73(A)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	397489	200.000	196.05(A)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	751691	200.000	190.50

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051111.D Page 2
Report Date: 01-Jun-2020 14:06

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	633747	200.000	198.95(A)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	470477	200.000	188.93
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1464802	200.000	200.28(A)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	854514	200.000	197.97
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	628497	200.000	190.45
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	856803	200.000	191.37
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	616758	200.000	185.27
24 2-Butanone	43	3.573	3.573	(0.854)	404738	400.000	427.13(A)
76 2-Chlorotoluene	91	8.981	8.981	(0.929)	1200031	200.000	189.81
52 2-Hexanone	43	7.090	7.090	(0.924)	681249	400.000	386.03
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	1390472	200.000	190.77
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1535054	200.000	206.32(A)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	992720	400.000	385.28
10 Acetone	43	1.969	1.969	(0.471)	258020	400.000	357.35
37 Benzene	78	4.512	4.512	(0.908)	1515661	200.000	193.82(A)
74 Bromobenzene	156	8.810	8.810	(0.911)	524098	200.000	197.35
29 Bromochloromethane	128	3.795	3.795	(0.908)	217972	200.000	178.68
39 Bromodichloromethane	83	5.729	5.729	(1.153)	568861	200.000	199.20
66 Bromoform	173	8.416	8.416	(1.097)	324965	200.000	198.75
6 Bromomethane	94	1.324	1.324	(0.317)	301011	200.000	196.83
19 Carbon Disulfide	76	2.069	2.069	(0.495)	2243154	400.000	393.61(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	601378	200.000	195.64
59 Chlorobenzene	112	7.699	7.699	(1.004)	1083798	200.000	191.68(A)
7 Chloroethane	64	1.396	1.396	(0.334)	289295	200.000	195.69
28 Chloroform	83	3.910	3.910	(0.935)	722440	200.000	192.28(A)
3 Chloromethane	50	1.073	1.073	(0.257)	668216	200.000	199.75
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	430307	200.000	194.01(A)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	665512	200.000	198.99
55 Dibromochloromethane	129	7.176	7.176	(0.936)	459803	200.000	199.07
44 Dibromomethane	93	5.557	5.557	(1.118)	266444	200.000	197.26
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	499972	200.000	200.36(A)
61 Ethylbenzene	106	7.800	7.800	(1.017)	584558	200.000	196.99(A)
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	160116	200.000	204.00(A)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	1765878	200.000	198.43
62 m,p-Xylenes	106	7.907	7.907	(1.031)	1392396	400.000	386.57(A)
17 Methylene Chloride	84	2.298	2.298	(0.550)	395941	200.000	194.38
87 n-Butylbenzene	91	9.999	9.999	(1.034)	1253039	200.000	208.74(A)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	2020256	200.000	198.39
92 Naphthalene	128	11.546	11.546	(1.194)	324019	200.000	242.98(A)
63 o-Xylene	106	8.244	8.244	(1.075)	671719	200.000	191.67(A)
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	1697221	200.000	197.83
64 Styrene	104	8.265	8.265	(1.078)	1162998	200.000	191.48(A)
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	1223524	200.000	197.03
56 Tetrachloroethene	164	6.933	6.933	(0.904)	364813	200.000	193.79(A)
50 Toluene	91	6.446	6.446	(0.840)	1593362	200.000	188.66(A)
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	373493	200.000	195.28
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	619261	200.000	204.17(A)
38 Trichloroethene	130	5.206	5.206	(1.048)	441183	200.000	200.98(A)
8 Trichlorofluoromethane	101	1.553	1.553	(0.371)	703498	200.000	207.96(A)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	586952	200.000	201.38(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



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Client ID: VSTD200
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Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D Page 1
Report Date: 01-Jun-2020 14:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 11-MAY-2020 18:23
Operator : PC Inst ID: voa6.i
Smp Info : ICV;ICV;2;;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 01-Jun-2020 14:06 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

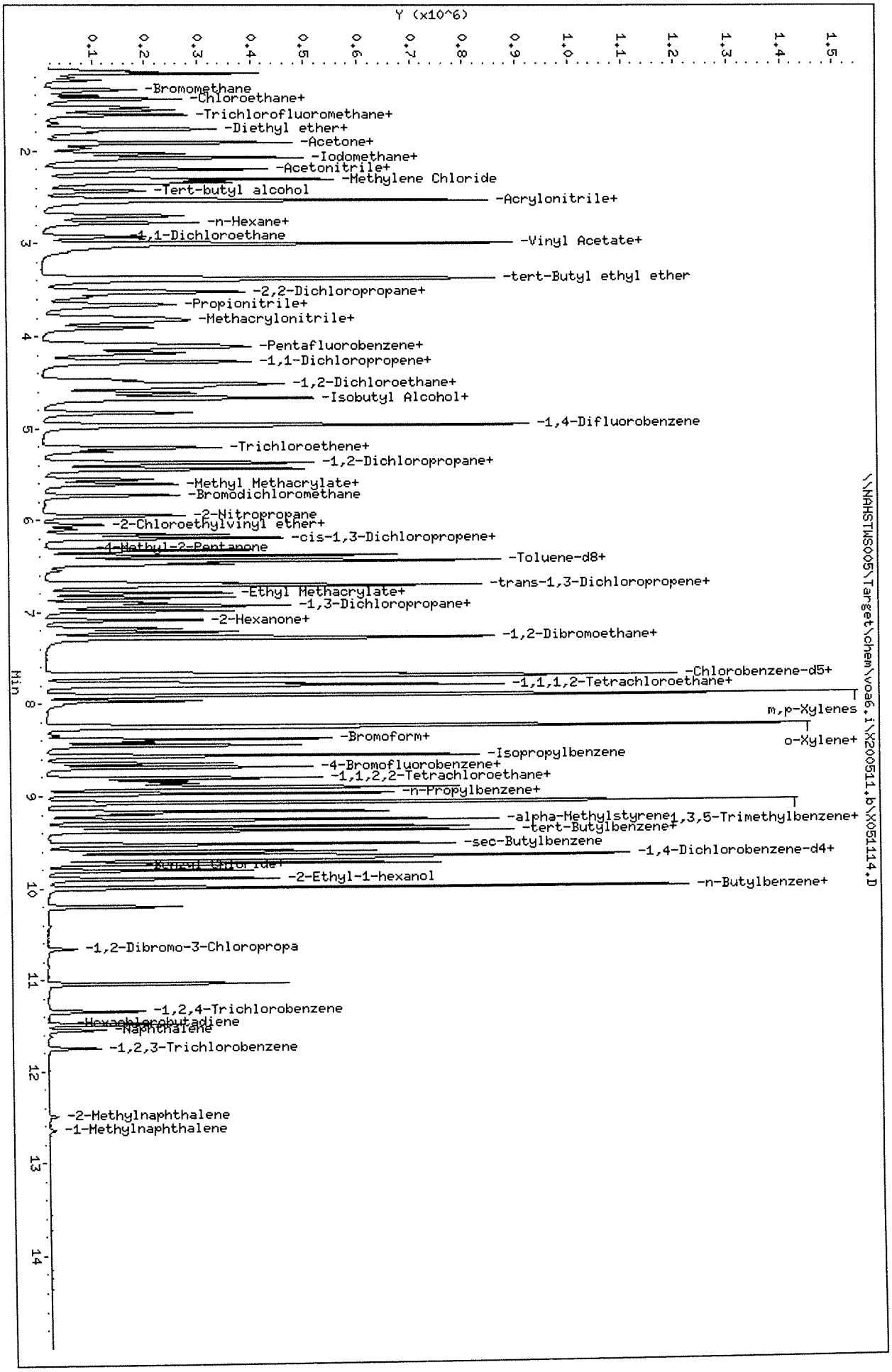
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	223155	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	318483	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	291498	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	148250	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	108653	48.8010	48.80
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	131529	47.8219	47.82
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	373137	50.9781	50.97
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	139766	50.1904	50.19
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	112251	48.9922	48.99
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	169785	47.5103	47.51
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	109996	46.1688	46.16
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	77614	47.8655	47.86
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	219255	45.2085	45.20
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	84626	47.6661	47.66
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	139963	48.0055	48.00
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	26202	54.6983	54.69
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	96248	46.5901	46.59(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	50727	47.5210	47.52
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	387802	49.8683	49.86
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	10984	46.3748	46.37
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	104018	50.2268	50.22
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	200012	48.4298	48.42

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D Page 2
Report Date: 01-Jun-2020 14:06

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	164095	49.4853	49.48
42 1,2-Dichloropropane	63	5.436	5.443	(1.094)	123226	47.5336	47.53
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	380301	49.6820	49.68
83 1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	220872	48.8921	48.89
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	162939	48.3385	48.33
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	223856	47.7723	47.77
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	167781	47.4860	47.48
24 2-Butanone	43	3.573	3.573	(0.854)	108411	107.793	107.79(H)
76 2-Chlorotoluene	91	8.974	8.981	(0.929)	309354	46.7504	46.75
52 2-Hexanone	43	7.090	7.090	(0.924)	170807	94.7558	94.75
77 4-Chlorotoluene	91	9.074	9.075	(0.939)	360081	47.2019	47.20
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	391936	50.3321	50.33
45 4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	244532	92.9096	92.90
10 Acetone	43	1.969	1.969	(0.471)	75065	96.0427	96.04
37 Benzene	78	4.512	4.512	(0.908)	390116	47.9210	47.92
74 Bromobenzene	156	8.809	8.810	(0.912)	134325	48.3285	48.32
29 Bromochloromethane	128	3.795	3.795	(0.908)	61420	47.4371	47.43
39 Bromodichloromethane	83	5.729	5.729	(1.153)	144777	48.6994	48.69
66 Bromoform	173	8.415	8.416	(1.097)	83698	50.1152	50.11
6 Bromomethane	94	1.338	1.324	(0.320)	83523	50.9059	50.90
19 Carbon Disulfide	76	2.069	2.069	(0.495)	577912	95.5417	95.54
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	151724	47.4153	47.41
59 Chlorobenzene	112	7.699	7.699	(1.004)	282458	48.9065	48.90
7 Chloroethane	64	1.403	1.396	(0.336)	70901	44.8631	44.86
28 Chloroform	83	3.910	3.910	(0.935)	192179	48.1906	48.19
3 Chloromethane	50	1.073	1.073	(0.257)	154639	44.0442	44.04
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	112778	47.9068	47.90
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	172729	49.6114	49.61
55 Dibromochloromethane	129	7.176	7.176	(0.936)	117363	49.7444	49.74
44 Dibromomethane	93	5.557	5.557	(1.118)	70080	49.8406	49.84
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	122199	46.9573	46.95
61 Ethylbenzene	106	7.799	7.800	(1.017)	147940	48.8066	48.80
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	40239	49.7181	49.71
67 Isopropylbenzene	105	8.566	8.566	(1.117)	450333	49.5410	49.54
62 m,p-Xylenes	106	7.907	7.907	(1.031)	360956	98.1080	98.10
17 Methylene Chloride	84	2.305	2.298	(0.551)	104805	47.6717	47.67
87 n-Butylbenzene	91	9.999	9.999	(1.035)	318734	50.7307	50.73
73 n-Propylbenzene	91	8.917	8.917	(0.923)	511675	48.0076	48.00
92 Naphthalene	128	11.546	11.546	(1.195)	74280	53.2198	53.21
63 o-Xylene	106	8.244	8.244	(1.075)	175723	49.0898	49.08
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	435579	48.5089	48.50
64 Styrene	104	8.258	8.265	(1.077)	306849	49.4603	49.46
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	315264	48.5073	48.50
56 Tetrachloroethene	164	6.933	6.933	(0.904)	94634	49.2150	49.21
50 Toluene	91	6.446	6.446	(0.840)	420170	48.7050	48.70
20 trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	97294	47.9280	47.92
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	157780	49.9712	49.97
38 Trichloroethene	130	5.206	5.206	(1.048)	112860	49.3869	49.38
8 Trichlorofluoromethane	101	1.560	1.553	(0.373)	174748	48.6710	48.67
5 Vinyl Chloride	62	1.138	1.138	(0.272)	143744	46.4673	46.46

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D
Date : 11-MAY-2020 18:23
Client ID: ICV
Sample Info: ICV;ICV;2;;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050456

Lab File ID: X051301 BFB Injection Date: 05/13/20

Instrument ID: VOA6 BFB Injection Time: 1005

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	25.1
75	30.0 - 60.0% of mass 95	51.4
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	0.8 (1.1)1
174	Greater than 50.0% of mass 95	69.1
175	5.0 - 9.0% of mass 174	5.6 (8.2)1
176	95.0 - 101.0% of mass 174	66.5 (96.3)1
177	5.0 - 9.0% of mass 176	4.5 (6.8)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	X051302	05/13/20	1029
02	VLCSW-200513	VLCSW-200513	X051305	05/13/20	1141
03	VBLKW-200513	VBLKW-200513	X051307	05/13/20	1229
04	HS20050423-0	HS20050423-01M	X051316	05/13/20	1605
05	HS20050423-0	HS20050423-01M	X051317	05/13/20	1630
06	HS20050456-0	HS20050456-01	X051319	05/13/20	1718
07	CCV-END	CCV-END	X051320	05/13/20	1742
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050456

Instrument ID: VOA6 Calibration Date: 05/13/20 Time: 1029

Lab File ID: X051302 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

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
Bromochloromethane	0.2900000	0.2732244	0.2732244	0.1	5.78	20.00	AVRG
Vinyl Chloride	0.6930000	0.5822327	0.5822327	0.1	15.98	20.00	AVRG
Chloromethane	40.458868	50.000000	0.6357423	0.1	19.08	20.00	LINR
Bromomethane	46.816766	50.000000	0.3446519	0.1	6.37	20.00	LINR
Chloroethane	44.440026	50.000000	0.3147524	0.1	11.12	20.00	LINR
Methylene Chloride	47.073404	50.000000	0.4638864	0.1	5.85	20.00	LINR
Acetone	85.588043	100.00000	0.1503700	0.1	14.41	20.00	LINR
1,1-Dichloroethene	0.3980000	0.3665221	0.3665221	0.1	7.91	20.00	AVRG
trans-1,2-Dichloroethene	0.4550000	0.4389883	0.4389883	0.1	3.52	20.00	AVRG
Carbon Tetrachloride	0.5020000	0.4868665	0.4868665	0.1	3.01	20.00	AVRG
Bromodichloromethane	0.4670000	0.4609940	0.4609940	0.2	1.29	20.00	AVRG
1,1-Dichloroethane	1.0870000	0.9525877	0.9525877	0.2	12.36	20.00	AVRG
1,2-Dichloropropane	0.4070000	0.3722772	0.3722772	0.1	8.53	20.00	AVRG
2-Butanone	0.2250000	0.2106365	0.2106365	0.1	6.38	20.00	AVRG
cis-1,3-Dichloropropene	0.5470000	0.5367526	0.5367526	0.2	1.87	20.00	AVRG
Dibromochloromethane	0.4040000	0.4092827	0.4092827	0.1	-1.31	20.00	AVRG
cis-1,2-Dichloroethene	0.5270000	0.5037108	0.5037108	0.1	4.42	20.00	AVRG
1,1,2-Trichloroethane	0.2780000	0.2628294	0.2628294	0.1	5.46	20.00	AVRG
Benzene	1.2780000	1.2013448	1.2013448	0.5	6.00	20.00	AVRG
Chloroform	0.8930000	0.8611338	0.8611338	0.2	3.57	20.00	AVRG
trans-1,3-Dichloropropene	0.4960000	0.4999014	0.4999014	0.1	-0.79	20.00	AVRG
Bromoform	0.2860000	0.2898774	0.2898774	0.1	-1.36	20.00	AVRG
4-Methyl-2-Pentanone	0.4510000	0.3863367	0.3863367	0.1	14.34	20.00	AVRG
1,1,1-Trichloroethane	0.8000000	0.7753564	0.7753564	0.1	3.08	20.00	AVRG
2-Hexanone	0.3090000	0.2674031	0.2674031	0.1	13.46	20.00	AVRG
1,2-Dichloroethane	0.5200000	0.5349191	0.5349191	0.1	-2.87	20.00	AVRG
1,1,2,2-Tetrachloroethane	0.8040000	0.7025336	0.7025336	0.3	12.62	20.00	AVRG
Trichloroethene	0.3590000	0.3553162	0.3553162	0.2	1.03	20.00	AVRG
Toluene	1.4800000	1.4187366	1.4187366	0.4	4.14	20.00	AVRG
Dichlorodifluoromethane	46.747908	50.000000	0.5450985	0.1	6.50	20.00	LINR
Trichlorofluoromethane	0.8040000	0.7856605	0.7856605	0.1	2.28	20.00	AVRG
Tetrachloroethene	0.3300000	0.3252926	0.3252926	0.2	1.43	20.00	AVRG
1,2-Dibromoethane	0.3550000	0.3500438	0.3500438	0.1	1.40	20.00	AVRG
Chlorobenzene	0.9900000	0.9597405	0.9597405	0.5	3.06	20.00	AVRG
1,3-Dichlorobenzene	1.5230000	1.4732133	1.4732133	0.6	3.27	20.00	AVRG
1,4-Dichlorobenzene	1.5800000	1.4616414	1.4616414	0.4	7.49	20.00	AVRG
Ethylbenzene	0.5200000	0.4979142	0.4979142	0.1	4.25	20.00	AVRG
1,2-Dichlorobenzene	1.3930000	1.2973894	1.2973894	0.4	6.86	20.00	AVRG
m,p-Xylenes	0.6310000	0.6115536	0.6115536	0.1	3.08	20.00	AVRG
o-Xylene	0.6140000	0.5934559	0.5934559	0.3	3.34	20.00	AVRG
Styrene	1.0640000	1.0462304	1.0462304	0.3	1.67	20.00	AVRG
Carbon Disulfide	1.3550000	1.2434756	1.2434756	0.1	8.23	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005045

Instrument ID: VOA6 Calibration Date: 05/13/20 Time: 1029

Lab File ID: X051302 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

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
2,2-Dichloropropane	0.7920000	0.7714820	0.7714820	0.1	2.59	20.00	AVRG
1,1-Dichloropropene	0.4580000	0.4313816	0.4313816	0.1	5.81	20.00	AVRG
Dibromomethane	0.2210000	0.2143650	0.2143650	0.1	3.00	20.00	AVRG
1,3-Dichloropropane	0.5780000	0.5535467	0.5535467	0.1	4.23	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3930000	0.3973887	0.3973887	0.1	-1.12	20.00	AVRG
Isopropylbenzene	1.5590000	1.4890574	1.4890574	0.1	4.49	20.00	AVRG
Bromobenzene	0.9370000	0.8989082	0.8989082	0.1	4.06	20.00	AVRG
1,2,3-Trichloropropane	0.6970000	0.6441052	0.6441052	0.1	7.59	20.00	AVRG
n-Propylbenzene	3.5950000	3.2617969	3.2617969	0.1	9.27	20.00	AVRG
2-Chlorotoluene	2.2320000	2.0382162	2.0382162	0.1	8.68	20.00	AVRG
1,3,5-Trimethylbenzene	2.5820000	2.4467843	2.4467843	0.1	5.24	20.00	AVRG
4-Chlorotoluene	2.5730000	2.3840318	2.3840318	0.1	7.34	20.00	AVRG
tert-Butylbenzene	2.1920000	2.0239592	2.0239592	0.1	7.67	20.00	AVRG
1,2,4-Trimethylbenzene	2.6230000	2.4972802	2.4972802	0.1	4.79	20.00	AVRG
sec-Butylbenzene	3.0280000	2.7824592	2.7824592	0.1	8.11	20.00	AVRG
p-Isopropyltoluene	2.6260000	2.4875395	2.4875395	0.1	5.27	20.00	AVRG
n-Butylbenzene	2.1190000	2.0690231	2.0690231	0.5	2.36	20.00	AVRG
1,2-Dibromo-3-Chloropropane	45.928623	50.000000	7.34e-002	0.05	8.14	20.00	LINR
1,2,4-Trichlorobenzene	43.056156	50.000000	0.3081303	0.2	13.89	20.00	LINR
Hexachlorobutadiene	46.511180	50.000000	0.2535720	0.1	6.98	20.00	LINR
Naphthalene	0.4710000	0.4491694	0.4491694	0.2	4.63	20.00	AVRG
1,2,3-Trichlorobenzene	48.907751	50.000000	0.1571581	0.1	2.18	20.00	2RDR
Dibromofluoromethane	48.752247	50.000000	0.4864110	0.1	2.50	20.00	LINR
1,2-Dichloroethane-d4	48.797669	50.000000	0.6014230	0.1	2.40	20.00	LINR
Toluene-d8	50.218806	50.000000	1.2611735	0.1	-0.44	20.00	LINR
4-Bromofluorobenzene	49.822828	50.000000	0.4760170	0.1	0.35	20.00	LINR

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050456

Instrument ID: VOA6 Calibration Date: 05/13/20 Time: 1742

Lab File ID: X051320 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

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
Bromochloromethane	0.2900000	0.2811630	0.2811630	0.1	3.05	20.00	AVRG
Vinyl Chloride	0.6930000	0.5810683	0.5810683	0.1	16.15	20.00	AVRG
Chloromethane	41.298579	50.000000	0.6491447	0.1	17.40	20.00	LINR
Bromomethane	46.305275	50.000000	0.3409456	0.1	7.39	20.00	LINR
Chloroethane	43.926094	50.000000	0.3111466	0.1	12.15	20.00	LINR
Methylene Chloride	48.815273	50.000000	0.4806693	0.1	2.37	20.00	LINR
Acetone	84.760897	100.00000	0.1489602	0.1	15.24	20.00	LINR
1,1-Dichloroethene	0.3980000	0.3533041	0.3533041	0.1	11.23	20.00	AVRG
trans-1,2-Dichloroethene	0.4550000	0.4307466	0.4307466	0.1	5.33	20.00	AVRG
Carbon Tetrachloride	0.5020000	0.4260378	0.4260378	0.1	15.13	20.00	AVRG
Bromodichloromethane	0.4670000	0.4481577	0.4481577	0.2	4.03	20.00	AVRG
1,1-Dichloroethane	1.0870000	0.9713381	0.9713381	0.2	10.64	20.00	AVRG
1,2-Dichloropropane	0.4070000	0.3637802	0.3637802	0.1	10.62	20.00	AVRG
2-Butanone	0.2250000	0.2384519	0.2384519	0.1	-5.98	20.00	AVRG
cis-1,3-Dichloropropene	0.5470000	0.5222696	0.5222696	0.2	4.52	20.00	AVRG
Dibromochloromethane	0.4040000	0.4112511	0.4112511	0.1	-1.79	20.00	AVRG
cis-1,2-Dichloroethene	0.5270000	0.5157149	0.5157149	0.1	2.14	20.00	AVRG
1,1,2-Trichloroethane	0.2780000	0.2630189	0.2630189	0.1	5.39	20.00	AVRG
Benzene	1.2780000	1.1638298	1.1638298	0.5	8.93	20.00	AVRG
Chloroform	0.8930000	0.8663458	0.8663458	0.2	2.98	20.00	AVRG
trans-1,3-Dichloropropene	0.4960000	0.4906867	0.4906867	0.1	1.07	20.00	AVRG
Bromoform	0.2860000	0.2895845	0.2895845	0.1	-1.25	20.00	AVRG
4-Methyl-2-Pentanone	0.4510000	0.4317780	0.4317780	0.1	4.26	20.00	AVRG
1,1,1-Trichloroethane	0.8000000	0.7275547	0.7275547	0.1	9.06	20.00	AVRG
2-Hexanone	0.3090000	0.2940027	0.2940027	0.1	4.85	20.00	AVRG
1,2-Dichloroethane	0.5200000	0.5240452	0.5240452	0.1	-0.78	20.00	AVRG
1,1,2,2-Tetrachloroethane	0.8040000	0.7221781	0.7221781	0.3	10.18	20.00	AVRG
Trichloroethene	0.3590000	0.3307380	0.3307380	0.2	7.87	20.00	AVRG
Toluene	1.4800000	1.3584430	1.3584430	0.4	8.21	20.00	AVRG
Dichlorodifluoromethane	42.225177	50.000000	0.4911326	0.1	15.55	20.00	LINR
Trichlorofluoromethane	0.8040000	0.7146875	0.7146875	0.1	11.11	20.00	AVRG
Tetrachloroethene	0.3300000	0.2830614	0.2830614	0.2	14.22	20.00	AVRG
1,2-Dibromoethane	0.3550000	0.3624312	0.3624312	0.1	-2.09	20.00	AVRG
Chlorobenzene	0.9900000	0.9122519	0.9122519	0.5	7.85	20.00	AVRG
1,3-Dichlorobenzene	1.5230000	1.3724630	1.3724630	0.6	9.88	20.00	AVRG
1,4-Dichlorobenzene	1.5800000	1.4060728	1.4060728	0.4	11.01	20.00	AVRG
Ethylbenzene	0.5200000	0.4626810	0.4626810	0.1	11.02	20.00	AVRG
1,2-Dichlorobenzene	1.3930000	1.2498882	1.2498882	0.4	10.27	20.00	AVRG
m,p-Xylenes	0.6310000	0.5633982	0.5633982	0.1	10.71	20.00	AVRG
o-Xylene	0.6140000	0.5620256	0.5620256	0.3	8.46	20.00	AVRG
Styrene	1.0640000	1.0042210	1.0042210	0.3	5.62	20.00	AVRG
Carbon Disulfide	1.3550000	1.2014488	1.2014488	0.1	11.33	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005045

Instrument ID: VOA6 Calibration Date: 05/13/20 Time: 1742

Lab File ID: X051320 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

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	
2,2-Dichloropropane	0.7920000	0.7058002	0.7058002	0.1	10.88	20.00	AVRG	
1,1-Dichloropropene	0.4580000	0.3830326	0.3830326	0.1	16.37	20.00	AVRG	
Dibromomethane	0.2210000	0.2160258	0.2160258	0.1	2.25	20.00	AVRG	
1,3-Dichloropropane	0.5780000	0.5514768	0.5514768	0.1	4.59	20.00	AVRG	
1,1,1,2-Tetrachloroethane	0.3930000	0.3743057	0.3743057	0.1	4.76	20.00	AVRG	
Isopropylbenzene	1.5590000	1.3632987	1.3632987	0.1	12.55	20.00	AVRG	
Bromobenzene	0.9370000	0.8631590	0.8631590	0.1	7.88	20.00	AVRG	
1,2,3-Trichloropropane	0.6970000	0.6598053	0.6598053	0.1	5.34	20.00	AVRG	
n-Propylbenzene	3.5950000	2.9572809	2.9572809	0.1	17.74	20.00	AVRG	
2-Chlorotoluene	2.2320000	1.9060296	1.9060296	0.1	14.60	20.00	AVRG	
1,3,5-Trimethylbenzene	2.5820000	2.2585431	2.2585431	0.1	12.53	20.00	AVRG	
4-Chlorotoluene	2.5730000	2.2416805	2.2416805	0.1	12.88	20.00	AVRG	
tert-Butylbenzene	2.1920000	1.8174468	1.8174468	0.1	17.09	20.00	AVRG	
1,2,4-Trimethylbenzene	2.6230000	2.3135810	2.3135810	0.1	11.80	20.00	AVRG	
sec-Butylbenzene	3.0280000	2.3854886	2.3854886	0.1	21.22	20.00	AVRG	<-
p-Isopropyltoluene	2.6260000	2.2091093	2.2091093	0.1	15.88	20.00	AVRG	
n-Butylbenzene	2.1190000	1.7378796	1.7378796	0.5	17.98	20.00	AVRG	
1,2-Dibromo-3-Chloropropane	49.112511	50.000000	7.86e-002	0.05	1.77	20.00	LINR	
1,2,4-Trichlorobenzene	37.719719	50.000000	0.2674432	0.2	24.56	20.00	LINR	<-
Hexachlorobutadiene	33.496157	50.000000	0.1811107	0.1	33.01	20.00	LINR	<-
Naphthalene	0.4710000	0.3924558	0.3924558	0.2	16.68	20.00	AVRG	
1,2,3-Trichlorobenzene	41.443551	50.000000	0.1322972	0.1	17.11	20.00	2RDR	
Dibromofluoromethane	49.846755	50.000000	0.4972769	0.1	0.31	20.00	LINR	
1,2-Dichloroethane-d4	49.330863	50.000000	0.6079896	0.1	1.34	20.00	LINR	
Toluene-d8	49.412798	50.000000	1.2411176	0.1	1.17	20.00	LINR	
4-Bromofluorobenzene	50.184373	50.000000	0.4794187	0.1	-0.37	20.00	LINR	

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050456

Lab File ID (Standard): X051302 Date Analyzed: 05/13/20

Instrument ID: VOA6 Time Analyzed: 1029

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	192545	4.18	273804	4.97	251220	7.67
	UPPER LIMIT	385090	4.68	547608	5.47	502440	8.17
	LOWER LIMIT	96273	3.68	136902	4.47	125610	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-200513	196278	4.18	291350	4.97	264248	7.67
02	VBLKW-200513	253415	4.18	343878	4.97	295968	7.67
03	HS20050423-01	240327	4.18	324960	4.97	281344	7.67
04	HS20050423-01	237934	4.18	330094	4.97	280434	7.67
05	HS20050456-01	253301	4.18	349764	4.97	297355	7.67
06							
07							
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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 GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050456

Lab File ID (Standard): X051302 Date Analyzed: 05/13/20

Instrument ID: VOA6 Time Analyzed: 1029

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	130103	9.66				
	UPPER LIMIT	260206	10.16				
	LOWER LIMIT	65052	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-200513	136866	9.66				
02	VBLKW-200513	143857	9.67				
03	HS20050423-01	136669	9.67				
04	HS20050423-01	137543	9.66				
05	HS20050456-01	146002	9.67				
06							
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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.

MSVOA06 -Logbook

Batch: 40535
Date: 05-13-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	05-13-2020 10:05 am	1.00	50 mL	50 mL	X051301.D	Liquid	Y	NA
2	*Auto find/ purged* CCV	CCV	05-13-2020 10:29 am	1.00	50 mL	50 mL	X051302.D	Liquid	Y	NA
3	*10 uL cal std/50 mL DI* BLANK	SAMP	05-13-2020 10:53 am	1.00	50 mL	50 mL	X051303.D	Liquid	Y	NA
4	CCB	SAMP	05-13-2020 11:17 am	1.00	50 mL	50 mL	X051304.D	Liquid	Y	NA
5	VLCSW-200513	LCS	05-13-2020 11:41 am	1.00	50 mL	50 mL	X051305.D	Liquid	Y	NA
6	*4.10 uL cal std/50 mL DI* BLANK	SAMP	05-13-2020 12:05 pm	1.00	50 mL	50 mL	X051306.D	Liquid	Y	NA
7	VBLKW-200513	MBLK	05-13-2020 12:29 pm	1.00	50 mL	50 mL	X051307.D	Liquid	Y	NA
8	HS20050423-01	SAMP	05-13-2020 12:53 pm	1.00	50 mL	50 mL	X051308.D	Liquid	Y	<2
9	HS20050423-02	SAMP	05-13-2020 01:17 pm	1.00	50 mL	50 mL	X051309.D	Liquid	Y	<2
10	HS20050423-03	SAMP	05-13-2020 01:41 pm	1.00	50 mL	50 mL	X051310.D	Liquid	Y	<2
11	HS20050423-04	SAMP	05-13-2020 02:05 pm	1.00	50 mL	50 mL	X051311.D	Liquid	Y	<2
12	HS20050423-05	SAMP	05-13-2020 02:29 pm	1.00	50 mL	50 mL	X051312.D	Liquid	Y	<2
13	HS20050405-01	SAMP	05-13-2020 02:53 pm	10000.(	5 µL	50 mL	X051313.D	Liquid	Y	NA
14	HS20050247-09	SAMP	05-13-2020 03:17 pm	1.00	50 mL	50 mL	X051314.D	Liquid	Y	<2
15	HS20050405-01	SAMP	05-13-2020 03:41 pm	250000.	0.2 µL	50 mL	X051315.D	Liquid	Y	NA
16	HS20050423-01MS	MS	05-13-2020 04:05 pm	1.00	50 mL	50 mL	X051316.D	Liquid	Y	<2
17	*3.5 uL cal std/40 mL samp* HS20050423-01MSD	MSD	05-13-2020 04:30 pm	1.00	50 mL	50 mL	X051317.D	Liquid	Y	<2
18	*3.5 uL cal std/40 mL samp* HS20050305-02	SAMP	05-13-2020 04:54 pm	5.00	10 mL	50 mL	X051318.D	Liquid	Y	<2
19	HS20050456-01	SAMP	05-13-2020 05:18 pm	1.00	50 mL	50 mL	X051319.D	Liquid	Y	<2
20	CCV-END	CCV	05-13-2020 05:42 pm	1.00	50 mL	50 mL	X051320.D	Liquid	Y	NA
21	*10 uL cal std/50 mL DI* HS20050275-01	SAMP	05-13-2020 06:06 pm	250.0(	200 µL	50 mL	X051321.D	Liquid	Y	NA
22	HS20050372-01	SAMP	05-13-2020 06:30 pm	250.0(	200 µL	50 mL	X051322.D	Liquid	Y	NA
23	HS20050408-01	SAMP	05-13-2020 06:54 pm	1.00	50 mL	50 mL	X051323.D	Liquid	Y	NA
24	HS20050408-02	SAMP	05-13-2020 07:18 pm	1.00	50 mL	50 mL	X051324.D	Liquid	Y	NA
25	HS20050417-01	SAMP	05-13-2020 07:42 pm	1.00	50 mL	50 mL	X051325.D	Liquid	Y	NA
26	HS20050414-01	SAMP	05-13-2020 08:06 pm	1.00	50 mL	50 mL	X051326.D	Liquid	Y	NA
27	HS20050412-01	SAMP	05-13-2020 08:30 pm	1.00	50 mL	50 mL	X051327.D	Liquid	Y	NA
28	HS20050422-01	SAMP	05-13-2020 08:54 pm	1.00	50 mL	50 mL	X051328.D	Liquid	Y	NA
29	HS20050409-01	SAMP	05-13-2020 09:18 pm	1.00	50 mL	50 mL	X051329.D	Liquid	Y	NA
30	HS20050229-08	SAMP	05-13-2020 09:42 pm	25.00	2 mL	50 mL	X051330.D	Liquid	Y	NA
31	BFB	TUNE	05-13-2020 10:06 pm	1.00	50 mL	50 mL	Y051301.D	Liquid	Y	NA
32	*Auto find/ purged* CCV	CCV	05-13-2020 10:30 pm	1.00	50 mL	50 mL	Y051302a.D	Liquid	Y	NA
33	*10 uL cal std/50 mL DI* CCV	CCV	05-13-2020 10:54 pm	1.00	50 mL	50 mL	Y051303.D	Liquid	Y	NA
34	*10 uL cal std/50 mL DI* CCB	SAMP	05-13-2020 11:18 pm	1.00	50 mL	50 mL	Y051304.D	Liquid	Y	NA
35	VLCSW-200513	LCS	05-13-2020 11:42 pm	1.00	50 mL	50 mL	Y051305.D	Liquid	Y	NA
36	*4.0 uL cal std/50 mL DI* BLANK	SAMP	05-14-2020 12:06 am	1.00	50 mL	50 mL	Y051306.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
37	VBLKW-200513	MBLK	05-14-2020 12:30 am	1.00	50 mL	50 mL	Y051307.D	Liquid	Y	NA
38	HS20050408-03	SAMP	05-14-2020 12:54 am	1.00	50 mL	50 mL	Y051308.D	Liquid	Y	NA
39	HS20050369-07	SAMP	05-14-2020 01:18 am	1.00	50 mL	50 mL	Y051309.D	Liquid	Y	NA
40	HS20050408-03MS	MS	05-14-2020 01:42 am	1.00	50 mL	50 mL	Y051310.D	Liquid	Y	NA
	3.5 uL cal std/40 mL samp									
41	HS20050408-03MSD	MSD	05-14-2020 02:06 am	1.00	50 mL	50 mL	Y051311.D	Liquid	Y	NA
	3.5 uL cal std/40 mL samp									
42	HS20050408-04	SAMP	05-14-2020 02:30 am	1.00	50 mL	50 mL	Y051312.D	Liquid	Y	NA
43	HS20050369-08	SAMP	05-14-2020 02:54 am	1.00	50 mL	50 mL	Y051313.D	Liquid	Y	NA
44	HS20050408-05	SAMP	05-14-2020 03:18 am	1.00	50 mL	50 mL	Y051314.D	Liquid	Y	NA
45	HS20050408-06	SAMP	05-14-2020 03:42 am	1.00	50 mL	50 mL	Y051315.D	Liquid	Y	NA
46	HS20050408-07	SAMP	05-14-2020 04:06 am	1.00	50 mL	50 mL	Y051316.D	Liquid	Y	NA
47	HS20050394-07	SAMP	05-14-2020 04:30 am	1.00	50 mL	50 mL	Y051317.D	Liquid	Y	NA
48	HS20050394-08	SAMP	05-14-2020 04:55 am	1.00	50 mL	50 mL	Y051318.D	Liquid	Y	NA
49	HS20050394-09	SAMP	05-14-2020 05:19 am	1.00	50 mL	50 mL	Y051319.D	Liquid	Y	NA
50	HS20050398-05	SAMP	05-14-2020 05:43 am	1.00	50 mL	50 mL	Y051320.D	Liquid	Y	NA
51	HS20050398-10	SAMP	05-14-2020 06:07 am	1.00	50 mL	50 mL	Y051321.D	Liquid	Y	NA
52	HS20050419-05	SAMP	05-14-2020 06:31 am	1.00	50 mL	50 mL	Y051322.D	Liquid	Y	NA
53	HS20050419-06	SAMP	05-14-2020 06:55 am	1.00	50 mL	50 mL	Y051323.D	Liquid	Y	NA
54	HS20050419-01	SAMP	05-14-2020 07:19 am	1.00	50 mL	50 mL	Y051324.D	Liquid	Y	NA
55	HS20050419-02	SAMP	05-14-2020 07:43 am	1.00	50 mL	50 mL	Y051325.D	Liquid	Y	NA
56	HS20050419-03	SAMP	05-14-2020 08:07 am	1.00	50 mL	50 mL	Y051326.D	Liquid	Y	NA
57	HS20050419-04	SAMP	05-14-2020 08:31 am	1.00	50 mL	50 mL	Y051327.D	Liquid	Y	NA
58	HS20050369-04	SAMP	05-14-2020 08:55 am	5.00	10 mL	50 mL	Y051328.D	Liquid	Y	NA
59	HS20050322-03	SAMP	05-14-2020 09:19 am	10.00	5 mL	50 mL	Y051329.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-6-06
IS ID	31106-6-06
CAL STD ID	31106-29-01/02
BFB ID	31106-26-06
pH Paper	634-64-11

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051301.D Page 2

Date : 13-MAY-2020 10:05

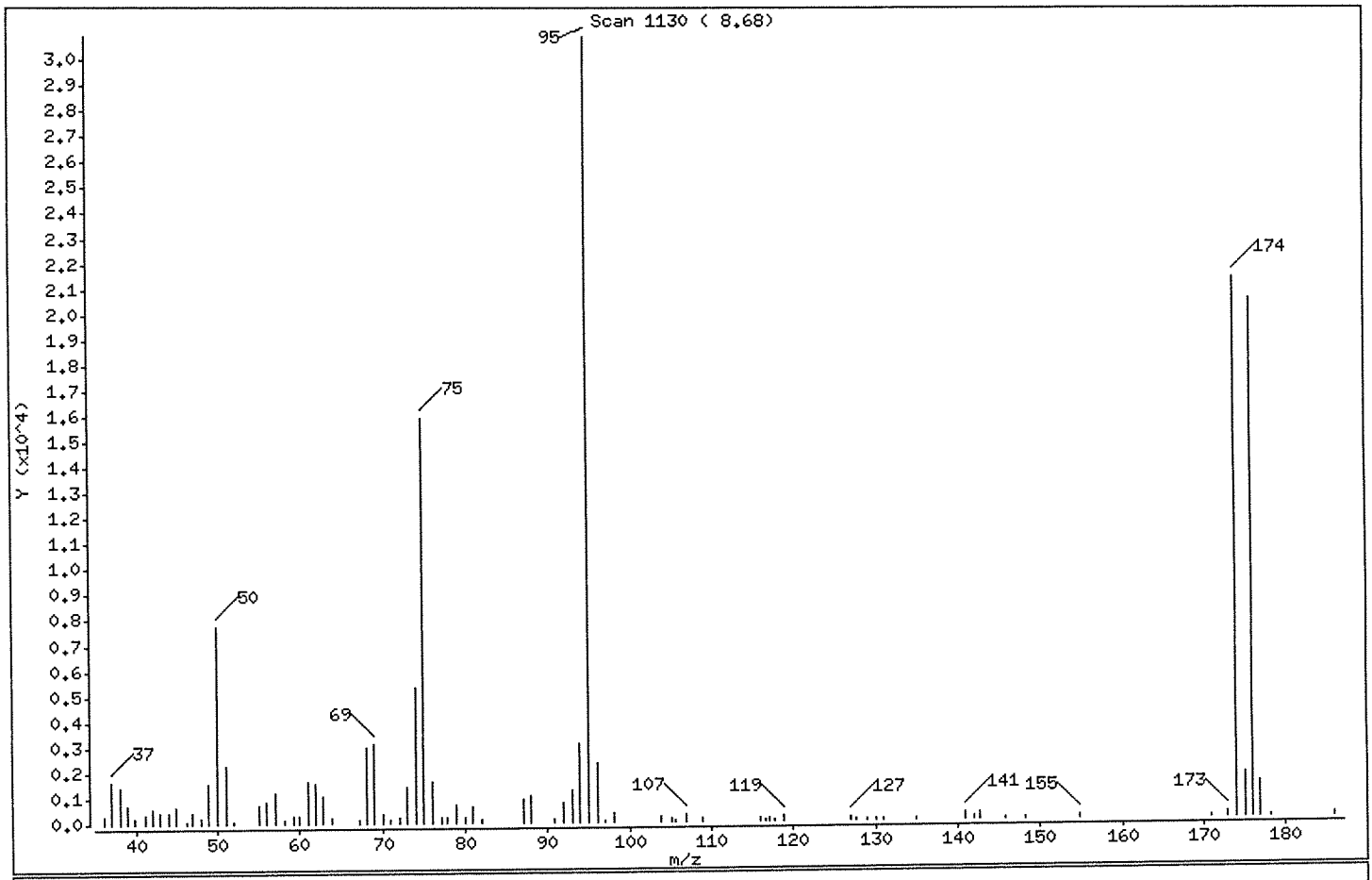
Client ID: BFB Instrument: voa6.i

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	25.15
75	30.00 - 60.00% of mass 95	51.39
96	5.00 - 9.00% of mass 95	7.59
173	Less than 2.00% of mass 174	0.79 (1.15)
174	Greater than 50.00% of mass 95	69.09
175	5.00 - 9.00% of mass 174	5.65 (8.18)
176	95.00 - 101.00% of mass 174	66.53 (96.29)
177	5.00 - 9.00% of mass 176	4.49 (6.76)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051301.D

Date : 13-MAY-2020 10:05

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: X051301.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 83

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	309	59.20	280	82.00	147	127.00	151
37.00	1664	59.90	306	87.00	916	127.70	92
38.00	1455	61.00	1619	88.00	1057	128.90	77
39.00	730	62.00	1581	90.90	115	130.10	95
39.90	202	62.90	1062	92.00	750	131.00	65
41.10	333	63.90	189	93.10	1269	134.90	51
42.00	548	67.10	147	94.00	3100	140.90	304
43.00	399	68.00	2996	95.00	30928	141.90	161
44.00	437	69.00	3093	96.10	2347	142.70	262
45.00	616	70.00	358	96.90	50	145.70	58
46.20	96	71.00	158	98.10	342	148.10	85
47.00	414	72.00	238	103.90	196	154.80	150
48.10	241	73.00	1402	105.10	143	170.90	62
49.00	1598	74.00	5329	105.70	57	172.90	245
50.00	7778	75.00	15893	106.90	285	174.00	21368
51.00	2272	76.10	1610	108.80	159	175.00	1747
52.00	52	77.10	225	116.00	112	176.00	20576
55.00	746	77.80	192	116.60	97	176.90	1390
56.00	848	78.80	701	117.10	112	178.10	55
57.00	1200	79.90	244	117.80	78	186.00	160
58.10	123	80.80	663	118.80	204		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051301.D

Date : 13-MAY-2020 10:05

Client ID: BFB

Instrument: voa6.i

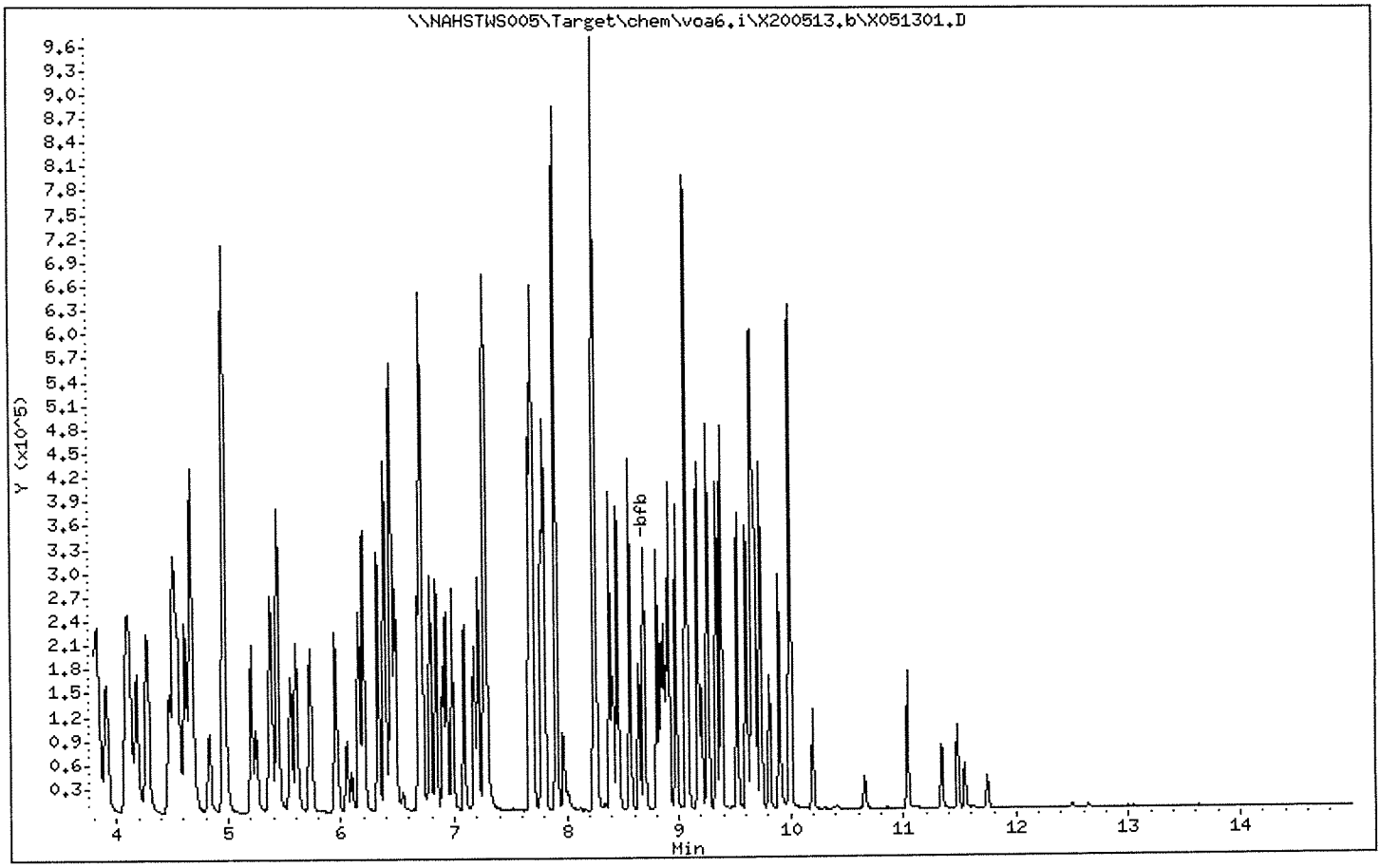
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051302.D Page 1
Report Date: 01-Jun-2020 14:21

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051302.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 13-MAY-2020 10:29
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200513.b\8260W.m
Meth Date : 01-Jun-2020 14:21 apoluri Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

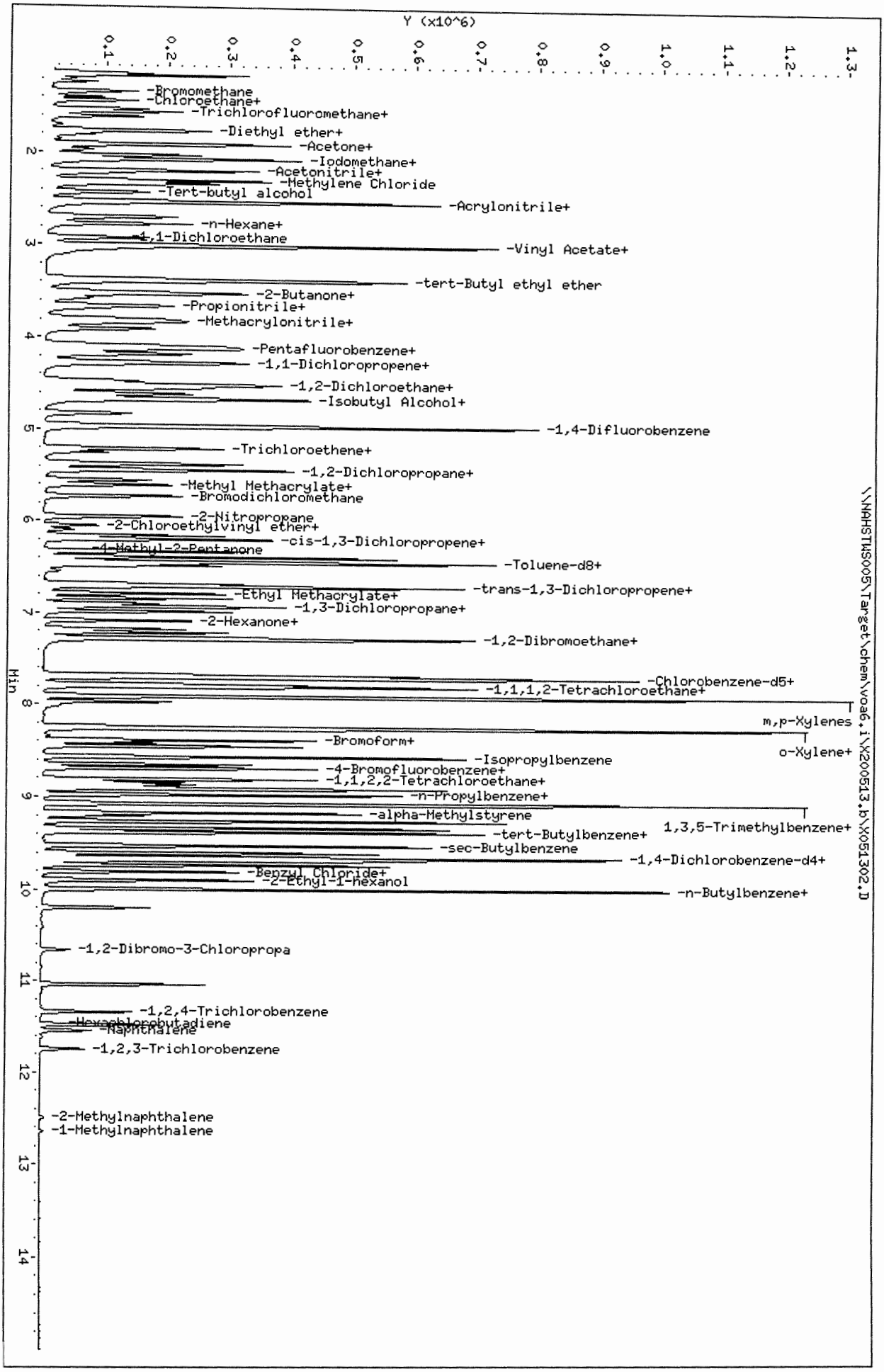
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	192545	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	273804	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	251220	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	130103	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	93656	50.0000	48.75
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	115801	50.0000	48.79
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	316832	50.0000	50.21
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	119585	50.0000	49.82
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	99832	50.0000	50.55
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	149291	50.0000	48.41
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	91309	50.0000	43.67
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	66028	50.0000	47.24
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	183416	50.0000	43.83
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	70572	50.0000	46.06
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	118114	50.0000	47.12
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	20426	50.0000	48.86
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	83715	50.0000	46.17(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	40048	50.0000	43.01
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	324574	50.0000	47.55
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	9534	50.0000	45.88
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	87938	50.0000	49.27
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	169033	50.0000	46.63

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	143743	50.0000	50.42
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	101931	50.0000	45.73
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	318011	50.0000	47.33
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	191475	50.0000	48.29
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	139062	50.0000	47.86
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	189971	50.0000	46.19
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	148545	50.0000	48.72
24	2-Butanone	43	3.573	3.573	(0.854)	81114	100.000	93.47
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	264909	50.0000	45.61
52	2-Hexanone	43	7.083	7.083	(0.923)	130769	100.000	84.17
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	309855	50.0000	46.28
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	323308	50.0000	47.31
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	194111	100.000	85.57
10	Acetone	43	1.969	1.969	(0.471)	58209	100.000	86.04
37	Benzene	78	4.512	4.512	(0.908)	328933	50.0000	46.99
74	Bromobenzene	156	8.810	8.810	(0.912)	116832	50.0000	47.89
29	Bromochloromethane	128	3.795	3.795	(0.908)	52608	50.0000	47.09
39	Bromodichloromethane	83	5.729	5.729	(1.153)	126222	50.0000	49.38
66	Bromoform	173	8.416	8.416	(1.097)	72823	50.0000	50.59
6	Bromomethane	94	1.339	1.339	(0.320)	66361	50.0000	46.81
19	Carbon Disulfide	76	2.069	2.069	(0.495)	478850	100.000	91.74
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	133306	50.0000	48.45
59	Chlorobenzene	112	7.692	7.692	(1.003)	241106	50.0000	48.43
7	Chloroethane	64	1.403	1.403	(0.336)	60604	50.0000	44.44
28	Chloroform	83	3.910	3.910	(0.935)	165807	50.0000	48.18
3	Chloromethane	50	1.073	1.073	(0.257)	122409	50.0000	40.45
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	96987	50.0000	47.74
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	146965	50.0000	49.09
55	Dibromochloromethane	129	7.176	7.176	(0.936)	102820	50.0000	50.56
44	Dibromomethane	93	5.558	5.558	(1.118)	58694	50.0000	48.55
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	104956	50.0000	46.74
61	Ethylbenzene	106	7.800	7.800	(1.017)	125086	50.0000	47.88
91	Hexachlorobutadiene	225	11.489	11.489	(1.189)	32957	50.0000	46.46
67	Isopropylbenzene	105	8.566	8.566	(1.117)	374081	50.0000	47.75
62	m,p-Xylenes	106	7.907	7.907	(1.031)	307269	100.000	96.90
17	Methylene Chloride	84	2.306	2.306	(0.551)	89319	50.0000	47.07
87	n-Butylbenzene	91	9.999	9.999	(1.035)	268913	50.0000	48.77
73	n-Propylbenzene	91	8.917	8.917	(0.923)	423939	50.0000	45.32
92	Naphthalene	128	11.546	11.546	(1.195)	58379	50.0000	47.66
63	o-Xylene	106	8.244	8.244	(1.075)	149088	50.0000	48.32
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	361639	50.0000	45.89
64	Styrene	104	8.258	8.258	(1.077)	262834	50.0000	49.15
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	263056	50.0000	46.11
56	Tetrachloroethene	164	6.933	6.933	(0.904)	81720	50.0000	49.31
50	Toluene	91	6.446	6.446	(0.840)	356415	50.0000	47.93
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	84525	50.0000	48.25
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	136875	50.0000	50.42
38	Trichloroethene	130	5.207	5.207	(1.048)	97287	50.0000	49.51
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	151275	50.0000	48.83
5	Vinyl Chloride	62	1.138	1.138	(0.272)	112106	50.0000	42.00

QC Flag Legend

M - Compound response manually integrated.



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Date : 13-MAY-2020 10:29
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\X200513.b\X051305.D Page 1
Report Date: 01-Jun-2020 14:21

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051305.D
Lab Smp Id: VLCSW-200513 Client Smp ID: VLCSW-200513
Inj Date : 13-MAY-2020 11:41
Operator : PC Inst ID: voa6.i
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Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200513.b\8260W.m
Meth Date : 01-Jun-2020 14:21 apoluri Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

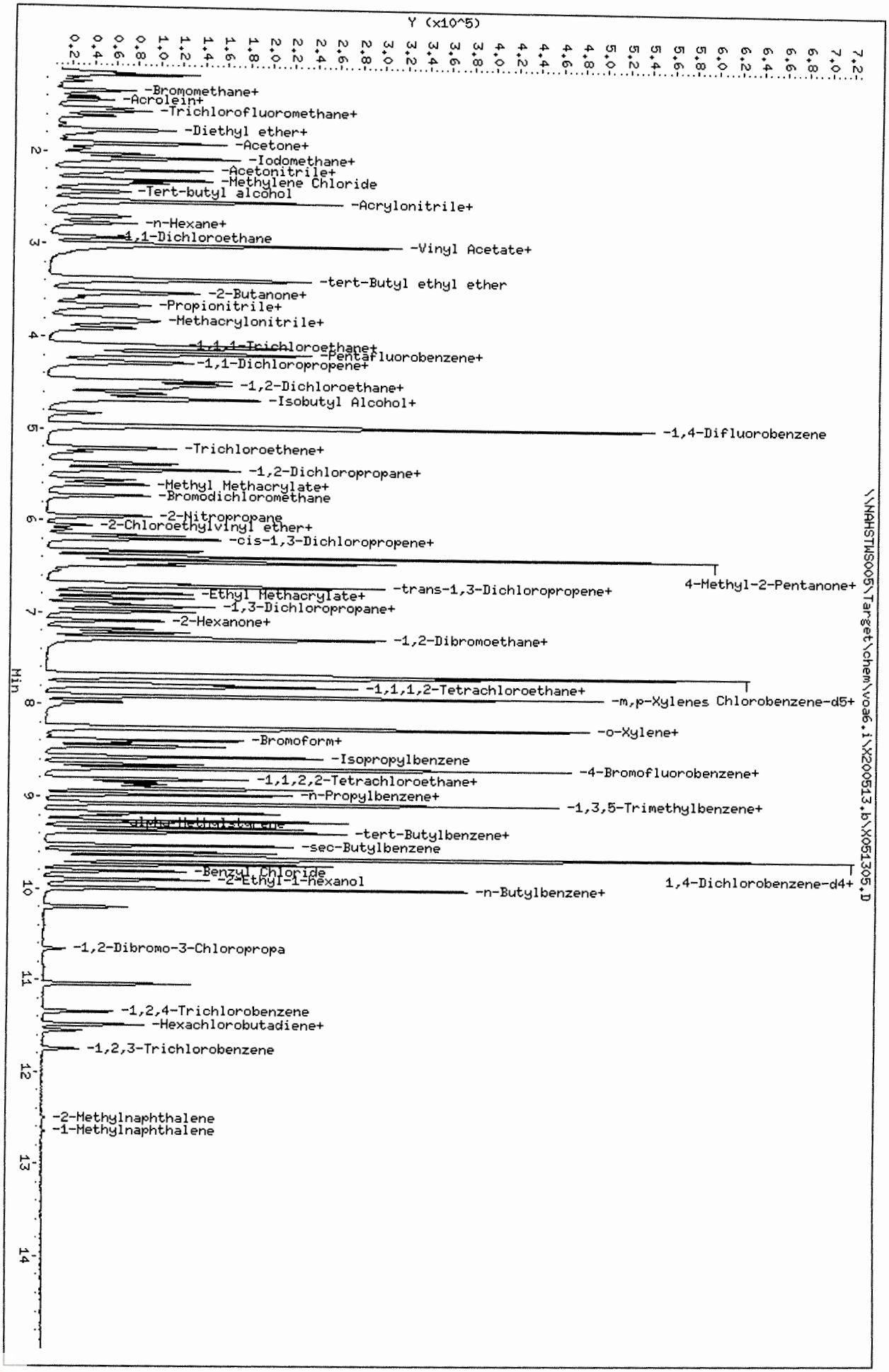
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	196278	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	291350	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	264248	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	136866	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	102139	52.1738	52.17
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	124551	51.4887	51.48
$	48 Toluene-d8	98	6.388	6.388	(0.833)	339586	51.1805	51.18
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	131273	52.0296	52.02
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	39714	19.1207	19.12
	31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	58756	18.6929	18.69
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	40998	18.6395	18.63
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	28294	19.2487	19.24
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	76902	18.0278	18.02
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	28106	17.9986	17.99
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	47254	17.7169	17.71
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	8992	20.8239	20.82
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	36281	19.0230	19.02(M)
	90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.174)	17547	19.4576	19.45
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	122141	17.0128	17.01
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	4271	20.3826	20.38
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	38533	20.5250	20.52
	88 1,2-Dichlorobenzene	146	9.999	9.991	(1.035)	67414	17.6810	17.68

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051305.D Page 2
Report Date: 01-Jun-2020 14:21

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	63210	20.8371	20.83
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	43541	18.3598	18.35
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	117877	16.6801	16.68
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	73917	17.7232	17.72
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	59773	19.5613	19.56
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	74639	17.2533	17.25
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	60802	19.5648	19.56
24	2-Butanone	43	3.581	3.573	(0.856)	38083	43.0511	43.05
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	102175	16.7253	16.72
52	2-Hexanone	43	7.090	7.083	(0.924)	59850	36.6259	36.62
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	119282	16.9369	16.93
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	117949	16.4068	16.40
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	85014	35.6319	35.63
10	Acetone	43	1.969	1.969	(0.471)	24187	33.5173	33.51
37	Benzene	78	4.512	4.512	(0.908)	136691	18.3545	18.35
74	Bromobenzene	156	8.810	8.810	(0.912)	46272	18.0328	18.03
29	Bromochloromethane	128	3.795	3.795	(0.908)	22018	19.3340	19.33
39	Bromodichloromethane	83	5.729	5.729	(1.153)	53928	19.8294	19.82
66	Bromoform	173	8.416	8.416	(1.097)	29886	19.7399	19.73
6	Bromomethane	94	1.339	1.339	(0.320)	30314	20.5671	20.56
19	Carbon Disulfide	76	2.069	2.069	(0.495)	195265	36.7021	36.70
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	51871	17.7198	17.71
59	Chlorobenzene	112	7.692	7.692	(1.003)	97031	18.5331	18.53
7	Chloroethane	64	1.403	1.403	(0.336)	24993	17.7277	17.72
28	Chloroform	83	3.910	3.910	(0.935)	70059	19.9736	19.97
3	Chloromethane	50	1.074	1.073	(0.257)	51404	17.0358	17.03
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	40942	19.7732	19.77
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	61837	19.4149	19.41
55	Dibromochloromethane	129	7.176	7.176	(0.936)	42298	19.7768	19.77
44	Dibromomethane	93	5.558	5.558	(1.118)	26078	20.2738	20.27
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	41190	18.6521	18.65
61	Ethylbenzene	106	7.800	7.800	(1.017)	48989	17.8285	17.82
91	Hexachlorobutadiene	225	11.481	11.489	(1.188)	15542	21.3625	21.36
67	Isopropylbenzene	105	8.566	8.566	(1.117)	138725	16.8349	16.83
62	m,p-Xylenes	106	7.907	7.907	(1.031)	116312	34.8737	34.87
17	Methylene Chloride	84	2.306	2.306	(0.551)	37759	18.8937	18.89
87	n-Butylbenzene	91	9.999	9.999	(1.035)	95785	16.5135	16.51
73	n-Propylbenzene	91	8.917	8.917	(0.923)	156868	15.9422	15.94
92	Naphthalene	128	11.546	11.546	(1.195)	23788	18.4611	18.46
63	o-Xylene	106	8.244	8.244	(1.075)	56974	17.5575	17.55
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	130488	15.7407	15.74 (M)
64	Styrene	104	8.258	8.258	(1.077)	106037	18.8544	18.85
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	94145	15.6902	15.69
56	Tetrachloroethene	164	6.933	6.933	(0.904)	29605	16.9840	16.98
50	Toluene	91	6.446	6.446	(0.840)	145601	18.6182	18.61
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	35506	19.8857	19.88
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	55942	19.3677	19.36
38	Trichloroethene	130	5.207	5.207	(1.048)	39142	18.7235	18.72
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	58533	18.5351	18.53
5	Vinyl Chloride	62	1.138	1.138	(0.272)	46773	17.1905	17.19

QC Flag Legend

M - Compound response manually integrated.



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Sample Info: VLCSW-200513;VLCSW-200513;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\X200513.b\X051307.D
Lab Smp Id: VBLKW-200513 Client Smp ID: VBLKW-200513
Inj Date : 13-MAY-2020 12:29
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Comment :
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Meth Date : 01-Jun-2020 14:21 apoluri Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

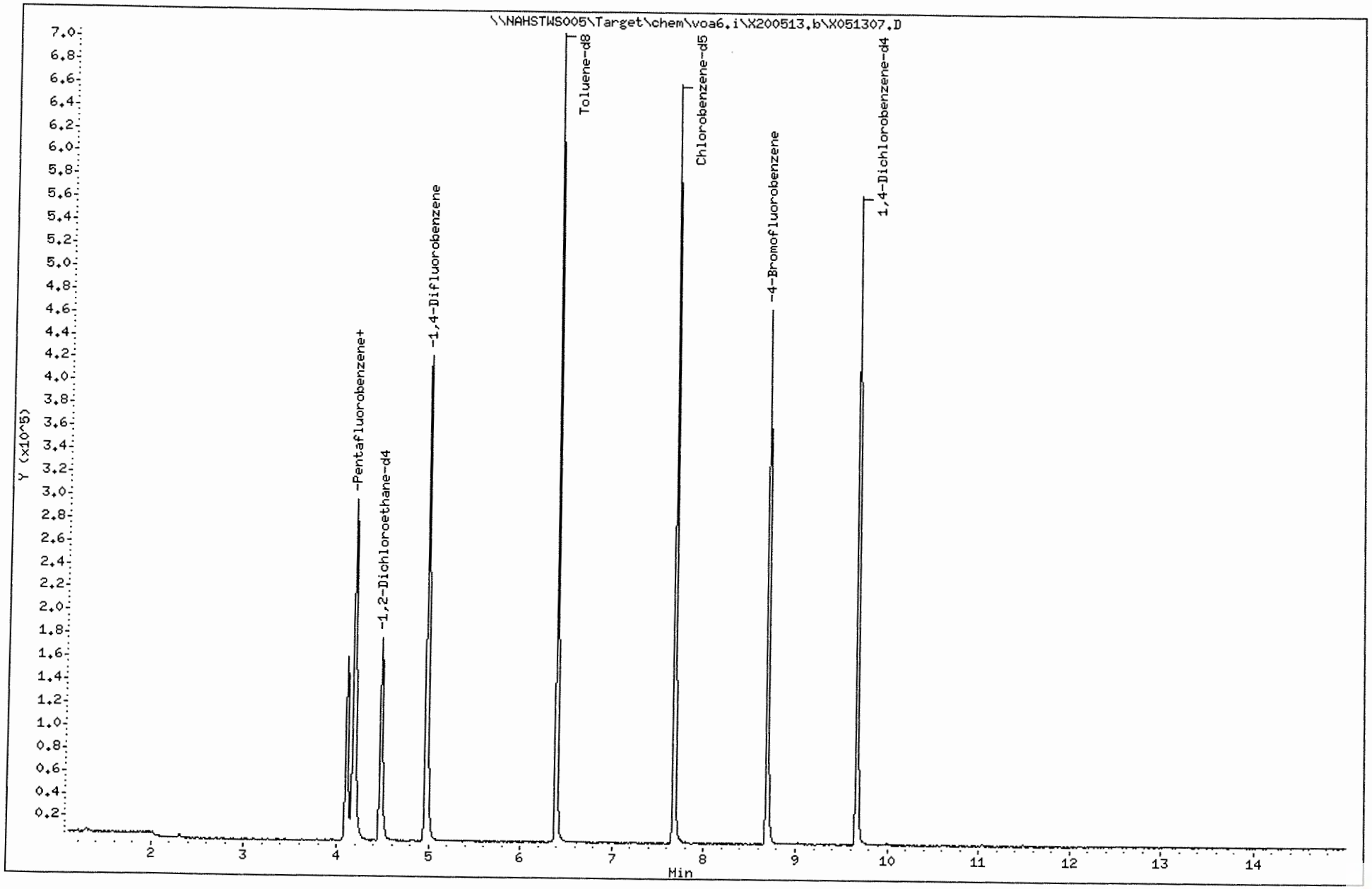
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	253415	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	343878	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	295968	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	143857	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	117009	46.2661	46.26
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	140379	44.9429	44.94
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	404570	54.4693	54.46
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	136504	48.2493	48.24

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051307.D
Date : 13-MAY-2020 12:29
Client ID: VBLKW-200513
Sample Info: VBLKW-200513;VBLKW-200513;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\X200513.b\X051316.D Page 1
Report Date: 01-Jun-2020 14:21

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051316.D
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Inj Date : 13-MAY-2020 16:05
Operator : PC Inst ID: voa6.i
Smp Info : HS20050423-01MS;HS20050423-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200513.b\8260W.m
Meth Date : 01-Jun-2020 14:21 apoluri Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 16 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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	4.182	4.182	(1.000)	240327	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	324960	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	281344	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	136669	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	107751	44.9186	44.91
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	133014	44.9040	44.90
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	372696	52.7718	52.77
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	134646	50.0954	50.09
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	46697	21.1166	21.11
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	73501	19.0979	19.09
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	46487	21.1655	21.16
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	31712	20.2630	20.26
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	88840	17.0092	17.00
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	33839	17.6981	17.69
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	58412	19.6352	19.63
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	8990	20.8492	20.84
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	40335	21.1791	21.17(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	17478	19.4156	19.41
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	157780	22.0085	22.00
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	5170	24.3966	24.39
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	42716	21.3705	21.37
88 1,2-Dichlorobenzene	146	9.999	9.991	(1.034)	79123	20.7819	20.78

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051316.D Page 2
Report Date: 01-Jun-2020 14:21

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33 1,2-Dichloroethane	62	4.555	4.562	(0.916)	68687	20.3008	20.30
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	48736	18.4249	18.42
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	151879	21.5225	21.52
83 1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	86048	20.6616	20.66
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	66238	20.3598	20.35
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	87900	20.3479	20.34
26 2,2-Dichloropropane	77	3.516	3.509	(0.841)	72099	18.9477	18.94
24 2-Butanone	43	3.581	3.573	(0.856)	42165	38.9291	38.92
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	127500	20.9009	20.90
52 2-Hexanone	43	7.090	7.083	(0.924)	71954	41.3574	41.35
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	144007	20.4770	20.47
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	147489	20.5454	20.54
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	105830	41.6612	41.66
10 Acetone	43	1.976	1.969	(0.473)	29515	33.3952	33.39
37 Benzene	78	4.512	4.512	(0.908)	159195	19.1654	19.16
74 Bromobenzene	156	8.810	8.810	(0.911)	54567	21.2961	21.29
29 Bromochloromethane	128	3.795	3.795	(0.908)	24812	17.7940	17.79
39 Bromodichloromethane	83	5.729	5.729	(1.153)	59724	19.6893	19.68
66 Bromoform	173	8.416	8.416	(1.097)	33843	20.9952	20.99
6 Bromomethane	94	1.331	1.339	(0.318)	30427	16.7253	16.72
19 Carbon Disulfide	76	2.069	2.069	(0.495)	213749	32.8125	32.81
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	65219	19.9753	19.97
59 Chlorobenzene	112	7.699	7.692	(1.004)	113691	20.3956	20.39
7 Chloroethane	64	1.403	1.403	(0.336)	25999	14.9978	14.99
28 Chloroform	83	3.910	3.910	(0.935)	78192	18.2064	18.20
3 Chloromethane	50	1.073	1.073	(0.257)	48850	13.3625	13.36
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	46664	18.4060	18.40
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	69925	19.6836	19.68
55 Dibromochloromethane	129	7.176	7.176	(0.936)	48936	21.4902	21.49
44 Dibromomethane	93	5.558	5.558	(1.118)	28378	19.7801	19.78
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	27198	10.5493	10.54
61 Ethylbenzene	106	7.800	7.800	(1.017)	62849	21.4827	21.48
91 Hexachlorobutadiene	225	11.489	11.489	(1.188)	10760	15.1073	15.10
67 Isopropylbenzene	105	8.566	8.566	(1.117)	185726	21.1691	21.16
62 m,p-Xylenes	106	7.907	7.907	(1.031)	152411	42.9204	42.92
17 Methylene Chloride	84	2.306	2.306	(0.551)	41692	16.9327	16.93
87 n-Butylbenzene	91	9.999	9.999	(1.034)	113928	19.6697	19.66
73 n-Propylbenzene	91	8.917	8.917	(0.922)	206926	21.0599	21.05
92 Naphthalene	128	11.546	11.546	(1.194)	30506	23.7089	23.70
63 o-Xylene	106	8.244	8.244	(1.075)	73472	21.2658	21.26
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	161911	19.5594	19.55
64 Styrene	104	8.258	8.258	(1.077)	123076	20.5543	20.55
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	125663	20.9732	20.97
56 Tetrachloroethene	164	6.933	6.933	(0.904)	40126	21.6209	21.62
50 Toluene	91	6.446	6.446	(0.840)	181288	21.7729	21.77
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	40767	18.6473	18.64
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	64112	19.9005	19.90
38 Trichloroethene	130	5.207	5.207	(1.048)	46708	20.0318	20.03
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	71879	18.5894	18.58
5 Vinyl Chloride	62	1.138	1.138	(0.272)	48535	14.5686	14.56

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051316.D
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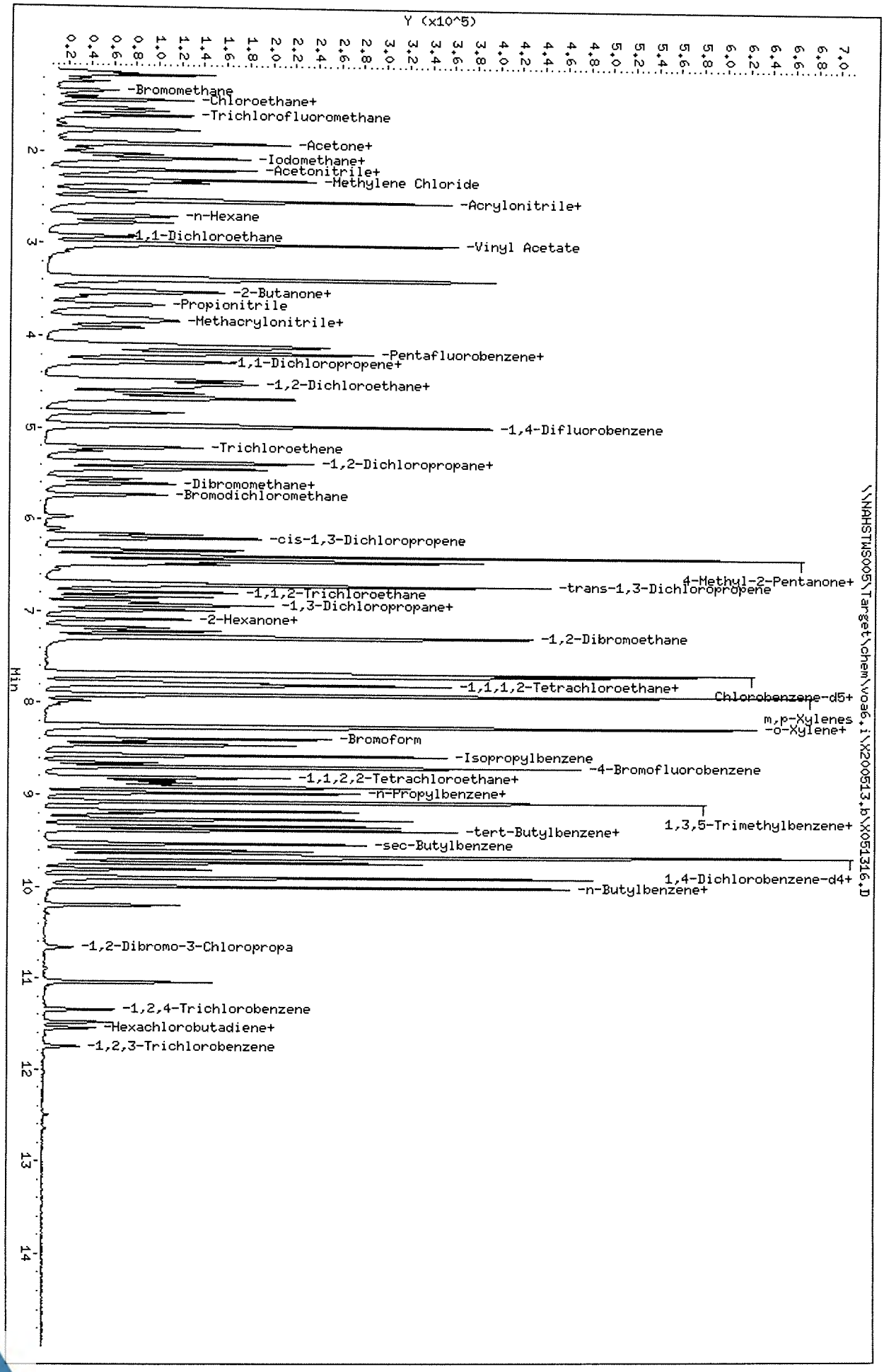
Client ID: HS20050423-01MS
Sample Info: HS20050423-01MS,HS20050423-01MS,3,,MS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051317.D Page 1
Report Date: 01-Jun-2020 14:21

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051317.D
Lab Smp Id: HS20050423-01MSD Client Smp ID: HS20050423-01MSD
Inj Date : 13-MAY-2020 16:30
Operator : PC Inst ID: voa6.i
Smp Info : HS20050423-01MSD;HS20050423-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200513.b\8260W.m
Meth Date : 01-Jun-2020 14:21 apoluri Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 16 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

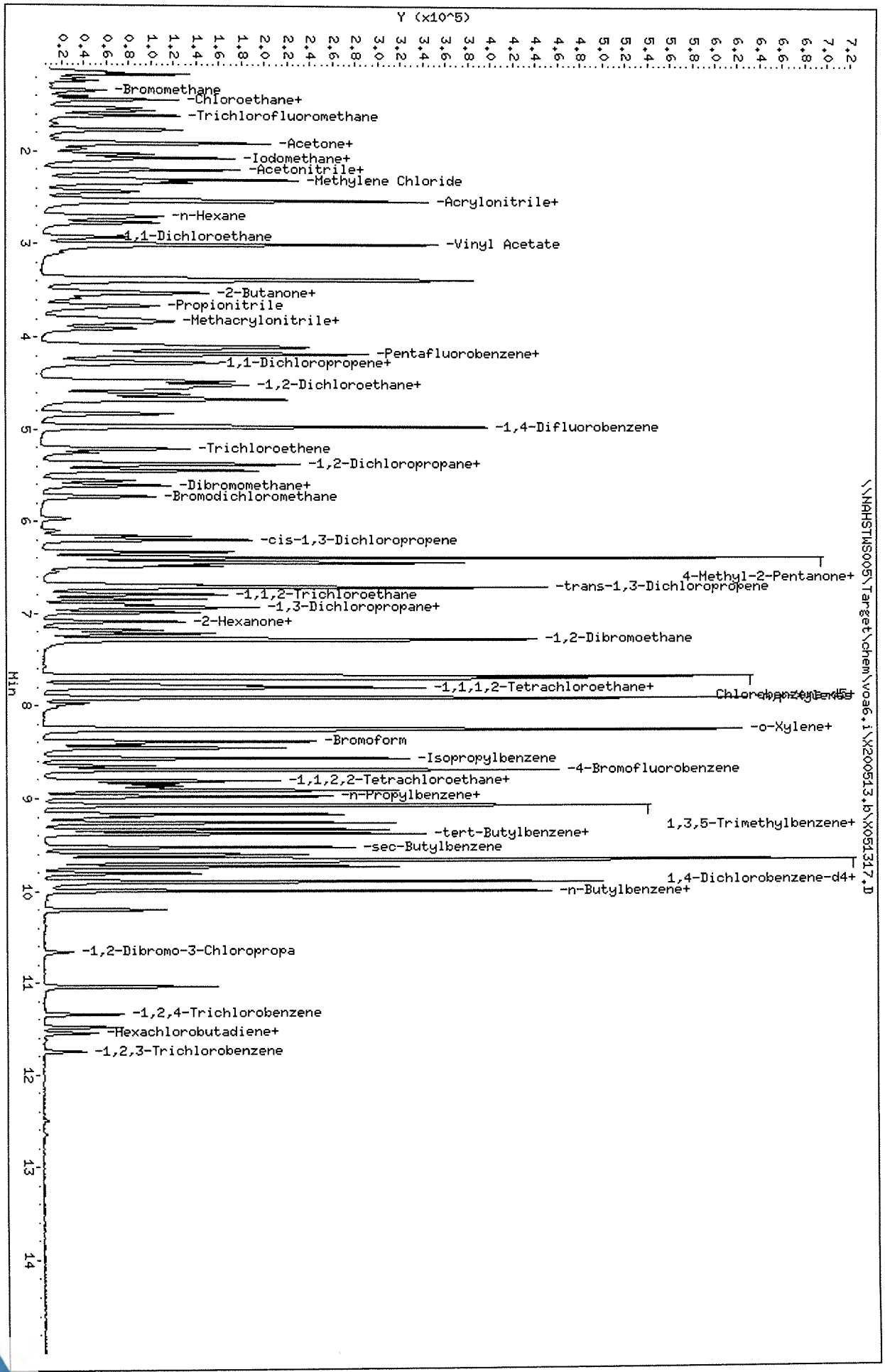
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	237934	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	330094	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	280434	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	137543	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	108677	45.7648	45.76
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	135514	46.2092	46.20
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	379897	53.9765	53.97
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	132532	49.4592	49.45
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	44046	19.9824	19.98
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	71265	18.7032	18.70
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	45560	20.6116	20.61
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	31038	19.8967	19.89
22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	85511	16.5365	16.53
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	32106	16.9606	16.96
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	55694	18.4304	18.43
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	10652	24.5265	24.52
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	39793	20.7618	20.76(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	19364	21.1075	21.10
79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.971)	150237	20.8232	20.82
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.104)	5044	23.6957	23.69
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	43020	21.5925	21.59
88 1,2-Dichlorobenzene	146	9.998	9.991	(1.035)	77065	20.1127	20.11

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051317.D Page 2
Report Date: 01-Jun-2020 14:21

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	69326	20.1709	20.17
42 1,2-Dichloropropane	63	5.443	5.436	(1.095)	45774	17.0359	17.03
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	145435	20.4784	20.47
83 1,3-Dichlorobenzene	146	9.604	9.605	(0.994)	85203	20.3287	20.32
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	64113	19.7706	19.77
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	85125	19.5803	19.58
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	66002	17.5198	17.51
24 2-Butanone	43	3.580	3.573	(0.856)	40155	37.4462	37.44
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	120596	19.6435	19.64
52 2-Hexanone	43	7.090	7.083	(0.924)	70225	40.4946	40.49
77 4-Chlorotoluene	91	9.074	9.075	(0.939)	139417	19.6984	19.69
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	140222	19.4089	19.40
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	106233	41.9555	41.95
10 Acetone	43	1.976	1.969	(0.473)	29811	34.1224	34.12
37 Benzene	78	4.512	4.512	(0.908)	153513	18.1939	18.19
74 Bromobenzene	156	8.809	8.810	(0.912)	54133	20.9925	20.99
29 Bromochloromethane	128	3.802	3.795	(0.909)	23787	17.2305	17.23
39 Bromodichloromethane	83	5.729	5.729	(1.153)	57331	18.6064	18.60
66 Bromoform	173	8.415	8.416	(1.097)	33454	20.8213	20.82
6 Bromomethane	94	1.338	1.339	(0.320)	27773	15.3617	15.36
19 Carbon Disulfide	76	2.069	2.069	(0.495)	202320	31.3704	31.37
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	63457	19.1334	19.13
59 Chlorobenzene	112	7.699	7.692	(1.004)	109865	19.7732	19.77
7 Chloroethane	64	1.396	1.403	(0.334)	27260	15.9083	15.90
28 Chloroform	83	3.910	3.910	(0.935)	76608	18.0169	18.01
3 Chloromethane	50	1.073	1.073	(0.257)	44538	12.3551	12.35
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	43828	17.4612	17.46
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	66832	18.5204	18.52
55 Dibromochloromethane	129	7.176	7.176	(0.936)	48103	21.1929	21.19
44 Dibromomethane	93	5.557	5.558	(1.118)	28131	19.3029	19.30
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	26678	10.4615	10.46
61 Ethylbenzene	106	7.799	7.800	(1.017)	59267	20.3241	20.32
91 Hexachlorobutadiene	225	11.481	11.489	(1.188)	11902	16.5087	16.50
67 Isopropylbenzene	105	8.566	8.566	(1.117)	177612	20.3099	20.30
62 m,p-Xylenes	106	7.907	7.907	(1.031)	145067	40.9849	40.98
17 Methylene Chloride	84	2.305	2.306	(0.551)	41273	16.9310	16.93
87 n-Butylbenzene	91	9.998	9.999	(1.035)	111015	19.0450	19.04
73 n-Propylbenzene	91	8.917	8.917	(0.923)	199180	20.1427	20.14
92 Naphthalene	128	11.546	11.546	(1.195)	32977	25.4665	25.46
63 o-Xylene	106	8.244	8.244	(1.075)	71932	20.8876	20.88
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	158438	19.0182	19.01
64 Styrene	104	8.258	8.258	(1.077)	119514	20.0242	20.02
78 tert-Butylbenzene	119	9.339	9.340	(0.967)	121730	20.1877	20.18
56 Tetrachloroethene	164	6.933	6.933	(0.904)	38909	21.0332	21.03
50 Toluene	91	6.446	6.446	(0.840)	171460	20.6593	20.65
20 trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	38530	17.8013	17.80
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	62352	19.0532	19.05
38 Trichloroethene	130	5.214	5.207	(1.049)	44757	18.8965	18.89
8 Trichlorofluoromethane	101	1.560	1.561	(0.373)	66296	17.3179	17.31
5 Vinyl Chloride	62	1.138	1.138	(0.272)	44479	13.4854	13.48

QC Flag Legend

M - Compound response manually integrated.



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Client ID: HS20050423-01MSD
Sample Info: HS20050423-01MSD;HS20050423-01MSD;3;;WSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051319.D Page 1
Report Date: 01-Jun-2020 14:21

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051319.D
Lab Smp Id: HS20050456-01 Client Smp ID: HS20050456-01
Inj Date : 13-MAY-2020 17:18
Operator : PC Inst ID: voa6.i
Smp Info : HS20050456-01;HS20050456-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200513.b\8260W.m
Meth Date : 01-Jun-2020 14:21 apoluri Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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	4.182	4.182	(1.000)	253301	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	349764	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	297355	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	146002	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	115853	45.8273	45.82
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	140166	44.8948	44.89
$	48 Toluene-d8	98	6.388	6.388	(0.833)	401641	53.8172	53.81
$	69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	140766	49.5440	49.54
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	3541	0.97234	0.97(a)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	54669	20.4590	20.45
	38 Trichloroethene	130	5.214	5.207	(1.049)	10111	4.02882	4.02

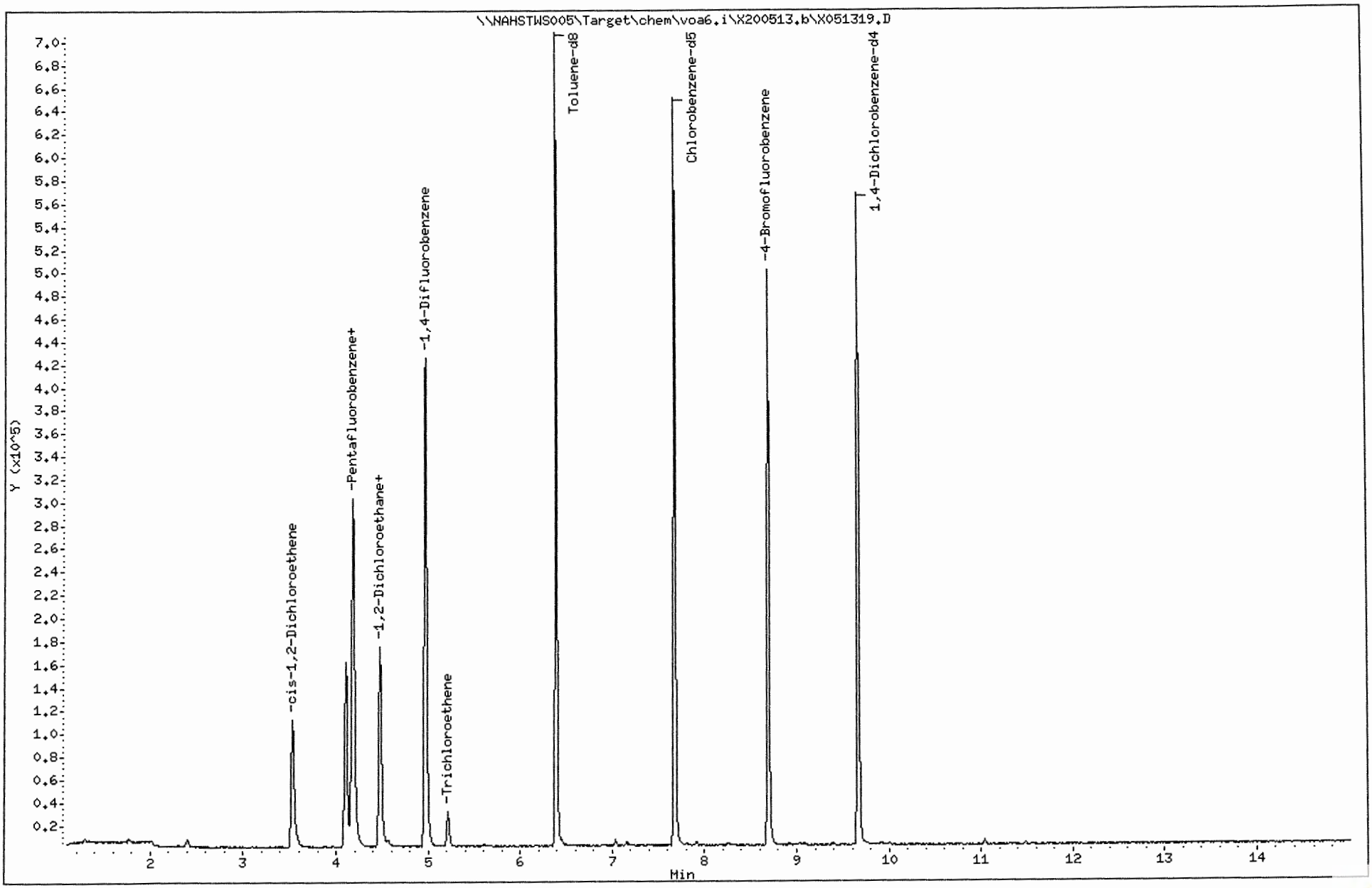
QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051319.D
Date : 13-MAY-2020 17:18
Client ID: HS20050456-01
Sample Info: HS20050456-01;HS20050456-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



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Date : 13-MAY-2020 17:18

Client ID: HS20050456-01

Instrument: voa6.i

Sample Info: HS20050456-01;HS20050456-01;;;

Purge Volume: 5.0

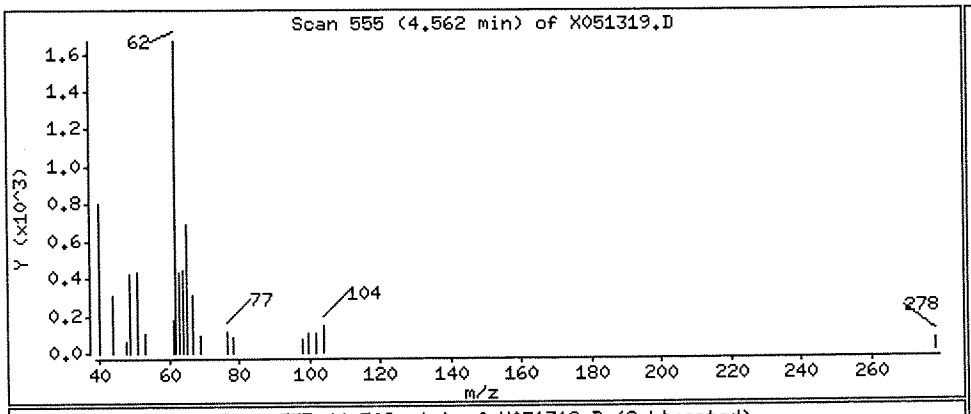
Operator: PC

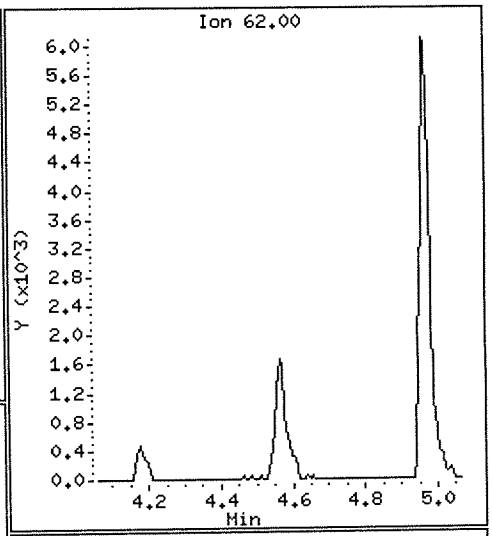
Column phase: DB624

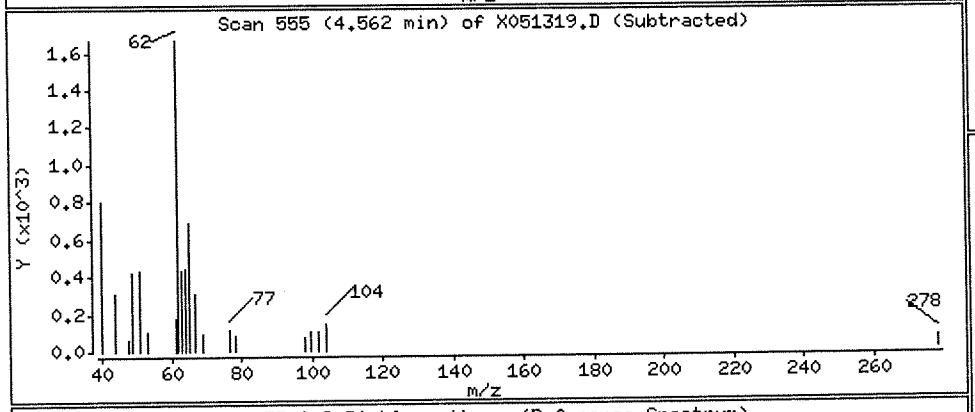
Column diameter: 0.18

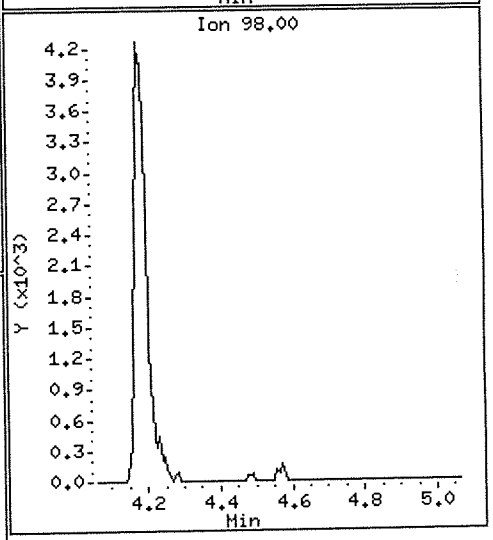
33 1,2-Dichloroethane

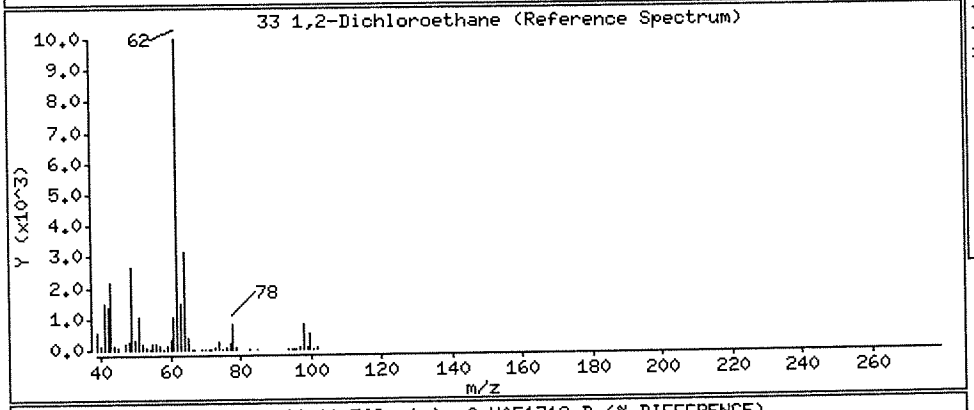
Concentration: 0.97 ug/l

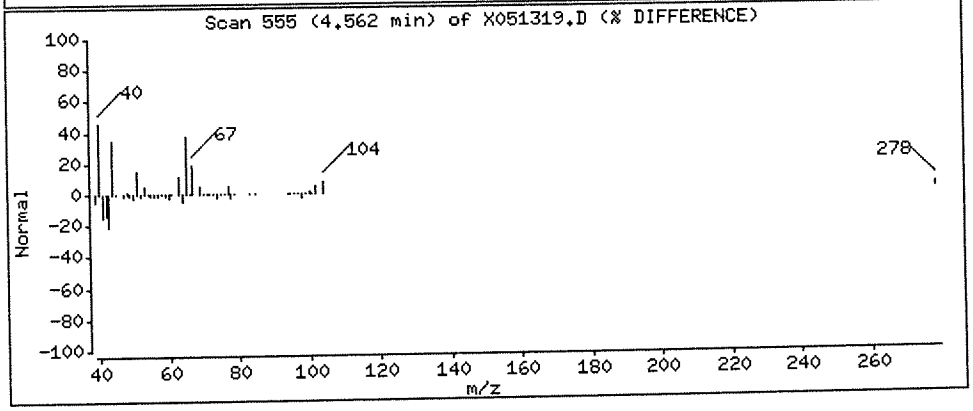












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Date : 13-MAY-2020 17:18

Client ID: HS20050456-01

Instrument: voa6.i

Sample Info: HS20050456-01;HS20050456-01;;;

Purge Volume: 5.0

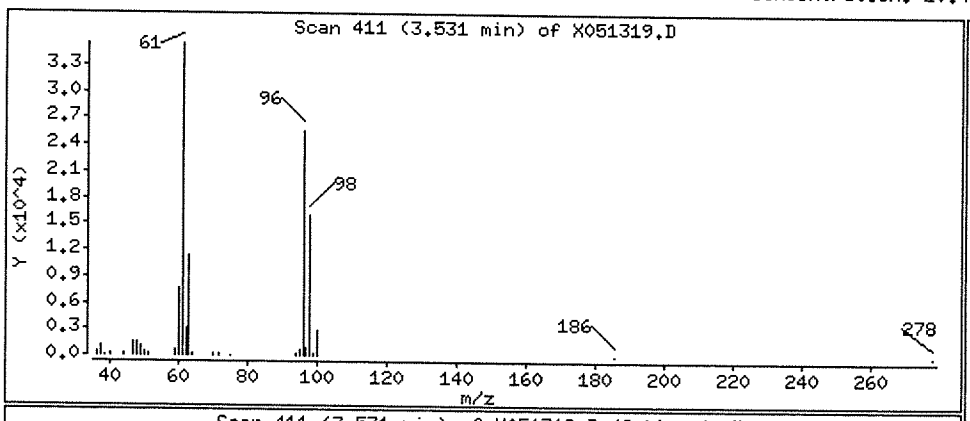
Operator: PC

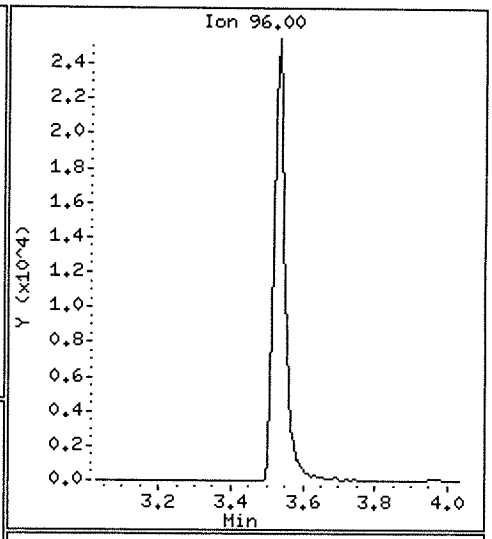
Column phase: DB624

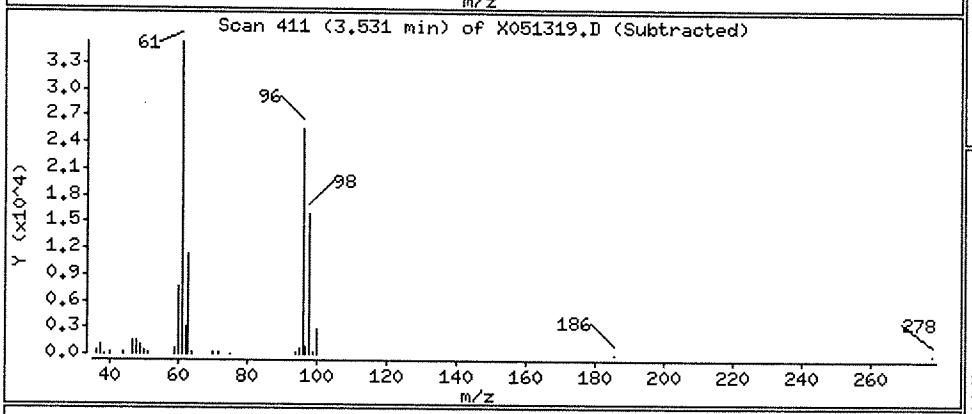
Column diameter: 0.18

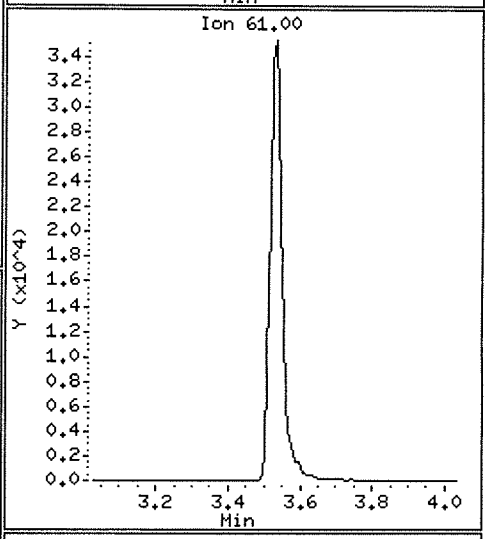
27 cis-1,2-Dichloroethene

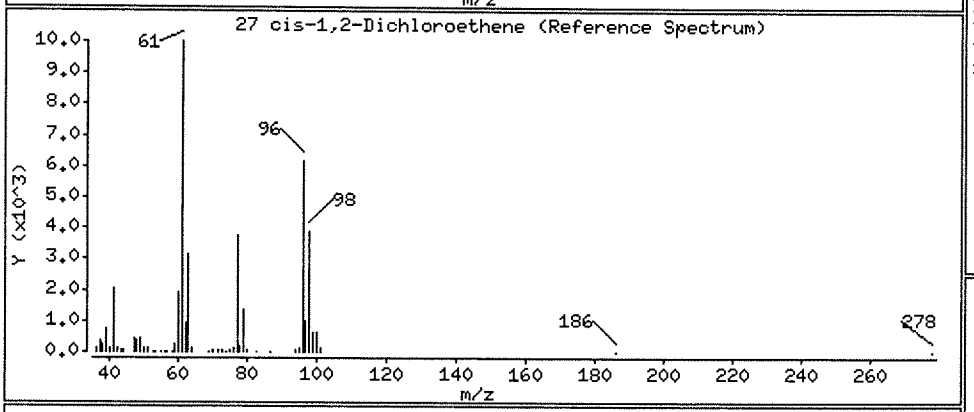
Concentration: 20.45 ug/l

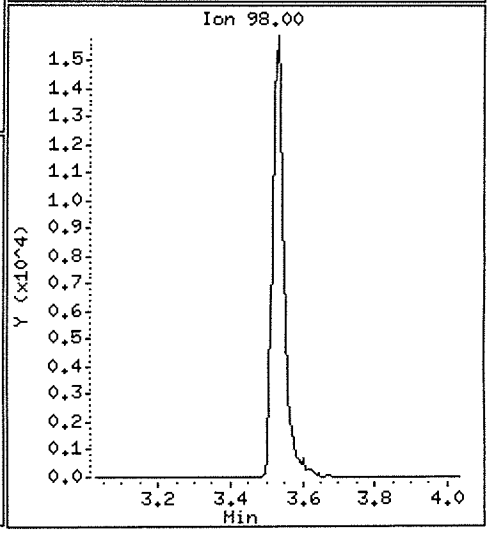


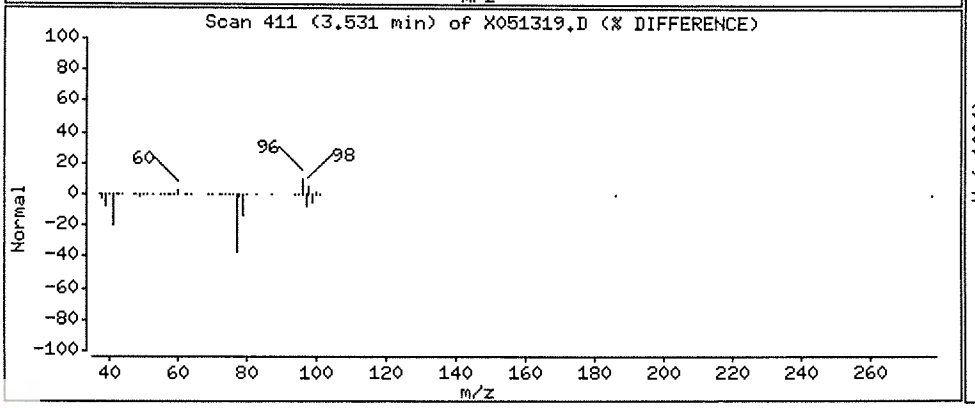












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051319.D

Date : 13-MAY-2020 17:18

Client ID: HS20050456-01

Instrument: voa6.i

Sample Info: HS20050456-01;HS20050456-01;;;

Purge Volume: 5.0

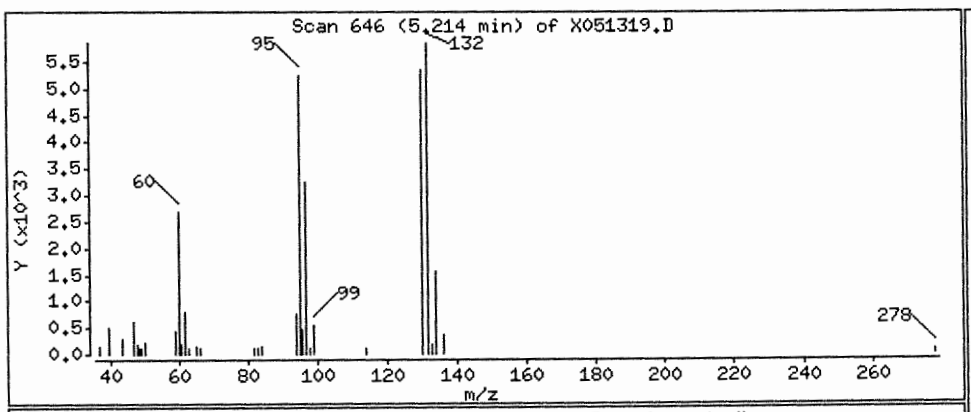
Operator: PC

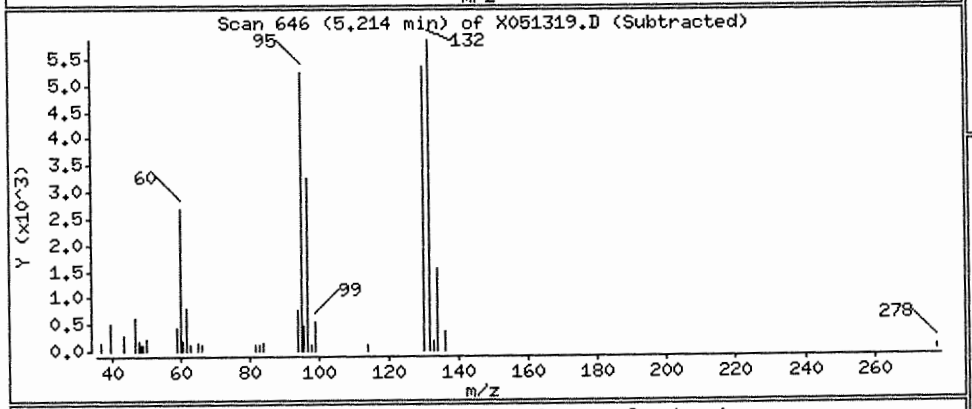
Column phase: DB624

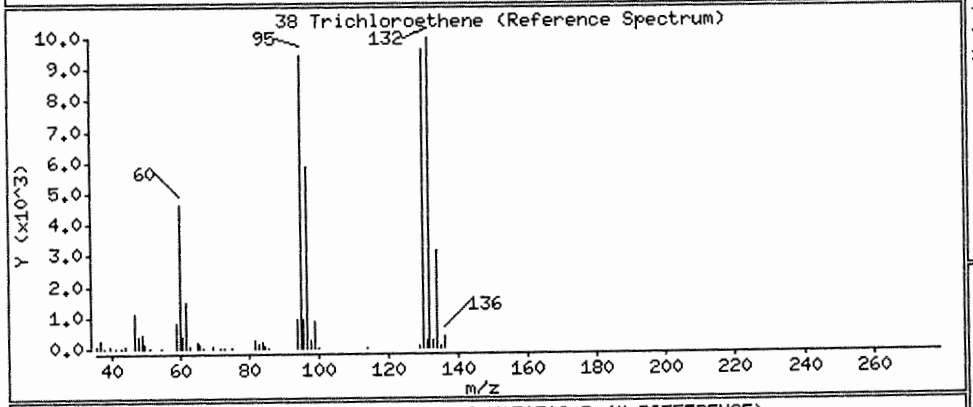
Column diameter: 0.18

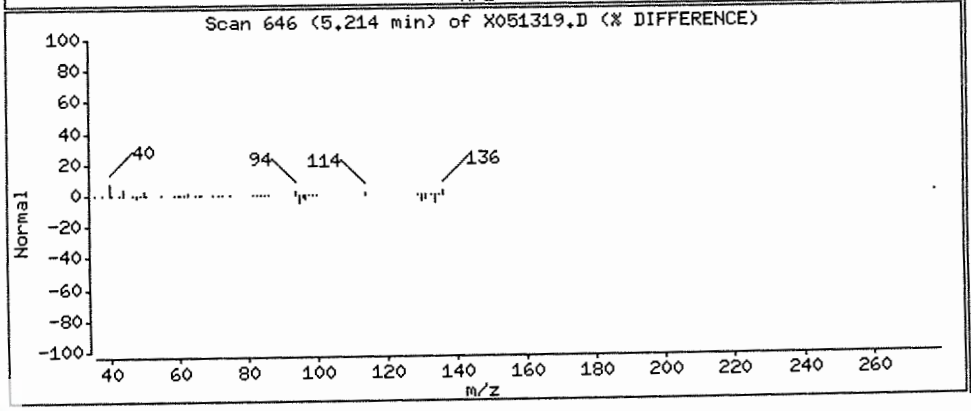
38 Trichloroethene

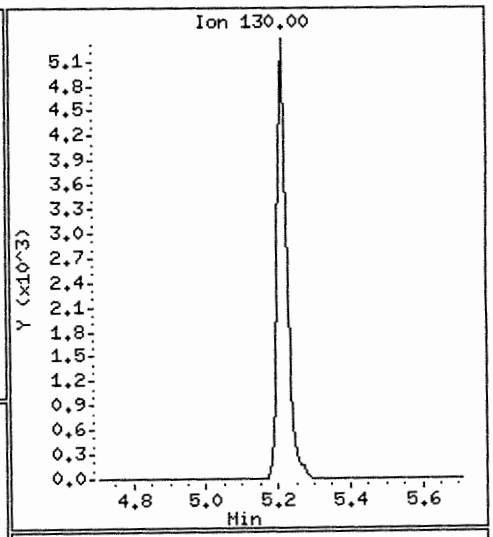
Concentration: 4.02 ug/l

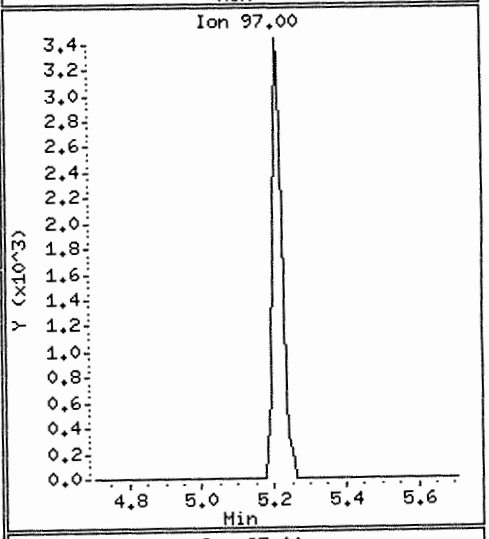


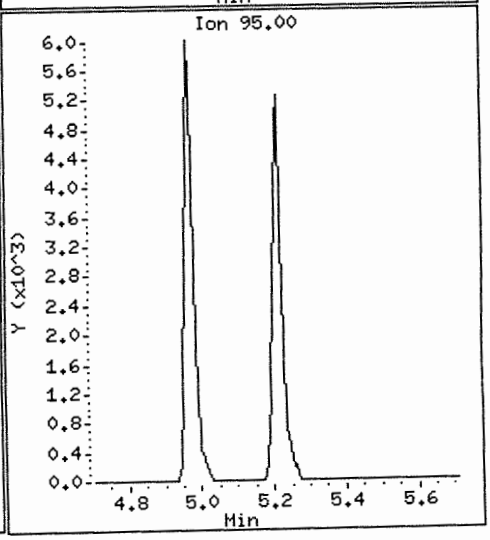












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051320.D Page 1
Report Date: 01-Jun-2020 14:21

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051320.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 13-MAY-2020 17:42
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\X200513.b\8260W.m
Meth Date : 01-Jun-2020 14:21 apoluri Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 19 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

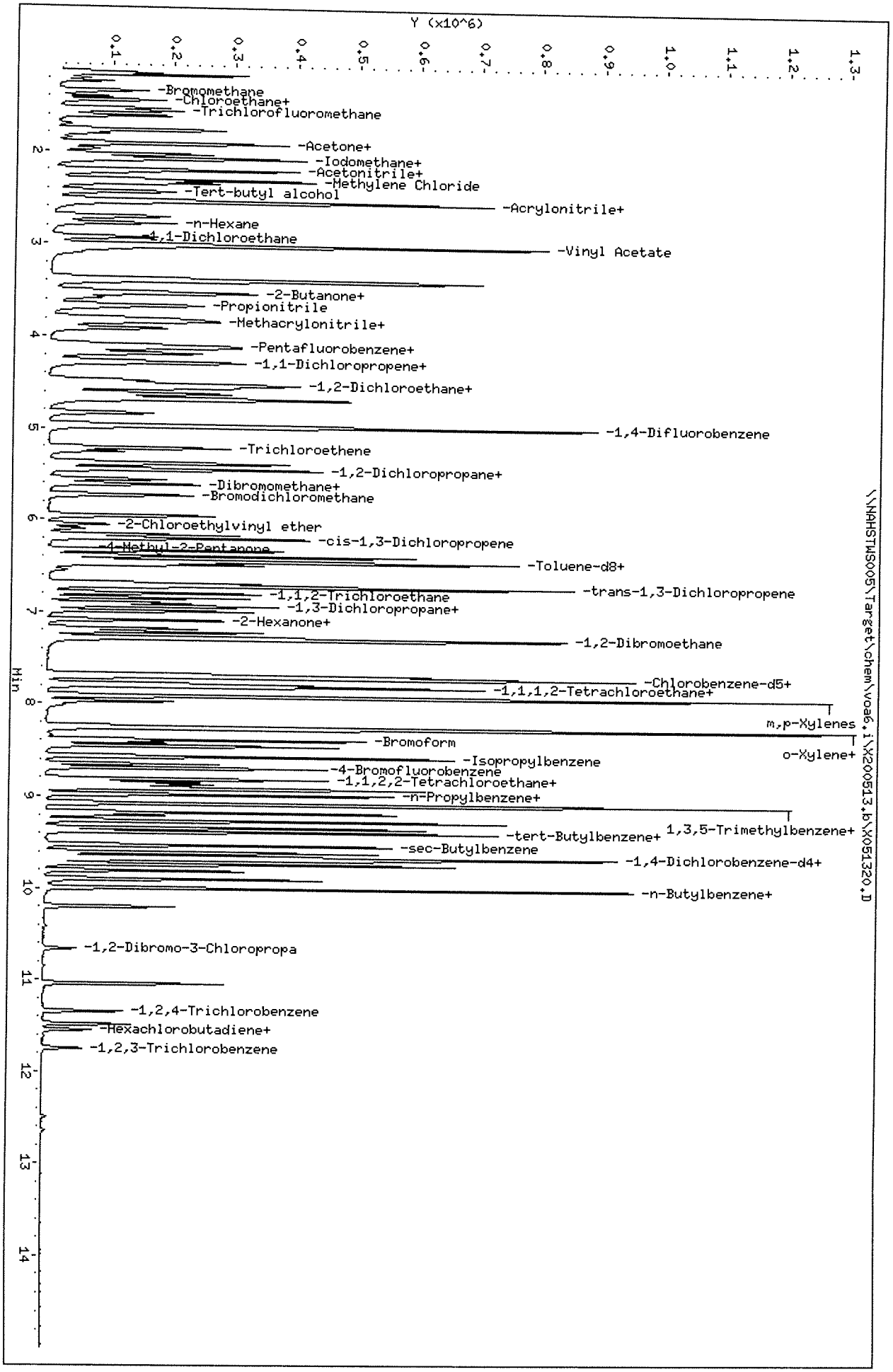
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	200510	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	293988	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	266285	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	138650	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	99709	50.0000	49.84
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	121908	50.0000	49.33
$	48 Toluene-d8	98	6.388	6.388	(0.833)	330491	50.0000	49.41
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	127662	50.0000	50.18
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	99672	50.0000	47.62
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	145882	50.0000	45.43
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	100130	50.0000	44.93
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	70038	50.0000	47.28
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	194763	50.0000	44.69
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	70841	50.0000	44.40
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	112607	50.0000	41.84
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	18343	50.0000	41.44
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	91482	50.0000	47.34(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	37081	50.0000	37.71
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	320778	50.0000	44.10
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	10899	50.0000	49.11
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	96510	50.0000	51.01
	88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	173297	50.0000	44.86

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200513.b\X051320.D Page 2
Report Date: 01-Jun-2020 14:21

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	154063	50.0000	50.33
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	106947	50.0000	44.69
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	313147	50.0000	43.74
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	190292	50.0000	45.03
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	146850	50.0000	47.69
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	194952	50.0000	44.48
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	141520	50.0000	44.57
24	2-Butanone	43	3.573	3.573	(0.854)	95624	100.000	105.81
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	264271	50.0000	42.70
52	2-Hexanone	43	7.090	7.090	(0.924)	156577	100.000	95.08
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	310809	50.0000	43.56
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	306293	50.0000	42.05
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	229952	100.000	95.64
10	Acetone	43	1.976	1.976	(0.473)	59736	100.000	84.76
37	Benzene	78	4.512	4.512	(0.908)	342152	50.0000	45.53
74	Bromobenzene	156	8.809	8.809	(0.912)	119677	50.0000	46.03
29	Bromochloromethane	128	3.795	3.795	(0.908)	56376	50.0000	48.45
39	Bromodichloromethane	83	5.729	5.729	(1.153)	131753	50.0000	48.01
66	Bromoform	173	8.415	8.415	(1.097)	77112	50.0000	50.54
6	Bromomethane	94	1.338	1.338	(0.320)	68363	50.0000	46.30
19	Carbon Disulfide	76	2.069	2.069	(0.495)	481805	100.000	88.64
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	125250	50.0000	42.40
59	Chlorobenzene	112	7.699	7.699	(1.004)	242919	50.0000	46.04
7	Chloroethane	64	1.403	1.403	(0.336)	62388	50.0000	43.92
28	Chloroform	83	3.910	3.910	(0.935)	173711	50.0000	48.47
3	Chloromethane	50	1.073	1.073	(0.257)	130160	50.0000	41.29
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	103406	50.0000	48.88
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	153541	50.0000	47.77
55	Dibromochloromethane	129	7.176	7.176	(0.936)	109510	50.0000	50.81
44	Dibromomethane	93	5.557	5.557	(1.118)	63509	50.0000	48.93
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	98477	50.0000	42.22
61	Ethylbenzene	106	7.799	7.799	(1.017)	123205	50.0000	44.49
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	25111	50.0000	33.49
67	Isopropylbenzene	105	8.566	8.566	(1.117)	363026	50.0000	43.71
62	m,p-Xylenes	106	7.907	7.907	(1.031)	300049	100.000	89.27
17	Methylene Chloride	84	2.305	2.305	(0.551)	96379	50.0000	48.81
87	n-Butylbenzene	91	9.999	9.999	(1.035)	240957	50.0000	41.00
73	n-Propylbenzene	91	8.917	8.917	(0.923)	410027	50.0000	41.13
92	Naphthalene	128	11.546	11.546	(1.195)	54414	50.0000	41.68
63	o-Xylene	106	8.244	8.244	(1.075)	149659	50.0000	45.76
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	330748	50.0000	39.38
64	Styrene	104	8.258	8.258	(1.077)	267409	50.0000	47.18
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	251989	50.0000	41.45
56	Tetrachloroethene	164	6.933	6.933	(0.904)	75375	50.0000	42.91
50	Toluene	91	6.446	6.446	(0.840)	361733	50.0000	45.90
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	86369	50.0000	47.35
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	144256	50.0000	49.49
38	Trichloroethene	130	5.206	5.206	(1.048)	97233	50.0000	46.09
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	143302	50.0000	44.42
5	Vinyl Chloride	62	1.138	1.138	(0.272)	116510	50.0000	41.91

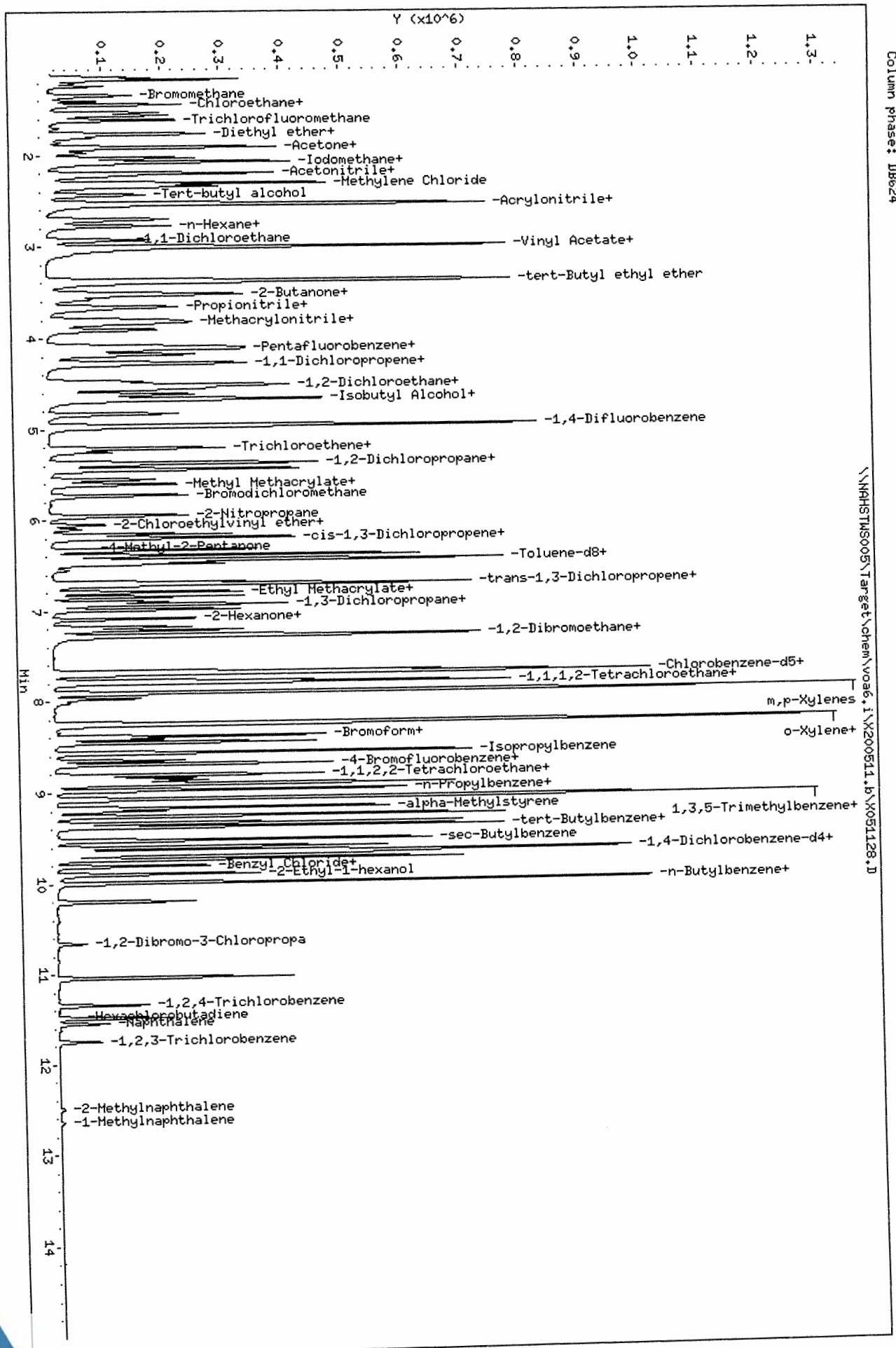
QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6,i\X200513,b\X051320,D
Date : 13-MAY-2020 17:42
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



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Date : 12-MAY-2020 00:00
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

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Lab File ID: X051201 BFB Injection Date: 05/12/20

Instrument ID: VOA6 BFB Injection Time: 1001

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	23.9
75	30.0 - 60.0% of mass 95	52.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.8 (1.2)1
174	Greater than 50.0% of mass 95	68.2
175	5.0 - 9.0% of mass 174	5.7 (8.4)1
176	95.0 - 101.0% of mass 174	65.4 (95.9)1
177	5.0 - 9.0% of mass 176	4.4 (6.7)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	X051203	05/12/20	1049
02	VLCSW-200512	VLCSW-200512	X051205	05/12/20	1137
03	VBLKW-200512	VBLKW-200512	X051207	05/12/20	1225
04	HS20050292-0	HS20050292-04	X051208	05/12/20	1249
05	HS20050292-0	HS20050292-05	X051209	05/12/20	1313
06	HS20050292-0	HS20050292-09	X051210	05/12/20	1337
07	HS20050292-0	HS20050292-06	X051212	05/12/20	1425
08	HS20050292-0	HS20050292-07	X051213	05/12/20	1449
09	HS20050292-0	HS20050292-08	X051214	05/12/20	1513
10	HS20050234-0	HS20050234-01M	X051225	05/12/20	1938
11	HS20050234-0	HS20050234-01M	X051226	05/12/20	2002
12	CCV-END	CCV-END	X051227	05/12/20	2026
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Instrument ID: VOA6 Calibration Date: 05/12/20 Time: 1049

Lab File ID: X051203 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

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
Bromochloromethane	0.2900000	0.2674167	0.2674167	0.1	7.79	20.00	AVRG
Vinyl Chloride	0.6930000	0.5949731	0.5949731	0.1	14.14	20.00	AVRG
Chloromethane	40.714081	50.000000	0.6606656	0.1	18.57	20.00	LINR
Bromomethane	47.787126	50.000000	0.3309279	0.1	4.42	20.00	LINR
Chloroethane	43.962815	50.000000	0.3070035	0.1	12.07	20.00	LINR
Methylene Chloride	47.204545	50.000000	0.4671189	0.1	5.59	20.00	LINR
Acetone	88.468172	100.00000	0.1339225	0.1	11.53	20.00	LINR
1,1-Dichloroethene	0.3980000	0.3544589	0.3544589	0.1	10.94	20.00	AVRG
trans-1,2-Dichloroethene	0.4550000	0.4300719	0.4300719	0.1	5.48	20.00	AVRG
Carbon Tetrachloride	0.5020000	0.4713252	0.4713252	0.1	6.11	20.00	AVRG
1,1-Dichloroethane	1.0870000	0.9636701	0.9636701	0.2	11.34	20.00	AVRG
Bromodichloromethane	0.4670000	0.4483614	0.4483614	0.2	3.99	20.00	AVRG
1,2-Dichloropropane	0.4070000	0.3588734	0.3588734	0.1	11.82	20.00	AVRG
cis-1,3-Dichloropropene	0.5470000	0.5152761	0.5152761	0.2	5.80	20.00	AVRG
2-Butanone	0.2250000	0.2151156	0.2151156	0.1	4.39	20.00	AVRG
Dibromochloromethane	0.4040000	0.3944112	0.3944112	0.1	2.37	20.00	AVRG
cis-1,2-Dichloroethene	0.5270000	0.5081948	0.5081948	0.1	3.57	20.00	AVRG
1,1,2-Trichloroethane	0.2780000	0.2504295	0.2504295	0.1	9.92	20.00	AVRG
Chloroform	0.8930000	0.8581019	0.8581019	0.2	3.91	20.00	AVRG
Benzene	1.2780000	1.1849918	1.1849918	0.5	7.28	20.00	AVRG
trans-1,3-Dichloropropene	0.4960000	0.4806197	0.4806197	0.1	3.10	20.00	AVRG
Bromoform	0.2860000	0.2768591	0.2768591	0.1	3.20	20.00	AVRG
4-Methyl-2-Pentanone	0.4510000	0.3929375	0.3929375	0.1	12.87	20.00	AVRG
1,1,1-Trichloroethane	0.8000000	0.7628773	0.7628773	0.1	4.64	20.00	AVRG
2-Hexanone	0.3090000	0.2663565	0.2663565	0.1	13.80	20.00	AVRG
1,2-Dichloroethane	0.5200000	0.5067079	0.5067079	0.1	2.56	20.00	AVRG
1,1,2,2-Tetrachloroethane	0.8040000	0.7202899	0.7202899	0.3	10.41	20.00	AVRG
Trichloroethene	0.3590000	0.3410827	0.3410827	0.2	4.99	20.00	AVRG
Toluene	1.4800000	1.3588508	1.3588508	0.4	8.18	20.00	AVRG
Dichlorodifluoromethane	45.296910	50.000000	0.5370694	0.1	9.41	20.00	LINR
Trichlorofluoromethane	0.8040000	0.7648843	0.7648843	0.1	4.86	20.00	AVRG
Tetrachloroethene	0.3300000	0.3054844	0.3054844	0.2	7.43	20.00	AVRG
1,2-Dibromoethane	0.3550000	0.3430479	0.3430479	0.1	3.37	20.00	AVRG
Chlorobenzene	0.9900000	0.9262023	0.9262023	0.5	6.44	20.00	AVRG
1,3-Dichlorobenzene	1.5230000	1.4536286	1.4536286	0.6	4.55	20.00	AVRG
1,4-Dichlorobenzene	1.5800000	1.4700318	1.4700318	0.4	6.96	20.00	AVRG
1,2-Dichlorobenzene	1.3930000	1.2975215	1.2975215	0.4	6.85	20.00	AVRG
Ethylbenzene	0.5200000	0.4803426	0.4803426	0.1	7.63	20.00	AVRG
m,p-Xylenes	0.6310000	0.5872014	0.5872014	0.1	6.94	20.00	AVRG
o-Xylene	0.6140000	0.5767451	0.5767451	0.3	6.07	20.00	AVRG
Styrene	1.0640000	1.0134814	1.0134814	0.3	4.75	20.00	AVRG
Carbon Disulfide	1.3550000	1.2241545	1.2241545	0.1	9.66	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005029

Instrument ID: VOA6 Calibration Date: 05/12/20 Time: 1049

Lab File ID: X051203 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

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
2,2-Dichloropropane	0.7920000	0.6905014	0.6905014	0.1	12.82	20.00	AVRG
1,1-Dichloropropene	0.4580000	0.4176550	0.4176550	0.1	8.81	20.00	AVRG
Dibromomethane	0.2210000	0.2094253	0.2094253	0.1	5.24	20.00	AVRG
1,3-Dichloropropane	0.5780000	0.5336239	0.5336239	0.1	7.68	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3930000	0.3779899	0.3779899	0.1	3.82	20.00	AVRG
Isopropylbenzene	1.5590000	1.4643286	1.4643286	0.1	6.07	20.00	AVRG
Bromobenzene	0.9370000	0.8827519	0.8827519	0.1	5.79	20.00	AVRG
1,2,3-Trichloropropane	0.6970000	0.6461620	0.6461620	0.1	7.29	20.00	AVRG
n-Propylbenzene	3.5950000	3.3120521	3.3120521	0.1	7.87	20.00	AVRG
2-Chlorotoluene	2.2320000	2.0198829	2.0198829	0.1	9.50	20.00	AVRG
1,3,5-Trimethylbenzene	2.5820000	2.4635811	2.4635811	0.1	4.59	20.00	AVRG
4-Chlorotoluene	2.5730000	2.3521940	2.3521940	0.1	8.58	20.00	AVRG
tert-Butylbenzene	2.1920000	2.0498953	2.0498953	0.1	6.48	20.00	AVRG
1,2,4-Trimethylbenzene	2.6230000	2.5250509	2.5250509	0.1	3.73	20.00	AVRG
sec-Butylbenzene	3.0280000	2.8024387	2.8024387	0.1	7.45	20.00	AVRG
p-Isopropyltoluene	2.6260000	2.5167202	2.5167202	0.1	4.16	20.00	AVRG
n-Butylbenzene	2.1190000	2.0490549	2.0490549	0.5	3.30	20.00	AVRG
1,2-Dibromo-3-Chloropropane	47.779442	50.000000	7.74e-002	0.05	4.44	20.00	LINR
1,2,4-Trichlorobenzene	42.852173	50.000000	0.2928622	0.2	14.30	20.00	LINR
Hexachlorobutadiene	43.675022	50.000000	0.2461443	0.1	12.65	20.00	LINR
Naphthalene	0.4710000	0.4197458	0.4197458	0.2	10.88	20.00	AVRG
1,2,3-Trichlorobenzene	49.741557	50.000000	0.1486096	0.1	0.52	20.00	2RDR
Freon TF	0.3860000	0.3581243	0.3581243	0.1	7.22	20.00	AVRG
Dibromofluoromethane	50.186059	50.000000	0.4852564	0.1	-0.37	20.00	LINR
1,2-Dichloroethane-d4	49.715055	50.000000	0.6074482	0.1	0.57	20.00	LINR
Toluene-d8	50.735661	50.000000	1.2201788	0.1	-1.47	20.00	LINR
4-Bromofluorobenzene	50.625078	50.000000	0.4635140	0.1	-1.25	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Instrument ID: VOA6 Calibration Date: 05/12/20 Time: 2026

Lab File ID: X051227 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

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	
Bromochloromethane	0.2900000	0.2674167	0.2674167	0.1	7.79	20.00	AVRG	
Vinyl Chloride	0.6930000	0.5949731	0.5949731	0.1	14.14	20.00	AVRG	
Chloromethane	42.020411	50.000000	0.6606656	0.1	15.96	20.00	LINR	
Bromomethane	44.922786	50.000000	0.3309279	0.1	10.15	20.00	LINR	
Chloroethane	43.335591	50.000000	0.3070035	0.1	13.33	20.00	LINR	
Methylene Chloride	47.408899	50.000000	0.4671189	0.1	5.18	20.00	LINR	
Acetone	75.938700	100.00000	0.1339225	0.1	24.06	20.00	LINR	<-
1,1-Dichloroethene	0.3980000	0.3544589	0.3544589	0.1	10.94	20.00	AVRG	
trans-1,2-Dichloroethene	0.4550000	0.4300719	0.4300719	0.1	5.48	20.00	AVRG	
Carbon Tetrachloride	0.5020000	0.4713252	0.4713252	0.1	6.11	20.00	AVRG	
1,1-Dichloroethane	1.0870000	0.9636701	0.9636701	0.2	11.34	20.00	AVRG	
Bromodichloromethane	0.4670000	0.4483614	0.4483614	0.2	3.99	20.00	AVRG	
1,2-Dichloropropane	0.4070000	0.3588734	0.3588734	0.1	11.82	20.00	AVRG	
cis-1,3-Dichloropropene	0.5470000	0.5152761	0.5152761	0.2	5.80	20.00	AVRG	
2-Butanone	0.2250000	0.2151156	0.2151156	0.1	4.39	20.00	AVRG	
Dibromochloromethane	0.4040000	0.3944112	0.3944112	0.1	2.37	20.00	AVRG	
cis-1,2-Dichloroethene	0.5270000	0.5081948	0.5081948	0.1	3.57	20.00	AVRG	
1,1,2-Trichloroethane	0.2780000	0.2504295	0.2504295	0.1	9.92	20.00	AVRG	
Chloroform	0.8930000	0.8581019	0.8581019	0.2	3.91	20.00	AVRG	
Benzene	1.2780000	1.1849918	1.1849918	0.5	7.28	20.00	AVRG	
trans-1,3-Dichloropropene	0.4960000	0.4806197	0.4806197	0.1	3.10	20.00	AVRG	
Bromoform	0.2860000	0.2768591	0.2768591	0.1	3.20	20.00	AVRG	
4-Methyl-2-Pentanone	0.4510000	0.3929375	0.3929375	0.1	12.87	20.00	AVRG	
1,1,1-Trichloroethane	0.8000000	0.7628773	0.7628773	0.1	4.64	20.00	AVRG	
2-Hexanone	0.3090000	0.2663565	0.2663565	0.1	13.80	20.00	AVRG	
1,2-Dichloroethane	0.5200000	0.5067079	0.5067079	0.1	2.56	20.00	AVRG	
1,1,2,2-Tetrachloroethane	0.8040000	0.7202899	0.7202899	0.3	10.41	20.00	AVRG	
Trichloroethene	0.3590000	0.3410827	0.3410827	0.2	4.99	20.00	AVRG	
Toluene	1.4800000	1.3588508	1.3588508	0.4	8.18	20.00	AVRG	
Dichlorodifluoromethane	46.075009	50.000000	0.5370694	0.1	7.85	20.00	LINR	
Trichlorofluoromethane	0.8040000	0.7648843	0.7648843	0.1	4.86	20.00	AVRG	
Tetrachloroethene	0.3300000	0.3054844	0.3054844	0.2	7.43	20.00	AVRG	
1,2-Dibromoethane	0.3550000	0.3430479	0.3430479	0.1	3.37	20.00	AVRG	
Chlorobenzene	0.9900000	0.9262023	0.9262023	0.5	6.44	20.00	AVRG	
1,3-Dichlorobenzene	1.5230000	1.4536286	1.4536286	0.6	4.55	20.00	AVRG	
1,4-Dichlorobenzene	1.5800000	1.4700318	1.4700318	0.4	6.96	20.00	AVRG	
1,2-Dichlorobenzene	1.3930000	1.2975215	1.2975215	0.4	6.85	20.00	AVRG	
Ethylbenzene	0.5200000	0.4803426	0.4803426	0.1	7.63	20.00	AVRG	
m,p-Xylenes	0.6310000	0.5872014	0.5872014	0.1	6.94	20.00	AVRG	
o-Xylene	0.6140000	0.5767451	0.5767451	0.3	6.07	20.00	AVRG	
Styrene	1.0640000	1.0134814	1.0134814	0.3	4.75	20.00	AVRG	
Carbon Disulfide	1.3550000	1.2241545	1.2241545	0.1	9.66	20.00	AVRG	

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005029

Instrument ID: VOA6 Calibration Date: 05/12/20 Time: 2026

Lab File ID: X051227 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

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
2,2-Dichloropropane	0.7920000	0.6905014	0.6905014	0.1	12.82	20.00	AVRG
1,1-Dichloropropene	0.4580000	0.4176550	0.4176550	0.1	8.81	20.00	AVRG
Dibromomethane	0.2210000	0.2094253	0.2094253	0.1	5.24	20.00	AVRG
1,3-Dichloropropane	0.5780000	0.5336239	0.5336239	0.1	7.68	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3930000	0.3779899	0.3779899	0.1	3.82	20.00	AVRG
Isopropylbenzene	1.5590000	1.4643286	1.4643286	0.1	6.07	20.00	AVRG
Bromobenzene	0.9370000	0.8827519	0.8827519	0.1	5.79	20.00	AVRG
1,2,3-Trichloropropane	0.6970000	0.6461620	0.6461620	0.1	7.29	20.00	AVRG
n-Propylbenzene	3.5950000	3.3120521	3.3120521	0.1	7.87	20.00	AVRG
2-Chlorotoluene	2.2320000	2.0198829	2.0198829	0.1	9.50	20.00	AVRG
1,3,5-Trimethylbenzene	2.5820000	2.4635811	2.4635811	0.1	4.59	20.00	AVRG
4-Chlorotoluene	2.5730000	2.3521940	2.3521940	0.1	8.58	20.00	AVRG
tert-Butylbenzene	2.1920000	2.0498953	2.0498953	0.1	6.48	20.00	AVRG
1,2,4-Trimethylbenzene	2.6230000	2.5250509	2.5250509	0.1	3.73	20.00	AVRG
sec-Butylbenzene	3.0280000	2.8024387	2.8024387	0.1	7.45	20.00	AVRG
p-Isopropyltoluene	2.6260000	2.5167202	2.5167202	0.1	4.16	20.00	AVRG
n-Butylbenzene	2.1190000	2.0490549	2.0490549	0.5	3.30	20.00	AVRG
1,2-Dibromo-3-Chloropropane	48.354234	50.000000	7.74e-002	0.05	3.29	20.00	LINR
1,2,4-Trichlorobenzene	41.053625	50.000000	0.2928622	0.2	17.89	20.00	LINR
Hexachlorobutadiene	45.177077	50.000000	0.2461443	0.1	9.64	20.00	LINR
Naphthalene	0.4710000	0.4197458	0.4197458	0.2	10.88	20.00	AVRG
1,2,3-Trichlorobenzene	46.355457	50.000000	0.1486096	0.1	7.29	20.00	2RDR
Freon TF	0.3860000	0.3581243	0.3581243	0.1	7.22	20.00	AVRG
Dibromofluoromethane	48.635950	50.000000	0.4852564	0.1	2.73	20.00	LINR
1,2-Dichloroethane-d4	49.286904	50.000000	0.6074482	0.1	1.43	20.00	LINR
Toluene-d8	48.571306	50.000000	1.2201788	0.1	2.86	20.00	LINR
4-Bromofluorobenzene	48.493930	50.000000	0.4635140	0.1	3.01	20.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Lab File ID (Standard): X051203 Date Analyzed: 05/12/20

Instrument ID: VOA6 Time Analyzed: 1049

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	199856	4.18	288768	4.97	266171	7.67
	UPPER LIMIT	399712	4.68	577536	5.47	532342	8.17
	LOWER LIMIT	99928	3.68	144384	4.47	133086	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-200512	207525	4.18	299977	4.97	276008	7.67
02	VBLKW-200512	255183	4.18	350554	4.97	301980	7.67
03	HS20050292-04	257454	4.18	353008	4.97	308065	7.67
04	HS20050292-05	250395	4.18	355601	4.97	300401	7.67
05	HS20050292-09	253509	4.18	356366	4.97	298931	7.67
06	HS20050292-06	262049	4.18	363342	4.97	305088	7.67
07	HS20050292-07	258374	4.18	356691	4.97	308440	7.67
08	HS20050292-08	252167	4.18	350716	4.97	299230	7.67
09	HS20050234-01	254610	4.18	345884	4.97	298962	7.67
10	HS20050234-01	244179	4.18	336747	4.97	287002	7.67
11							
12							
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 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Lab File ID (Standard): X051203 Date Analyzed: 05/12/20

Instrument ID: VOA6 Time Analyzed: 1049

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	136045	9.66				
	UPPER LIMIT	272090	10.16				
	LOWER LIMIT	68023	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-200512	141106	9.67				
02	VBLKW-200512	145248	9.67				
03	HS20050292-04	150365	9.66				
04	HS20050292-05	138473	9.67				
05	HS20050292-09	140140	9.67				
06	HS20050292-06	150488	9.67				
07	HS20050292-07	150357	9.67				
08	HS20050292-08	136530	9.67				
09	HS20050234-01	147916	9.66				
10	HS20050234-01	142658	9.67				
11							
12							
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.

MSVOA06 -Logbook

Batch: 40534
Date: 05-12-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	05-12-2020 10:01 am	1.00	50 mL	50 mL	X051201.D	Liquid	Y	NA
	Auto find/ purged									
2	CCV	CCV	05-12-2020 10:25 am	1.00	50 mL	50 mL	X051202a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCV	CCV	05-12-2020 10:49 am	1.00	50 mL	50 mL	X051203.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	05-12-2020 11:13 am	1.00	50 mL	50 mL	X051204.D	Liquid	Y	NA
5	VLCSW-200512	LCS	05-12-2020 11:37 am	1.00	50 mL	50 mL	X051205.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLANK	SAMP	05-12-2020 12:01 pm	1.00	50 mL	50 mL	X051206.D	Liquid	Y	NA
7	VBLKW-200512	MBLK	05-12-2020 12:25 pm	1.00	50 mL	50 mL	X051207.D	Liquid	Y	<2
8	HS20050292-04	SAMP	05-12-2020 12:49 pm	1.00	50 mL	50 mL	X051208.D	Liquid	Y	<2
9	HS20050292-05	SAMP	05-12-2020 01:13 pm	1.00	50 mL	50 mL	X051209.D	Liquid	Y	<2
10	HS20050292-09	SAMP	05-12-2020 01:37 pm	1.00	50 mL	50 mL	X051210.D	Liquid	Y	<2
11	HS20050234-11	SAMP	05-12-2020 02:01 pm	1.00	50 mL	50 mL	X051211.D	Liquid	Y	<2
12	HS20050292-06	SAMP	05-12-2020 02:25 pm	1.00	50 mL	50 mL	X051212.D	Liquid	Y	<2
13	HS20050292-07	SAMP	05-12-2020 02:49 pm	1.00	50 mL	50 mL	X051213.D	Liquid	Y	<2
14	HS20050292-08	SAMP	05-12-2020 03:13 pm	1.00	50 mL	50 mL	X051214.D	Liquid	Y	<2
15	HS20050234-01	SAMP	05-12-2020 03:38 pm	1.00	50 mL	50 mL	X051215.D	Liquid	Y	<2
16	HS20050234-02	SAMP	05-12-2020 04:02 pm	1.00	50 mL	50 mL	X051216.D	Liquid	Y	<2
17	HS20050234-03	SAMP	05-12-2020 04:26 pm	1.00	50 mL	50 mL	X051217.D	Liquid	Y	<2
18	HS20050234-04	SAMP	05-12-2020 04:50 pm	1.00	50 mL	50 mL	X051218.D	Liquid	Y	<2
19	HS20050234-05	SAMP	05-12-2020 05:14 pm	1.00	50 mL	50 mL	X051219.D	Liquid	Y	<2
20	HS20050234-06	SAMP	05-12-2020 05:38 pm	1.00	50 mL	50 mL	X051220.D	Liquid	Y	<2
21	HS20050234-07	SAMP	05-12-2020 06:02 pm	1.00	50 mL	50 mL	X051221.D	Liquid	Y	<2
22	HS20050234-08	SAMP	05-12-2020 06:26 pm	1.00	50 mL	50 mL	X051222.D	Liquid	Y	<2
23	HS20050234-09	SAMP	05-12-2020 06:50 pm	1.00	50 mL	50 mL	X051223.D	Liquid	Y	<2
24	HS20050234-10	SAMP	05-12-2020 07:14 pm	1.00	50 mL	50 mL	X051224.D	Liquid	Y	<2
25	HS20050234-01MS	MS	05-12-2020 07:38 pm	1.00	50 mL	50 mL	X051225.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
26	HS20050234-01MSD	MSD	05-12-2020 08:02 pm	1.00	50 mL	50 mL	X051226.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
27	CCV-END	CCV	05-12-2020 08:26 pm	1.00	50 mL	50 mL	X051227.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
28	HS20050231-02	SAMP	05-12-2020 08:50 pm	1.00	50 mL	50 mL	X051228.D	Liquid	Y	<2
29	HS20050305-03	SAMP	05-12-2020 09:14 pm	1.00	50 mL	50 mL	X051229.D	Liquid	Y	<2
30	HS20050305-02	SAMP	05-12-2020 09:38 pm	1.00	50 mL	50 mL	X051230.D	Liquid	Y	<2
31	BFB	TUNE	05-12-2020 10:02 pm	1.00	50 mL	50 mL	Y051201.D	Liquid	Y	Na
	Auto find/ purged									
32	CCV	CCV	05-12-2020 10:26 pm	1.00	50 mL	50 mL	Y051202a.D	Liquid	Y	Na
	10 uL cal std/50 mL DI									
33	CCV	CCV	05-12-2020 10:50 pm	1.00	50 mL	50 mL	Y051203.D	Liquid	Y	Na
	10 uL cal std/50 mL DI									
34	CCB	SAMP	05-12-2020 11:14 pm	1.00	50 mL	50 mL	Y051204.D	Liquid	Y	Na
35	VLCSW-200512	LCS	05-12-2020 11:38 pm	1.00	50 mL	50 mL	Y051205.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
36	BLANK	SAMP	05-13-2020 12:02 am	1.00	50 mL	50 mL	Y051206.D	Liquid	Y	Na
37	VBLKW-200512	MBLK	05-13-2020 12:26 am	1.00	50 mL	50 mL	Y051207.D	Liquid	Y	<2
38	HS20050374-01	SAMP	05-13-2020 12:50 am	1.00	50 mL	50 mL	Y051208.D	Liquid	Y	<2
39	HS20050322-04	SAMP	05-13-2020 01:14 am	1.00	50 mL	50 mL	Y051209.D	Liquid	Y	<2
40	HS20050322-02	SAMP	05-13-2020 01:38 am	1.00	50 mL	50 mL	Y051210.D	Liquid	Y	<2
41	HS20050322-03	SAMP	05-13-2020 02:02 am	1.00	50 mL	50 mL	Y051211.D	Liquid	Y	<2
42	HS20050320-06	SAMP	05-13-2020 02:26 am	5.00	10 mL	50 mL	Y051212.D	Liquid	Y	<2
43	HS20050320-07	SAMP	05-13-2020 02:50 am	50.00	1 mL	50 mL	Y051213.D	Liquid	Y	<2
44	HS20050322-01	SAMP	05-13-2020 03:14 am	25.00	2 mL	50 mL	Y051214.D	Liquid	Y	<2
45	HS20050320-07MS	MS	05-13-2020 03:38 am	50.00	1 mL	50 mL	Y051215.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
46	HS20050320-07MSD	MSD	05-13-2020 04:02 am	50.00	1 mL	50 mL	Y051216.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
47	HS20050320-11	SAMP	05-13-2020 04:27 am	20.00	2.5 mL	50 mL	Y051217.D	Liquid	Y	<2
48	HS20050322-01	SAMP	05-13-2020 04:51 am	250.0(	200 µL	50 mL	Y051218.D	Liquid	Y	<2
49	HS20050320-13	SAMP	05-13-2020 05:15 am	5.00	10 mL	50 mL	Y051219.D	Liquid	Y	<2
50	HS20050330-01	SAMP	05-13-2020 05:39 am	1.00	50 mL	50 mL	Y051220.D	Liquid	Y	<2
51	HS20050339-03	SAMP	05-13-2020 06:03 am	1.00	50 mL	50 mL	Y051221.D	Liquid	Y	<2
52	HS20050339-07	SAMP	05-13-2020 06:27 am	1.00	50 mL	50 mL	Y051222.D	Liquid	Y	<2
53	HS20050337-03	SAMP	05-13-2020 06:51 am	1.00	50 mL	50 mL	Y051223.D	Liquid	Y	<2
54	HS20050337-01	SAMP	05-13-2020 07:15 am	1.00	50 mL	50 mL	Y051224.D	Liquid	Y	<2
55	HS20050293-12	SAMP	05-13-2020 07:39 am	5.00	10 mL	50 mL	Y051225.D	Liquid	Y	<2
56	HS20050293-17	SAMP	05-13-2020 08:03 am	10.00	5 mL	50 mL	Y051226.D	Liquid	Y	<2
57	HS20050369-04	SAMP	05-13-2020 08:27 am	1.00	50 mL	50 mL	Y051227.D	Liquid	Y	<2
58	HS20050369-06	SAMP	05-13-2020 08:51 am	5.00	10 mL	50 mL	Y051228.D	Liquid	Y	<2
59	HS20050369-06	SAMP	05-13-2020 09:15 am	50.00	1 mL	50 mL	Y051229.D	Liquid	Y	<2
60	BLANK	SAMP	05-13-2020 09:39 am	1.00	50 mL	50 mL	Y051240.D	Liquid	Y	<2

Chemical	Value
SURR SPK ID	31106-26-06
IS ID	31106-26-06
CAL STD ID	31106-29-01/02
BFB ID	31106-26-06
pH Paper	634-64-11

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051201.D

Date : 12-MAY-2020 10:01

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

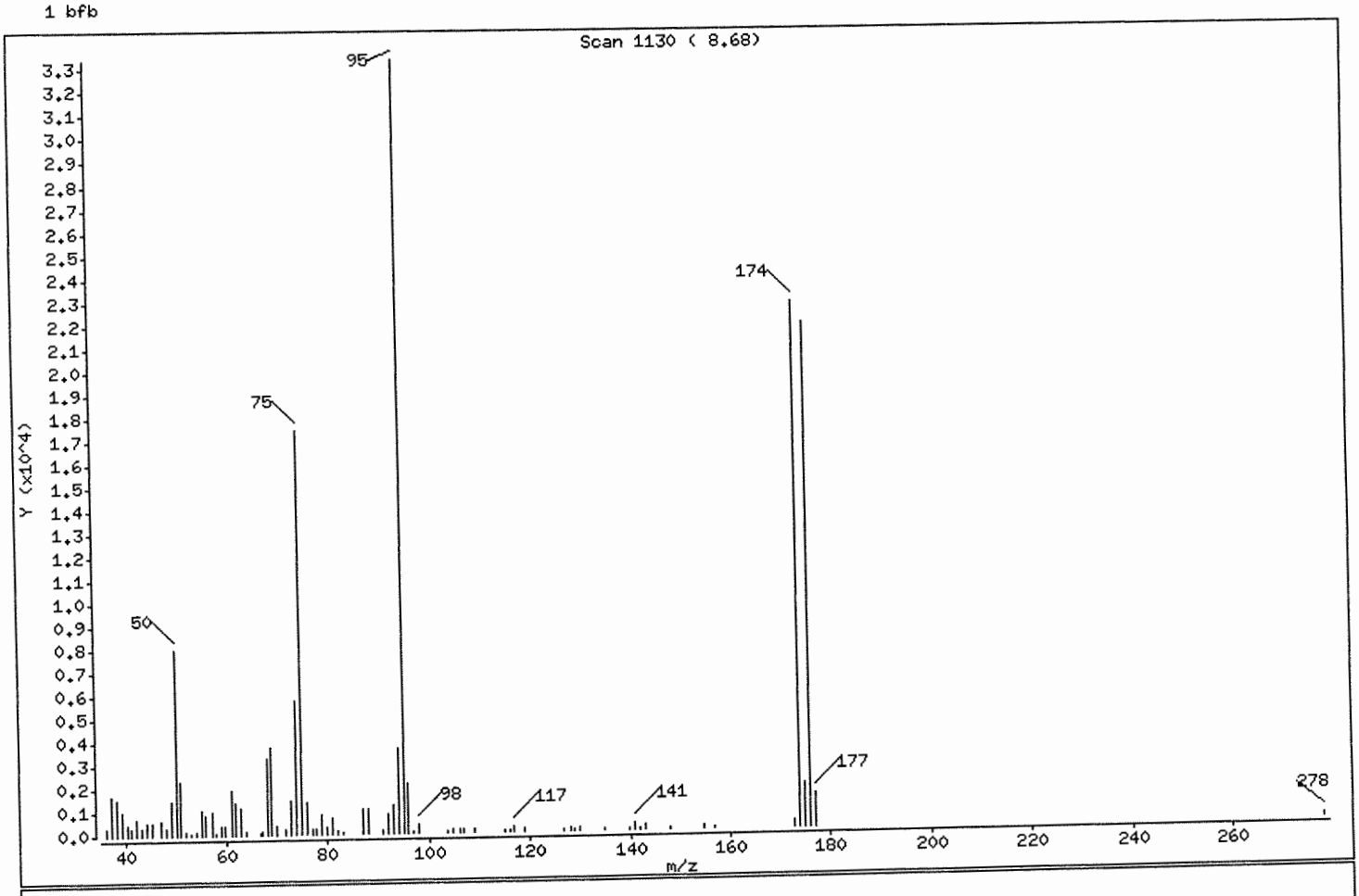
Volume Injected (uL): 2.0

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	23.87
75	30.00 - 60.00% of mass 95	52.21
96	5.00 - 9.00% of mass 95	6.55
173	Less than 2.00% of mass 174	0.83 (1.22)
174	Greater than 50.00% of mass 95	68.18
175	5.00 - 9.00% of mass 174	5.72 (8.40)
176	95.00 - 101.00% of mass 174	65.41 (95.93)
177	5.00 - 9.00% of mass 176	4.37 (6.68)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051201.D

Date : 12-MAY-2020 10:01

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: X051201.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 82

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	329	57.90	112	81.00	665	118.80	162
37.00	1679	59.00	400	81.90	120	126.80	97
38.00	1515	59.80	353	83.10	83	128.00	132
39.00	970	61.00	1928	86.90	1051	128.90	63
40.10	455	62.00	1416	88.10	1107	129.80	170
41.00	340	63.00	1166	90.90	161	134.90	72
42.00	667	64.00	168	91.90	848	139.80	58
43.00	307	66.70	62	93.00	1221	140.80	276
44.10	501	67.20	138	94.10	3677	141.90	95
45.10	558	68.10	3322	95.00	33416	143.00	218
47.10	603	69.00	3795	96.00	2189	147.90	95
47.90	297	70.00	359	97.00	64	154.80	142
49.00	1432	71.90	223	97.90	407	156.90	74
50.00	7975	73.00	1464	103.70	97	172.80	279
51.00	2301	74.00	5734	104.80	117	174.00	22784
52.00	160	75.00	17448	106.10	145	175.00	1913
53.10	54	76.00	1378	106.80	173	176.00	21856
54.10	189	76.90	222	109.00	179	177.00	1460
55.00	1071	77.90	198	115.10	93	278.10	176
55.90	839	78.90	861	115.90	88		
57.10	1022	80.00	314	116.80	200		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051201.D

Date : 12-MAY-2020 10:01

Client ID: BFB

Instrument: voa6.i

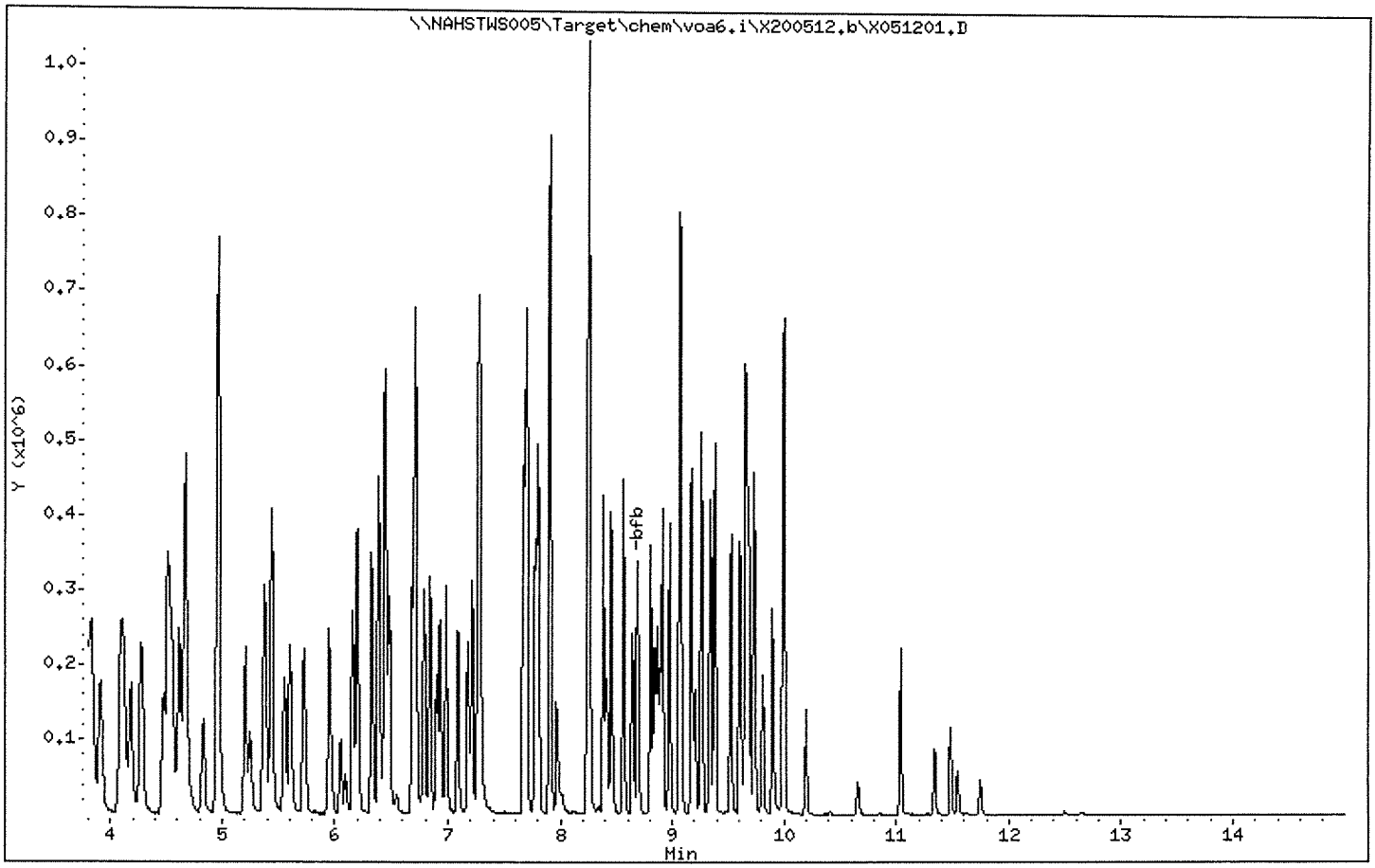
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051203.D Page 1
Report Date: 28-May-2020 16:37

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051203.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 12-MAY-2020 10:49
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 28-May-2020 16:37 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

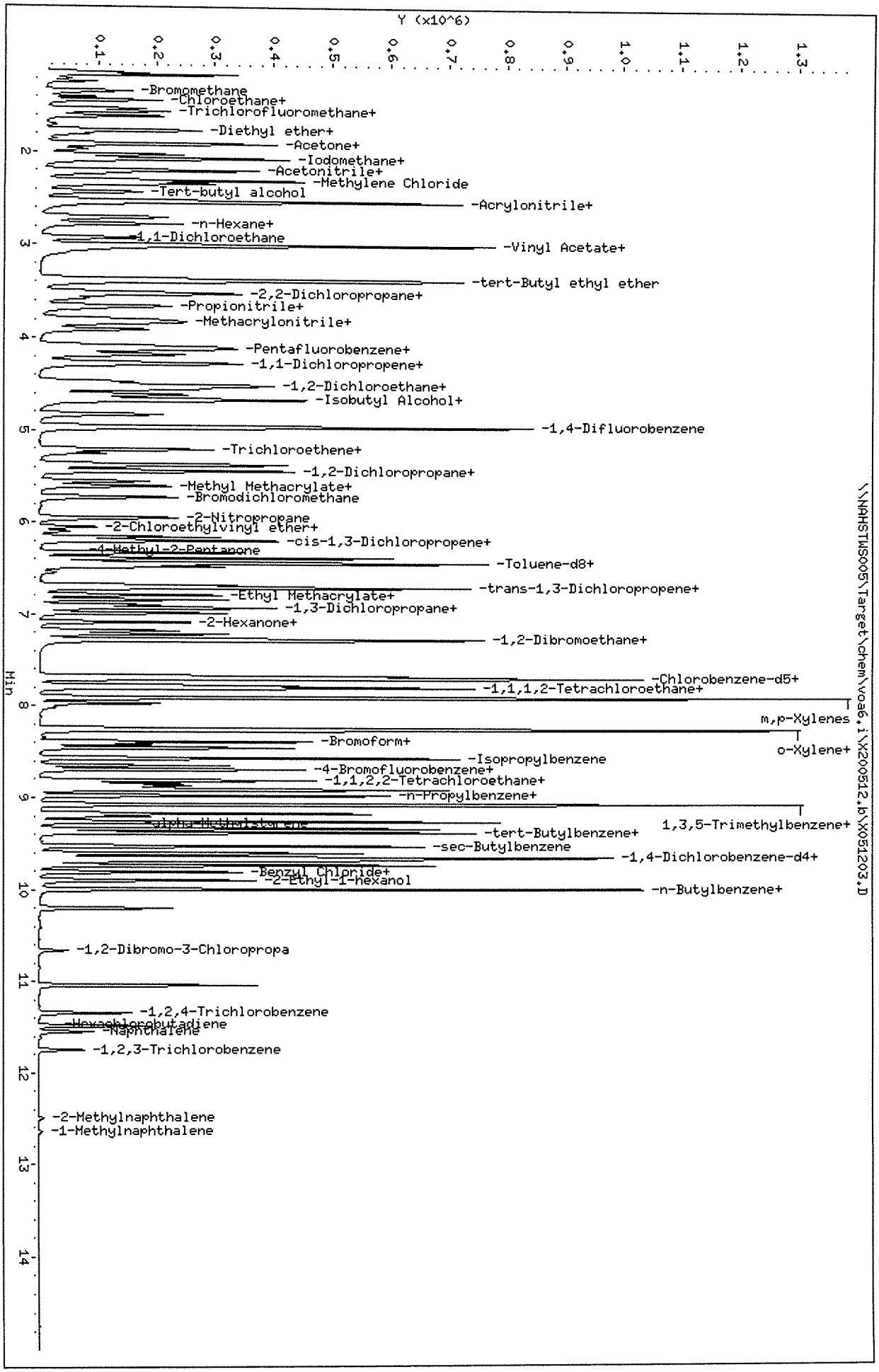
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	199856	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	288768	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	266171	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	136045	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	100057	50.0000	50.18
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	122456	50.0000	49.71
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	339111	50.0000	50.73
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	128711	50.0000	50.62
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	103602	50.0000	49.51
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	153628	50.0000	48.00
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	99042	50.0000	45.30
138 Freon TF	101	1.911	1.911	(0.457)	70336	50.0000	45.54
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	69364	50.0000	46.84
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	194206	50.0000	44.71
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	70884	50.0000	44.58
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	122392	50.0000	46.29
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	21762	50.0000	49.74
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	89251	50.0000	47.07(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	41708	50.0000	42.85
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	338960	50.0000	47.49
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	10395	50.0000	47.77
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	94600	50.0000	50.02

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051203.D Page 2
Report Date: 28-May-2020 16:37

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	179001	50.0000	47.23
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	155452	50.0000	51.70
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	109688	50.0000	46.66
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	331955	50.0000	47.25
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	199284	50.0000	48.07
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	148009	50.0000	48.08
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	201689	50.0000	46.90
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	152998	50.0000	48.35
24 2-Butanone	43	3.573	3.573	(0.854)	93134	100.000	103.39(H)
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	278237	50.0000	45.82
52 2-Hexanone	43	7.083	7.083	(0.923)	143621	100.000	87.25
77 4-Chlorotoluene	91	9.074	9.074	(0.939)	321478	50.0000	45.92
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	335863	50.0000	47.00
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	209397	100.000	87.13
10 Acetone	43	1.969	1.969	(0.471)	62067	100.000	88.46
37 Benzene	78	4.512	4.512	(0.908)	345446	50.0000	46.80
74 Bromobenzene	156	8.809	8.809	(0.912)	123460	50.0000	48.40
29 Bromochloromethane	128	3.795	3.795	(0.908)	54279	50.0000	46.80
39 Bromodichloromethane	83	5.729	5.729	(1.153)	133217	50.0000	49.42
66 Bromoform	173	8.415	8.415	(1.097)	76899	50.0000	50.42
6 Bromomethane	94	1.338	1.338	(0.320)	70286	50.0000	47.78
19 Carbon Disulfide	76	2.069	2.069	(0.495)	492647	100.000	90.94
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	136954	50.0000	47.20
59 Chlorobenzene	112	7.692	7.692	(1.003)	254166	50.0000	48.19
7 Chloroethane	64	1.403	1.403	(0.336)	62236	50.0000	43.96
28 Chloroform	83	3.910	3.910	(0.935)	171513	50.0000	48.02
3 Chloromethane	50	1.073	1.073	(0.257)	127871	50.0000	40.71
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	101220	50.0000	48.00
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	155271	50.0000	49.18
55 Dibromochloromethane	129	7.176	7.176	(0.936)	107852	50.0000	50.06
44 Dibromomethane	93	5.557	5.557	(1.118)	62913	50.0000	49.34
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	105481	50.0000	45.29
61 Ethylbenzene	106	7.799	7.799	(1.017)	132390	50.0000	47.83
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	32349	50.0000	43.67
67 Isopropylbenzene	105	8.566	8.566	(1.117)	392699	50.0000	47.31
62 m,p-Xylenes	106	7.907	7.907	(1.031)	321064	100.000	95.56
17 Methylene Chloride	84	2.305	2.305	(0.551)	92963	50.0000	47.20
87 n-Butylbenzene	91	9.999	9.999	(1.035)	271580	50.0000	47.10
73 n-Propylbenzene	91	8.917	8.917	(0.923)	444735	50.0000	45.47
92 Naphthalene	128	11.546	11.546	(1.195)	62488	50.0000	48.78
63 o-Xylene	106	8.244	8.244	(1.075)	157531	50.0000	48.19
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	372053	50.0000	45.15
64 Styrene	104	8.258	8.258	(1.077)	276232	50.0000	48.76
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	274198	50.0000	45.97
56 Tetrachloroethene	164	6.933	6.933	(0.904)	83449	50.0000	47.52
50 Toluene	91	6.446	6.446	(0.840)	375679	50.0000	47.69
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	87393	50.0000	48.06
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	144647	50.0000	50.52
38 Trichloroethene	130	5.206	5.206	(1.048)	100047	50.0000	48.28
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	151858	50.0000	47.22
5 Vinyl Chloride	62	1.138	1.138	(0.272)	115944	50.0000	41.85

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Date : 12-MAY-2020 10:49
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\X200512.b\X051205.D Page 1
Report Date: 28-May-2020 16:37

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051205.D
Lab Smp Id: VLCSW-200512 Client Smp ID: VLCSW-200512
Inj Date : 12-MAY-2020 11:37
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200512;VLCSW-200512;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 28-May-2020 16:37 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

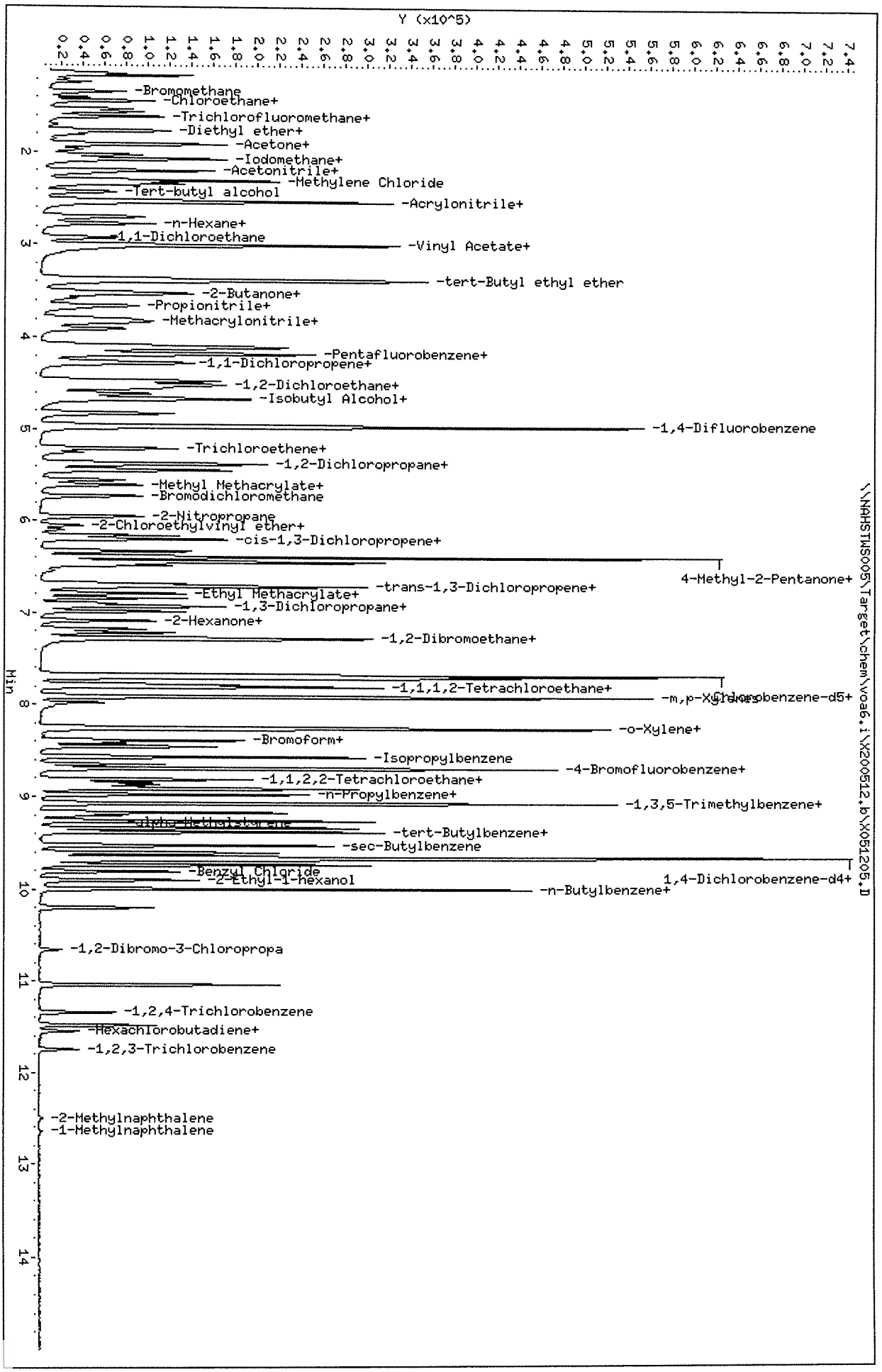
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	207525	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	299977	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	276008	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	141106	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	102421	49.4699	49.46
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	128165	50.1103	50.11
$	48 Toluene-d8	98	6.388	6.388	(0.833)	351995	50.7868	50.78
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	132774	50.3579	50.35
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	42552	19.6142	19.61
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	63790	19.1945	19.19
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	40837	18.0084	18.00
	138 Freon TF	101	1.919	1.911	(0.459)	30282	18.8821	18.88
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	29001	18.8890	18.88
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	81032	17.9665	17.96
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	29161	17.6622	17.66
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	50620	18.4331	18.43
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	10136	22.7608	22.76
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	36306	18.4642	18.46(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	19577	20.8392	20.83
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	142520	19.2548	19.25
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	4331	20.0720	20.07
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	38720	19.7459	19.74

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.991	(1.034)	72580	18.4639	18.46
33	1,2-Dichloroethane	62	4.562	4.555	(0.918)	61569	19.7125	19.71
42	1,2-Dichloropropane	63	5.443	5.436	(1.095)	44986	18.4236	18.42
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	140052	19.2225	19.22
83	1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	81271	18.9009	18.90
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	60471	18.9465	18.94
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	81957	18.3756	18.37
26	2,2-Dichloropropane	77	3.516	3.509	(0.841)	64035	19.4884	19.48
24	2-Butanone	43	3.580	3.573	(0.856)	35353	37.7990	37.79
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	114765	18.2217	18.22
52	2-Hexanone	43	7.090	7.083	(0.924)	59386	34.7935	34.79
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	132941	18.3091	18.30
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	144261	19.4638	19.46
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	87994	35.3095	35.30
10	Acetone	43	1.969	1.969	(0.471)	26300	34.5450	34.54
37	Benzene	78	4.512	4.512	(0.908)	141422	18.4437	18.44
74	Bromobenzene	156	8.809	8.809	(0.911)	50071	18.9270	18.92
29	Bromochloromethane	128	3.795	3.795	(0.908)	23607	19.6058	19.60
39	Bromodichloromethane	83	5.729	5.729	(1.153)	54737	19.5480	19.54
66	Bromoform	173	8.416	8.415	(1.097)	30726	19.4301	19.43
6	Bromomethane	94	1.338	1.338	(0.320)	32486	20.8563	20.85
19	Carbon Disulfide	76	2.069	2.069	(0.495)	204254	36.3110	36.31
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	56623	18.7869	18.78
59	Chlorobenzene	112	7.699	7.692	(1.004)	103992	19.0163	19.01
7	Chloroethane	64	1.403	1.403	(0.336)	26519	17.7921	17.79
28	Chloroform	83	3.910	3.910	(0.935)	71972	19.4069	19.40
3	Chloromethane	50	1.073	1.073	(0.257)	53558	16.7969	16.79
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	41859	19.1204	19.12
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	62508	19.0612	19.06
55	Dibromochloromethane	129	7.176	7.176	(0.936)	44249	19.8075	19.80
44	Dibromomethane	93	5.557	5.557	(1.118)	25974	19.6122	19.61
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	43218	18.5180	18.51
61	Ethylbenzene	106	7.800	7.799	(1.017)	55050	19.1807	19.18
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	17918	23.7740	23.77
67	Isopropylbenzene	105	8.566	8.566	(1.117)	163505	18.9966	18.99
62	m,p-Xylenes	106	7.907	7.907	(1.031)	133722	38.3855	38.38
17	Methylene Chloride	84	2.305	2.305	(0.551)	40237	19.0510	19.05
87	n-Butylbenzene	91	9.999	9.999	(1.034)	119050	19.9077	19.90
73	n-Propylbenzene	91	8.917	8.917	(0.922)	184323	18.1696	18.16
92	Naphthalene	128	11.546	11.546	(1.194)	25322	19.0611	19.06
63	o-Xylene	106	8.244	8.244	(1.075)	65786	19.4093	19.40
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	159338	18.6433	18.64
64	Styrene	104	8.258	8.258	(1.077)	113567	19.3330	19.33
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	118397	19.1391	19.13
56	Tetrachloroethene	164	6.933	6.933	(0.904)	34650	19.0313	19.03
50	Toluene	91	6.446	6.446	(0.840)	156014	19.0997	19.09
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	36426	19.2953	19.29
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	58335	19.6153	19.61
38	Trichloroethene	130	5.206	5.206	(1.048)	42349	19.6749	19.67
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	61791	18.5063	18.50
5	Vinyl Chloride	62	1.138	1.138	(0.272)	48606	16.8960	16.89

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6,i\X200512,b\X051205,D
Date : 12-MAY-2020 11:37
Client ID: VLCSW-200512
Sample Info: VLCSW-200512;VLCSW-200512;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\X200512.b\X051207.D
Lab Smp Id: VBLKW-200512 Client Smp ID: VBLKW-200512
Inj Date : 12-MAY-2020 12:25
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200512;VBLKW-200512;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 28-May-2020 16:37 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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	4.182	4.182	(1.000)	255183	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	350554	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	301980	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	145248	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	117431	46.1104	46.11
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	140604	44.7028	44.70
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	409818	54.0740	54.07
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	143035	49.5720	49.57

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051207.D

Date : 12-MAY-2020 12:25

Client ID: VBLKW-200512

Instrument: voa6.i

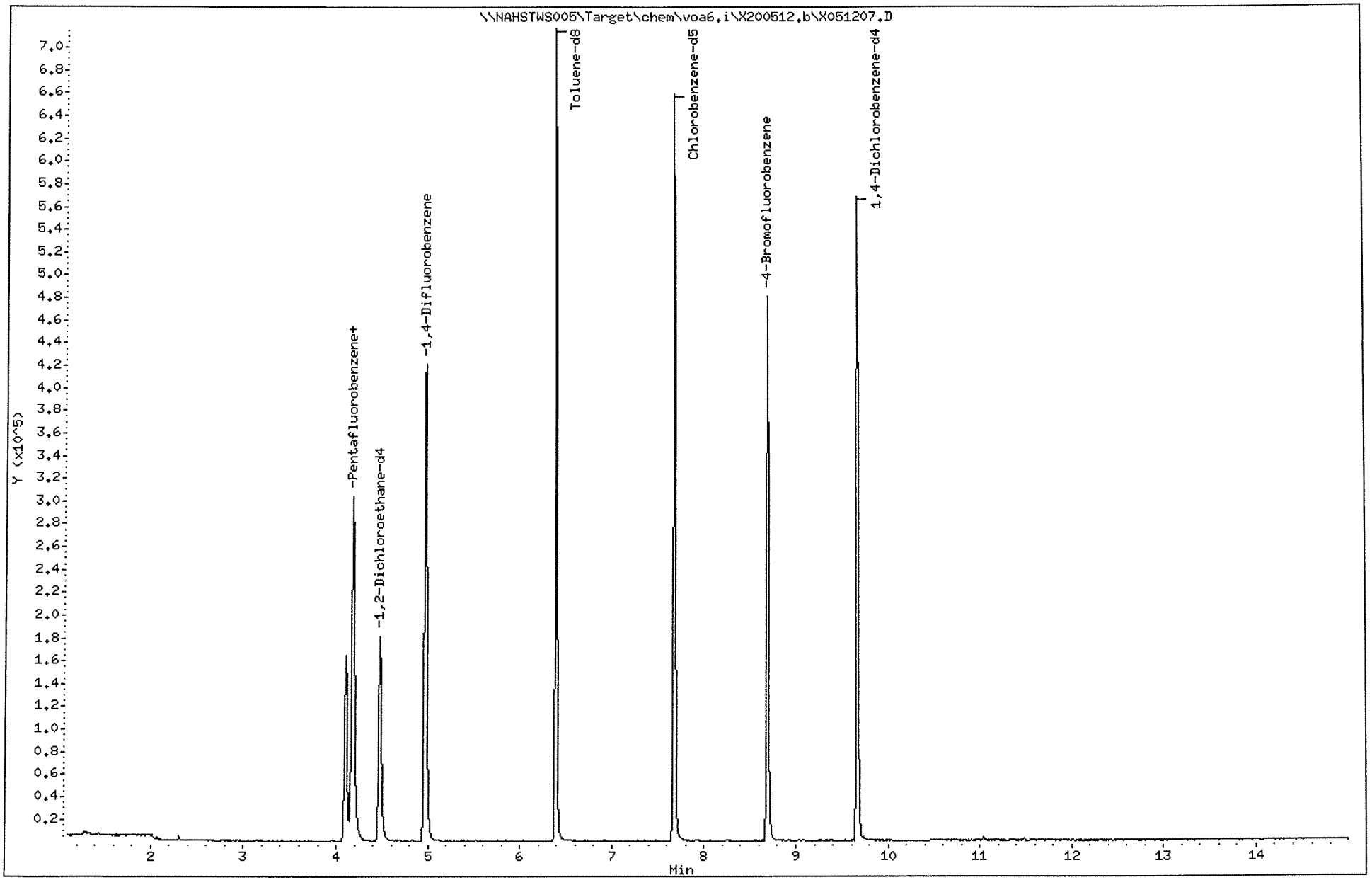
Sample Info: VBLKW-200512;VBLKW-200512;3;;BLANK

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051208.D Page 1
Report Date: 28-May-2020 16:37

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051208.D
Lab Smp Id: HS20050292-04 Client Smp ID: HS20050292-04
Inj Date : 12-MAY-2020 12:49
Operator : PC Inst ID: voa6.i
Smp Info : HS20050292-04;HS20050292-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 28-May-2020 16:37 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

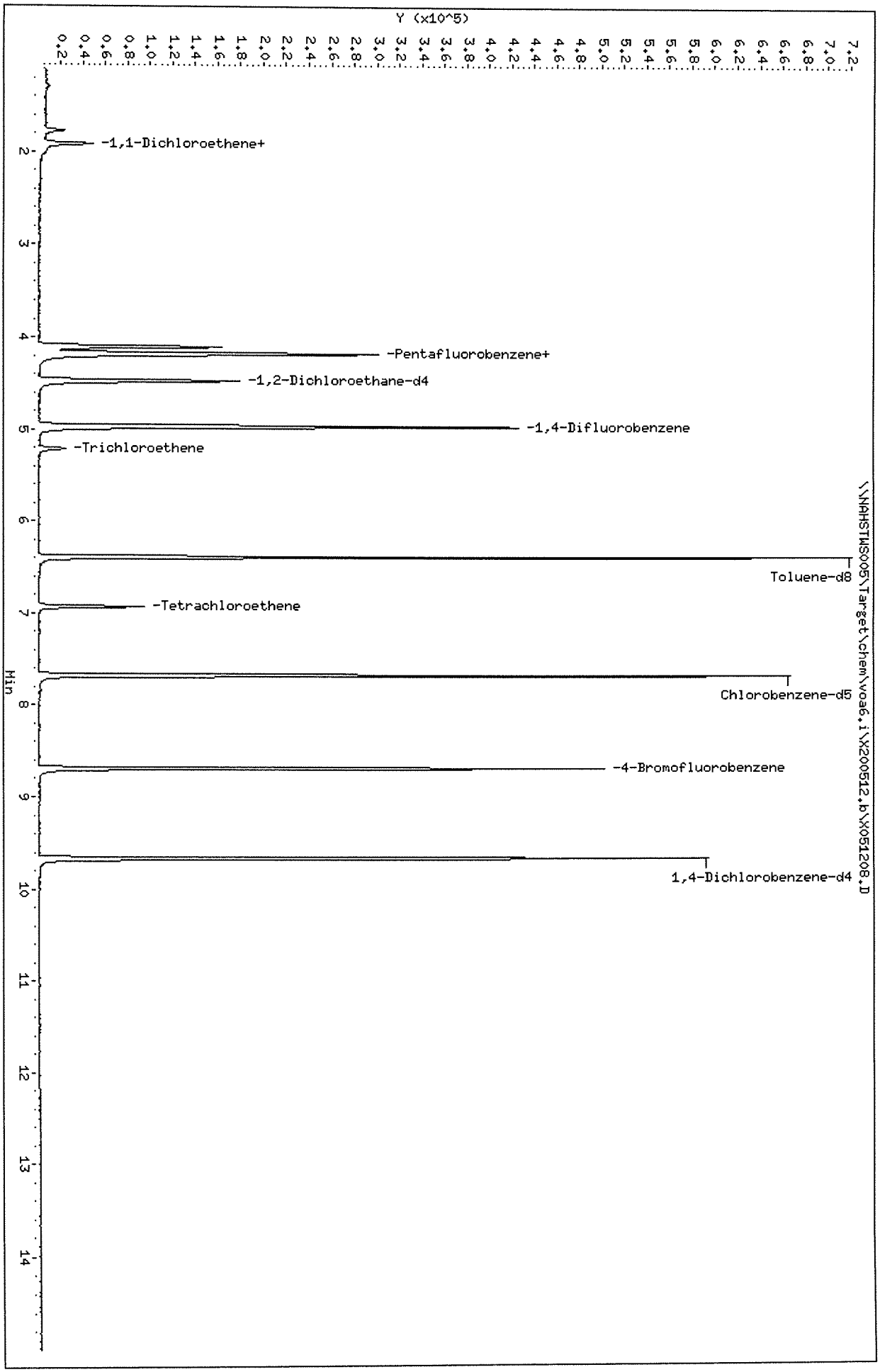
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	257454	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	353008	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	308065	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	150365	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	116075	45.1710	45.17
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	139537	43.9717	43.97
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	410110	53.0348	53.03
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	145503	49.4291	49.42
138 Freon TF	101	1.911	1.911	(0.457)	15902	7.99261	7.99
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	1242	0.60637	0.60(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	20022	9.85261	9.85
38 Trichloroethene	130	5.214	5.206	(1.049)	8308	3.27997	3.27

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051208.D
Date : 12-MAY-2020 12:49
Client ID: HS200502Q2-04
Sample Info: HS200502Q2-04;HS200502Q2-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051208.D

Date : 12-MAY-2020 12:49

Client ID: HS20050292-04

Instrument: voa6.i

Sample Info: HS20050292-04;HS20050292-04;;;

Purge Volume: 5.0

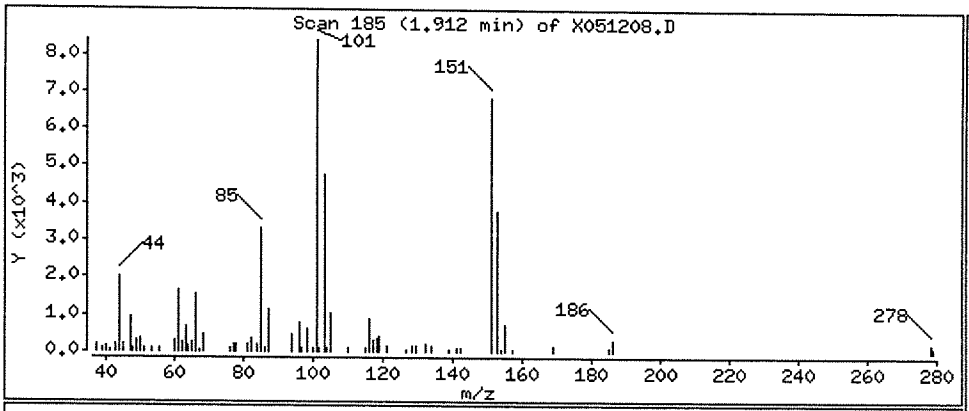
Operator: PC

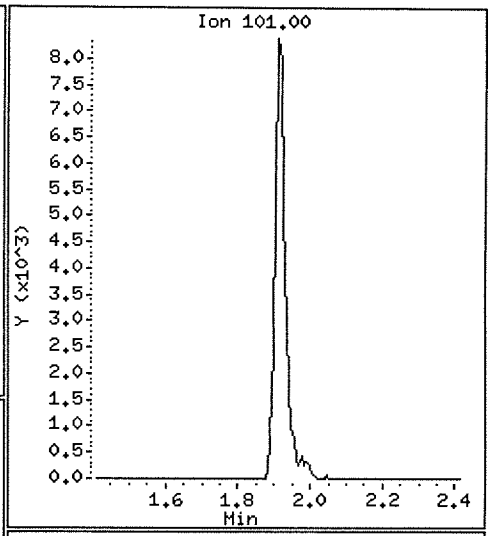
Column phase: DB624

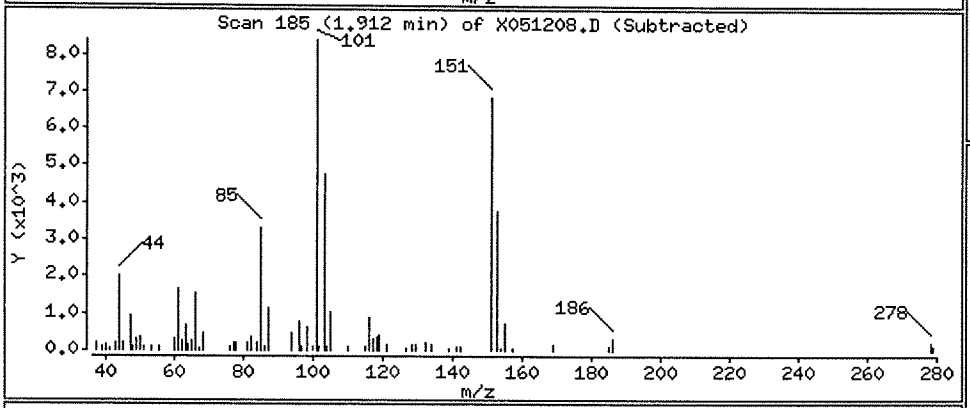
Column diameter: 0.18

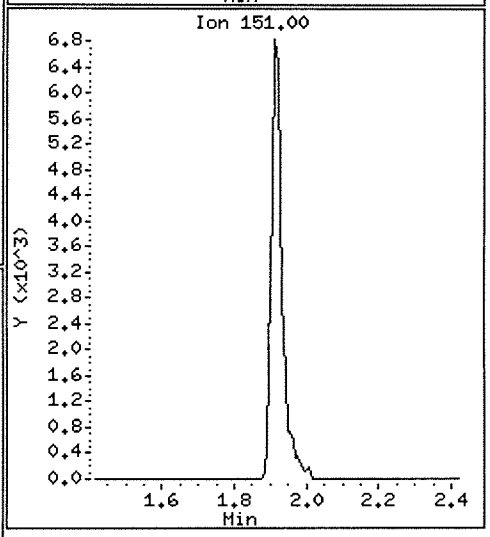
138 Freon TF

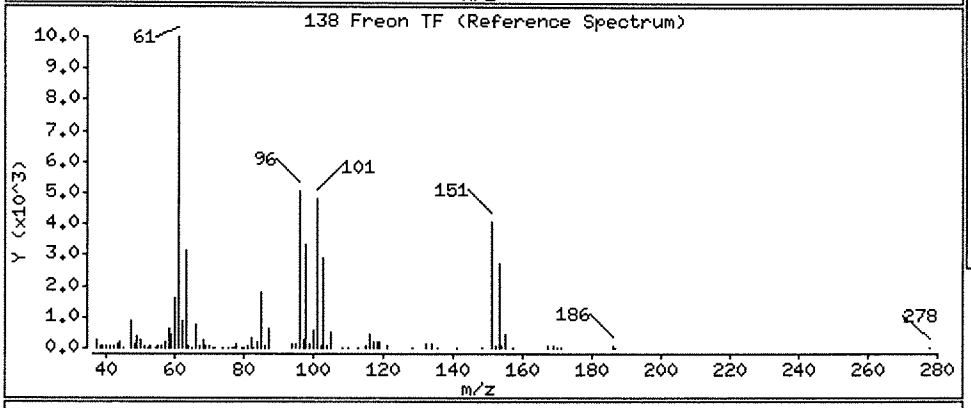
Concentration: 7.99 ug/l

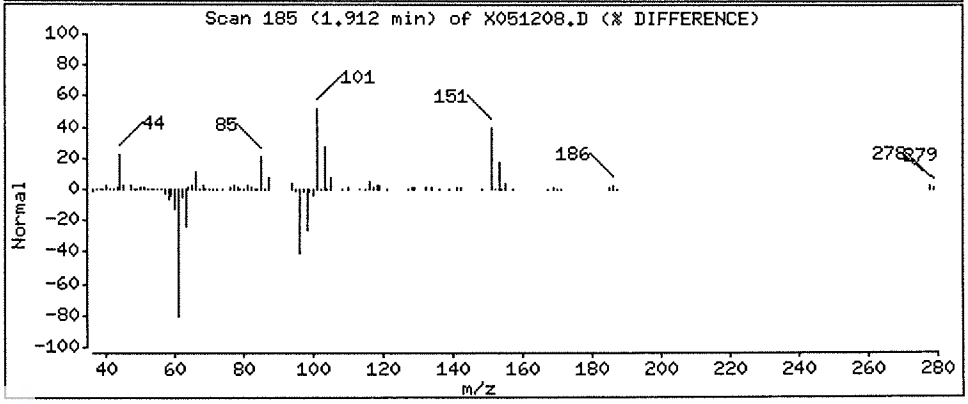












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051208.D

Date : 12-MAY-2020 12:49

Client ID: HS20050292-04

Instrument: voa6.i

Sample Info: HS20050292-04;HS20050292-04;;;

Purge Volume: 5.0

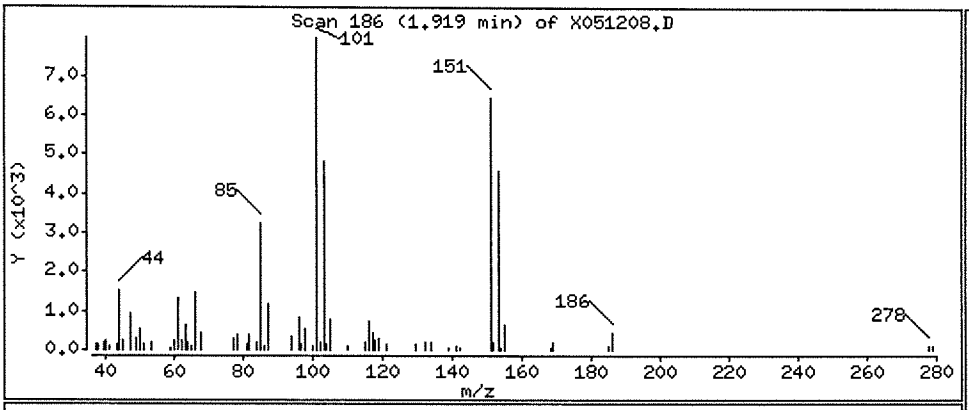
Operator: PC

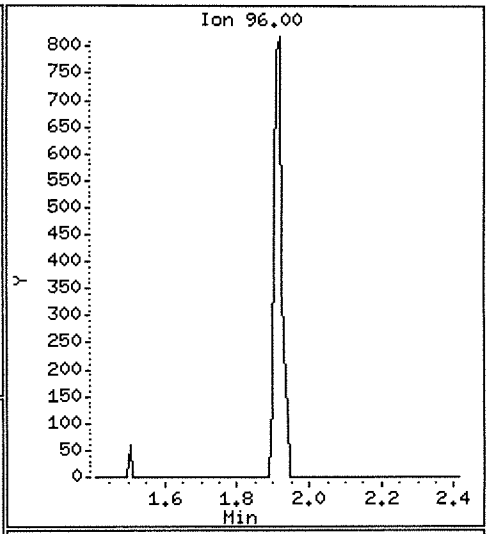
Column phase: DB624

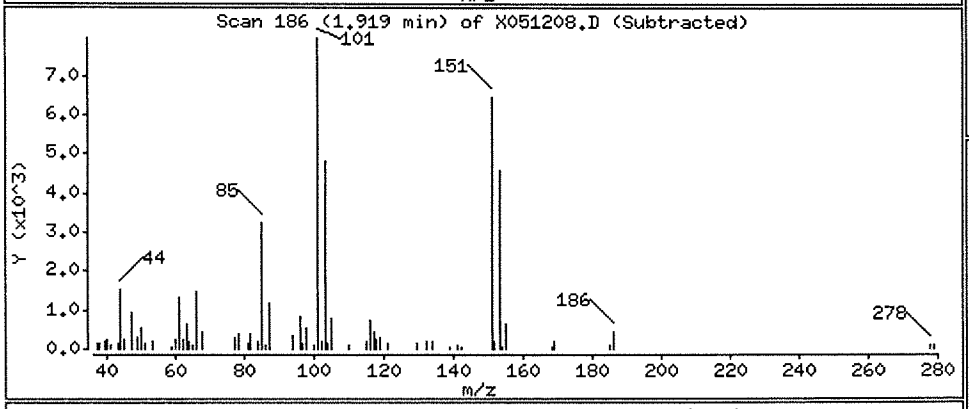
Column diameter: 0.18

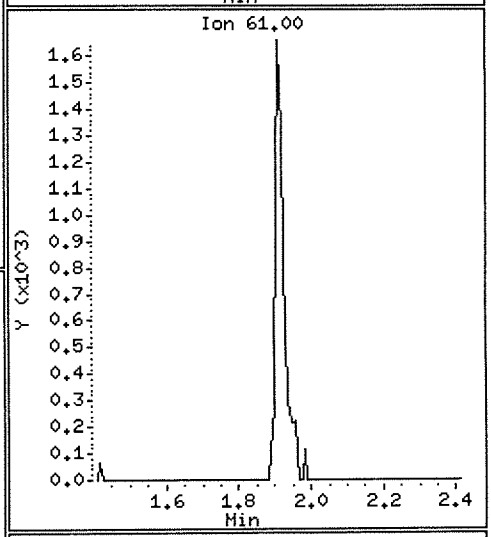
11 1,1-Dichloroethene

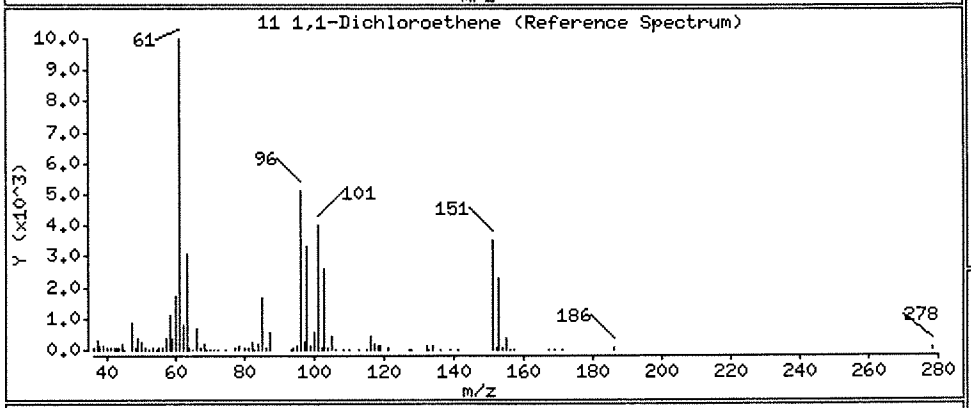
Concentration: 0.60 ug/l

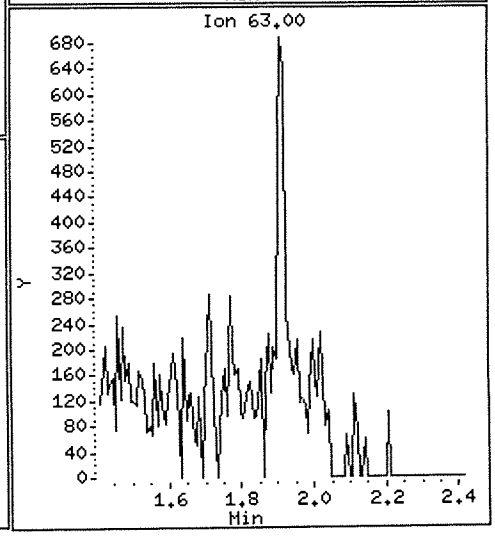


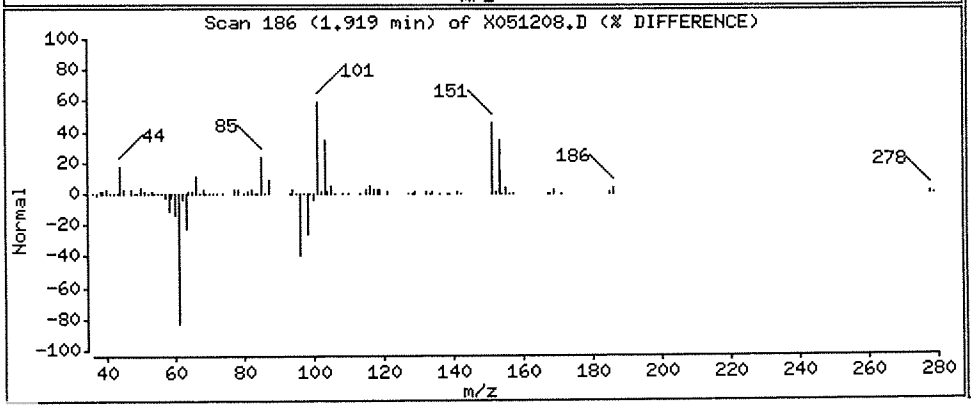












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051208.D

Date : 12-MAY-2020 12:49

Client ID: HS20050292-04

Instrument: voa6.i

Sample Info: HS20050292-04;HS20050292-04;;;

Purge Volume: 5.0

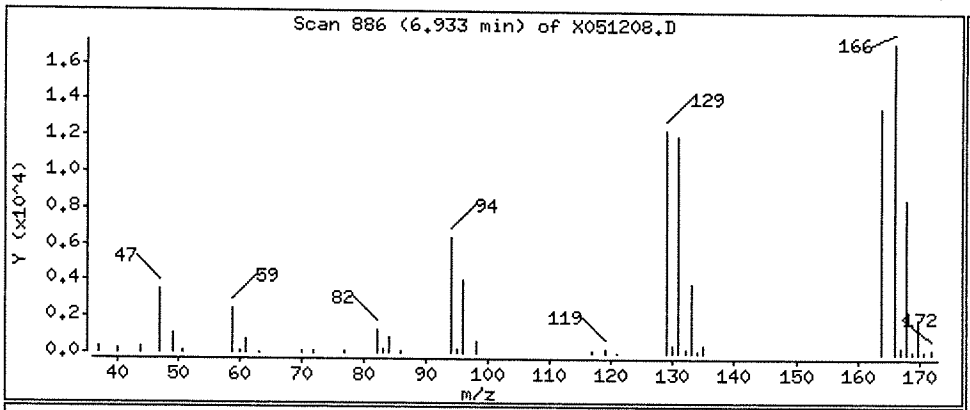
Operator: PC

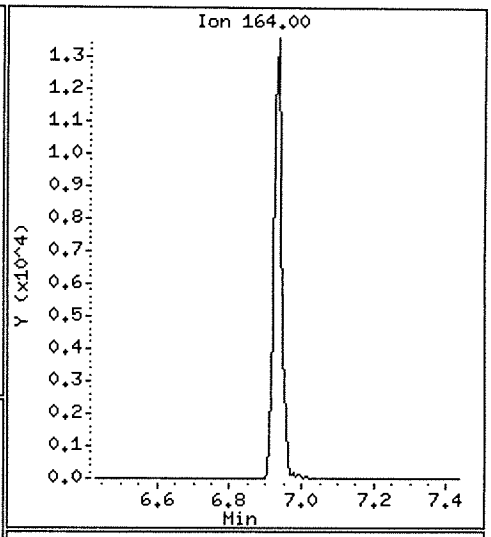
Column phase: DB624

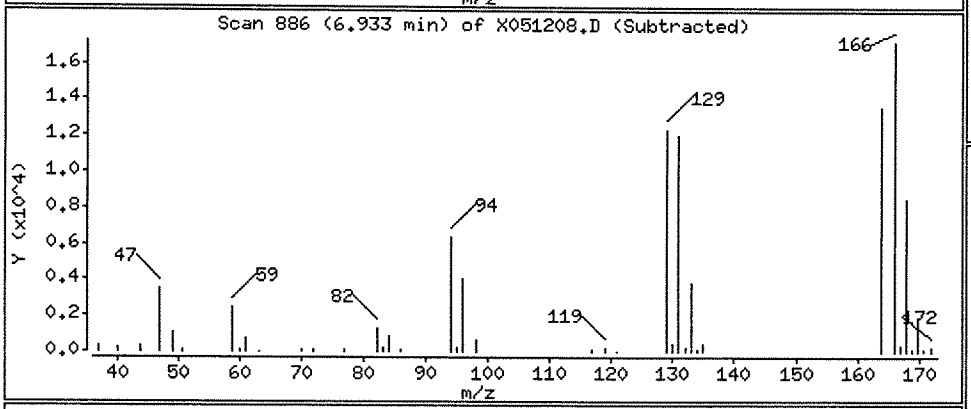
Column diameter: 0.18

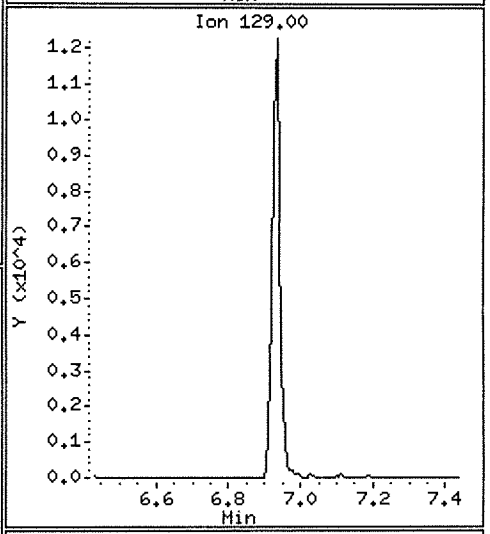
56 Tetrachloroethene

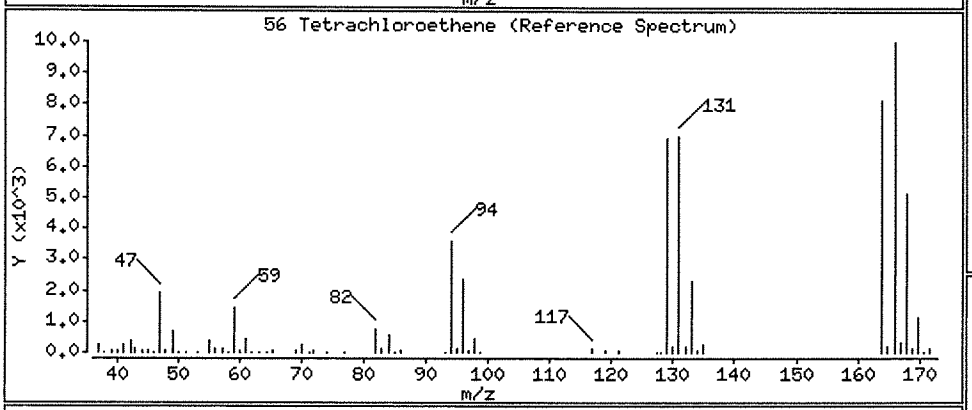
Concentration: 9.85 ug/l

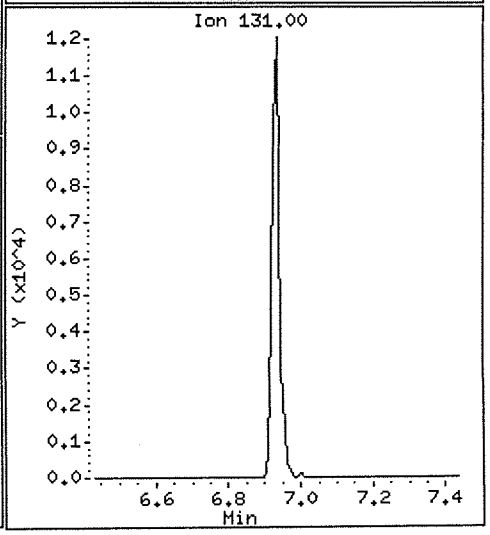


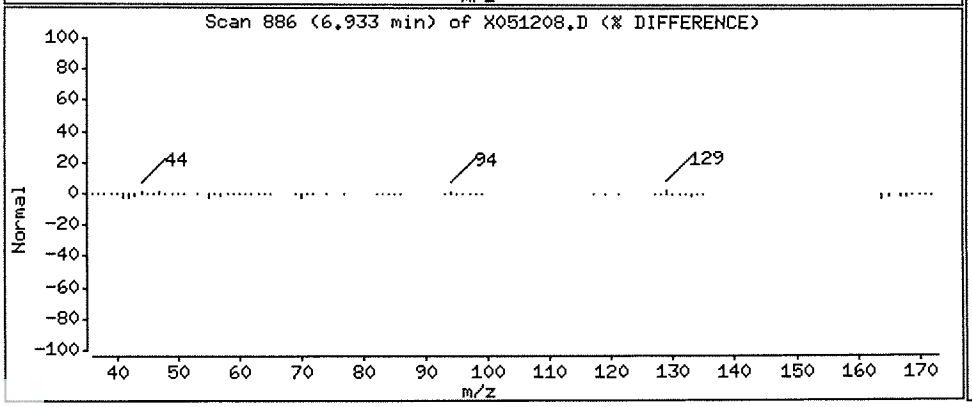












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051208.D

Date : 12-MAY-2020 12:49

Client ID: HS20050292-04

Instrument: voa6.i

Sample Info: HS20050292-04;HS20050292-04;;;

Purge Volume: 5.0

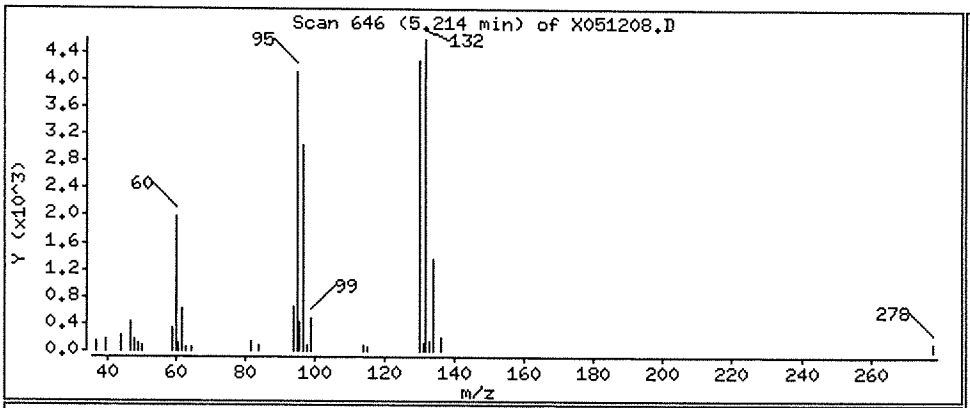
Operator: PC

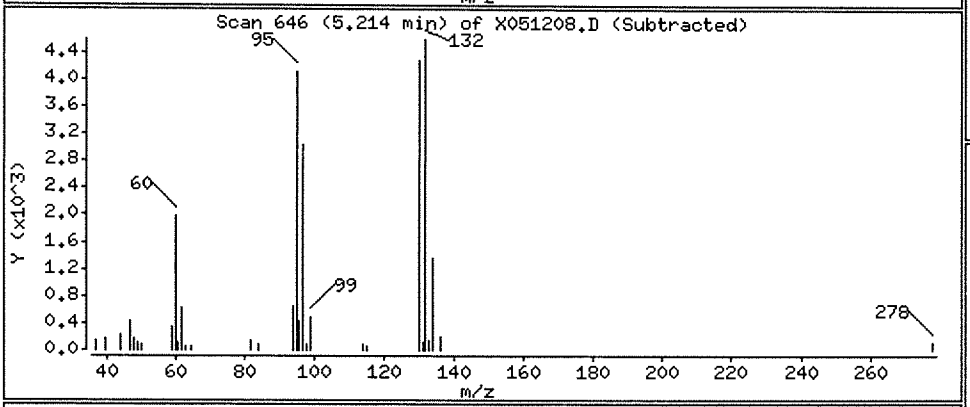
Column phase: DB624

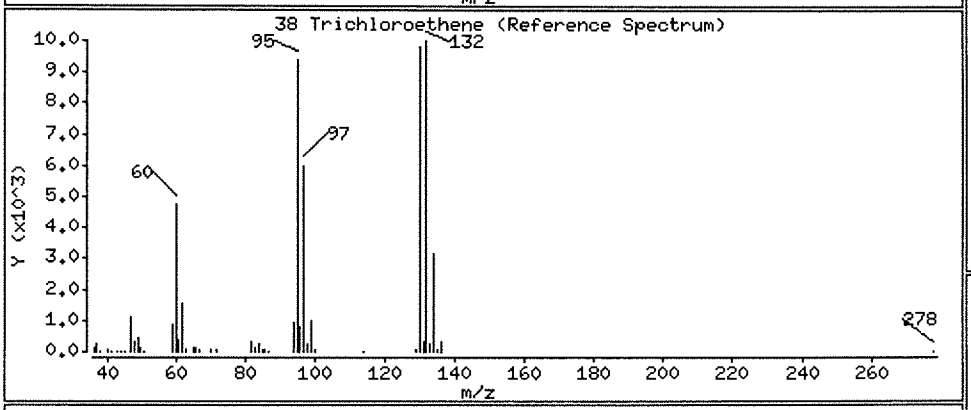
Column diameter: 0.18

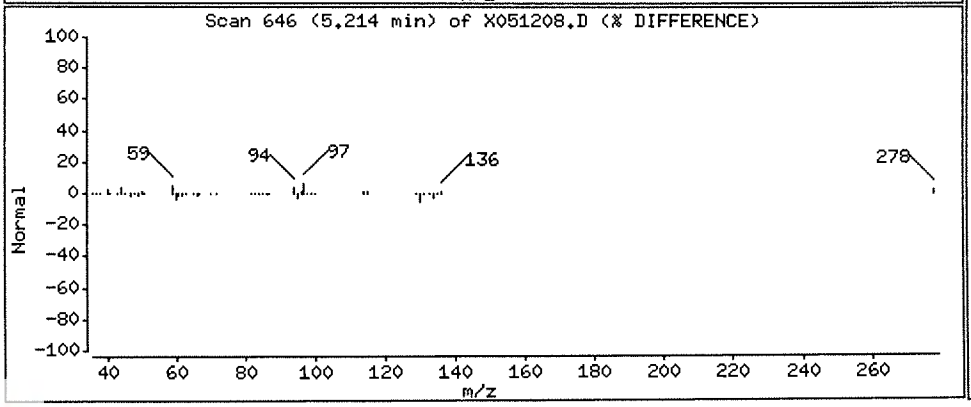
38 Trichloroethene

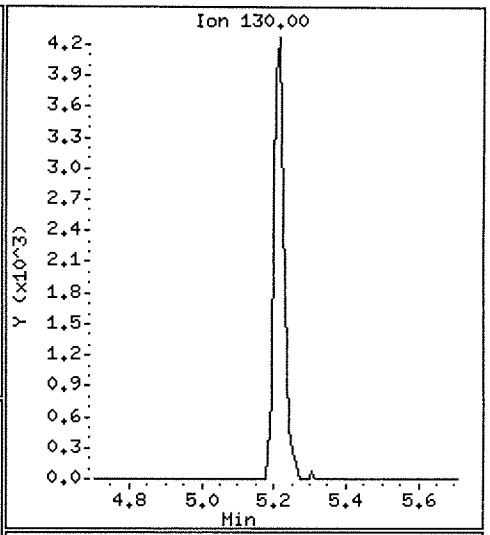
Concentration: 3.27 ug/l

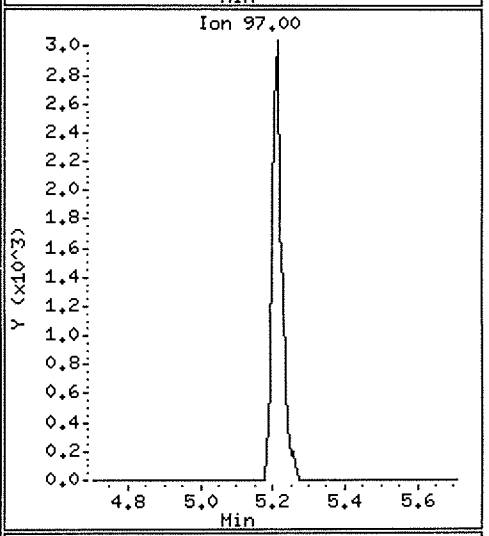


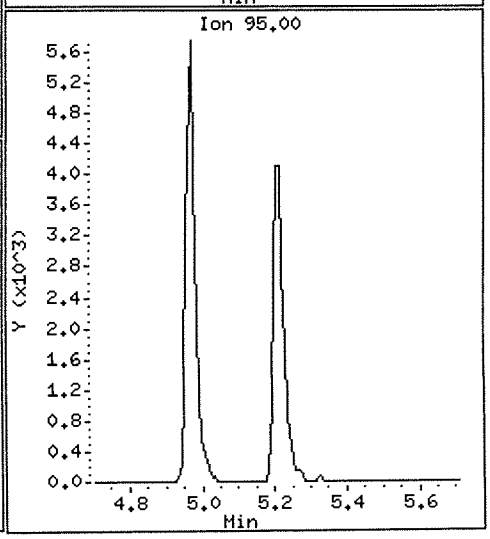












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051209.D Page 1
Report Date: 28-May-2020 16:37

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051209.D
Lab Smp Id: HS20050292-05 Client Smp ID: HS20050292-05
Inj Date : 12-MAY-2020 13:13
Operator : PC Inst ID: voa6.i
Smp Info : HS20050292-05;HS20050292-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 28-May-2020 16:37 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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	4.182	4.182	(1.000)	250395	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	355601	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	300401	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	138473	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	116258	46.5249	46.52
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	139288	45.1316	45.13
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	407930	54.1081	54.10
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	142908	49.7917	49.79

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051209.D

Date : 12-MAY-2020 13:13

Client ID: HS20050292-05

Instrument: voa6.i

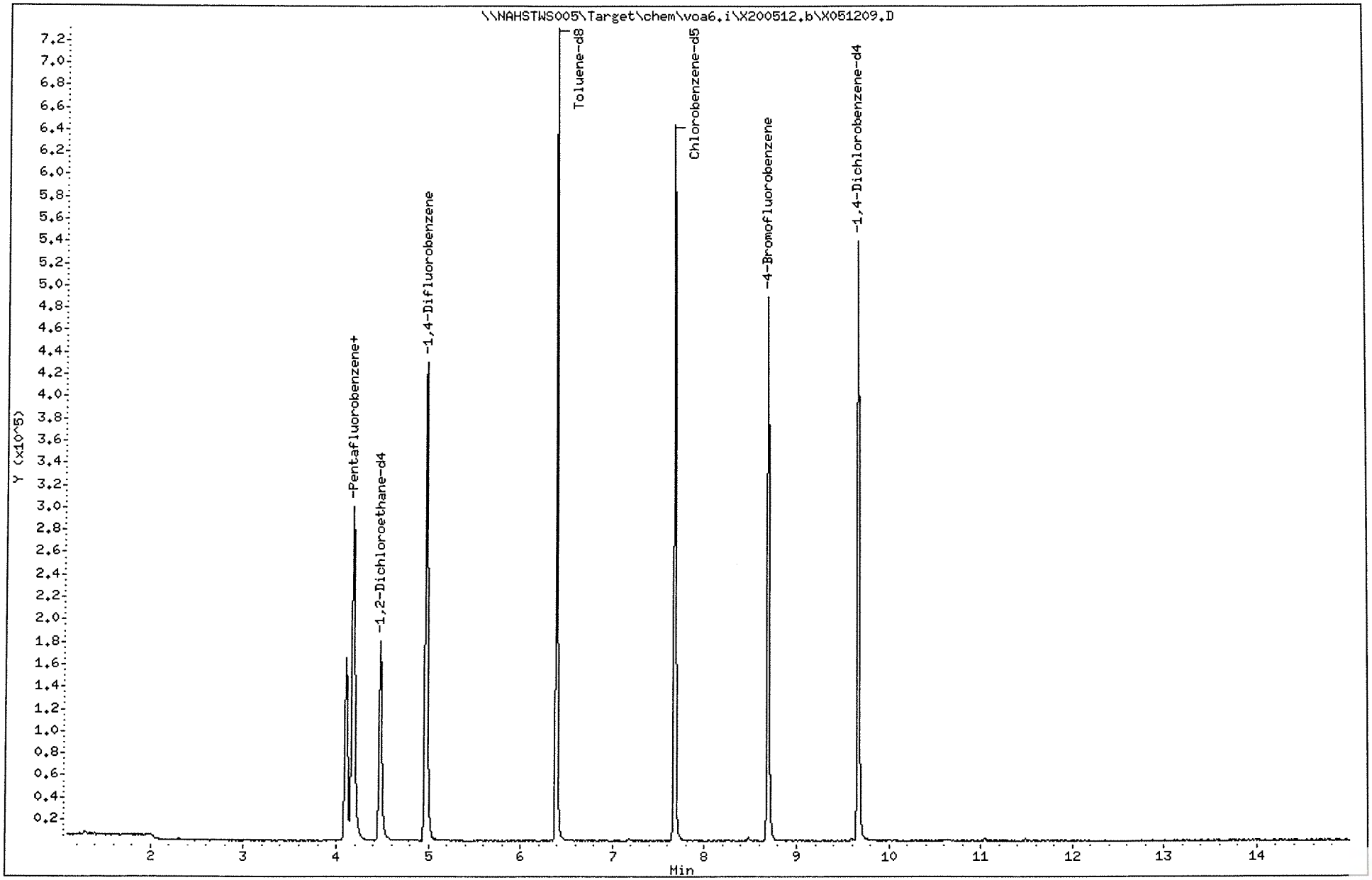
Sample Info: HS20050292-05;HS20050292-05;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051210.D Page 1
Report Date: 28-May-2020 16:37

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051210.D
Lab Smp Id: HS20050292-09 Client Smp ID: HS20050292-09
Inj Date : 12-MAY-2020 13:37
Operator : PC Inst ID: voa6.i
Smp Info : HS20050292-09;HS20050292-09;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 28-May-2020 16:37 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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	4.182	4.182	(1.000)	253509	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	356366	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	298931	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	140140	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	116539	46.0621	46.06
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	140853	45.0780	45.07
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	405502	54.0501	54.05
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	139442	48.8080	48.80

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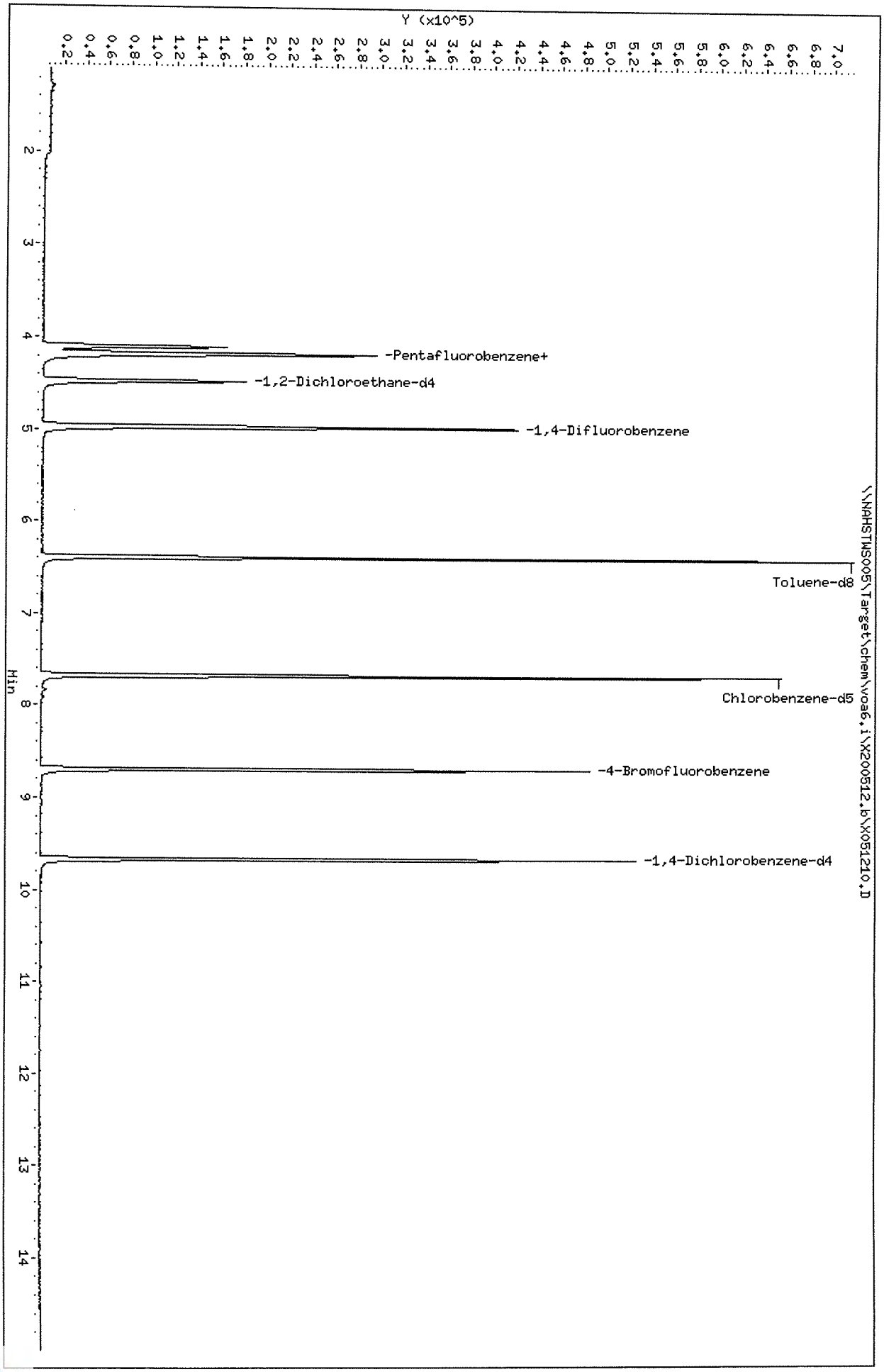
Date : 12-MAY-2020 13:37
Client ID: HS20050292-09
Sample Info: HS20050292-09;HS20050292-09;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



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Report Date: 28-May-2020 16:37

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051212.D
Lab Smp Id: HS20050292-06 Client Smp ID: HS20050292-06
Inj Date : 12-MAY-2020 14:25
Operator : PC Inst ID: voa6.i
Smp Info : HS20050292-06;HS20050292-06;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 28-May-2020 16:37 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

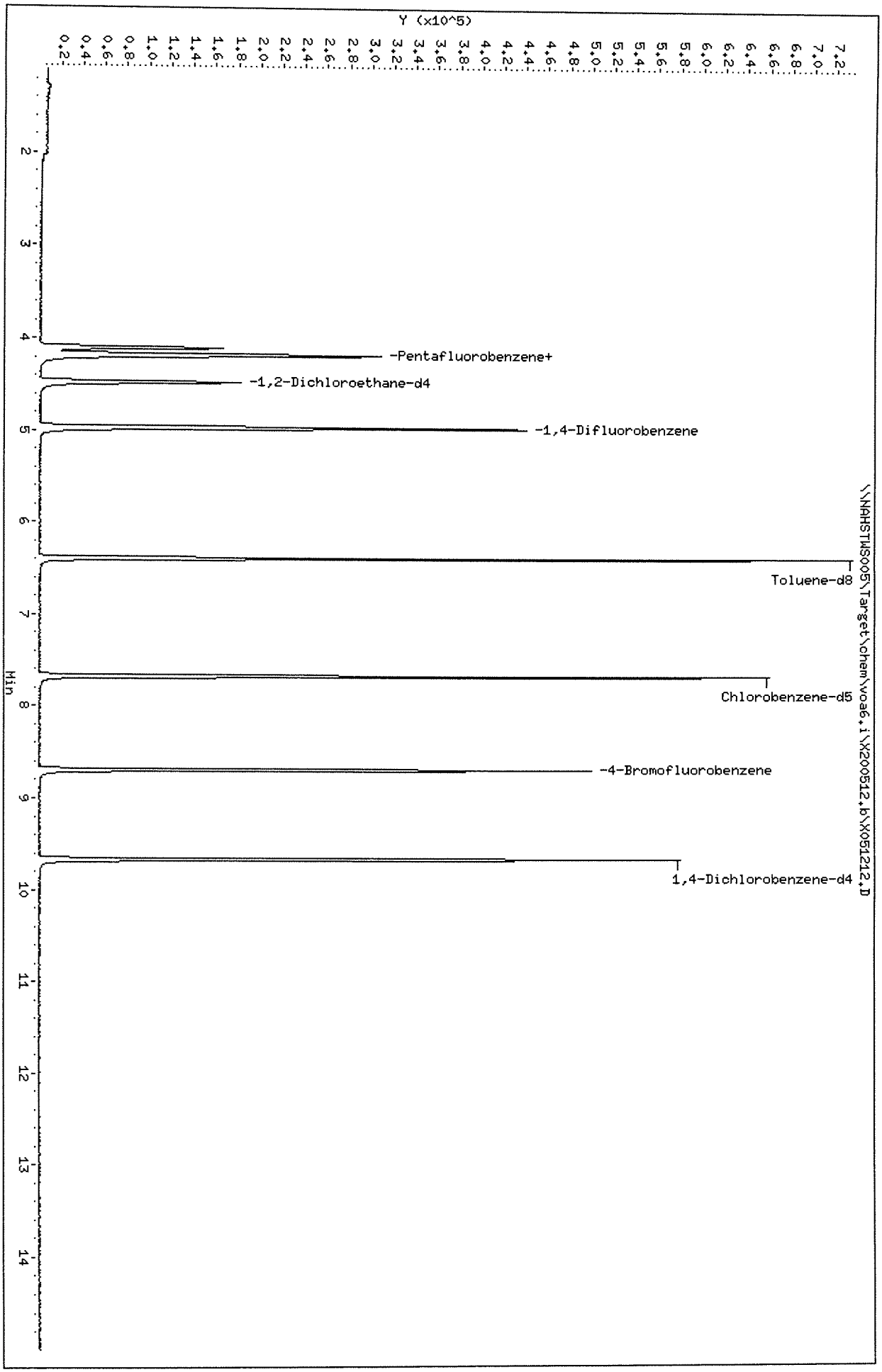
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.182	4.182	(1.000)	262049	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	363342	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	305088	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	150488	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	119212	45.5805	45.58
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	145705	45.1112	45.11
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	419694	54.8194	54.81
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	144165	49.4528	49.45

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051212.D
Date : 12-MAY-2020 14:25
Client ID: HS20050292-06
Sample Info: HS20050292-06;HS20050292-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



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Report Date: 28-May-2020 16:37

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051213.D
Lab Smp Id: HS20050292-07 Client Smp ID: HS20050292-07
Inj Date : 12-MAY-2020 14:49
Operator : PC Inst ID: voa6.i
Smp Info : HS20050292-07;HS20050292-07;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 28-May-2020 16:37 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

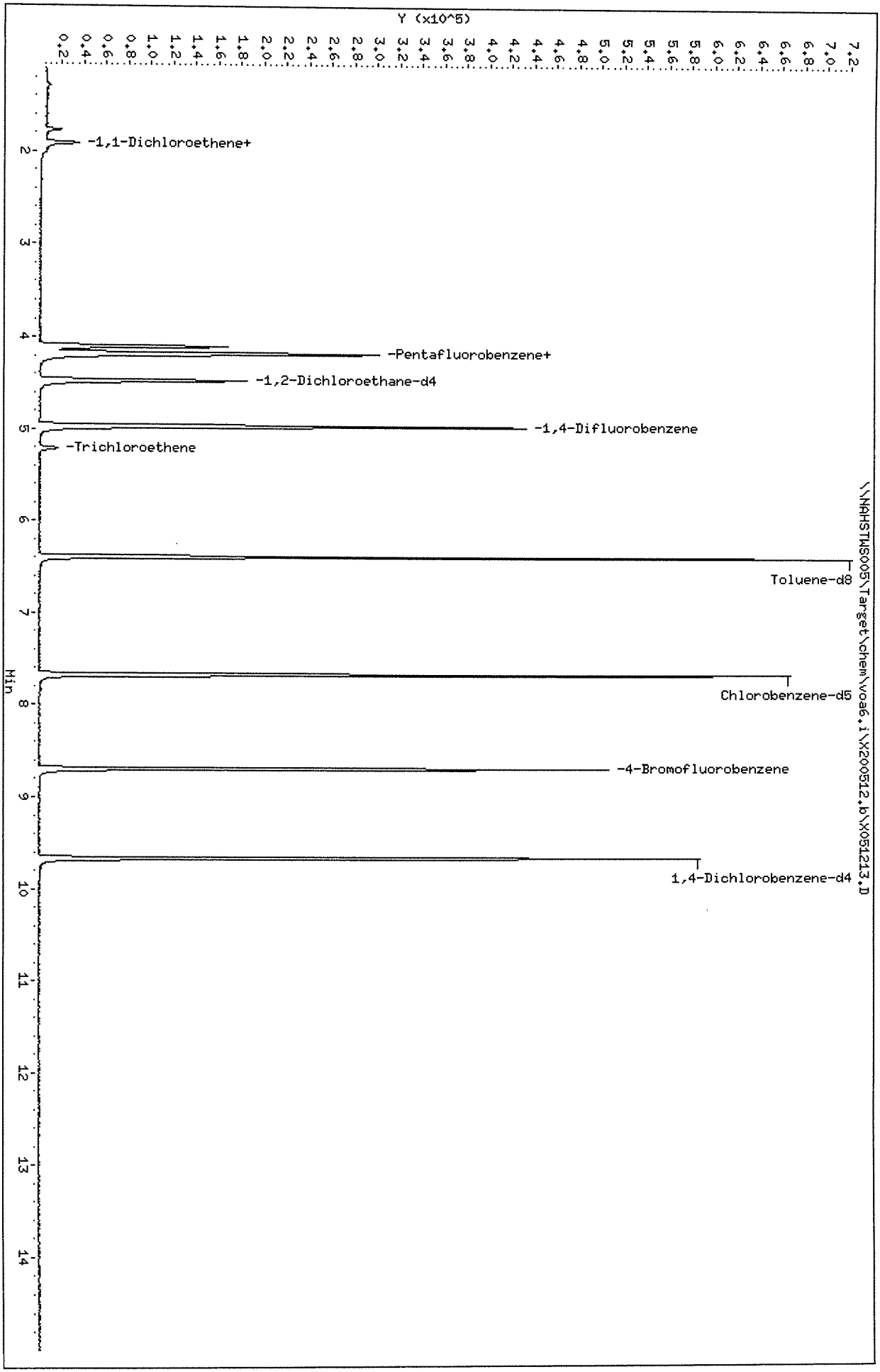
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	258374	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	356691	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	308440	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	150357	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	117092	45.4058	45.40
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	144346	45.3263	45.32
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	413553	53.4184	53.41
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	144455	49.0069	49.00
138 Freon TF	101	1.912	1.911	(0.457)	11290	5.65434	5.65
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	1112	0.54096	0.54(a)
38 Trichloroethene	130	5.214	5.206	(1.049)	5983	2.33768	2.33

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051213.D
Date : 12-MAY-2020 14:49
Client ID: HS20050292-07
Sample Info: HS20050292-07;HS20050292-07;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



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Date : 12-MAY-2020 14:49

Client ID: HS20050292-07

Instrument: voa6.i

Sample Info: HS20050292-07;HS20050292-07;;;

Purge Volume: 5.0

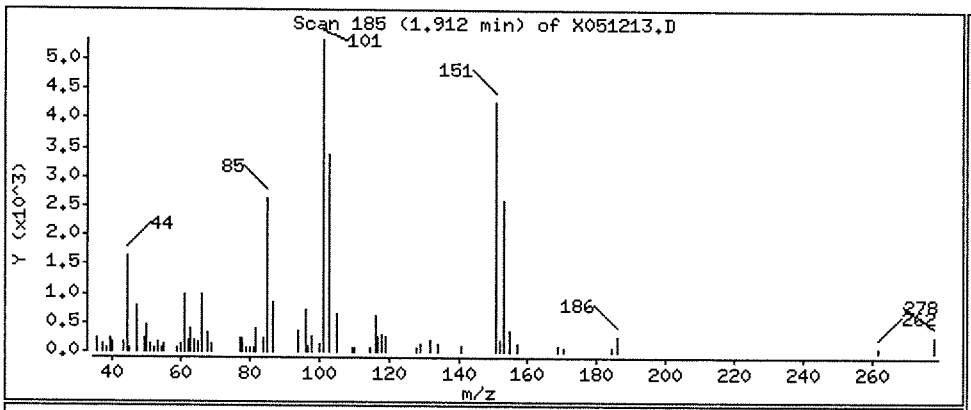
Operator: PC

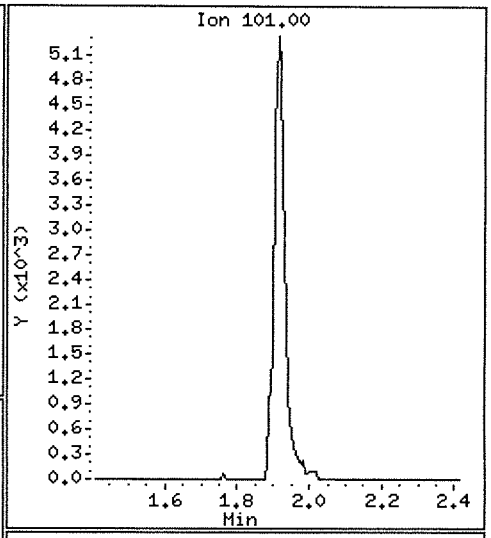
Column phase: DB624

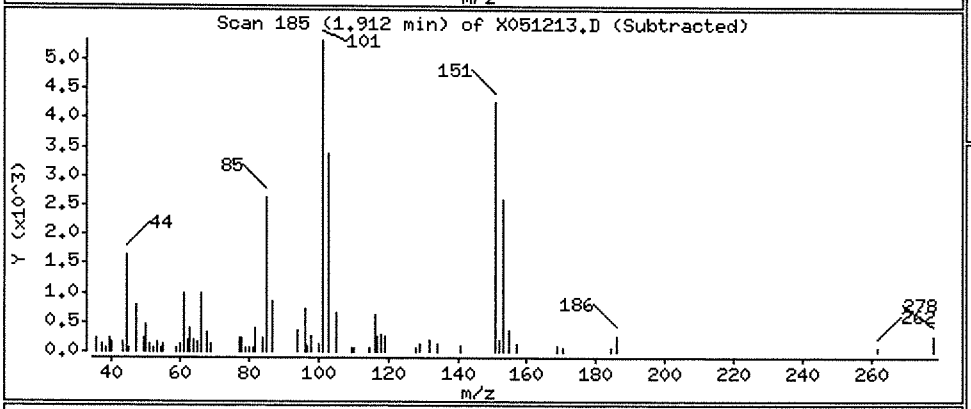
Column diameter: 0.18

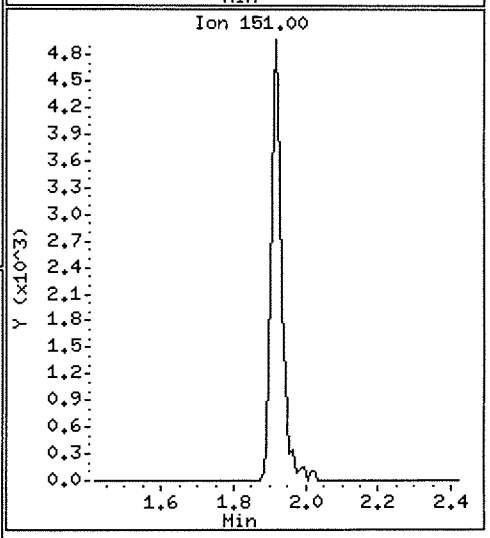
138 Freon TF

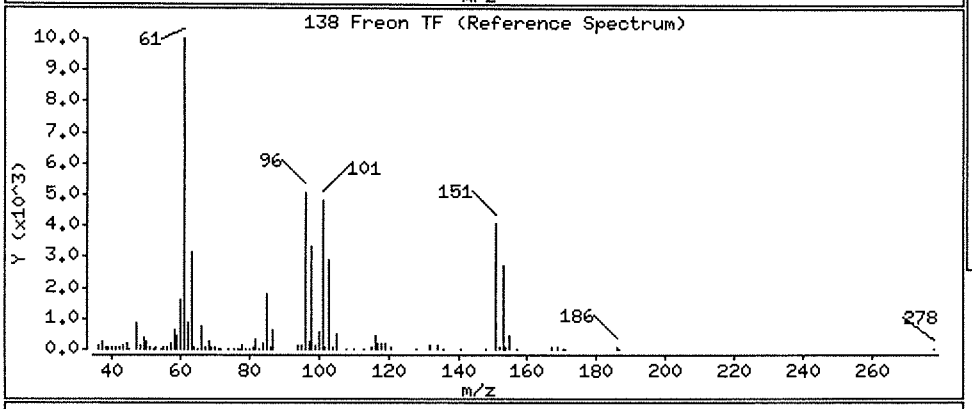
Concentration: 5.65 ug/l

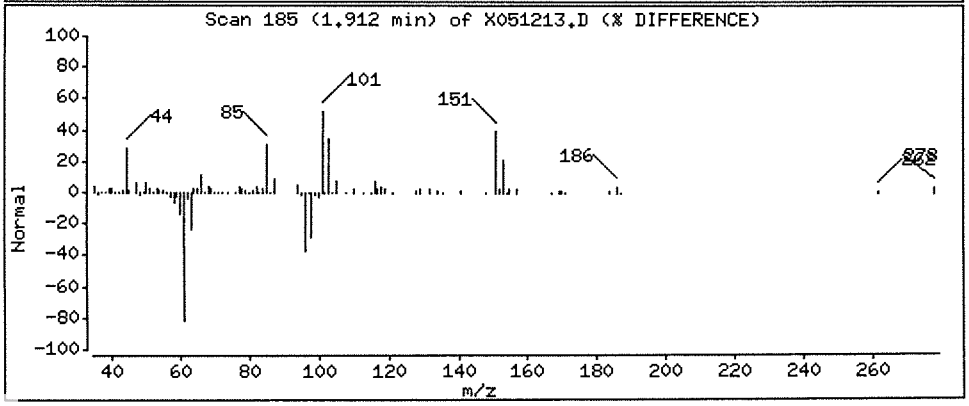












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Date : 12-MAY-2020 14:49

Client ID: HS20050292-07

Instrument: voa6.i

Sample Info: HS20050292-07;HS20050292-07;;;

Purge Volume: 5.0

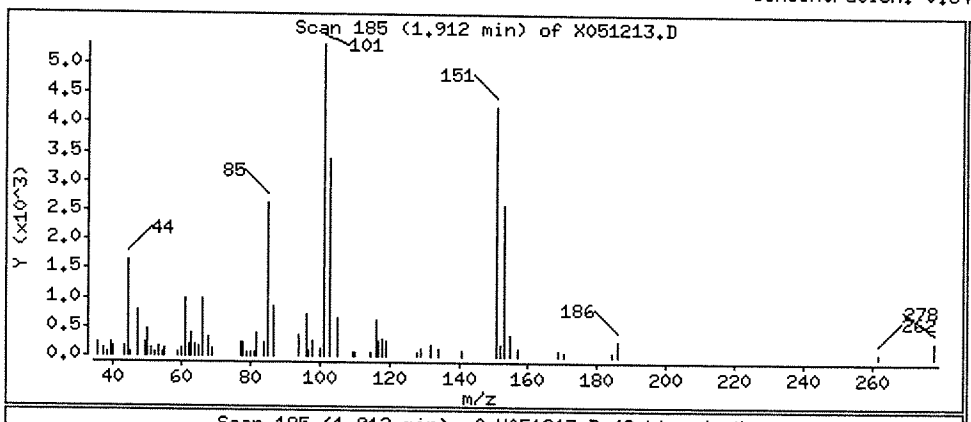
Operator: PC

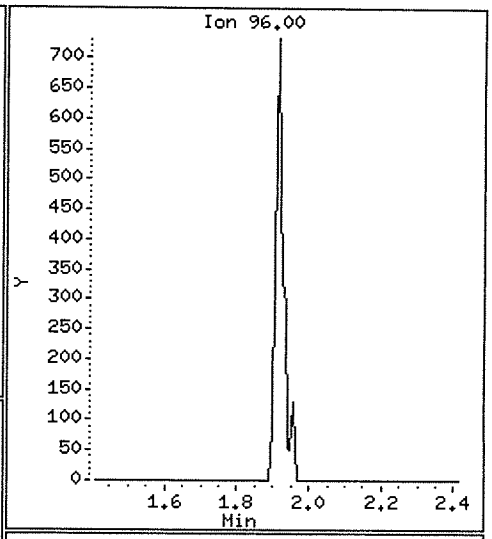
Column phase: DB624

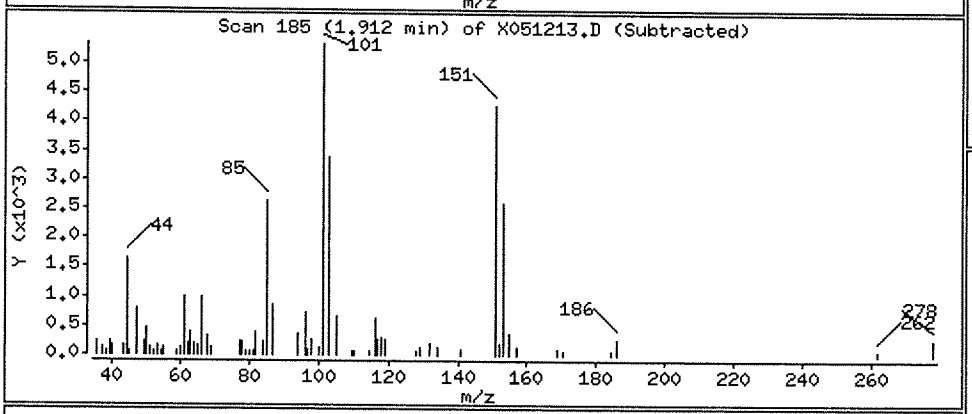
Column diameter: 0.18

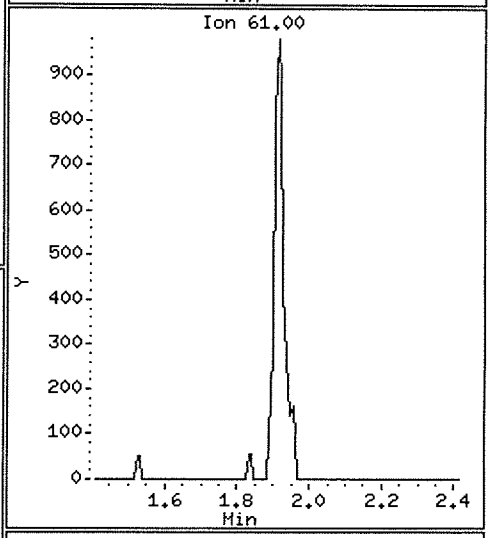
11 1,1-Dichloroethene

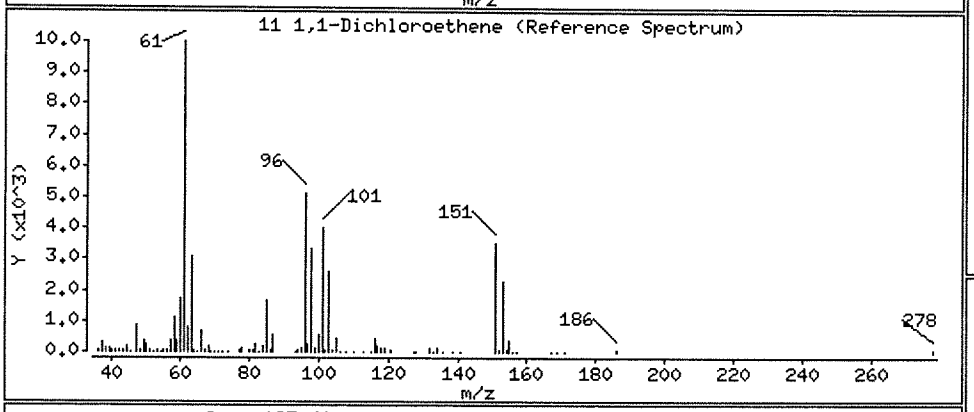
Concentration: 0.54 ug/l

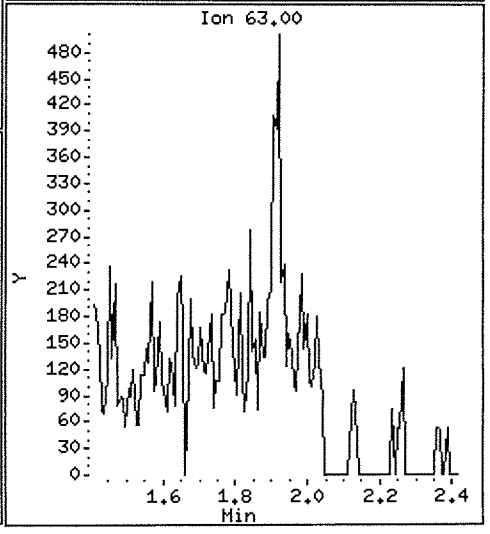


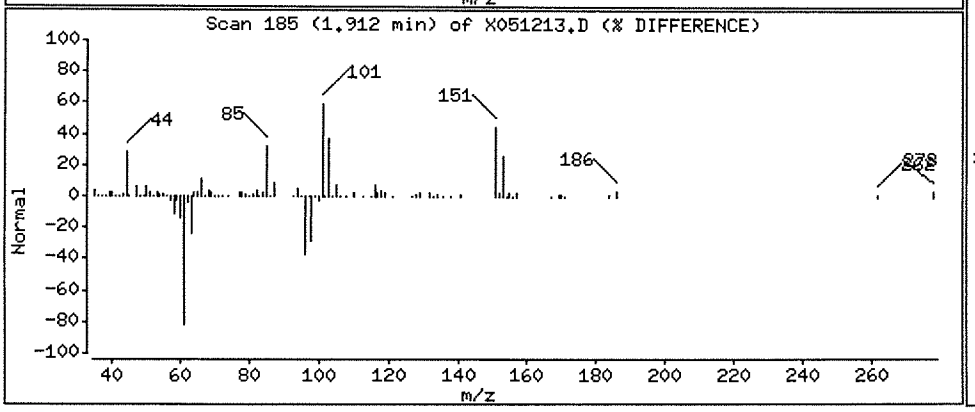












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051213.D

Date : 12-MAY-2020 14:49

Client ID: HS20050292-07

Instrument: voa6.i

Sample Info: HS20050292-07;HS20050292-07;;;

Purge Volume: 5.0

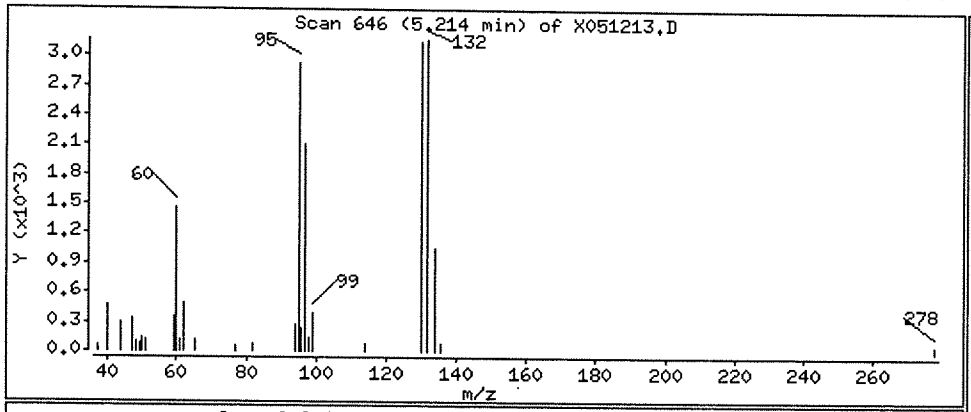
Operator: PC

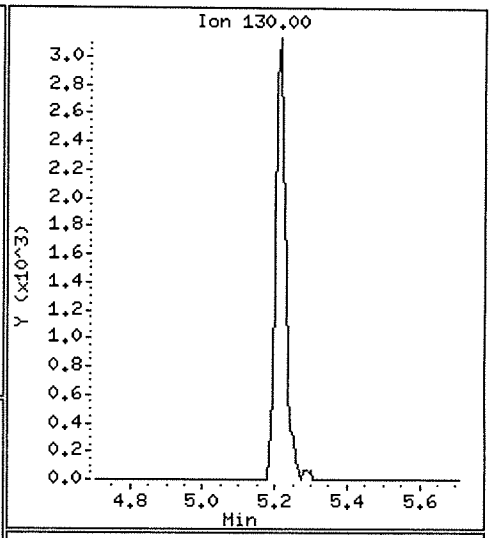
Column phase: DB624

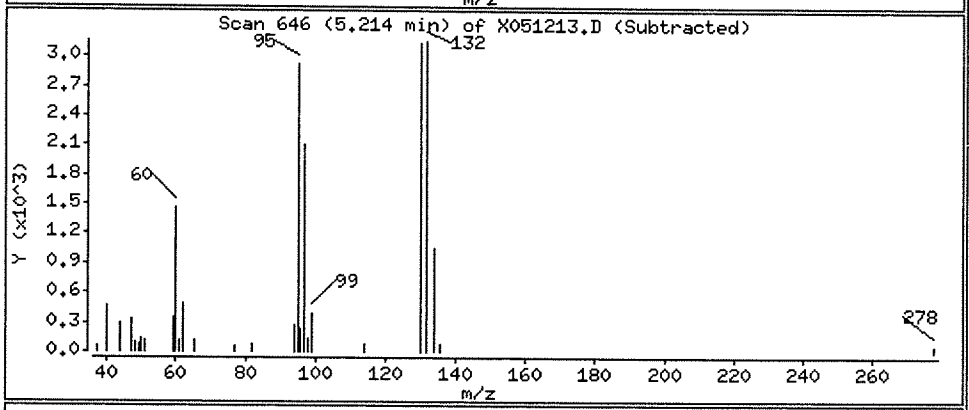
Column diameter: 0.18

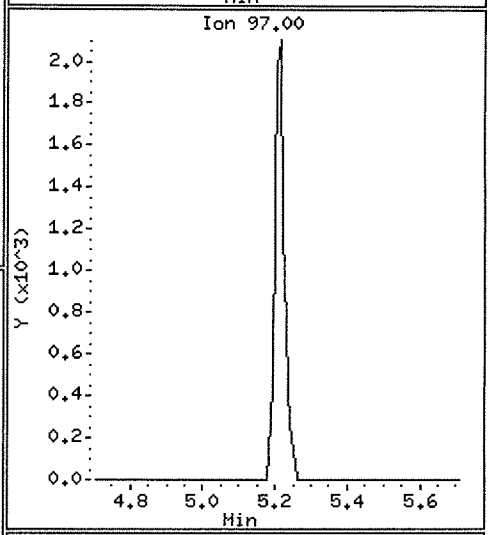
38 Trichloroethene

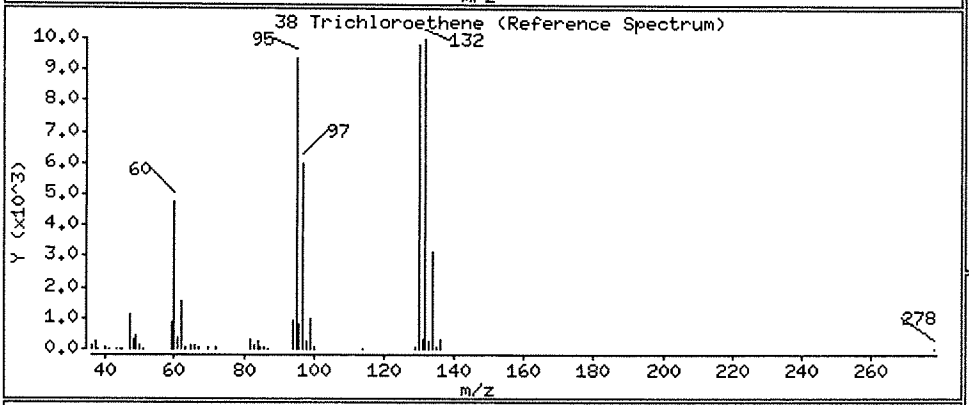
Concentration: 2.33 ug/l

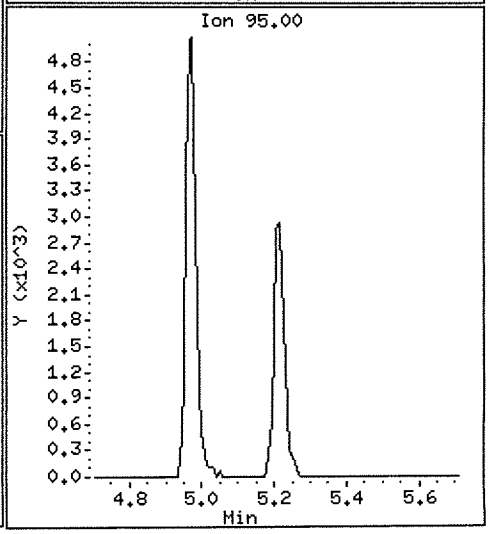


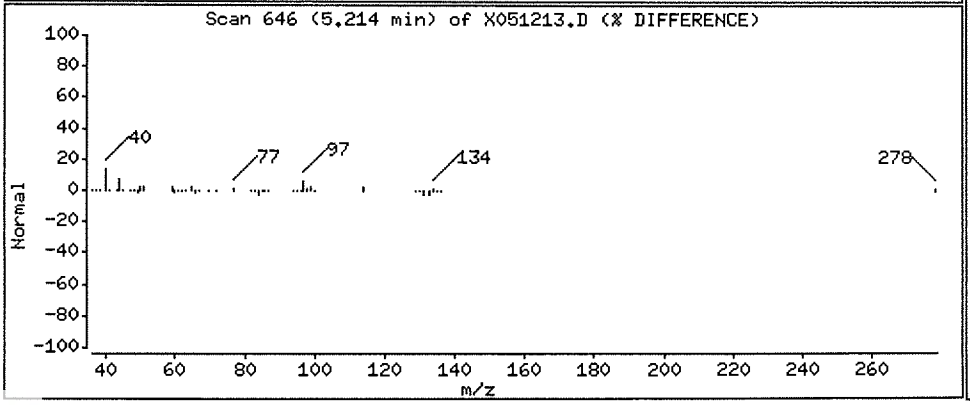












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051214.D Page 1
Report Date: 28-May-2020 16:37

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051214.D
Lab Smp Id: HS20050292-08 Client Smp ID: HS20050292-08
Inj Date : 12-MAY-2020 15:13
Operator : PC Inst ID: voa6.i
Smp Info : HS20050292-08;HS20050292-08;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 28-May-2020 16:37 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

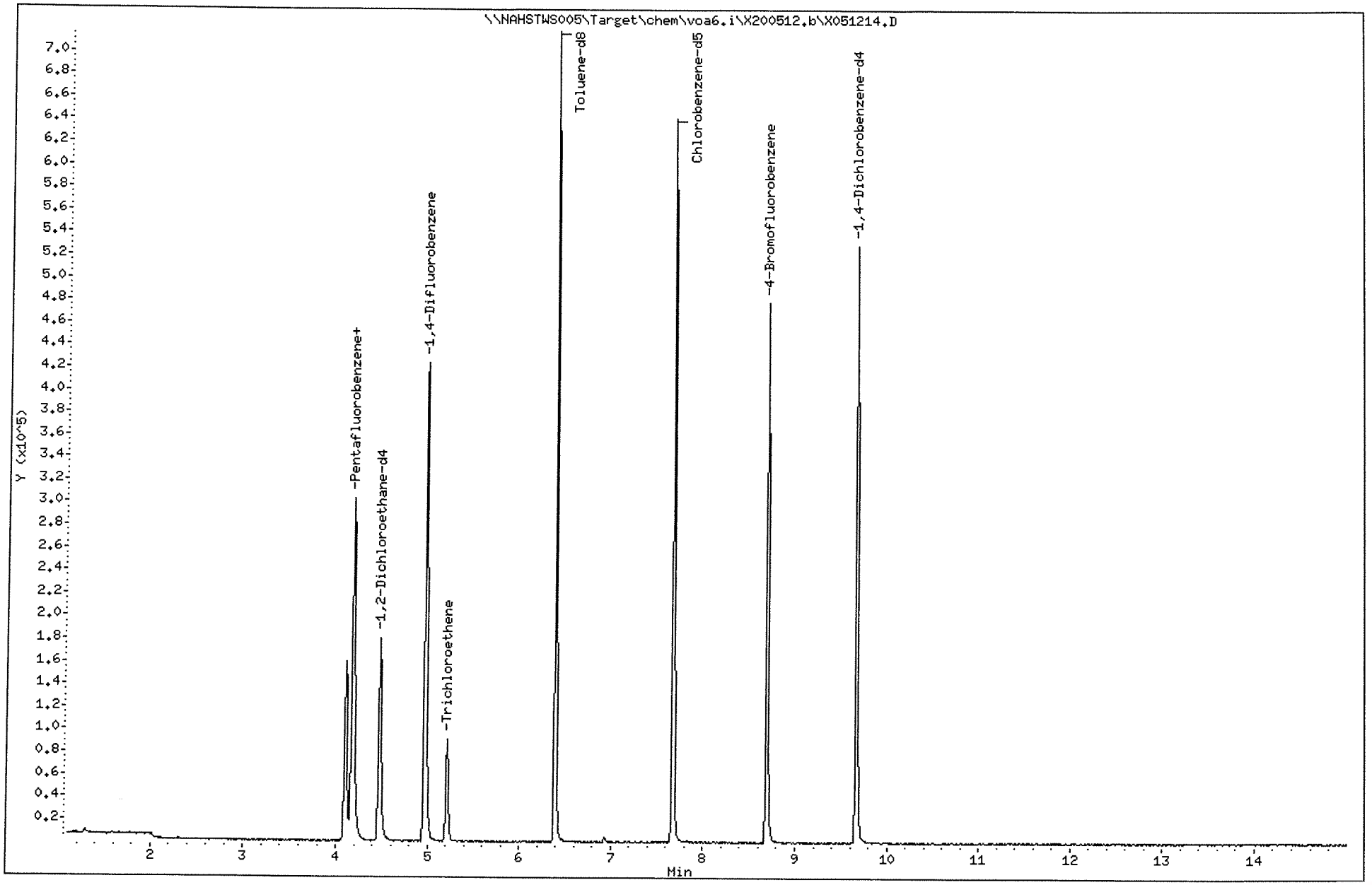
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.182	4.182	(1.000)	252167	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	350716	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	299230	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	136530	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	116615	46.3389	46.33
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	139569	44.9047	44.90
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	405180	53.9524	53.95
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	138970	48.5908	48.59
38 Trichloroethene	130	5.206	5.206	(1.048)	32172	12.7844	12.78

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051214.D
Date : 12-MAY-2020 15:13
Client ID: HS20050292-08
Sample Info: HS20050292-08;HS20050292-08;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



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Date : 12-MAY-2020 15:13

Client ID: HS20050292-08

Instrument: voa6.i

Sample Info: HS20050292-08;HS20050292-08;;;

Purge Volume: 5.0

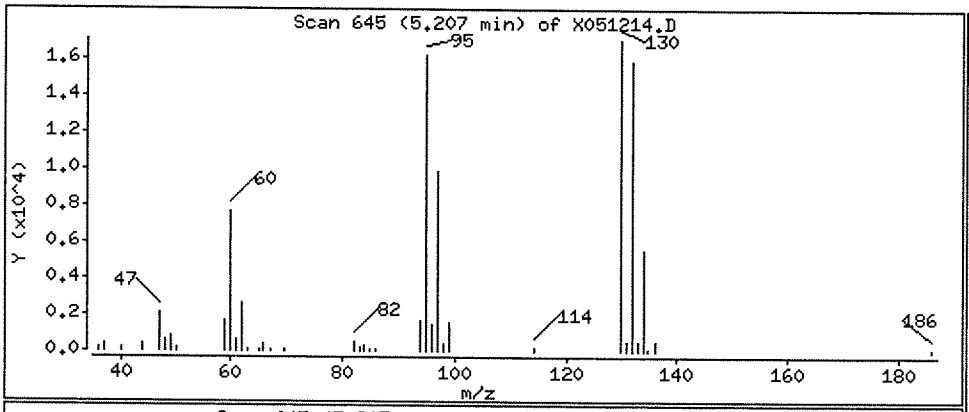
Operator: PC

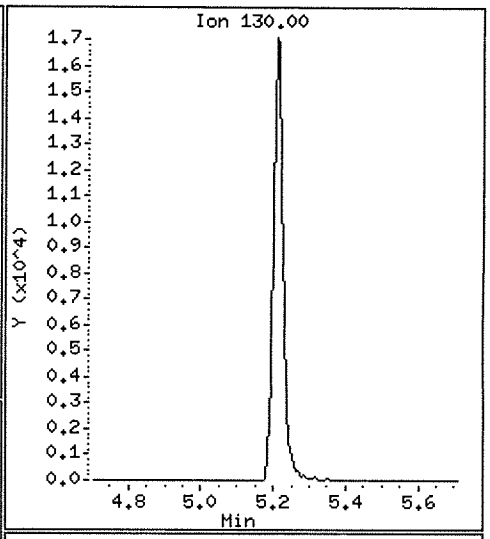
Column phase: DB624

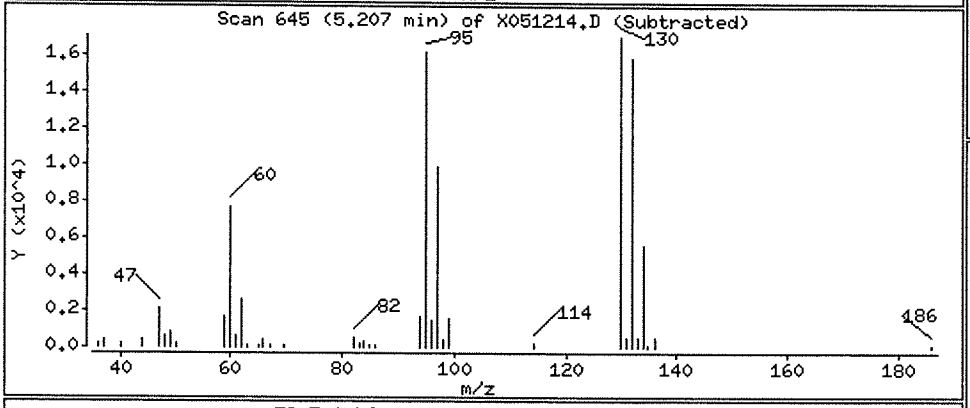
Column diameter: 0.18

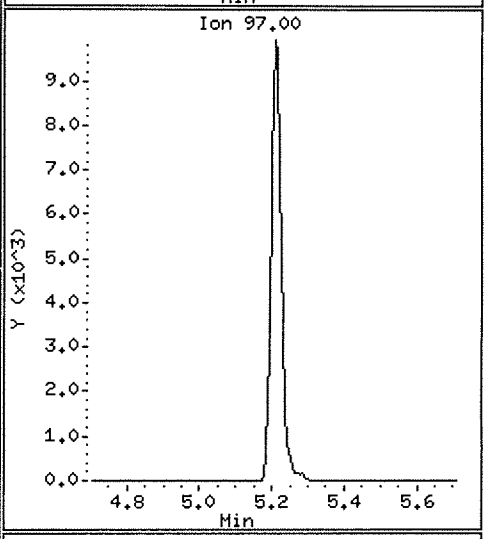
38 Trichloroethene

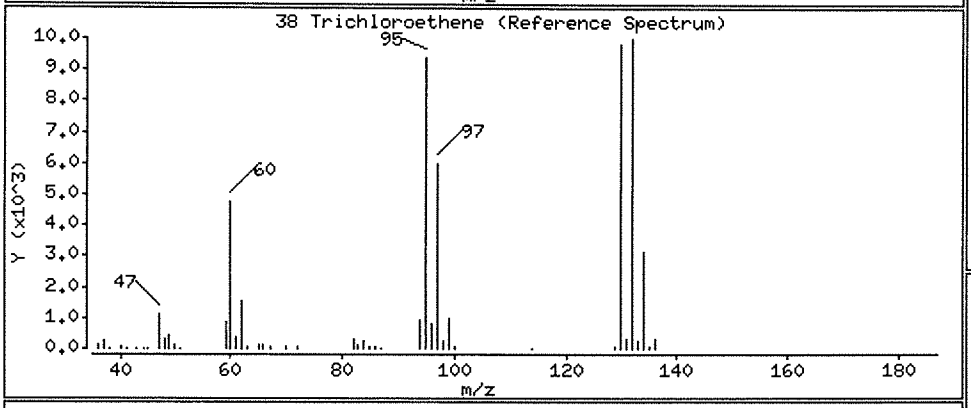
Concentration: 12.78 ug/l

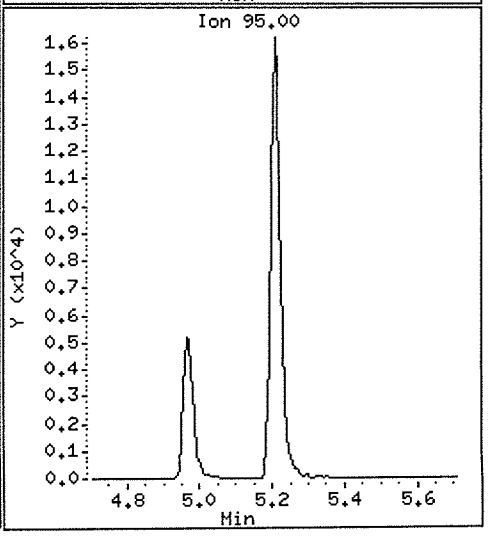


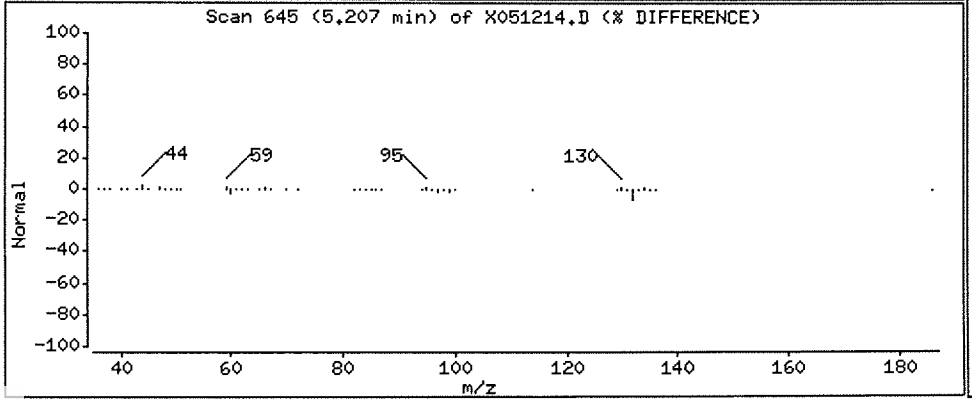












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051225.D Page 1
Report Date: 28-May-2020 16:37

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051225.D
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Inj Date : 12-MAY-2020 19:38
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-01MS;HS20050234-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 28-May-2020 16:37 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 25 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

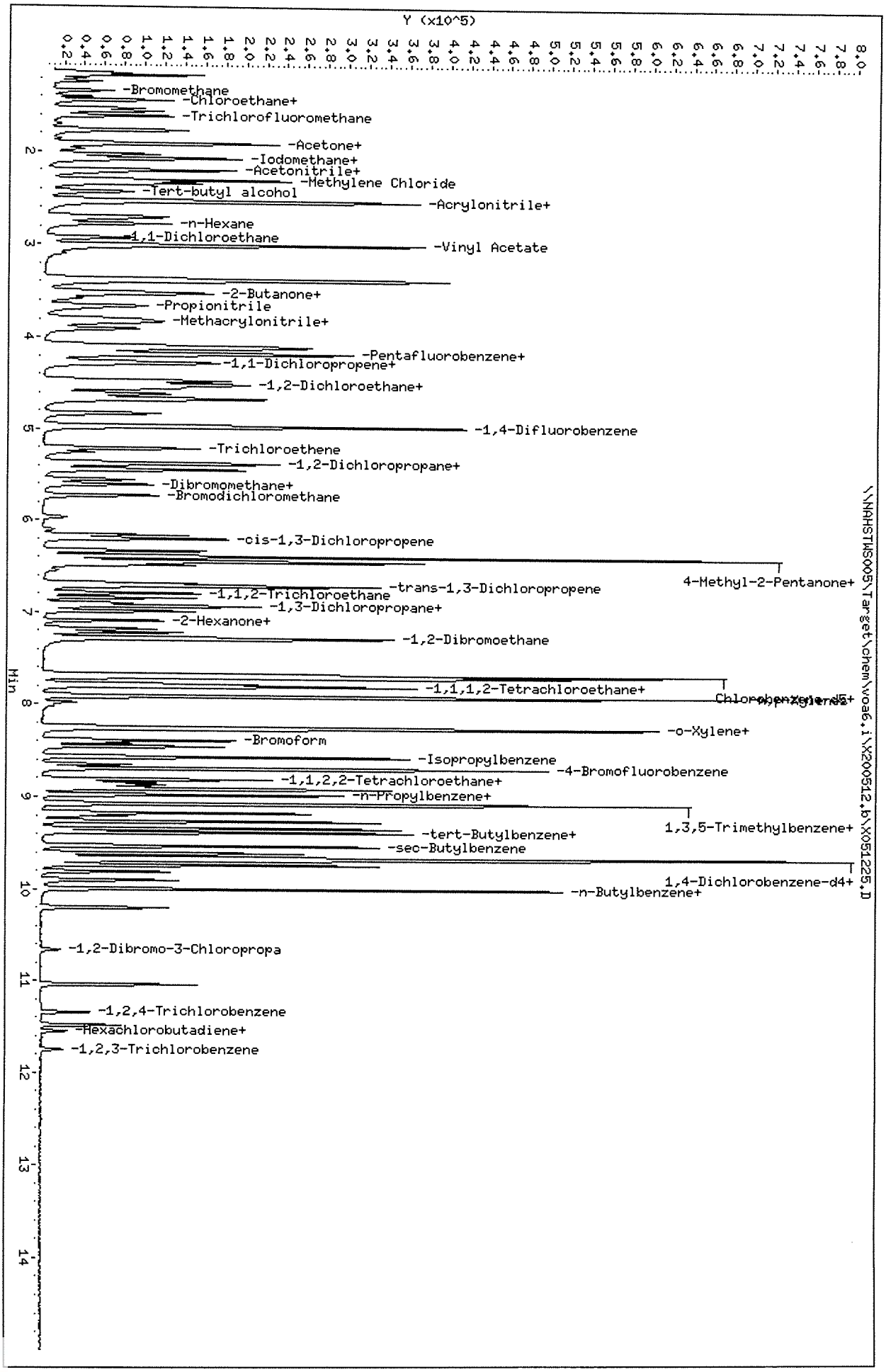
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	254610	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	345884	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	298962	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	147916	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	115981	45.6411	45.64
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	138033	43.9836	43.98
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	399173	53.1936	53.19
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	141695	49.6038	49.60
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	48762	20.7509	20.75
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	78488	19.2497	19.24
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	46131	19.4064	19.40
138 Freon TF	101	1.912	1.911	(0.457)	40066	20.3628	20.36
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	33393	20.0797	20.07
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	97476	17.6157	17.61
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	36413	17.9760	17.97
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	62351	19.6914	19.69
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	7075	15.1369	15.13
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	40129	19.4688	19.46(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.174)	14626	15.6114	15.61
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	168819	21.7578	21.75
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.104)	4350	19.2933	19.29
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	43601	20.5278	20.52

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051225.D Page 2
Report Date: 28-May-2020 16:37

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
88 1,2-Dichlorobenzene	146	9.999	9.991	(1.035)	83355	20.2287	20.22
33 1,2-Dichloroethane	62	4.562	4.555	(0.918)	73322	20.3597	20.35
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	53026	18.8340	18.83
75 1,3,5-Trimethylbenzene	105	9.068	9.067	(0.938)	165846	21.7148	21.71
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	95535	21.1953	21.19
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	70013	20.2519	20.25
84 1,4-Dichlorobenzene	146	9.684	9.683	(1.002)	94930	20.3044	20.30
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	72749	18.0460	18.04
24 2-Butanone	43	3.581	3.573	(0.856)	38546	33.5914	33.59
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	136960	20.7445	20.74
52 2-Hexanone	43	7.091	7.083	(0.924)	66370	35.8998	35.89
77 4-Chlorotoluene	91	9.075	9.074	(0.939)	157788	20.7306	20.73
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	170285	21.9172	21.91
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	99278	36.7788	36.77
10 Acetone	43	1.969	1.969	(0.471)	24073	25.1045	25.10
37 Benzene	78	4.519	4.512	(0.909)	170924	19.3326	19.33
74 Bromobenzene	156	8.810	8.809	(0.912)	57883	20.8726	20.87
29 Bromochloromethane	128	3.796	3.795	(0.908)	27125	18.3615	18.36
39 Bromodichloromethane	83	5.730	5.729	(1.153)	62966	19.5023	19.50
66 Bromoform	173	8.416	8.415	(1.097)	35530	20.7429	20.74
6 Bromomethane	94	1.339	1.338	(0.320)	32496	16.8666	16.86
19 Carbon Disulfide	76	2.069	2.069	(0.495)	230483	33.3965	33.39
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	71601	20.6034	20.60
59 Chlorobenzene	112	7.699	7.692	(1.004)	122718	20.7177	20.71
7 Chloroethane	64	1.403	1.403	(0.336)	30864	16.8563	16.85
28 Chloroform	83	3.910	3.910	(0.935)	84678	18.6105	18.61
3 Chloromethane	50	1.074	1.073	(0.257)	53176	13.7126	13.71
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	49842	18.5566	18.55
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	71897	19.0144	19.01
55 Dibromochloromethane	129	7.176	7.176	(0.936)	50372	20.8172	20.81
44 Dibromomethane	93	5.558	5.557	(1.118)	29143	19.0844	19.08
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	32331	11.7068	11.70
61 Ethylbenzene	106	7.800	7.799	(1.017)	66751	21.4719	21.47
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	12927	16.6634	16.66
67 Isopropylbenzene	105	8.566	8.566	(1.117)	204042	21.8862	21.88
62 m,p-Xylenes	106	7.907	7.907	(1.031)	158042	41.8834	41.88
17 Methylene Chloride	84	2.306	2.305	(0.551)	44057	16.8867	16.88
87 n-Butylbenzene	91	9.999	9.999	(1.035)	136239	21.7332	21.73
73 n-Propylbenzene	91	8.917	8.917	(0.923)	227267	21.3713	21.37
92 Naphthalene	128	11.546	11.546	(1.195)	19803	14.2204	14.22
63 o-Xylene	106	8.244	8.244	(1.075)	76285	20.7788	20.77
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	193517	21.6000	21.59
64 Styrene	104	8.258	8.258	(1.077)	132732	20.8606	20.86
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	144421	22.2711	22.27
56 Tetrachloroethene	164	6.933	6.933	(0.904)	44519	22.5744	22.57
50 Toluene	91	6.446	6.446	(0.840)	185258	20.9385	20.93
20 trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	44513	19.2186	19.21
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	67071	19.5595	19.55
38 Trichloroethene	130	5.207	5.206	(1.048)	50979	20.5409	20.54
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	77791	18.9897	18.98
5 Vinyl Chloride	62	1.138	1.138	(0.272)	52953	15.0031	15.00

QC Flag Legend

M - Compound response manually integrated.



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Sample Info: HS20050234-01MS;HS20050234-01MS;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\X200512.b\X051226.D Page 1
Report Date: 28-May-2020 16:37

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051226.D
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Inj Date : 12-MAY-2020 20:02
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-01MSD;HS20050234-01MSD;3;;MSD
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Comment :
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Meth Date : 28-May-2020 16:37 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 25 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

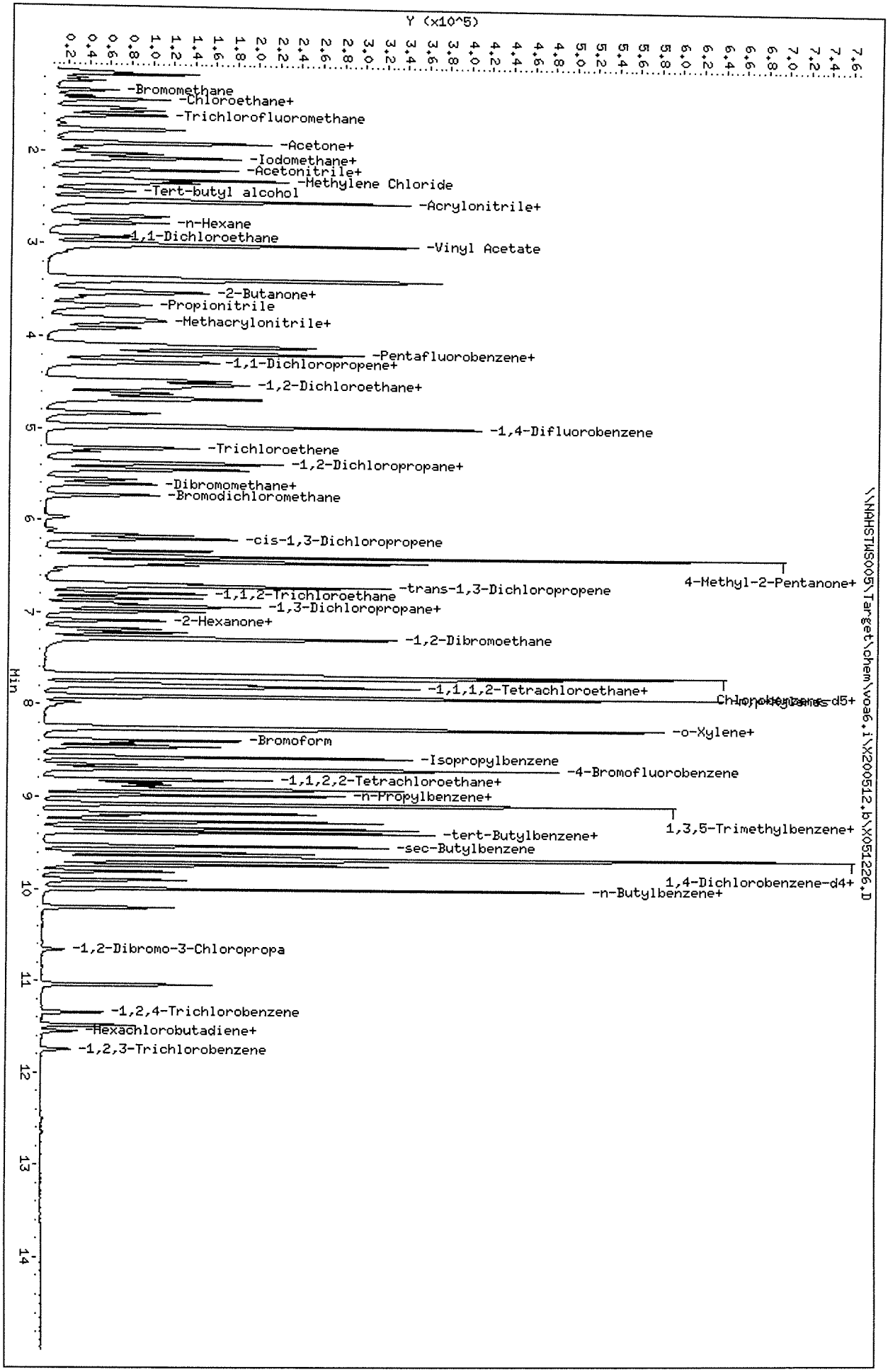
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	244179	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	336747	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	287002	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	142658	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	112185	46.0353	46.03
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	135465	45.0101	45.01
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	387950	53.8582	53.85
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	137584	50.1806	50.18
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	47845	21.2092	21.20
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	73807	18.8749	18.87
68 1,1,2,2-Tetrachloroethane	83	8.845	8.838	(0.915)	44962	19.6117	19.61
138 Freon TF	101	1.911	1.911	(0.457)	35917	19.0339	19.03
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	32914	20.6164	20.61
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	89108	16.7913	16.79
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	34317	17.6650	17.66
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	59016	19.1439	19.14
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	8320	18.4836	18.48
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	40450	20.3479	20.34(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	16558	17.8656	17.86
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	160154	21.4018	21.40
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.103)	4254	19.5424	19.54
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	43159	21.1665	21.16

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051226.D Page 2
Report Date: 28-May-2020 16:37

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
88 1,2-Dichlorobenzene	146	9.999	9.991	(1.034)	82920	20.8648	20.86
33 1,2-Dichloroethane	62	4.562	4.555	(0.918)	70989	20.2467	20.24
42 1,2-Dichloropropane	63	5.443	5.436	(1.095)	50726	18.5059	18.50
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	160256	21.7563	21.75
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	91824	21.1228	21.12
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	67605	20.3703	20.37
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	91494	20.2908	20.29
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	67290	17.4049	17.40
24 2-Butanone	43	3.580	3.573	(0.856)	40643	36.9319	36.93
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	130041	20.4225	20.42
52 2-Hexanone	43	7.090	7.083	(0.924)	63849	35.9753	35.97
77 4-Chlorotoluene	91	9.075	9.074	(0.939)	150485	20.4999	20.49
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	166039	22.1584	22.15
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	97780	37.7334	37.73
10 Acetone	43	1.969	1.969	(0.471)	24223	26.4695	26.46
37 Benzene	78	4.519	4.512	(0.909)	161093	18.7151	18.71
74 Bromobenzene	156	8.809	8.809	(0.911)	55798	20.8624	20.86
29 Bromochloromethane	128	3.803	3.795	(0.909)	25916	18.2926	18.29
39 Bromodichloromethane	83	5.729	5.729	(1.153)	60886	19.3697	19.36
66 Bromoform	173	8.416	8.415	(1.097)	33630	20.4518	20.45
6 Bromomethane	94	1.338	1.338	(0.320)	30398	16.4333	16.43
19 Carbon Disulfide	76	2.069	2.069	(0.495)	213516	32.2597	32.25
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	66927	19.7810	19.78
59 Chlorobenzene	112	7.699	7.692	(1.004)	116570	20.4998	20.49
7 Chloroethane	64	1.403	1.403	(0.336)	27489	15.6243	15.62
28 Chloroform	83	3.910	3.910	(0.935)	79104	18.1281	18.12
3 Chloromethane	50	1.073	1.073	(0.257)	49129	13.2332	13.23
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	46965	18.2325	18.23
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	70187	19.0658	19.06
55 Dibromochloromethane	129	7.176	7.176	(0.936)	47815	20.5839	20.58
44 Dibromomethane	93	5.557	5.557	(1.118)	28458	19.1415	19.14
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	30036	11.3737	11.37
61 Ethylbenzene	106	7.799	7.799	(1.017)	63052	21.1272	21.12
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	15219	20.1277	20.12
67 Isopropylbenzene	105	8.566	8.566	(1.117)	189739	21.2001	21.20
62 m,p-Xylenes	106	7.907	7.907	(1.031)	150105	41.4377	41.43
17 Methylene Chloride	84	2.305	2.305	(0.551)	42023	16.7893	16.78
87 n-Butylbenzene	91	9.999	9.999	(1.034)	132190	21.8645	21.86
73 n-Propylbenzene	91	8.917	8.917	(0.922)	215616	21.0230	21.02
92 Naphthalene	128	11.546	11.546	(1.194)	23740	17.6759	17.67
63 o-Xylene	106	8.244	8.244	(1.075)	73254	20.7847	20.78
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	186910	21.6315	21.63
64 Styrene	104	8.258	8.258	(1.077)	126821	20.7622	20.76
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	136869	21.8845	21.88
56 Tetrachloroethene	164	6.933	6.933	(0.904)	41234	21.7799	21.77
50 Toluene	91	6.446	6.446	(0.840)	175279	20.6362	20.63
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	40953	18.4369	18.43
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	64030	19.1794	19.17
38 Trichloroethene	130	5.206	5.206	(1.048)	48631	20.1265	20.12
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	71268	18.1406	18.14
5 Vinyl Chloride	62	1.138	1.138	(0.272)	48835	14.4274	14.42

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051226.D
Date : 12-MAY-2020 20:02
Client ID: HS20050234-01HSD
Sample Info: HS20050234-01HSD;HS20050234-01HSD;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\X200512.b\X051227.D Page 1
Report Date: 28-May-2020 16:37

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051227.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 12-MAY-2020 20:26
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\X200512.b\8260W.m
Meth Date : 28-May-2020 16:37 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 26 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

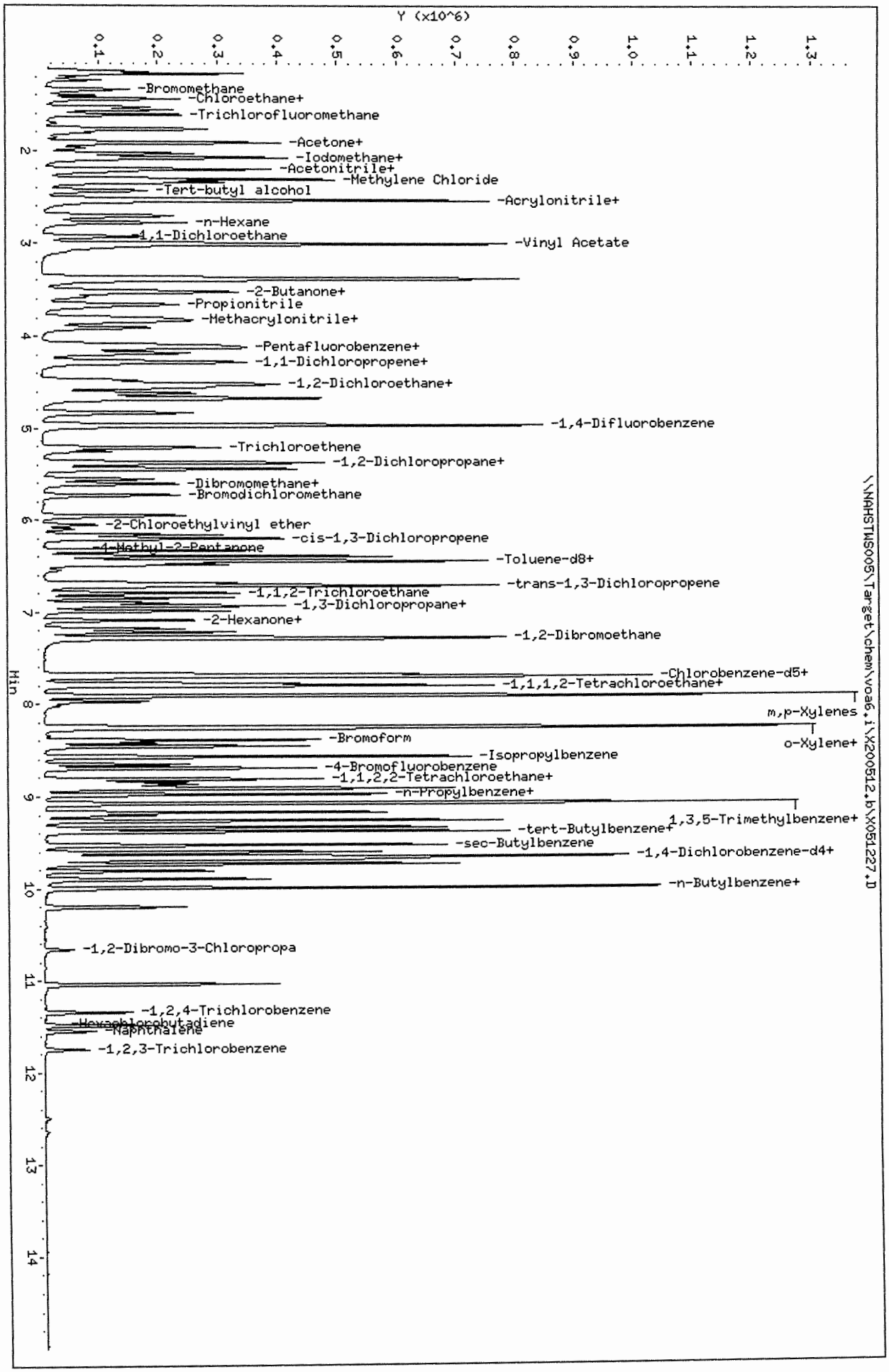
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	200799	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	291894	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	270076	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	135644	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	97439	50.0000	48.63
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	121975	50.0000	49.28
$	48 Toluene-d8	98	6.388	6.388	(0.833)	329541	50.0000	48.57
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	125184	50.0000	48.49
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	102086	50.0000	48.08
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	153185	50.0000	47.63
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	97703	50.0000	44.82
	138 Freon TF	101	1.912	1.912	(0.457)	71911	50.0000	46.34
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	67635	50.0000	45.01
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	193504	50.0000	44.34
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	71175	50.0000	44.55
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	121911	50.0000	45.62
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	20158	50.0000	46.35
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	87648	50.0000	46.37(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	39725	50.0000	41.05
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	342508	50.0000	48.13
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	10493	50.0000	48.35
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	92649	50.0000	48.28

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051227.D Page 2
Report Date: 28-May-2020 16:37

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	176001	50.0000	46.57
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	147905	50.0000	48.66
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	104753	50.0000	44.08
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	334170	50.0000	47.71
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	197176	50.0000	47.70
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	144119	50.0000	46.14
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	199401	50.0000	46.50
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	138652	50.0000	43.61
24 2-Butanone	43	3.573	3.573	(0.854)	86390	100.000	95.46
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	273985	50.0000	45.25
52 2-Hexanone	43	7.083	7.083	(0.923)	143873	100.000	86.14
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	319061	50.0000	45.71
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	341378	50.0000	47.91
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	212246	100.000	87.03
10 Acetone	43	1.969	1.969	(0.471)	53783	100.000	75.93
37 Benzene	78	4.512	4.512	(0.908)	345892	50.0000	46.35
74 Bromobenzene	156	8.810	8.810	(0.912)	119740	50.0000	47.08
29 Bromochloromethane	128	3.795	3.795	(0.908)	53697	50.0000	46.08
39 Bromodichloromethane	83	5.729	5.729	(1.153)	130874	50.0000	48.03
66 Bromoform	173	8.416	8.416	(1.097)	74773	50.0000	48.32
6 Bromomethane	94	1.339	1.339	(0.320)	66450	50.0000	44.92
19 Carbon Disulfide	76	2.069	2.069	(0.495)	491618	100.000	90.32
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	137577	50.0000	46.91
59 Chlorobenzene	112	7.699	7.699	(1.004)	250145	50.0000	46.74
7 Chloroethane	64	1.403	1.403	(0.336)	61646	50.0000	43.33
28 Chloroform	83	3.910	3.910	(0.935)	172306	50.0000	48.01
3 Chloromethane	50	1.073	1.073	(0.257)	132661	50.0000	42.02
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	102045	50.0000	48.17
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	150406	50.0000	47.13
55 Dibromochloromethane	129	7.176	7.176	(0.936)	106521	50.0000	48.73
44 Dibromomethane	93	5.558	5.558	(1.118)	61130	50.0000	47.43
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	107843	50.0000	46.07
61 Ethylbenzene	106	7.800	7.800	(1.017)	129729	50.0000	46.19
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	33388	50.0000	45.17
67 Isopropylbenzene	105	8.566	8.566	(1.117)	395480	50.0000	46.95
62 m,p-Xylenes	106	7.907	7.907	(1.031)	317178	100.000	93.04
17 Methylene Chloride	84	2.306	2.306	(0.551)	93797	50.0000	47.40
87 n-Butylbenzene	91	9.999	9.999	(1.035)	277942	50.0000	48.34
73 n-Propylbenzene	91	8.917	8.917	(0.923)	449260	50.0000	46.06
92 Naphthalene	128	11.546	11.546	(1.195)	56936	50.0000	44.58
63 o-Xylene	106	8.244	8.244	(1.075)	155765	50.0000	46.96
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	380134	50.0000	46.26
64 Styrene	104	8.258	8.258	(1.077)	273717	50.0000	47.61
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	278056	50.0000	46.75
56 Tetrachloroethene	164	6.933	6.933	(0.904)	82504	50.0000	46.31
50 Toluene	91	6.446	6.446	(0.840)	366993	50.0000	45.91
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	86358	50.0000	47.27
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	140290	50.0000	48.47
38 Trichloroethene	130	5.207	5.207	(1.048)	99560	50.0000	47.53
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	153588	50.0000	47.54
5 Vinyl Chloride	62	1.138	1.138	(0.272)	119470	50.0000	42.92

QC Flag Legend

M - Compound response manually integrated.



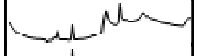
Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051227.D
Date : 12-MAY-2020 20:26
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

HS20050456 Wet Chem Raw Data (IC)

ALS WO# HS20050456

Sequence: 051520
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume [ul]	Status
	STD1	2970209205	Calibration	GA1	1.0000	1	Anions Program 02052020.1	Anions P	5.0	Finished
	STD2	NEW PRGM	Calibration	GA2	1.0000	2	Anions Program 02052020.1	Anions P	5.0	Finished
	STD3		Calibration	GA3	1.0000	3	Anions Program 02052020.1	Anions P	5.0	Finished
	STD4		Calibration	GA4	1.0000	4	Anions Program 02052020.1	Anions P	5.0	Finished
	STD5	NO2/PO4	Calibration	GA5	1.0000	5	Anions Program 02052020.1	Anions P	5.0	Finished
	STD6	MAX 10PPM	Calibration	GA6	1.0000	6	Anions Program 02052020.1	Anions P	5.0	Finished
	ICV	2970209123	Unknown	GA7	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	ICB		Unknown	GA8	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV1		Unknown	RA4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	RA5	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	MBLK051520	300_W	Unknown	RB1	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	LCS051520		Unknown	RB2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV		Unknown	RA2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	RA3	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050539-02		Unknown	BB4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050539-02MS		Unknown	BC2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050539-02MSD		Unknown	BC3	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV1		Unknown	RA4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	RA5	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV		Unknown	RA2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	RA3	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050456-01DF10		Unknown	BE5	10.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050456-01MSDF10		Unknown	BE6	10.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050456-01MSDDF10		Unknown	BE7	10.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV1		Unknown	RA4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished

Sequence: 051520
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume [ul]	Status
	CCB		Unknown	RA5	1.0000		Anions Program 02052020.1	Anions F	5.0	Finished

Sequence: 051520
Last Update Operator: alshs.nouser

Inject Time
2/5/2020 7:39:11 PM -06:00
2/5/2020 7:57:16 PM -06:00
2/5/2020 8:15:24 PM -06:00
2/5/2020 8:33:31 PM -06:00
2/5/2020 8:51:36 PM -06:00
2/5/2020 9:09:41 PM -06:00
2/5/2020 9:27:48 PM -06:00
2/5/2020 9:45:53 PM -06:00
5/15/2020 3:45:28 PM -05:00
5/15/2020 4:03:37 PM -05:00
5/15/2020 6:10:38 PM -05:00
5/15/2020 6:28:44 PM -05:00
5/15/2020 7:04:57 PM -05:00
5/15/2020 7:23:03 PM -05:00
5/15/2020 7:59:16 PM -05:00
5/15/2020 9:47:53 PM -05:00
5/15/2020 10:05:58 PM -05:00
5/15/2020 10:42:12 PM -05:00
5/15/2020 11:00:18 PM -05:00
5/16/2020 2:19:27 AM -05:00
5/16/2020 2:37:33 AM -05:00
5/16/2020 4:44:15 AM -05:00
5/16/2020 5:02:20 AM -05:00
5/16/2020 5:20:27 AM -05:00
5/16/2020 5:38:36 AM -05:00

Sequence: 051520
Last Update Operator: alshs.nouser

Inject Time
5/16/2020 5:56:42 AM -05:00

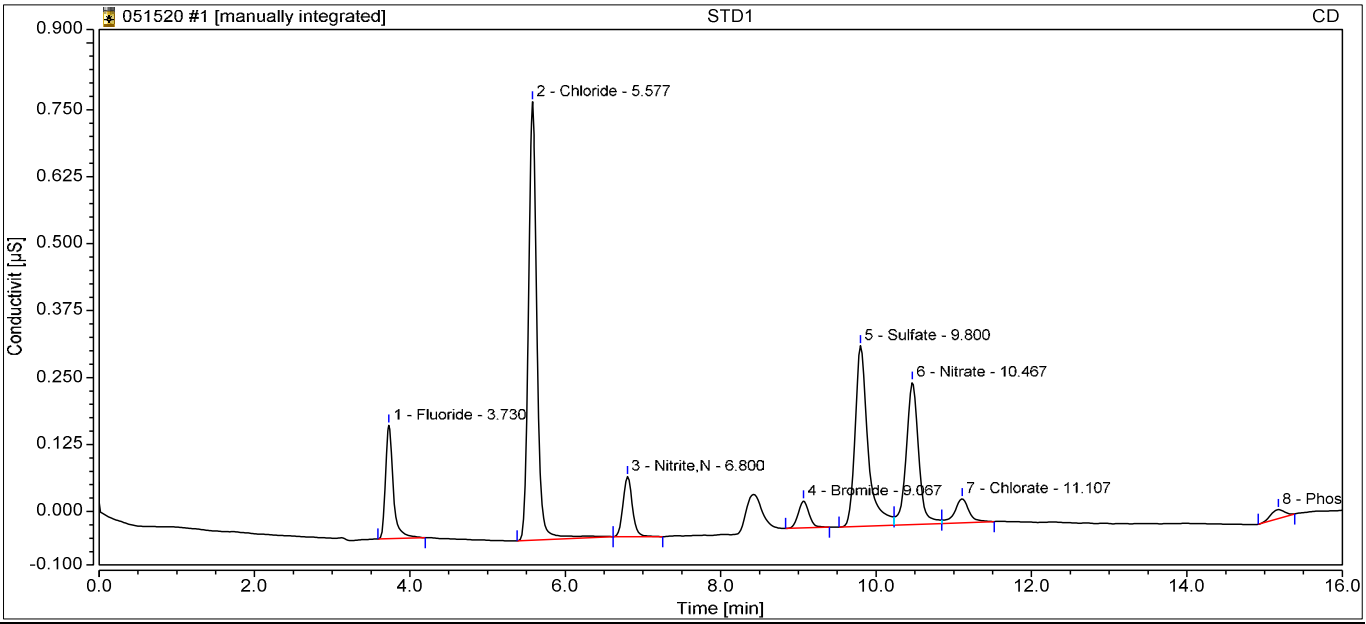
Sequence: 042320
Injection #6: STD6

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:



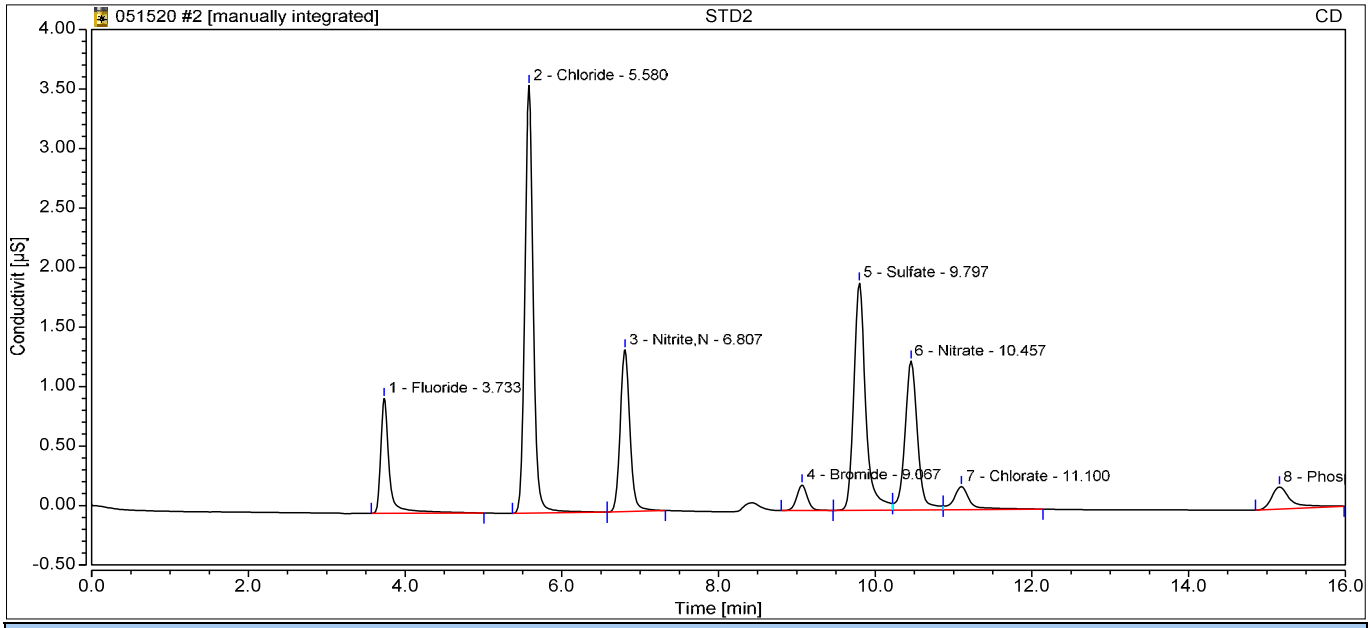
Integration Results

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	0.0673	0.0673	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	0.1235	0.1235	1.0000
Total:			**0.000**	**0.279**		**1.58**	

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:



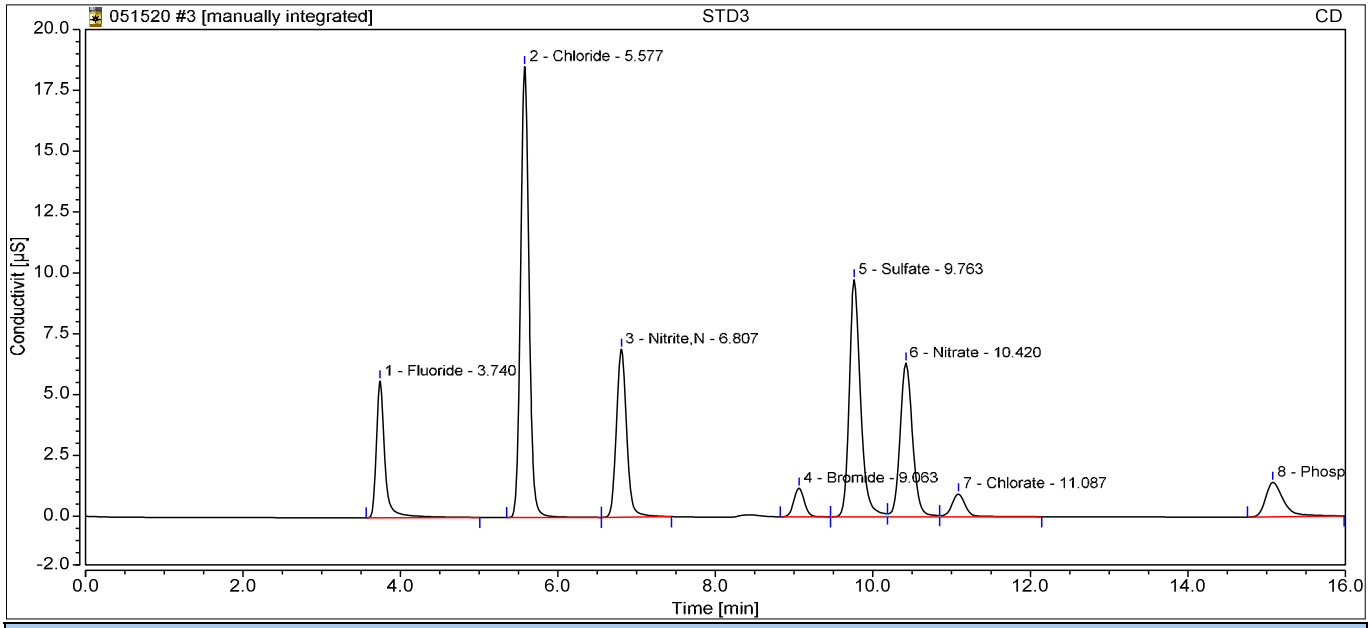
Integration Results

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	0.4500	0.4500	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	0.3508	0.3508	1.0000
Total:			**0.000**	**1.467**		**6.54**	

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:



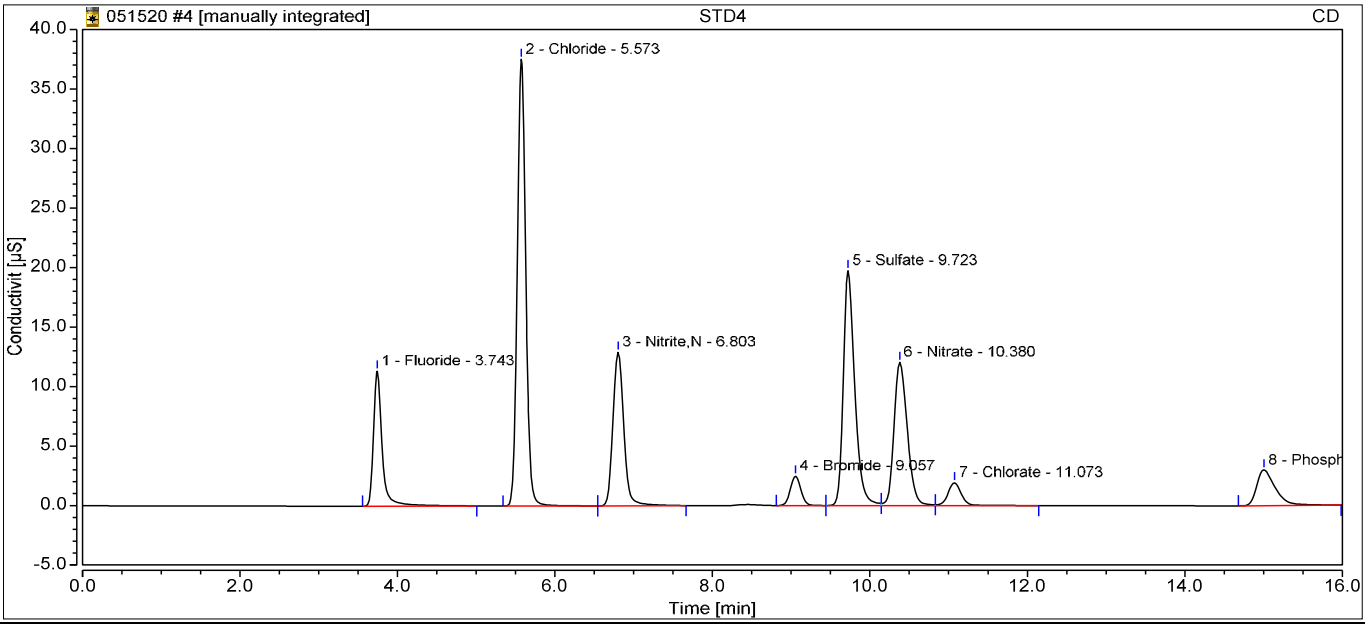
Integration Results

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	2.2369	2.2369	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	1.8187	1.8187	1.0000
Total:			**0.000**	**7.542**		**31.65**	

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:



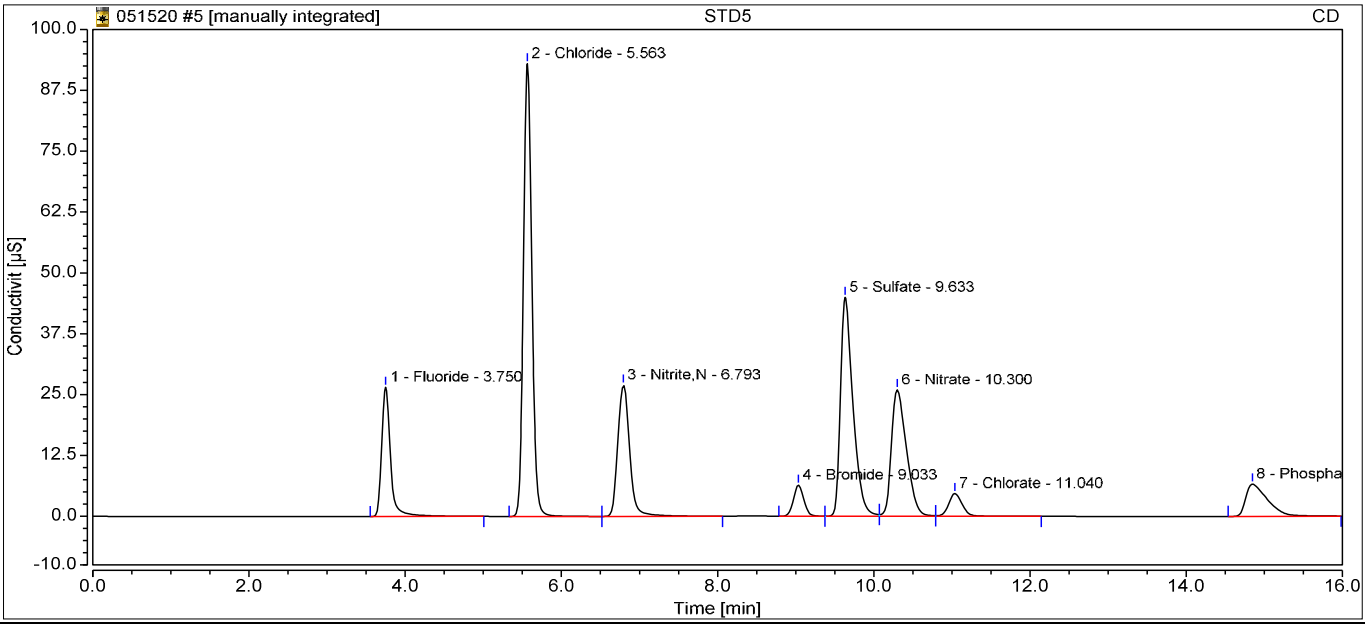
Integration Results

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	4.4146	4.4146	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	3.8745	3.8745	1.0000
Total:			**0.000**	**15.366**		**64.37**	

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:



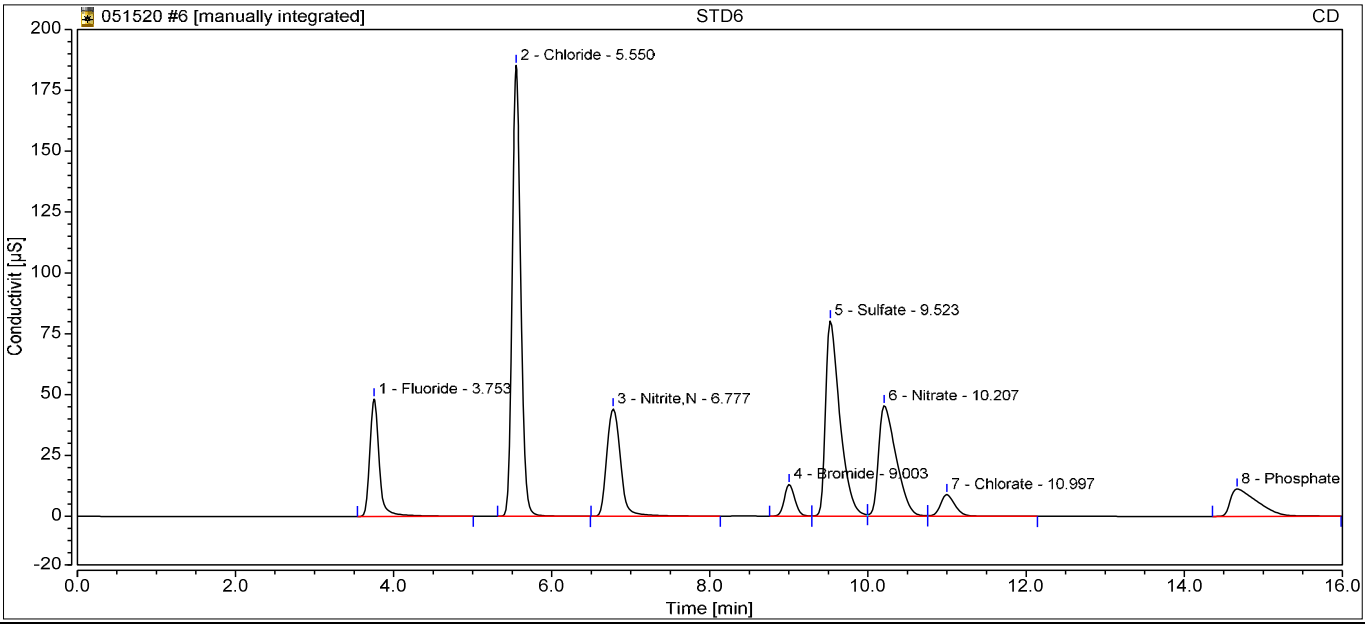
Integration Results

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	10.2593	10.2593	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	9.8737	9.8737	1.0000
Total:			**0.000**	**37.949**		**159.51**	

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:



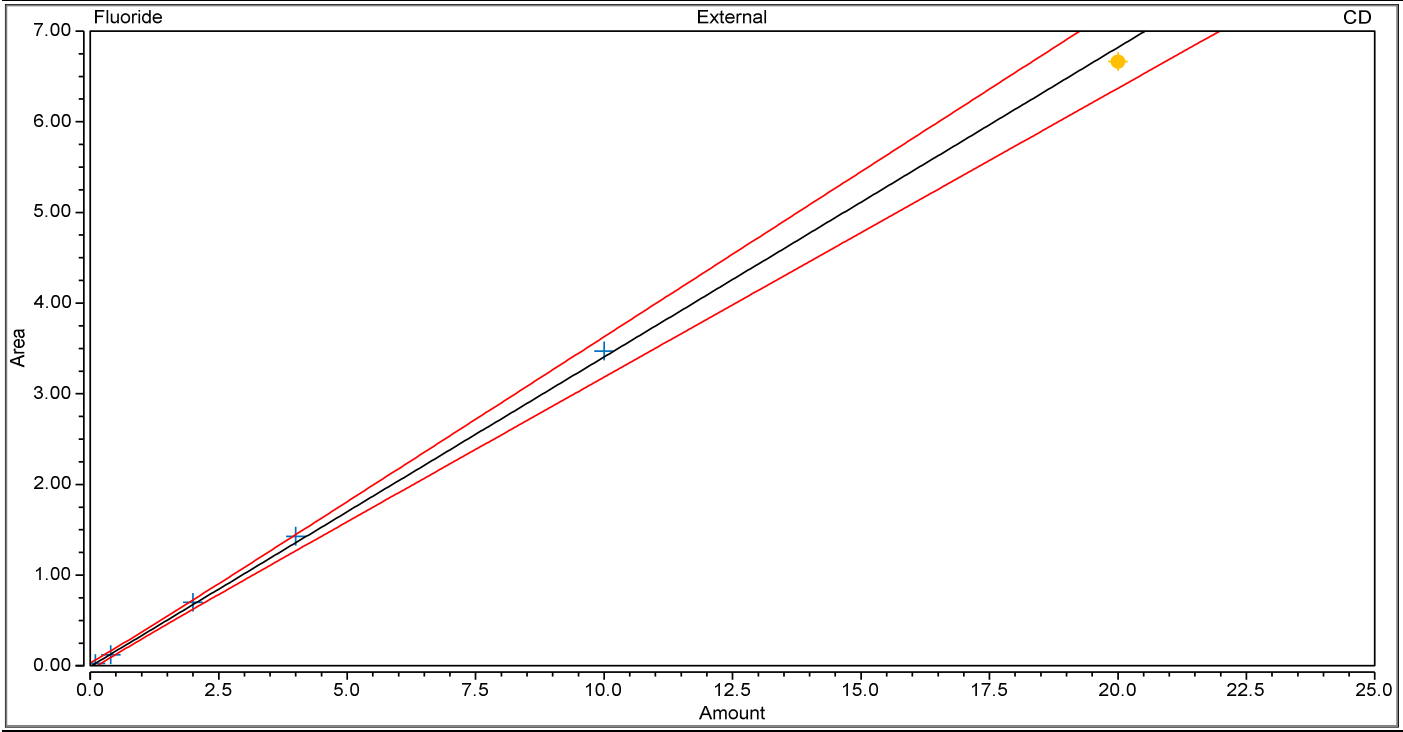
Integration Results

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	19.0718	19.0718	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	20.4589	20.4589	1.0000
Total:			**0.000**	**75.750**		**320.37**	

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**



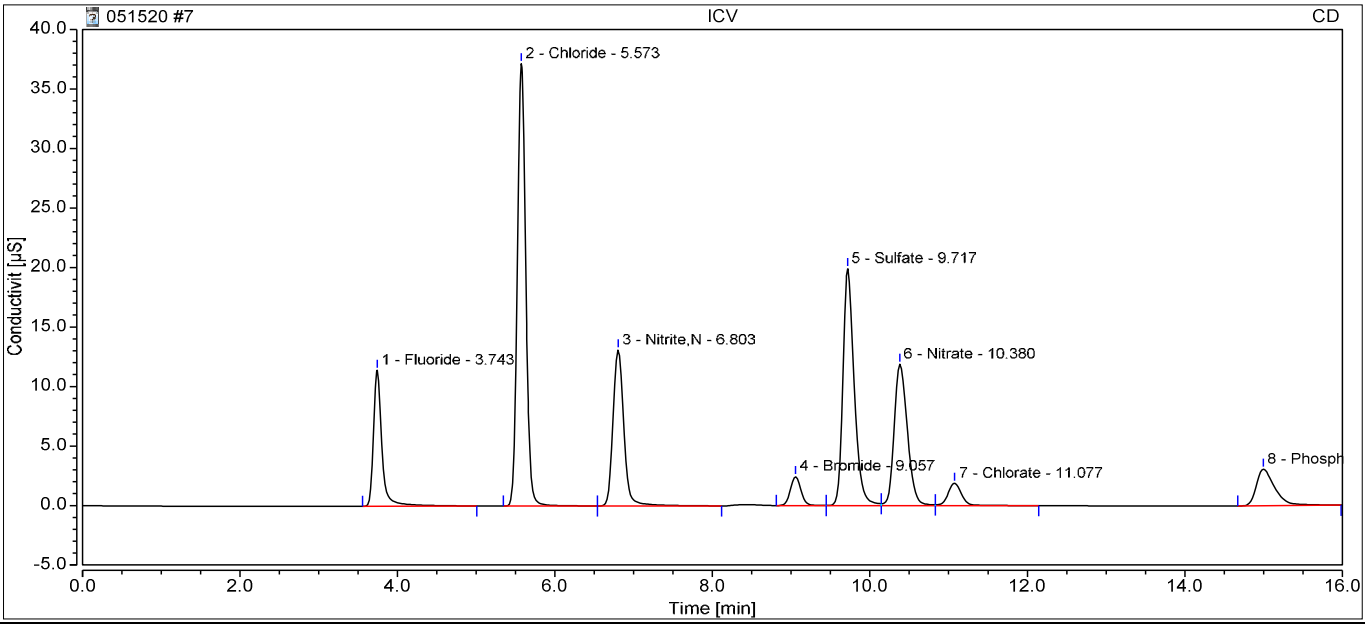
Calibration Results **Fluoride**

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:



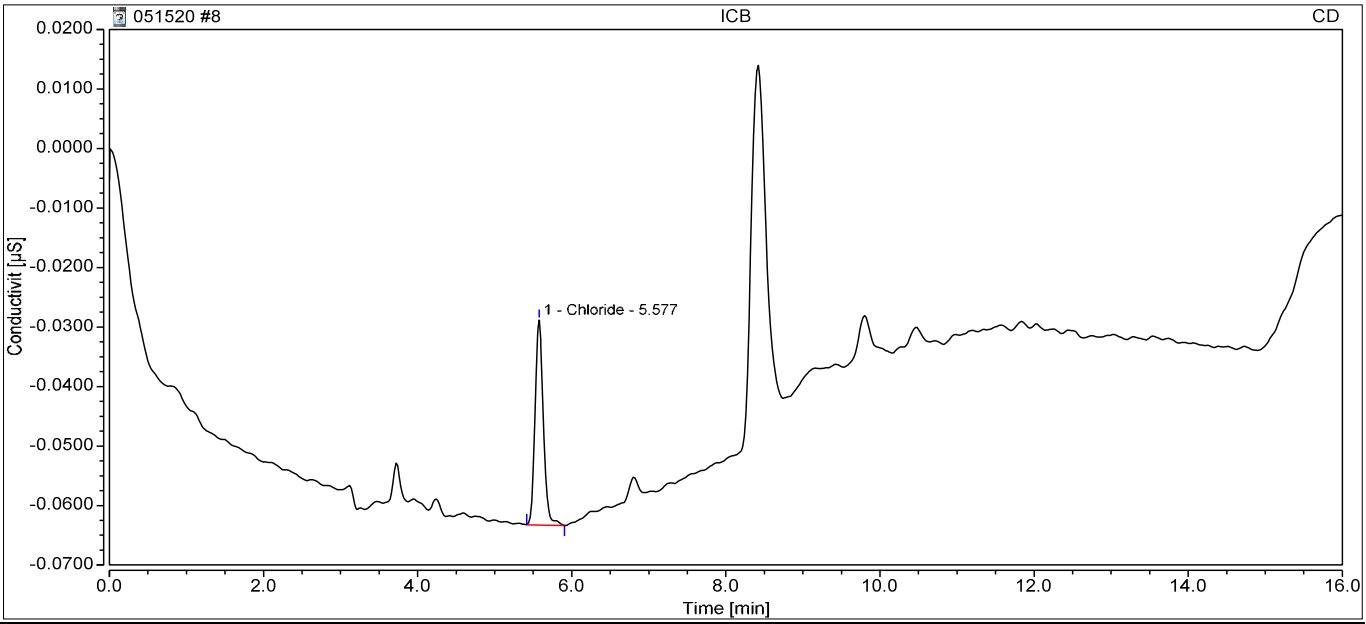
Integration Results

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	4.4887	4.4887	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	3.9271	3.9271	1.0000
Total:			**0.000**	**15.278**		**63.99**	

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:



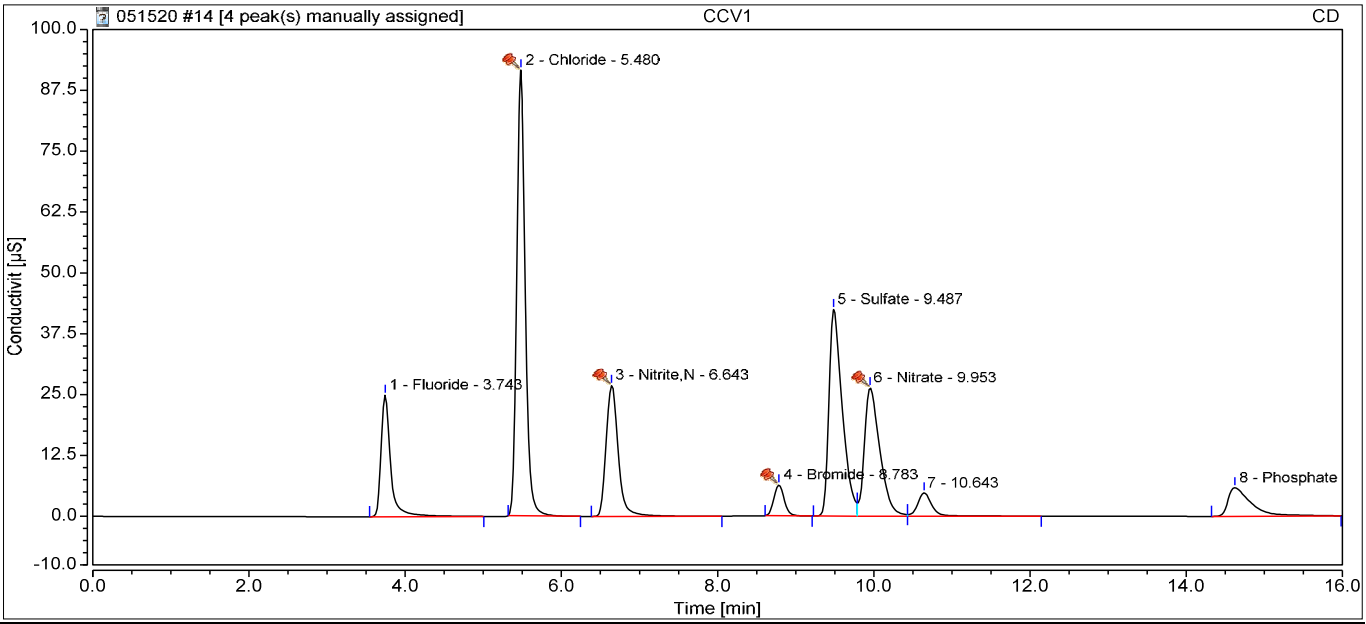
Integration Results

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**	

14 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*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:	**05/15/2020 15:45**	*Sample Weight:*	**1.0000**

Run Time:



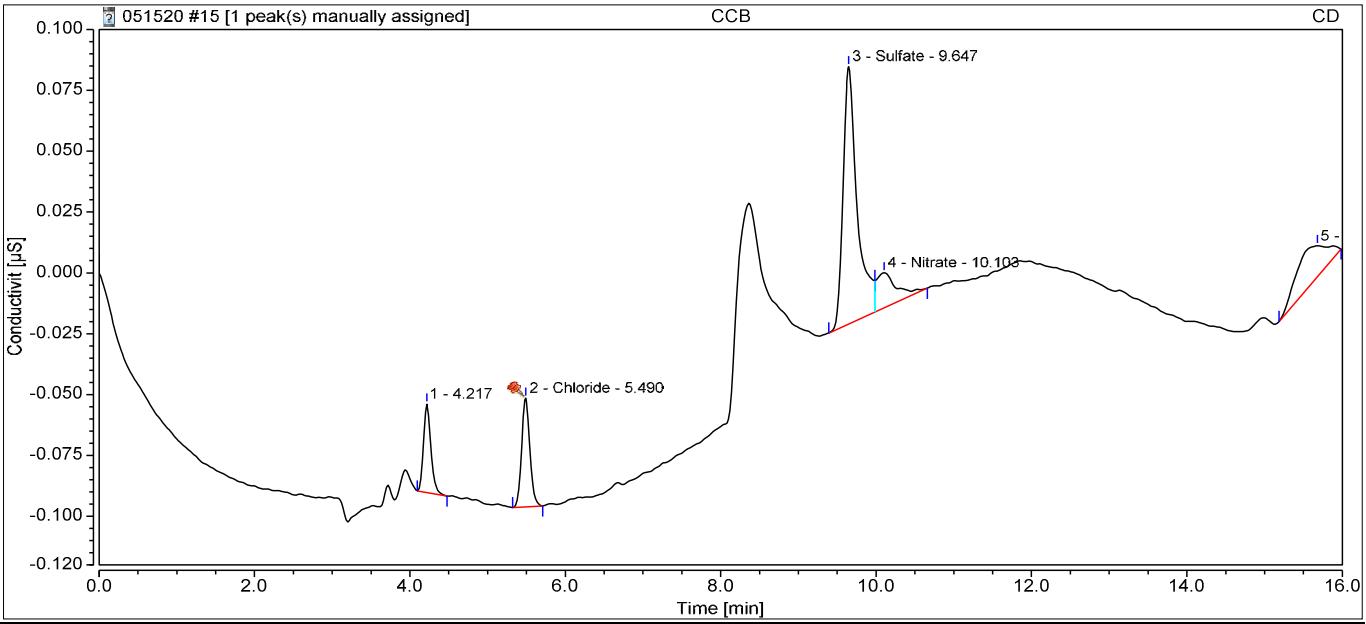
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.542	10.3977	10.3977	1.0000
2	5.48	Chloride	BMB^	11.528	49.7590	49.7590	1.0000
3	6.64	Nitrite,N	BMB^	4.864	10.4469	10.4469	1.0000
4	8.78	Bromide	BMB^	0.966	9.7741	9.7741	1.0000
5	9.49	Sulfate	BM	8.406	50.1641	50.1641	1.0000
6	9.95	Nitrate	M ^	6.038	10.3460	10.3460	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.62	Phosphate	BMB	2.011	9.3034	9.3034	1.0000
Total:			**0.000**	**37.354**		**150.19**	

15 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**RA5**	*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:	**05/15/2020 16:03**	*Sample Weight:*	**1.0000**

Run Time:



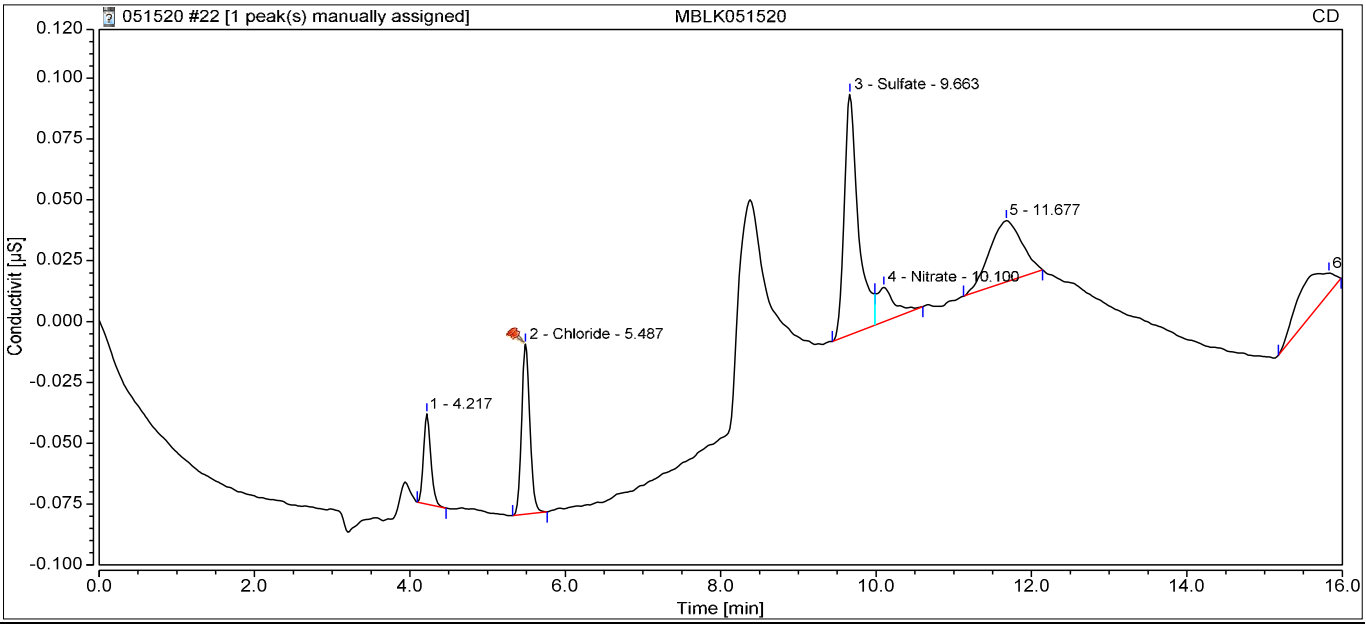
Integration Results

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
2	5.49	Chloride	BMB^	0.005	0.0845	0.0845	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	9.65	Sulfate	BM	0.022	0.2323	0.2323	1.0000
4	10.10	Nitrate	MB	0.004	0.0202	0.0202	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**	**0.032**		**0.34**	

22 MBLK051520

Sample Name:	**MBLK051520**	*Injection Volume:*	**5.00**
Vial Number:	**RB1**	*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:	**05/15/2020 18:10**	*Sample Weight:*	**1.0000**

Run Time:



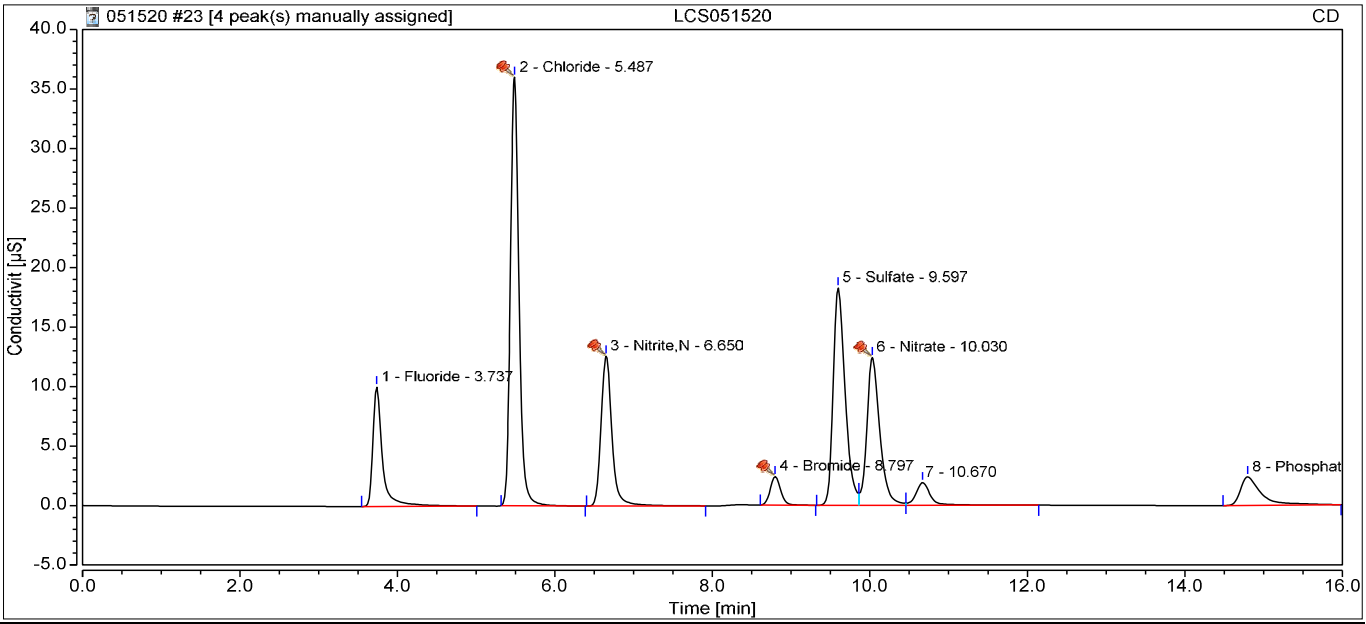
Integration Results

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
2	5.49	Chloride	BMB^	0.009	0.0981	0.0981	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	9.66	Sulfate	BM	0.021	0.2240	0.2240	1.0000
4	10.10	Nitrate	MB	0.004	0.0193	0.0193	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**	**0.033**		**0.34**	

23 LCS051520

Sample Name:	**LCS051520**	*Injection Volume:*	**5.00**
Vial Number:	**RB2**	*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:	**05/15/2020 18:28**	*Sample Weight:*	**1.0000**

Run Time:



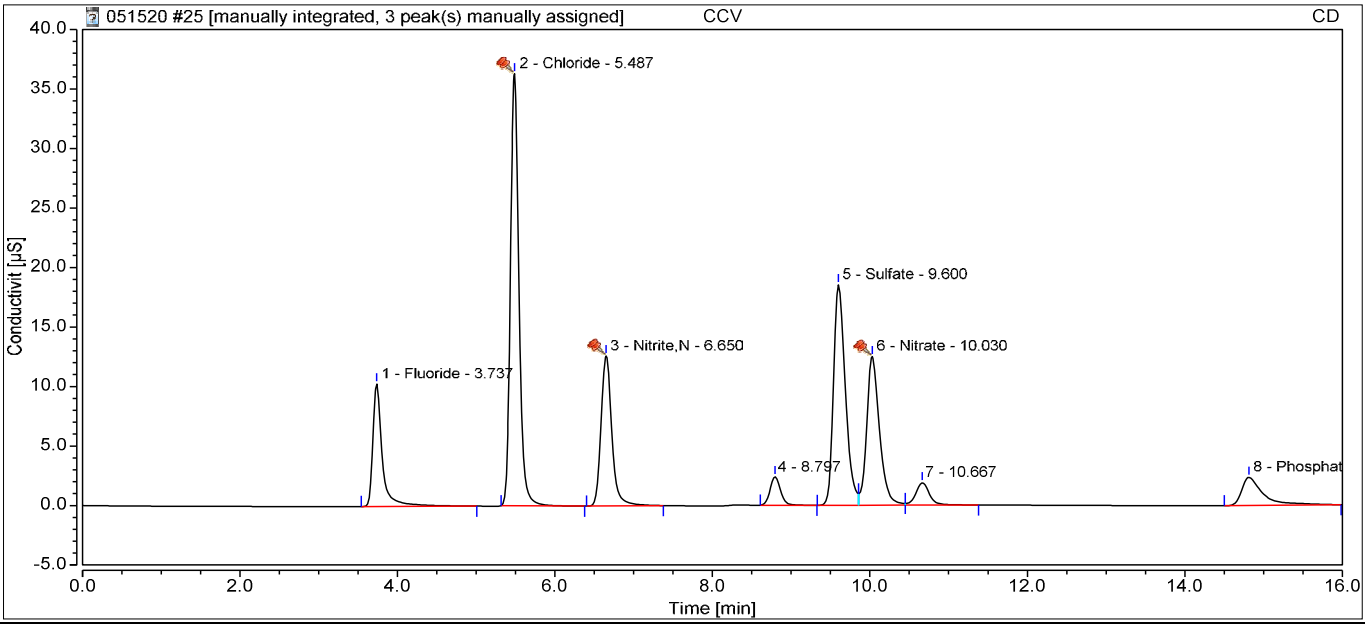
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.415	4.1692	4.1692	1.0000
2	5.49	Chloride	BMB^	4.508	19.4967	19.4967	1.0000
3	6.65	Nitrite,N	BMB^	2.038	4.3976	4.3976	1.0000
4	8.80	Bromide	BMB^	0.368	3.7472	3.7472	1.0000
5	9.60	Sulfate	BM	3.202	19.1730	19.1730	1.0000
6	10.03	Nitrate	M ^	2.369	4.0673	4.0673	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.80	Phosphate	BMB	0.739	3.4882	3.4882	1.0000
Total:			**0.000**	**14.641**		**58.54**	

25 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**RA2**	*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:	**05/15/2020 19:04**	*Sample Weight:*	**1.0000**

Run Time:



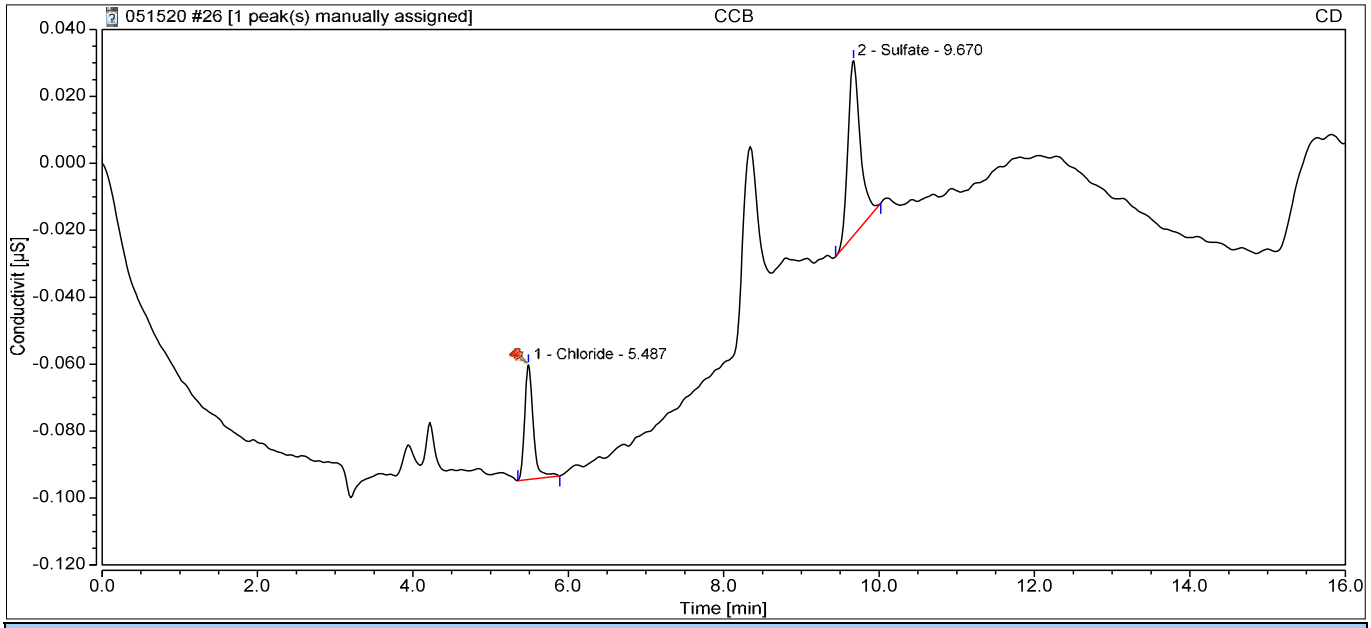
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.427	4.2045	4.2045	1.0000
2	5.49	Chloride	BMB^	4.539	19.6294	19.6294	1.0000
3	6.65	Nitrite,N	BMB*^	2.019	4.3566	4.3566	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	9.60	Sulfate	BM	3.228	19.3227	19.3227	1.0000
6	10.03	Nitrate	M ^	2.360	4.0526	4.0526	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.81	Phosphate	BMB	0.752	3.5476	3.5476	1.0000
Total:			**0.000**	**14.326**		**55.11**	

26 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**RA3**	*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:	**05/15/2020 19:23**	*Sample Weight:*	**1.0000**

Run Time:



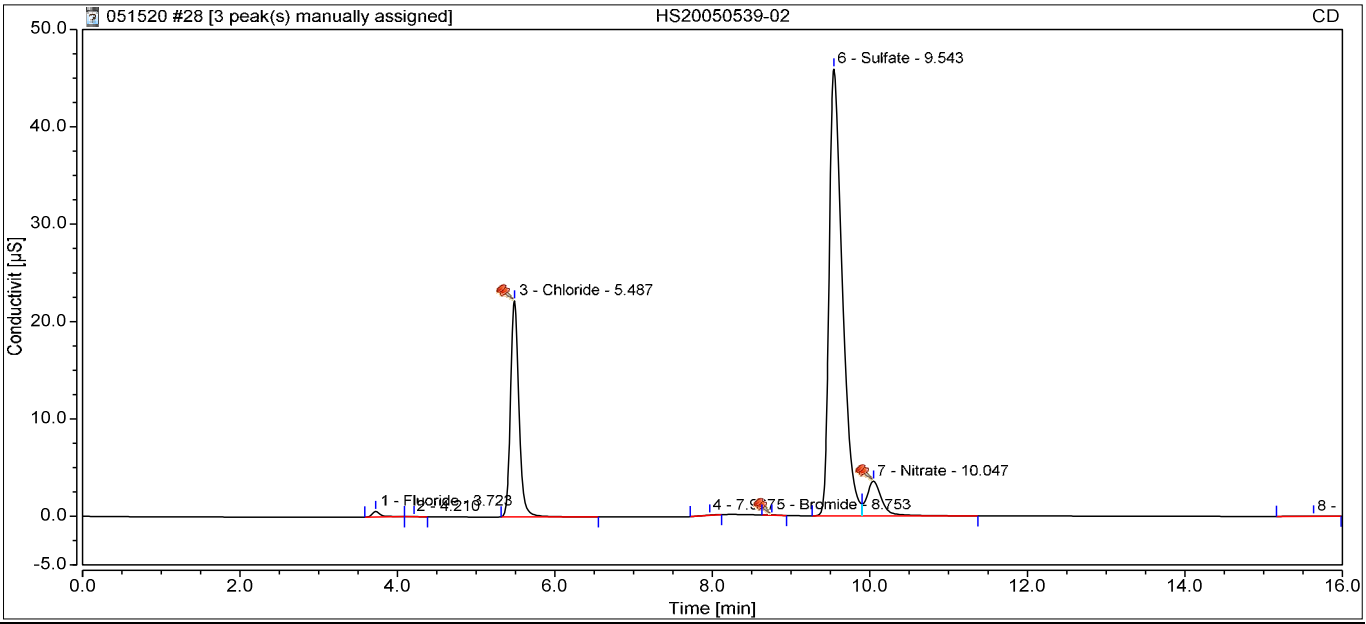
Integration Results

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.	1.0000
1	5.49	Chloride	BMB^	0.004	0.0799	0.0799	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	9.67	Sulfate	BMB	0.010	0.1584	0.1584	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**	**0.014**		**0.24**	

28 HS20050539-02

Sample Name:	**HS20050539-02**	*Injection Volume:*	**5.00**
Vial Number:	**BB4**	*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:	**05/15/2020 19:59**	*Sample Weight:*	**1.0000**

Run Time:



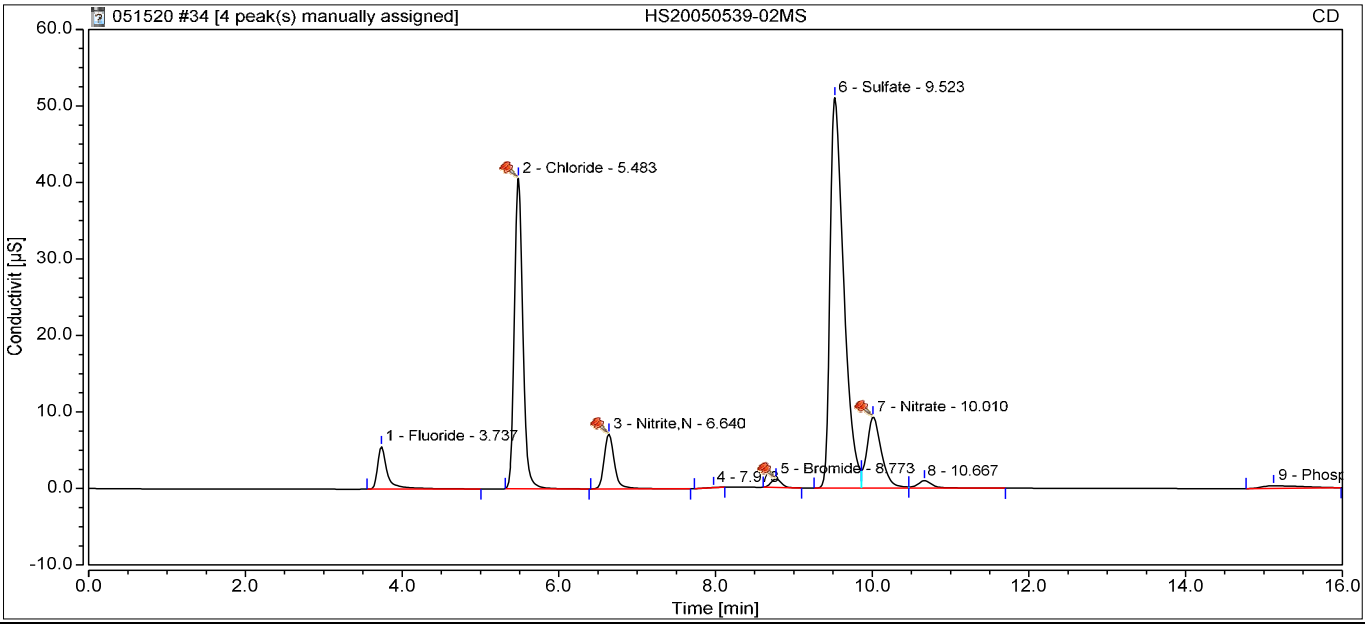
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.070	0.2297	0.2297	1.0000
3	5.49	Chloride	BMB^	2.741	11.8756	11.8756	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
5	8.75	Bromide	BMB^	0.004	0.0725	0.0725	1.0000
6	9.54	Sulfate	BM	8.902	53.1162	53.1162	1.0000
7	10.05	Nitrate	MB^	0.790	1.3648	1.3648	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**	**12.507**		**66.66**	

34 HS20050539-02MS

Sample Name:	**HS20050539-02MS**	*Injection Volume:*	**5.00**
Vial Number:	**BC2**	*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:	**05/15/2020 21:47**	*Sample Weight:*	**1.0000**

Run Time:



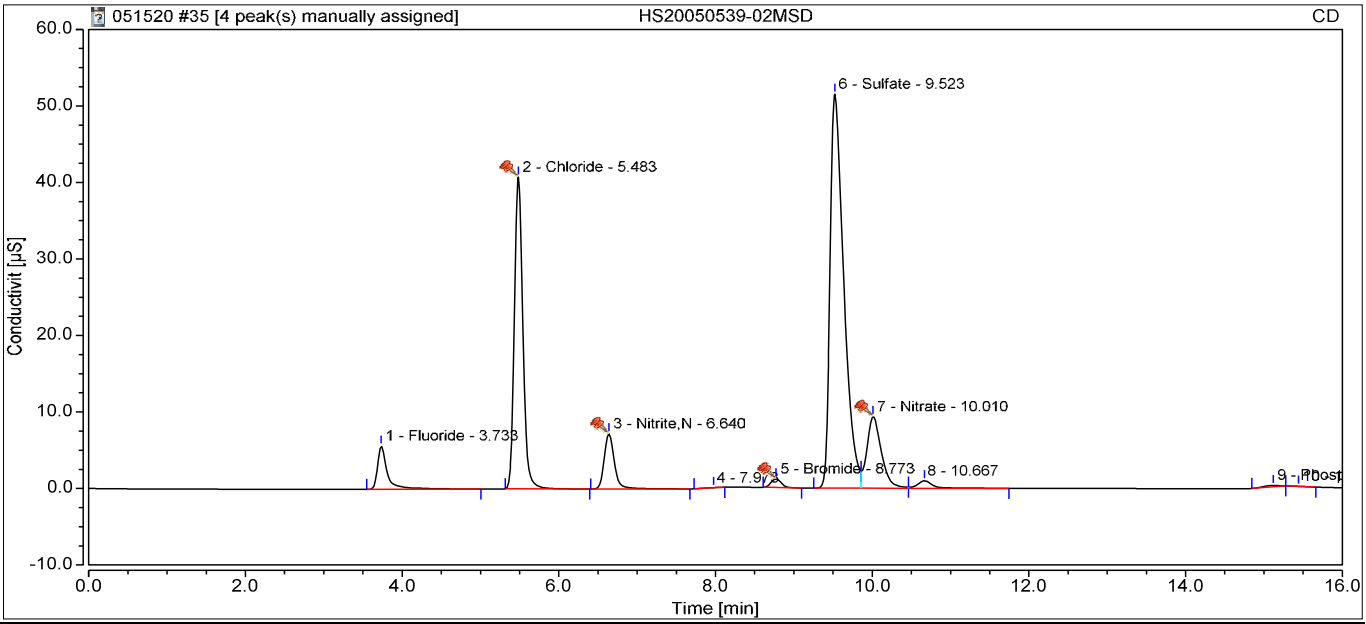
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.818	2.4195	2.4195	1.0000
2	5.48	Chloride	BMB^	5.039	21.7844	21.7844	1.0000
3	6.64	Nitrite,N	BMB^	1.082	2.3493	2.3493	1.0000
5	8.77	Bromide	BMB^	0.168	1.7272	1.7272	1.0000
6	9.52	Sulfate	BM	10.346	61.7160	61.7160	1.0000
7	10.01	Nitrate	M ^	2.008	3.4495	3.4495	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
9	15.12	Phosphate	BMB	0.200	1.0209	1.0209	1.0000
Total:			**0.000**	**19.660**		**94.47**	

35 HS20050539-02MSD

Sample Name:	**HS20050539-02MSD**	*Injection Volume:*	**5.00**
Vial Number:	**BC3**	*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:	**05/15/2020 22:05**	*Sample Weight:*	**1.0000**

Run Time:

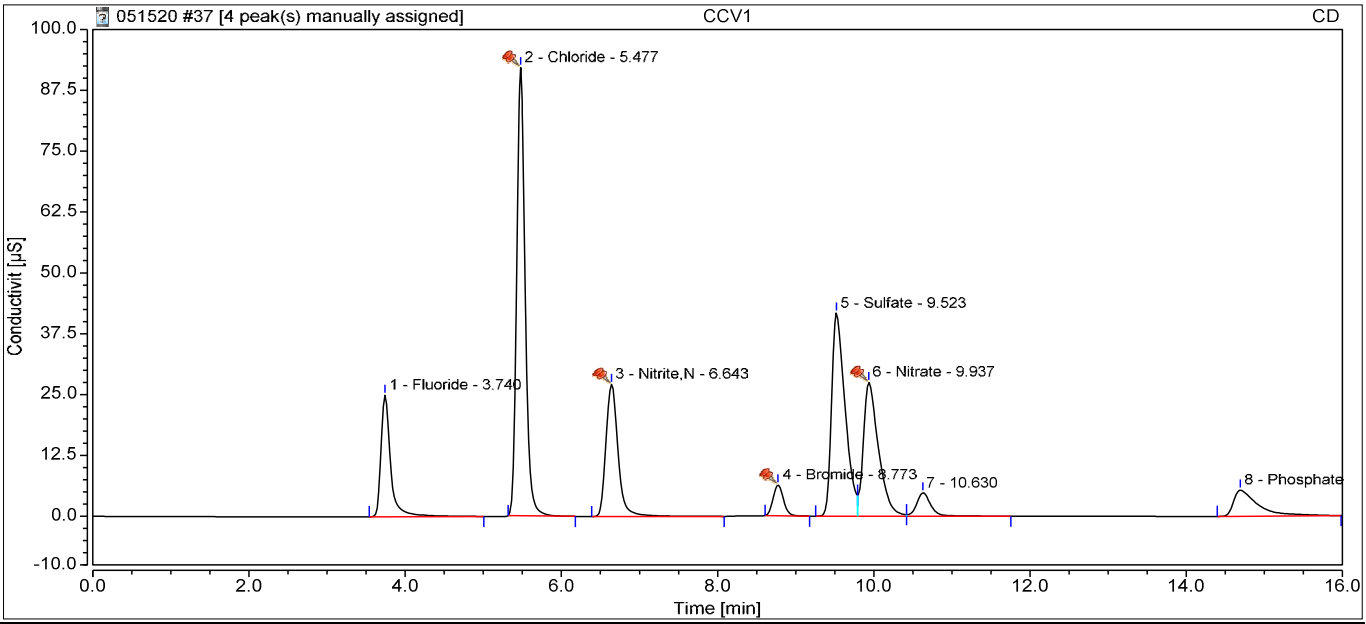


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.821	2.4295	2.4295	1.0000
2	5.48	Chloride	BMB^	5.052	21.8403	21.8403	1.0000
3	6.64	Nitrite,N	BMB^	1.085	2.3561	2.3561	1.0000
5	8.77	Bromide	BMB^	0.169	1.7355	1.7355	1.0000
6	9.52	Sulfate	BM	10.420	62.1527	62.1527	1.0000
7	10.01	Nitrate	M ^	2.009	3.4507	3.4507	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
9	15.12	Phosphate	BMB	0.043	0.3028	0.3028	1.0000
Total:			**0.000**	**19.598**		**94.27**	

37 CCV1			
Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*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:	**05/15/2020 22:42**	*Sample Weight:*	**1.0000**

Run Time:



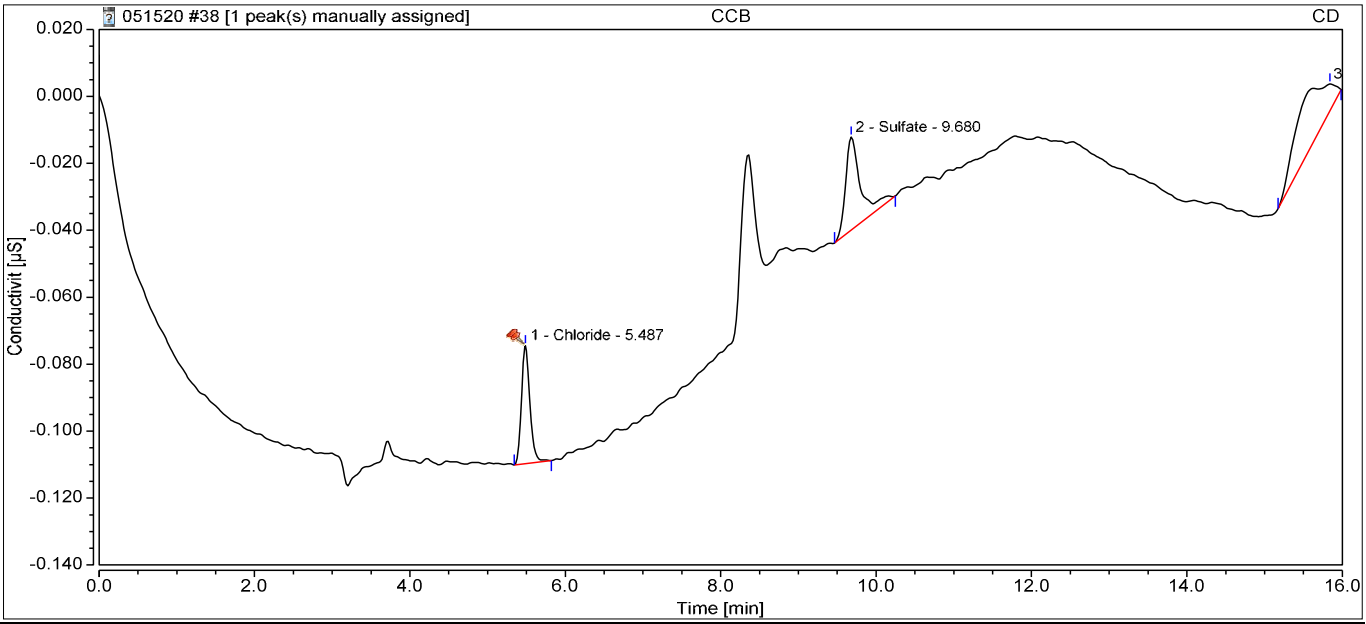
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.564	10.4626	10.4626	1.0000
2	5.48	Chloride	BMB^	11.590	50.0258	50.0258	1.0000
3	6.64	Nitrite,N	BMB^	4.883	10.4873	10.4873	1.0000
4	8.77	Bromide	BMB^	0.954	9.6542	9.6542	1.0000
5	9.52	Sulfate	BM	8.393	50.0811	50.0811	1.0000
6	9.94	Nitrate	M ^	6.152	10.5424	10.5424	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.69	Phosphate	BMB	1.960	9.0716	9.0716	1.0000
Total:			**0.000**	**37.495**		**150.32**	

38 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**RA5**	*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:	**05/15/2020 23:00**	*Sample Weight:*	**1.0000**

Run Time:



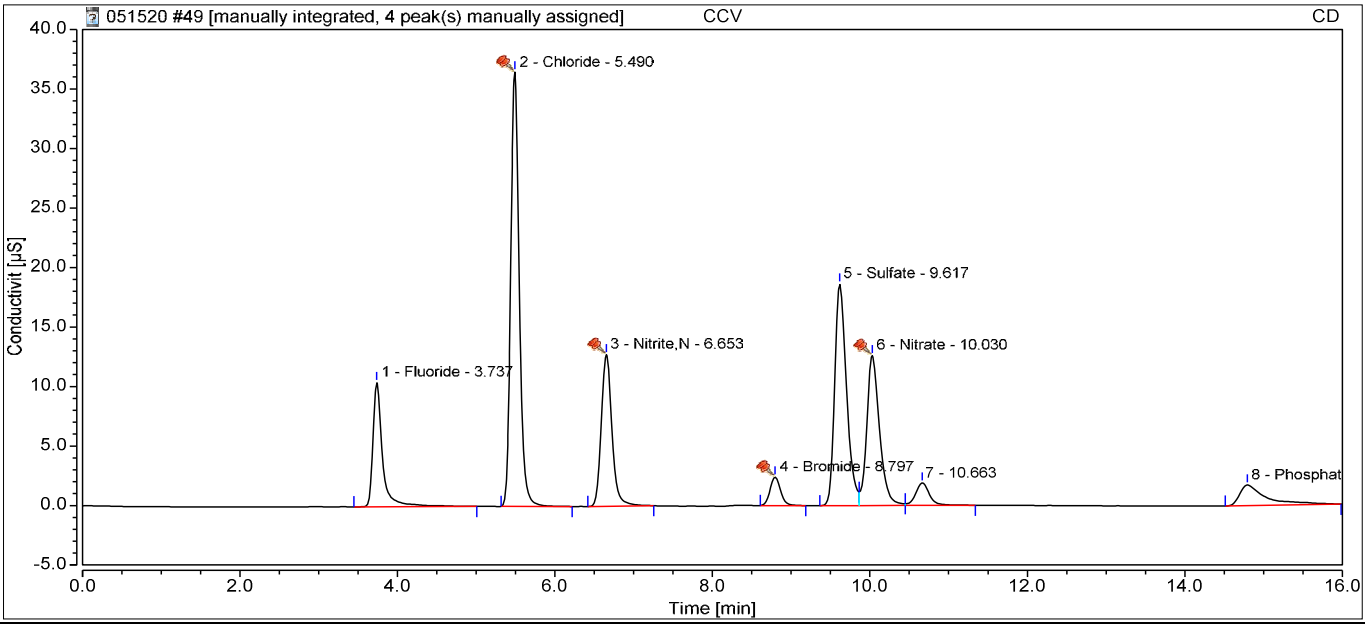
Integration Results

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	5.49	Chloride	BMB^	0.004	0.0800	0.0800	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	0.006	0.1380	0.1380	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**	**0.011**		**0.22**	

49 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**RA2**	*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:	**05/16/2020 02:19**	*Sample Weight:*	**1.0000**

Run Time:



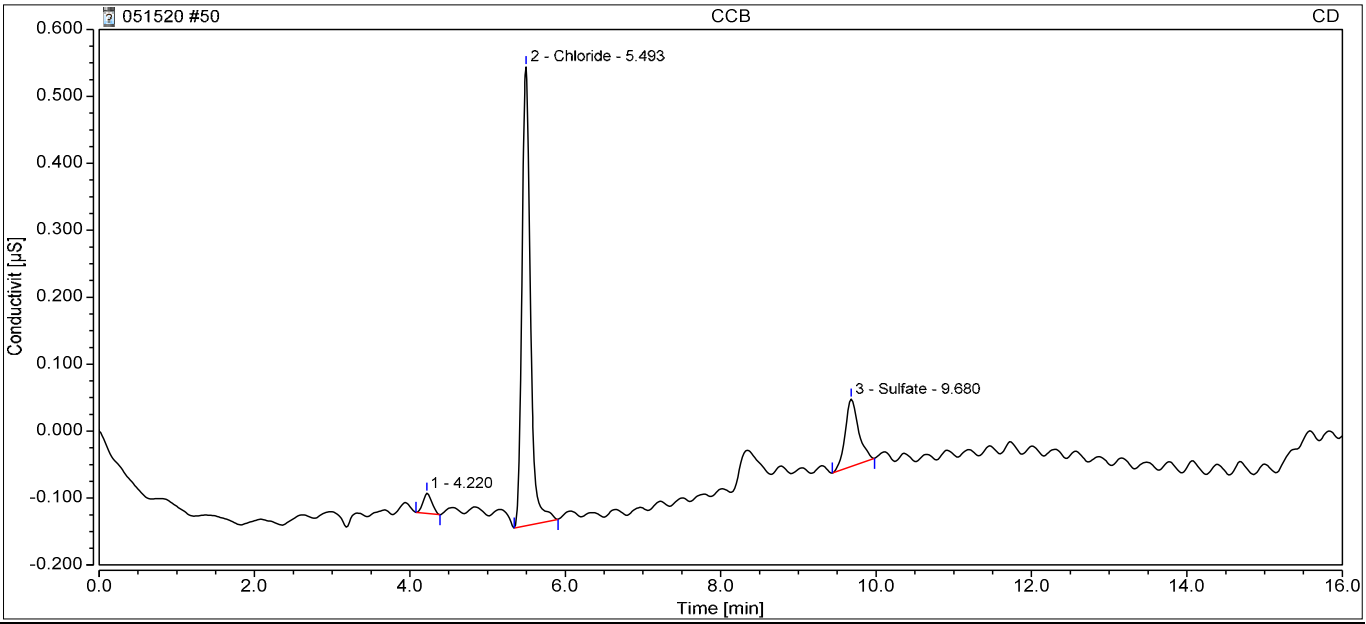
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.462	4.3068	4.3068	1.0000
2	5.49	Chloride	BMB^	4.568	19.7537	19.7537	1.0000
3	6.65	Nitrite,N	BMB*^	2.017	4.3518	4.3518	1.0000
4	8.80	Bromide	BMB^	0.372	3.7855	3.7855	1.0000
5	9.62	Sulfate	BM	3.235	19.3674	19.3674	1.0000
6	10.03	Nitrate	M ^	2.372	4.0721	4.0721	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.79	Phosphate	BMB	0.687	3.2520	3.2520	1.0000
Total:			**0.000**	**14.713**		**58.89**	

50 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**RA3**	*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:	**05/16/2020 02:37**	*Sample Weight:*	**1.0000**

Run Time:



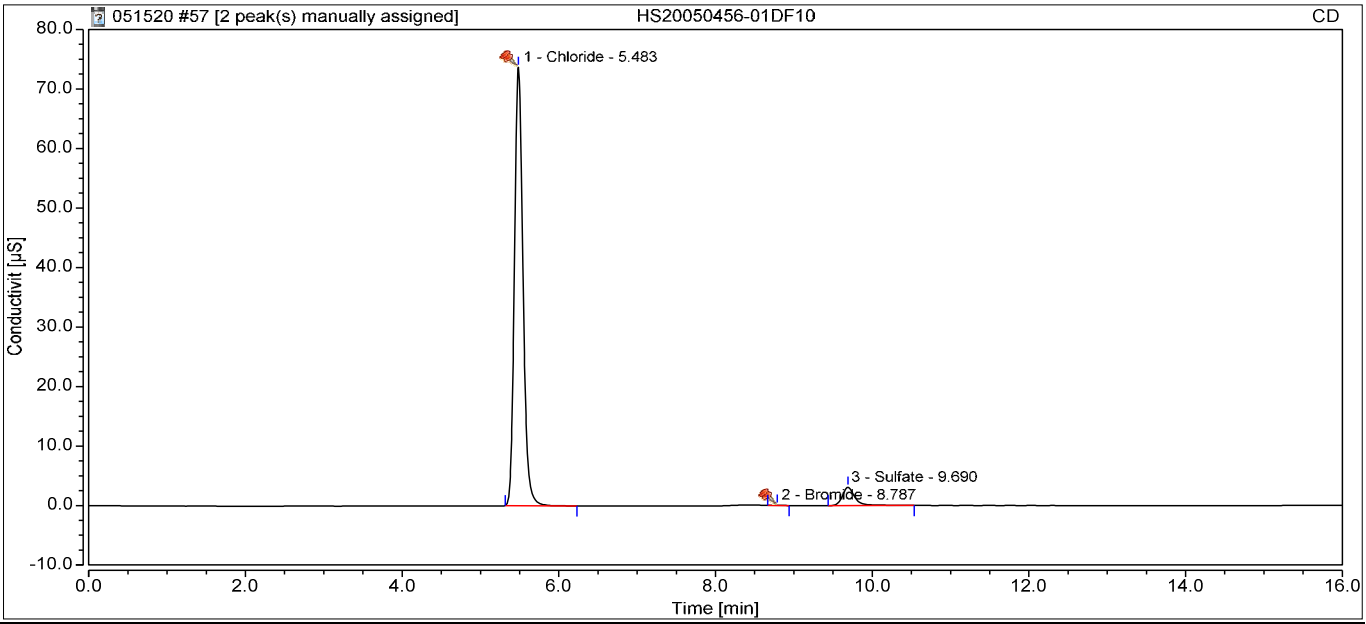
Integration Results

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
2	5.49	Chloride	BMB	0.087	0.4353	0.4353	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	9.68	Sulfate	BMB	0.020	0.2214	0.2214	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**	**0.107**		**0.66**	

57 HS20050456-01DF10

Sample Name:	**HS20050456-01DF10**	*Injection Volume:*	**5.00**
Vial Number:	**BE5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/16/2020 04:44**	*Sample Weight:*	**1.0000**

Run Time:



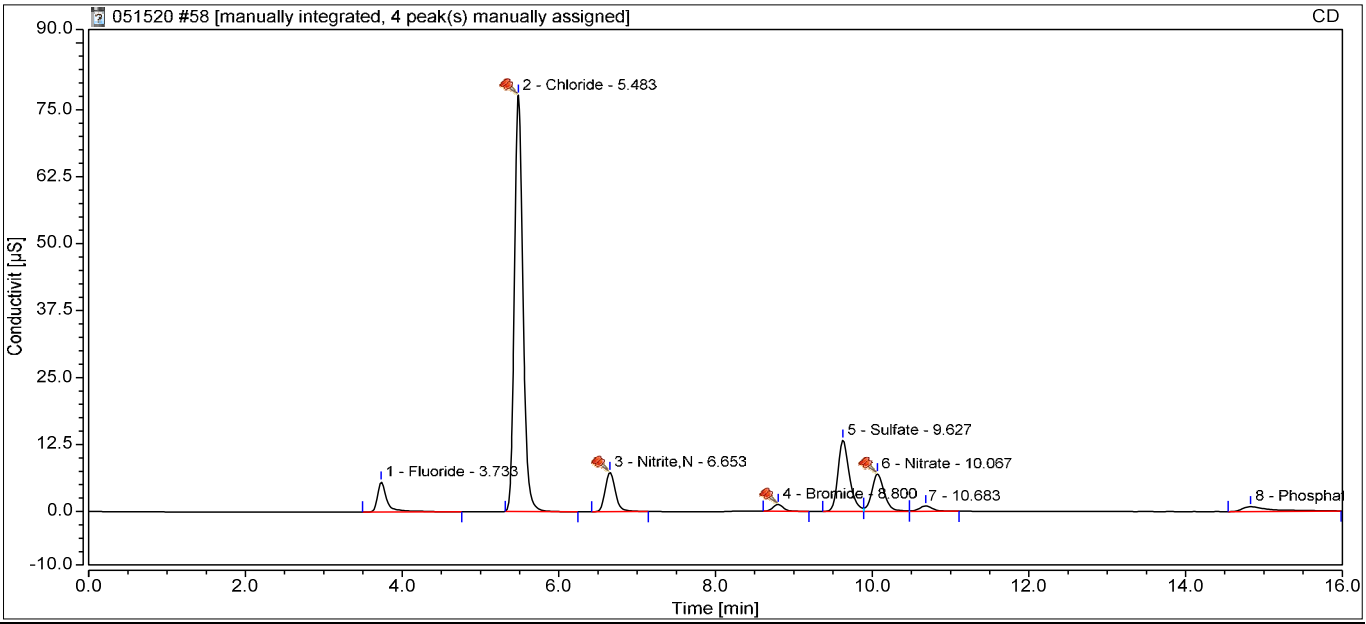
Integration Results

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	5.48	Chloride	BMB^	9.266	40.0045	400.0451	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
2	8.79	Bromide	BMB^	0.004	0.0782	0.7824	10.0000
3	9.69	Sulfate	BMB	0.575	3.5237	35.2371	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**	**9.845**		**436.06**	

58 HS20050456-01MSDF10

Sample Name:	**HS20050456-01MSDF10**	*Injection Volume:*	**5.00**
Vial Number:	**BE6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/16/2020 05:02**	*Sample Weight:*	**1.0000**

Run Time:



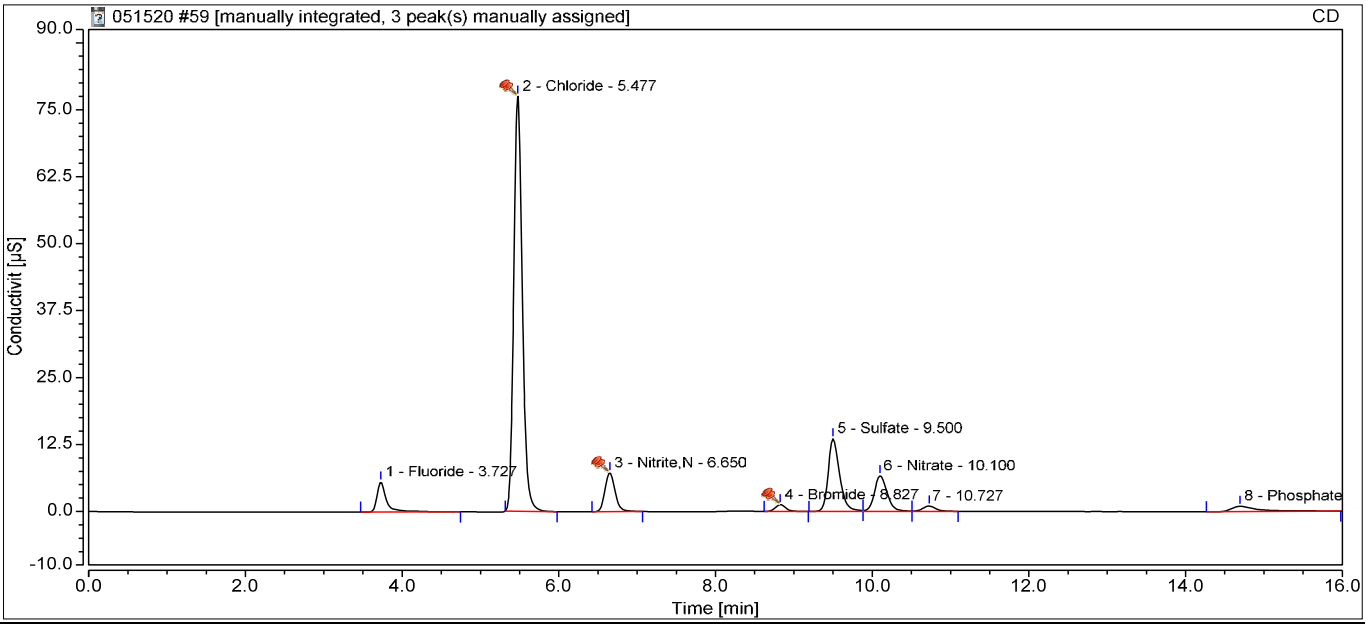
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.788	2.3327	23.3270	10.0000
2	5.48	Chloride	BMB^	9.789	42.2623	422.6228	10.0000
3	6.65	Nitrite,N	BMB*^	1.104	2.3966	23.9657	10.0000
4	8.80	Bromide	BMB^	0.195	2.0044	20.0443	10.0000
5	9.63	Sulfate	BM	2.268	13.6065	136.0648	10.0000
6	10.07	Nitrate	M ^	1.289	2.2197	22.1972	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
8	14.83	Phosphate	BMB	0.389	1.8852	18.8523	10.0000
Total:			**0.000**	**15.822**		**667.07**	

59 HS20050456-01MSDDF10

Sample Name:	**HS20050456-01MSDDF10**	*Injection Volume:*	**5.00**
Vial Number:	**BE7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/16/2020 05:20**	*Sample Weight:*	**1.0000**

Run Time:



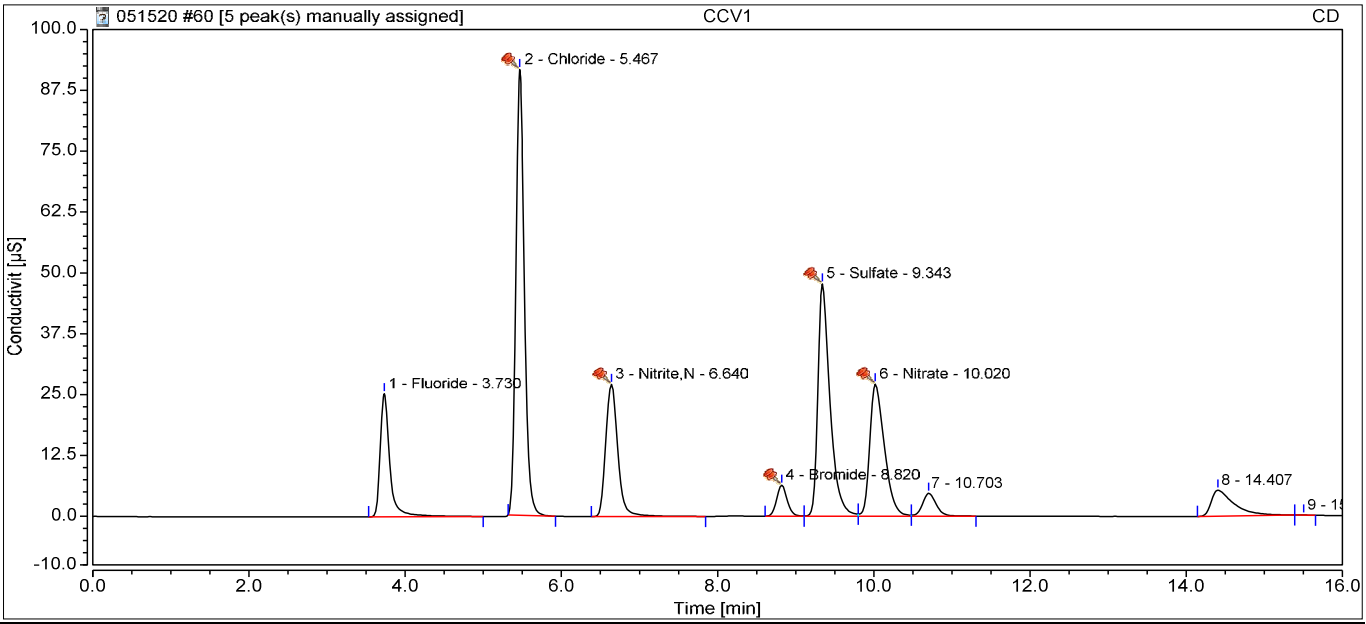
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.788	2.3320	23.3195	10.0000
2	5.48	Chloride	BMB^	9.738	42.0417	420.4166	10.0000
3	6.65	Nitrite,N	BMB*^	1.093	2.3733	23.7334	10.0000
4	8.83	Bromide	BMB^	0.201	2.0591	20.5911	10.0000
5	9.50	Sulfate	BM	2.302	13.8102	138.1024	10.0000
6	10.10	Nitrate	M	1.254	2.1595	21.5946	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
8	14.69	Phosphate	BMB	0.407	1.9707	19.7072	10.0000
Total:			**0.000**	**15.783**		**667.46**	

60 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*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:	**05/16/2020 05:38**	*Sample Weight:*	**1.0000**

Run Time:



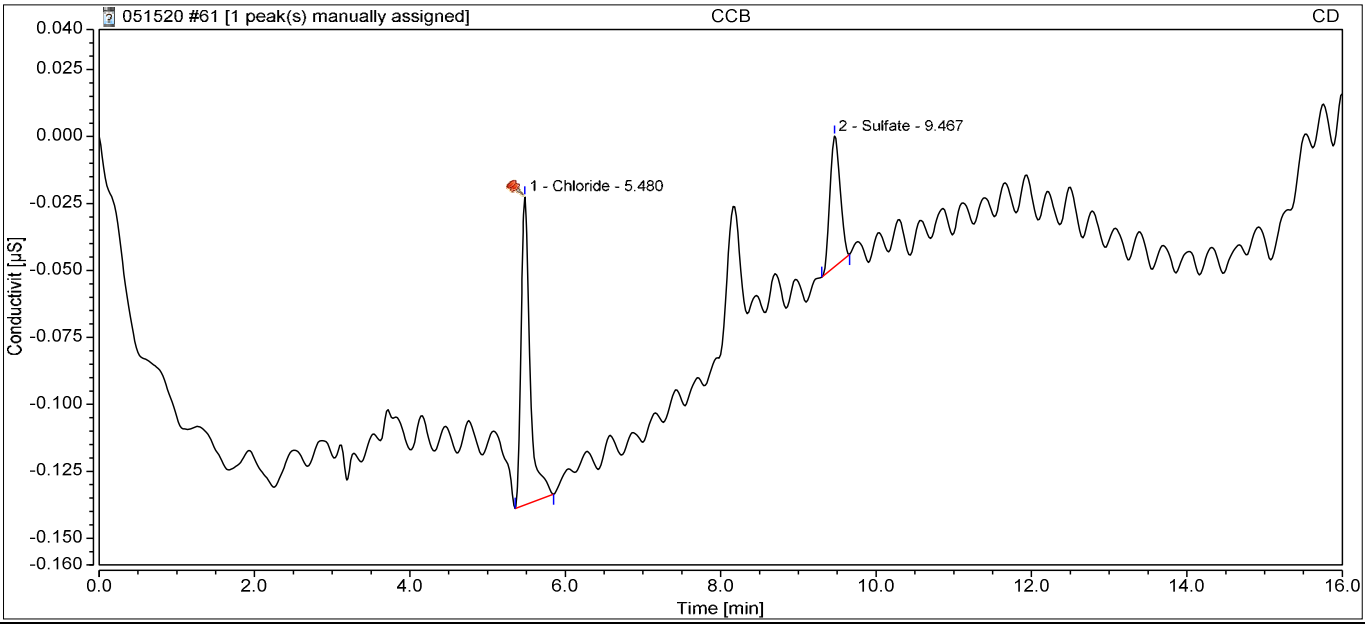
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	3.586	10.5268	10.5268	1.0000
2	5.47	Chloride	BMB^	11.503	49.6495	49.6495	1.0000
3	6.64	Nitrite,N	BMB^	4.876	10.4735	10.4735	1.0000
4	8.82	Bromide	BM ^	0.996	10.0764	10.0764	1.0000
5	9.34	Sulfate	M ^	8.592	51.2716	51.2716	1.0000
6	10.02	Nitrate	M ^	5.887	10.0888	10.0888	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**	**35.440**		**142.09**	

61 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**RA5**	*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:	**05/16/2020 05:56**	*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	5.48	Chloride	BMB^	0.015	0.1275	0.1275	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	9.47	Sulfate	BMB	0.007	0.1457	0.1457	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**		**0.27**	

Sequence: 051820
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume [ul]	Status
	STD1	2970209205	Calibration	GA1	1.0000	1	Anions Program 02052020.1	Anions P	5.0	Finished
	STD2	NEW PRGM	Calibration	GA2	1.0000	2	Anions Program 02052020.1	Anions P	5.0	Finished
	STD3		Calibration	GA3	1.0000	3	Anions Program 02052020.1	Anions P	5.0	Finished
	STD4		Calibration	GA4	1.0000	4	Anions Program 02052020.1	Anions P	5.0	Finished
	STD5	NO2/PO4	Calibration	GA5	1.0000	5	Anions Program 02052020.1	Anions P	5.0	Finished
	STD6	MAX 10PPM	Calibration	GA6	1.0000	6	Anions Program 02052020.1	Anions P	5.0	Finished
	ICV	2970209123	Unknown	GA7	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	ICB		Unknown	GA8	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV		Unknown	BA2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	BA3	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	MBLK051820	300_W	Unknown	BB1	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	LCS051820		Unknown	BB2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	LCSD051820		Unknown	BB3	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050610-01		Unknown	BB4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050610-01MS		Unknown	BB5	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050610-01MSD		Unknown	BB6	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV1		Unknown	BA4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	BA5	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050590-02MS	300_W	Unknown	BC5	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050590-02MSD		Unknown	BC6	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050590-02		Unknown	BC4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV		Unknown	BA2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	BA3	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050456-01		Unknown	BE2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV1		Unknown	BA4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished

Sequence: 051820
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume [ul]	Status
	CCB		Unknown	BA5	1.0000		Anions Program 02052020.1	Anions F	5.0	Finished

Sequence: 051820
Last Update Operator: alshs.nouser

Inject Time
2/5/2020 7:39:11 PM -06:00
2/5/2020 7:57:16 PM -06:00
2/5/2020 8:15:24 PM -06:00
2/5/2020 8:33:31 PM -06:00
2/5/2020 8:51:36 PM -06:00
2/5/2020 9:09:41 PM -06:00
2/5/2020 9:27:48 PM -06:00
2/5/2020 9:45:53 PM -06:00
5/18/2020 10:52:42 AM -05:00
5/18/2020 11:10:48 AM -05:00
5/18/2020 11:28:54 AM -05:00
5/18/2020 11:46:59 AM -05:00
5/18/2020 12:05:07 PM -05:00
5/18/2020 12:23:16 PM -05:00
5/18/2020 12:41:21 PM -05:00
5/18/2020 12:59:26 PM -05:00
5/18/2020 3:34:05 PM -05:00
5/18/2020 3:52:12 PM -05:00
5/18/2020 5:12:21 PM -05:00
5/18/2020 5:30:31 PM -05:00
5/18/2020 6:06:46 PM -05:00
5/18/2020 7:37:28 PM -05:00
5/18/2020 7:55:33 PM -05:00
5/18/2020 10:20:21 PM -05:00
5/18/2020 11:14:40 PM -05:00

Sequence: 051820
Last Update Operator: alshs.nouser

Inject Time
5/18/2020 11:32:46 PM -05:00

Sequence: 042320
Injection #6: STD6

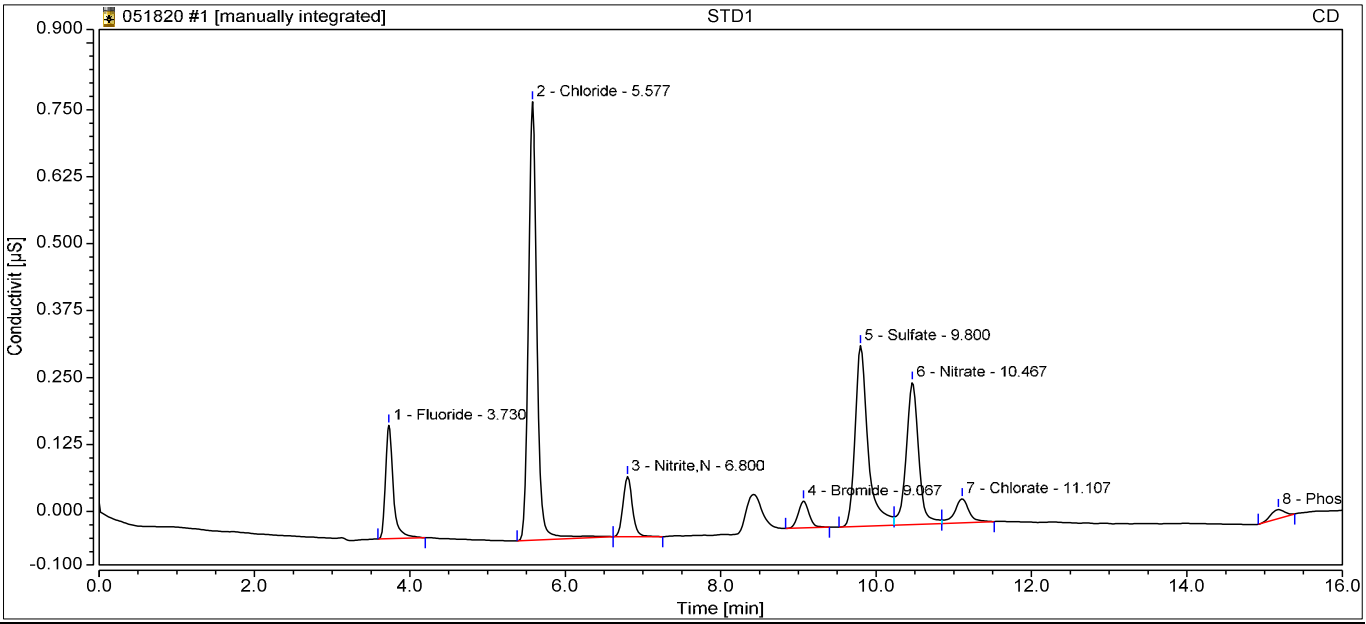
Calibration

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:



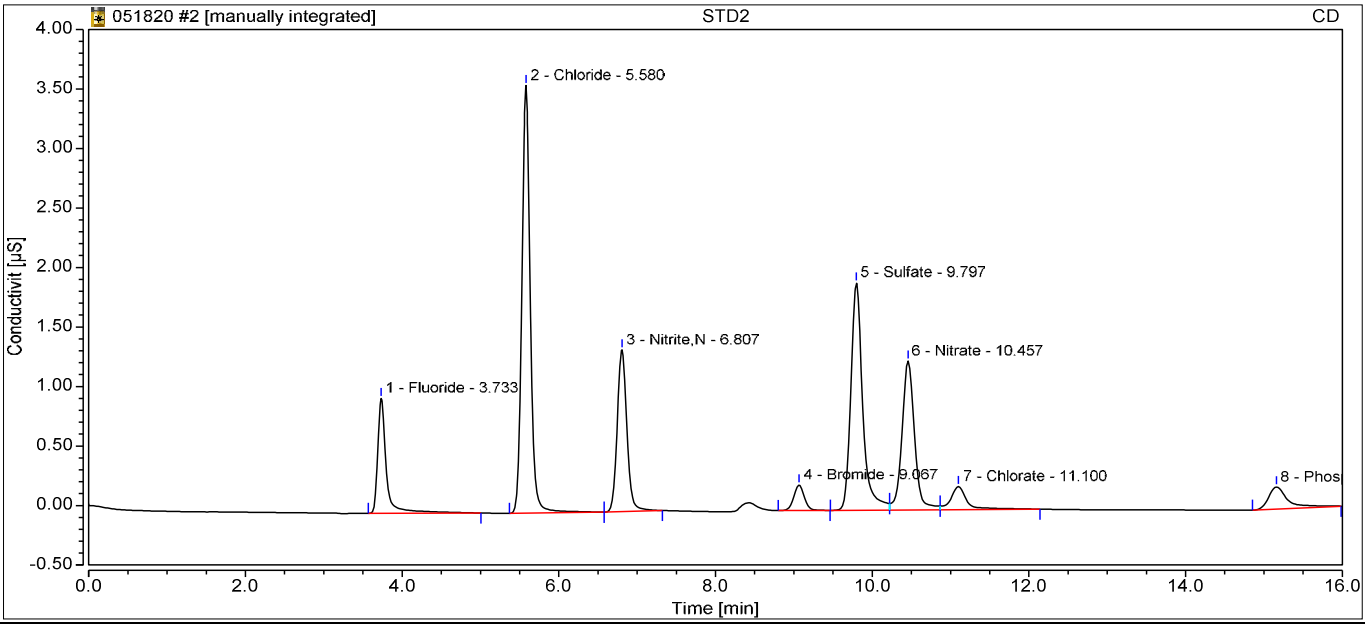
Integration Results

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	0.0673	0.0673	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	0.1235	0.1235	1.0000
Total:			**0.000**	**0.279**		**1.58**	

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:



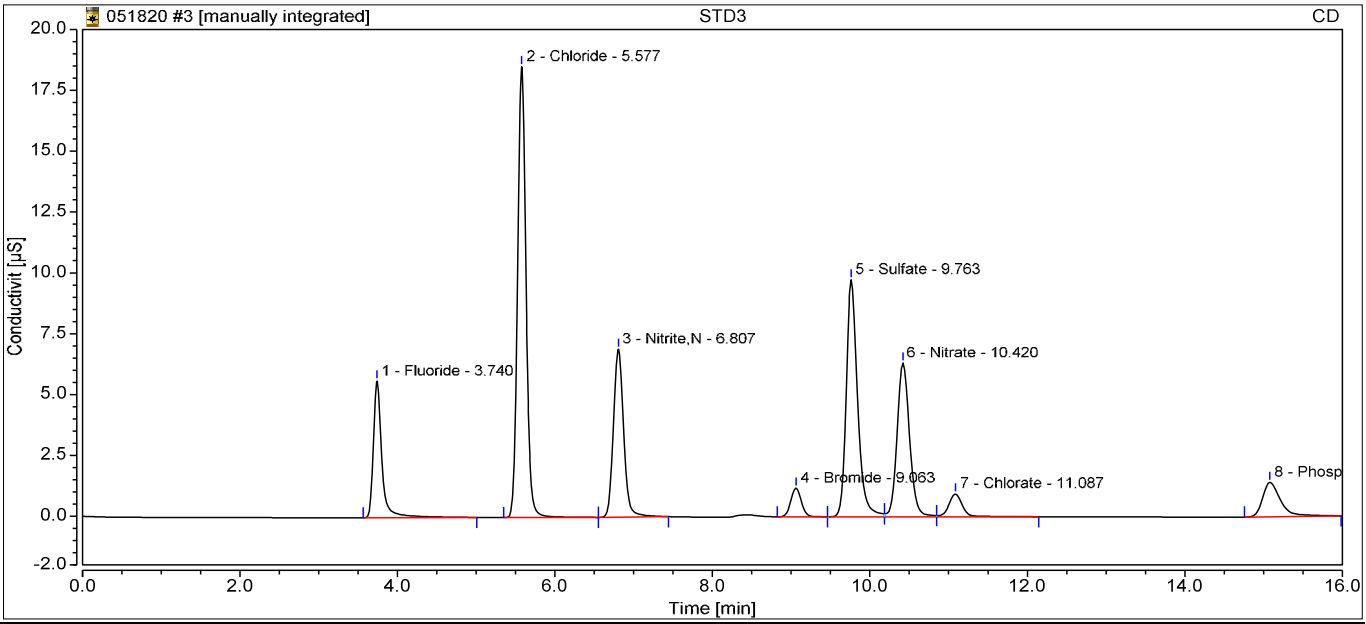
Integration Results

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	0.4500	0.4500	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	0.3508	0.3508	1.0000
Total:			**0.000**	**1.467**		**6.54**	

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:



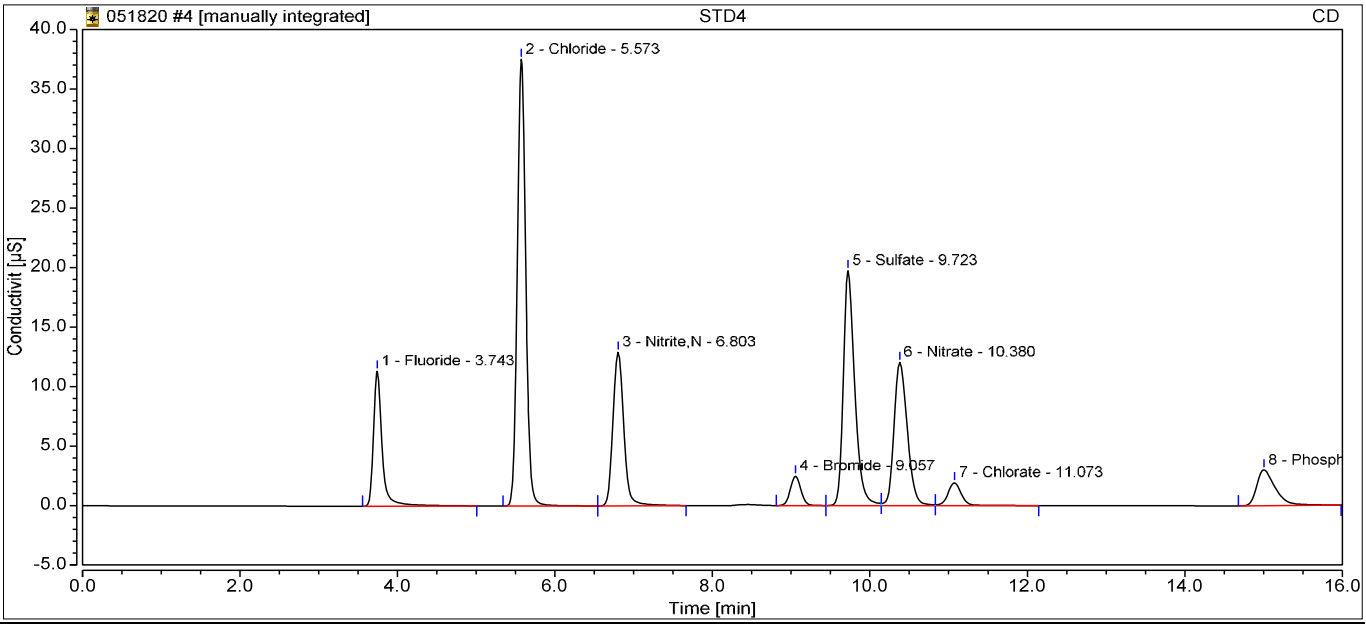
Integration Results

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	2.2369	2.2369	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	1.8187	1.8187	1.0000
Total:			**0.000**	**7.542**		**31.65**	

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:



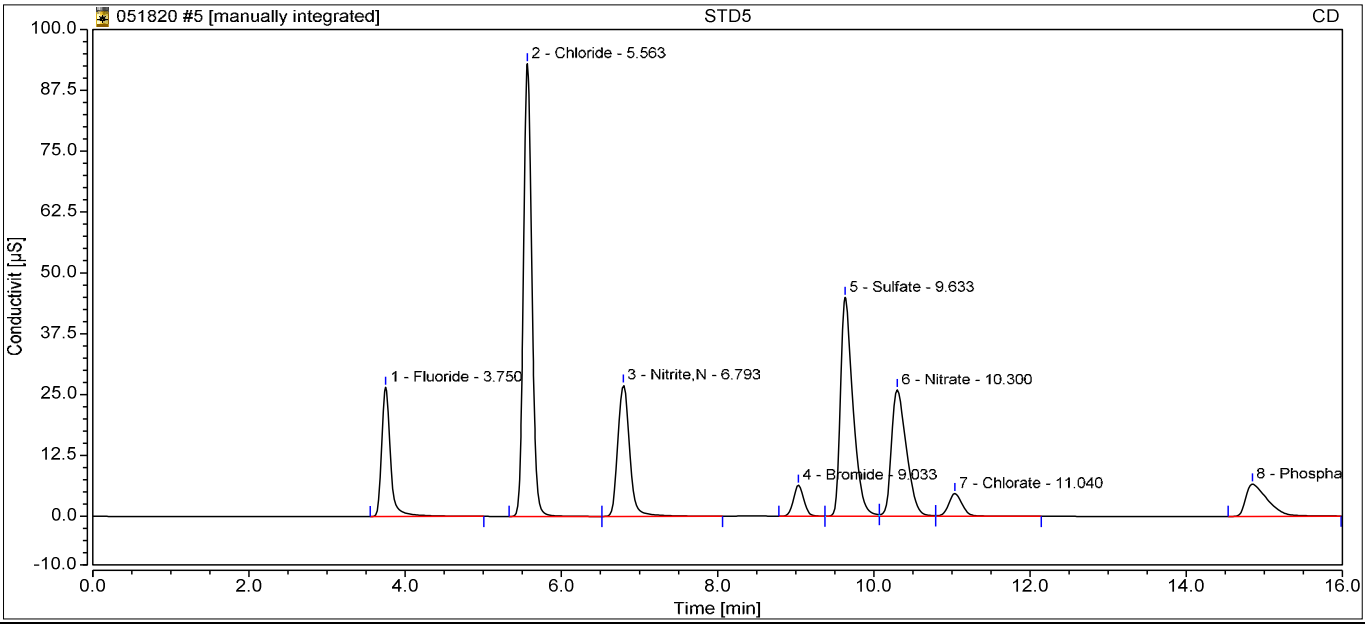
Integration Results

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	4.4146	4.4146	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	3.8745	3.8745	1.0000
Total:			**0.000**	**15.366**		**64.37**	

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:



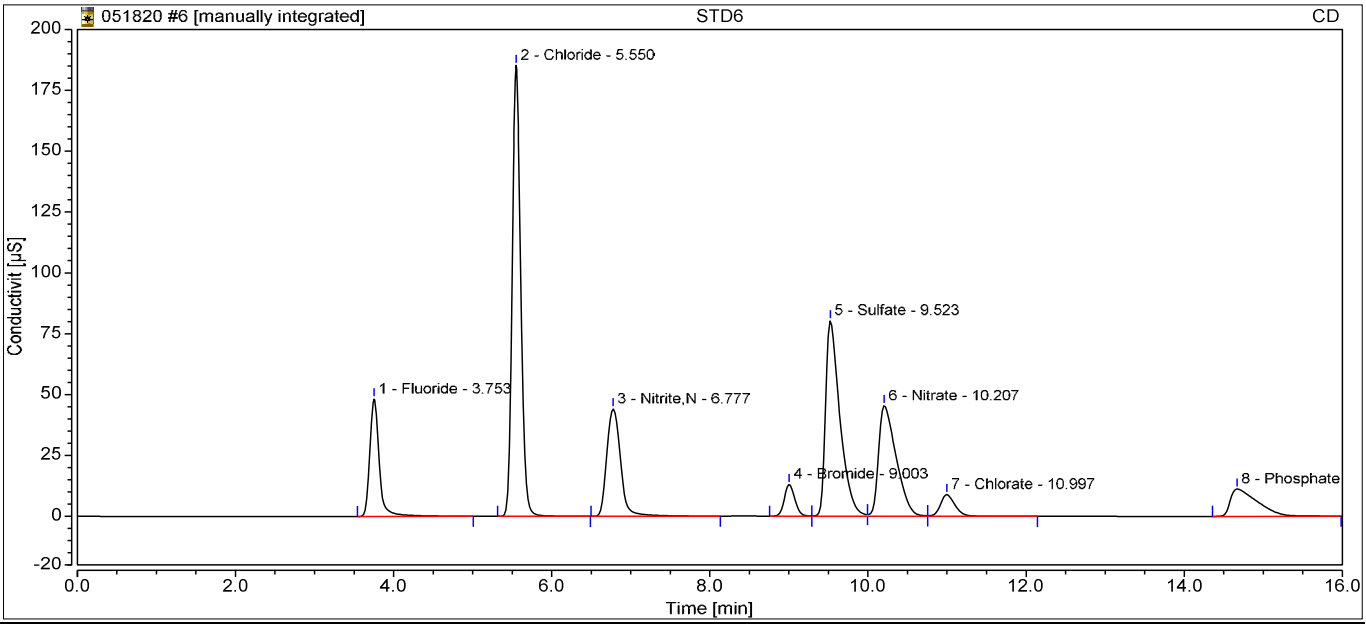
Integration Results

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	10.2593	10.2593	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	9.8737	9.8737	1.0000
Total:			**0.000**	**37.949**		**159.51**	

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:



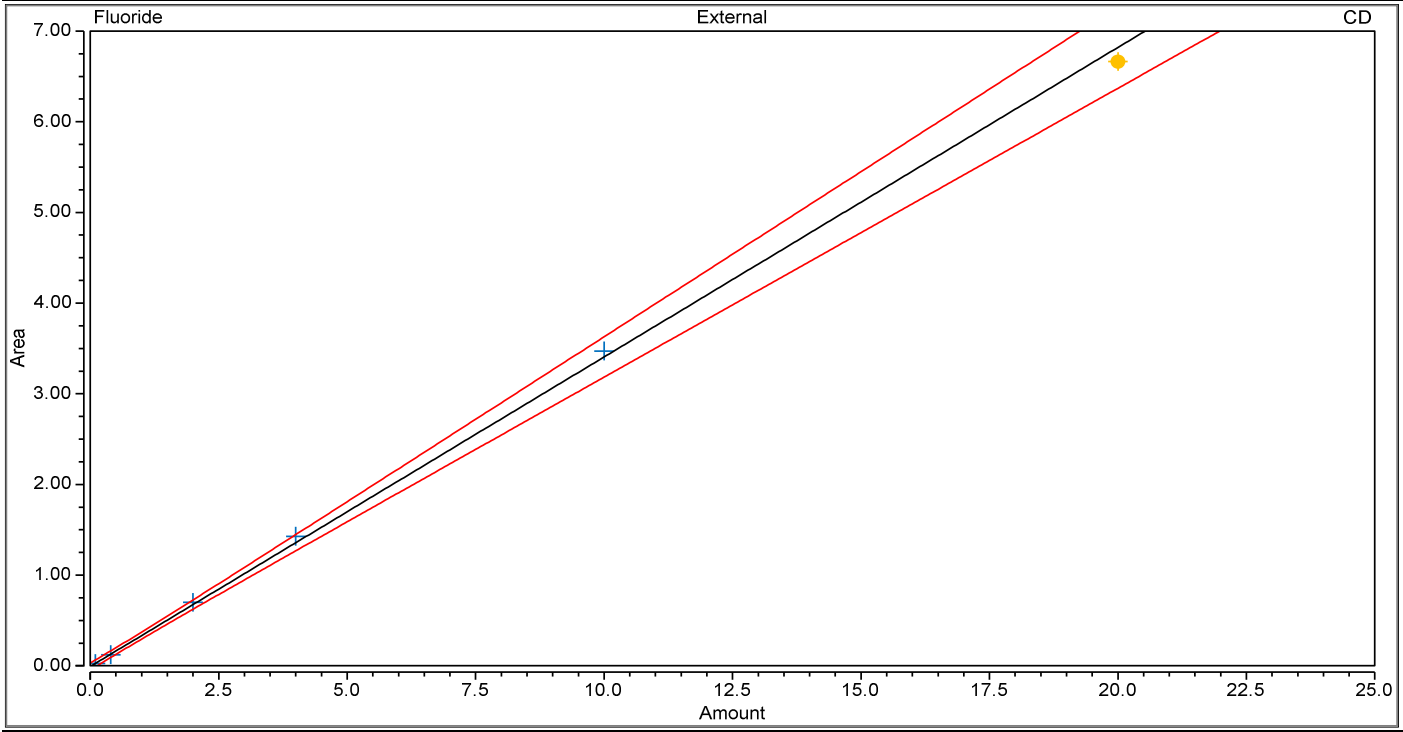
Integration Results

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	19.0718	19.0718	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	20.4589	20.4589	1.0000
Total:			**0.000**	**75.750**		**320.37**	

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**



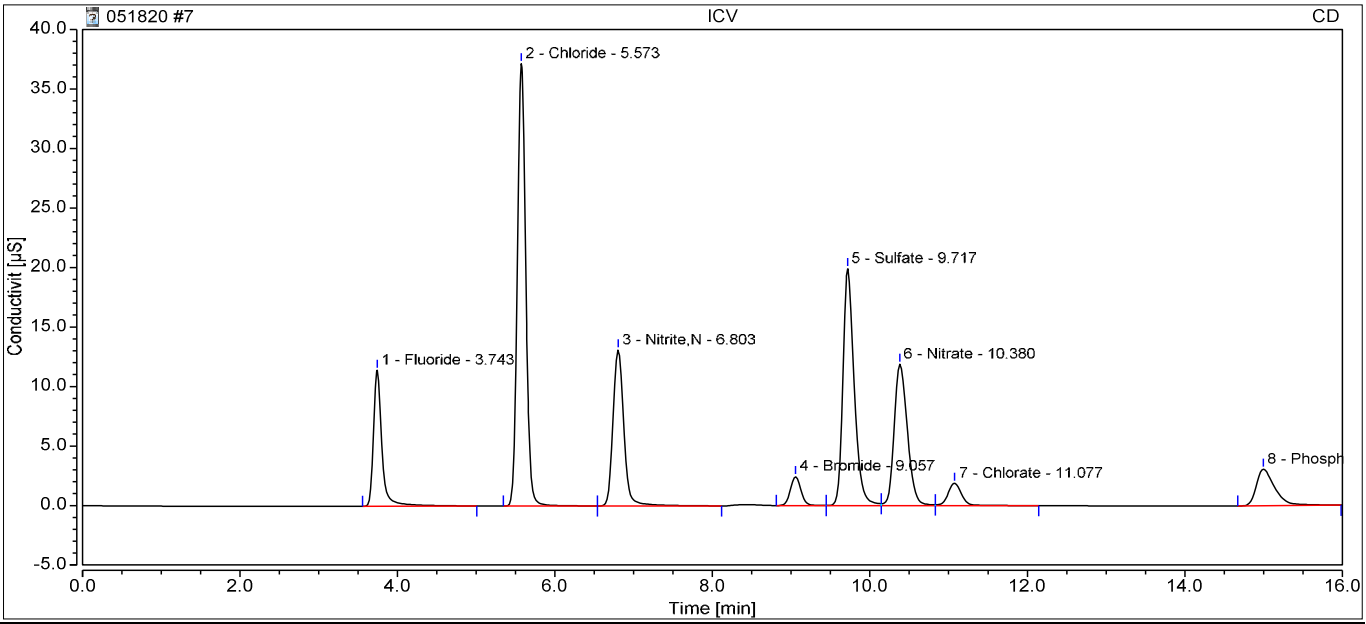
Calibration Results **Fluoride**

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:



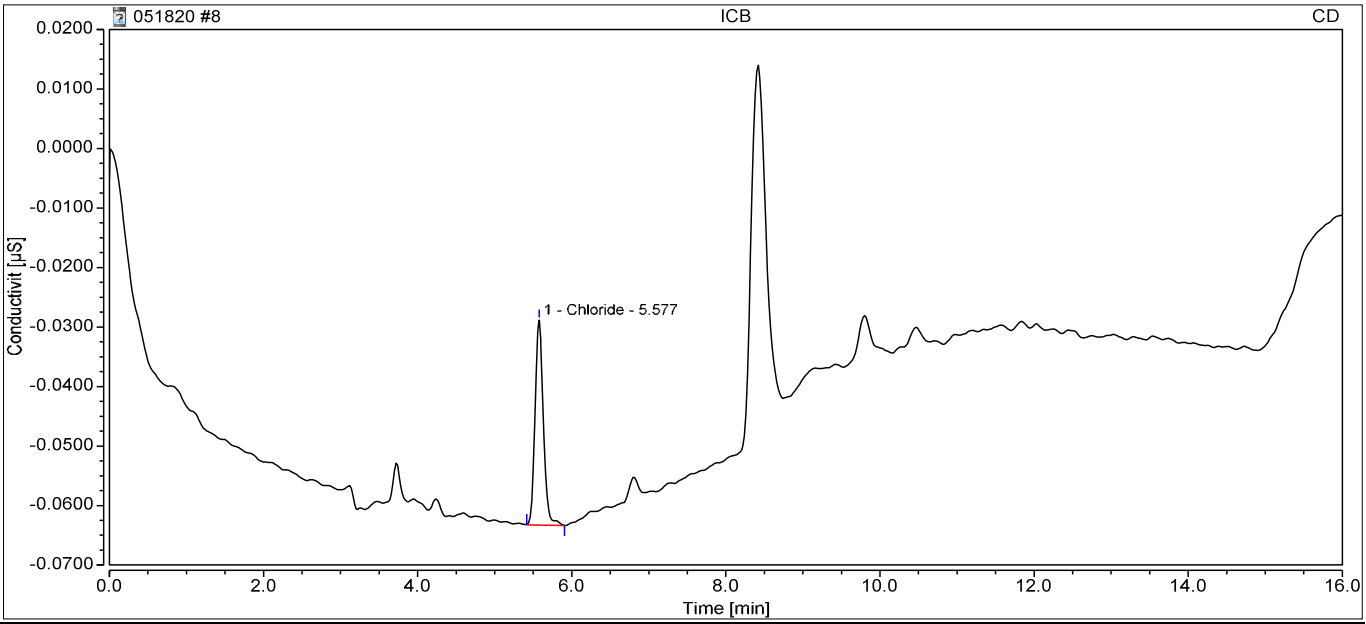
Integration Results

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	4.4887	4.4887	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	3.9271	3.9271	1.0000
Total:			**0.000**	**15.278**		**63.99**	

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:



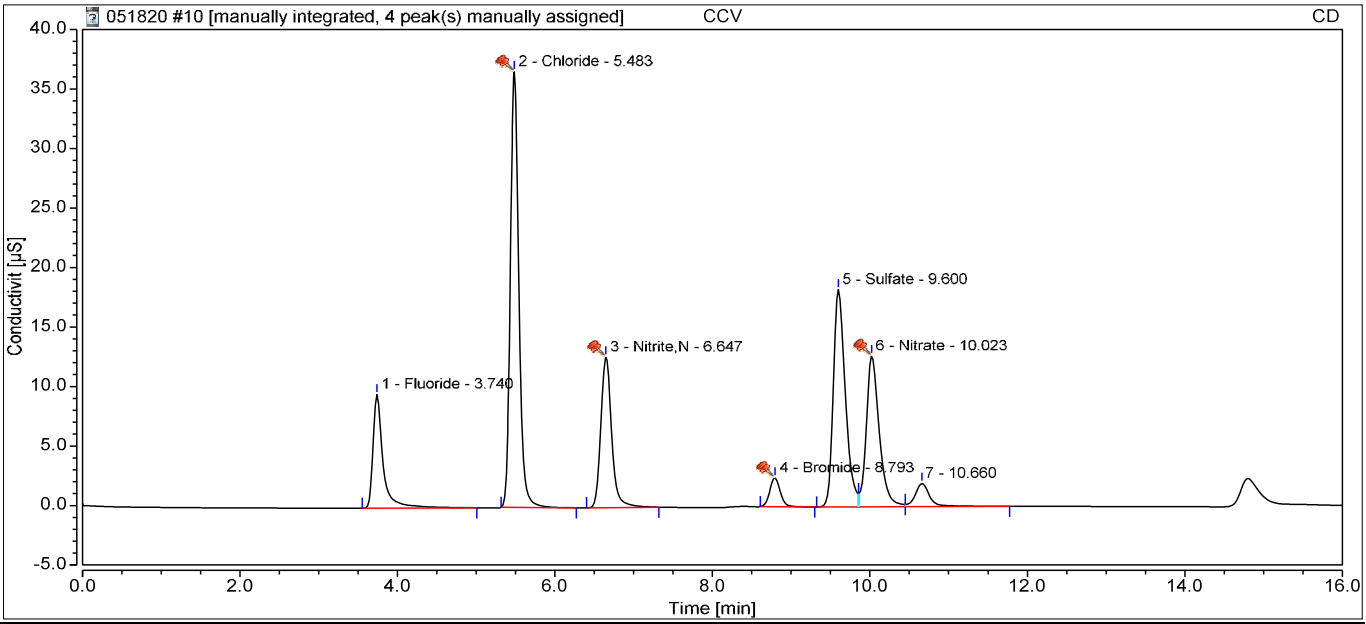
Integration Results

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**	

10 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*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:	**05/18/2020 10:52**	*Sample Weight:*	**1.0000**

Run Time:



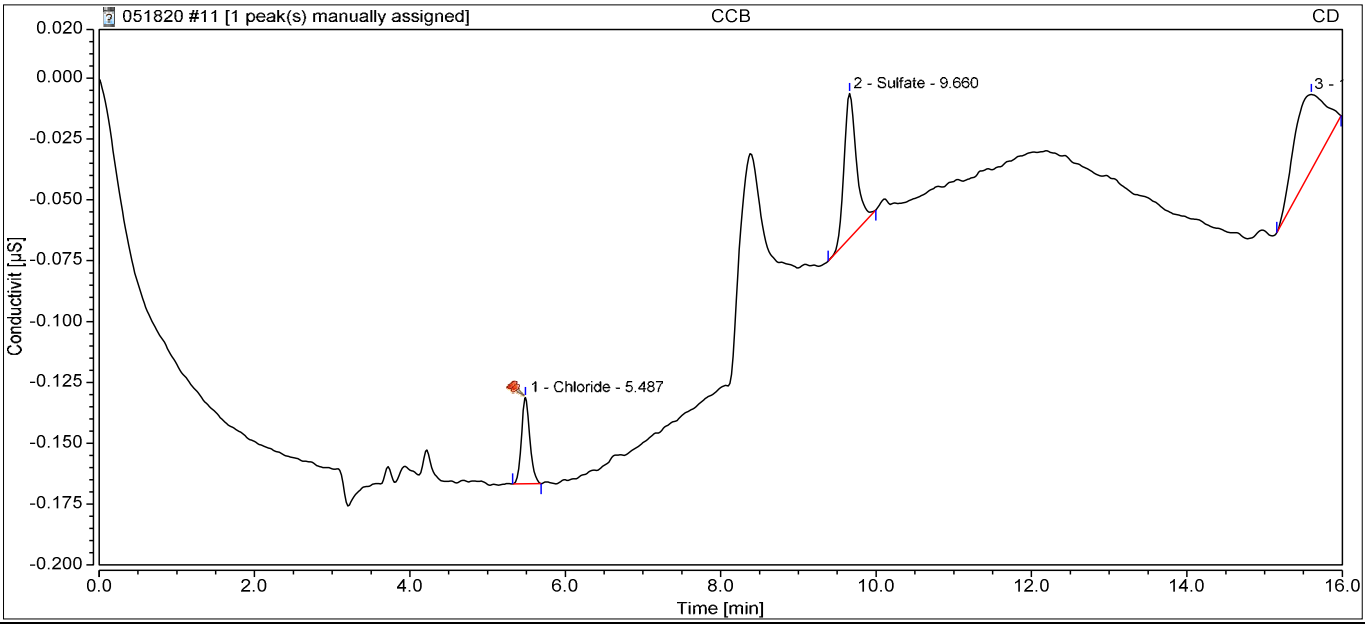
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.417	4.1748	4.1748	1.0000
2	5.48	Chloride	BMB^	4.579	19.7999	19.7999	1.0000
3	6.65	Nitrite,N	BMB*^	2.030	4.3796	4.3796	1.0000
4	8.79	Bromide	BMB^	0.373	3.7952	3.7952	1.0000
5	9.60	Sulfate	BM	3.219	19.2741	19.2741	1.0000
6	10.02	Nitrate	M ^	2.423	4.1602	4.1602	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**	**14.041**		**55.58**	

11 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*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:	**05/18/2020 11:10**	*Sample Weight:*	**1.0000**

Run Time:



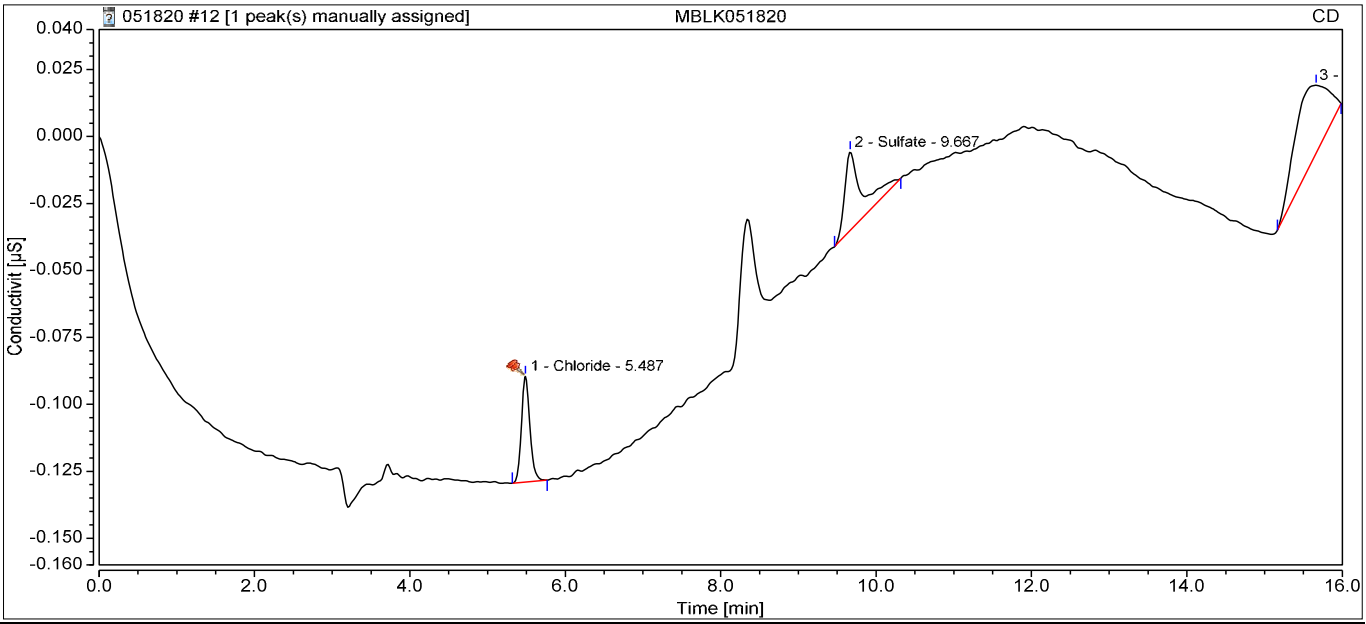
Integration Results

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	5.49	Chloride	BMB^	0.004	0.0801	0.0801	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	9.66	Sulfate	BMB	0.011	0.1658	0.1658	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**	**0.015**		**0.25**	

12 MBLK051820

Sample Name:	**MBLK051820**	*Injection Volume:*	**5.00**
Vial Number:	**BB1**	*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:	**05/18/2020 11:28**	*Sample Weight:*	**1.0000**

Run Time:



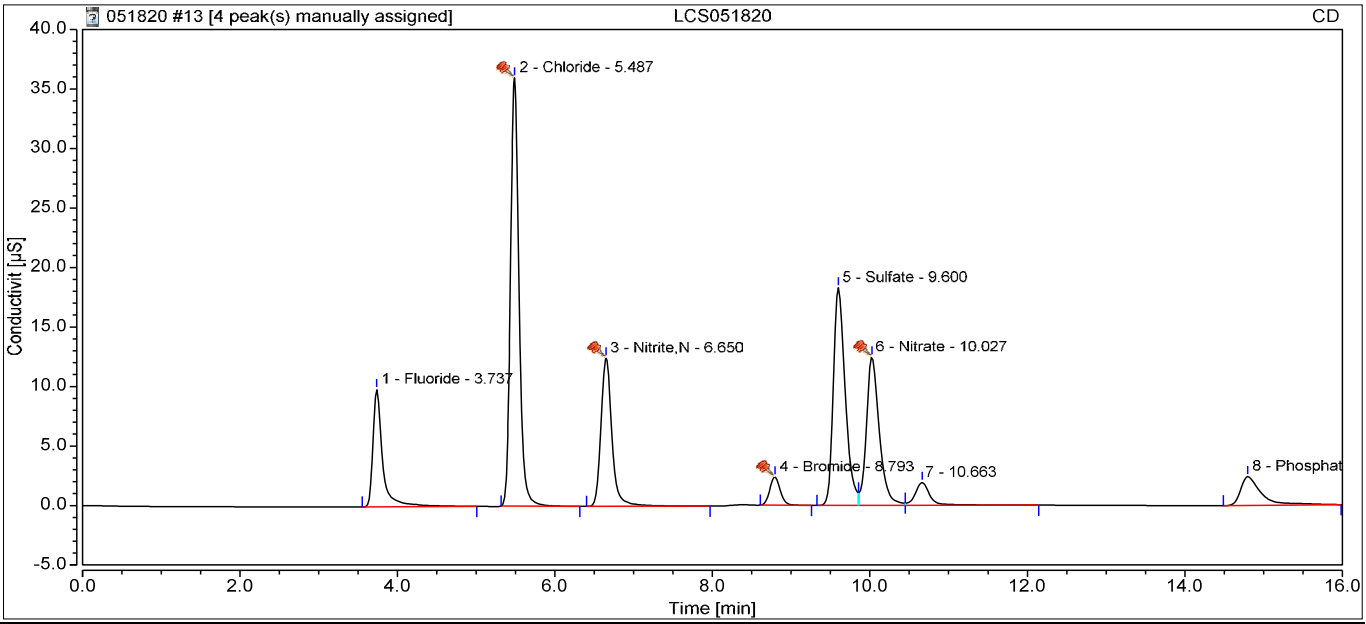
Integration Results

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.	1.0000
1	5.49	Chloride	BMB^	0.005	0.0825	0.0825	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	9.67	Sulfate	BMB	0.007	0.1443	0.1443	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**	**0.012**		**0.23**	

13 LCS051820

Sample Name:	**LCS051820**	*Injection Volume:*	**5.00**
Vial Number:	**BB2**	*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:	**05/18/2020 11:46**	*Sample Weight:*	**1.0000**

Run Time:



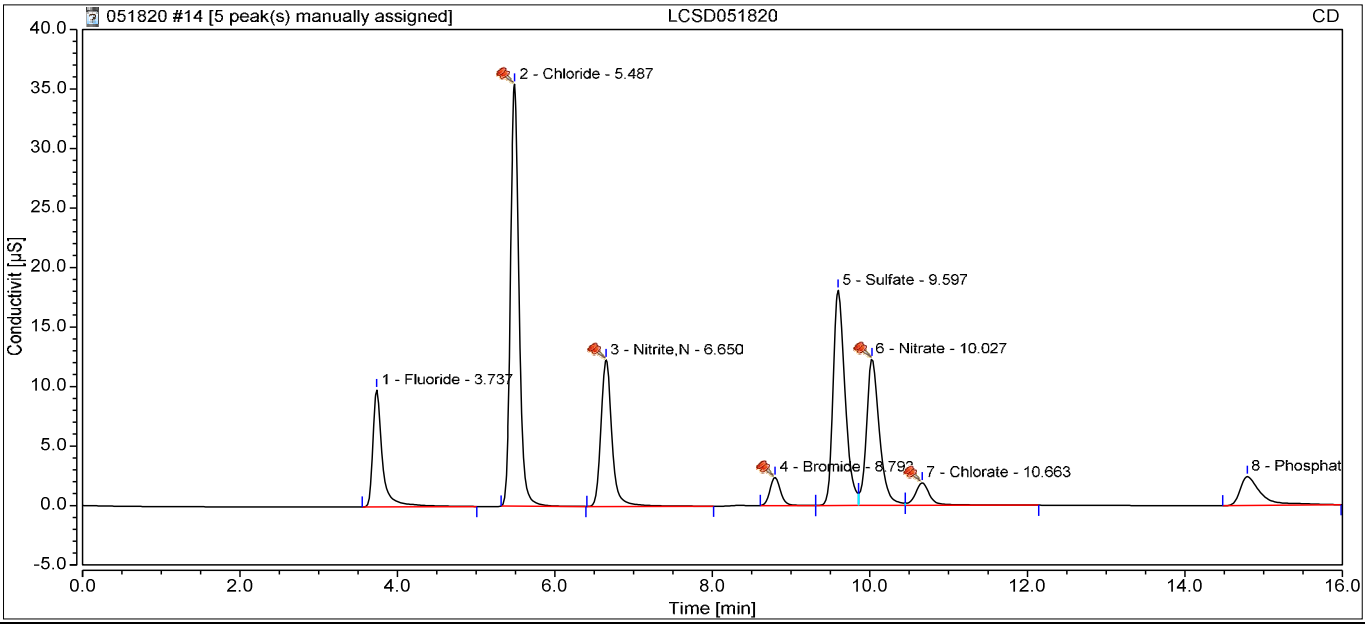
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.405	4.1386	4.1386	1.0000
2	5.49	Chloride	BMB^	4.499	19.4557	19.4557	1.0000
3	6.65	Nitrite,N	BMB^	2.029	4.3783	4.3783	1.0000
4	8.79	Bromide	BMB^	0.364	3.7014	3.7014	1.0000
5	9.60	Sulfate	BM	3.193	19.1156	19.1156	1.0000
6	10.03	Nitrate	M ^	2.380	4.0864	4.0864	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.80	Phosphate	BMB	0.742	3.5012	3.5012	1.0000
Total:			**0.000**	**14.611**		**58.38**	

14 LCSD051820

Sample Name:	**LCSD051820**	*Injection Volume:*	**5.00**
Vial Number:	**BB3**	*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:	**05/18/2020 12:05**	*Sample Weight:*	**1.0000**

Run Time:



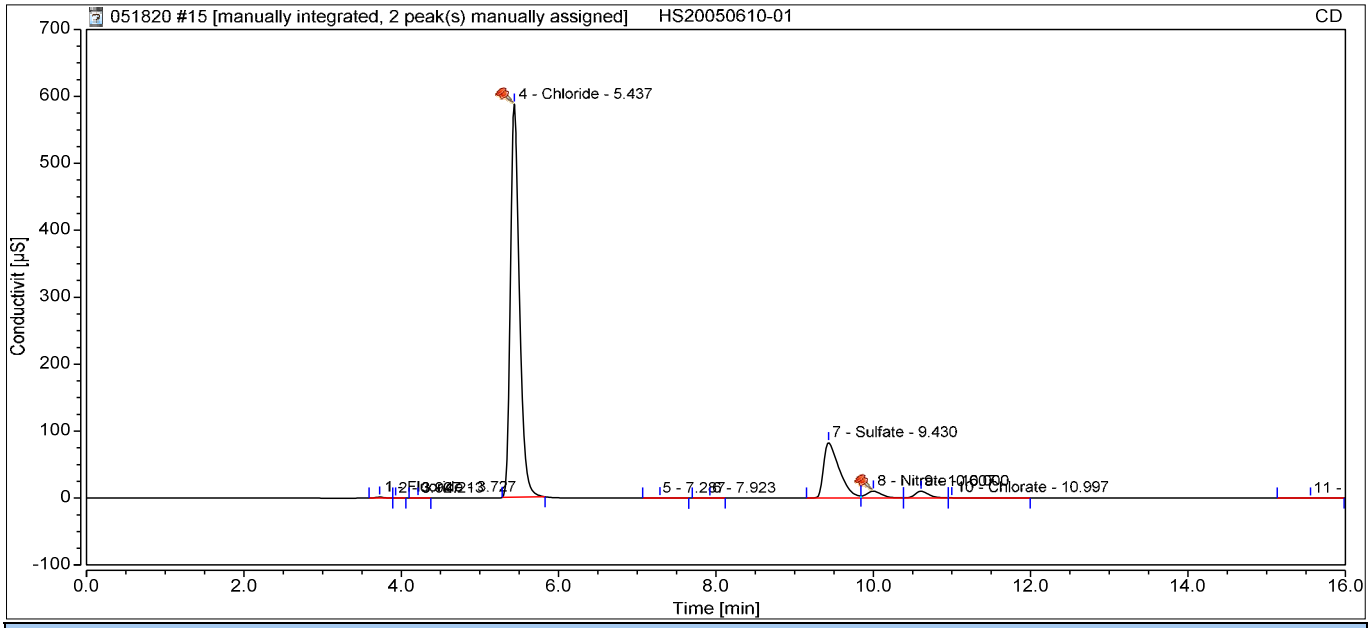
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.392	4.1001	4.1001	1.0000
2	5.49	Chloride	BMB^	4.439	19.1993	19.1993	1.0000
3	6.65	Nitrite,N	BMB^	2.006	4.3295	4.3295	1.0000
4	8.79	Bromide	BM ^	0.368	3.7457	3.7457	1.0000
5	9.60	Sulfate	M	3.167	18.9626	18.9626	1.0000
6	10.03	Nitrate	M ^	2.354	4.0412	4.0412	1.0000
7	10.66	Chlorate	MB^	0.414	4.3388	4.3388	1.0000
8	14.79	Phosphate	BMB	0.753	3.5531	3.5531	1.0000
Total:			**0.000**	**14.893**		**62.27**	

15 HS20050610-01

Sample Name:	**HS20050610-01**	*Injection Volume:*	**5.00**
Vial Number:	**BB4**	*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:	**05/18/2020 12:23**	*Sample Weight:*	**1.0000**

Run Time:



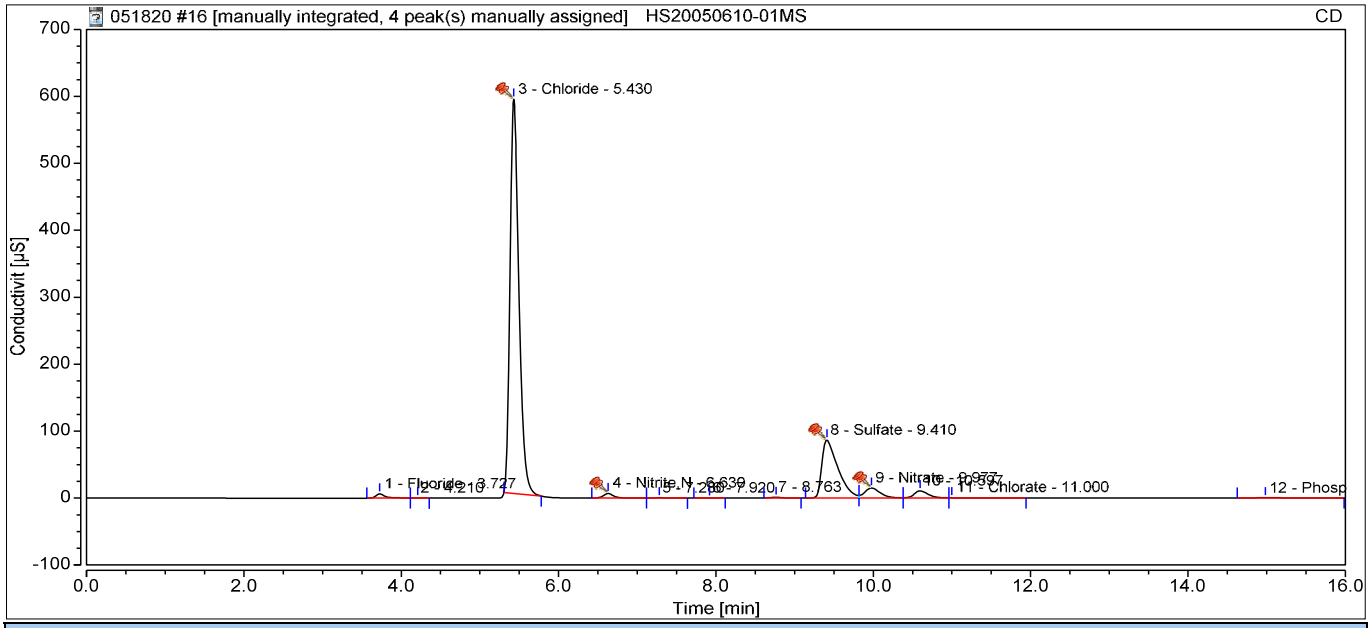
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.170	0.5222	0.5222	1.0000
4	5.44	Chloride	BMB*^	78.816	339.8355	339.8355	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
7	9.43	Sulfate	BM	19.036	113.4681	113.4681	1.0000
8	10.00	Nitrate	M ^	2.319	3.9818	3.9818	1.0000
10	11.00	Chlorate	MB	0.070	0.7147	0.7147	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**100.411**		**458.52**	

16 HS20050610-01MS

Sample Name:	**HS20050610-01MS**	*Injection Volume:*	**5.00**
Vial Number:	**BB5**	*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:	**05/18/2020 12:41**	*Sample Weight:*	**1.0000**

Run Time:



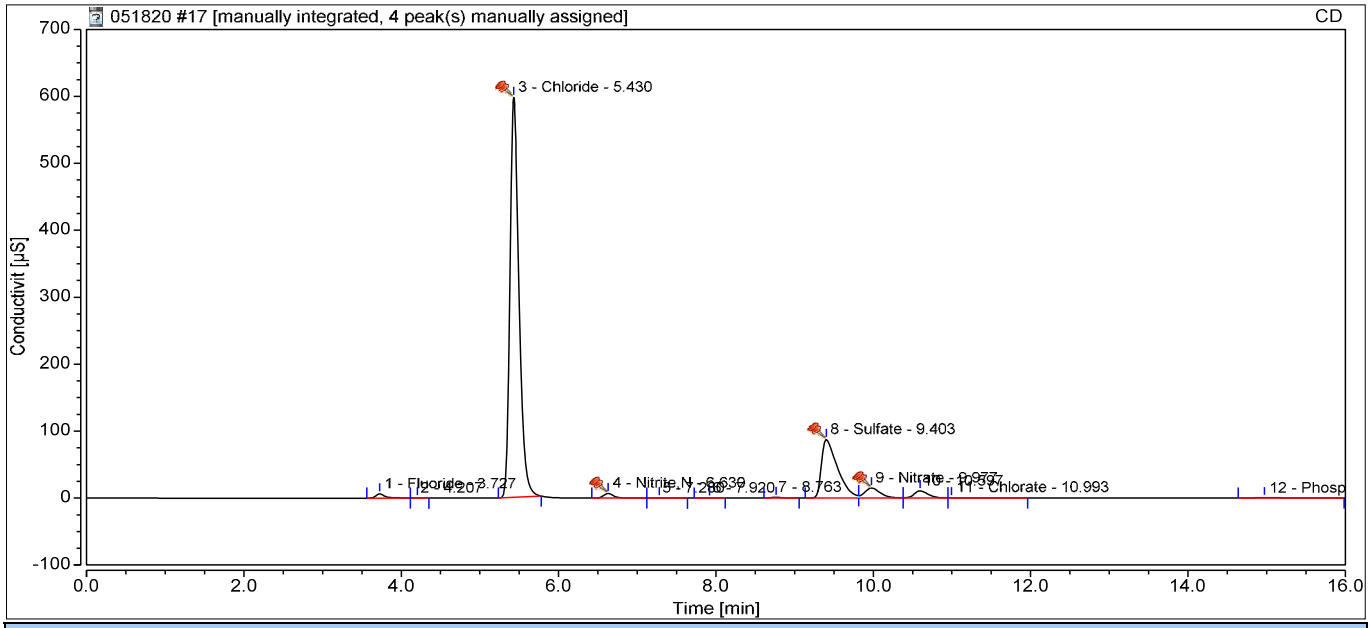
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.862	2.5477	2.5477	1.0000
3	5.43	Chloride	BMB*^	77.616	334.6589	334.6589	1.0000
4	6.63	Nitrite,N	BMB^	0.997	2.1684	2.1684	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
8	9.41	Sulfate	BM ^	20.351	121.2949	121.2949	1.0000
9	9.98	Nitrate	M ^	3.462	5.9373	5.9373	1.0000
11	11.00	Chlorate	MB	0.062	0.6388	0.6388	1.0000
12	14.98	Phosphate	BMB	0.286	1.4158	1.4158	1.0000
Total:			**0.000**	**103.635**		**468.66**	

17 HS20050610-01MSD

Sample Name:	**HS20050610-01MSD**	*Injection Volume:*	**5.00**
Vial Number:	**BB6**	*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:	**05/18/2020 12:59**	*Sample Weight:*	**1.0000**

Run Time:



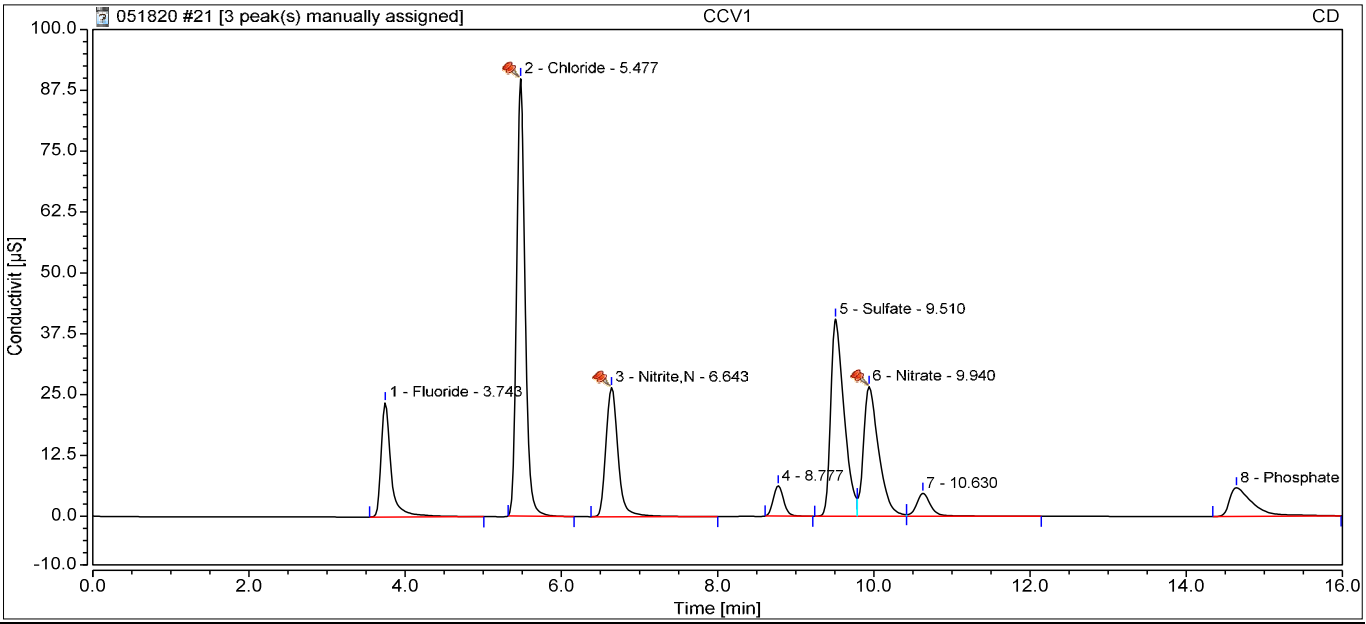
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.868	2.5678	2.5678	1.0000
3	5.43	Chloride	BMB*^	79.988	344.8852	344.8852	1.0000
4	6.63	Nitrite,N	BMB^	1.001	2.1760	2.1760	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
8	9.40	Sulfate	BM ^	20.518	122.2908	122.2908	1.0000
9	9.98	Nitrate	M ^	3.475	5.9601	5.9601	1.0000
11	10.99	Chlorate	MB	0.067	0.6836	0.6836	1.0000
12	14.97	Phosphate	BMB	0.301	1.4859	1.4859	1.0000
Total:			**0.000**	**106.217**		**480.05**	

21 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*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:	**05/18/2020 15:34**	*Sample Weight:*	**1.0000**

Run Time:



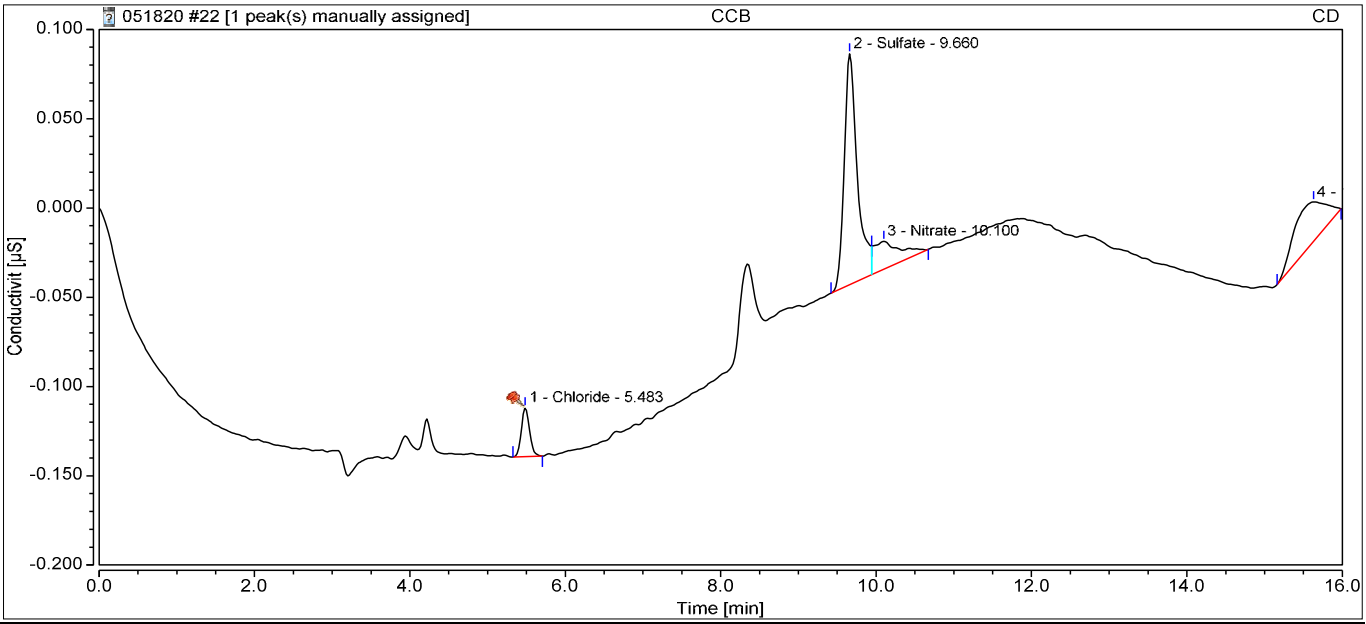
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.481	10.2200	10.2200	1.0000
2	5.48	Chloride	BMB^	11.296	48.7589	48.7589	1.0000
3	6.64	Nitrite,N	BMB^	4.777	10.2616	10.2616	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	9.51	Sulfate	BM	8.049	48.0358	48.0358	1.0000
6	9.94	Nitrate	M ^	6.012	10.3017	10.3017	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.64	Phosphate	BMB	2.023	9.3604	9.3604	1.0000
Total:			**0.000**	**35.639**		**136.94**	

22 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*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:	**05/18/2020 15:52**	*Sample Weight:*	**1.0000**

Run Time:



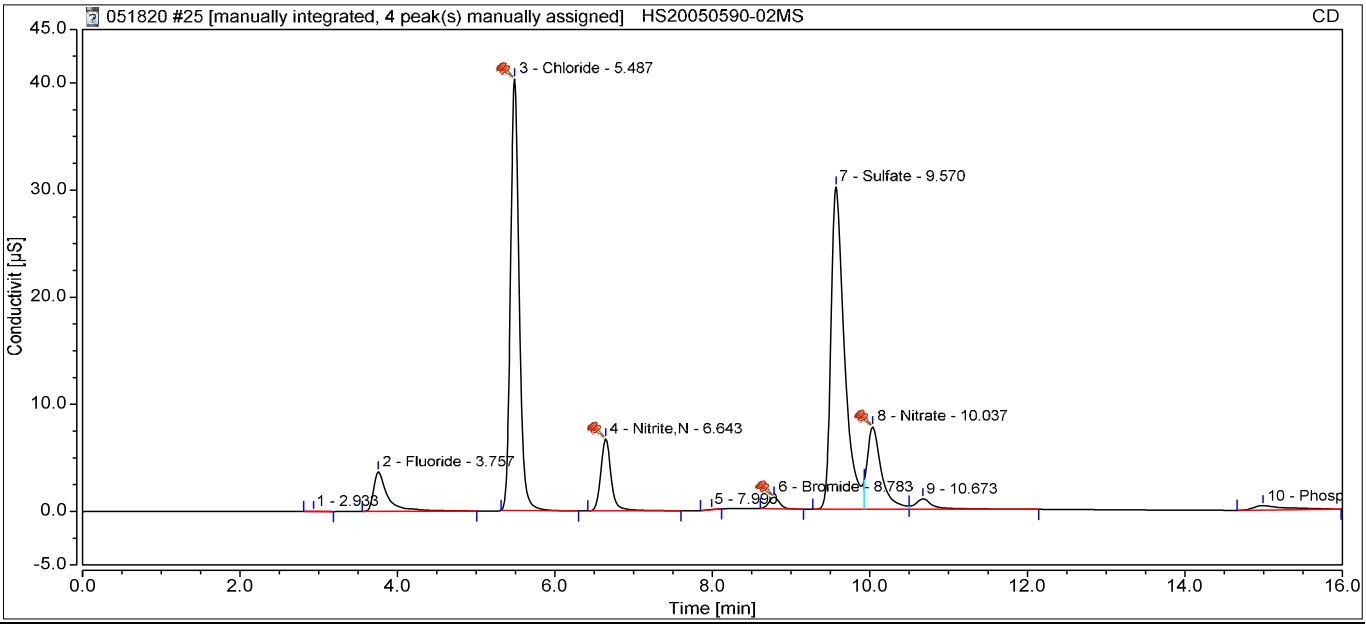
Integration Results

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	5.48	Chloride	BMB^	0.003	0.0754	0.0754	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	9.66	Sulfate	BM	0.025	0.2510	0.2510	1.0000
3	10.10	Nitrate	MB	0.006	0.0233	0.0233	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**	**0.035**		**0.35**	

25 HS20050590-02MS

Sample Name:	**HS20050590-02MS**	*Injection Volume:*	**5.00**
Vial Number:	**BC5**	*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:	**05/18/2020 17:12**	*Sample Weight:*	**1.0000**

Run Time:



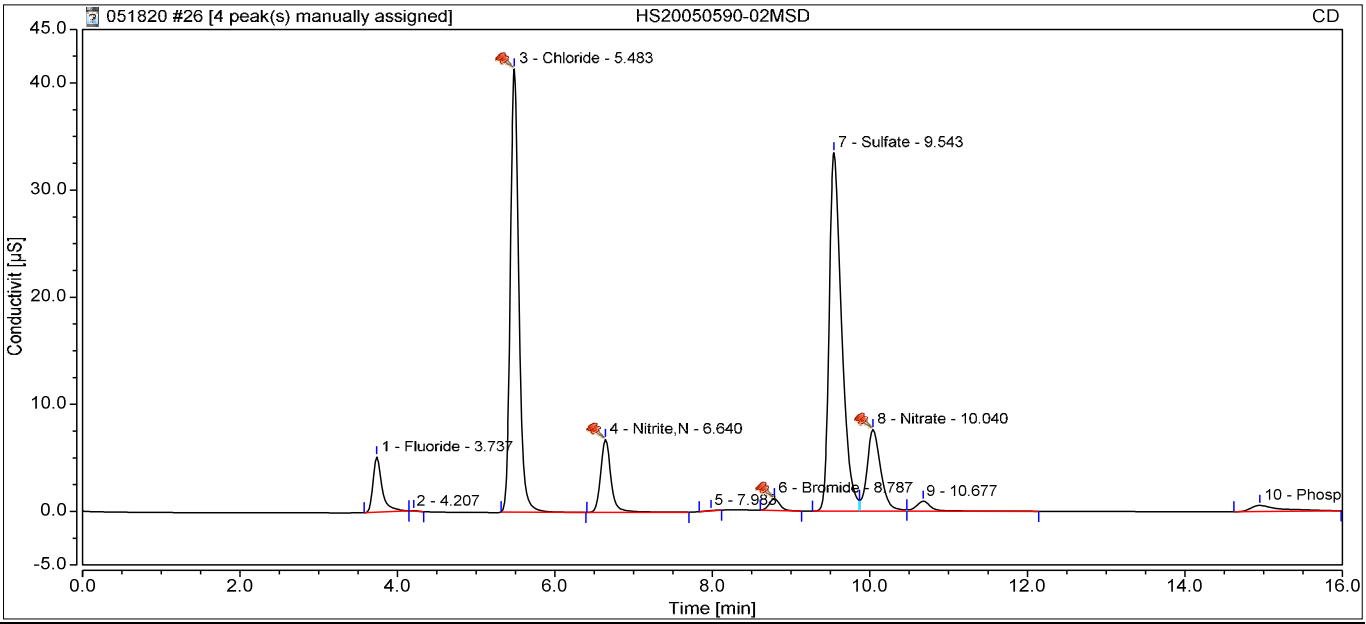
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
2	3.76	Fluoride	BMB	0.766	2.2670	2.2670	1.0000
3	5.49	Chloride	BMB^	5.118	22.1232	22.1232	1.0000
4	6.64	Nitrite,N	BMB^	1.027	2.2317	2.2317	1.0000
6	8.78	Bromide	BMB^	0.167	1.7220	1.7220	1.0000
7	9.57	Sulfate	BM *	6.003	35.8506	35.8506	1.0000
8	10.04	Nitrate	M *^	1.604	2.7579	2.7579	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
10	14.99	Phosphate	BMB	0.202	1.0325	1.0325	1.0000
Total:			**0.000**	**14.886**		**67.99**	

26 HS20050590-02MSD

Sample Name:	**HS20050590-02MSD**	*Injection Volume:*	**5.00**
Vial Number:	**BC6**	*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:	**05/18/2020 17:30**	*Sample Weight:*	**1.0000**

Run Time:



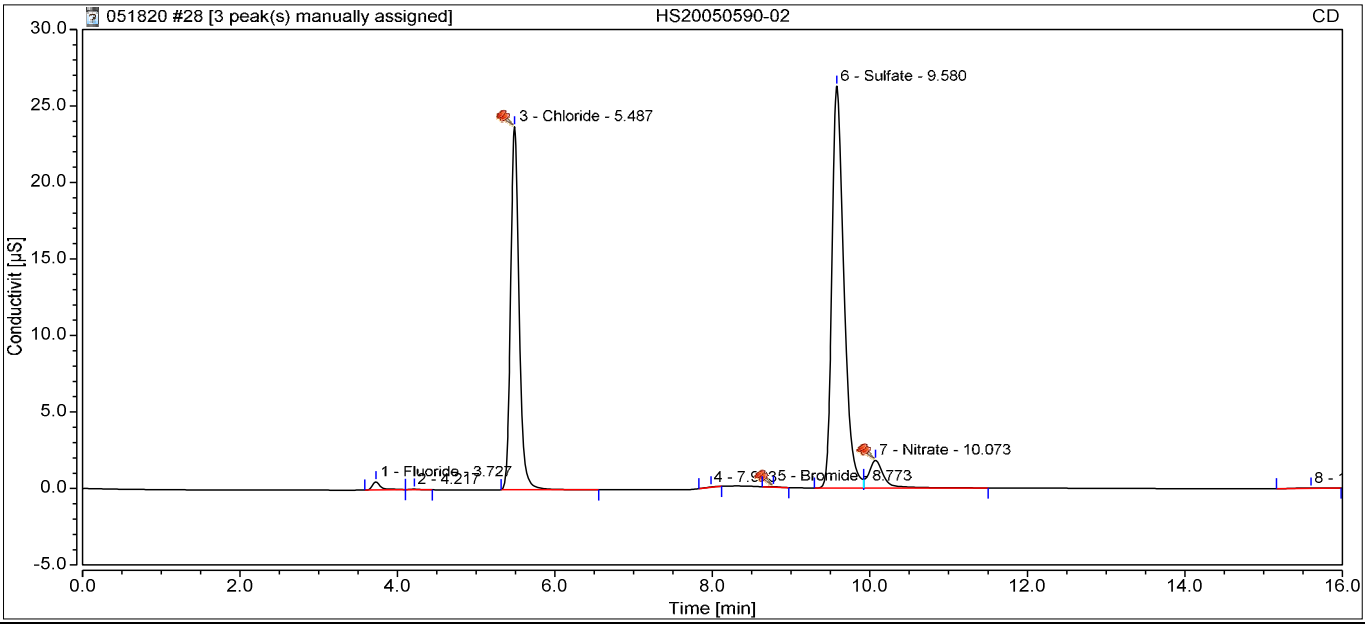
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.685	2.0292	2.0292	1.0000
3	5.48	Chloride	BMB^	5.159	22.3026	22.3026	1.0000
4	6.64	Nitrite,N	BMB^	1.038	2.2570	2.2570	1.0000
6	8.79	Bromide	BMB^	0.169	1.7350	1.7350	1.0000
7	9.54	Sulfate	BM	6.150	36.7261	36.7261	1.0000
8	10.04	Nitrate	M ^	1.542	2.6519	2.6519	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
10	14.95	Phosphate	BMB	0.253	1.2636	1.2636	1.0000
Total:			**0.000**	**14.996**		**68.97**	

28 HS20050590-02

Sample Name:	**HS20050590-02**	*Injection Volume:*	**5.00**
Vial Number:	**BC4**	*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:	**05/18/2020 18:06**	*Sample Weight:*	**1.0000**

Run Time:



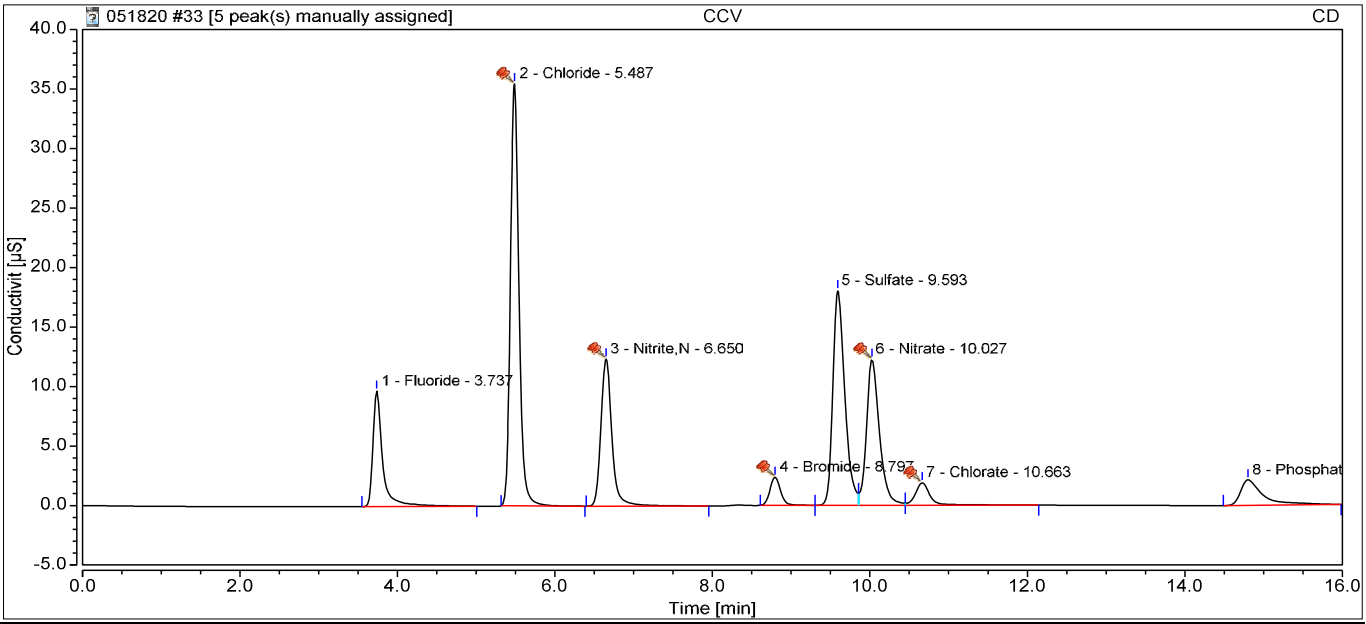
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.065	0.2151	0.2151	1.0000
3	5.49	Chloride	BMB^	2.949	12.7739	12.7739	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
5	8.77	Bromide	BMB^	0.005	0.0817	0.0817	1.0000
6	9.58	Sulfate	BM	4.617	27.5975	27.5975	1.0000
7	10.07	Nitrate	MB^	0.398	0.6945	0.6945	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**	**8.034**		**41.36**	

33 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*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:	**05/18/2020 19:37**	*Sample Weight:*	**1.0000**

Run Time:



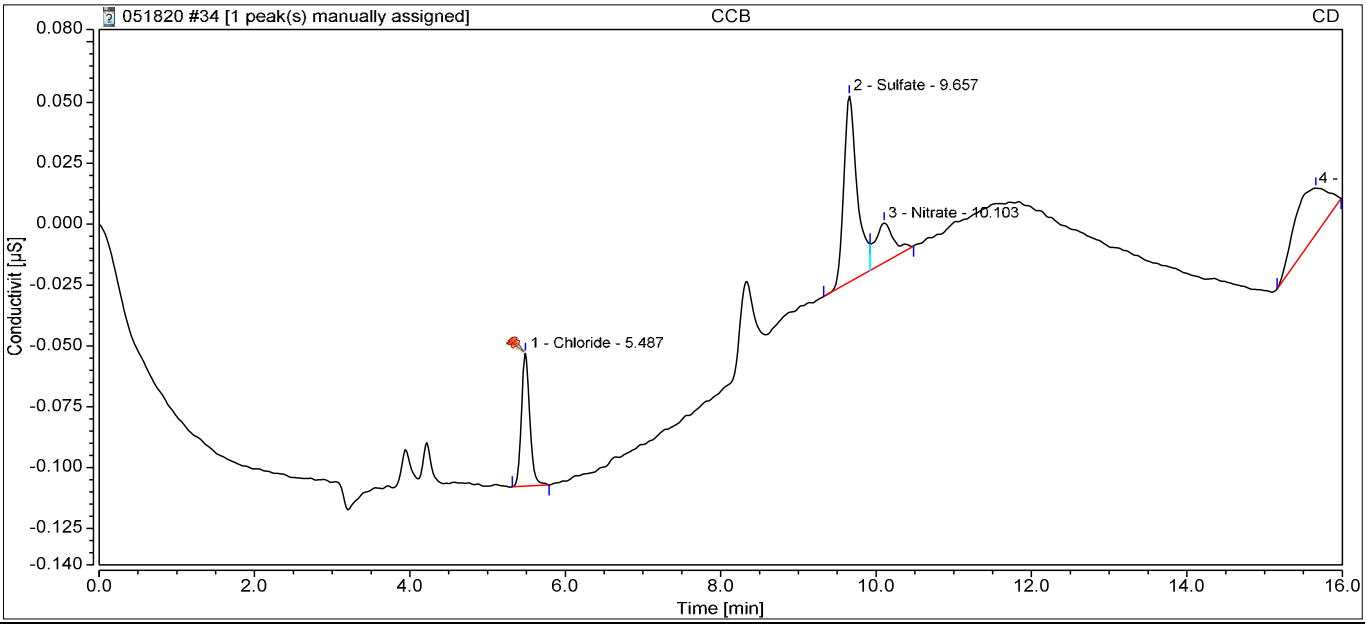
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.385	4.0819	4.0819	1.0000
2	5.49	Chloride	BMB^	4.438	19.1950	19.1950	1.0000
3	6.65	Nitrite,N	BMB^	2.007	4.3316	4.3316	1.0000
4	8.80	Bromide	BMB^	0.367	3.7332	3.7332	1.0000
5	9.59	Sulfate	BM	3.158	18.9097	18.9097	1.0000
6	10.03	Nitrate	M ^	2.342	4.0214	4.0214	1.0000
7	10.66	Chlorate	MB^	0.409	4.2907	4.2907	1.0000
8	14.80	Phosphate	BMB	0.715	3.3780	3.3780	1.0000
Total:			**0.000**	**14.823**		**61.94**	

34 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*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:	**05/18/2020 19:55**	*Sample Weight:*	**1.0000**

Run Time:



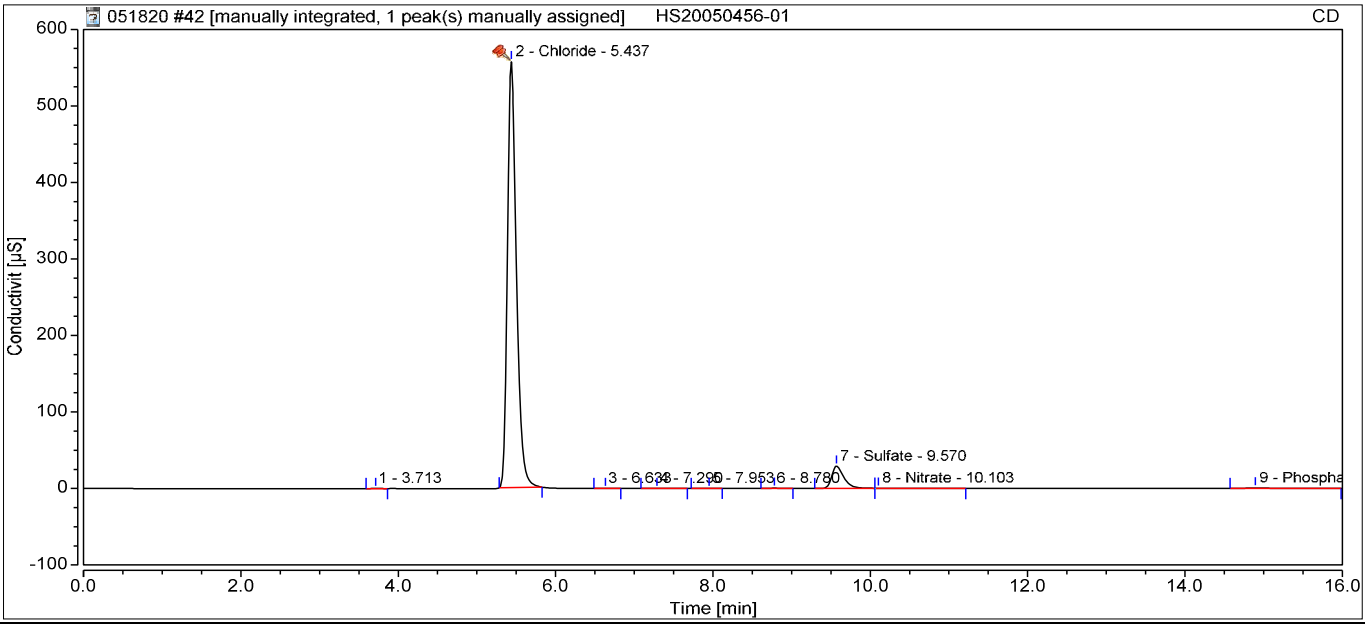
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.49	Chloride	BMB^	0.007	0.0903	0.0903	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	9.66	Sulfate	BM	0.015	0.1925	0.1925	1.0000
3	10.10	Nitrate	MB	0.005	0.0208	0.0208	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**	**0.027**		**0.30**	

42 HS20050456-01

Sample Name:	**HS20050456-01**	*Injection Volume:*	**5.00**
Vial Number:	**BE2**	*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:	**05/18/2020 22:20**	*Sample Weight:*	**1.0000**

Run Time:



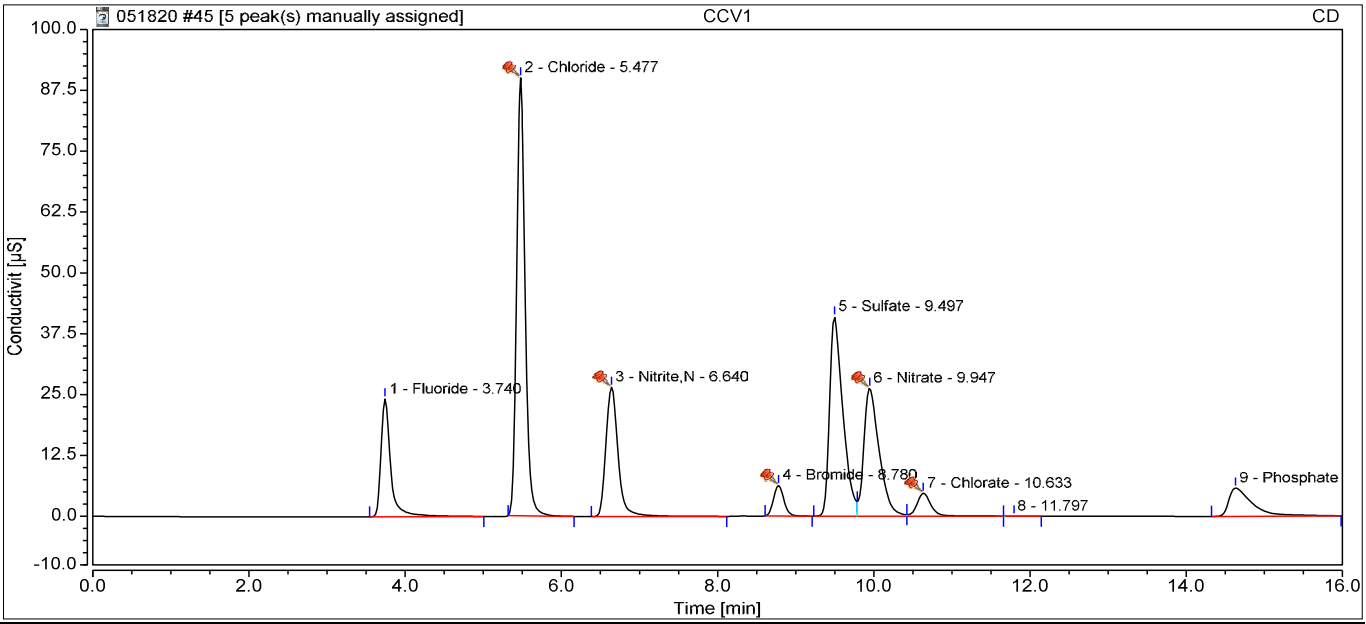
Integration Results

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
2	5.44	Chloride	BMB*^	74.380	320.7124	320.7124	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
7	9.57	Sulfate	BM	5.285	31.5774	31.5774	1.0000
8	10.10	Nitrate	MB	0.064	0.1223	0.1223	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
9	14.89	Phosphate	BMB	0.289	1.4314	1.4314	1.0000
Total:			**0.000**	**80.019**		**353.84**	

45 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*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:	**05/18/2020 23:14**	*Sample Weight:*	**1.0000**

Run Time:



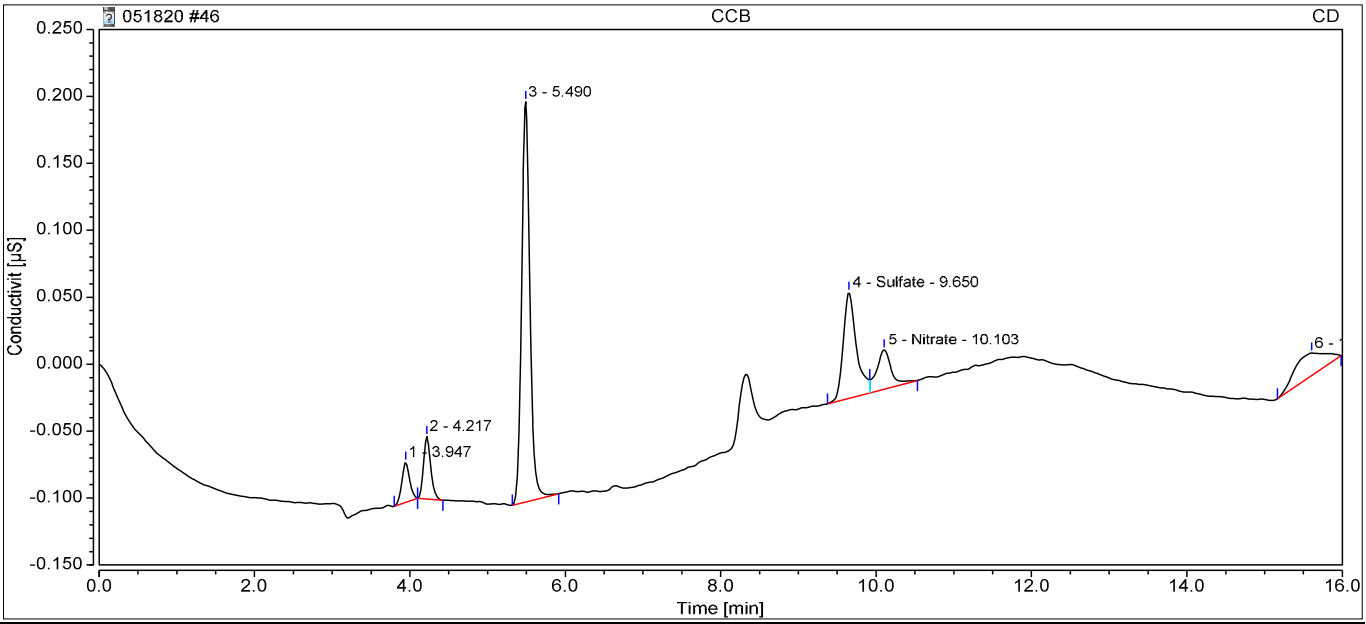
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.486	10.2334	10.2334	1.0000
2	5.48	Chloride	BMB^	11.316	48.8439	48.8439	1.0000
3	6.64	Nitrite,N	BMB^	4.788	10.2849	10.2849	1.0000
4	8.78	Bromide	BMB^	0.949	9.6046	9.6046	1.0000
5	9.50	Sulfate	BM	8.106	48.3732	48.3732	1.0000
6	9.95	Nitrate	M ^	5.966	10.2235	10.2235	1.0000
7	10.63	Chlorate	M ^	0.983	10.3347	10.3347	1.0000
9	14.63	Phosphate	BMB	2.022	9.3536	9.3536	1.0000
Total:			**0.000**	**37.615**		**157.25**	

46 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*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:	**05/18/2020 23:32**	*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
4	9.65	Sulfate	BM	0.015	0.1935	0.1935	1.0000
5	10.10	Nitrate	MB	0.006	0.0239	0.0239	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**	**0.022**		**0.22**	

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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www.alsglobal.com

WorkOrder: HS20050737

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

11-Jun-2020

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

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- HS20050737 WC NIT_AMMN_W_ISE
- HS20050737 WC P_ORTHO

HS20050737

ALS WO# HS20050737

HS20050737 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS20050737

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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June 05, 2020

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS20050737**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia,

ALS Environmental received 2 sample(s) on May 20, 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: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20050737

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20050737-01	LH18/24-SP650_051920	Water		19-May-2020 14:00	20-May-2020 09:25	☐
HS20050737-02	LH18/24-SP650_051920-BIX	Water		19-May-2020 14:00	20-May-2020 09:25	☐

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20050737

Work Order Comments

• The analysis for Perchlorate was subcontracted to ALS Salt Lake City, UT. Final report attached.

Work Order Comments

• The analysis for TOC was subcontracted to ALS Environmental in Kelso, WA. Final Report attached.

WetChemistry by Method E350.3

Batch ID: R361930

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

WetChemistry by Method E365.3

Batch ID: R361902

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

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20050737
Sample ID: LH18/24-SP650_051920
Lab ID:HS20050737-01
Collection Date: 19-May-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: YP
Nitrogen, Ammonia (As N)	**11**	a	**0.20**	**0.10**	**0.20**	**mg/L**	1	21-May-2020 11:00
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**1.89**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	20-May-2020 15:14
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	29-May-2020 15:58

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

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20050737
Sample ID: LH18/24-SP650_051920-BIX
Lab ID:HS20050737-02
Collection Date: 19-May-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-Jun-2020 10:54

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

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20050737

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R361902 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20050737-01	LH18/24-SP650_051920	19 May 2020 14:00			20 May 2020 15:14	10
Batch ID: R361930 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20050737-01	LH18/24-SP650_051920	19 May 2020 14:00			21 May 2020 11:00	1
Batch ID: R362409 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20050737-01	LH18/24-SP650_051920	19 May 2020 14:00			29 May 2020 15:58	1
Batch ID: R362710 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20050737-02	LH18/24-SP650_051920-BIX	19 May 2020 14:00			05 Jun 2020 10:54	1

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20050737

QC BATCH REPORT

Batch ID: R361902 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

MBLK Sample ID: **MBLK-361902** Units: **mg/L** Analysis Date: **20-May-2020 15:14**
Client ID: Run ID: **UV-2450_361902** SeqNo: **5591408** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0250	0.0250								U

LCS Sample ID: **LCS-361902** Units: **mg/L** Analysis Date: **20-May-2020 15:14**
Client ID: Run ID: **UV-2450_361902** SeqNo: **5591409** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.245	0.0250	0.25	0	98.0	85 - 115				

MS Sample ID: **HS20050737-01MS** Units: **mg/L** Analysis Date: **20-May-2020 15:14**
Client ID: **LH18/24-SP650_051920** Run ID: **UV-2450_361902** SeqNo: **5591411** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.3	0.250	2.5	1.89	96.4	80 - 120				

MSD Sample ID: **HS20050737-01MSD** Units: **mg/L** Analysis Date: **20-May-2020 15:14**
Client ID: **LH18/24-SP650_051920** Run ID: **UV-2450_361902** SeqNo: **5591412** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.22	0.250	2.5	1.89	93.2	80 - 120	4.3	1.88	20	

The following samples were analyzed in this batch: HS20050737-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20050737

QC BATCH REPORT

Batch ID: R361930 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-R361930** Units: **mg/L** Analysis Date: **21-May-2020 11:00**
Client ID: Run ID: **WetChem_HS_361930** SeqNo: **5591852** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	0.10	0.20								U

LCS Sample ID: **LCS-R361930** Units: **mg/L** Analysis Date: **21-May-2020 11:00**
Client ID: Run ID: **WetChem_HS_361930** SeqNo: **5591851** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.61	0.20	10	0	106	80 - 120				

MS Sample ID: **HS20050592-02MS** Units: **mg/L** Analysis Date: **21-May-2020 11:00**
Client ID: Run ID: **WetChem_HS_361930** SeqNo: **5591854** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	11.99	0.20	10	0.011	120	80 - 120				

MSD Sample ID: **HS20050592-02MSD** Units: **mg/L** Analysis Date: **21-May-2020 11:00**
Client ID: Run ID: **WetChem_HS_361930** SeqNo: **5591853** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	11.71	0.20	10	0.011	117	80 - 120	11.99	2.32	20	

The following samples were analyzed in this batch: HS20050737-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20050737**

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

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20050737

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20050737-01	LH18/24-SP650_051920	Login	5/20/2020 1:38:08 PM	PMG	WET011
HS20050737-01	LH18/24-SP650_051920	Login	5/20/2020 1:38:08 PM	PMG	WET011
HS20050737-01	LH18/24-SP650_051920	Login	5/20/2020 1:38:08 PM	PMG	Sub
HS20050737-02	LH18/24-SP650_051920-BIX	Login	5/20/2020 1:38:08 PM	PMG	Sub

ALS Houston, US Date: 05-Jun-20

Sample Receipt Checklist

Work Order ID: HS20050737 **Date/Time Received:** 20-May-2020 09:25

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By:	/S/ Paresh M. Giga	20-May-2020 13:39	**Reviewed by:**	/S/ RJ Modashia	21-May-2020 10:29
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **FedEx**

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 ☐	COC IDs:None
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):	1.4C U/C	IR25	
Cooler(s)/Kit(s):	45283		
Date/Time sample(s) sent to storage:	5/20/2020 13:40		
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

Page 1 of 1

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

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS20050737
Bhate Environmental Associates. Inc.
Longhorn GW Treatment Plant Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE							Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_051920	Water	05/19/20 / 14:00		3	X	X									H2SO4	
LH18/24-SP650_051920	Water	05/19/20 / 14:00		1			X								NONE	
LH18/24–SP650_051920_BIX	Water	05/19/20 / 14:00		1				X							NONE	

Additional Remarks: **Standard TAT on all parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	05/19/20	14:30		5/20/2020	09:25						

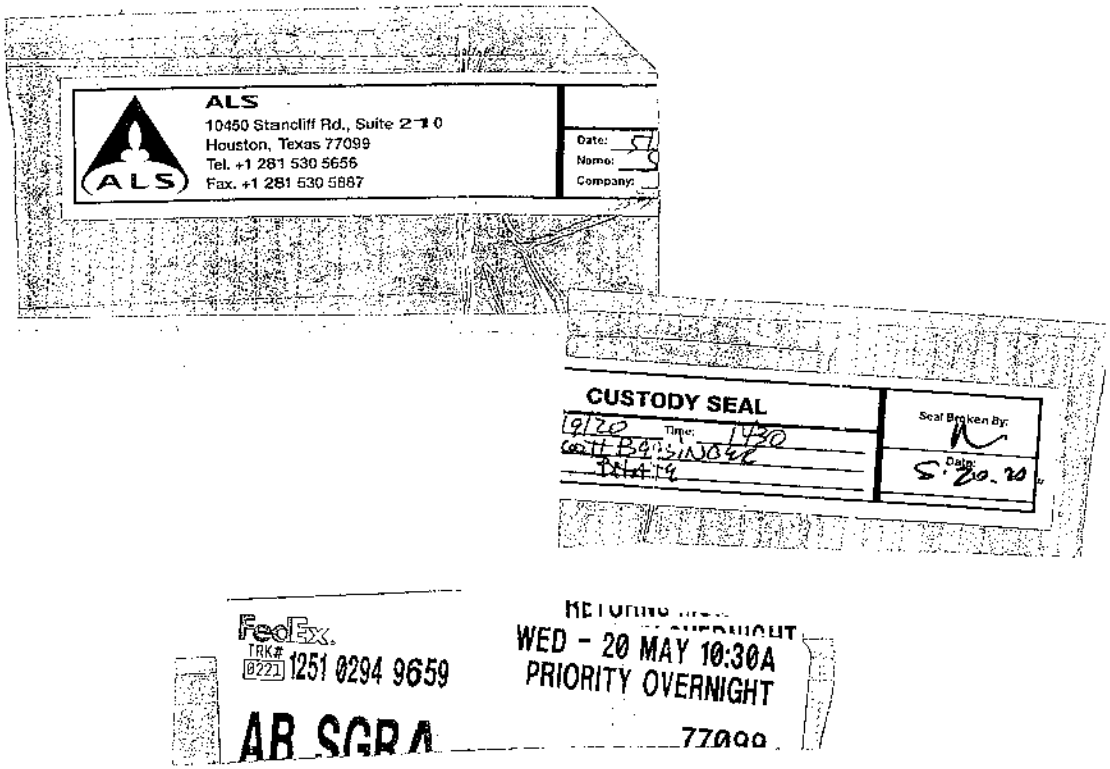
For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

45283 1.4° C. @ 25' 5/20 0.6°

(Word) S:\U-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
Date:
Name:
Company:
CUSTODY SEAL
Time:
Seal Broken By:
Date:
5.20.20
FedEx
TRK#
0221 1251 0294 9659
WED - 20 MAY 10:30A
PRIORITY OVERNIGHT
77099

June 04, 2020 Service Request No:E2000451

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

Laboratory Results for: HS20050737

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 22, 2020
For your reference, these analyses have been assigned our service request number **E2000451.**

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.:**	E2000451
Project:	HS20050737	**Date Received:**	05/22/20
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

One water sample was received for analysis at ALS Environmental in Houston on 05/22/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000209: 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.

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:**E2000451
Project: HS20050737

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000451-001	LH18/24-SP650_051920_BIX	5/19/2020	1400

Service Request Summary

Folder #: **E2000451**
Client Name: ALS Environmental - US
Project Name: HS20050737
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: 05/22/20
Internal Due Date: 6/4/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20050737
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000451-001	LH18/24-SP650_051920_BIX	Water	05/19/20 1400	IV

Service Request Summary

Folder #: **E2000451**
Client Name: ALS Environmental - US
Project Name: HS20050737
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: 05/22/20
Internal Due Date: 6/4/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20050737
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7B
Pressure Gas:

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.
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.
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.
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.

Data Qualifiers

Lab Standard

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
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611	6/30/2020
Hawaii Department of Health	2020	4/30/2021
Kansas Department of Health and Environment	E-10352	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Center for Disease Control and Prevention	201815	6/5/2020
Maryland Department of the Environment	343	6/30/2020
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	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

ALS

Chain of Custody

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

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Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 13937**

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:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS20050737
TSR: Danielle Winnings

	LAB SAMPLE ID / ANALYSIS REQUESTED	CLIENT SAMPLE ID	MATRIX	COLLECT DATE / DUE DATE
1.	**HS20050737-02**	**LH18/24-SP650_051920-BIX**	**Water**	**19 May 2020 14:00**
	SUB_Perch-6850			29 May 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. [illegible] Date/Time: 5/22/20 09:00

Received By: [illegible] Date/Time: 5/22/20 0900

Cooler ID(s): Temperature(s):

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Environmental

Cooler Receipt Form

Project Chemist: CH

Client/Project: ALS-H

Thermometer ID: SMOM/IR11

Date/Time Received: 5/22/20 Initials: CH

Date/Time Logged in: 5/22/20 Initials: CH

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?
-		5/22/20	0900	CH	0.5	☒
						☐
						☐
						☐

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:

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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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

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10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
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Preparation Information Benchsheet

Prep Run#: 359084 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 5/27/20 09:18

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000449-001	LH18/24-SP650_051920_BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000450-001	LH18/24-SP140_051920	.01	6850/ClO4 DOD			Water	10mL	
3	E2000451-001	LH18/24-SP650_051920_BIX	.01	6850/ClO4 DOD			Water	10mL	
4	EQ2000209-01	MB		6850/ClO4 DOD			Liquid	10mL	
5	EQ2000209-02	LCS		6850/ClO4 DOD			Liquid	10mL	
6	EQ2000209-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 202037 Logbook Ref: Sodium Perchlorate Expires On: 05/22/2021

E2000449-001 100.00µL E2000450-001 100.00µL E2000451-001 100.00µL EQ2000209-01 100.00µL EQ2000209-02 100.00µL EQ2000209-03 100.00µL

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

EQ2000209-02 1.00µL EQ2000209-03 1.00µL

Preparation Steps

Step: Preparation
Started: 5/27/20 09:18
Finished: 5/27/20 11:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 5/27/2020

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000451
Project:	HS20050737	**Date Collected:**	5/19/20 1400
Sample Matrix:	Water	**Date Received:**	5/22/20
Sample Name:	LH18/24-SP650_051920_BIX	**Units:**	µg/L
Lab Code:	E2000451-001	**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	5/27/20	6/2/20 19:53	359084	682302	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000451
Project:	HS20050737	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000209-01	**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			1	5/27/20	6/2/20 19:22	359084	682302	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20050737
Sample Matrix: Water

Service Request: E2000451
Date Analyzed: 6/ 2/20

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: 359084

	Lab Control Sample EQ2000209-02			Duplicate Lab Control Sample EQ2000209-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.118	0.100	118	0.115	0.100	115	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:**	E2000451
Project:	HS20050737	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000209-02	**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	**0.118**		0.100			1	5/27/20	6/2/20 19:29	359084	682302	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000451
Project:	HS20050737	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000209-03	**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	**0.115**		0.100			1	5/27/20	6/2/20 19:37	359084	682302	

Initial Calibration

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20200602

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

Initial Calibration - Detailed Report

Calibration ID: EC2000007 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000007-01	PERCHLORATE1	20200602_009	06/02/2020 15:37
02	EC2000007-02	PERCHLORATE2	20200602_010	06/02/2020 15:45
03	EC2000007-03	PERCHLORATE3	20200602_011	06/02/2020 15:53
04	EC2000007-04	PERCHLORATE4	20200602_012	06/02/2020 16:05
05	EC2000007-05	PERCHLORATE5	20200602_013	06/02/2020 16:13
06	EC2000007-06	PERCHLORATE6	20200602_014	06/02/2020 16:21
07	EC2000007-07	PERCHLORATE7	20200602_015	06/02/2020 16:29
08	EC2000007-08	PERCHLORATE8	20200602_016	06/02/2020 16:37
09	EC2000007-09	PERCHLORATE9	20200602_017	06/02/2020 16:44
10	EC2000007-10	PERCHLORATE10	20200602_018	06/02/2020 16:52

Analyte **Curve Fit** **Weighting**

Perchlorate **Average RF** **RSD = 11.36** **Average RF = 0.1279**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1628	02	0.5000	0.122	03	0.7000	0.1165	04	1.0000	0.1408
05	2.0000	0.1172	06	5.0000	0.1212	07	10.0000	0.135	08	20.0000	0.1233
09	30.0000	0.12	10	50.0000	0.1202						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.127	27.3	02	0.5000	0.477	-4.6	03	0.7000	0.638	-8.9
04	1.0000	1.10	10.1	05	2.0000	1.83	-8.4	06	5.0000	4.74	-5.2
07	10.0000	10.6	5.5	08	20.0000	19.3	-3.6	09	30.0000	28.1	-6.2
10	50.0000	47.0	-6.0								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000007	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200602_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000007-11	T	Average RF	10	10.859	ng/mL	8.6	<= 15

ALS Group Houston

PERCHLORATE1

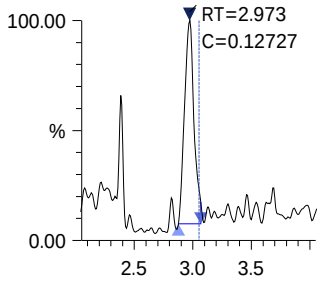
Date acquired: 6/2/2020 3:37:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_009.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	6/2/2020 3:37:49 PM	2231	0.12727	20200602_009	2.973	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/2/2020 3:37:49 PM	137060	1.00000	20200602_009	2.954	25.0000	1.0000	4

Perchlorate

Conc 0.12727
Area 2231

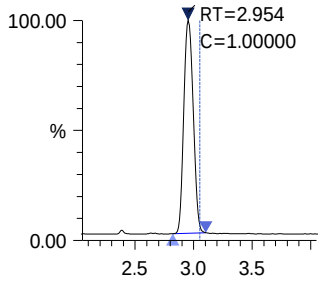
Q 99.00>83.00 (-) 4.13e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 137060

ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

PERCHLORATE2

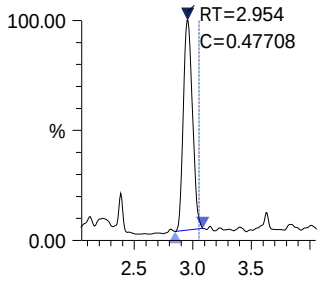
Date acquired: 6/2/2020 3:45:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_010.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	6/2/2020 3:45:42 PM	8464	0.47708	20200602_010	2.954	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/2/2020 3:45:42 PM	138722	1.00000	20200602_010	2.949	25.0000	1.0000	5

Perchlorate

Conc 0.47708
Area 8464

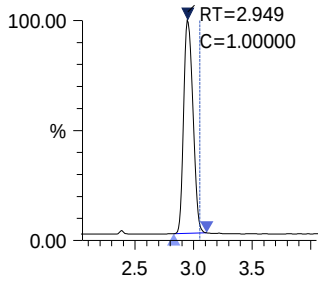
Q 99.00>83.00 (-) 1.56e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 138722

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

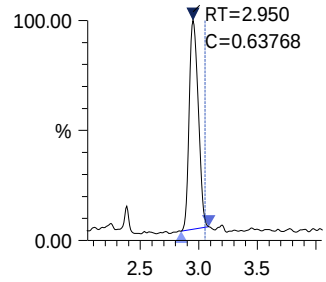
PERCHLORATE3

Date acquired: 6/2/2020 3:53:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_011.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	PERCHLORATE3	6/2/2020 3:53:36 PM	11656	0.63768	20200602_011	2.950	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/2/2020 3:53:36 PM	142915	1.00000	20200602_011	2.954	25.0000	1.0000	6

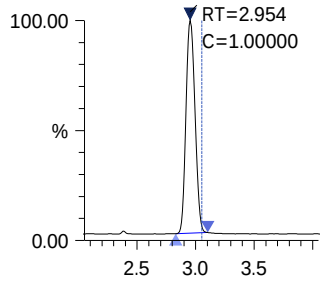
Perchlorate

Conc 0.63768
Area 11656



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 142915



ALS Group Houston

PERCHLORATE4

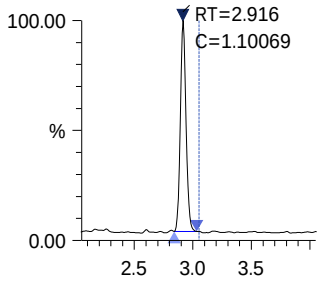
Date acquired: 6/2/2020 4:05:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_012.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	6/2/2020 4:05:28 PM	18119	1.10069	20200602_012	2.916	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/2/2020 4:05:28 PM	128706	1.00000	20200602_012	2.914	25.0000	1.0000	7

Perchlorate

Conc 1.10069
Area 18119

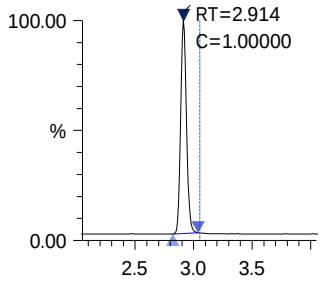
Q 99.00>83.00 (-) 5.42e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128706

ISTD 107.00>89.00 (-) 3.72e4



ALS Group Houston

PERCHLORATE5

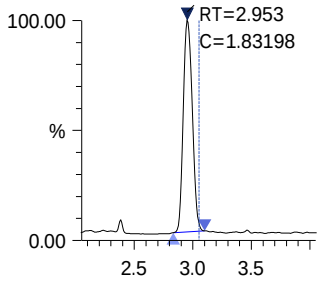
Date acquired: 6/2/2020 4:13:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_013.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	6/2/2020 4:13:21 PM	33971	1.83198	20200602_013	2.953	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/2/2020 4:13:21 PM	144982	1.00000	20200602_013	2.953	25.0000	1.0000	8

Perchlorate

Conc 1.83198
Area 33971

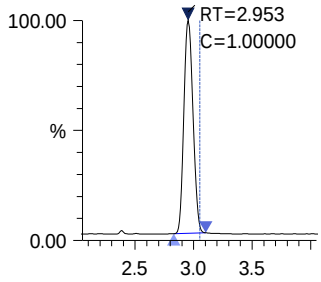
Q 99.00>83.00 (-) 6.29e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 144982

ISTD 107.00>89.00 (-) 2.71e4



ALS Group Houston

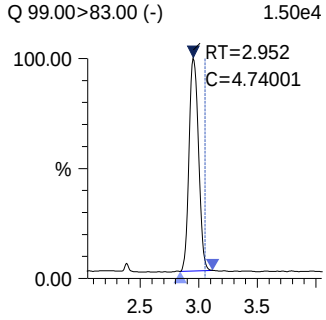
PERCHLORATE6

Date acquired: 6/2/2020 4:21:16 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_014.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	PERCHLORATE6	6/2/2020 4:21:16 PM	85178	4.74001	20200602_014	2.952	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/2/2020 4:21:16 PM	140500	1.00000	20200602_014	2.948	25.0000	1.0000	9

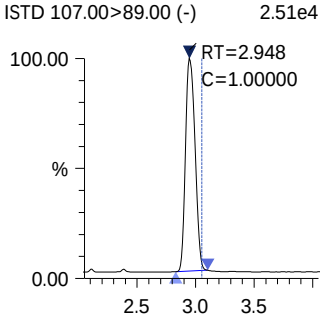
Perchlorate

Conc 4.74001
Area 85178



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 140500



ALS Group Houston

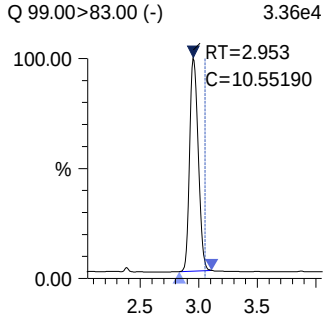
PERCHLORATE7

Date acquired: 6/2/2020 4:29:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_015.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	PERCHLORATE7	6/2/2020 4:29:10 PM	173998	10.55190	20200602_015	2.953	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 4:29:10 PM	128928	1.00000	20200602_015	2.951	25.0000	1.0000	10

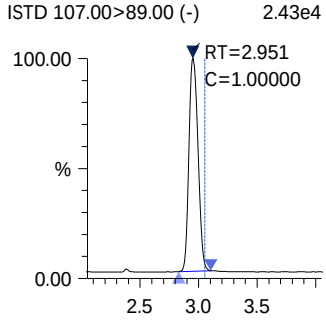
Perchlorate

Conc 10.55190
Area 173998



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128928



ALS Group Houston

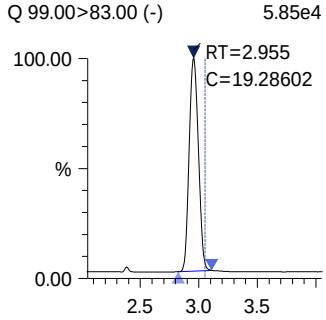
PERCHLORATE8

Date acquired: 6/2/2020 4:37:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	PERCHLORATE8	6/2/2020 4:37:02 PM	324944	19.28602	20200602_016	2.955	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/2/2020 4:37:02 PM	131734	1.00000	20200602_016	2.953	25.0000	1.0000	11

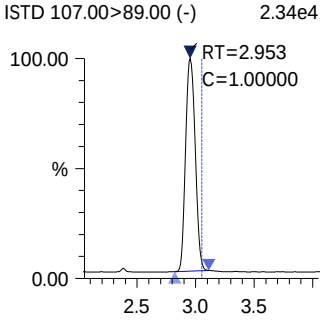
Perchlorate

Conc 19.28602
Area 324944



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 131734



ALS Group Houston

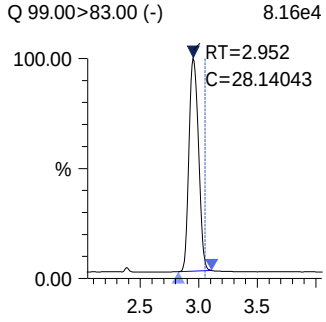
PERCHLORATE9

Date acquired: 6/2/2020 4:44:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	PERCHLORATE9	6/2/2020 4:44:57 PM	469066	28.14043	20200602_017	2.952	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/2/2020 4:44:57 PM	130327	1.00000	20200602_017	2.953	25.0000	1.0000	12

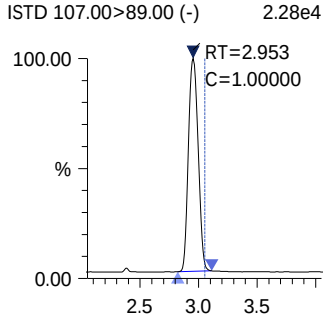
Perchlorate

Conc 28.14043
Area 469066



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130327



ALS Group Houston

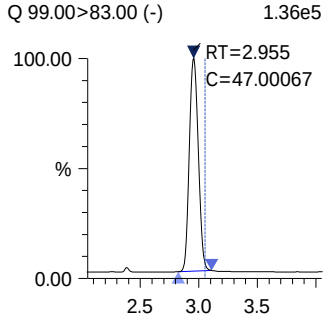
PERCHLORATE10

Date acquired: 6/2/2020 4:52:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	PERCHLORATE10	6/2/2020 4:52:49 PM	737362	47.00067	20200602_018	2.955	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	6/2/2020 4:52:49 PM	122661	1.00000	20200602_018	2.952	25.0000	1.0000	13

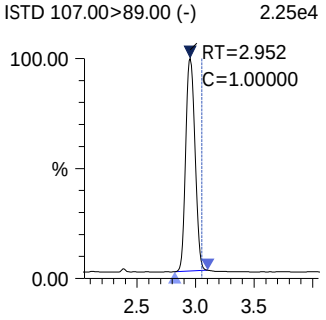
Perchlorate

Conc 47.00067
Area 737362



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 122661



ALS Group Houston

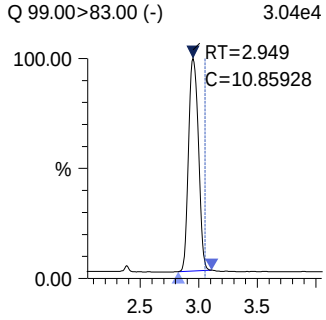
PERCHLORATEICV

Date acquired: 6/2/2020 5:00:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	6/2/2020 5:00:42 PM	180334	10.85928	20200602_019	2.949	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/2/2020 5:00:42 PM	129839	1.00000	20200602_019	2.948	25.0000	1.0000	14

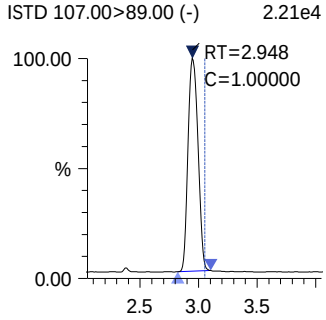
Perchlorate

Conc 10.85928
Area 180334



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 129839



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

20200602

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments
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	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20050737

Service Request: E2000451
Date Analyzed: 6/ 2/20

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\20200602\20200602_037

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 682302
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.6	0.1279	0.1354	5.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20050737

Service Request: E2000451
Date Analyzed: 6/ 2/20

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\20200602\20200602_044

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 682302
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279	0.1383	8.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000451
Project:	HS20050737	**Date Analyzed:**	6/2/20 19:14

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200602\20200602_037	**Lab Code:**	EQ2000220-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	682302
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000220-01	130,037	2.95
Method Blank	EQ2000209-01	156,098	2.95
Lab Control Sample	EQ2000209-02	162,494	2.95
Duplicate Lab Control Sample	EQ2000209-03	164,223	2.94
LH18/24-SP650_051920_BIX	E2000451-001	148,304	2.93

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:**	E2000451
Project:	HS20050737	**Date Analyzed:**	6/2/20 20:09

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200602\20200602_044	**Lab Code:**	EQ2000220-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	682302
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000220-02	130,496	2.94

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

ALS Group Houston

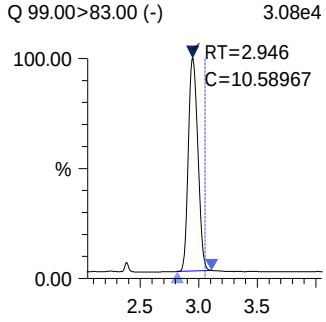
PERCHLORATE7

Date acquired: 6/2/2020 7:14:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_037.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	PERCHLORATE7	6/2/2020 7:14:09 PM	176124	10.58967	20200602_037	2.946	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 7:14:09 PM	130037	1.00000	20200602_037	2.945	25.0000	1.0000	10

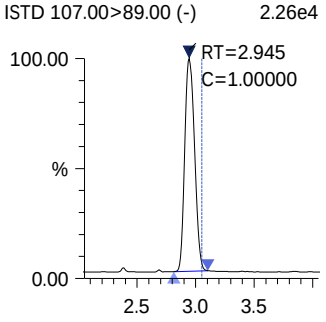
Perchlorate

Conc 10.58967
Area 176124



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130037



ALS Group Houston

EQ2000209-01

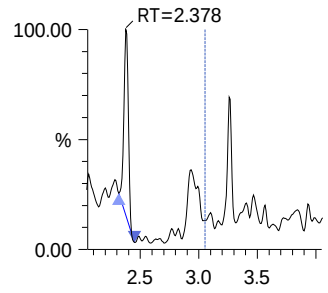
Date acquired: 6/2/2020 7:22:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_038.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000209-01	6/2/2020 7:22:03 PM	----	----	20200602_038	----	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	EQ2000209-01	6/2/2020 7:22:03 PM	156098	1.00000	20200602_038	2.947	25.0000	1.0000	21

Perchlorate

Conc ----
Area ----

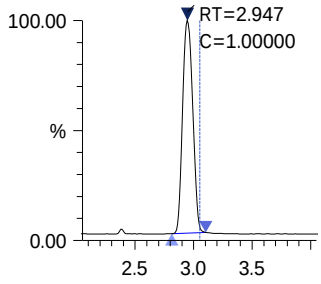
Q 99.00>83.00 (-) 3.73e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 156098

ISTD 107.00>89.00 (-) 2.62e4



ALS Group Houston

EQ2000209-02

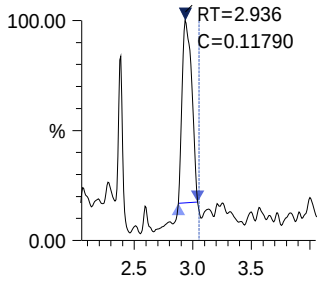
Date acquired: 6/2/2020 7:29:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_039.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000209-02	6/2/2020 7:29:57 PM	2450	0.11790	20200602_039	2.936	25.0000	1.0000	22
Sodium Perchlorate-18O4_IS	EQ2000209-02	6/2/2020 7:29:57 PM	162494	1.00000	20200602_039	2.946	25.0000	1.0000	22

Perchlorate

Conc 0.11790
Area 2450

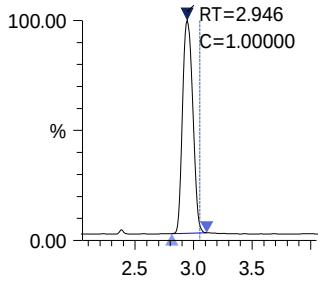
Q 99.00>83.00 (-) 4.93e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 162494

ISTD 107.00>89.00 (-) 2.69e4



ALS Group Houston

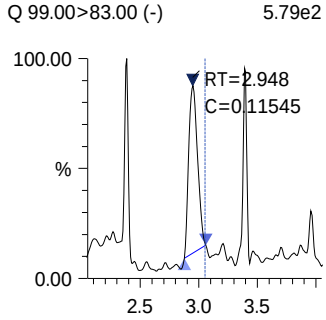
EQ2000209-03

Date acquired: 6/2/2020 7:37:52 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_040.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000209-03	6/2/2020 7:37:52 PM	2425	0.11545	20200602_040	2.948	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	EQ2000209-03	6/2/2020 7:37:52 PM	164223	1.00000	20200602_040	2.944	25.0000	1.0000	23

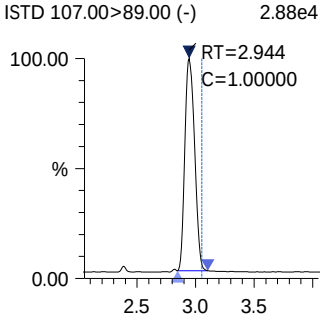
Perchlorate

Conc 0.11545
Area 2425



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 164223



ALS Group Houston

E2000451-001

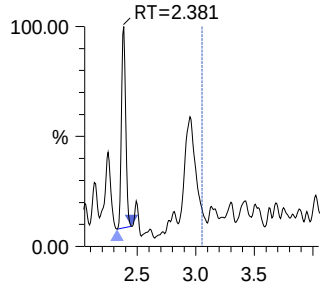
Date acquired: 6/2/2020 7:53:43 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_042.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	E2000451-001	6/2/2020 7:53:43 PM	----	----	20200602_042	----	25.0000	1.0000	26
Sodium Perchlorate-18O4_IS	E2000451-001	6/2/2020 7:53:43 PM	148304	1.00000	20200602_042	2.931	25.0000	1.0000	26

Perchlorate

Conc ----
Area ----

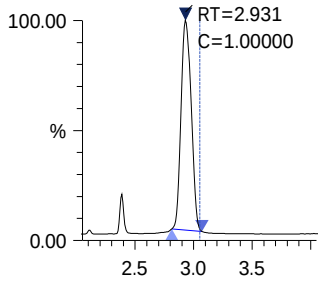
Q 99.00>83.00 (-) 3.38e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 148304

ISTD 107.00>89.00 (-) 2.50e4



ALS Group Houston

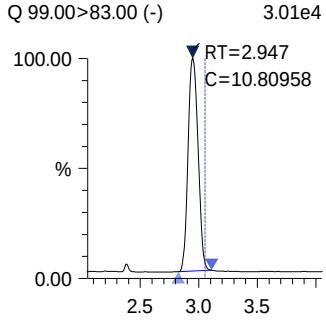
PERCHLORATE7

Date acquired: 6/2/2020 8:09:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_044.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	PERCHLORATE7	6/2/2020 8:09:29 PM	180416	10.80958	20200602_044	2.947	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 8:09:29 PM	130496	1.00000	20200602_044	2.941	25.0000	1.0000	10

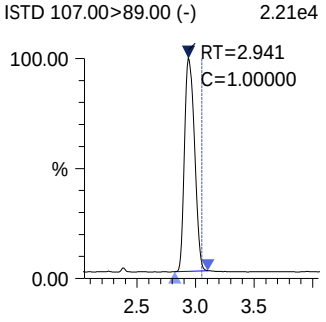
Perchlorate

Conc 10.80958
Area 180416



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130496



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May 29, 2020

Analytical Report for Service Request No: K2004152

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

RE: HS20050737

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 21, 2020
For your reference, these analyses have been assigned our service request number **K2004152.**

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

ALS Environmental—Kelso Laboratory
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ALS Environmental

Client: ALS Environmental - US
Project: HS20050737
Sample Matrix: Water

Service Request: K2004152
Date Received: 05/21/2020

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:

One water sample was received for analysis at ALS Environmental on 05/21/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The sample was 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 05/29/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
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Phone (360)577-7222 Fax (360)636-1068
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K2004152

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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:** **13936**

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:	
Email:	

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20050737
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20050737-01**	**LH18/24-SP650_051920**	**Water**	**19 May 2020 14:00**
	TOC Analysis for DOD Level IV			29 May 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: _____

Received By: _____

Cooler ID(s): _____

Date/Time: 5/20/2020 1800.

Date/Time: 5/21/20 0950

Temperature(s): _____

RESULT SOLUTIONS | RIGHT PARTNER

PC KL

Cooler Receipt and Preservation Form

Client AIR-Houston Service Request K20 84152

Received: 5/21/20 Opened: 5/21/20 By: BR Unloaded: 5/21/20 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

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID (NA)	Tracking Number NA	Filed
1.8	–	–	–	–	IR07		125702972955	

4. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	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:**	K2004152
Project:	HS20050737	**Date Collected:**	05/19/20
Sample Matrix:	Water	**Date Received:**	05/21/20
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
LH18/24-SP650_051920	K2004152-001	**2.19**	0.50	0.20	0.07	1	05/26/20 20:27	
Method Blank	K2004152-MB	**0.07 J**	0.50	0.20	0.07	1	05/26/20 19:43	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project HS20050737
Sample Matrix: Water

Service Request: K2004152
Date Collected: 05/19/20
Date Received: 05/21/20
Date Analyzed: 05/26/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name: LH18/24-SP650_051920
Lab Code: K2004152-001

Units: mg/L
Basis: NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2004152-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	2.19	2.12	2.16	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:**	K2004152
Project:	HS20050737	**Date Collected:**	05/19/20
Sample Matrix:	Water	**Date Received:**	05/21/20
		Date Analyzed:	05/26/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	LH18/24-SP650_051920	**Units:**	mg/L
Lab Code:	K2004152-001	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2004152-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	2.19	27.5	25.0	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:**	K2004152
Project:	HS20050737	**Date Analyzed:**	05/26/20
Sample Matrix:	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:	681225

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2004152-LCS	25.8	25.0	103	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2004152
Project: HS20050737

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	681225	KQ2006968-01	05/26/20 19:14	25.0	26.0	104	90-110
CCV2	681225	KQ2006968-02	05/26/20 23:31	25.0	25.4	102	90-110
CCV3	681225	KQ2006968-03	05/27/20 04:41	25.0	24.4	98	90-110
CCV4	681225	KQ2006968-04	05/27/20 09:24	25.0	24.6	98	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2004152
Project: HS20050737

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	681225	KQ2006968-05	05/26/20 19:29	0.50	0.20	0.07	0.13	J
CCB2	681225	KQ2006968-06	05/26/20 23:45	0.50	0.20	0.07	ND	U
CCB3	681225	KQ2006968-07	05/27/20 04:56	0.50	0.20	0.07	ND	U
CCB4	681225	KQ2006968-08	05/27/20 09:39	0.50	0.20	0.07	ND	U

Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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General Chemistry

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Work Request # Original ( ) K2004023, 4049, 4053, 4063, 4085, 4126, 4152, 3957, 3982, 4021, 4023, 3449, 3982, 3998, 4085, 3876, 3982
Tier: II II I I II I IV IV II II II III II III I II

Date Analyzed: 5/26/20

Analyst: BCP

Analysis: TOC/DOC

Run # TOC: 681225, 680711, 680712
DOC: 680713

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: K2004063-1/1d, 3982-5/5d, 3982-9/9d, 3982-11/11d, 3982-12/12d 3449-4, 4085-5 report a high %RSD. However, these samples are less than 5x the MRL.

Final Approved by: _____ Date: 5/29/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 681225 **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
K2004023-003	Carbon, Total Organic	N/A		Water	19.94 mg/L	10 ml	19.9 mg/L	1	0.07	0.50			5/27/20 05:40	N	II
K2004023-004	Carbon, Total Organic	N/A		Water	1.19 mg/L	10 ml	240 mg/L	200	20	100			5/27/20 06:08	N	II
K2004023-005	Carbon, Total Organic	N/A		Water	24.58 mg/L	10 ml	98.3 mg/L	4	0.3	2.0			5/27/20 06:36	N	II
K2004023-006	Carbon, Total Organic	N/A		Water	35.32 mg/L	10 ml	35.3 mg/L	1	0.07	0.50			5/27/20 07:04	N	II
K2004049-001	Carbon, Total Organic	N/A		Water	2.25 mg/L	10 ml	2.25 mg/L	1	0.07	0.50			5/26/20 20:56	N	II
K2004049-002	Carbon, Total Organic	N/A		Water	0.89 mg/L	10 ml	0.89 mg/L	1	0.07	0.50			5/26/20 21:24	N	II
K2004049-003	Carbon, Total Organic	N/A		Water	0.97 mg/L	10 ml	0.97 mg/L	1	0.07	0.50			5/26/20 21:52	N	II
K2004049-004	Carbon, Total Organic	N/A		Water	0.92 mg/L	10 ml	0.92 mg/L	1	0.07	0.50			5/26/20 22:20	N	II
K2004049-005	Carbon, Total Organic	N/A		Water	0.79 mg/L	10 ml	0.79 mg/L	1	0.07	0.50			5/26/20 22:48	N	II
K2004049-006	Carbon, Total Organic	N/A		Water	0.77 mg/L	10 ml	0.77 mg/L	1	0.07	0.50			5/27/20 00:00	N	II
K2004049-007	Carbon, Total Organic	N/A		Water	0.74 mg/L	10 ml	0.74 mg/L	1	0.07	0.50			5/27/20 00:28	N	II
K2004049-008	Carbon, Total Organic	N/A		Water	1.71 mg/L	10 ml	1.71 mg/L	1	0.07	0.50			5/27/20 00:56	N	II
K2004049-009	Carbon, Total Organic	N/A		Water	0.74 mg/L	10 ml	0.74 mg/L	1	0.07	0.50			5/27/20 01:24	N	II
K2004053-001	Carbon, Total Organic	N/A		Drinking Water	1.20 mg/L	10 ml	1.20 mg/L	1	0.07	0.50			5/27/20 01:52	N	I
K2004063-001	Carbon, Total Organic	N/A		Drinking Water	0.87 mg/L	10 ml	0.87 mg/L	1	0.07	0.50			5/27/20 02:20	N	I
K2004085-001	Carbon, Total Organic	N/A		Water	1.74 mg/L	10 ml	1.74 mg/L	1	0.07	0.50			5/27/20 03:17	N	II
K2004085-002	Carbon, Total Organic	N/A		Water	1.67 mg/L	10 ml	1.67 mg/L	1	0.07	0.50			5/27/20 03:45	N	II
K2004085-003	Carbon, Total Organic	N/A		Water	1.71 mg/L	10 ml	1.71 mg/L	1	0.07	0.50			5/27/20 04:13	N	II
K2004126-002	Carbon, Total Organic	N/A		Drinking Water	0.83 mg/L	10 ml	0.83 mg/L	1	0.07	0.50			5/27/20 02:49	N	I
K2004152-001	Carbon, Total Organic	N/A		Water	2.19 mg/L	10 ml	2.19 mg/L	1	0.07	0.50			5/26/20 20:27	N	IV
KQ2006968-01	Carbon, Total Organic	CCV		Water	26.01 mg/L	10 ml	26.0 mg/L	1					5/26/20 19:14	N	IV
KQ2006968-02	Carbon, Total Organic	CCV		Water	25.45 mg/L	10 ml	25.4 mg/L	1					5/26/20 23:31	N	IV
KQ2006968-03	Carbon, Total Organic	CCV		Water	24.38 mg/L	10 ml	24.4 mg/L	1					5/27/20 04:41	N	IV
KQ2006968-04	Carbon, Total Organic	CCV		Water	24.60 mg/L	10 ml	24.6 mg/L	1					5/27/20 09:24	N	IV
KQ2006968-05	Carbon, Total Organic	CCB		Water	0.13 mg/L	10 ml	0.13 mg/L J	1	0.07	0.50			5/26/20 19:29	N	IV
KQ2006968-06	Carbon, Total Organic	CCB		Water	0.01 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/26/20 23:45	N	IV
KQ2006968-07	Carbon, Total Organic	CCB		Water	0.04 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/27/20 04:56	N	IV
KQ2006968-08	Carbon, Total Organic	CCB		Water	0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/27/20 09:39	N	IV
KQ2006968-09	Carbon, Total Organic	MB		Water	0.07 mg/L	10 ml	0.07 mg/L J	1	0.07	0.50			5/26/20 19:43	N	IV
KQ2006968-10	Carbon, Total Organic	LCS		Water	25.76 mg/L	10 ml	25.8 mg/L	1	0.07	0.50	103		5/26/20 19:58	N	IV
KQ2006968-12	Carbon, Total Organic	DUP	K2004023-003	Water	20.19 mg/L	10 ml	20.2 mg/L	1	0.07	0.50		1	5/27/20 05:40	N	II
KQ2006968-13	Carbon, Total Organic	DUP	K2004023-004	Water	1.08 mg/L	10 ml	220 mg/L	200	20	100		10	5/27/20 06:08	N	II
KQ2006968-14	Carbon, Total Organic	DUP	K2004023-005	Water	25.08 mg/L	10 ml	100 mg/L	4	0.3	2.0		2	5/27/20 06:36	N	II
KQ2006968-15	Carbon, Total Organic	DUP	K2004023-006	Water	35.72 mg/L	10 ml	35.7 mg/L	1	0.07	0.50		1	5/27/20 07:04	N	II
KQ2006968-16	Carbon, Total Organic	DUP	K2004049-001	Water	2.23 mg/L	10 ml	2.23 mg/L	1	0.07	0.50		<1	5/26/20 20:56	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-03 **Analyst:** BDITZLER **Analysis Lot:** 681225 **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
KQ2006968-17	Carbon, Total Organic	DUP	K2004049-002	Water	0.85 mg/L	10 ml	0.85 mg/L	1	0.07	0.50		5	5/26/20 21:24	N	II
KQ2006968-18	Carbon, Total Organic	DUP	K2004049-003	Water	0.96 mg/L	10 ml	0.96 mg/L	1	0.07	0.50		1	5/26/20 21:52	N	II
KQ2006968-19	Carbon, Total Organic	DUP	K2004049-004	Water	0.87 mg/L	10 ml	0.87 mg/L	1	0.07	0.50		5	5/26/20 22:20	N	II
KQ2006968-20	Carbon, Total Organic	DUP	K2004049-005	Water	0.72 mg/L	10 ml	0.72 mg/L	1	0.07	0.50		9	5/26/20 22:48	N	II
KQ2006968-21	Carbon, Total Organic	DUP	K2004049-006	Water	0.76 mg/L	10 ml	0.76 mg/L	1	0.07	0.50		1	5/27/20 00:00	N	II
KQ2006968-22	Carbon, Total Organic	DUP	K2004049-007	Water	0.68 mg/L	10 ml	0.68 mg/L	1	0.07	0.50		9	5/27/20 00:28	N	II
KQ2006968-23	Carbon, Total Organic	DUP	K2004049-008	Water	1.72 mg/L	10 ml	1.72 mg/L	1	0.07	0.50		<1	5/27/20 00:56	N	II
KQ2006968-24	Carbon, Total Organic	DUP	K2004049-009	Water	0.71 mg/L	10 ml	0.71 mg/L	1	0.07	0.50		3	5/27/20 01:24	N	II
KQ2006968-25	Carbon, Total Organic	DUP	K2004053-001	Drinking Water	1.13 mg/L	10 ml	1.13 mg/L	1	0.07	0.50		6	5/27/20 01:52	N	I
KQ2006968-26	Carbon, Total Organic	DUP	K2004063-001	Drinking Water	0.77 mg/L	10 ml	0.77 mg/L	1	0.07	0.50		12*	5/27/20 02:20	N	I
KQ2006968-27	Carbon, Total Organic	DUP	K2004085-001	Water	1.70 mg/L	10 ml	1.70 mg/L	1	0.07	0.50		2	5/27/20 03:17	N	II
KQ2006968-28	Carbon, Total Organic	DUP	K2004085-002	Water	1.65 mg/L	10 ml	1.65 mg/L	1	0.07	0.50		1	5/27/20 03:45	N	II
KQ2006968-29	Carbon, Total Organic	DUP	K2004085-003	Water	1.62 mg/L	10 ml	1.62 mg/L	1	0.07	0.50		5	5/27/20 04:13	N	II
KQ2006968-30	Carbon, Total Organic	DUP	K2004126-002	Drinking Water	0.79 mg/L	10 ml	0.79 mg/L	1	0.07	0.50		5	5/27/20 02:49	N	I
KQ2006968-31	Carbon, Total Organic	DUP	K2004152-001	Water	2.12 mg/L	10 ml	2.12 mg/L	1	0.07	0.50		3	5/26/20 20:27	N	IV
KQ2006968-32	Carbon, Total Organic	MS	K2004152-001	Water	27.53 mg/L	10 ml	27.5 mg/L	1	0.07	0.50	101		5/26/20 23:16	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-03 **Analyst:** BDITZLER **Analysis Lot:** 680711 **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
K2003957-001	Carbon, Total Organic	N/A		Water	2.63 mg/L	10 ml	2.63 mg/L	1	0.07	0.50			5/27/20 10:22	N	IV
K2003982-001	Carbon, Total Organic	N/A		Water	25.69 mg/L	10 ml	514 mg/L	20	2	10			5/27/20 11:18	N	II
K2003982-002	Carbon, Total Organic	N/A		Water	9.43 mg/L	10 ml	189 mg/L	20	2	10			5/27/20 11:46	N	II
K2003982-003	Carbon, Total Organic	N/A		Water	3.64 mg/L	10 ml	73 mg/L	20	2	10			5/27/20 12:14	Y	II
K2003982-004	Carbon, Total Organic	N/A		Water	10.95 mg/L	10 ml	11.0 mg/L	1	0.07	0.50			5/27/20 13:11	N	II
K2003982-005	Carbon, Total Organic	N/A		Water	1.45 mg/L	10 ml	1.45 mg/L	1	0.07	0.50			5/27/20 13:39	N	II
K2003982-006	Carbon, Total Organic	N/A		Water	1.65 mg/L	10 ml	33 mg/L	20	2	10			5/27/20 15:07	N	II
K2003982-007	Carbon, Total Organic	N/A		Water	7.87 mg/L	10 ml	7.87 mg/L	1	0.07	0.50			5/27/20 15:35	N	II
K2003982-008	Carbon, Total Organic	N/A		Water	8.33 mg/L	10 ml	8.33 mg/L	1	0.07	0.50			5/27/20 16:03	N	II
K2003982-009	Carbon, Total Organic	N/A		Water	2.55 mg/L	10 ml	2.55 mg/L	1	0.07	0.50			5/27/20 16:31	N	II
K2003982-010	Carbon, Total Organic	N/A		Water	2.09 mg/L	10 ml	2.09 mg/L	1	0.07	0.50			5/27/20 16:59	N	II
K2003982-011	Carbon, Total Organic	N/A		Water	0.70 mg/L	10 ml	0.70 mg/L	1	0.07	0.50			5/27/20 17:27	N	II
K2003982-012	Carbon, Total Organic	N/A		Water	0.38 mg/L	10 ml	0.38 mg/L J	1	0.07	0.50			5/27/20 17:55	N	II
K2003982-013	Carbon, Total Organic	N/A		Water	0.33 mg/L	10 ml	0.33 mg/L J	1	0.07	0.50			5/27/20 18:23	N	II
K2004021-001	Carbon, Total Organic	N/A		Water	1.87 mg/L	10 ml	1.87 mg/L	1	0.07	0.50			5/27/20 10:50	N	II
K2004023-007	Carbon, Total Organic	N/A		Water	13.44 mg/L	10 ml	13.4 mg/L	1	0.07	0.50			5/27/20 07:32	N	II
K2004023-008	Carbon, Total Organic	N/A		Water	8.31 mg/L	10 ml	8.31 mg/L	1	0.07	0.50			5/27/20 08:00	N	II
K2004023-009	Carbon, Total Organic	N/A		Water	1.90 mg/L	10 ml	380 mg/L	200	20	100			5/27/20 08:28	N	II
K2004023-010	Carbon, Total Organic	N/A		Water	1.42 mg/L	10 ml	280 mg/L	200	20	100			5/27/20 08:56	N	II
K2004023-011	Carbon, Total Organic	N/A		Water	23.27 mg/L	10 ml	93.1 mg/L	4	0.3	2.0			5/27/20 09:54	N	II
KQ2006710-01	Carbon, Total Organic	CCV		Water	24.38 mg/L	10 ml	24.4 mg/L	1					5/27/20 04:41	N	II
KQ2006710-02	Carbon, Total Organic	CCV		Water	24.60 mg/L	10 ml	24.6 mg/L	1					5/27/20 09:24	N	II
KQ2006710-03	Carbon, Total Organic	CCV		Water	24.77 mg/L	10 ml	24.8 mg/L	1					5/27/20 14:08	N	II
KQ2006710-04	Carbon, Total Organic	CCV		Water	25.04 mg/L	10 ml	25.0 mg/L	1					5/27/20 18:51	N	II
KQ2006710-05	Carbon, Total Organic	CCB		Water	0.04 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/27/20 04:56	N	II
KQ2006710-06	Carbon, Total Organic	CCB		Water	0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/27/20 09:39	N	II
KQ2006710-07	Carbon, Total Organic	CCB		Water	0.01 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/27/20 14:22	N	II
KQ2006710-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/27/20 19:06	N	II
KQ2006710-09	Carbon, Total Organic	MB		Water	-0.07 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/27/20 05:10	N	II
KQ2006710-10	Carbon, Total Organic	LCS		Water	24.59 mg/L	10 ml	24.6 mg/L	1	0.07	0.50	98		5/27/20 05:25	N	II
KQ2006710-11	Carbon, Total Organic	MS	K2003982-003	Water	25.48 mg/L	10 ml	5090 mg/L	200	20	100	100		5/27/20 12:42	N	II
KQ2006710-12	Carbon, Total Organic	DUP	K2003957-001	Water	2.46 mg/L	10 ml	2.46 mg/L	1	0.07	0.50		6	5/27/20 10:22	N	IV
KQ2006710-13	Carbon, Total Organic	DUP	K2003982-001	Water	25.80 mg/L	10 ml	516 mg/L	20	2	10		<1	5/27/20 11:18	N	II
KQ2006710-14	Carbon, Total Organic	DUP	K2003982-002	Water	9.33 mg/L	10 ml	187 mg/L	20	2	10		1	5/27/20 11:46	N	II
KQ2006710-15	Carbon, Total Organic	DUP	K2003982-003	Water	3.48 mg/L	10 ml	70 mg/L	20	2	10		4	5/27/20 12:14	N	II
KQ2006710-16	Carbon, Total Organic	DUP	K2003982-004	Water	10.97 mg/L	10 ml	11.0 mg/L	1	0.07	0.50		<1	5/27/20 13:11	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-03 **Analyst:** BDITZLER **Analysis Lot:** 680711 **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
KQ2006710-17	Carbon, Total Organic	DUP	K2003982-005	Water	1.30 mg/L	10 ml	1.30 mg/L	1	0.07	0.50		11*	5/27/20 13:39	N	II
KQ2006710-18	Carbon, Total Organic	DUP	K2003982-006	Water	1.57 mg/L	10 ml	31 mg/L	20	2	10		5	5/27/20 15:07	N	II
KQ2006710-19	Carbon, Total Organic	DUP	K2003982-007	Water	8.02 mg/L	10 ml	8.02 mg/L	1	0.07	0.50		2	5/27/20 15:35	N	II
KQ2006710-20	Carbon, Total Organic	DUP	K2003982-008	Water	8.48 mg/L	10 ml	8.48 mg/L	1	0.07	0.50		2	5/27/20 16:03	N	II
KQ2006710-21	Carbon, Total Organic	DUP	K2003982-009	Water	2.17 mg/L	10 ml	2.17 mg/L	1	0.07	0.50		16*	5/27/20 16:31	N	II
KQ2006710-22	Carbon, Total Organic	DUP	K2003982-010	Water	2.02 mg/L	10 ml	2.02 mg/L	1	0.07	0.50		3	5/27/20 16:59	N	II
KQ2006710-23	Carbon, Total Organic	DUP	K2003982-011	Water	0.62 mg/L	10 ml	0.62 mg/L	1	0.07	0.50		11*	5/27/20 17:27	N	II
KQ2006710-24	Carbon, Total Organic	DUP	K2003982-012	Water	0.32 mg/L	10 ml	0.32 mg/L J	1	0.07	0.50		17*	5/27/20 17:55	N	II
KQ2006710-25	Carbon, Total Organic	DUP	K2003982-013	Water	0.36 mg/L	10 ml	0.36 mg/L J	1	0.07	0.50		9	5/27/20 18:23	N	II
KQ2006710-26	Carbon, Total Organic	DUP	K2004021-001	Water	1.82 mg/L	10 ml	1.82 mg/L	1	0.07	0.50		3	5/27/20 10:50	N	II
KQ2006710-27	Carbon, Total Organic	DUP	K2004023-008	Water	8.20 mg/L	10 ml	8.20 mg/L	1	0.07	0.50		1	5/27/20 08:00	N	II
KQ2006710-28	Carbon, Total Organic	DUP	K2004023-009	Water	1.88 mg/L	10 ml	380 mg/L	200	20	100		1	5/27/20 08:28	N	II
KQ2006710-29	Carbon, Total Organic	DUP	K2004023-010	Water	1.42 mg/L	10 ml	280 mg/L	200	20	100		<1	5/27/20 08:56	N	II
KQ2006710-30	Carbon, Total Organic	DUP	K2004023-011	Water	23.60 mg/L	10 ml	94.4 mg/L	4	0.3	2.0		1	5/27/20 09:54	N	II
KQ2006710-31	Carbon, Total Organic	DUP	K2004023-007	Water	13.48 mg/L	10 ml	13.5 mg/L	1	0.07	0.50		<1	5/27/20 07:32	N	II

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Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 680712 **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
K2003949-001	Carbon, Total Organic	N/A		Surface Water	1.27 mg/L	10 ml	1.27 mg/L	1	0.07	0.50			5/27/20 20:17	N	III
K2003949-002	Carbon, Total Organic	N/A		Surface Water	1.05 mg/L	10 ml	1.05 mg/L	1	0.07	0.50			5/27/20 20:45	N	III
K2003949-003	Carbon, Total Organic	N/A		Surface Water	1.11 mg/L	10 ml	1.11 mg/L	1	0.07	0.50			5/27/20 21:13	N	III
K2003949-004	Carbon, Total Organic	N/A		Surface Water	0.52 mg/L	10 ml	0.52 mg/L	1	0.07	0.50			5/27/20 21:41	N	III
K2003949-005	Carbon, Total Organic	N/A		Surface Water	1.39 mg/L	10 ml	1.39 mg/L	1	0.07	0.50			5/27/20 22:09	N	III
K2003949-006	Carbon, Total Organic	N/A		Surface Water	0.48 mg/L	10 ml	0.48 mg/L J	1	0.07	0.50			5/27/20 22:37	N	III
K2003949-007	Carbon, Total Organic	N/A		Surface Water	1.07 mg/L	10 ml	1.07 mg/L	1	0.07	0.50			5/27/20 23:05	Y	III
K2003949-008	Carbon, Total Organic	N/A		Surface Water	1.22 mg/L	10 ml	1.22 mg/L	1	0.07	0.50			5/28/20 00:47	N	III
K2003949-009	Carbon, Total Organic	N/A		Surface Water	-0.06 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/28/20 01:15	N	III
K2003982-014	Carbon, Total Organic	N/A		Water	1.23 mg/L	10 ml	25 mg/L	20	2	10			5/27/20 19:20	N	II
K2003982-015	Carbon, Total Organic	N/A		Water	0.97 mg/L	10 ml	0.97 mg/L	1	0.07	0.50			5/27/20 19:48	N	II
K2003998-001	Carbon, Total Organic	N/A		Surface Water	1.19 mg/L	10 ml	1.19 mg/L	1	0.07	0.50			5/28/20 01:43	N	III
K2003998-002	Carbon, Total Organic	N/A		Surface Water	1.20 mg/L	10 ml	1.20 mg/L	1	0.07	0.50			5/28/20 02:11	N	III
K2003998-003	Carbon, Total Organic	N/A		Surface Water	2.41 mg/L	10 ml	2.41 mg/L	1	0.07	0.50			5/28/20 02:39	N	III
K2003998-004	Carbon, Total Organic	N/A		Surface Water	0.75 mg/L	10 ml	0.75 mg/L	1	0.07	0.50			5/28/20 03:07	N	III
K2003998-005	Carbon, Total Organic	N/A		Surface Water	1.07 mg/L	10 ml	1.07 mg/L	1	0.07	0.50			5/28/20 03:36	N	III
K2004085-004	Carbon, Total Organic	N/A		Water	1.93 mg/L	10 ml	1.93 mg/L	1	0.07	0.50			5/28/20 06:12	N	II
K2004085-005	Carbon, Total Organic	N/A		Water	0.90 mg/L	10 ml	0.90 mg/L	1	0.07	0.50			5/28/20 06:40	N	II
KQ2006711-01	Carbon, Total Organic	CCV		Water	25.04 mg/L	10 ml	25.0 mg/L	1					5/27/20 18:51	N	II
KQ2006711-02	Carbon, Total Organic	CCV		Water	24.82 mg/L	10 ml	24.8 mg/L	1					5/27/20 23:48	N	II
KQ2006711-03	Carbon, Total Organic	CCV		Water	24.00 mg/L	10 ml	24.0 mg/L	1					5/28/20 04:32	N	II
KQ2006711-04	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/27/20 19:06	N	II
KQ2006711-05	Carbon, Total Organic	CCB		Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/28/20 00:02	N	II
KQ2006711-06	Carbon, Total Organic	CCB		Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/28/20 04:46	N	II
KQ2006711-07	Carbon, Total Organic	MS	K2003949-007	Surface Water	27.29 mg/L	10 ml	27.3 mg/L	1	0.07	0.50	105		5/27/20 23:33	N	III
KQ2006711-08	Carbon, Total Organic	MB		Water	-0.04 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/27/20 14:37:00	N	II
KQ2006711-09	Carbon, Total Organic	LCS		Water	24.58 mg/L	10 mL	24.6 mg/L	1	0.07	0.50	98		5/27/20 14:52:00	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-03 **Analyst:** BDITZLER **Analysis Lot:** 680712 **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
KQ2006711-10	Carbon, Total Organic	DUP	K2003949-001	Surface Water	1.21 mg/L	10 ml	1.21 mg/L	1	0.07	0.50		5	5/27/20 20:17	N	III
KQ2006711-11	Carbon, Total Organic	DUP	K2003949-002	Surface Water	1.02 mg/L	10 ml	1.02 mg/L	1	0.07	0.50		2	5/27/20 20:45	N	III
KQ2006711-12	Carbon, Total Organic	DUP	K2003949-003	Surface Water	1.12 mg/L	10 ml	1.12 mg/L	1	0.07	0.50		1	5/27/20 21:13	N	III
KQ2006711-13	Carbon, Total Organic	DUP	K2003949-004	Surface Water	0.47 mg/L	10 ml	0.47 mg/L J	1	0.07	0.50		11*	5/27/20 21:41	N	III
KQ2006711-14	Carbon, Total Organic	DUP	K2003949-005	Surface Water	1.34 mg/L	10 ml	1.34 mg/L	1	0.07	0.50		4	5/27/20 22:09	N	III
KQ2006711-15	Carbon, Total Organic	DUP	K2003949-006	Surface Water	0.46 mg/L	10 ml	0.46 mg/L J	1	0.07	0.50		5	5/27/20 22:37	N	III
KQ2006711-16	Carbon, Total Organic	DUP	K2003949-007	Surface Water	1.05 mg/L	10 ml	1.05 mg/L	1	0.07	0.50		2	5/27/20 23:05	N	III
KQ2006711-17	Carbon, Total Organic	DUP	K2003949-008	Surface Water	1.11 mg/L	10 ml	1.11 mg/L	1	0.07	0.50		10	5/28/20 00:47	N	III
KQ2006711-18	Carbon, Total Organic	DUP	K2003949-009	Surface Water	-0.04 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50		NC	5/28/20 01:15	N	III
KQ2006711-19	Carbon, Total Organic	DUP	K2003982-014	Water	1.28 mg/L	10 ml	26 mg/L	20	2	10		4	5/27/20 19:20	N	II
KQ2006711-20	Carbon, Total Organic	DUP	K2003982-015	Water	0.95 mg/L	10 ml	0.94 mg/L	1	0.07	0.50		3	5/27/20 19:48	N	II
KQ2006711-21	Carbon, Total Organic	DUP	K2003998-001	Surface Water	1.15 mg/L	10 ml	1.15 mg/L	1	0.07	0.50		4	5/28/20 01:43	N	III
KQ2006711-22	Carbon, Total Organic	DUP	K2003998-003	Surface Water	2.36 mg/L	10 ml	2.36 mg/L	1	0.07	0.50		2	5/28/20 02:39	N	III
KQ2006711-23	Carbon, Total Organic	DUP	K2003998-002	Surface Water	1.13 mg/L	10 ml	1.13 mg/L	1	0.07	0.50		6	5/28/20 02:11	N	III
KQ2006711-24	Carbon, Total Organic	DUP	K2003998-004	Surface Water	0.72 mg/L	10 ml	0.72 mg/L	1	0.07	0.50		4	5/28/20 03:07	N	III
KQ2006711-25	Carbon, Total Organic	DUP	K2003998-005	Surface Water	1.07 mg/L	10 ml	1.07 mg/L	1	0.07	0.50		<1	5/28/20 03:36	N	III
KQ2006711-26	Carbon, Total Organic	CCV		Water	24.09 mg/L	10 ml	24.1 mg/L	1					5/28/20 07:08	N	II
KQ2006711-27	Carbon, Total Organic	CCB		Water	0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/28/20 07:23	N	II
KQ2006711-28	Carbon, Total Organic	DUP	K2004085-004	Water	1.79 mg/L	10 ml	1.79 mg/L	1	0.07	0.50		7	5/28/20 06:12	N	II
KQ2006711-29	Carbon, Total Organic	DUP	K2004085-005	Water	0.80 mg/L	10 ml	0.80 mg/L	1	0.07	0.50		12*	5/28/20 06:40	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-03 **Analyst:** BDITZLER **Analysis Lot:** 680713 **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
K2003876-002	Carbon, Dissolved Organic (DOC)	N/A		Water	3.94 mg/L	10 ml	3.94 mg/L	1	0.07	0.50			5/28/20 04:04	N	II
K2003876-004	Carbon, Dissolved Organic (DOC)	N/A		Water	2.86 mg/L	10 ml	2.86 mg/L	1	0.07	0.50			5/28/20 05:01	N	II
K2003932-003	Carbon, Dissolved Organic (DOC)	N/A		Water	33.52 mg/L	10 ml	33.5 mg/L	1	0.07	0.50			5/28/20 05:30	N	II
KQ2006712-01	Carbon, Dissolved Organic (DOC)	CCV		Water	24.82 mg/L	10 ml	24.8 mg/L	1					5/27/20 23:48	N	II
KQ2006712-02	Carbon, Dissolved Organic (DOC)	CCV		Water	24.00 mg/L	10 ml	24.0 mg/L	1					5/28/20 04:32	N	II
KQ2006712-03	Carbon, Dissolved Organic (DOC)	CCV		Water	24.09 mg/L	10 ml	24.1 mg/L	1					5/28/20 07:08	N	II
KQ2006712-04	Carbon, Dissolved Organic (DOC)	CCB		Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/28/20 00:02	N	II
KQ2006712-05	Carbon, Dissolved Organic (DOC)	CCB		Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/28/20 04:46	N	II
KQ2006712-06	Carbon, Dissolved Organic (DOC)	CCB		Water	0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/28/20 07:23	N	II
KQ2006712-08	Carbon, Dissolved Organic (DOC)	DUP	K2003876-002	Water	3.92 mg/L	10 ml	3.92 mg/L	1	0.07	0.50		<1	5/28/20 04:04	N	II
KQ2006712-09	Carbon, Dissolved Organic (DOC)	DUP	K2003876-004	Water	2.83 mg/L	10 ml	2.83 mg/L	1	0.07	0.50		1	5/28/20 05:01	N	II
KQ2006712-10	Carbon, Dissolved Organic (DOC)	DUP	K2003932-003	Water	33.62 mg/L	10 ml	33.6 mg/L	1	0.07	0.50		<1	5/28/20 05:30	N	II
KQ2006712-11	Carbon, Dissolved Organic (DOC)	MB		Water	-0.05 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			5/28/20 00:17	N	II
KQ2006712-12	Carbon, Dissolved Organic (DOC)	LCS		Water	24.54 mg/L	10 ml	24.5 mg/L	1	0.07	0.50	98		5/28/20 00:32	N	II
KQ2006712-13	Carbon, Dissolved Organic (DOC)	MS	K2003932-003	Water	34.27 mg/L	10 ml	137 mg/L	4	0.3	2.0	104		5/28/20 05:58	N	II

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0.350				OBSERVATIONS	13	ABOVE
0.292				STD Deviation	0.05513	ABOVE
0.225	0.225	0.225	0.225	AVERAGE	0.22446	0.2251
0.254	0.254	0.254	0.254	UCL	0.27959	0.2536
0.144				LCL	0.16933	BELOW
0.241	0.241	0.241	0.241			0.2412
0.231	0.231	0.231	0.231			0.2309
0.174	0.174	0.174	0.174	OBSERVATIONS	9	0.1736
0.223	0.223	0.223	0.223	STD Deviation	0.08974	0.2225
0.187	0.187	0.187	0.187	AVERAGE	0.21834	0.1871
0.167				UCL	0.30809	BELOW
0.192	0.192	0.192	0.192	LCL	0.12860	0.1918
0.239	0.239	0.239	0.239			0.2393
						BELOW
				OBSERVATIONS	9	BELOW
				STD Deviation	0.08974	BELOW
				AVERAGE	0.21834	BELOW
				UCL	0.30809	BELOW
				LCL	0.12860	BELOW
						BELOW
						BELOW
				OBSERVATIONS	9	BELOW
				STD Deviation	0.02931	BELOW
				AVERAGE	0.21834	BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW

9/28/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	26.226	0.2183	26.0074	26.00736	26.0	5/26/2020
3	ccb	1	0.350	0.2183	0.1315	0.13146	<0.5	5/26/2020
4	mb	1	0.292	0.2183	0.0737	0.07366	<0.5	5/26/2020
5	lcs	1	25.975	0.2183	25.7568	25.75676	25.8	5/26/2020
6	K2004152-001	1	2.411	0.2183	2.1929	2.19286	2.19	5/26/2020
7	K2004152-001	1	2.338	0.2183	2.1193	2.11926	2.1	5/26/2020
8	K2004049-001	1	2.467	0.2183	2.2483	2.24826	2	5/26/2020
9	K2004049-001	1	2.446	0.2183	2.2281	2.22806	2.23	5/26/2020
10	K2004049-002	1	1.110	0.2183	0.8914	0.89136	0.89	5/26/2020
11	K2004049-002	1	1.066	0.2183	0.8473	0.84726	0.8	5/26/2020
12	K2004049-003	1	1.186	0.2183	0.9672	0.96716	0.97	5/26/2020
13	K2004049-003	1	1.176	0.2183	0.9575	0.95746	0.96	5/26/2020
14	K2004049-004	1	1.136	0.2183	0.9174	0.91736	0.92	5/26/2020
15	K2004049-004	1	1.093	0.2183	0.8742	0.87416	0.9	5/26/2020
16	K2004049-005	1	1.006	0.2183	0.7878	0.78776	0.8	5/26/2020
17	K2004049-005	1	0.939	0.2183	0.7207	0.72066	0.72	5/26/2020
18	KQ2006968-32	1	27.750	0.2183	27.5312	27.53116	27.5	5/26/2020
19	ccv	1	25.664	0.2183	25.4460	25.44596	25.4	5/26/2020
20	ccb	1	0.225	0.2183	0.0068	0.00676	<0.5	5/26/2020
21	K2004049-006	1	0.984	0.2183	0.7652	0.76516	0.77	5/27/2020
22	K2004049-006	1	0.975	0.2183	0.7564	0.75636	0.8	5/27/2020
23	K2004049-007	1	0.963	0.2183	0.7445	0.74446	0.7	5/27/2020
24	K2004049-007	1	0.899	0.2183	0.6806	0.68056	0.68	5/27/2020
25	K2004049-008	1	1.930	0.2183	1.7116	1.71156	1.71	5/27/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

	date	time
Analyzed By: [signature]	Date Analyzed 5/28/20	
Reviewed By: [signature]	Date Reviewed 5/28/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2004049-008	1	1.941	0.2183	1.7222	1.72216	1.72	5/27/2020
27	K2004049-009	1	0.955	0.2183	0.7366	0.73656	0.74	5/27/2020
28	K2004049-009	1	0.932	0.2183	0.7133	0.71326	0.7	5/27/2020
29	K2004053-001	1	1.415	0.2183	1.1971	1.19706	1.2	5/27/2020
30	K2004053-001	1	1.348	0.2183	1.1295	1.12946	1.1	5/27/2020
31	K2004063-001	1	1.089	0.2183	0.8707	0.87066	0.9	5/27/2020
32	K2004063-001	1	0.989	0.2183	0.7709	0.77086	0.8	5/27/2020
33	K2004126-002	1	1.046	0.2183	0.8277	0.82766	0.8	5/27/2020
34	K2004126-002	1	1.007	0.2183	0.7891	0.78906	0.8	5/27/2020
35	K2004085-001	1	1.956	0.2183	1.7378	1.73776	1.7	5/27/2020
36	K2004085-001	1	1.918	0.2183	1.6999	1.69986	1.7	5/27/2020
37	K2004085-002	1	1.888	0.2183	1.6695	1.66946	1.7	5/27/2020
38	K2004085-002	1	1.870	0.2183	1.6517	1.65166	1.7	5/27/2020
39	K2004085-003	1	1.927	0.2183	1.7089	1.70886	1.7	5/27/2020
40	K2004085-003	1	1.838	0.2183	1.6198	1.61976	1.6	5/27/2020
41	ccv	1	24.598	0.2183	24.3792	24.37916	24.4	5/27/2020
42	ccb	1	0.254	0.2183	0.0353	0.03526	<0.5	5/27/2020
43	K2004023-003	1	20.163	0.2183	19.9444	19.94436	19.9	5/27/2020
44	K2004023-003	1	20.406	0.2183	20.1873	20.18726	20.2	5/27/2020
45	K2004023-004	200	1.413	0.2183	1.1947	238.932	238.9	5/27/2020
46	K2004023-004	200	1.300	0.2183	1.0818	216.352	216.4	5/27/2020
47	K2004023-005	4	24.798	0.2183	24.5796	98.31824	98.3	5/27/2020
48	K2004023-005	4	25.294	0.2183	25.0754	100.30144	100.3	5/27/2020
49	K2004023-006	1	35.534	0.2183	35.3159	35.31586	35.3	5/27/2020
50	K2004023-006	1	35.942	0.2183	35.7232	35.72316	35.7	5/27/2020

Analyzed By:		Date Analyzed	5/28/20
Reviewed By:		Date Reviewed	5/29/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
51	ccv	1	24.819	0.2183	24.6007	24.60066	24.60	5/27/2020
52	ccb	1	0.241	0.2183	0.0229	0.02286	<0.5	5/27/2020
53		1		0.0000	0.0000	0	<0.5	
54		1		0.0000	0.0000	0	<0.5	
55		1		0.0000	0.0000	0	<0.5	
56		1		0.0000	0.0000	0	<0.5	
57		1		0.0000	0.0000	0	<0.5	
58		1		0.0000	0.0000	0	<0.5	
59		1		0.0000	0.0000	0	<0.5	
60		1		0.0000	0.0000	0	<0.5	
61		1		0.0000	0.0000	0	<0.5	
62		1		0.0000	0.0000	0	<0.5	
63		1		0.0000	0.0000	0	<0.5	
64		1		0.0000	0.0000	0	<0.5	
65		1		0.0000	0.0000	0	<0.5	
66		1		0.0000	0.0000	0	<0.5	
67		1		0.0000	0.0000	0	<0.5	
68		1		0.0000	0.0000	0	<0.5	
69		1		0.0000	0.0000	0	<0.5	
70		1		0.0000	0.0000	0	<0.5	
71		1		0.0000	0.0000	0	<0.5	
72		1		0.0000	0.0000	0	<0.5	
73		1		0.0000	0.0000	0	<0.5	
74		1		0.0000	0.0000	0	<0.5	
75		1		0.0000	0.0000	0	<0.5	

Analyzed By:		Date Analyzed	5/28/20
Reviewed By:		Date Reviewed	5/29/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	24.598	0.2183	24.3792	24.37916	24.4	5/27/2020
3	ccb	1	0.254	0.2183	0.0353	0.03526	<0.5	5/27/2020
4	mb	1	0.144	0.2183	-0.0741	-0.07414	<0.5	5/27/2020
5	lcs	1	24.812	0.2183	24.5935	24.59346	24.6	5/27/2020
6	K2004023-007	1	13.660	0.2183	13.4421	13.44206	13.44	5/27/2020
7	K2004023-007	1	13.694	0.2183	13.4755	13.47546	13.5	5/27/2020
8	K2004023-008	1	8.525	0.2183	8.3069	8.30686	8	5/27/2020
9	K2004023-008	1	8.419	0.2183	8.2003	8.20026	8.20	5/27/2020
10	K2004023-009	200	2.123	0.2183	1.9046	380.912	380.91	5/27/2020
11	K2004023-009	200	2.096	0.2183	1.8780	375.592	375.6	5/27/2020
12	K2004023-010	200	1.642	0.2183	1.4239	284.772	284.77	5/27/2020
13	K2004023-010	200	1.637	0.2183	1.4190	283.792	283.79	5/27/2020
14	ccv	1	24.819	0.2183	24.6007	24.60066	24.60	5/27/2020
15	ccb	1	0.241	0.2183	0.0229	0.02286	<0.5	5/27/2020
16	K2004023-011	4	23.484	0.2183	23.2654	93.06144	93.1	5/27/2020
17	K2004023-011	4	23.820	0.2183	23.6021	94.40824	94.41	5/27/2020
18	K2003957-001	1	2.846	0.2183	2.6279	2.62786	2.6	5/27/2020
19	K2003957-001	1	2.681	0.2183	2.4626	2.46256	2.5	5/27/2020
20	K2004021-001	1	2.088	0.2183	1.8700	1.86996	1.87	5/27/2020
21	K2004021-001	1	2.040	0.2183	1.8221	1.82206	1.82	5/27/2020
22	K2003982-001	20	25.905	0.2183	25.6870	513.7392	513.7	5/27/2020
23	K2003982-001	20	26.015	0.2183	25.7963	515.9252	515.9	5/27/2020
24	K2003982-002	20	9.651	0.2183	9.4324	188.6472	188.65	5/27/2020
25	K2003982-002	20	9.552	0.2183	9.3337	186.6732	186.67	5/27/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

		date	time
Analyzed By:		Date Analyzed	5/28/20
Reviewed By:		Date Reviewed	5/28/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2003982-003	20	3.858	0.2183	3.6393	72.7852	72.79	5/27/2020
27	K2003982-003	20	3.699	0.2183	3.4810	69.6192	69.62	5/27/2020
28	KQ2006710-11	200	25.693	0.2183	25.4750	5094.992	5095.0	5/27/2020
29	K2003982-004	1	11.170	0.2183	10.9515	10.95146	11.0	5/27/2020
30	K2003982-004	1	11.191	0.2183	10.9726	10.97256	11.0	5/27/2020
31	K2003982-005	1	1.667	0.2183	1.4486	1.44856	1.4	5/27/2020
32	K2003982-005	1	1.521	0.2183	1.3022	1.30216	1.3	5/27/2020
33	ccv	1	24.985	0.2183	24.7669	24.76686	24.8	5/27/2020
34	ccb	1	0.231	0.2183	0.0126	0.01256	<0.5	5/27/2020
35	K2003982-006	20	1.873	0.2183	1.6545	33.0892	33.1	5/27/2020
36	K2003982-006	20	1.791	0.2183	1.5723	31.4452	31.4	5/27/2020
37	K2003982-007	1	8.084	0.2183	7.8660	7.86596	7.9	5/27/2020
38	K2003982-007	1	8.243	0.2183	8.0249	8.02486	8.0	5/27/2020
39	K2003982-008	1	8.546	0.2183	8.3277	8.32766	8.3	5/27/2020
40	K2003982-008	1	8.696	0.2183	8.4776	8.47756	8.5	5/27/2020
41	K2003982-009	1	2.771	0.2183	2.5523	2.55226	2.6	5/27/2020
42	K2003982-009	1	2.390	0.2183	2.1715	2.17146	2.2	5/27/2020
43	K2003982-010	1	2.306	0.2183	2.0872	2.08716	2.1	5/27/2020
44	K2003982-010	1	2.242	0.2183	2.0240	2.02396	2.0	5/27/2020
45	K2003982-011	1	0.917	0.2183	0.6984	0.69836	0.7	5/27/2020
46	K2003982-011	1	0.841	0.2183	0.6227	0.62266	0.6	5/27/2020
47	K2003982-012	1	0.596	0.2183	0.3775	0.37746	<0.5	5/27/2020
48	K2003982-012	1	0.536	0.2183	0.3172	0.31716	<0.5	5/27/2020
49	K2003982-013	1	0.549	0.2183	0.3307	0.33066	<0.5	5/27/2020
50	K2003982-013	1	0.580	0.2183	0.3618	0.36176	<0.5	5/27/2020

Analyzed By:	BVP	Date Analyzed	5/28/20
Reviewed By:		Date Reviewed	5/29/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
51	ccv	1	25.257	0.2183	25.0382	25.03816	25.04	5/27/2020
52	ccb	1	0.223	0.2183	0.0042	0.00416	<0.5	5/27/2020
53		1		0.0000	0.0000	0	<0.5	
54		1		0.0000	0.0000	0	<0.5	
55		1		0.0000	0.0000	0	<0.5	
56		1		0.0000	0.0000	0	<0.5	
57		1		0.0000	0.0000	0	<0.5	
58		1		0.0000	0.0000	0	<0.5	
59		1		0.0000	0.0000	0	<0.5	
60		1		0.0000	0.0000	0	<0.5	
61		1		0.0000	0.0000	0	<0.5	
62		1		0.0000	0.0000	0	<0.5	
63		1		0.0000	0.0000	0	<0.5	
64		1		0.0000	0.0000	0	<0.5	
65		1		0.0000	0.0000	0	<0.5	
66		1		0.0000	0.0000	0	<0.5	
67		1		0.0000	0.0000	0	<0.5	
68		1		0.0000	0.0000	0	<0.5	
69		1		0.0000	0.0000	0	<0.5	
70		1		0.0000	0.0000	0	<0.5	
71		1		0.0000	0.0000	0	<0.5	
72		1		0.0000	0.0000	0	<0.5	
73		1		0.0000	0.0000	0	<0.5	
74		1		0.0000	0.0000	0	<0.5	
75		1		0.0000	0.0000	0	<0.5	

Analyzed By:	Date Analyzed 5/28/20
Reviewed By:	Date Reviewed 5/28/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	25.257	0.2183	25.0382	25.03816	25.0	5/27/2020
3	ccb	1	0.223	0.2183	0.0042	0.00416	<0.5	5/27/2020
4	K2003982-014	20	1.448	0.2183	1.2299	24.5972	24.6	5/27/2020
5	K2003982-014	20	1.499	0.2183	1.2808	25.6152	25.6	5/27/2020
6	K2003982-015	1	1.193	0.2183	0.9743	0.97426	0.97	5/27/2020
7	K2003982-015	1	1.163	0.2183	0.9450	0.94496	0.9	5/27/2020
8	K2003949-001	1	1.492	0.2183	1.2740	1.27396	1	5/27/2020
9	K2003949-001	1	1.432	0.2183	1.2137	1.21366	1.21	5/27/2020
10	K2003949-002	1	1.265	0.2183	1.0463	1.04626	1.05	5/27/2020
11	K2003949-002	1	1.243	0.2183	1.0243	1.02426	1.0	5/27/2020
12	K2003949-003	1	1.332	0.2183	1.1133	1.11326	1.11	5/27/2020
13	K2003949-003	1	1.343	0.2183	1.1246	1.12456	1.12	5/27/2020
14	K2003949-004	1	0.743	0.2183	0.5247	0.52466	0.52	5/27/2020
15	K2003949-004	1	0.690	0.2183	0.4713	0.47126	<0.5	5/27/2020
16	K2003949-005	1	1.607	0.2183	1.3884	1.38836	1.4	5/27/2020
17	K2003949-005	1	1.559	0.2183	1.3403	1.34026	1.34	5/27/2020
18	K2003949-006	1	0.696	0.2183	0.4781	0.47806	<0.5	5/27/2020
19	K2003949-006	1	0.674	0.2183	0.4559	0.45586	<0.5	5/27/2020
20	K2003949-007	1	1.284	0.2183	1.0660	1.06596	1.07	5/27/2020
21	K2003949-007	1	1.268	0.2183	1.0498	1.04976	1.05	5/27/2020
22	KQ2006711-07	1	27.509	0.2183	27.2904	27.29036	27.3	5/27/2020
23	ccv	1	25.038	0.2183	24.8194	24.81936	24.8	5/27/2020
24	ccb	1	0.187	0.2183	-0.0312	-0.03124	<0.5	5/28/2020
25	K2003949-008	1	1.436	0.2183	1.2176	1.21756	1.22	5/28/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

	date	time
Analyzed By: BNP	Date Analyzed 5/28/20	
Reviewed By: JC	Date Reviewed 5/28/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2003949-008	1	1.325	0.2183	1.1063	1.10626	1.11	5/28/2020
27	K2003949-009	1	0.161	0.2183	-0.0575	-0.05754	<0.5	5/28/2020
28	K2003949-009	1	0.180	0.2183	-0.0382	-0.03824	<0.5	5/28/2020
29	K2003998-001	1	1.410	0.2183	1.1918	1.19176	1.2	5/28/2020
30	K2003998-001	1	1.366	0.2183	1.1473	1.14726	1.1	5/28/2020
31	K2003998-002	1	1.415	0.2183	1.1963	1.19626	1.2	5/28/2020
32	K2003998-002	1	1.345	0.2183	1.1269	1.12686	1.1	5/28/2020
33	K2003998-003	1	2.626	0.2183	2.4072	2.40716	2.4	5/28/2020
34	K2003998-003	1	2.577	0.2183	2.3590	2.35896	2.4	5/28/2020
35	K2003998-004	1	0.966	0.2183	0.7474	0.74736	0.7	5/28/2020
36	K2003998-004	1	0.940	0.2183	0.7213	0.72126	0.7	5/28/2020
37	K2003998-005	1	1.292	0.2183	1.0738	1.07376	1.1	5/28/2020
38	K2003998-005	1	1.286	0.2183	1.0679	1.06786	1.1	5/28/2020
39	ccv	1	24.214	0.2183	23.9956	23.99556	24.0	5/28/2020
40	ccb	1	0.192	0.2183	-0.0265	-0.02654	<0.5	5/28/2020
41	K2004085-004	1	2.147	0.2183	1.9285	1.92846	1.9	5/28/2020
42	K2004085-004	1	2.011	0.2183	1.7929	1.79286	1.8	5/28/2020
43	K2004085-005	1	1.116	0.2183	0.8976	0.89756	0.9	5/28/2020
44	K2004085-005	1	1.014	0.2183	0.7959	0.79586	0.8	5/28/2020
45	ccv	1	24.309	0.2183	24.0910	24.09096	24.1	5/28/2020
46	ccb	1	0.239	0.2183	0.0210	0.02096	<0.5	5/28/2020
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By: BDP	Date Analyzed 5/28/20
Reviewed By: JC	Date Reviewed 5/29/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	25.038	0.2183	24.8194	24.81936	24.8	5/27/2020
3	ccb	1	0.187	0.2183	-0.0312	-0.03124	<0.5	5/28/2020
4	mb	1	0.167	0.2183	-0.0514	-0.05144	<0.5	5/28/2020
5	lcs	1	24.763	0.2183	24.5448	24.54476	24.5	5/28/2020
6	K2003876-002	1	4.154	0.2183	3.9360	3.93596	3.94	5/28/2020
7	K2003876-002	1	4.136	0.2183	3.9175	3.91746	3.9	5/28/2020
8	ccv	1	24.214	0.2183	23.9956	23.99556	24	5/28/2020
9	ccb	1	0.192	0.2183	-0.0265	-0.02654	<0.5	5/28/2020
10	K2003876-004	1	3.077	0.2183	2.8591	2.85906	2.86	5/28/2020
11	K2003876-004	1	3.048	0.2183	2.8292	2.82916	2.8	5/28/2020
12	K2003932-003	1	33.741	0.2183	33.5228	33.52276	33.52	5/28/2020
13	K2003932-003	1	33.837	0.2183	33.6186	33.61856	33.62	5/28/2020
14	KQ2006712-13	4	34.485	0.2183	34.2671	137.06824	137.07	5/28/2020
15	ccv	1	24.309	0.2183	24.0910	24.09096	24.1	5/28/2020
16	ccb	1	0.239	0.2183	0.0210	0.02096	<0.5	5/28/2020
17	K2003842-005.06 doc	1	0.558	0.2169	0.3415	0.34154	<0.5	5/14/2020
18	K2003842-005.06 doc	1	0.488	0.2169	0.2706	0.27064	<0.5	5/14/2020
19	K2003842-006.06 doc	1	0.494	0.2169	0.2768	0.27684	<0.5	5/14/2020
20	K2003842-006.06 doc	1	0.463	0.2169	0.2461	0.24614	<0.5	5/14/2020
21	K2003842-007.06 doc	1	0.359	0.2169	0.1416	0.14164	<0.5	5/14/2020
22	K2003842-007.06 doc	1	0.377	0.2169	0.1601	0.16014	<0.5	5/14/2020
23	K2003842-008.06 doc	1	0.583	0.2169	0.3663	0.36634	<0.5	5/14/2020
24	K2003842-008.06 doc	1	0.572	0.2169	0.3552	0.35524	<0.5	5/14/2020
25	K2003842-009.06 doc	1	0.621	0.2169	0.4042	0.40424	<0.5	5/14/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

	date	time
Analyzed By: BDD	Date Analyzed 5/28/20	
Reviewed By: JC	Date Reviewed 5/28/20	

TOC: 681225, 680711, 680712
DOC: 680713

Schedule: 05262020

Version: 1
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/05/26 14:27 - Tuesday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use
(Clean)	Clean	Clean		1	True
(Clean)	Clean	Clean		1	True
(Clean)	Clean	Clean		1	True
(Blank)	Blank	Reagent/Acid Blank		1	True
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Cal Standard	[TOC] CAS_salt_010711 CAL [DI Water]	CAS_salt_010711 (CAS_salt_010711)	1	True
A	Cal Standard	[TOC] CAS_salt_010711 CAL [0.500 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
A	Cal Standard	[TOC] CAS_salt_010711 CAL [1.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
A	Cal Standard	[TOC] CAS_salt_010711 CAL [5.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Cal Standard	[TOC] CAS_salt_010711 CAL [10 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Cal Standard	[TOC] CAS_salt_010711 CAL [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Cal Standard	[TOC] CAS_salt_010711 CAL [50 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True
3	Sample	K2004152-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
4	Sample	K2004049-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
5	Sample	K2004049-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True
6	Sample	K2004049-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True
7	Sample	K2004049-004.01	CAS_salt_010711 (CAS_salt_010711)	2	True
8	Sample	K2004049-005.01	CAS_salt_010711 (CAS_salt_010711)	2	True
9	Sample	K2004152-001.01 ms	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
10	Sample	K2004049-006.01	CAS_salt_010711 (CAS_salt_010711)	2	True
11	Sample	K2004049-007.01	CAS_salt_010711 (CAS_salt_010711)	2	True
12	Sample	K2004049-008.01	CAS_salt_010711 (CAS_salt_010711)	2	True
13	Sample	K2004049-009.01	CAS_salt_010711 (CAS_salt_010711)	2	True
14	Sample	K2004053-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
15	Sample	K2004063-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
16	Sample	K2004126-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True
17	Sample	K2004085-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
18	Sample	K2004085-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True
19	Sample	K2004085-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
21	Sample	K2004023-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True
22	Sample	K2004023-004.01 200x	CAS_salt_010711 (CAS_salt_010711)	2	True
23	Sample	K2004023-005.01 4x	CAS_salt_010711 (CAS_salt_010711)	2	True
24	Sample	K2004023-006.01	CAS_salt_010711 (CAS_salt_010711)	2	True
25	Sample	K2004023-007.01	CAS_salt_010711 (CAS_salt_010711)	2	True
26	Sample	K2004023-008.01	CAS_salt_010711 (CAS_salt_010711)	2	True
27	Sample	K2004023-009.01 200x	CAS_salt_010711 (CAS_salt_010711)	2	True
28	Sample	K2004023-010.01 200x	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
29	Sample	K2004023-011.01 4x	CAS_salt_010711 (CAS_salt_010711)	2	True
30	Sample	K2003957-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
31	Sample	K2004021-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
32	Sample	K2003982-001.01 20x	CAS_salt_010711 (CAS_salt_010711)	2	True

Schedule: 05262020

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use
33	Sample	K2003982-002.01 20x	CAS_salt_010711 (CAS_salt_010711)	2	True
34	Sample	K2003982-003.01 20x	CAS_salt_010711 (CAS_salt_010711)	2	True
35	Sample	K2003982-003.01 ms 200x	CAS_salt_010711 (CAS_salt_010711)	1	True
36	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True
37	Sample	K2003982-004.01	CAS_salt_010711 (CAS_salt_010711)	2	True
38	Sample	K2003982-005.01	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
40	Sample	K2003982-006.01 20x	CAS_salt_010711 (CAS_salt_010711)	2	True
41	Sample	K2003982-007.01	CAS_salt_010711 (CAS_salt_010711)	2	True
42	Sample	K2003982-008.01	CAS_salt_010711 (CAS_salt_010711)	2	True
43	Sample	K2003982-009.01	CAS_salt_010711 (CAS_salt_010711)	2	True
44	Sample	K2003982-010.01	CAS_salt_010711 (CAS_salt_010711)	2	True
45	Sample	K2003982-011.01	CAS_salt_010711 (CAS_salt_010711)	2	True
46	Sample	K2003982-012.01	CAS_salt_010711 (CAS_salt_010711)	2	True
47	Sample	K2003982-013.01	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
48	Sample	K2003982-014.01 20x	CAS_salt_010711 (CAS_salt_010711)	2	True
49	Sample	K2003982-015.01	CAS_salt_010711 (CAS_salt_010711)	2	True
50	Sample	K2003949-001.02	CAS_salt_010711 (CAS_salt_010711)	2	True
51	Sample	K2003949-002.02	CAS_salt_010711 (CAS_salt_010711)	2	True
52	Sample	K2003949-003.02	CAS_salt_010711 (CAS_salt_010711)	2	True
53	Sample	K2003949-004.02	CAS_salt_010711 (CAS_salt_010711)	2	True
54	Sample	K2003949-005.02	CAS_salt_010711 (CAS_salt_010711)	2	True
55	Sample	K2003949-006.02	CAS_salt_010711 (CAS_salt_010711)	2	True
56	Sample	K2003949-007.02	CAS_salt_010711 (CAS_salt_010711)	2	True
57	Sample	K2003949-007.02 ms	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
58	Sample	MB4	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
59	Sample	K2003949-008.02	CAS_salt_010711 (CAS_salt_010711)	2	True
60	Sample	K2003949-009.02	CAS_salt_010711 (CAS_salt_010711)	2	True
61	Sample	K2003998-001.02	CAS_salt_010711 (CAS_salt_010711)	2	True
62	Sample	K2003998-002.02	CAS_salt_010711 (CAS_salt_010711)	2	True
63	Sample	K2003998-003.02	CAS_salt_010711 (CAS_salt_010711)	2	True
64	Sample	K2003998-004.02	CAS_salt_010711 (CAS_salt_010711)	2	True
65	Sample	K2003998-005.02	CAS_salt_010711 (CAS_salt_010711)	2	True
66	Sample	K2003876-002.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
67	Sample	K2003876-004.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
68	Sample	K2003932-003.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
69	Sample	K2003932-003.01 ms doc 4x	CAS_salt_010711 (CAS_salt_010711)	1	True
70	Sample	K2004085-004.01	CAS_salt_010711 (CAS_salt_010711)	2	True
71	Sample	K2004085-005.01	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
					False

Fusion Report - 05262020
Tuesday, May 26, 2020 02:50 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/05/28 09:03 - Thursday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	05262020	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)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/05/26 14:50

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	10.96	15.25	4.29	49.71	07:58
2	TC Clean	4.79	8.19	3.41	49.48	07:19
3	TC Clean	1.36	4.94	3.58	49.46	07:05
4	TC Clean	1.02	4.58	3.56	49.69	07:02

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/05/26 15:25

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.91	4.37	3.46	49.79	08:00
2	TC Clean	3.08	6.69	3.62	49.57	07:17
3	TC Clean	1.43	4.91	3.48	49.55	07:04
4	TC Clean	1.52	5.02	3.50	49.52	07:00

Sample Type: Clean From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◈	(clean)		Clean	2020/05/26 15:59

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.33	3.94	3.61	49.89	07:59
2	TC Clean	3.56	6.93	3.37	49.83	07:16
3	TC Clean	1.68	5.19	3.51	49.84	06:58
4	TC Clean	1.34	4.87	3.52	49.77	07:00

Sample Type: Blank (Creating v1390) From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◈	(blank)		Reagent/Acid Blank	2020/05/26 16:33

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.81	4.18	3.37	49.71	05:14
2	TC Clean	3.63	7.01	3.38	49.76	07:15
3	TC Clean	1.87	5.25	3.38	49.74	07:04
4	TC Clean	1.75	5.14	3.40	49.91	07:02
5	Reagent Blank	3.29	6.88	3.60	49.77	08:10
6	Acid Blank	0.68	4.29	3.61	49.69	05:32

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	D	TOC	RB	0.1450 ppm	0.0000 ppm	0.0000%	2020/05/26 17:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1450	1.4501	7.52	11.07	3.55	49.89	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4907 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Calibration Standard: CAS_salt_010711 CAL (Creating calibration From Schedule Version 1

CAS_salt_010711 v36)

	Pos	BAT	Concentration (ppm)	STD Conc	Dil	Sample ID	Result (Abs)	Std. Dev. (Abs)	RSD	Start Time
◆	D	TOC	0.0000	0 ppmC	1:1	[TOC] CAS_salt_010711 CAL [DI Water]	5.2860	0.0000	0%	2020/05/26 17:34
◆	A	TOC	0.5000	5 ppmC	1:10	[TOC] CAS_salt_010711 CAL [0.500 ppm]	7.7280	0.0000	0%	2020/05/26 17:49
◆	A	TOC	1.0000	5 ppmC	1:5	[TOC] CAS_salt_010711 CAL [1.0 ppm]	9.7320	0.0000	0%	2020/05/26 18:03
◆	A	TOC	5.0000	5 ppmC	1:1	[TOC] CAS_salt_010711 CAL [5.0 ppm]	30.7290	0.0000	0%	2020/05/26 18:17
◆	B	TOC	10.0000	50 ppmC	1:5	[TOC] CAS_salt_010711 CAL [10 ppm]	75.9880	0.0000	0%	2020/05/26 18:31
◆	B	TOC	25.0000	50 ppmC	1:2	[TOC] CAS_salt_010711 CAL [25 ppm]	182.4960	0.0000	0%	2020/05/26 18:46
◆	B	TOC	50.0000	50 ppmC	1:1	[TOC] CAS_salt_010711 CAL [50 ppm]	346.4790	0.0000	0%	2020/05/26 19:00

Pos	Base Analysis Type	ID	Rep #	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	DI Water	1	5.29	8.91	3.62	49.91	10:30
A	TOC	0.500 ppm	1	7.73	11.09	3.36	49.91	10:29
A	TOC	1.0 ppm	1	9.73	13.43	3.70	49.99	10:33
A	TOC	5.0 ppm	1	30.73	34.12	3.39	49.99	10:30
B	TOC	10 ppm	1	75.99	79.39	3.40	49.95	10:30
B	TOC	25 ppm	1	182.50	185.92	3.42	49.97	10:31
B	TOC	50 ppm	1	346.48	349.98	3.51	49.92	10:29

Completion State
Success - All Update Conditions met

Method
CAS_salt_010711 (v4)

Success Action
Auto (always)

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)	26.2257 ppm (PASS)	0.0000 ppm	0%	2020/05/26 19:14

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.2257	262.2571	184.99	188.45	3.46	49.87	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	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)	0.3498 ppm (PASS)	0.0000 ppm	0%	2020/05/26 19:29

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3498	3.4982	6.12	9.61	3.49	49.83	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	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	0.2920 ppm	0.0000 ppm	0.0000%	2020/05/26 19:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2920	2.9203	5.57	8.97	3.40	49.79	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

Sample Type: Check Standard --> LCS From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	25.9751 ppm (PASS)	0.0000 ppm	0%	2020/05/26 19:58

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.9751	259.7515	183.26	186.59	3.33	49.76	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	25 ppmC

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.7874 ppm	0.0000 ppm	0.0000%	2020/05/26 20:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7874	7.8736	9.00	12.72	3.72	49.73	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2004152-001.01	2.3744 ppm	0.0521 ppm	2.1900%	2020/05/26 20:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4112	24.1123	20.22	23.74	3.52	49.69	10:30
2	TOC	2.3376	23.3759	19.71	23.35	3.64	49.69	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2004049-001.01	2.4565 ppm	0.0143 ppm	0.5800%	2020/05/26 20:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4666	24.6663	20.60	24.19	3.58	49.68	10:26
2	TOC	2.4464	24.4638	20.46	24.04	3.58	49.64	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2004049-002.01	1.0876 ppm	0.0312 ppm	2.8700%	2020/05/26 21:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1097	11.0968	11.22	14.75	3.53	49.65	10:27
2	TOC	1.0656	10.6555	10.92	14.41	3.49	49.67	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2004049-003.01	1.1806 ppm	0.0069 ppm	0.5800%	2020/05/26 21:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	1.1855	11.8548	11.75	15.15	3.40	49.66	10:29
2	TOC	1.1758	11.7579	11.68	15.03	3.35	49.68	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2004049-004.01	1.1141 ppm	0.0306 ppm	2.7500%	2020/05/26 22:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1357	11.3572	11.40	14.77	3.37	49.69	10:31
2	TOC	1.0925	10.9246	11.11	14.65	3.54	49.67	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2004049-005.01	0.9725 ppm	0.0475 ppm	4.8800%	2020/05/26 22:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0061	10.0610	10.51	14.08	3.58	49.72	10:33
2	TOC	0.9390	9.3897	10.04	13.47	3.42	49.74	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2004152-001.01 ms	27.7495 ppm	0.0000 ppm	0.0000%	2020/05/26 23:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.7495	277.4953	195.37	198.86	3.48	49.76	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

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)	25.6643 ppm (PASS)	0.0000 ppm	0%	2020/05/26 23:31

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.6643	256.6426	181.11	184.55	3.44	49.78	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	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)	0.2251 ppm (PASS)	0.0000 ppm	0%	2020/05/26 23:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2251	2.2512	5.26	8.85	3.59	49.79	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	0 ppmC

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	10	TOC	K2004049-006.01	0.9791 ppm	0.0062 ppm	0.6400%	2020/05/27 00:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9835	9.8353	10.35	13.88	3.53	49.81	10:27
2	TOC	0.9747	9.7470	10.29	13.73	3.44	49.84	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2004049-007.01	0.9309 ppm	0.0452 ppm	4.8600%	2020/05/27 00:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9628	9.6284	10.21	13.54	3.33	49.88	10:28
2	TOC	0.8989	8.9890	9.77	13.15	3.38	49.89	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2004049-008.01	1.9352 ppm	0.0075 ppm	0.3900%	2020/05/27 00:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9299	19.2993	16.90	20.40	3.50	49.88	10:27

2	TOC	1.9405	19.4049	16.97	20.51	3.54	49.91	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2004049-009.01	0.9432 ppm	0.0165 ppm	1.7500%	2020/05/27 01:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9549	9.5489	10.16	13.66	3.51	49.94	10:30
2	TOC	0.9316	9.3159	9.99	13.49	3.49	49.96	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2004053-001.01	1.3816 ppm	0.0478 ppm	3.4600%	2020/05/27 01:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4154	14.1535	13.34	16.79	3.45	49.96	10:27
2	TOC	1.3478	13.4780	12.87	16.28	3.41	50.03	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2004063-001.01	1.0391 ppm	0.0706 ppm	6.7900%	2020/05/27 02:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0890	10.8899	11.08	14.46	3.38	50.03	10:28
2	TOC	0.9892	9.8917	10.39	13.91	3.52	50.03	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2004126-002.01	1.0267 ppm	0.0273 ppm	2.6600%	2020/05/27 02:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0460	10.4602	10.78	14.28	3.49	50.05	10:26
2	TOC	1.0074	10.0740	10.52	13.92	3.41	50.06	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time

◆	17	TOC	K2004085-001.01	1.9372 ppm	0.0268 ppm	1.3800%	2020/05/27 03:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9561	19.5611	17.08	20.38	3.30	50.05	10:29
2	TOC	1.9182	19.1821	16.81	20.24	3.42	50.08	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2004085-002.01	1.8789 ppm	0.0126 ppm	0.6700%	2020/05/27 03:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8878	18.8783	16.60	20.01	3.40	50.09	10:29
2	TOC	1.8700	18.7003	16.48	20.00	3.52	50.11	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2004085-003.01	1.8826 ppm	0.0630 ppm	3.3500%	2020/05/27 04:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9272	19.2718	16.88	20.28	3.41	50.13	10:26
2	TOC	1.8381	18.3806	16.26	19.74	3.48	50.15	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

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)	24.5975 ppm (PASS)	0.0000 ppm	0%	2020/05/27 04:41

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.5975	245.9750	173.74	177.15	3.41	50.14	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 1

			Concentration			Min / Max				

	Pos	BAT	(ppm)	Dil	Sample ID	(% dev)	Result	Std. Dev.	RSD	Start Time
◈	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.2536 ppm (PASS)	0.0000 ppm	0%	2020/05/27 04:56

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2536	2.5362	5.46	8.82	3.37	50.16	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	0 ppmC

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	20	TOC	MB2	0.1442 ppm	0.0000 ppm	0.0000%	2020/05/27 05:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1442	1.4419	4.55	8.12	3.57	50.18	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

Sample Type: Check Standard --> LCS From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	24.8118 ppm (PASS)	0.0000 ppm	0%	2020/05/27 05:25

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.8118	248.1175	175.22	178.72	3.51	50.23	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	25 ppmC

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2004023-003.01	20.2842 ppm	0.1718 ppm	0.8500%	2020/05/27 05:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	20.1627	201.6274	142.93	146.49	3.56	50.21	10:31
2	TOC	20.4056	204.0563	144.61	148.27	3.66	50.21	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	22	TOC	K2004023-004.01 200x	1.3565 ppm	0.0799 ppm	5.8900%	2020/05/27 06:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4130	14.1304	13.32	16.79	3.46	50.24	10:28
2	TOC	1.3001	13.0006	12.54	15.96	3.42	50.24	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	23	TOC	K2004023-005.01 4x	25.0458 ppm	0.3506 ppm	1.4000%	2020/05/27 06:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	24.7979	247.9794	174.97	178.42	3.45	50.23	10:27
2	TOC	25.2937	252.9371	178.40	182.04	3.64	50.23	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	K2004023-006.01	35.7378 ppm	0.2880 ppm	0.8100%	2020/05/27 07:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	35.5342	355.3423	249.19	252.73	3.55	50.20	10:27
2	TOC	35.9415	359.4146	252.00	255.54	3.54	50.19	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2004023-007.01	13.6771 ppm	0.0236 ppm	0.1700%	2020/05/27 07:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.6604	136.6035	97.98	101.47	3.49	50.16	10:29
2	TOC	13.6938	136.9377	98.21	101.48	3.27	50.16	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	26	TOC	K2004023-008.01	8.4719 ppm	0.0754 ppm	0.8900%	2020/05/27 08:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.5252	85.2519	62.48	65.66	3.17	50.12	10:28
2	TOC	8.4186	84.1857	61.75	65.21	3.47	50.11	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2004023-009.01 200x	2.1096 ppm	0.0188 ppm	0.8900%	2020/05/27 08:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1229	21.2291	18.23	21.66	3.43	50.10	10:25
2	TOC	2.0963	20.9629	18.05	21.37	3.32	50.08	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2004023-010.01 200x	1.6397 ppm	0.0035 ppm	0.2100%	2020/05/27 08:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6422	16.4219	14.91	18.46	3.56	50.06	10:30
2	TOC	1.6373	16.3727	14.87	18.24	3.37	50.04	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

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)	24.8190 ppm (PASS)	0.0000 ppm	0%	2020/05/27 09:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8190	248.1899	175.27	178.65	3.38	50.04	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	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)	0.2412 ppm (PASS)	0.0000 ppm	0%	2020/05/27 09:39

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2412	2.4118	5.37	8.68	3.31	50.01	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	0 ppmC

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2004023-011.01 4x	23.6521 ppm	0.2381 ppm	1.0100%	2020/05/27 09:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	23.4837	234.8366	165.89	169.36	3.48	49.98	10:31
2	TOC	23.8204	238.2044	168.21	171.68	3.47	49.99	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2003957-001.01	2.7636 ppm	0.1169 ppm	4.2300%	2020/05/27 10:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8462	28.4623	23.23	26.66	3.43	49.93	10:28
2	TOC	2.6809	26.8088	22.09	25.37	3.29	49.94	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2004021-001.01	2.0644 ppm	0.0339 ppm	1.6400%	2020/05/27 10:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0883	20.8833	17.99	21.42	3.43	49.94	10:28
2	TOC	2.0404	20.4045	17.66	21.18	3.53	49.94	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K2003982-001.01 20x	25.9600 ppm	0.0772 ppm	0.3000%	2020/05/27 11:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	25.9053	259.0535	182.63	186.08	3.46	49.89	10:27
2	TOC	26.0146	260.1457	183.38	186.63	3.25	49.91	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	33	TOC	K2003982-002.01 20x	9.6013 ppm	0.0698 ppm	0.7300%	2020/05/27 11:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.6507	96.5068	70.26	73.69	3.42	49.84	10:28
2	TOC	9.5520	95.5202	69.58	73.03	3.45	49.87	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	34	TOC	K2003982-003.01 20x	3.7785 ppm	0.1119 ppm	2.9600%	2020/05/27 12:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.8576	38.5758	30.22	33.71	3.49	49.84	10:27
2	TOC	3.6993	36.9932	29.13	32.56	3.44	49.92	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	35	TOC	K2003982-003.01 ms 200x	25.6933 ppm	0.0000 ppm	0.0000%	2020/05/27 12:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	25.6933	256.9327	181.16	184.56	3.40	50.02	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	RB	0.2606 ppm	0.0000 ppm	0.0000%	2020/05/27 12:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2606	2.6064	5.36	8.81	3.46	50.10	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2003982-004.01	11.1804 ppm	0.0149 ppm	0.1300%	2020/05/27 13:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	11.1698	111.6980	80.77	84.28	3.51	50.24	10:26
2	TOC	11.1909	111.9092	80.91	84.47	3.56	50.19	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	K2003982-005.01	1.5937 ppm	0.1035 ppm	6.5000%	2020/05/27 13:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6669	16.6693	15.08	18.59	3.52	50.15	10:26
2	TOC	1.5205	15.2052	14.06	17.57	3.50	50.20	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

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)	24.9852 ppm (PASS)	0.0000 ppm	0%	2020/05/27 14:08

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9852	249.8521	176.42	179.76	3.34	50.14	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	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)	0.2309 ppm (PASS)	0.0000 ppm	0%	2020/05/27 14:22

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2309	2.3091	5.30	8.83	3.53	50.08	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D

Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	0 ppmC

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.1736 ppm	0.0000 ppm	0.0000%	2020/05/27 14:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1736	1.7355	4.75	8.20	3.44	50.09	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

Sample Type: Check Standard --> LCS From Schedule Version 1

	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)	24.7935 ppm (PASS)	0.0000 ppm	0%	2020/05/27 14:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.7935	247.9352	175.09	178.70	3.61	50.06	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	25 ppmC

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	40	TOC	K2003982-006.01 20x	1.8317 ppm	0.0581 ppm	3.1700%	2020/05/27 15:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8728	18.7278	16.50	20.20	3.70	50.01	10:24
2	TOC	1.7906	17.9061	15.93	19.49	3.56	50.05	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	41	TOC	K2003982-007.01	8.1637 ppm	0.1124 ppm	1.3800%	2020/05/27 15:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	8.0843	80.8425	59.44	62.84	3.40	50.01	10:28
2	TOC	8.2432	82.4324	60.54	63.96	3.42	49.97	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	42	TOC	K2003982-008.01	8.6210 ppm	0.1060 ppm	1.2300%	2020/05/27 16:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.5460	85.4602	62.63	66.05	3.42	50.00	10:26
2	TOC	8.6959	86.9589	63.66	66.99	3.32	50.00	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	43	TOC	K2003982-009.01	2.5802 ppm	0.2692 ppm	10.4300%	2020/05/27 16:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7706	27.7057	22.71	26.17	3.46	49.95	10:28
2	TOC	2.3898	23.8981	20.07	23.47	3.40	49.95	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	44	TOC	K2003982-010.01	2.2739 ppm	0.0447 ppm	1.9700%	2020/05/27 16:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3055	23.0548	19.49	23.01	3.52	49.92	10:29
2	TOC	2.2423	22.4226	19.05	22.47	3.42	49.87	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	45	TOC	K2003982-011.01	0.8789 ppm	0.0535 ppm	6.0900%	2020/05/27 17:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9167	9.1669	9.89	13.30	3.41	49.88	10:25
2	TOC	0.8410	8.4103	9.37	12.93	3.56	49.90	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	46	TOC	K2003982-012.01	0.5657 ppm	0.0427 ppm	7.5400%	2020/05/27 17:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5958	5.9583	7.67	11.08	3.41	49.83	10:29
2	TOC	0.5355	5.3550	7.26	10.79	3.53	49.82	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	47	TOC	K2003982-013.01	0.5645 ppm	0.0220 ppm	3.9000%	2020/05/27 18:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5490	5.4896	7.35	10.82	3.47	49.86	10:27
2	TOC	0.5801	5.8006	7.56	10.93	3.37	49.85	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

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)	25.2565 ppm (PASS)	0.0000 ppm	0%	2020/05/27 18:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.2565	252.5645	178.29	181.78	3.49	49.84	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	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)	0.2225 ppm (PASS)	0.0000 ppm	0%	2020/05/27 19:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2225	2.2252	5.24	8.65	3.41	49.88	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D

Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	0 ppmC

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	48	TOC	K2003982-014.01 20x	1.4737 ppm	0.0360 ppm	2.4400%	2020/05/27 19:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4482	14.4819	13.56	17.06	3.50	49.91	10:27
2	TOC	1.4991	14.9911	13.92	17.39	3.47	49.86	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	49	TOC	K2003982-015.01	1.1780 ppm	0.0207 ppm	1.7500%	2020/05/27 19:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1926	11.9257	11.80	15.28	3.48	49.92	10:25
2	TOC	1.1633	11.6335	11.60	15.03	3.44	49.93	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	50	TOC	K2003949-001.02	1.4622 ppm	0.0427 ppm	2.9200%	2020/05/27 20:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4923	14.9232	13.87	17.21	3.34	49.87	10:29
2	TOC	1.4320	14.3199	13.45	16.70	3.25	49.94	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	51	TOC	K2003949-002.02	1.2536 ppm	0.0155 ppm	1.2400%	2020/05/27 20:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2646	12.6461	12.30	15.69	3.40	49.86	10:25
2	TOC	1.2426	12.4262	12.14	15.63	3.48	49.89	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◆	52	TOC	K2003949-003.02	1.3372 ppm	0.0080 ppm	0.6000%	2020/05/27 21:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3316	13.3159	12.76	16.21	3.45	49.86	10:28
2	TOC	1.3429	13.4288	12.84	16.35	3.51	49.83	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	53	TOC	K2003949-004.02	0.7163 ppm	0.0377 ppm	5.2700%	2020/05/27 21:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7430	7.4295	8.69	12.23	3.54	49.77	10:26
2	TOC	0.6896	6.8957	8.32	12.02	3.70	49.74	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	54	TOC	K2003949-005.02	1.5827 ppm	0.0341 ppm	2.1500%	2020/05/27 22:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6067	16.0674	14.66	18.23	3.57	49.72	10:26
2	TOC	1.5586	15.5857	14.33	17.91	3.58	49.71	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	55	TOC	K2003949-006.02	0.6853 ppm	0.0157 ppm	2.2800%	2020/05/27 22:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6964	6.9637	8.37	11.97	3.60	49.69	10:28
2	TOC	0.6742	6.7424	8.22	11.71	3.49	49.68	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	56	TOC	K2003949-007.02	1.2762 ppm	0.0115 ppm	0.9000%	2020/05/27 23:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2843	12.8429	12.43	15.93	3.50	49.68	10:27
2	TOC	1.2681	12.6808	12.32	15.90	3.58	49.68	10:25

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	57	TOC	K2003949-007.02 ms	27.5087 ppm	0.0000 ppm	0.0000%	2020/05/27 23:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.5087	275.0867	193.71	197.32	3.61	49.68	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

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)	25.0377 ppm (PASS)	0.0000 ppm	0%	2020/05/27 23:48

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0377	250.3772	176.78	180.24	3.46	49.69	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	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)	0.1871 ppm (PASS)	0.0000 ppm	0%	2020/05/28 00:02

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.1871	1.8708	5.00	8.58	3.58	49.70	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	0 ppmC

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	58	TOC	MB4	0.1669 ppm	0.0000 ppm	0.0000%	2020/05/28 00:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1669	1.6690	4.71	8.10	3.39	49.70	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

Sample Type: Check Standard --> LCS From Schedule Version 1

	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)	24.7631 ppm (PASS)	0.0000 ppm	0%	2020/05/28 00:32

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.7631	247.6315	174.88	178.21	3.33	49.71	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	25 ppmC

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	59	TOC	K2003949-008.02	1.3803 ppm	0.0787 ppm	5.7000%	2020/05/28 00:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4359	14.3590	13.48	17.10	3.62	49.71	10:25
2	TOC	1.3246	13.2465	12.71	16.28	3.57	49.72	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	60	TOC	K2003949-009.02	0.1704 ppm	0.0136 ppm	7.9800%	2020/05/28 01:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1608	1.6082	4.67	8.32	3.65	49.72	10:27
2	TOC	0.1801	1.8006	4.80	8.37	3.57	49.73	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	61	TOC	K2003998-001.02	1.3879 ppm	0.0315 ppm	2.2700%	2020/05/28 01:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4101	14.1015	13.30	16.91	3.60	49.75	10:26
2	TOC	1.3656	13.6559	12.99	16.61	3.61	49.80	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	62	TOC	K2003998-002.02	1.3799 ppm	0.0491 ppm	3.5600%	2020/05/28 02:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4146	14.1463	13.33	16.74	3.41	49.75	10:27
2	TOC	1.3452	13.4519	12.85	16.34	3.49	49.76	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	63	TOC	K2003998-003.02	2.6014 ppm	0.0341 ppm	1.3100%	2020/05/28 02:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6255	26.2547	21.70	25.16	3.45	49.78	10:26
2	TOC	2.5773	25.7730	21.37	24.89	3.52	49.78	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	64	TOC	K2003998-004.02	0.9526 ppm	0.0185 ppm	1.9400%	2020/05/28 03:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9657	9.6574	10.23	13.60	3.37	49.79	10:28
2	TOC	0.9396	9.3955	10.05	13.66	3.61	49.79	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	65	TOC	K2003998-005.02	1.2891 ppm	0.0042 ppm	0.3300%	2020/05/28 03:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2921	12.9210	12.49	16.11	3.63	49.80	10:27
2	TOC	1.2862	12.8617	12.44	15.84	3.39	49.81	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC)	CAS_salt_010711	CAS_salt_010711

(v1390) (v4) (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	66	TOC	K2003876-002.02 doc	4.1450 ppm	0.0131 ppm	0.3200%	2020/05/28 04:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.1543	41.5429	32.27	35.65	3.38	49.81	10:30
2	TOC	4.1358	41.3577	32.14	35.71	3.56	49.81	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

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)	24.2139 ppm (PASS)	0.0000 ppm	0%	2020/05/28 04:32

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.2139	242.1385	171.08	174.64	3.55	49.83	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	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)	0.1918 ppm (PASS)	0.0000 ppm	0%	2020/05/28 04:46

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.1918	1.9185	5.03	8.54	3.51	49.84	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	0 ppmC

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	67	TOC	K2003876-004.02 doc	3.0624 ppm	0.0212 ppm	0.6900%	2020/05/28 05:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0774	30.7741	24.83	28.40	3.57	49.83	10:28
2	TOC	3.0475	30.4746	24.62	28.07	3.45	49.84	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	68	TOC	K2003932-003.01 doc	33.7890 ppm	0.0677 ppm	0.2000%	2020/05/28 05:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	33.7411	337.4111	236.79	240.10	3.31	49.83	10:25
2	TOC	33.8369	338.3688	237.45	240.92	3.46	49.85	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	69	TOC	K2003932-003.01 ms doc 4x	34.4854 ppm	0.0000 ppm	0.0000%	2020/05/28 05:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	34.4854	344.8541	241.94	245.50	3.56	49.87	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	70	TOC	K2004085-004.01	2.0790 ppm	0.0958 ppm	4.6100%	2020/05/28 06:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1468	21.4678	18.39	21.79	3.39	49.88	10:25
2	TOC	2.0112	20.1123	17.46	20.87	3.41	49.90	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC) (v1390)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	71	TOC	K2004085-005.01	1.0650 ppm	0.0719 ppm	6.7500%	2020/05/28 06:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1159	11.1590	11.27	14.60	3.33	49.90	10:28
2	TOC	1.0142	10.1420	10.56	14.03	3.46	49.88	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5543 (IC)	CAS_salt_010711	CAS_salt_010711

(v1390) (v4) (v36)

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)	24.3093 ppm (PASS)	0.0000 ppm	0%	2020/05/28 07:08

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.3093	243.0933	171.74	175.10	3.36	49.88	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	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)	0.2393 ppm (PASS)	0.0000 ppm	0%	2020/05/28 07:23

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2393	2.3930	5.36	8.78	3.42	49.87	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)	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
v1389	1.1383	0.8660	0.0000	0.0000	0.0000	2020/05/26 13:05	Fusion1 (Fusion1)
v1390	1.0953	0.6790	0.0000	0.0000	0.0000	2020/05/26 17:19	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v35
Ver Creation: 2020/05/09 16:50
Comment:
Operator: Fusion1 (Fusion1)
Basic Analysis Type: TOC
Calibration curve formula: TOC: y = 7.105x + 6.969
r^2 value: TOC: r^2 = 0.99936

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	6.6220	0.0000		2020/05/09 15:23
0.500 ppm	9.3820	0.5000		2020/05/09 15:38
1.0 ppm	12.1910	1.0000		2020/05/09 15:52
5.0 ppm	39.9300	5.0000		2020/05/09 16:06
10 ppm	81.4900	10.0000		2020/05/09 16:20
25 ppm	190.3090	25.0000		2020/05/09 16:35
50 ppm	358.9940	50.0000		2020/05/09 16:49

Name: CAS_salt_010711 (TOC)

Version: v36
Ver Creation: 2020/05/26 19:14
Comment:
Operator: Fusion1 (Fusion1)
Basic Analysis Type: TOC
Calibration curve formula: TOC: y = 6.913x + 3.706
r^2 value: TOC: r^2 = 0.99884

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	5.2860	0.0000		2020/05/26 17:47
0.500 ppm	7.7280	0.5000		2020/05/26 18:02
1.0 ppm	9.7320	1.0000		2020/05/26 18:16
5.0 ppm	30.7290	5.0000		2020/05/26 18:30
10 ppm	75.9880	10.0000		2020/05/26 18:45
25 ppm	182.4960	25.0000		2020/05/26 18:59
50 ppm	346.4790	50.0000		2020/05/26 19:13

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

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml

AcidVolume	0.5 ml	ICSamplePrimeVolume	2.0 ml
ReagentVolume	2.0 ml	ICSpargeRinseVolume	12.0 ml
UVReactorPrerinse	Off	BaselineStabilizeTime	0.70 min
UVReactorPrerinseVolume	5.0	DetectorPressureFlow	150 ml/min
NumberOfUVReactorPrerinses	1	SyringeSpeedWaste	10
ICSpargeTime	1.00 mins	SyringeSpeedAcid	7
DetectorSweepFlow	500 ml/min	SyringeSpeedReagent	7
PreSpargeTime	2.00 mins	SyringeSpeedDIWater	7
SystemFlow	500 ml/min	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	2020/05/28 07:38

ALS Environmental

StarLIMS Run: 681225, 680711, 680712, 680713

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 11-GEN-05-82C 50 ppm LCS: 11-GEN-05-79J 25.0 ppm

ICAL Date: 5/9/20

ICAL ID: 19-GEN-19-J->20-B

ICS ID: 19-GEN-8-4-G

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-08-19-E

21 % H3PO4: 19-GEN-08-19-D

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By:	[signature]	Date Analyzed:	5/26/20
Reviewed By:	[signature]	Date Reviewed:	5/28/20

HS20050737 WC NIT_AMMN_W_ISE

ALS WO# HS20050737

NH3-AMM-W_ISE/350.3

ALS Laboratory Group

Logbook **31105**

Ion Selective Electrode Logbook

Analyst: YP			Date: 5/21/20 11:00 AM
Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F			
Probe Calibration Date: 5/21/20	Cal Std ID: 3131052603 - 07		Probe ID: X01-11806

Std Level		mV	Conc., mg/L:
STD 1 (mg/L):	0.2	130.8	0.199
STD 2 (mg/L):	1	90.0	1.001
STD 3 (mg/L):	5	49.1	4.983

Sodium Thiosulfate ID:		
Std Level	mV	Conc., mg/L:
STD 4 (mg/L): 10	32.6	10.085
STD 5 (mg/L): 50	-9.3	50.210

LSC / MS Spike ID: 3400601709
ICV Cal STD ID: 3181056 02
DPD Reagent ID: 3100601821
ICAL Date & Slope: 101.9%-60.0 mV

WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Chlorine Check (+/-)	Comments
ICV		50ml	50ml		10.835			
CCB					0.018			
MBLK					0.016			
LCS					10.611			
HS2005059O-01					0.025		-ve	
590-02					0.021		-ve	
592-01					0.014		-ve	
592-02					0.011		-ve	
592-02MS					11.988		-ve	
592-02MSD					11.713		-ve	
593-01					0.015		-ve	
593-02					0.014		-ve	
CCV					10.837			
CCB					0.019			
HS2005045H-01					10.570		-ve	
737-01					10.678		-ve	
657-01					0.078		+ve	Rechecked
659-01					29.686		+ve	Rechecked.
CCV					10.909			
CCB					0.020			

Batch ID:	Reported By	Reviewed By:
361928/361930	YP	KL

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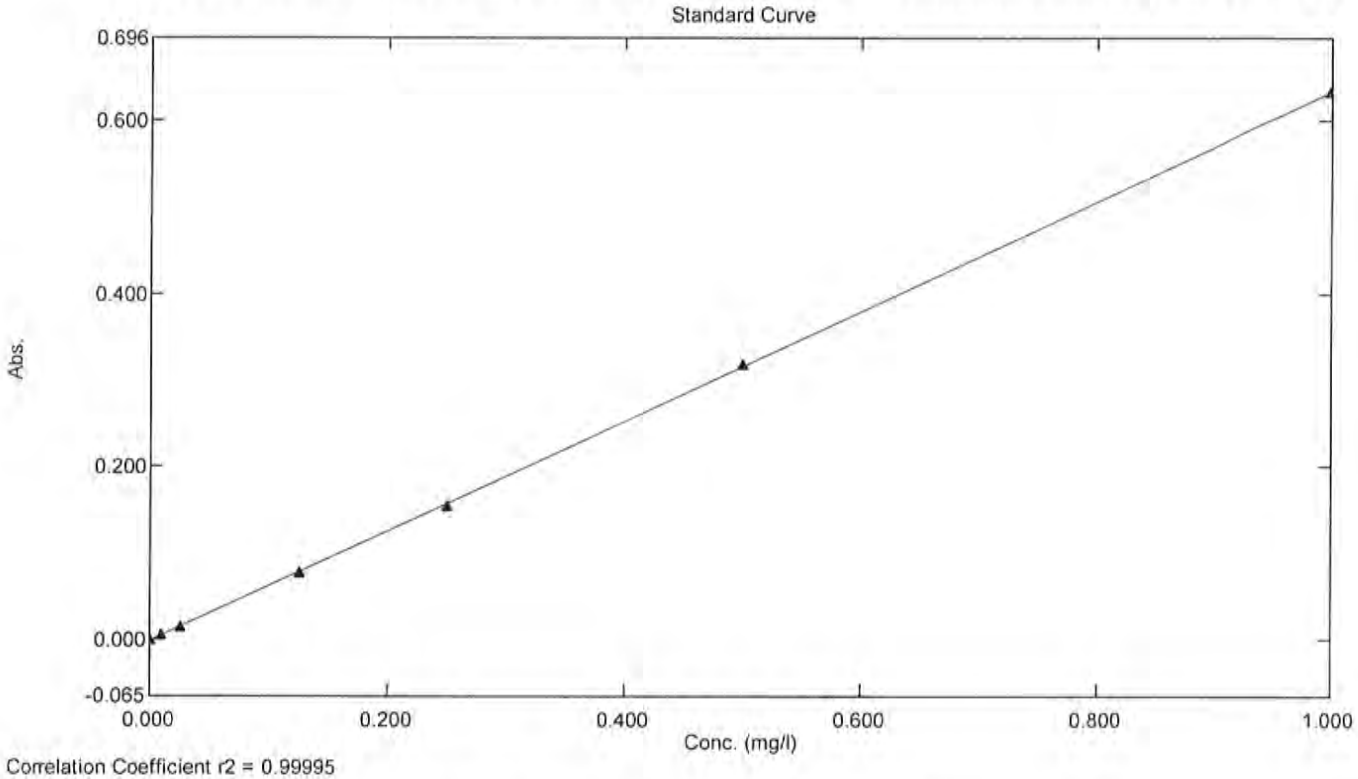
HS20050737 WC P_ORTHO

ALS WO# HS20050737

Standard Table Report

05/29/2020 10:30:40 AM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\05202020_PORTHO.pho..



Correlation Coefficient r2 = 0.99995

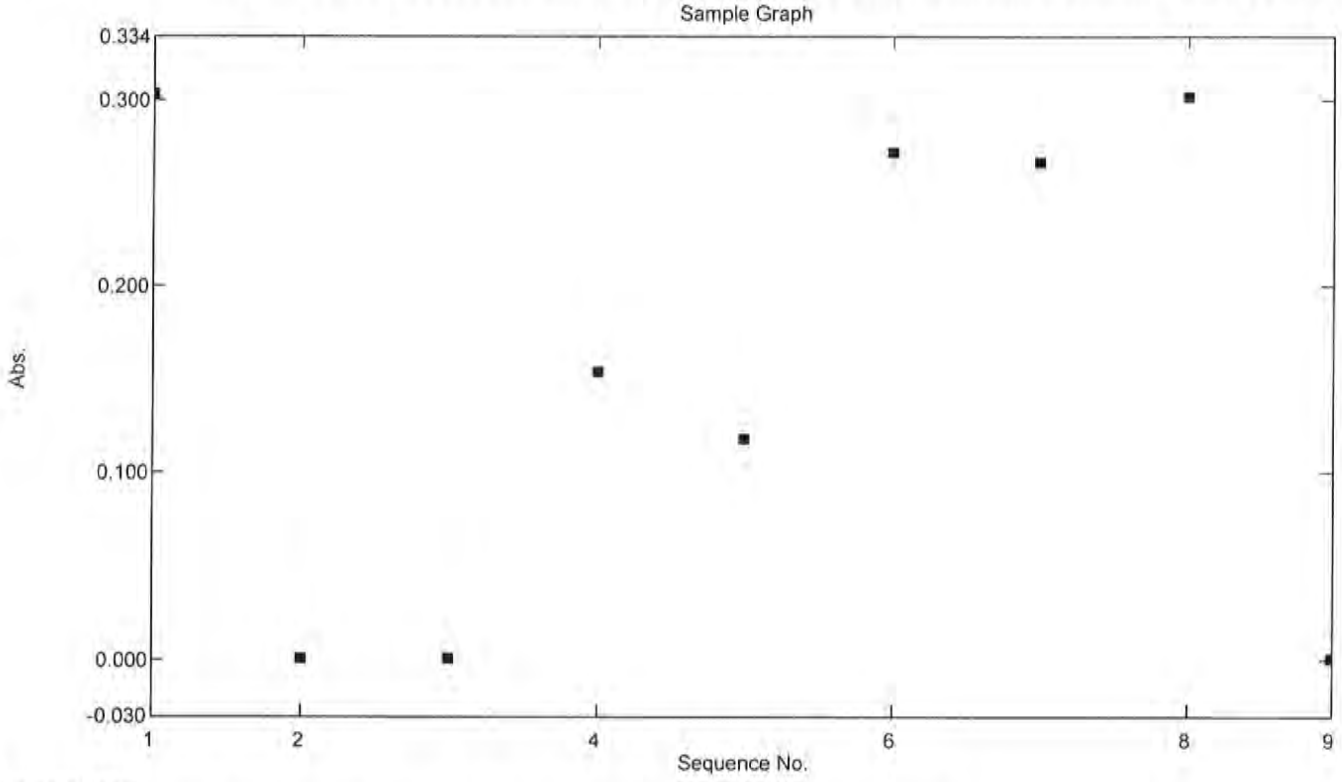
Standard Table

	Sample ID	Type	Ex	Conc	WL880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	-0.001	1.000	
2	STD2	Standard		0.010	0.006	1.000	
3	STD3	Standard		0.025	0.013	1.000	
4	STD4	Standard		0.125	0.077	1.000	
5	STD5	Standard		0.250	0.155	1.000	
6	STD6	Standard		0.500	0.319	1.000	
7	STD7	Standard		1.000	0.633	1.000	
8							

Sample Table Report

05/29/2020 10:30:43 AM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\05202020_PORTHO.pho..



Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.480	0.304	313105406 WC-14
2	CCB	Unknown		0.003	0.000	
3	MBLK	Unknown		0.003	0.000	
4	LCS	Unknown		0.245	0.154	313105405 WC-14
5	20050737.01	Unknown		0.189	0.118	PF:10X,03:14PM
6	20050737.01MS	Unknown		0.430	0.271	PF:10X,03:14PM
7	20050737.01MSD	Unknown		0.422	0.266	PF:10X,03:14PM
8	CCV2	Unknown		0.478	0.302	
9	CCB2	Unknown		0.004	0.001	C-313105504 UV-11
10						

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WorkOrder: HS20050757

Groundwater Treatment Plant Quarterly Effluent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

16-Jul-2020

ALS Environmental
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HS20050757 Wet Chem Raw Data (IC)

HS20050757 Wet Chem Raw Data (COD)

HS20050757 Wet Chem Raw Data (O&G)

HS20050757 Groundwater Treatment Plant Quarterly Effluent Samples Final

ALS WO# HS20050757

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June 05, 2020

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS20050757**

Laboratory Results for: **Groundwater Treatment Plant Quarterly Effluent Samples**

Dear Marcia,

ALS Environmental received 3 sample(s) on May 20, 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: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS20050757

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20050757-01	LH18/24-SP650_051920	Water		19-May-2020 14:00	20-May-2020 09:25	☐
HS20050757-02	LH18/24-SP650_051920_BIX	Water		19-May-2020 14:00	20-May-2020 09:25	☐
HS20050757-03	Trip Blank	Water		19-May-2020 14:00	20-May-2020 09:25	☐

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS20050757

Work Order Comments

• The analysis for Perchlorate was subcontracted to ALS Salt Lake City, UT. Final report attached.

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 153733

Sample ID: LCSD-153733

• The RPD between the LCS and LCSD was outside of the control limit.

Sample ID: LH18/24-SP650_051920 (HS20050757-01)

• The surrogate recoveries could not be determined due to dilution below the calibration range.

Sample ID: MBLK-153733

• High %Recovery for surrogate 4-Terphenyl-d14, it is not associated with target compound.

GCMS Volatiles by Method SW8260

Batch ID: R362012

Sample ID: HS20050754-01MS

• MS and MSD are for an unrelated sample

Batch ID: R362091

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

Metals by Method SW7470

Batch ID: 153928

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

Metals by Method SW6020

Batch ID: 153795

Sample ID: HS20050797-01MS

• MS/MSD and DUPs are for an unrelated sample

WetChemistry by Method SW9056

Batch ID: R362252

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

WetChemistry by Method E410.4

Batch ID: R362235

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

WetChemistry by Method E1664A

Batch ID: R362159

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS20050757

CASE NARRATIVE

WetChemistry by Method E1664A

Batch ID: R362159

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

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20050757
Sample ID: LH18/24-SP650_051920 Lab ID:HS20050757-01
Collection Date: 19-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	22-May-2020 13:36
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	22-May-2020 13:36
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	22-May-2020 13:36
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	22-May-2020 13:36
1,2-Dichloroethane	**0.91**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	22-May-2020 13:36
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	22-May-2020 13:36
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	22-May-2020 13:36
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	22-May-2020 13:36
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	22-May-2020 13:36
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	22-May-2020 13:36
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	22-May-2020 13:36
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	22-May-2020 13:36
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36

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

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20050757
Sample ID: LH18/24-SP650_051920 Lab ID:HS20050757-01
Collection Date: 19-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
cis-1,2-Dichloroethene	**20**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-May-2020 13:36
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	22-May-2020 13:36
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	22-May-2020 13:36
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	22-May-2020 13:36
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-May-2020 13:36
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
Trichloroethene	**4.0**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-May-2020 13:36
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
Surr: 1,2-Dichloroethane-d4	*91.3*			**0**	*81-118*	*%REC*	*1*	*22-May-2020 13:36*
Surr: 4-Bromofluorobenzene	*96.8*			**0**	*85-114*	*%REC*	*1*	*22-May-2020 13:36*
Surr: Dibromofluoromethane	*91.9*			**0**	*80-119*	*%REC*	*1*	*22-May-2020 13:36*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*22-May-2020 13:36*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 21-May-2020		Analyst: ACN
1,4-Dioxane	**33**		**1.0**	**1.0**	**1.0**	**ug/L**	100	29-May-2020 15:15
Surr: 2-Fluorobiphenyl	*0*	*S*		0	*40-140*	*%REC*	*100*	*29-May-2020 15:15*
Surr: 4-Terphenyl-d14	*0*	*S*		0	*40-140*	*%REC*	*100*	*29-May-2020 15:15*
Surr: Nitrobenzene-d5	*0*	*S*		0	*40-140*	*%REC*	*100*	*29-May-2020 15:15*

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

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20050757
Sample ID: LH18/24-SP650_051920 Lab ID:HS20050757-01
Collection Date: 19-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 26-May-2020		Analyst: JHD
Aluminum	**0.0440**		**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	28-May-2020 16:25
Antimony	**0.000560**	J	**0.000400**	**0.000500**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Arsenic	**0.000722**	J	**0.000400**	**0.000500**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Barium	**0.0980**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Beryllium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-May-2020 16:25
Cadmium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-May-2020 16:25
Calcium	**8.42**		**0.0340**	**0.0500**	**0.500**	**mg/L**	1	28-May-2020 16:25
Chromium	**0.00262**	J	**0.000400**	**0.000500**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Cobalt	**0.00148**	J	**0.000100**	**0.000500**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Iron	**0.248**		**0.0120**	**0.0500**	**0.200**	**mg/L**	1	28-May-2020 16:25
Lead	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	28-May-2020 16:25
Magnesium	**11.9**		**0.0100**	**0.0500**	**0.200**	**mg/L**	1	28-May-2020 16:25
Manganese	**0.0987**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Nickel	**0.00369**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Potassium	**1.48**		**0.0180**	**0.0500**	**0.200**	**mg/L**	1	28-May-2020 16:25
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	28-May-2020 16:25
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	28-May-2020 16:25
Sodium	**320**		**0.140**	**0.500**	**2.00**	**mg/L**	10	28-May-2020 17:20
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-May-2020 16:25
Vanadium	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	28-May-2020 16:25
Zinc	**0.0341**		**0.00200**	**0.00250**	**0.00500**	**mg/L**	1	28-May-2020 16:25
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 28-May-2020		Analyst: FO
Mercury	**0.0000410**	J	**0.0000300**	**0.000100**	**0.000200**	**mg/L**	1	28-May-2020 16:26
OIL & GREASE (HEM) BY E1664A		**Method:E1664A**						Analyst: KAH
Oil and Grease	**0.612**	J	**0.610**	**2.00**	**2.00**	**mg/L**	1	26-May-2020 14:10
CHEMICAL OXYGEN DEMAND BY E410.4		**Method:E410.4**						Analyst: TH
Chemical Oxygen Demand	**17.0**		**5.00**	**15.0**	**15.0**	**mg/L**	1	27-May-2020 15:00
ANIONS BY SW9056A		**Method:SW9056**						Analyst: JHD
Chloride	**326**		**2.00**	**5.00**	**5.00**	**mg/L**	10	27-May-2020 06:46
Sulfate	**32.5**		**0.200**	**0.500**	**0.500**	**mg/L**	1	27-May-2020 17:57

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

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20050757

Sample ID: LH18/24-SP650_051920_BIX Lab ID:HS20050757-02

Collection Date: 19-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-Jun-2020 10:54

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

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20050757

Sample ID: Trip Blank Lab ID:HS20050757-03

Collection Date: 19-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	21-May-2020 21:03
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	21-May-2020 21:03
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	21-May-2020 21:03
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	21-May-2020 21:03
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	21-May-2020 21:03
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	21-May-2020 21:03
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	21-May-2020 21:03
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	21-May-2020 21:03
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	21-May-2020 21:03
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	21-May-2020 21:03
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	21-May-2020 21:03
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03

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

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20050757
Sample ID: Trip Blank Lab ID:HS20050757-03
Collection Date: 19-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	21-May-2020 21:03
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	21-May-2020 21:03
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	21-May-2020 21:03
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	21-May-2020 21:03
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Surr: 1,2-Dichloroethane-d4	*88.9*			**0**	*81-118*	*%REC*	*1*	*21-May-2020 21:03*
Surr: 4-Bromofluorobenzene	*96.6*			**0**	*85-114*	*%REC*	*1*	*21-May-2020 21:03*
Surr: Dibromofluoromethane	*89.5*			**0**	*80-119*	*%REC*	*1*	*21-May-2020 21:03*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*21-May-2020 21:03*

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

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Batch ID: 153733 **Start Date:** 21 May 2020 09:30 **End Date:** 21 May 2020 13:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20050757-01	1	1000 (mL)	1 (mL)	0.001

Batch ID: 153795 **Start Date:** 26 May 2020 09:04 **End Date:** 26 May 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20050757-01		10 (mL)	10 (mL)	1

Batch ID: 153928 **Start Date:** 28 May 2020 11:30 **End Date:** 28 May 2020 13:30
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20050757-01		10 (mL)	10 (mL)	1

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 153733 (0)	**Test Name :** SEMIVOLATILES SIM				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00		21 May 2020 14:52	29 May 2020 15:15	100
Batch ID: 153795 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00		26 May 2020 13:00	28 May 2020 17:20	10
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00		26 May 2020 13:00	28 May 2020 16:25	1
Batch ID: 153928 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00		28 May 2020 11:30	28 May 2020 16:26	1
Batch ID: R362012 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20050757-03	Trip Blank	19 May 2020 14:00			21 May 2020 21:03	1
Batch ID: R362091 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00			22 May 2020 13:36	1
Batch ID: R362159 (0)	**Test Name :** OIL & GREASE (HEM) BY E1664A				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00			26 May 2020 14:10	1
Batch ID: R362235 (0)	**Test Name :** CHEMICAL OXYGEN DEMAND BY E410.4				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00			27 May 2020 15:00	1
Batch ID: R362252 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00			27 May 2020 17:57	1
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00			27 May 2020 06:46	10
Batch ID: R362710 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20050757-02	LH18/24-SP650_051920_BIX	19 May 2020 14:00			05 Jun 2020 10:54	1

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153795 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-153795** Units: **mg/L** Analysis Date: **28-May-2020 16:06**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5599970** PrepDate: **26-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.005208	0.0100								J
Antimony	0.000500	0.00500								U
Arsenic	0.000500	0.00500								U
Barium	0.00250	0.00500								U
Beryllium	0.000500	0.00200								U
Cadmium	0.000500	0.00200								U
Calcium	0.0500	0.500								U
Chromium	0.000500	0.00500								U
Cobalt	0.000500	0.00500								U
Iron	0.0500	0.200								U
Lead	0.00100	0.00500								U
Magnesium	0.01854	0.200								J
Manganese	0.00250	0.00500								U
Nickel	0.00100	0.00500								U
Potassium	0.0500	0.200								U
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U
Sodium	0.0500	0.200								U
Thallium	0.000500	0.00200								U
Vanadium	0.00100	0.00500								U
Zinc	0.00250	0.00500								U

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153795 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

LCS Sample ID: **LCS-153795** Units: **mg/L** Analysis Date: **28-May-2020 16:08**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5599971** PrepDate: **26-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1003	0.0100	0.1	0	100	84 - 117				
Antimony	0.04695	0.00500	0.05	0	93.9	85 - 117				
Arsenic	0.04829	0.00500	0.05	0	96.6	84 - 116				
Barium	0.04737	0.00500	0.05	0	94.7	86 - 114				
Beryllium	0.04531	0.00200	0.05	0	90.6	83 - 121				
Cadmium	0.04857	0.00200	0.05	0	97.1	87 - 115				
Calcium	4.746	0.500	5	0	94.9	87 - 118				
Chromium	0.04745	0.00500	0.05	0	94.9	85 - 116				
Cobalt	0.04571	0.00500	0.05	0	91.4	86 - 115				
Iron	4.925	0.200	5	0	98.5	87 - 118				
Lead	0.04605	0.00500	0.05	0	92.1	88 - 115				
Magnesium	5.048	0.200	5	0	101	83 - 118				
Manganese	0.04727	0.00500	0.05	0	94.5	87 - 115				
Nickel	0.04941	0.00500	0.05	0	98.8	85 - 117				
Potassium	5.074	0.200	5	0	101	87 - 115				
Selenium	0.04922	0.00500	0.05	0	98.4	80 - 120				
Silver	0.04657	0.00500	0.05	0	93.1	85 - 116				
Sodium	4.934	0.200	5	0	98.7	85 - 117				
Thallium	0.04405	0.00200	0.05	0	88.1	82 - 116				
Vanadium	0.04727	0.00500	0.05	0	94.5	86 - 115				
Zinc	0.04992	0.00500	0.05	0	99.8	83 - 119				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153795 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MS Sample ID: **HS20050797-01MS** Units: **mg/L** Analysis Date: **28-May-2020 16:15**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5599974** PrepDate: **26-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09461	0.0100	0.1	0.007035	87.6	84 - 117				
Antimony	0.04548	0.00500	0.05	0.000709	89.5	85 - 117				
Arsenic	0.05415	0.00500	0.05	0.009884	88.5	84 - 116				
Barium	0.6695	0.00500	0.05	0.7122	-85.2	86 - 114				SO
Beryllium	0.043	0.00200	0.05	0.000011	86.0	83 - 121				
Cadmium	0.04612	0.00200	0.05	0.000041	92.2	87 - 115				
Calcium	111.4	0.500	5	122.8	-228	87 - 118				SO
Chromium	0.04575	0.00500	0.05	0.000891	89.7	85 - 116				
Cobalt	0.04339	0.00500	0.05	0.000834	85.1	86 - 115				S
Iron	19.39	0.200	5	17.24	42.9	87 - 118				S
Lead	0.04465	0.00500	0.05	0.000215	88.9	88 - 115				
Magnesium	23.14	0.200	5	21.57	31.5	83 - 118				SO
Manganese	7.972	0.00500	0.05	9.28	-2620	87 - 115				SEO
Nickel	0.04654	0.00500	0.05	0.001935	89.2	85 - 117				
Potassium	9.189	0.200	5	5.307	77.6	87 - 115				S
Selenium	0.04755	0.00500	0.05	0.000192	94.7	80 - 120				
Silver	0.04339	0.00500	0.05	0.00001	86.8	85 - 116				
Sodium	74.78	0.200	5	81.69	-138	85 - 117				SO
Thallium	0.0445	0.00200	0.05	0.000445	88.1	82 - 116				
Vanadium	0.0454	0.00500	0.05	0.000098	90.6	86 - 115				
Zinc	0.0479	0.00500	0.05	0.001604	92.6	83 - 119				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153795 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MSD Sample ID: **HS20050797-01MSD** Units: **mg/L** Analysis Date: **28-May-2020 16:18**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5599975** PrepDate: **26-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09744	0.0100	0.1	0.007035	90.4	84 - 117	0.09461	2.95	20	
Antimony	0.04694	0.00500	0.05	0.000709	92.5	85 - 117	0.04548	3.18	20	
Arsenic	0.05668	0.00500	0.05	0.009884	93.6	84 - 116	0.05415	4.55	20	
Barium	0.6657	0.00500	0.05	0.7122	-92.9	86 - 114	0.6695	0.576	20	SO
Beryllium	0.04482	0.00200	0.05	0.000011	89.6	83 - 121	0.043	4.16	20	
Cadmium	0.04818	0.00200	0.05	0.000041	96.3	87 - 115	0.04612	4.38	20	
Calcium	115.7	0.500	5	122.8	-142	87 - 118	111.4	3.8	20	SO
Chromium	0.04647	0.00500	0.05	0.000891	91.2	85 - 116	0.04575	1.55	20	
Cobalt	0.04512	0.00500	0.05	0.000834	88.6	86 - 115	0.04339	3.92	20	
Iron	20.18	0.200	5	17.24	58.7	87 - 118	19.39	3.99	20	S
Lead	0.0454	0.00500	0.05	0.000215	90.4	88 - 115	0.04465	1.66	20	
Magnesium	23.69	0.200	5	21.57	42.4	83 - 118	23.14	2.34	20	SO
Manganese	8.319	0.00500	0.05	9.28	-1920	87 - 115	7.972	4.27	20	SEO
Nickel	0.0475	0.00500	0.05	0.001935	91.1	85 - 117	0.04654	2.05	20	
Potassium	9.373	0.200	5	5.307	81.3	87 - 115	9.189	1.99	20	S
Selenium	0.04925	0.00500	0.05	0.000192	98.1	80 - 120	0.04755	3.51	20	
Silver	0.04536	0.00500	0.05	0.00001	90.7	85 - 116	0.04339	4.44	20	
Sodium	76.65	0.200	5	81.69	-101	85 - 117	74.78	2.46	20	SO
Thallium	0.04489	0.00200	0.05	0.000445	88.9	82 - 116	0.0445	0.87	20	
Vanadium	0.04643	0.00500	0.05	0.000098	92.7	86 - 115	0.0454	2.24	20	
Zinc	0.04892	0.00500	0.05	0.001604	94.6	83 - 119	0.0479	2.1	20	

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153795 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

PDS Sample ID: **HS20050797-01PDS** Units: **mg/L** Analysis Date: **28-May-2020 16:20**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5599976** PrepDate: **26-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09986	0.0100	0.1	0.007035	92.8	80 - 120				
Antimony	0.09843	0.00500	0.1	0.000709	97.7	80 - 120				
Arsenic	0.1077	0.00500	0.1	0.009884	97.8	80 - 120				
Barium	0.7337	0.00500	0.1	0.7122	21.5	80 - 120				SO
Beryllium	0.09242	0.00200	0.1	0.000011	92.4	80 - 120				
Cadmium	0.09639	0.00200	0.1	0.000041	96.3	80 - 120				
Calcium	125	0.500	10	122.8	21.3	80 - 120				SO
Chromium	0.09733	0.00500	0.1	0.000891	96.4	80 - 120				
Cobalt	0.0925	0.00500	0.1	0.000834	91.7	80 - 120				
Iron	25.75	0.200	10	17.24	85.1	80 - 120				
Lead	0.09296	0.00500	0.1	0.000215	92.7	80 - 120				
Magnesium	29.6	0.200	10	21.57	80.3	80 - 120				
Nickel	0.09706	0.00500	0.1	0.001935	95.1	80 - 120				
Potassium	14.6	0.200	10	5.307	92.9	80 - 120				
Selenium	0.1031	0.00500	0.1	0.000192	103	80 - 120				
Silver	0.09459	0.00500	0.1	0.00001	94.6	80 - 120				
Sodium	84.33	0.200	10	81.69	26.4	80 - 120				SO
Thallium	0.1009	0.00200	0.1	0.000445	101	80 - 120				
Vanadium	0.0988	0.00500	0.1	0.000098	98.7	80 - 120				
Zinc	0.1116	0.00500	0.1	0.001604	110	80 - 120				

PDS Sample ID: **HS20050797-01PDS** Units: **mg/L** Analysis Date: **28-May-2020 17:18**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5600101** PrepDate: **26-May-2020** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	19.03	0.500	10	9.308	97.2	80 - 120				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153795 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

SD Sample ID: **HS20050797-01SD** Units: **mg/L** Analysis Date: **28-May-2020 16:13**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5599973** PrepDate: **26-May-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.01028	0.0500					0.007035	0	10	J
Antimony	0.00250	0.0250					0.000709	0	10	U
Arsenic	0.008982	0.0250					0.009884	0	10	J
Barium	0.654	0.0250					0.7122	8.17	10	
Beryllium	0.00250	0.0100					0.000011	0	10	U
Cadmium	0.00250	0.0100					0.000041	0	10	U
Calcium	122.1	2.50					122.8	0.629	10	
Chromium	0.00250	0.0250					0.000891	0	10	U
Cobalt	0.000869	0.0250					0.000834	0	10	J
Iron	17.35	1.00					17.24	0.653	10	
Lead	0.00500	0.0250					0.000215	0	10	U
Magnesium	21.86	1.00					21.57	1.34	10	
Nickel	0.007287	0.0250					0.001935	0	10	J
Potassium	5.001	1.00					5.307	5.76	10	
Selenium	0.0125	0.0250					0.000192	0	10	U
Silver	0.00250	0.0250					0.00001	0	10	U
Sodium	81.21	1.00					81.69	0.581	10	
Thallium	0.00250	0.0100					0.000445	0	10	U
Vanadium	0.00500	0.0250					0.000098	0	10	U
Zinc	0.0125	0.0250					0.001604	0	10	U

SD Sample ID: **HS20050797-01SD** Units: **mg/L** Analysis Date: **28-May-2020 17:16**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5600100** PrepDate: **26-May-2020** DF: **500**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Manganese	9.457	2.50					9.308	1.6	10	

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153928 (0) **Instrument: HG03** **Method: MERCURY BY SW7470A**

MBLK Sample ID: **MBLK-153928** Units: **mg/L** Analysis Date: **28-May-2020 16:16**
Client ID: Run ID: **HG03_362311** SeqNo: **5600137** PrepDate: **28-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.000100	0.000200								U

LCS Sample ID: **LCS-153928** Units: **mg/L** Analysis Date: **28-May-2020 16:18**
Client ID: Run ID: **HG03_362311** SeqNo: **5600138** PrepDate: **28-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00503	0.000200	0.005	0	101	80 - 120				

MS Sample ID: **HS20050905-01MS** Units: **mg/L** Analysis Date: **28-May-2020 16:21**
Client ID: Run ID: **HG03_362311** SeqNo: **5600140** PrepDate: **28-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00497	0.000200	0.005	0.000004000	99.3	75 - 125				

MSD Sample ID: **HS20050905-01MSD** Units: **mg/L** Analysis Date: **28-May-2020 16:23**
Client ID: Run ID: **HG03_362311** SeqNo: **5600141** PrepDate: **28-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00527	0.000200	0.005	0.000004000	105	75 - 125	0.004970	5.86	20	

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153733 (0) **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

MBLK Sample ID: **MBLK-153733** Units: **ug/L** Analysis Date: **29-May-2020 13:21**
Client ID: Run ID: **SV-6_362411** SeqNo: **5601769** PrepDate: **21-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.010	0.010								U
Surr: 2-Fluorobiphenyl	*0.09957*	*0*	*0.08*	*0*	*124*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.1139*	*0*	*0.08*	*0*	*142*	*40 - 140*				S
Surr: Nitrobenzene-d5	*0.07603*	*0*	*0.08*	*0*	*95.0*	*40 - 140*				

LCS Sample ID: **LCS-153733** Units: **ug/L** Analysis Date: **29-May-2020 13:40**
Client ID: Run ID: **SV-6_362411** SeqNo: **5601770** PrepDate: **21-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.05124	0.010	0.08	0	64.1	40 - 140				
Surr: 2-Fluorobiphenyl	*0.07082*	*0*	*0.08*	*0*	*88.5*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.07395*	*0*	*0.08*	*0*	*92.4*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.06014*	*0*	*0.08*	*0*	*75.2*	*40 - 140*				

LCSD Sample ID: **LCSD-153733** Units: **ug/L** Analysis Date: **29-May-2020 13:59**
Client ID: Run ID: **SV-6_362411** SeqNo: **5601771** PrepDate: **21-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.07679	0.010	0.08	0	96.0	40 - 140	0.05124	39.9	20	R
Surr: 2-Fluorobiphenyl	*0.07625*	*0*	*0.08*	*0*	*95.3*	*40 - 140*	*0.07082*	*7.39*	*20*	
Surr: 4-Terphenyl-d14	*0.08164*	*0*	*0.08*	*0*	*102*	*40 - 140*	*0.07395*	*9.89*	*20*	
Surr: Nitrobenzene-d5	*0.06709*	*0*	*0.08*	*0*	*83.9*	*40 - 140*	*0.06014*	*10.9*	*20*	

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200521** Units: **UG/L** Analysis Date: **21-May-2020 20:15**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593326** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200521** Units: **UG/L** Analysis Date: **21-May-2020 20:15**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593326** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.43*	*1.0*	*50*	*0*	*88.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.29*	*1.0*	*50*	*0*	*96.6*	*85 - 114*				
Surr: Dibromofluoromethane	*45.06*	*1.0*	*50*	*0*	*90.1*	*80 - 119*				
Surr: Toluene-d8	*53.02*	*1.0*	*50*	*0*	*106*	*89 - 112*				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200521** Units: **UG/L** Analysis Date: **21-May-2020 19:27**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593325** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.56	1.0	20	0	92.8	78 - 124				
1,1,1-Trichloroethane	19.8	1.0	20	0	99.0	74 - 131				
1,1,2,2-Tetrachloroethane	19.41	1.0	20	0	97.0	71 - 121				
1,1,2-Trichloroethane	18.98	1.0	20	0	94.9	80 - 119				
1,1-Dichloroethane	19.58	1.0	20	0	97.9	77 - 125				
1,1-Dichloroethene	19.09	1.0	20	0	95.4	71 - 131				
1,1-Dichloropropene	18.38	1.0	20	0	91.9	78 - 125				
1,2,3-Trichlorobenzene	19.33	1.0	20	0	96.6	69 - 129				
1,2,3-Trichloropropane	18.71	1.0	20	0	93.6	73 - 122				
1,2,4-Trichlorobenzene	19.4	1.0	20	0	97.0	69 - 130				
1,2,4-Trimethylbenzene	18.99	1.0	20	0	95.0	76 - 124				
1,2-Dibromo-3-chloropropane	20.33	1.0	20	0	102	62 - 128				
1,2-Dibromoethane	19.23	1.0	20	0	96.2	77 - 121				
1,2-Dichlorobenzene	19.22	1.0	20	0	96.1	80 - 119				
1,2-Dichloroethane	19.07	1.0	20	0	95.4	73 - 128				
1,2-Dichloropropane	19.27	1.0	20	0	96.4	78 - 122				
1,3,5-Trimethylbenzene	19.03	1.0	20	0	95.2	75 - 124				
1,3-Dichlorobenzene	19.47	1.0	20	0	97.3	80 - 119				
1,3-Dichloropropane	19.05	1.0	20	0	95.2	80 - 119				
1,4-Dichlorobenzene	19.17	1.0	20	0	95.9	79 - 118				
2,2-Dichloropropane	19.15	1.0	20	0	95.7	60 - 139				
2-Butanone	37.44	2.0	40	0	93.6	56 - 143				
2-Chlorotoluene	19.02	1.0	20	0	95.1	79 - 122				
2-Hexanone	38.98	2.0	40	0	97.4	57 - 139				
4-Chlorotoluene	19.39	1.0	20	0	96.9	78 - 122				
4-Isopropyltoluene	18.72	1.0	20	0	93.6	77 - 127				
4-Methyl-2-pentanone	37.28	2.0	40	0	93.2	67 - 130				
Acetone	38.7	2.0	40	0	96.8	39 - 160				
Benzene	19.15	1.0	20	0	95.7	79 - 120				
Bromobenzene	19.11	1.0	20	0	95.5	80 - 120				
Bromochloromethane	19.4	1.0	20	0	97.0	78 - 123				
Bromodichloromethane	18.82	1.0	20	0	94.1	79 - 125				
Bromoform	18.85	1.0	20	0	94.3	66 - 130				
Bromomethane	24.05	1.0	20	0	120	53 - 141				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200521** Units: **UG/L** Analysis Date: **21-May-2020 19:27**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593325** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	39.82	2.0	40	0	99.5	64 - 133				
Carbon tetrachloride	17.74	1.0	20	0	88.7	72 - 136				
Chlorobenzene	19.05	1.0	20	0	95.3	82 - 118				
Chloroethane	17.98	1.0	20	0	89.9	60 - 138				
Chloroform	19.67	1.0	20	0	98.3	79 - 124				
Chloromethane	17.51	1.0	20	0	87.6	50 - 139				
cis-1,2-Dichloroethene	19.54	1.0	20	0	97.7	78 - 123				
cis-1,3-Dichloropropene	18.72	1.0	20	0	93.6	75 - 124				
Dibromochloromethane	18.77	1.0	20	0	93.9	74 - 126				
Dibromomethane	19.48	1.0	20	0	97.4	79 - 123				
Dichlorodifluoromethane	18.7	1.0	20	0	93.5	32 - 152				
Ethylbenzene	19.51	1.0	20	0	97.5	79 - 121				
Hexachlorobutadiene	20.4	1.0	20	0	102	66 - 134				
Isopropylbenzene	18.92	1.0	20	0	94.6	72 - 131				
m,p-Xylene	38.38	2.0	40	0	95.9	80 - 121				
Methylene chloride	21.21	2.0	20	0	106	74 - 124				
Naphthalene	18.12	1.0	20	0	90.6	61 - 128				
n-Butylbenzene	18.36	1.0	20	0	91.8	75 - 128				
n-Propylbenzene	19.12	1.0	20	0	95.6	76 - 126				
o-Xylene	19.1	1.0	20	0	95.5	78 - 122				
sec-Butylbenzene	18.25	1.0	20	0	91.3	77 - 126				
Styrene	19.05	1.0	20	0	95.3	78 - 123				
tert-Butylbenzene	18.57	1.0	20	0	92.8	78 - 124				
Tetrachloroethene	19.16	1.0	20	0	95.8	74 - 129				
Toluene	19.35	1.0	20	0	96.8	80 - 121				
trans-1,2-Dichloroethene	19.72	1.0	20	0	98.6	75 - 124				
trans-1,3-Dichloropropene	19	1.0	20	0	95.0	73 - 127				
Trichloroethene	19.13	1.0	20	0	95.6	79 - 123				
Trichlorofluoromethane	19.44	1.0	20	0	97.2	65 - 141				
Vinyl chloride	18.75	1.0	20	0	93.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.74*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.62*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*51.28*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*50.19*	*1.0*	*50*	*0*	*100*	*89 - 112*				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050754-01MS** Units: **UG/L** Analysis Date: **21-May-2020 22:15**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593330** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.01	1.0	20	0	100	78 - 124				
1,1,1-Trichloroethane	21.8	1.0	20	2.287	97.6	74 - 131				
1,1,2,2-Tetrachloroethane	18.77	1.0	20	0	93.8	71 - 121				
1,1,2-Trichloroethane	20.86	1.0	20	2.115	93.7	80 - 119				
1,1-Dichloroethane	27.27	1.0	20	9.616	88.2	77 - 125				
1,1-Dichloroethene	115.1	1.0	20	0	576	71 - 131				S
1,1-Dichloropropene	20.13	1.0	20	0	101	78 - 125				
1,2,3-Trichlorobenzene	13.13	1.0	20	0	65.6	69 - 129				S
1,2,3-Trichloropropane	18.11	1.0	20	0	90.6	73 - 122				
1,2,4-Trichlorobenzene	15.22	1.0	20	0	76.1	69 - 130				
1,2,4-Trimethylbenzene	20.96	1.0	20	0	105	76 - 124				
1,2-Dibromo-3-chloropropane	15.57	1.0	20	0	77.9	62 - 128				
1,2-Dibromoethane	18.9	1.0	20	0	94.5	77 - 121				
1,2-Dichlorobenzene	19.97	1.0	20	0	99.9	80 - 119				
1,2-Dichloroethane	67.24	1.0	20	49.55	88.4	73 - 128				
1,2-Dichloropropane	18.46	1.0	20	0	92.3	78 - 122				
1,3,5-Trimethylbenzene	20.82	1.0	20	0	104	75 - 124				
1,3-Dichlorobenzene	19.7	1.0	20	0	98.5	80 - 119				
1,3-Dichloropropane	19.02	1.0	20	0	95.1	80 - 119				
1,4-Dichlorobenzene	19.74	1.0	20	0	98.7	79 - 118				
2,2-Dichloropropane	17.54	1.0	20	0	87.7	60 - 139				
2-Butanone	31.47	2.0	40	0	78.7	56 - 143				
2-Chlorotoluene	20.3	1.0	20	0	101	79 - 122				
2-Hexanone	36.64	2.0	40	0	91.6	57 - 139				
4-Chlorotoluene	20.24	1.0	20	0	101	78 - 122				
4-Isopropyltoluene	21.45	1.0	20	0	107	77 - 127				
4-Methyl-2-pentanone	36.69	2.0	40	0	91.7	67 - 130				
Acetone	40.97	2.0	40	0	102	39 - 160				
Benzene	21.74	1.0	20	2.478	96.3	79 - 120				
Bromobenzene	19.59	1.0	20	0	98.0	80 - 120				
Bromochloromethane	30.12	1.0	20	17.08	65.2	78 - 123				S
Bromodichloromethane	18.14	1.0	20	0	90.7	79 - 125				
Bromoform	18.85	1.0	20	0	94.3	66 - 130				
Bromomethane	24.48	1.0	20	0	122	53 - 141				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050754-01MS** Units: **UG/L** Analysis Date: **21-May-2020 22:15**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593330** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	37.26	2.0	40	0	93.1	64 - 133				
Carbon tetrachloride	26.79	1.0	20	7.288	97.5	72 - 136				
Chlorobenzene	19.76	1.0	20	0	98.8	82 - 118				
Chloroethane	20.29	1.0	20	0	101	60 - 138				
Chloroform	31.3	1.0	20	13.26	90.2	79 - 124				
Chloromethane	28.2	1.0	20	0	141	50 - 139				S
cis-1,2-Dichloroethene	3227	1.0	20	3313	-427	78 - 123				SEO
cis-1,3-Dichloropropene	18.27	1.0	20	0	91.4	75 - 124				
Dibromochloromethane	19.13	1.0	20	0	95.6	74 - 126				
Dibromomethane	17.83	1.0	20	0	89.2	79 - 123				
Dichlorodifluoromethane	29.35	1.0	20	0	147	32 - 152				
Ethylbenzene	22.21	1.0	20	1.458	104	79 - 121				
Hexachlorobutadiene	19.48	1.0	20	0	97.4	66 - 134				
Isopropylbenzene	21.54	1.0	20	0	108	72 - 131				
m,p-Xylene	41.72	2.0	40	1	102	80 - 121				
Methylene chloride	4163	2.0	20	4410	-1230	74 - 124				SEO
Naphthalene	14.05	1.0	20	0	70.3	61 - 128				
n-Butylbenzene	21.98	1.0	20	0	110	75 - 128				
n-Propylbenzene	21.4	1.0	20	0	107	76 - 126				
o-Xylene	21.12	1.0	20	0.7571	102	78 - 122				
sec-Butylbenzene	21.79	1.0	20	0	109	77 - 126				
Styrene	21.1	1.0	20	1.674	97.1	78 - 123				
tert-Butylbenzene	21.62	1.0	20	0	108	78 - 124				
Tetrachloroethene	95.09	1.0	20	76.75	91.7	74 - 129				
Toluene	22.07	1.0	20	2.282	98.9	80 - 121				
trans-1,2-Dichloroethene	28.73	1.0	20	11	88.6	75 - 124				
trans-1,3-Dichloropropene	18.53	1.0	20	0	92.6	73 - 127				
Trichloroethene	6117	1.0	20	6279	-810	79 - 123				SEO
Trichlorofluoromethane	22.93	1.0	20	0	115	65 - 141				
Vinyl chloride	116.2	1.0	20	99.05	85.8	58 - 137				O
Surr: 1,2-Dichloroethane-d4	*45.51*	*1.0*	*50*	*0*	*91.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.24*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*45.65*	*1.0*	*50*	*0*	*91.3*	*80 - 119*				
Surr: Toluene-d8	*49.96*	*1.0*	*50*	*0*	*99.9*	*89 - 112*				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050754-01MSD** Units: **UG/L** Analysis Date: **21-May-2020 22:39**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593331** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.94	1.0	20	0	94.7	78 - 124	20.01	5.53	20	
1,1,1-Trichloroethane	20.63	1.0	20	2.287	91.7	74 - 131	21.8	5.5	20	
1,1,2,2-Tetrachloroethane	19.44	1.0	20	0	97.2	71 - 121	18.77	3.54	20	
1,1,2-Trichloroethane	20.69	1.0	20	2.115	92.9	80 - 119	20.86	0.797	20	
1,1-Dichloroethane	26.3	1.0	20	9.616	83.4	77 - 125	27.27	3.59	20	
1,1-Dichloroethene	108.1	1.0	20	0	540	71 - 131	115.1	6.33	20	S
1,1-Dichloropropene	19.09	1.0	20	0	95.4	78 - 125	20.13	5.29	20	
1,2,3-Trichlorobenzene	16.1	1.0	20	0	80.5	69 - 129	13.13	20.4	20	R
1,2,3-Trichloropropane	18.89	1.0	20	0	94.4	73 - 122	18.11	4.18	20	
1,2,4-Trichlorobenzene	17.56	1.0	20	0	87.8	69 - 130	15.22	14.3	20	
1,2,4-Trimethylbenzene	20.86	1.0	20	0	104	76 - 124	20.96	0.488	20	
1,2-Dibromo-3-chloropropane	16.77	1.0	20	0	83.8	62 - 128	15.57	7.4	20	
1,2-Dibromoethane	18.72	1.0	20	0	93.6	77 - 121	18.9	0.914	20	
1,2-Dichlorobenzene	20.48	1.0	20	0	102	80 - 119	19.97	2.49	20	
1,2-Dichloroethane	65.59	1.0	20	49.55	80.2	73 - 128	67.24	2.48	20	
1,2-Dichloropropane	17.55	1.0	20	0	87.7	78 - 122	18.46	5.09	20	
1,3,5-Trimethylbenzene	20.75	1.0	20	0	104	75 - 124	20.82	0.345	20	
1,3-Dichlorobenzene	20.25	1.0	20	0	101	80 - 119	19.7	2.78	20	
1,3-Dichloropropane	18.82	1.0	20	0	94.1	80 - 119	19.02	1.05	20	
1,4-Dichlorobenzene	19.79	1.0	20	0	98.9	79 - 118	19.74	0.226	20	
2,2-Dichloropropane	16.36	1.0	20	0	81.8	60 - 139	17.54	6.96	20	
2-Butanone	31.42	2.0	40	0	78.6	56 - 143	31.47	0.145	20	
2-Chlorotoluene	20.08	1.0	20	0	100	79 - 122	20.3	1.06	20	
2-Hexanone	37.29	2.0	40	0	93.2	57 - 139	36.64	1.76	20	
4-Chlorotoluene	20.29	1.0	20	0	101	78 - 122	20.24	0.264	20	
4-Isopropyltoluene	21.14	1.0	20	0	106	77 - 127	21.45	1.46	20	
4-Methyl-2-pentanone	36.42	2.0	40	0	91.1	67 - 130	36.69	0.744	20	
Acetone	38.5	2.0	40	0	96.3	39 - 160	40.97	6.21	20	
Benzene	20.68	1.0	20	2.478	91.0	79 - 120	21.74	5	20	
Bromobenzene	19.71	1.0	20	0	98.5	80 - 120	19.59	0.585	20	
Bromochloromethane	27.52	1.0	20	17.08	52.2	78 - 123	30.12	9.02	20	S
Bromodichloromethane	17.96	1.0	20	0	89.8	79 - 125	18.14	0.965	20	
Bromoform	18.85	1.0	20	0	94.3	66 - 130	18.85	0.00216	20	
Bromomethane	18.43	1.0	20	0	92.1	53 - 141	24.48	28.2	20	R

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050754-01MSD** Units: **UG/L** Analysis Date: **21-May-2020 22:39**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593331** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	35	2.0	40	0	87.5	64 - 133	37.26	6.25	20	
Carbon tetrachloride	25.09	1.0	20	7.288	89.0	72 - 136	26.79	6.55	20	
Chlorobenzene	19.13	1.0	20	0	95.7	82 - 118	19.76	3.21	20	
Chloroethane	18.74	1.0	20	0	93.7	60 - 138	20.29	7.94	20	
Chloroform	30.15	1.0	20	13.26	84.5	79 - 124	31.3	3.74	20	
Chloromethane	28.8	1.0	20	0	144	50 - 139	28.2	2.12	20	S
cis-1,2-Dichloroethene	3093	1.0	20	3313	-1100	78 - 123	3227	4.26	20	SEO
cis-1,3-Dichloropropene	17.73	1.0	20	0	88.7	75 - 124	18.27	2.99	20	
Dibromochloromethane	18.53	1.0	20	0	92.7	74 - 126	19.13	3.14	20	
Dibromomethane	17.97	1.0	20	0	89.9	79 - 123	17.83	0.785	20	
Dichlorodifluoromethane	27.05	1.0	20	0	135	32 - 152	29.35	8.17	20	
Ethylbenzene	21.36	1.0	20	1.458	99.5	79 - 121	22.21	3.88	20	
Hexachlorobutadiene	21.83	1.0	20	0	109	66 - 134	19.48	11.4	20	
Isopropylbenzene	20.55	1.0	20	0	103	72 - 131	21.54	4.74	20	
m,p-Xylene	40.27	2.0	40	1	98.2	80 - 121	41.72	3.53	20	
Methylene chloride	4011	2.0	20	4410	-1990	74 - 124	4163	3.72	20	SEO
Naphthalene	16.34	1.0	20	0	81.7	61 - 128	14.05	15.1	20	
n-Butylbenzene	21.88	1.0	20	0	109	75 - 128	21.98	0.449	20	
n-Propylbenzene	21.24	1.0	20	0	106	76 - 126	21.4	0.746	20	
o-Xylene	20.53	1.0	20	0.7571	98.9	78 - 122	21.12	2.82	20	
sec-Butylbenzene	21.7	1.0	20	0	109	77 - 126	21.79	0.427	20	
Styrene	19.99	1.0	20	1.674	91.6	78 - 123	21.1	5.4	20	
tert-Butylbenzene	21.26	1.0	20	0	106	78 - 124	21.62	1.66	20	
Tetrachloroethene	90.7	1.0	20	76.75	69.7	74 - 129	95.09	4.73	20	S
Toluene	21.16	1.0	20	2.282	94.4	80 - 121	22.07	4.21	20	
trans-1,2-Dichloroethene	27.52	1.0	20	11	82.6	75 - 124	28.73	4.28	20	
trans-1,3-Dichloropropene	18.44	1.0	20	0	92.2	73 - 127	18.53	0.496	20	
Trichloroethene	5917	1.0	20	6279	-1810	79 - 123	6117	3.32	20	SEO
Trichlorofluoromethane	20.86	1.0	20	0	104	65 - 141	22.93	9.47	20	
Vinyl chloride	106	1.0	20	99.05	34.8	58 - 137	116.2	9.18	20	SO
Surr: 1,2-Dichloroethane-d4	*45.2*	*1.0*	*50*	*0*	*90.4*	*81 - 118*	*45.51*	*0.673*	*20*	
Surr: 4-Bromofluorobenzene	*50.35*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.24*	*0.223*	*20*	
Surr: Dibromofluoromethane	*45.64*	*1.0*	*50*	*0*	*91.3*	*80 - 119*	*45.65*	*0.0173*	*20*	
Surr: Toluene-d8	*50.42*	*1.0*	*50*	*0*	*101*	*89 - 112*	*49.96*	*0.913*	*20*	

ALS Houston, US Date: 05-Jun-20

Client:	Bhate Environmental Associates, Inc.
Project:	Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder:	HS20050757

QC BATCH REPORT

Batch ID:	**R362012 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20050757-03

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200522** Units: **UG/L** Analysis Date: **22-May-2020 12:48**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594989** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200522** Units: **UG/L** Analysis Date: **22-May-2020 12:48**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594989** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.38*	*1.0*	*50*	*0*	*88.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.9*	*1.0*	*50*	*0*	*99.8*	*85 - 114*				
Surr: Dibromofluoromethane	*44.09*	*1.0*	*50*	*0*	*88.2*	*80 - 119*				
Surr: Toluene-d8	*53.41*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200522** Units: **UG/L** Analysis Date: **22-May-2020 12:00**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594988** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.42	1.0	20	0	97.1	78 - 124				
1,1,1-Trichloroethane	20.01	1.0	20	0	100	74 - 131				
1,1,2,2-Tetrachloroethane	20	1.0	20	0	100	71 - 121				
1,1,2-Trichloroethane	20.08	1.0	20	0	100	80 - 119				
1,1-Dichloroethane	20.85	1.0	20	0	104	77 - 125				
1,1-Dichloroethene	19.43	1.0	20	0	97.2	71 - 131				
1,1-Dichloropropene	19.09	1.0	20	0	95.5	78 - 125				
1,2,3-Trichlorobenzene	19.4	1.0	20	0	97.0	69 - 129				
1,2,3-Trichloropropane	19.22	1.0	20	0	96.1	73 - 122				
1,2,4-Trichlorobenzene	20.21	1.0	20	0	101	69 - 130				
1,2,4-Trimethylbenzene	19.81	1.0	20	0	99.0	76 - 124				
1,2-Dibromo-3-chloropropane	18.63	1.0	20	0	93.2	62 - 128				
1,2-Dibromoethane	20.15	1.0	20	0	101	77 - 121				
1,2-Dichlorobenzene	20.46	1.0	20	0	102	80 - 119				
1,2-Dichloroethane	20.32	1.0	20	0	102	73 - 128				
1,2-Dichloropropane	20.59	1.0	20	0	103	78 - 122				
1,3,5-Trimethylbenzene	19.61	1.0	20	0	98.1	75 - 124				
1,3-Dichlorobenzene	19.83	1.0	20	0	99.1	80 - 119				
1,3-Dichloropropane	20.1	1.0	20	0	100	80 - 119				
1,4-Dichlorobenzene	19.75	1.0	20	0	98.8	79 - 118				
2,2-Dichloropropane	21.51	1.0	20	0	108	60 - 139				
2-Butanone	41.16	2.0	40	0	103	56 - 143				
2-Chlorotoluene	19.53	1.0	20	0	97.7	79 - 122				
2-Hexanone	40.81	2.0	40	0	102	57 - 139				
4-Chlorotoluene	19.84	1.0	20	0	99.2	78 - 122				
4-Isopropyltoluene	19.09	1.0	20	0	95.5	77 - 127				
4-Methyl-2-pentanone	40.23	2.0	40	0	101	67 - 130				
Acetone	42.87	2.0	40	0	107	39 - 160				
Benzene	20.14	1.0	20	0	101	79 - 120				
Bromobenzene	20.41	1.0	20	0	102	80 - 120				
Bromochloromethane	21.03	1.0	20	0	105	78 - 123				
Bromodichloromethane	20.07	1.0	20	0	100	79 - 125				
Bromoform	19.72	1.0	20	0	98.6	66 - 130				
Bromomethane	23.79	1.0	20	0	119	53 - 141				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200522** Units: **UG/L** Analysis Date: **22-May-2020 12:00**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594988** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	40.63	2.0	40	0	102	64 - 133				
Carbon tetrachloride	17.68	1.0	20	0	88.4	72 - 136				
Chlorobenzene	19.97	1.0	20	0	99.8	82 - 118				
Chloroethane	19.51	1.0	20	0	97.6	60 - 138				
Chloroform	21.16	1.0	20	0	106	79 - 124				
Chloromethane	18.47	1.0	20	0	92.3	50 - 139				
cis-1,2-Dichloroethene	21.1	1.0	20	0	106	78 - 123				
cis-1,3-Dichloropropene	20.26	1.0	20	0	101	75 - 124				
Dibromochloromethane	19.44	1.0	20	0	97.2	74 - 126				
Dibromomethane	21.19	1.0	20	0	106	79 - 123				
Dichlorodifluoromethane	18.43	1.0	20	0	92.2	32 - 152				
Ethylbenzene	19.91	1.0	20	0	99.5	79 - 121				
Hexachlorobutadiene	22.46	1.0	20	0	112	66 - 134				
Isopropylbenzene	19.21	1.0	20	0	96.0	72 - 131				
m,p-Xylene	39.66	2.0	40	0	99.2	80 - 121				
Methylene chloride	23.71	2.0	20	0	119	74 - 124				
Naphthalene	19.14	1.0	20	0	95.7	61 - 128				
n-Butylbenzene	19.74	1.0	20	0	98.7	75 - 128				
n-Propylbenzene	19.2	1.0	20	0	96.0	76 - 126				
o-Xylene	20.19	1.0	20	0	101	78 - 122				
sec-Butylbenzene	18.87	1.0	20	0	94.3	77 - 126				
Styrene	20.45	1.0	20	0	102	78 - 123				
tert-Butylbenzene	18.71	1.0	20	0	93.6	78 - 124				
Tetrachloroethene	19.37	1.0	20	0	96.9	74 - 129				
Toluene	20.21	1.0	20	0	101	80 - 121				
trans-1,2-Dichloroethene	21.01	1.0	20	0	105	75 - 124				
trans-1,3-Dichloropropene	20.57	1.0	20	0	103	73 - 127				
Trichloroethene	20.53	1.0	20	0	103	79 - 123				
Trichlorofluoromethane	19.68	1.0	20	0	98.4	65 - 141				
Vinyl chloride	19.39	1.0	20	0	96.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*54.52*	*1.0*	*50*	*0*	*109*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.85*	*1.0*	*50*	*0*	*104*	*85 - 114*				
Surr: Dibromofluoromethane	*53.52*	*1.0*	*50*	*0*	*107*	*80 - 119*				
Surr: Toluene-d8	*51.18*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050797-01MS** Units: **UG/L** Analysis Date: **22-May-2020 15:12**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594995** PrepDate: DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	480.2	25	500	0	96.0	78 - 124				
1,1,1-Trichloroethane	451.8	25	500	0	90.4	74 - 131				
1,1,2,2-Tetrachloroethane	492	25	500	0	98.4	71 - 121				
1,1,2-Trichloroethane	484.2	25	500	0	96.8	80 - 119				
1,1-Dichloroethane	427.9	25	500	0	85.6	77 - 125				
1,1-Dichloroethene	442.4	25	500	0	88.5	71 - 131				
1,1-Dichloropropene	475.2	25	500	0	95.0	78 - 125				
1,2,3-Trichlorobenzene	381.1	25	500	0	76.2	69 - 129				
1,2,3-Trichloropropane	469.2	25	500	0	93.8	73 - 122				
1,2,4-Trichlorobenzene	433.9	25	500	0	86.8	69 - 130				
1,2,4-Trimethylbenzene	834.1	25	500	295.2	108	76 - 124				
1,2-Dibromo-3-chloropropane	483	25	500	0	96.6	62 - 128				
1,2-Dibromoethane	472.6	25	500	0	94.5	77 - 121				
1,2-Dichlorobenzene	511.8	25	500	0	102	80 - 119				
1,2-Dichloroethane	452.2	25	500	0	90.4	73 - 128				
1,2-Dichloropropane	464.3	25	500	0	92.9	78 - 122				
1,3,5-Trimethylbenzene	612.5	25	500	97.52	103	75 - 124				
1,3-Dichlorobenzene	509.4	25	500	0	102	80 - 119				
1,3-Dichloropropane	469.7	25	500	0	93.9	80 - 119				
1,4-Dichlorobenzene	505.3	25	500	0	101	79 - 118				
2,2-Dichloropropane	474.6	25	500	0	94.9	60 - 139				
2-Butanone	831.9	50	1000	0	83.2	56 - 143				
2-Chlorotoluene	552.2	25	500	0	110	79 - 122				
2-Hexanone	994.9	50	1000	0	99.5	57 - 139				
4-Chlorotoluene	514.8	25	500	0	103	78 - 122				
4-Isopropyltoluene	584.3	25	500	0	117	77 - 127				
4-Methyl-2-pentanone	975.2	50	1000	0	97.5	67 - 130				
Acetone	793.7	50	1000	0	79.4	39 - 160				
Benzene	2622	25	500	2151	94.2	79 - 120				O
Bromobenzene	507.1	25	500	0	101	80 - 120				
Bromochloromethane	429.8	25	500	0	86.0	78 - 123				
Bromodichloromethane	446.2	25	500	0	89.2	79 - 125				
Bromoform	458.2	25	500	0	91.6	66 - 130				
Bromomethane	530.1	25	500	0	106	53 - 141				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050797-01MS** Units: **UG/L** Analysis Date: **22-May-2020 15:12**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594995** PrepDate: DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	928.9	50	1000	0	92.9	64 - 133				
Carbon tetrachloride	450.6	25	500	0	90.1	72 - 136				
Chlorobenzene	485.6	25	500	0	97.1	82 - 118				
Chloroethane	417.4	25	500	0	83.5	60 - 138				
Chloroform	437.4	25	500	0	87.5	79 - 124				
Chloromethane	407.9	25	500	0	81.6	50 - 139				
cis-1,2-Dichloroethene	434	25	500	0	86.8	78 - 123				
cis-1,3-Dichloropropene	446.7	25	500	0	89.3	75 - 124				
Dibromochloromethane	455.3	25	500	0	91.1	74 - 126				
Dibromomethane	452.5	25	500	0	90.5	79 - 123				
Dichlorodifluoromethane	486.5	25	500	0	97.3	32 - 152				
Ethylbenzene	1399	25	500	873	105	79 - 121				
Hexachlorobutadiene	528.6	25	500	0	106	66 - 134				
Isopropylbenzene	672.9	25	500	162.3	102	72 - 131				
m,p-Xylene	2849	50	1000	1826	102	80 - 121				
Methylene chloride	479.5	50	500	43.71	87.2	74 - 124				
Naphthalene	583.7	25	500	87.53	99.2	61 - 128				
n-Butylbenzene	542	25	500	0	108	75 - 128				
n-Propylbenzene	612.6	25	500	83.08	106	76 - 126				
o-Xylene	1382	25	500	881.6	100	78 - 122				
sec-Butylbenzene	540.4	25	500	0	108	77 - 126				
Styrene	521.5	25	500	0	104	78 - 123				
tert-Butylbenzene	519	25	500	0	104	78 - 124				
Tetrachloroethene	525.5	25	500	0	105	74 - 129				
Toluene	502.4	25	500	0	100	80 - 121				
trans-1,2-Dichloroethene	440.5	25	500	0	88.1	75 - 124				
trans-1,3-Dichloropropene	439.9	25	500	0	88.0	73 - 127				
Trichloroethene	482.8	25	500	0	96.6	79 - 123				
Trichlorofluoromethane	467.3	25	500	0	93.5	65 - 141				
Vinyl chloride	457.6	25	500	0	91.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*1121*	*25*	*1250*	*0*	*89.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*1216*	*25*	*1250*	*0*	*97.3*	*85 - 114*				
Surr: Dibromofluoromethane	*1137*	*25*	*1250*	*0*	*91.0*	*80 - 119*				
Surr: Toluene-d8	*1317*	*25*	*1250*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050797-01MSD** Units: **UG/L** Analysis Date: **22-May-2020 15:36**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594996** PrepDate: DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	447.1	25	500	0	89.4	78 - 124	480.2	7.12	20	
1,1,1-Trichloroethane	424.2	25	500	0	84.8	74 - 131	451.8	6.29	20	
1,1,2,2-Tetrachloroethane	473.8	25	500	0	94.8	71 - 121	492	3.76	20	
1,1,2-Trichloroethane	466	25	500	0	93.2	80 - 119	484.2	3.83	20	
1,1-Dichloroethane	407.3	25	500	0	81.5	77 - 125	427.9	4.93	20	
1,1-Dichloroethene	420.1	25	500	0	84.0	71 - 131	442.4	5.18	20	
1,1-Dichloropropene	448.4	25	500	0	89.7	78 - 125	475.2	5.8	20	
1,2,3-Trichlorobenzene	455.6	25	500	0	91.1	69 - 129	381.1	17.8	20	
1,2,3-Trichloropropane	443.8	25	500	0	88.8	73 - 122	469.2	5.56	20	
1,2,4-Trichlorobenzene	476.8	25	500	0	95.4	69 - 130	433.9	9.43	20	
1,2,4-Trimethylbenzene	767	25	500	295.2	94.4	76 - 124	834.1	8.38	20	
1,2-Dibromo-3-chloropropane	454.1	25	500	0	90.8	62 - 128	483	6.18	20	
1,2-Dibromoethane	446.9	25	500	0	89.4	77 - 121	472.6	5.58	20	
1,2-Dichlorobenzene	467.6	25	500	0	93.5	80 - 119	511.8	9.03	20	
1,2-Dichloroethane	436.8	25	500	0	87.4	73 - 128	452.2	3.46	20	
1,2-Dichloropropane	446.9	25	500	0	89.4	78 - 122	464.3	3.83	20	
1,3,5-Trimethylbenzene	566.9	25	500	97.52	93.9	75 - 124	612.5	7.73	20	
1,3-Dichlorobenzene	477.5	25	500	0	95.5	80 - 119	509.4	6.46	20	
1,3-Dichloropropane	454.7	25	500	0	90.9	80 - 119	469.7	3.26	20	
1,4-Dichlorobenzene	476.5	25	500	0	95.3	79 - 118	505.3	5.87	20	
2,2-Dichloropropane	429.4	25	500	0	85.9	60 - 139	474.6	10	20	
2-Butanone	817.6	50	1000	0	81.8	56 - 143	831.9	1.73	20	
2-Chlorotoluene	507	25	500	0	101	79 - 122	552.2	8.52	20	
2-Hexanone	970	50	1000	0	97.0	57 - 139	994.9	2.53	20	
4-Chlorotoluene	479.8	25	500	0	96.0	78 - 122	514.8	7.03	20	
4-Isopropyltoluene	538.3	25	500	0	108	77 - 127	584.3	8.19	20	
4-Methyl-2-pentanone	938.1	50	1000	0	93.8	67 - 130	975.2	3.88	20	
Acetone	758.7	50	1000	0	75.9	39 - 160	793.7	4.51	20	
Benzene	2460	25	500	2151	61.8	79 - 120	2622	6.36	20	SO
Bromobenzene	472.3	25	500	0	94.5	80 - 120	507.1	7.11	20	
Bromochloromethane	423.1	25	500	0	84.6	78 - 123	429.8	1.57	20	
Bromodichloromethane	427.9	25	500	0	85.6	79 - 125	446.2	4.18	20	
Bromoform	442.4	25	500	0	88.5	66 - 130	458.2	3.51	20	
Bromomethane	477.2	25	500	0	95.4	53 - 141	530.1	10.5	20	

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050797-01MSD** Units: **UG/L** Analysis Date: **22-May-2020 15:36**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594996** PrepDate: DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	882.9	50	1000	0	88.3	64 - 133	928.9	5.08	20	
Carbon tetrachloride	420.8	25	500	0	84.2	72 - 136	450.6	6.84	20	
Chlorobenzene	456.4	25	500	0	91.3	82 - 118	485.6	6.19	20	
Chloroethane	394.6	25	500	0	78.9	60 - 138	417.4	5.6	20	
Chloroform	406.7	25	500	0	81.3	79 - 124	437.4	7.27	20	
Chloromethane	383	25	500	0	76.6	50 - 139	407.9	6.3	20	
cis-1,2-Dichloroethene	407.6	25	500	0	81.5	78 - 123	434	6.27	20	
cis-1,3-Dichloropropene	424.8	25	500	0	85.0	75 - 124	446.7	5.01	20	
Dibromochloromethane	439.2	25	500	0	87.8	74 - 126	455.3	3.58	20	
Dibromomethane	444.3	25	500	0	88.9	79 - 123	452.5	1.83	20	
Dichlorodifluoromethane	459.2	25	500	0	91.8	32 - 152	486.5	5.77	20	
Ethylbenzene	1310	25	500	873	87.4	79 - 121	1399	6.59	20	
Hexachlorobutadiene	511.9	25	500	0	102	66 - 134	528.6	3.21	20	
Isopropylbenzene	629.8	25	500	162.3	93.5	72 - 131	672.9	6.61	20	
m,p-Xylene	2650	50	1000	1826	82.4	80 - 121	2849	7.24	20	
Methylene chloride	466.2	50	500	43.71	84.5	74 - 124	479.5	2.82	20	
Naphthalene	580.6	25	500	87.53	98.6	61 - 128	583.7	0.531	20	
n-Butylbenzene	503.1	25	500	0	101	75 - 128	542	7.44	20	
n-Propylbenzene	560.7	25	500	83.08	95.5	76 - 126	612.6	8.84	20	
o-Xylene	1297	25	500	881.6	83.1	78 - 122	1382	6.35	20	
sec-Butylbenzene	498.7	25	500	0	99.7	77 - 126	540.4	8.02	20	
Styrene	493.9	25	500	0	98.8	78 - 123	521.5	5.43	20	
tert-Butylbenzene	481.3	25	500	0	96.3	78 - 124	519	7.55	20	
Tetrachloroethene	487.6	25	500	0	97.5	74 - 129	525.5	7.49	20	
Toluene	472.9	25	500	0	94.6	80 - 121	502.4	6.05	20	
trans-1,2-Dichloroethene	425.6	25	500	0	85.1	75 - 124	440.5	3.45	20	
trans-1,3-Dichloropropene	427	25	500	0	85.4	73 - 127	439.9	2.98	20	
Trichloroethene	458.6	25	500	0	91.7	79 - 123	482.8	5.14	20	
Trichlorofluoromethane	433.2	25	500	0	86.6	65 - 141	467.3	7.58	20	
Vinyl chloride	432.9	25	500	0	86.6	58 - 137	457.6	5.55	20	
Surr: 1,2-Dichloroethane-d4	*1094*	*25*	*1250*	*0*	*87.5*	*81 - 118*	*1121*	*2.43*	*20*	
Surr: 4-Bromofluorobenzene	*1236*	*25*	*1250*	*0*	*98.9*	*85 - 114*	*1216*	*1.65*	*20*	
Surr: Dibromofluoromethane	*1127*	*25*	*1250*	*0*	*90.2*	*80 - 119*	*1137*	*0.883*	*20*	
Surr: Toluene-d8	*1303*	*25*	*1250*	*0*	*104*	*89 - 112*	*1317*	*1.08*	*20*	

ALS Houston, US Date: 05-Jun-20

Client:	Bhate Environmental Associates, Inc.
Project:	Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder:	HS20050757

QC BATCH REPORT

Batch ID:	**R362091 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362159 (0) **Instrument: Balance1** **Method: OIL & GREASE (HEM) BY E1664A**

MBLK Sample ID: **WBLKW-052620** Units: **mg/L** Analysis Date: **26-May-2020 14:10**
Client ID: Run ID: **Balance1_362159** SeqNo: **5596493** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	2.00	2.00								U

LCS Sample ID: **WLCSW-052620** Units: **mg/L** Analysis Date: **26-May-2020 14:10**
Client ID: Run ID: **Balance1_362159** SeqNo: **5596495** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	35.6	2.00	40	0	89.0	78 - 114				

LCSD Sample ID: **WLCSDW-052620** Units: **mg/L** Analysis Date: **26-May-2020 14:10**
Client ID: Run ID: **Balance1_362159** SeqNo: **5596494** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	35.2	2.00	40	0	88.0	78 - 114	35.6	1.13	18	

MS Sample ID: **HS20050734-01MS** Units: **mg/L** Analysis Date: **26-May-2020 14:10**
Client ID: Run ID: **Balance1_362159** SeqNo: **5596473** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	34.78	2.00	40	0	87.0	78 - 114				

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362235 (0) **Instrument: WetChem_HS** **Method: CHEMICAL OXYGEN DEMAND BY E410.4**

MBLK Sample ID: **MBLK-R362235** Units: **mg/L** Analysis Date: **27-May-2020 15:00**
Client ID: Run ID: **WetChem_HS_362235** SeqNo: **5598369** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	15.0	15.0								U

LCS Sample ID: **LCS-R362235** Units: **mg/L** Analysis Date: **27-May-2020 15:00**
Client ID: Run ID: **WetChem_HS_362235** SeqNo: **5598368** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	100	15.0	100	0	100	85 - 115				

MS Sample ID: **HS20050992-01MS** Units: **mg/L** Analysis Date: **27-May-2020 15:00**
Client ID: Run ID: **WetChem_HS_362235** SeqNo: **5598371** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	60	15.0	50	12	96.0	80 - 120				

MSD Sample ID: **HS20050992-01MSD** Units: **mg/L** Analysis Date: **27-May-2020 15:00**
Client ID: Run ID: **WetChem_HS_362235** SeqNo: **5598370** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	60	15.0	50	12	96.0	80 - 120	60	0	20	

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362252 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK052620** Units: **mg/L** Analysis Date: **27-May-2020 18:15**
Client ID: Run ID: **ICS-Integrion_362252** SeqNo: **5598771** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Sulfate	0.2195	0.500								J

LCS Sample ID: **LCS052620** Units: **mg/L** Analysis Date: **27-May-2020 18:33**
Client ID: Run ID: **ICS-Integrion_362252** SeqNo: **5598772** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.14	0.500	20	0	95.7	80 - 120				
Sulfate	18.72	0.500	20	0	93.6	80 - 120				

MS Sample ID: **HS20050754-01MS** Units: **mg/L** Analysis Date: **27-May-2020 06:10**
Client ID: Run ID: **ICS-Integrion_362252** SeqNo: **5598740** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	331.4	5.00	100	238.8	92.6	80 - 120				
Sulfate	126.1	5.00	100	30.73	95.3	80 - 120				

MSD Sample ID: **HS20050754-01MSD** Units: **mg/L** Analysis Date: **27-May-2020 06:28**
Client ID: Run ID: **ICS-Integrion_362252** SeqNo: **5598741** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	328.2	5.00	100	238.8	89.4	80 - 120	331.4	0.995	20	
Sulfate	124.5	5.00	100	30.73	93.7	80 - 120	126.1	1.27	20	

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: **HS20050757**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS20050757

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20050757-01	LH18/24-SP650_051920	Login	5/20/2020 5:11:41 PM	RPG	Disposed
HS20050757-01	LH18/24-SP650_051920	Login	5/20/2020 5:11:41 PM	RPG	EXT154
HS20050757-01	LH18/24-SP650_051920	Login	5/20/2020 5:11:41 PM	RPG	Disposed
HS20050757-01	LH18/24-SP650_051920	Login	5/20/2020 5:11:41 PM	RPG	Disposed
HS20050757-01	LH18/24-SP650_051920	Login	5/20/2020 5:11:41 PM	RPG	Disposed
HS20050757-01	LH18/24-SP650_051920	Login	5/20/2020 5:11:41 PM	RPG	VOA001
HS20050757-02	LH18/24-SP650_051920_BIX	Login	5/20/2020 5:11:41 PM	RPG	Sub
HS20050757-03	Trip Blank	Login	5/20/2020 5:11:41 PM	RPG	VOA001

ALS Houston, US Date: 05-Jun-20

Sample Receipt Checklist

Work Order ID: HS20050757 **Date/Time Received:** 20-May-2020 09:25

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By:	/S/ Raegen Giga	20-May-2020 17:15	**Reviewed by:**	/S/ RJ Modashia	21-May-2020 09:07
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **water** Carrier name: **FedEx**

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 ☐	COC IDs:1
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):	1.4c uc/c	IR 25
Cooler(s)/Kit(s):	45282	
Date/Time sample(s) sent to storage:	05/20/2020 17:20	

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: 1 x TB Rec'vd - Trip Blank split between 2 work orders (1 vial each)

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 ATTN: RJ Modashia
1

HS20050757

Bhate Environmental Associates, Inc.
Groundwater Treatment Plant Quarterly Effluent Sam

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

Project No.
NWO1312.0150.0
16.0001

Job:
GROUNDWATER TREATMENT PLANT QUARTERLY EFFLUENT SAMPLES

Prepared By:
Scott Beesinger

P. O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: ROD Volatiles	Total Metals	Oil & Grease	Chemical Oxygen Demand	Chloride & Sulfate	1, 4 - DIOXANE	PERCHLORATE				Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_051920	Water	05/19/20 / 14:00		4	3		1								HCL	
LH18/24-SP650_051920	Water	05/19/20 / 14:00		1		1									HNO3	
LH18/24-SP650_051920	Water	05/19/20 / 14:00		2					1	1					NONE	
LH18/24-SP650_051920	Water	05/19/20 / 14:00		1				1							H2SO4	
LH18/24-SP650_051920_BIX	Water	05/19/20 / 14:00		1							1				NONE	
Trip Blank	Water	05/19/20		2	2										HCL	

Additional Remarks: **Standard TAT**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	05/19/20	14:30	[signature]	5/20/2020	01:30						

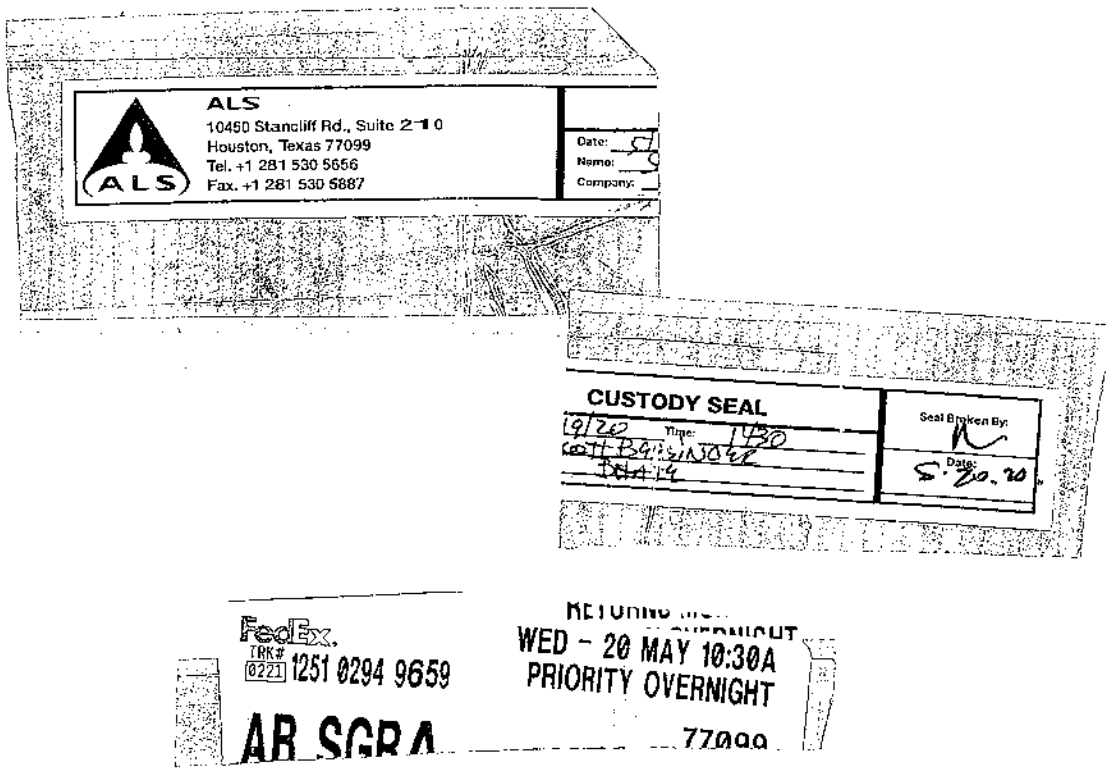
For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

CLC.
US 283 1.4°
4 23
CH2 0.0°

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


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
Date:
Name:
Company:
CUSTODY SEAL
Seal Broken By:
Date:
FedEx.
TRK# 0221 1251 0294 9659
WED - 20 MAY 10:30A
PRIORITY OVERNIGHT
77099

June 04, 2020 Service Request No:E2000449

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

Laboratory Results for: HS20050757

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 22, 2020
For your reference, these analyses have been assigned our service request number **E2000449.**

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.:**	E2000449
Project:	HS20050757	**Date Received:**	05/22/20
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

One water sample was received for analysis at ALS Environmental in Houston on 05/22/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000209: 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.

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:**E2000449
Project: HS20050757

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000449-001	LH18/24-SP650_051920_BIX	5/19/2020	1400

Service Request Summary

Folder #: **E2000449**
Client Name: ALS Environmental - US
Project Name: HS20050757
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: 05/22/20
Internal Due Date: 6/4/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20050757
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000449-001	LH18/24-SP650_051920_BIX	Water	05/19/20 1400	**IV**

Service Request Summary

Folder #: **E2000449**
Client Name: ALS Environmental - US
Project Name: HS20050757
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: 05/22/20
Internal Due Date: 6/4/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20050757
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7B
Pressure Gas:

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.
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.
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.
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.

Data Qualifiers

Lab Standard

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
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611	6/30/2020
Hawaii Department of Health	2020	4/30/2021
Kansas Department of Health and Environment	E-10352	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Center for Disease Control and Prevention	201815	6/5/2020
Maryland Department of the Environment	343	6/30/2020
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	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

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: **Colorado** **COC ID:** **13941**

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:	HS20050757
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20050757-02**	**LH18/24-SP650_051920_BIX**	**Water**	**19 May 2020 14:00**
	SUB_Perch-6850			29 May 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. Modashia Date/Time: 5/22/20 09:00

Received By: EG Date/Time: 5/22/20 0910

Cooler ID(s): Temperature(s):

Cooler Receipt Form

ALS Environmental

Project Chemist: LH

Client/Project: ALS-H

Thermometer ID: SMOM 1121

Date/Time Received: 5/22/20 Initials: LH

Date/Time Logged in: 5/22/20 Initials: LH

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?
—		5/22/20	0900	LH	0.5	☒
						☐
						☐
						☐

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#: 359084 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 5/27/20 09:18

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000449-001	LH18/24-SP650_051920_BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000450-001	LH18/24-SP140_051920	.01	6850/ClO4 DOD			Water	10mL	
3	E2000451-001	LH18/24-SP650_051920_BIX	.01	6850/ClO4 DOD			Water	10mL	
4	EQ2000209-01	MB		6850/ClO4 DOD			Liquid	10mL	
5	EQ2000209-02	LCS		6850/ClO4 DOD			Liquid	10mL	
6	EQ2000209-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 202037 Logbook Ref: Sodium Perchlorate Expires On: 05/22/2021

E2000449-001 100.00µL E2000450-001 100.00µL E2000451-001 100.00µL EQ2000209-01 100.00µL EQ2000209-02 100.00µL EQ2000209-03 100.00µL

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

EQ2000209-02 1.00µL EQ2000209-03 1.00µL

Preparation Steps

Step: Preparation
Started: 5/27/20 09:18
Finished: 5/27/20 11:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 5/27/2020

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
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:**	E2000449
Project:	HS20050757	**Date Collected:**	5/19/20 1400
Sample Matrix:	Water	**Date Received:**	5/22/20
Sample Name:	LH18/24-SP650_051920_BIX	**Units:**	µg/L
Lab Code:	E2000449-001	**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	5/27/20	6/2/20 19:45	359084	682302	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000449
Project:	HS20050757	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000209-01	**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			1	5/27/20	6/2/20 19:22	359084	682302	

Accuracy & Precision

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

QA/QC Report

Client: ALS Environmental - US
Project: HS20050757
Sample Matrix: Water

Service Request: E2000449
Date Analyzed: 6/ 2/20

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: 359084

	Lab Control Sample EQ2000209-02			Duplicate Lab Control Sample EQ2000209-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.118	0.100	118	0.115	0.100	115	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:**	E2000449
Project:	HS20050757	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000209-02	**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	**0.118**		0.100			1	5/27/20	6/2/20 19:29	359084	682302	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000449
Project:	HS20050757	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000209-03	**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	**0.115**		0.100			1	5/27/20	6/2/20 19:37	359084	682302	

Initial Calibration

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

20200602

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

Initial Calibration - Detailed Report

Calibration ID: EC2000007 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000007-01	PERCHLORATE1	20200602_009	06/02/2020 15:37
02	EC2000007-02	PERCHLORATE2	20200602_010	06/02/2020 15:45
03	EC2000007-03	PERCHLORATE3	20200602_011	06/02/2020 15:53
04	EC2000007-04	PERCHLORATE4	20200602_012	06/02/2020 16:05
05	EC2000007-05	PERCHLORATE5	20200602_013	06/02/2020 16:13
06	EC2000007-06	PERCHLORATE6	20200602_014	06/02/2020 16:21
07	EC2000007-07	PERCHLORATE7	20200602_015	06/02/2020 16:29
08	EC2000007-08	PERCHLORATE8	20200602_016	06/02/2020 16:37
09	EC2000007-09	PERCHLORATE9	20200602_017	06/02/2020 16:44
10	EC2000007-10	PERCHLORATE10	20200602_018	06/02/2020 16:52

Analyte **Curve Fit** **Weighting**

Perchlorate **Average RF** **RSD = 11.36** **Average RF = 0.1279**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1628	02	0.5000	0.122	03	0.7000	0.1165	04	1.0000	0.1408
05	2.0000	0.1172	06	5.0000	0.1212	07	10.0000	0.135	08	20.0000	0.1233
09	30.0000	0.12	10	50.0000	0.1202						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.127	27.3	02	0.5000	0.477	-4.6	03	0.7000	0.638	-8.9
04	1.0000	1.10	10.1	05	2.0000	1.83	-8.4	06	5.0000	4.74	-5.2
07	10.0000	10.6	5.5	08	20.0000	19.3	-3.6	09	30.0000	28.1	-6.2
10	50.0000	47.0	-6.0								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000007	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200602_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000007-11	T	Average RF	10	10.859	ng/mL	8.6	<= 15

ALS Group Houston

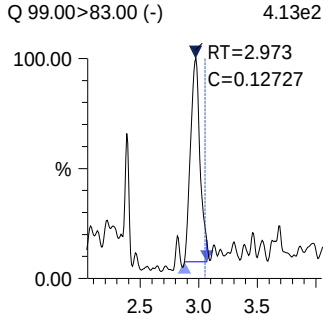
PERCHLORATE1

Date acquired: 6/2/2020 3:37:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_009.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	PERCHLORATE1	6/2/2020 3:37:49 PM	2231	0.12727	20200602_009	2.973	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/2/2020 3:37:49 PM	137060	1.00000	20200602_009	2.954	25.0000	1.0000	4

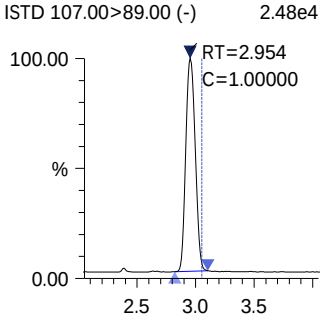
Perchlorate

Conc 0.12727
Area 2231



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 137060



PERCHLORATE2

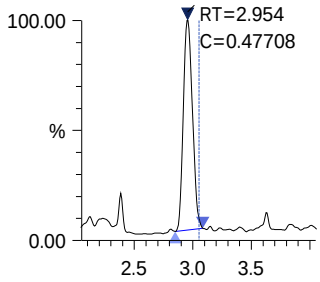
Date acquired: 6/2/2020 3:45:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_010.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	6/2/2020 3:45:42 PM	8464	0.47708	20200602_010	2.954	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/2/2020 3:45:42 PM	138722	1.00000	20200602_010	2.949	25.0000	1.0000	5

Perchlorate

Conc 0.47708
Area 8464

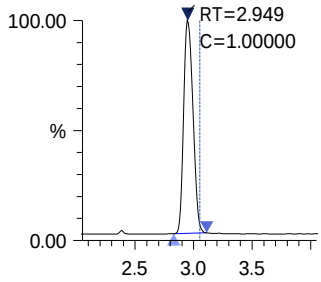
Q 99.00>83.00 (-) 1.56e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 138722

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

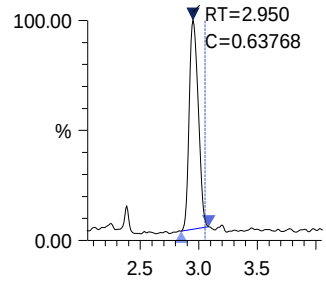
PERCHLORATE3

Date acquired: 6/2/2020 3:53:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_011.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	PERCHLORATE3	6/2/2020 3:53:36 PM	11656	0.63768	20200602_011	2.950	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/2/2020 3:53:36 PM	142915	1.00000	20200602_011	2.954	25.0000	1.0000	6

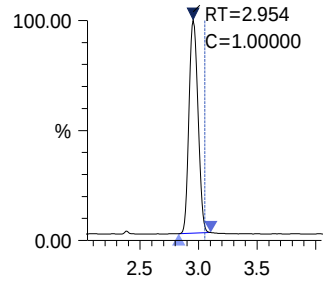
Perchlorate

Conc 0.63768
Area 11656



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 142915



ALS Group Houston

PERCHLORATE4

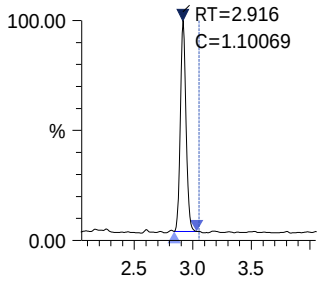
Date acquired: 6/2/2020 4:05:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_012.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	6/2/2020 4:05:28 PM	18119	1.10069	20200602_012	2.916	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/2/2020 4:05:28 PM	128706	1.00000	20200602_012	2.914	25.0000	1.0000	7

Perchlorate

Conc 1.10069
Area 18119

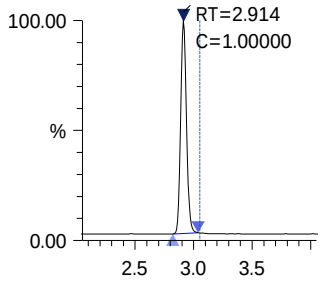
Q 99.00>83.00 (-) 5.42e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128706

ISTD 107.00>89.00 (-) 3.72e4



ALS Group Houston

PERCHLORATE5

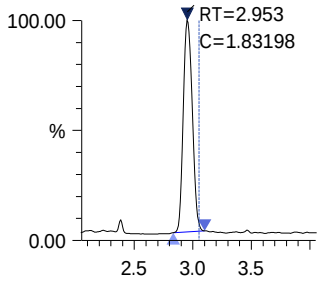
Date acquired: 6/2/2020 4:13:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_013.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	6/2/2020 4:13:21 PM	33971	1.83198	20200602_013	2.953	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/2/2020 4:13:21 PM	144982	1.00000	20200602_013	2.953	25.0000	1.0000	8

Perchlorate

Conc 1.83198
Area 33971

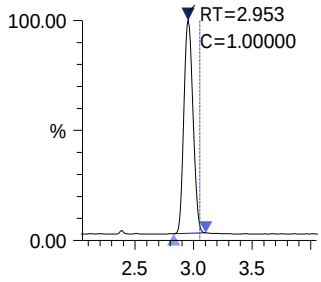
Q 99.00>83.00 (-) 6.29e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 144982

ISTD 107.00>89.00 (-) 2.71e4



ALS Group Houston

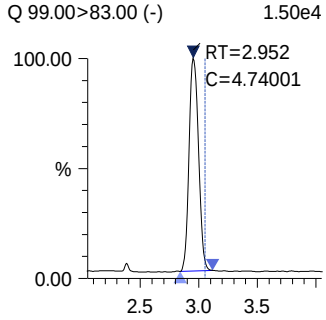
PERCHLORATE6

Date acquired: 6/2/2020 4:21:16 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_014.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	PERCHLORATE6	6/2/2020 4:21:16 PM	85178	4.74001	20200602_014	2.952	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/2/2020 4:21:16 PM	140500	1.00000	20200602_014	2.948	25.0000	1.0000	9

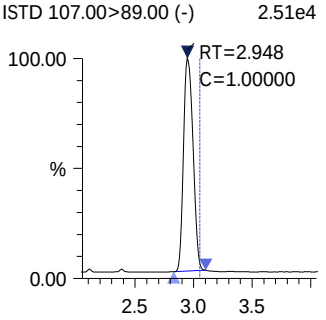
Perchlorate

Conc 4.74001
Area 85178



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 140500



ALS Group Houston

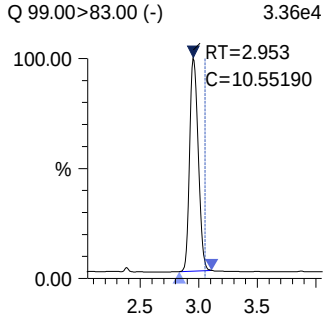
PERCHLORATE7

Date acquired: 6/2/2020 4:29:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_015.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	PERCHLORATE7	6/2/2020 4:29:10 PM	173998	10.55190	20200602_015	2.953	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 4:29:10 PM	128928	1.00000	20200602_015	2.951	25.0000	1.0000	10

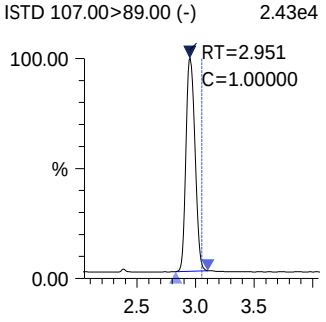
Perchlorate

Conc 10.55190
Area 173998



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128928



ALS Group Houston

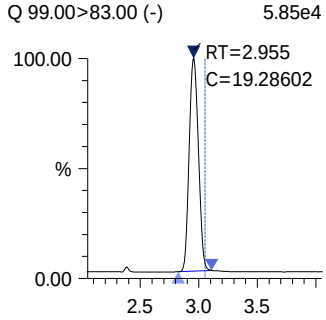
PERCHLORATE8

Date acquired: 6/2/2020 4:37:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	PERCHLORATE8	6/2/2020 4:37:02 PM	324944	19.28602	20200602_016	2.955	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/2/2020 4:37:02 PM	131734	1.00000	20200602_016	2.953	25.0000	1.0000	11

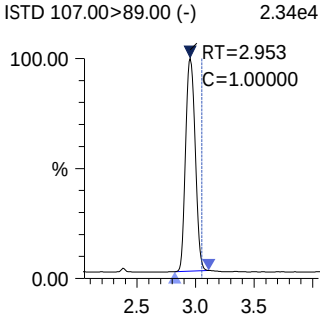
Perchlorate

Conc 19.28602
Area 324944



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 131734



ALS Group Houston

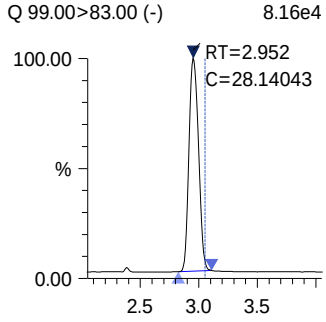
PERCHLORATE9

Date acquired: 6/2/2020 4:44:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	PERCHLORATE9	6/2/2020 4:44:57 PM	469066	28.14043	20200602_017	2.952	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/2/2020 4:44:57 PM	130327	1.00000	20200602_017	2.953	25.0000	1.0000	12

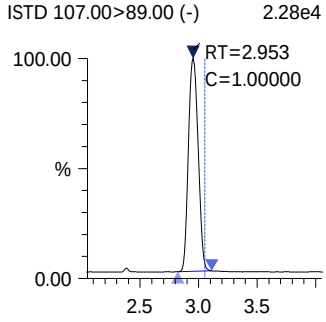
Perchlorate

Conc 28.14043
Area 469066



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130327



ALS Group Houston

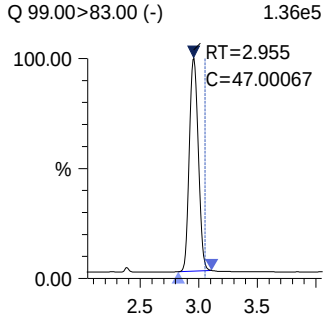
PERCHLORATE10

Date acquired: 6/2/2020 4:52:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	PERCHLORATE10	6/2/2020 4:52:49 PM	737362	47.00067	20200602_018	2.955	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	6/2/2020 4:52:49 PM	122661	1.00000	20200602_018	2.952	25.0000	1.0000	13

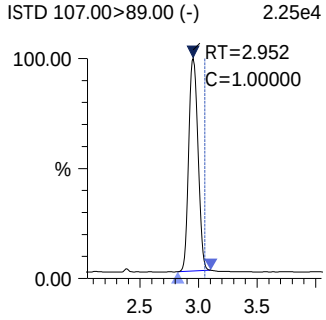
Perchlorate

Conc 47.00067
Area 737362



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 122661



ALS Group Houston

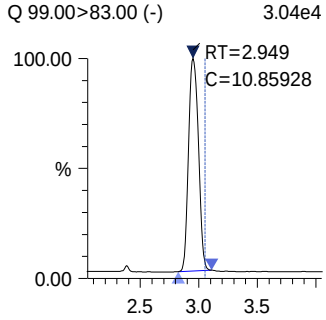
PERCHLORATEICV

Date acquired: 6/2/2020 5:00:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	6/2/2020 5:00:42 PM	180334	10.85928	20200602_019	2.949	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/2/2020 5:00:42 PM	129839	1.00000	20200602_019	2.948	25.0000	1.0000	14

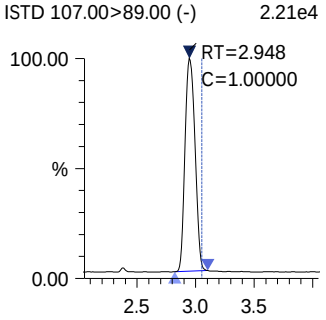
Perchlorate

Conc 10.85928
Area 180334



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 129839



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

20200602

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20050757

Service Request: E2000449
Date Analyzed: 6/ 2/20

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\20200602\20200602_037

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 682302
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.6	0.1279	0.1354	5.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20050757

Service Request: E2000449
Date Analyzed: 6/ 2/20

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\20200602\20200602_044

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 682302
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279	0.1383	8.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000449
Project:	HS20050757	**Date Analyzed:**	6/2/20 19:14

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200602\20200602_037	**Lab Code:**	EQ2000220-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	682302
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000220-01	130,037	2.95
Method Blank	EQ2000209-01	156,098	2.95
Lab Control Sample	EQ2000209-02	162,494	2.95
Duplicate Lab Control Sample	EQ2000209-03	164,223	2.94
LH18/24-SP650_051920_BIX	E2000449-001	159,999	2.93

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:**	E2000449
Project:	HS20050757	**Date Analyzed:**	6/2/20 20:09

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200602\20200602_044	**Lab Code:**	EQ2000220-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	682302
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000220-02	130,496	2.94

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

ALS Group Houston

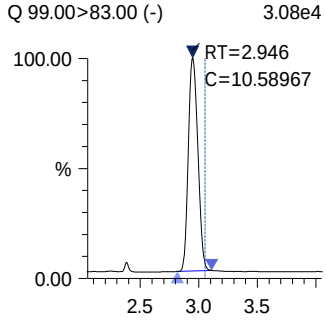
PERCHLORATE7

Date acquired: 6/2/2020 7:14:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_037.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	PERCHLORATE7	6/2/2020 7:14:09 PM	176124	10.58967	20200602_037	2.946	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 7:14:09 PM	130037	1.00000	20200602_037	2.945	25.0000	1.0000	10

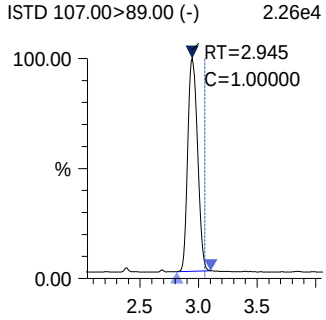
Perchlorate

Conc 10.58967
Area 176124



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130037



ALS Group Houston

EQ2000209-01

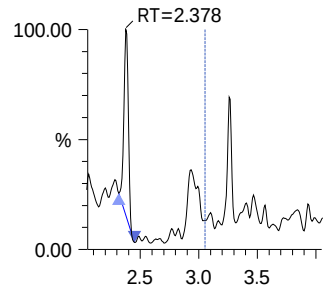
Date acquired: 6/2/2020 7:22:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_038.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000209-01	6/2/2020 7:22:03 PM	----	----	20200602_038	----	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	EQ2000209-01	6/2/2020 7:22:03 PM	156098	1.00000	20200602_038	2.947	25.0000	1.0000	21

Perchlorate

Conc ----
Area ----

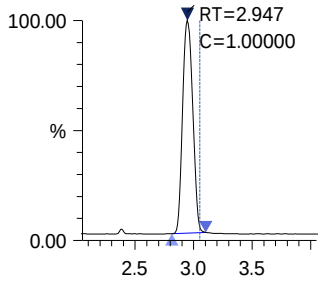
Q 99.00>83.00 (-) 3.73e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 156098

ISTD 107.00>89.00 (-) 2.62e4



ALS Group Houston

EQ2000209-02

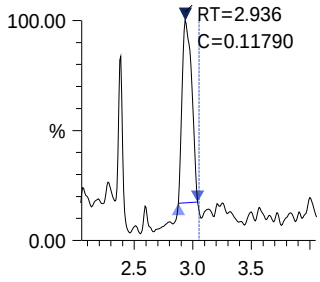
Date acquired: 6/2/2020 7:29:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_039.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000209-02	6/2/2020 7:29:57 PM	2450	0.11790	20200602_039	2.936	25.0000	1.0000	22
Sodium Perchlorate-18O4_IS	EQ2000209-02	6/2/2020 7:29:57 PM	162494	1.00000	20200602_039	2.946	25.0000	1.0000	22

Perchlorate

Conc 0.11790
Area 2450

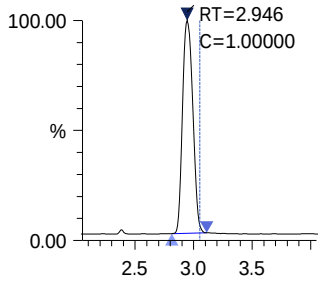
Q 99.00>83.00 (-) 4.93e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 162494

ISTD 107.00>89.00 (-) 2.69e4



ALS Group Houston

EQ2000209-03

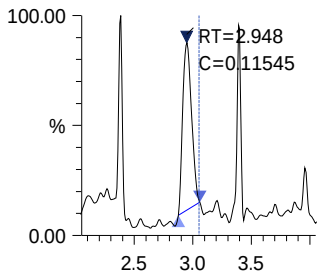
Date acquired: 6/2/2020 7:37:52 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_040.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000209-03	6/2/2020 7:37:52 PM	2425	0.11545	20200602_040	2.948	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	EQ2000209-03	6/2/2020 7:37:52 PM	164223	1.00000	20200602_040	2.944	25.0000	1.0000	23

Perchlorate

Conc 0.11545
Area 2425

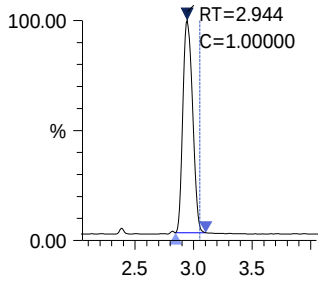
Q 99.00>83.00 (-) 5.79e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 164223

ISTD 107.00>89.00 (-) 2.88e4



ALS Group Houston

E2000449-001

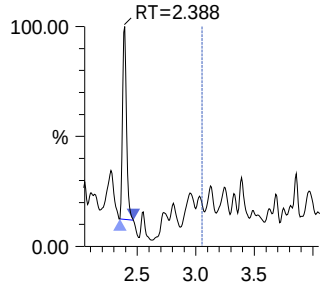
Date acquired: 6/2/2020 7:45:47 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_041.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	E2000449-001	6/2/2020 7:45:47 PM	----	----	20200602_041	----	25.0000	1.0000	24
Sodium Perchlorate-18O4_IS	E2000449-001	6/2/2020 7:45:47 PM	159999	1.00000	20200602_041	2.932	25.0000	1.0000	24

Perchlorate

Conc ----
Area ----

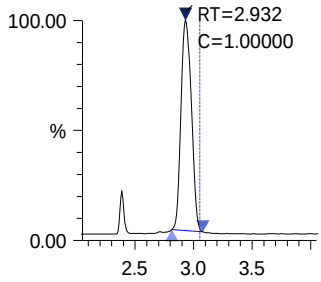
Q 99.00>83.00 (-) 3.32e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 159999

ISTD 107.00>89.00 (-) 2.64e4



ALS Group Houston

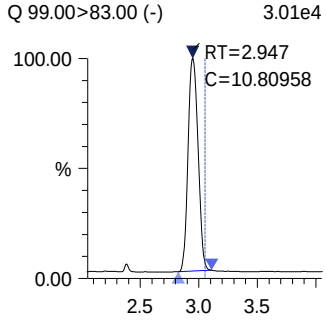
PERCHLORATE7

Date acquired: 6/2/2020 8:09:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_044.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	PERCHLORATE7	6/2/2020 8:09:29 PM	180416	10.80958	20200602_044	2.947	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 8:09:29 PM	130496	1.00000	20200602_044	2.941	25.0000	1.0000	10

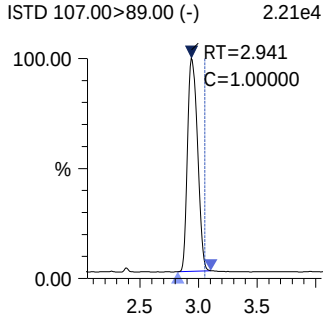
Perchlorate

Conc 10.80958
Area 180416



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130496



HS20050757 8260 Raw Data

ALS WO# HS20050757

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-200522	107	109	102	104	0
02	VBLKW-200522	88	89	107	100	0
03	HS20050757-01	92	91	108	97	0
04	HS20050797-01	91	90	105	97	0
05	HS20050797-01	90	88	104	99	0
06	CCV-END	108	109	100	101	0
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		QC LIMITS
SMC1	= Dibromofluoromethane	(74-125)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(71-125)
SMC3 (TOL)	= Toluene-d8	(78-123)
OTHER	= 4-Bromofluorobenzene	(70-125)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-200521	102	103	100	101	0
02	VBLKW-200521	90	89	106	96	0
03	HS20050757-03	89	89	107	96	0
04	HS20050754-01	91	91	100	100	0
05	HS20050754-01	91	90	101	101	0
06	CCV-END	104	102	98	98	0
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		QC LIMITS
SMC1	= Dibromofluoromethane	(74-125)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(71-125)
SMC3 (TOL)	= Toluene-d8	(78-123)
OTHER	= 4-Bromofluorobenzene	(70-125)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Bromochloromethane	50.00	48.01	96	80-120
Vinyl Chloride	50.00	48.76	98	80-120
Chloromethane	50.00	44.06	88	80-120
Bromomethane	50.00	57.19	114	80-120
Chloroethane	50.00	44.78	90	80-120
Methylene Chloride	50.00	50.26	100	80-120
Acetone	100.00	99.49	99	80-120
1,1-Dichloroethene	50.00	48.97	98	80-120
trans-1,2-Dichloroethen	50.00	49.49	99	80-120
Carbon Tetrachloride	50.00	48.11	96	80-120
Bromodichloromethane	50.00	47.89	96	80-120
1,1-Dichloroethane	50.00	47.70	95	80-120
1,2-Dichloropropane	50.00	49.94	100	80-120
2-Butanone	100.00	97.30	97	80-120
cis-1,3-Dichloropropene	50.00	48.37	97	80-120
Dibromochloromethane	50.00	47.98	96	80-120
cis-1,2-Dichloroethene	50.00	48.25	96	80-120
1,1,2-Trichloroethane	50.00	48.26	96	80-120
Benzene	50.00	48.30	97	80-120
Chloroform	50.00	47.92	96	80-120
trans-1,3-Dichloroprope	50.00	48.49	97	80-120
Bromoform	50.00	49.49	99	80-120
4-Methyl-2-Pentanone	100.00	98.31	98	80-120
1,1,1-Trichloroethane	50.00	49.02	98	80-120
2-Hexanone	100.00	100.56	100	80-120
1,2-Dichloroethane	50.00	47.01	94	80-120
1,1,2,2-Tetrachloroetha	50.00	48.97	98	80-120
Trichloroethene	50.00	50.67	101	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 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Toluene	50.00	50.14	100	80-120
Dichlorodifluoromethane	50.00	47.96	96	80-120
Trichlorofluoromethane	50.00	50.06	100	80-120
Tetrachloroethene	50.00	51.74	103	80-120
1,2-Dibromoethane	50.00	48.89	98	80-120
Chlorobenzene	50.00	49.09	98	80-120
1,3-Dichlorobenzene	50.00	51.14	102	80-120
1,4-Dichlorobenzene	50.00	49.48	99	80-120
Ethylbenzene	50.00	51.15	102	80-120
1,2-Dichlorobenzene	50.00	50.78	102	80-120
m,p-Xylenes	100.00	100.69	101	80-120
o-Xylene	50.00	50.68	101	80-120
Styrene	50.00	50.95	102	80-120
Carbon Disulfide	100.00	101.35	101	80-120
2,2-Dichloropropane	50.00	50.68	101	80-120
1,1-Dichloropropene	50.00	48.99	98	80-120
Dibromomethane	50.00	48.80	98	80-120
1,3-Dichloropropane	50.00	47.98	96	80-120
1,1,1,2-Tetrachloroetha	50.00	48.55	97	80-120
Isopropylbenzene	50.00	51.70	103	80-120
Bromobenzene	50.00	48.87	98	80-120
1,2,3-Trichloropropane	50.00	47.55	95	80-120
n-Propylbenzene	50.00	50.97	102	80-120
2-Chlorotoluene	50.00	48.73	97	80-120
1,3,5-Trimethylbenzene	50.00	50.45	101	80-120
4-Chlorotoluene	50.00	49.19	98	80-120
tert-Butylbenzene	50.00	51.17	102	80-120
1,2,4-Trimethylbenzene	50.00	50.66	101	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 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
sec-Butylbenzene	50.00	52.12	104	80-120
p-Isopropyltoluene	50.00	51.88	104	80-120
n-Butylbenzene	50.00	54.29	108	80-120
1,2-Dibromo-3-Chloropro	50.00	48.08	96	80-120
1,2,4-Trichlorobenzene	50.00	53.56	107	80-120
Hexachlorobutadiene	50.00	57.82	116	80-120
Naphthalene	50.00	52.90	106	80-120
1,2,3-Trichlorobenzene	50.00	55.14	110	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

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FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Lab File ID: X052101 BFB Injection Date: 05/21/20

Instrument ID: VOA6 BFB Injection Time: 1152

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	32.3
75	30.0 - 60.0% of mass 95	54.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.3
173	Less than 2.0% of mass 174	0.6 (0.9)1
174	Greater than 50.0% of mass 95	60.1
175	5.0 - 9.0% of mass 174	4.7 (7.9)1
176	95.0 - 101.0% of mass 174	57.2 (95.1)1
177	5.0 - 9.0% of mass 176	3.9 (6.8)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	VSTD000.5	VSTD000.5	X052103	05/21/20	1304
02	VSTD001	VSTD001	X052104	05/21/20	1328
03	VSTD002	VSTD002	X052105	05/21/20	1352
04	VSTD005	VSTD005	X052106	05/21/20	1415
05	VSTD020	VSTD020	X052107	05/21/20	1439
06	VSTD050	VSTD050	X052108	05/21/20	1503
07	VSTD100	VSTD100	X052109	05/21/20	1527
08	VSTD150	VSTD150	X052110	05/21/20	1551
09	VSTD200	VSTD200	X052111	05/21/20	1615
10	ICV	ICV	X052114	05/21/20	1727
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FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Instrument ID: VOA6 Calibration Date(s): 05/21/20 05/21/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1216 1615

LAB FILE ID: RF0.5: X052103 RF1: X052104 RF2: X052105
RF5: X052106 RF20: X052107 RF50: X052108

COMPOUND	RF0.5	RF1	RF2	RF5	RF20	RF50
Bromochloromethane	0.404	0.338	0.344	0.326	0.357	0.351
Vinyl Chloride	1.046	1.144	1.095	1.003	1.130	1.045
Chloromethane	5372	8358	15866	37520	157534	335826
Bromomethane	2022	3079	5914	15003	51599	96835
Chloroethane	0.791	0.644	0.635	0.558	0.598	0.562
Methylene Chloride	2448	4722	7313	22687	72755	156257
Acetone	5335	6697	10614	23405	87794	202080
1,1-Dichloroethene	0.656	0.521	0.526	0.480	0.581	0.538
trans-1,2-Dichloroethene	0.655	0.569	0.532	0.596	0.654	0.606
Carbon Tetrachloride	0.540	0.564	0.516	0.446	0.509	0.444
Bromodichloromethane	0.654	0.522	0.504	0.548	0.565	0.550
1,1-Dichloroethane	1.858	1.656	1.529	1.529	1.661	1.595
1,2-Dichloropropane	0.498	0.475	0.461	0.496	0.522	0.503
2-Butanone	2438	3710	8065	27638	109929	262391
cis-1,3-Dichloropropene	0.743	0.636	0.604	0.664	0.670	0.646
Dibromochloromethane	0.522	0.387	0.387	0.422	0.408	0.398
cis-1,2-Dichloroethene	0.802	0.729	0.659	0.716	0.763	0.726
1,1,2-Trichloroethane	0.376	0.349	0.324	0.352	0.337	0.324
Benzene	1.736	1.432	1.399	1.445	1.523	1.437
Chloroform	1.455	1.215	1.181	1.286	1.345	1.296
trans-1,3-Dichloropropene	0.614	0.585	0.570	0.608	0.620	0.598
Bromoform	0.302	0.263	0.264	0.260	0.270	0.272
4-Methyl-2-Pentanone	0.874	0.799	0.737	0.886	0.829	0.828
1,1,1-Trichloroethane	1.306	0.926	0.946	0.974	1.123	1.029
2-Hexanone	0.558	0.513	0.537	0.613	0.593	0.584
1,2-Dichloroethane	0.878	0.741	0.705	0.714	0.728	0.712
1,1,2,2-Tetrachloroethane	1.150	1.062	1.034	1.088	1.103	1.068
Trichloroethene	0.330	0.332	0.322	0.328	0.357	0.328
Toluene	1.864	1.590	1.603	1.597	1.673	1.542
Dichlorodifluoromethane	1930	3185	6319	14377	67938	151725
Trichlorofluoromethane	1.196	1.062	0.978	0.930	1.140	1.022
Tetrachloroethene	0.284	0.301	0.276	0.252	0.281	0.247
1,2-Dibromoethane	0.444	0.409	0.384	0.418	0.415	0.396
Chlorobenzene	1.198	1.015	0.950	0.970	1.025	0.961
1,3-Dichlorobenzene	1.805	1.463	1.412	1.457	1.558	1.481
1,4-Dichlorobenzene	1.958	1.485	1.519	1.498	1.605	1.520
Ethylbenzene	0.623	0.488	0.512	0.474	0.538	0.494
1,2-Dichlorobenzene	1.594	1.300	1.385	1.387	1.484	1.413
m,p-Xylenes	0.761	0.649	0.595	0.589	0.650	0.602
o-Xylene	0.694	0.602	0.607	0.586	0.634	0.600
Styrene	1.224	1.001	1.050	1.100	1.143	1.099
Carbon Disulfide	2.079	1.737	1.680	1.629	1.936	1.797
2,2-Dichloropropane	1.136	1.247	0.961	0.987	1.132	1.012
1,1-Dichloropropene	0.627	0.492	0.495	0.465	0.520	0.462

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005075 7

Instrument ID: VOA6 Calibration Date(s): 05/21/20 05/21/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1216 1615

LAB FILE ID: RF0.5: X052103 RF1: X052104 RF2: X052105
RF5: X052106 RF20: X052107 RF50: X052108

COMPOUND	RF0.5	RF1	RF2	RF5	RF20	RF50
Dibromomethane	0.286	0.226	0.232	0.274	0.273	0.264
1,3-Dichloropropane	0.904	0.700	0.633	0.690	0.707	0.680
1,1,1,2-Tetrachloroethane	0.430	0.367	0.374	0.377	0.382	0.368
Isopropylbenzene	1.829	1.536	1.524	1.374	1.627	1.439
Bromobenzene	1.041	0.843	0.868	0.889	0.928	0.890
1,2,3-Trichloropropane	1.129	0.949	0.956	1.149	0.964	0.966
n-Propylbenzene	4.962	4.037	4.002	3.567	4.324	3.843
2-Chlorotoluene	3.285	2.540	2.414	2.318	2.604	2.374
1,3,5-Trimethylbenzene	3.269	2.882	2.805	2.582	2.976	2.650
4-Chlorotoluene	3.692	2.950	2.896	2.774	3.044	2.811
tert-Butylbenzene	2.699	2.220	2.167	1.906	2.294	2.037
1,2,4-Trimethylbenzene	3.259	2.948	2.856	2.669	3.055	2.774
sec-Butylbenzene	4.058	3.085	3.290	2.627	3.400	2.928
p-Isopropyltoluene	3.176	2.729	2.663	2.283	2.877	2.519
n-Butylbenzene	3.189	2.254	2.521	2.152	2.774	2.427
1,2-Dibromo-3-Chloropropane	0.104	0.124	0.085	0.105	0.098	0.101
1,2,4-Trichlorobenzene	0.397	0.454	0.390	0.404	0.406	0.375
Hexachlorobutadiene	727	1087	1989	3527	17992	34215
Naphthalene	0.734	0.898	0.710	0.747	0.680	0.675
1,2,3-Trichlorobenzene	0.238	0.279	0.273	0.229	0.229	0.198
Dibromofluoromethane	1636	2846	5396	15007	58156	140049
1,2-Dichloroethane-d4	2972	5178	9946	24487	89078	213876
Toluene-d8	6348	10300	20427	52927	202272	496584
4-Bromofluorobenzene	2937	4633	8367	21837	80742	191321

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Instrument ID: VOA6 Calibration Date(s): 05/21/20 05/21/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1216 1615

LAB FILE ID: RF100: X052109 RF150: X052110 RF200: X052111

COMPOUND	RF100	RF150	RF200
Bromochloromethane	0.333	0.341	0.322
Vinyl Chloride	1.096	1.181	1.173
Chloromethane	664349	991948	1301878
Bromomethane	186176	292644	385825
Chloroethane	0.558	0.588	0.568
Methylene Chloride	311412	461634	607704
Acetone	394412	575324	756025
1,1-Dichloroethene	0.546	0.577	0.561
trans-1,2-Dichloroethene	0.603	0.639	0.625
Carbon Tetrachloride	0.491	0.518	0.514
Bromodichloromethane	0.540	0.556	0.555
1,1-Dichloroethane	1.545	1.630	1.615
1,2-Dichloropropane	0.498	0.510	0.505
2-Butanone	518367	773344	1008719
cis-1,3-Dichloropropene	0.648	0.662	0.665
Dibromochloromethane	0.413	0.417	0.416
cis-1,2-Dichloroethene	0.701	0.746	0.735
1,1,2-Trichloroethane	0.332	0.330	0.328
Benzene	1.473	1.512	1.513
Chloroform	1.242	1.299	1.276
trans-1,3-Dichloropropene	0.601	0.618	0.618
Bromoform	0.283	0.286	0.283
4-Methyl-2-Pentanone	0.835	0.842	0.837
1,1,1-Trichloroethane	1.050	1.118	1.102
2-Hexanone	0.584	0.584	0.584
1,2-Dichloroethane	0.689	0.694	0.690
1,1,2,2-Tetrachloroethane	1.025	1.057	1.065
Trichloroethene	0.349	0.361	0.362
Toluene	1.634	1.656	1.624
Dichlorodifluoromethane	338855	522911	691448
Trichlorofluoromethane	1.076	1.152	1.125
Tetrachloroethene	0.289	0.296	0.291
1,2-Dibromoethane	0.405	0.403	0.397
Chlorobenzene	1.001	1.021	1.007
1,3-Dichlorobenzene	1.568	1.610	1.612
1,4-Dichlorobenzene	1.575	1.617	1.611
Ethylbenzene	0.549	0.548	0.545
1,2-Dichlorobenzene	1.451	1.488	1.480
m,p-Xylenes	0.653	0.666	0.659
o-Xylene	0.645	0.656	0.640
Styrene	1.134	1.156	1.136
Carbon Disulfide	1.824	1.959	1.929
2,2-Dichloropropane	1.015	1.074	1.038
1,1-Dichloropropene	0.504	0.526	0.521

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Instrument ID: VOA6 Calibration Date(s): 05/21/20 05/21/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1216 1615

LAB FILE ID: RF100: X052109 RF150: X052110 RF200: X052111

COMPOUND	RF100	RF150	RF200
Dibromomethane	0.258	0.267	0.267
1,3-Dichloropropane	0.694	0.689	0.677
1,1,1,2-Tetrachloroethane	0.384	0.385	0.381
Isopropylbenzene	1.662	1.689	1.660
Bromobenzene	0.911	0.939	0.926
1,2,3-Trichloropropane	0.938	0.935	0.915
n-Propylbenzene	4.280	4.481	4.427
2-Chlorotoluene	2.508	2.596	2.571
1,3,5-Trimethylbenzene	2.918	3.030	2.980
4-Chlorotoluene	2.964	3.074	3.016
tert-Butylbenzene	2.287	2.391	2.367
1,2,4-Trimethylbenzene	3.006	3.075	3.060
sec-Butylbenzene	3.448	3.620	3.567
p-Isopropyltoluene	2.893	3.018	2.980
n-Butylbenzene	2.823	2.958	2.881
1,2-Dibromo-3-Chloropropane	0.100	0.107	0.107
1,2,4-Trichlorobenzene	0.417	0.457	0.462
Hexachlorobutadiene	87138	146468	183102
Naphthalene	0.728	0.803	0.834
1,2,3-Trichlorobenzene	0.223	0.253	0.262
Dibromofluoromethane	284174	413569	541917
1,2-Dichloroethane-d4	424688	616356	809583
Toluene-d8	1000150	1471985	1941016
4-Bromofluorobenzene	389481	570349	751717

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005075 7

Instrument ID: VOA6 Calibration Date(s): 05/21/20 05/21/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1216 1615

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	COEFFICENTS A2	%RSD OR R^2	MAX %RSD OR R^2
Bromochloromethane	AVRG		0.34635854		7.008	15.000
Vinyl Chloride	AVRG		1.10157919		5.562	15.000
Chloromethane	LINR	-1.04e-002	0.66066067		0.9994440	0.9900000
Bromomethane	LINR	-1.76e-002	2.25147012		0.9975728	0.9900000
Chloroethane	AVRG		0.61140520		12.224	15.000
Methylene Chloride	LINR	-1.63e-002	1.41895111		0.9995421	0.9900000
Acetone	LINR	-4.18e-002	2.27613585		0.9997424	0.9900000
1,1-Dichloroethene	AVRG		0.55406403		8.862	15.000
trans-1,2-Dichloroethene	AVRG		0.60901893		6.614	15.000
Carbon Tetrachloride	AVRG		0.50487375		7.815	15.000
Bromodichloromethane	AVRG		0.55491353		7.486	15.000
1,1-Dichloroethane	AVRG		1.62429592		6.247	15.000
1,2-Dichloropropane	AVRG		0.49651274		3.674	15.000
2-Butanone	LINR	3.867e-003	1.69414012		0.9996266	0.9900000
cis-1,3-Dichloropropene	AVRG		0.65969610		5.652	15.000
Dibromochloromethane	AVRG		0.41874835		9.700	15.000
cis-1,2-Dichloroethene	AVRG		0.73080468		5.432	15.000
1,1,2-Trichloroethane	AVRG		0.33916907		5.085	15.000
Benzene	AVRG		1.49668481		6.636	15.000
Chloroform	AVRG		1.28833729		6.148	15.000
trans-1,3-Dichloropropene	AVRG		0.60344714		2.821	15.000
Bromoform	AVRG		0.27601559		4.972	15.000
4-Methyl-2-Pentanone	AVRG		0.82966510		5.204	15.000
1,1,1-Trichloroethane	AVRG		1.06379761		10.982	15.000
2-Hexanone	AVRG		0.57239157		5.348	15.000
1,2-Dichloroethane	AVRG		0.72789564		8.072	15.000
1,1,2,2-Tetrachloroethane	AVRG		1.07244788		3.520	15.000
Trichloroethene	AVRG		0.34101245		4.714	15.000
Toluene	AVRG		1.64248641		5.578	15.000
Dichlorodifluoromethane	LINR	3.724e-002	1.23936894		0.9983949	0.9900000
Trichlorofluoromethane	AVRG		1.07558433		8.106	15.000
Tetrachloroethene	AVRG		0.27962715		6.709	15.000
1,2-Dibromoethane	AVRG		0.40794141		4.132	15.000
Chlorobenzene	AVRG		1.01652183		7.228	15.000
1,3-Dichlorobenzene	AVRG		1.55195260		7.649	15.000
1,4-Dichlorobenzene	AVRG		1.59875589		8.999	15.000
Ethylbenzene	AVRG		0.53009678		8.465	15.000
1,2-Dichlorobenzene	AVRG		1.44248178		5.803	15.000
m,p-Xylenes	AVRG		0.64714361		8.051	15.000
o-Xylene	AVRG		0.62954875		5.420	15.000
Styrene	AVRG		1.11603193		5.722	15.000
Carbon Disulfide	AVRG		1.84122785		7.951	15.000
2,2-Dichloropropane	AVRG		1.06708812		8.490	15.000
1,1-Dichloropropene	AVRG		0.51249231		9.508	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Instrument ID: VOA6 Calibration Date(s): 05/21/20 05/21/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1216 1615

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	COEFFICENTS A2	%RSD OR R^2	MAX %RSD OR R^2
Dibromomethane	AVRG		0.26082836		7.609	15.000
1,3-Dichloropropane	AVRG		0.70813418		10.802	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.38309456		4.922	15.000
Isopropylbenzene	AVRG		1.59334829		8.739	15.000
Bromobenzene	AVRG		0.91505759		6.166	15.000
1,2,3-Trichloropropane	AVRG		0.98911609		8.745	15.000
n-Propylbenzene	AVRG		4.21372435		9.660	15.000
2-Chlorotoluene	AVRG		2.57881608		11.000	15.000
1,3,5-Trimethylbenzene	AVRG		2.89903883		7.102	15.000
4-Chlorotoluene	AVRG		3.02451398		8.917	15.000
tert-Butylbenzene	AVRG		2.26315301		9.982	15.000
1,2,4-Trimethylbenzene	AVRG		2.96685451		6.002	15.000
sec-Butylbenzene	AVRG		3.33581785		12.562	15.000
p-Isopropyltoluene	AVRG		2.79318417		9.853	15.000
n-Butylbenzene	AVRG		2.66430110		12.960	15.000
1,2-Dibromo-3-Chloropropane	AVRG		0.10341071		9.782	15.000
1,2,4-Trichlorobenzene	AVRG		0.41825906		7.611	15.000
Hexachlorobutadiene	2ORDR	2.074e-002	4.25926842	-0.5836610	0.9955038	0.9900000
Naphthalene	AVRG		0.75655715		9.844	15.000
1,2,3-Trichlorobenzene	AVRG		0.24265999		10.750	15.000
Dibromofluoromethane	LINR	-1.83e-003	1.57755765		0.9999061	0.9900000
1,2-Dichloroethane-d4	LINR	-1.08e-002	1.05898416		0.9998578	0.9900000
Toluene-d8	LINR	-3.36e-003	0.75541993		0.9999030	0.9900000
4-Bromofluorobenzene	LINR	-7.95e-003	1.95186901		0.9998503	0.9900000

FORM VI VOA

MSVOA06 -Logbook

Batch: 40580
Date: 05-21-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	05-21-2020 11:52 am	1.00	50 mL	50 mL	X052101.D	Liquid	Y	NA
2	*Auto find/ purged* VSTD000.25	ICAL1	05-21-2020 12:16 pm	1.00	50 mL	50 mL	X052102.D	Liquid	Y	NA
3	*0.10 uL cal std/100 mL DI* VSTD000.5	ICAL2	05-21-2020 01:04 pm	1.00	50 mL	50 mL	X052103.D	Liquid	Y	NA
4	*0.10 uL cal std/50 mL DI* VSTD001	ICAL3	05-21-2020 01:28 pm	1.00	50 mL	50 mL	X052104.D	Liquid	Y	NA
5	*0.20 uL cal std/50 mL DI* VSTD002	ICAL4	05-21-2020 01:52 pm	1.00	50 mL	50 mL	X052105.D	Liquid	Y	NA
6	*0.40 uL cal std/50 mL DI* VSTD005	ICAL5	05-21-2020 02:15 pm	1.00	50 mL	50 mL	X052106.D	Liquid	Y	NA
7	*1.0 uL cal std/50 mL DI* VSTD020	ICAL6	05-21-2020 02:39 pm	1.00	50 mL	50 mL	X052107.D	Liquid	Y	NA
8	*4.0 uL cal std/50 mL DI* VSTD050	ICAL7	05-21-2020 03:03 pm	1.00	50 mL	50 mL	X052108.D	Liquid	Y	NA
9	*10 uL cal std/50 mL DI* VSTD100	ICAL8	05-21-2020 03:27 pm	1.00	50 mL	50 mL	X052109.D	Liquid	Y	NA
10	*20 uL cal std/50 mL DI* VSTD150	ICAL9	05-21-2020 03:51 pm	1.00	50 mL	50 mL	X052110.D	Liquid	Y	NA
11	*30 uL cal std/50 mL DI* VSTD200	ICAL	05-21-2020 04:15 pm	1.00	50 mL	50 mL	X052111.D	Liquid	Y	NA
12	*40 uL cal std/50 mL DI* BLANK	SAMP	05-21-2020 04:39 pm	1.00	50 mL	50 mL	X052112.D	Liquid	Y	NA
13	*clean up blank* BLANK	SAMP	05-21-2020 05:03 pm	1.00	50 mL	50 mL	X052113.D	Liquid	Y	NA
14	CCV	ICV	05-21-2020 05:27 pm	1.00	50 mL	50 mL	X052114.D	Liquid	Y	NA
15	*10 uL icv std/50 mL DI* BFB	TUNE	05-21-2020 05:51 pm	1.00	50 mL	50 mL	Y052101a.D	Liquid	Y	NA
16	BFB	TUNE	05-21-2020 06:15 pm	1.00	50 mL	50 mL	Y052102.D	Liquid	Y	NA
17	*Auto find/ purged* CCV	CCV	05-21-2020 06:39 pm	1.00	50 mL	50 mL	Y052103.D	Liquid	Y	NA
18	*10 uL cal std/50 mL DI* CCB	SAMP	05-21-2020 07:03 pm	1.00	50 mL	50 mL	Y052104.D	Liquid	Y	NA
19	VLCSW-200521	LCS	05-21-2020 07:27 pm	1.00	50 mL	50 mL	Y052105.D	Liquid	Y	NA
20	*4.0 uL cal std/50 mL DI* BLANK	SAMP	05-21-2020 07:51 pm	1.00	50 mL	50 mL	Y052106.D	Liquid	Y	NA
21	VBLKW-200521	MBLK	05-21-2020 08:15 pm	1.00	50 mL	50 mL	Y052107.D	Liquid	Y	NA
22	HS20050754-02	SAMP	05-21-2020 08:39 pm	1.00	50 mL	50 mL	Y052108.D	Liquid	Y	<2
23	HS20050757-03	SAMP	05-21-2020 09:03 pm	1.00	50 mL	50 mL	Y052109.D	Liquid	Y	<2
24	HS20050754-01	SAMP	05-21-2020 09:27 pm	1.00	50 mL	50 mL	Y052110.D	Liquid	Y	<2
25	HS20050757-01n/r	SAMP	05-21-2020 09:51 pm	1.00	50 mL	50 mL	Y052111.D	Liquid	Y	<2
26	HS20050754-01MS	MS	05-21-2020 10:15 pm	1.00	50 mL	50 mL	Y052112.D	Liquid	Y	<2
27	*3.5 uL cal std/40 mL samp* HS20050754-01MSD	MSD	05-21-2020 10:39 pm	1.00	50 mL	50 mL	Y052113.D	Liquid	Y	<2
28	*3.5 uL cal std/40 mL samp* CCV-END	CCV	05-21-2020 11:03 pm	1.00	50 mL	50 mL	Y052114.D	Liquid	Y	NA
29	*10 uL cal std/50 mL DI* MBLK-153693	MBLK	05-21-2020 11:27 pm	20.00	2.5 mL	50 mL	Y052115.D	Liquid	Y	NA
30	*tclps* HS20050723-01	SAMP	05-21-2020 11:51 pm	20.00	2.5 mL	50 mL	Y052116.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
31	HS20050765-01	SAMP	05-22-2020 12:15 am	1.00	50 mL	50 mL	Y052117.D	Liquid	Y	NA
32	HS20050786-09	SAMP	05-22-2020 12:39 am	1.00	50 mL	50 mL	Y052118.D	Liquid	Y	NA
33	HS20050786-06	SAMP	05-22-2020 01:03 am	1.00	50 mL	50 mL	Y052119.D	Liquid	Y	NA
34	HS20050786-07	SAMP	05-22-2020 01:27 am	1.00	50 mL	50 mL	Y052120.D	Liquid	Y	NA
35	HS20050812-01	SAMP	05-22-2020 01:52 am	1.00	50 mL	50 mL	Y052121.D	Liquid	Y	NA
36	HS20050812-05	SAMP	05-22-2020 02:16 am	1.00	50 mL	50 mL	Y052122.D	Liquid	Y	NA
37	HS20050812-02	SAMP	05-22-2020 02:40 am	1.00	50 mL	50 mL	Y052123.D	Liquid	Y	NA
38	HS20050812-03	SAMP	05-22-2020 03:04 am	1.00	50 mL	50 mL	Y052124.D	Liquid	Y	NA
39	HS20050812-04	SAMP	05-22-2020 03:28 am	1.00	50 mL	50 mL	Y052125.D	Liquid	Y	NA
40	HS20050812-06	SAMP	05-22-2020 03:52 am	1.00	50 mL	50 mL	Y052126.D	Liquid	Y	NA
41	HS20050812-07	SAMP	05-22-2020 04:16 am	1.00	50 mL	50 mL	Y052127.D	Liquid	Y	NA
42	HS20050812-08	SAMP	05-22-2020 04:40 am	1.00	50 mL	50 mL	Y052128.D	Liquid	Y	NA
43	HS20050811-01	SAMP	05-22-2020 05:04 am	1.00	50 mL	50 mL	Y052129.D	Liquid	Y	NA
44	HS20050811-02	SAMP	05-22-2020 05:28 am	1.00	50 mL	50 mL	Y052130.D	Liquid	Y	NA
45	HS20050811-03	SAMP	05-22-2020 05:52 am	1.00	50 mL	50 mL	Y052131.D	Liquid	Y	NA
46	BLANK	SAMP	05-22-2020 06:16 am	1.00	50 mL	50 mL	Y052132.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-30-06
IS ID	31106-30-06
CAL STD ID	31106-30-01/02
BFB ID	31106-30-06
pH Paper	634-64-11

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052101.D

Date : 21-MAY-2020 11:52

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

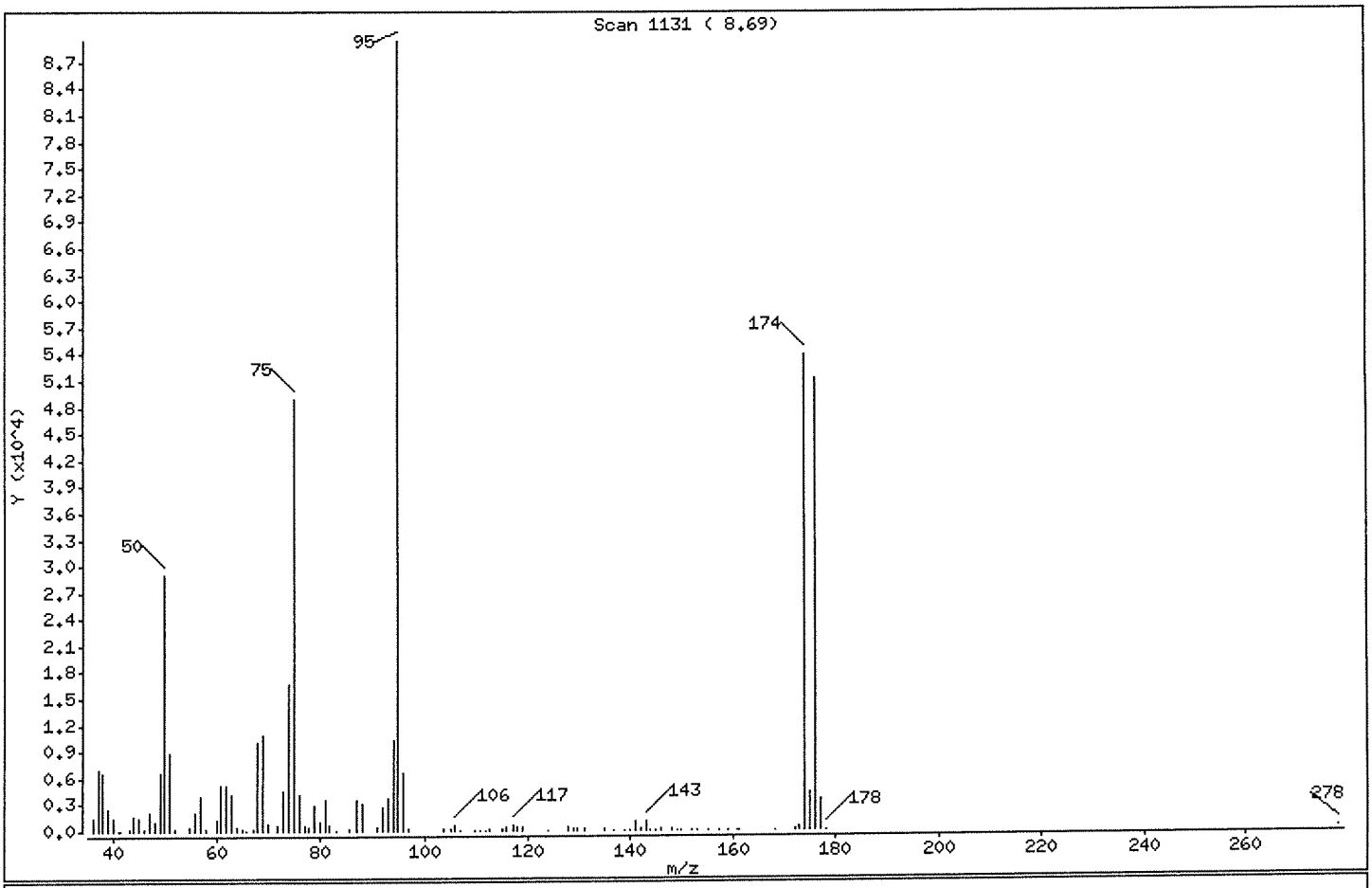
Volume Injected (uL): 2.0

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	32.30
75	30.00 - 60.00% of mass 95	54.78
96	5.00 - 9.00% of mass 95	7.29
173	Less than 2.00% of mass 174	0.55 (0.91)
174	Greater than 50.00% of mass 95	60.15
175	5.00 - 9.00% of mass 174	4.73 (7.86)
176	95.00 - 101.00% of mass 174	57.22 (95.14)
177	5.00 - 9.00% of mass 176	3.89 (6.79)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052101.D

Date : 21-MAY-2020 11:52

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: X052101.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 101

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1390	65.00	145	96.00	6521	142.90	1014
37.00	6951	65.90	53	97.00	149	143.70	101
38.00	6670	67.10	282	103.80	284	144.70	68
39.00	2567	68.00	10079	105.10	178	145.90	140
40.00	1458	69.00	10870	105.90	537	147.90	277
40.90	50	70.00	840	106.90	86	149.00	55
41.30	51	72.00	578	109.80	64	149.90	70
43.00	133	73.00	4501	110.80	101	152.00	56
44.00	1635	74.00	16616	111.70	62	152.80	89
45.00	1459	75.00	49000	112.70	116	154.90	96
46.00	138	76.00	4132	115.00	119	157.00	86
47.00	2016	77.10	556	115.80	418	158.90	97
48.00	1036	78.00	352	117.00	707	160.70	55
49.00	6545	78.90	2966	117.70	422	161.10	88
50.00	28896	79.90	1080	118.90	487	168.00	91
51.00	8939	80.90	3428	123.90	68	172.20	116
52.00	273	81.80	535	127.90	348	172.80	492
54.90	414	83.00	79	128.80	176	173.90	53800
56.00	2123	85.80	109	129.70	259	174.90	4229
57.00	3813	86.90	3445	130.90	159	175.90	51184
57.90	160	88.00	3059	134.90	183	176.90	3476
60.00	1191	90.90	316	136.80	89	177.90	74
60.90	5146	91.90	2678	138.70	84	278.00	78
62.00	5118	93.00	3658	139.80	75		
63.00	4184	94.00	10253	140.80	958		
63.90	373	95.00	89448	141.90	168		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052101.D

Date : 21-MAY-2020 11:52

Client ID: BFB

Instrument: voa6.i

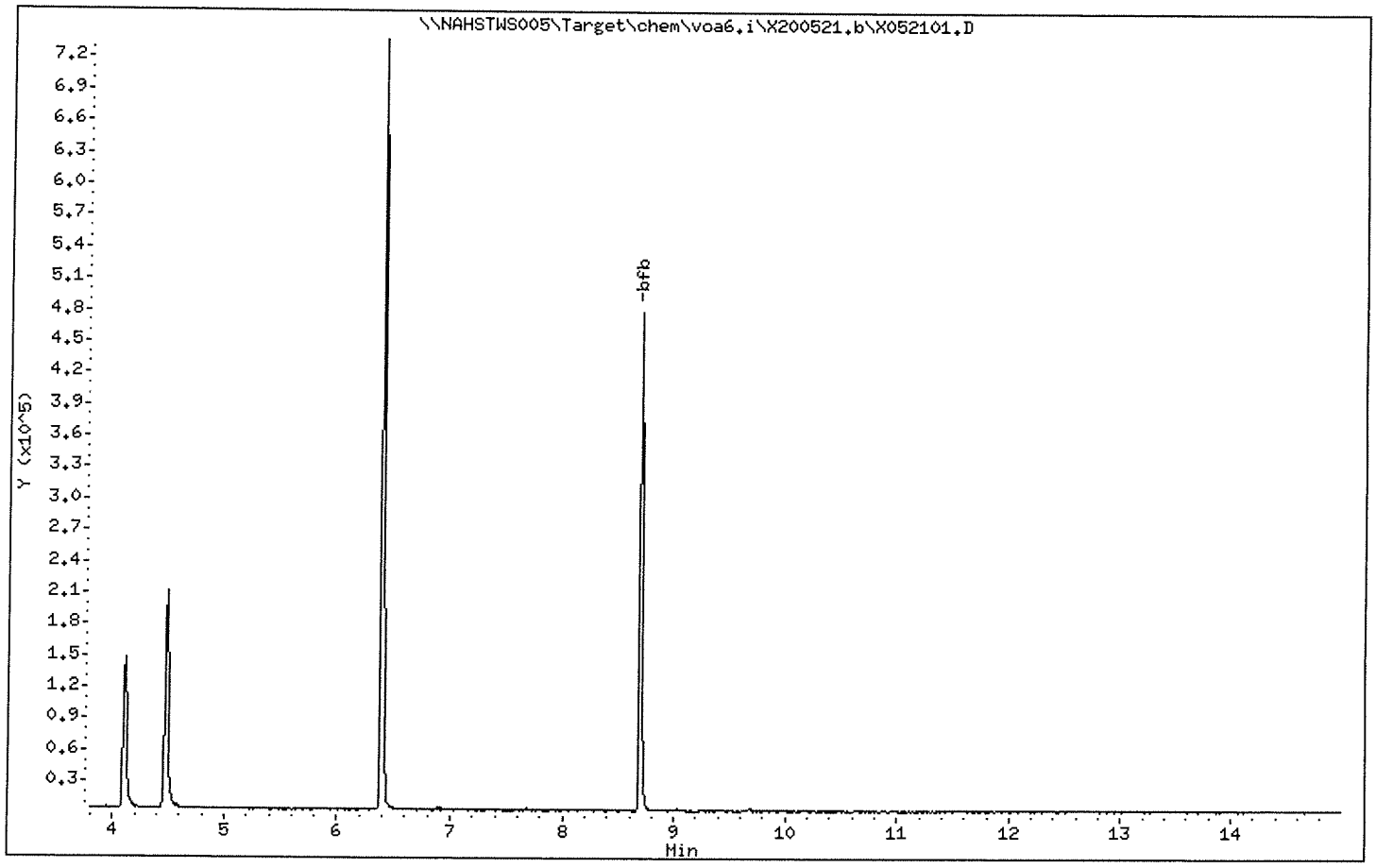
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052103.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 21-MAY-2020 13:04
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\X200521.b\8260W.m
Meth Date : 04-Jun-2020 10:02 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

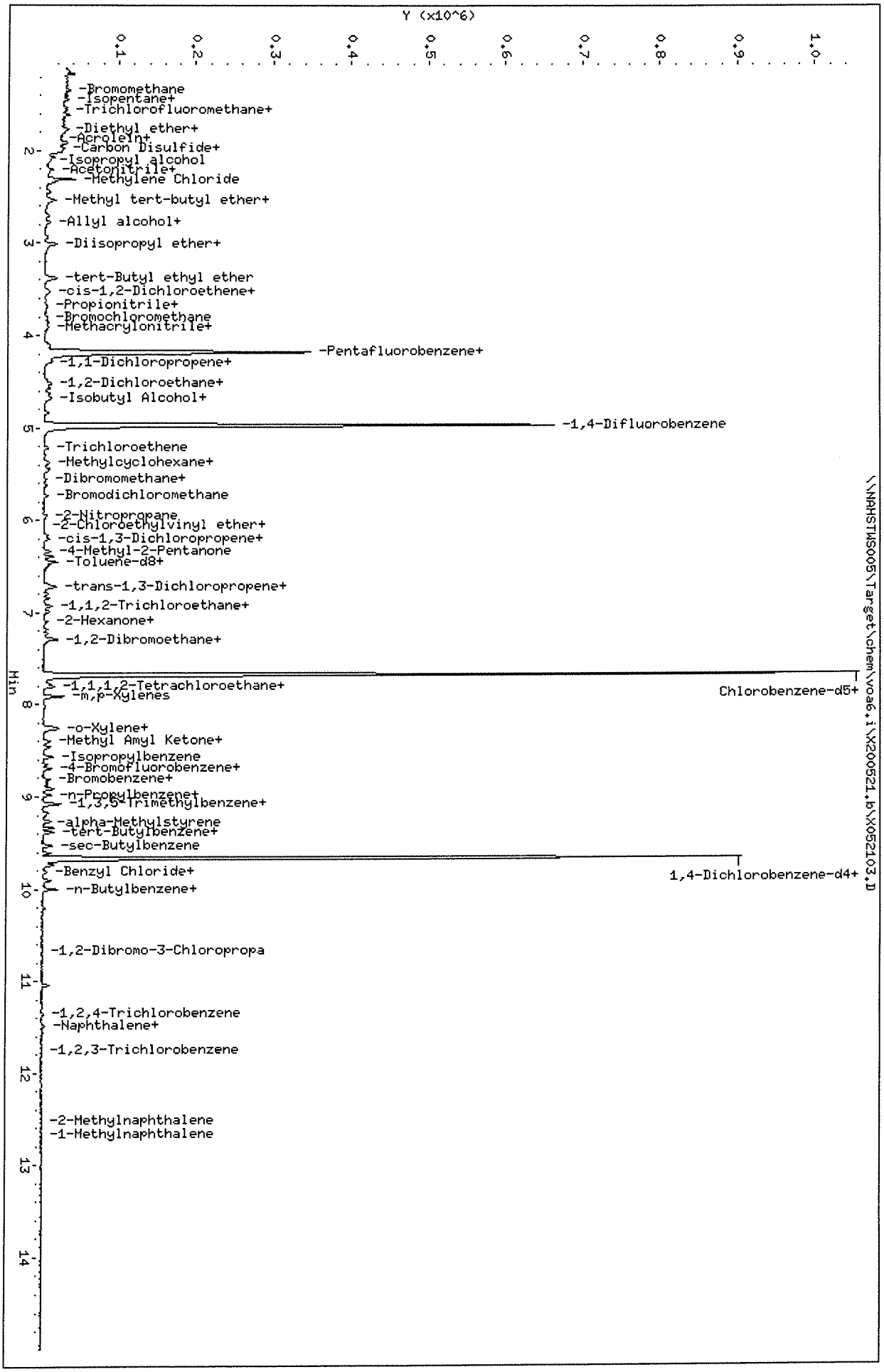
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	243412	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	441117	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	399980	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	182492	50.0000	
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.983)	1636	0.50000	0.43(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	2972	0.50000	0.10(Ta)
$ 48 Toluene-d8	98	6.395	6.395	(0.834)	6348	0.50000	0.43(Ta)
$ 69 4-Bromofluorobenzene	95	8.702	8.702	(1.134)	2937	0.50000	0.31(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1721	0.50000	0.56(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	3180	0.50000	0.61(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	2099	0.50000	0.53(aM)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1506	0.50000	0.55(a)
22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	4523	0.50000	0.57(TaM)
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	1597	0.50000	0.59(aM)
32 1,1-Dichloropropene	75	4.290	4.290	(0.863)	2765	0.50000	0.61(aM)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	434	0.50000	0.49(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	2060	0.50000	0.57(aM)
90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.173)	725	0.50000	0.47(aM)
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	5947	0.50000	0.54(a)
89 1,2-Dibromo-3-Chloropropane	155	10.672	10.672	(1.104)	189	0.50000	0.50(aM)
57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	1774	0.50000	0.54(a)
88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	2909	0.50000	0.55(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052103.D Page 2
Report Date: 04-Jun-2020 10:02

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.576	4.576	(0.921)	3871	0.50000	0.60 (a)
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	2198	0.50000	0.50 (aM)
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	5966	0.50000	0.56 (a)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	3294	0.50000	0.58 (a)
54 1,3-Dichloropropane	76	6.990	6.990	(0.911)	3616	0.50000	0.63 (a)
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	3573	0.50000	0.61 (a)
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	2765	0.50000	0.53 (aM)
24 2-Butanone	43	3.609	3.609	(0.863)	2438	1.00000	1.04 (aM)
76 2-Chlorotoluene	91	8.981	8.981	(0.929)	5995	0.50000	0.63 (a)
52 2-Hexanone	43	7.097	7.097	(0.925)	4468	1.00000	0.97 (a)
77 4-Chlorotoluene	91	9.082	9.082	(0.939)	6737	0.50000	0.61 (a)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	5796	0.50000	0.56 (a)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	6993	1.00000	1.05 (a)
37 Benzene	78	4.519	4.519	(0.909)	7658	0.50000	0.57 (a)
74 Bromobenzene	156	8.817	8.817	(0.912)	1900	0.50000	0.56 (a)
29 Bromochloromethane	128	3.802	3.802	(0.909)	983	0.50000	0.58 (aM)
39 Bromodichloromethane	83	5.729	5.729	(1.153)	2883	0.50000	0.58 (aM)
66 Bromoform	173	8.415	8.415	(1.097)	1210	0.50000	0.54 (aM)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	10123	1.00000	1.12 (a)
34 Carbon Tetrachloride	117	4.261	4.261	(0.857)	2382	0.50000	0.53 (aM)
59 Chlorobenzene	112	7.699	7.699	(1.004)	4794	0.50000	0.58 (a)
7 Chloroethane	64	1.403	1.403	(0.336)	1926	0.50000	0.64 (aM)
28 Chloroform	83	3.917	3.917	(0.937)	3541	0.50000	0.56 (a)
3 Chloromethane	50	1.080	1.080	(0.258)	5372	0.50000	0.21 (aM)
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	1951	0.50000	0.54 (a)
46 cis-1,3-Dichloropropene	75	6.166	6.166	(1.241)	3277	0.50000	0.56 (a)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	2086	0.50000	0.62 (a)
44 Dibromomethane	93	5.557	5.557	(1.118)	1263	0.50000	0.54 (a)
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1930	0.50000	2.35 (a)
61 Ethylbenzene	106	7.799	7.799	(1.017)	2492	0.50000	0.58 (a)
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	727	0.50000	1.88 (aM)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	7315	0.50000	0.57 (a)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	6089	1.00000	1.17 (a)
87 n-Butylbenzene	91	9.998	9.998	(1.034)	5820	0.50000	0.59 (a)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	9055	0.50000	0.58 (a)
92 Naphthalene	128	11.560	11.560	(1.196)	1340	0.50000	0.48 (a)
63 o-Xylene	106	8.244	8.244	(1.075)	2777	0.50000	0.55 (a)
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	7405	0.50000	0.60 (a)
64 Styrene	104	8.265	8.265	(1.078)	4894	0.50000	0.54 (a)
78 tert-Butylbenzene	119	9.339	9.339	(0.966)	4926	0.50000	0.59 (a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	1135	0.50000	0.50 (a)
50 Toluene	91	6.453	6.453	(0.841)	7456	0.50000	0.56 (a)
20 trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	1594	0.50000	0.53 (a)
51 trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	2707	0.50000	0.50 (a)
38 Trichloroethene	130	5.214	5.214	(1.049)	1455	0.50000	0.48 (a)
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	2911	0.50000	0.55 (a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	2547	0.50000	0.47 (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\X200521.b\X052103.D
Date : 21-MAY-2020 13:04
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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052104.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 21-MAY-2020 13:28
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\X200521.b\8260W.m
Meth Date : 04-Jun-2020 10:02 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 13:04 Cal File: X052103.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

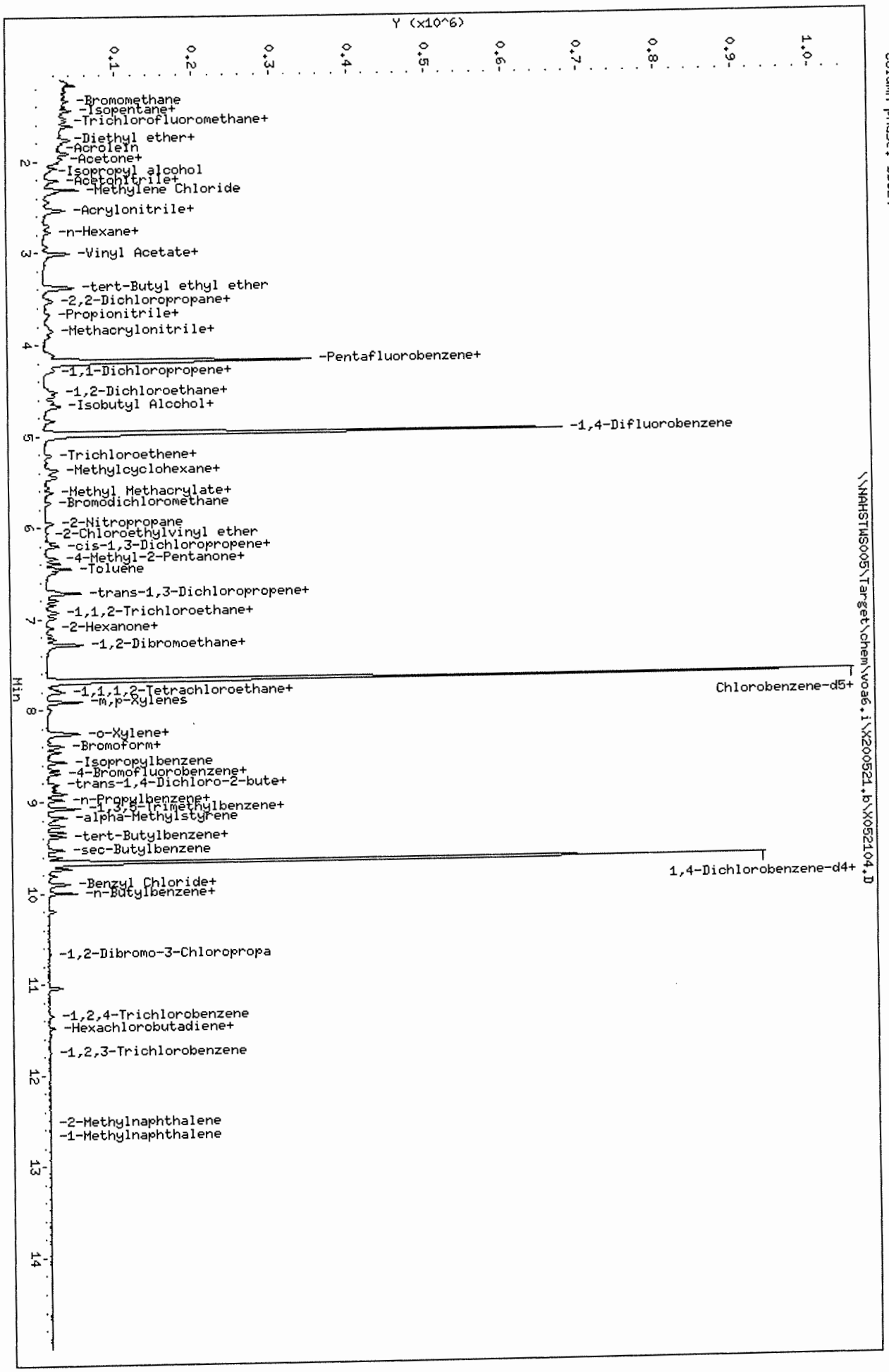
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	241149	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	435251	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	397373	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	182870	50.0000	
$	30 Dibromofluoromethane	113	4.111	4.111	(0.983)	2846	1.00000	0.83(a)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	5178	1.00000	0.59(aM)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	10300	1.00000	0.81(a)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4633	1.00000	0.74(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	2914	1.00000	0.95(a)
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	4465	1.00000	0.87(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	3884	1.00000	0.99(aM)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	2773	1.00000	1.02(a)
	22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	7987	1.00000	1.01
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	2514	1.00000	0.94(a)
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	4286	1.00000	0.96(a)
	93 1,2,3-Trichlorobenzene	180	11.754	11.754	(1.216)	1020	1.00000	1.14(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	3471	1.00000	0.95(aM)
	90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.173)	1662	1.00000	1.08(aM)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	10781	1.00000	0.99(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.103)	452	1.00000	1.19(aM)
	57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	3252	1.00000	1.00
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	4753	1.00000	0.90(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052104.D Page 2
Report Date: 04-Jun-2020 10:02

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.569	4.569	(0.919)	6448	1.00000	1.01
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	4138	1.00000	0.95(aM)
75	1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	10539	1.00000	0.99(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	5352	1.00000	0.94(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	5560	1.00000	0.98(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	5433	1.00000	0.92(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	6016	1.00000	1.16(a)
24	2-Butanone	43	3.602	3.602	(0.861)	3710	2.00000	1.49(a)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	9289	1.00000	0.98(a)
52	2-Hexanone	43	7.098	7.098	(0.925)	8162	2.00000	1.79(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	10791	1.00000	0.97(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	9982	1.00000	0.97(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	12697	2.00000	1.92(a)
10	Acetone	43	1.976	1.976	(0.473)	6697	2.00000	1.07(a)
37	Benzene	78	4.519	4.519	(0.909)	12467	1.00000	0.95(a)
74	Bromobenzene	156	8.810	8.810	(0.911)	3084	1.00000	0.92(a)
29	Bromochloromethane	128	3.810	3.810	(0.911)	1633	1.00000	0.97(a)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	4540	1.00000	0.93(aM)
66	Bromoform	173	8.416	8.416	(1.097)	2090	1.00000	0.95(Ta)
6	Bromomethane	94	1.338	1.338	(0.320)	3079	1.00000	0.55(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	16755	2.00000	1.88(a)
34	Carbon Tetrachloride	117	4.275	4.275	(0.860)	4910	1.00000	1.11(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	8064	1.00000	0.99(a)
7	Chloroethane	64	1.403	1.403	(0.336)	3107	1.00000	1.05(aM)
28	Chloroform	83	3.910	3.910	(0.935)	5860	1.00000	0.94(a)
3	Chloromethane	50	1.081	1.081	(0.258)	8358	1.00000	0.62(a)
27	cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	3518	1.00000	0.99(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	5533	1.00000	0.96(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	3078	1.00000	0.92(a)
44	Dibromomethane	93	5.565	5.565	(1.120)	1966	1.00000	0.86(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	3185	1.00000	2.68(a)
61	Ethylbenzene	106	7.800	7.800	(1.017)	3881	1.00000	0.92(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	1087	1.00000	2.30(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	12205	1.00000	0.96(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	10314	2.00000	2.00
17	Methylene Chloride	84	2.305	2.305	(0.551)	4722	1.00000	0.57(aM)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	8245	1.00000	0.84(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	14766	1.00000	0.95(a)
92	Naphthalene	128	11.560	11.560	(1.196)	3286	1.00000	1.18(a)
63	o-Xylene	106	8.244	8.244	(1.075)	4785	1.00000	0.95(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	11282	1.00000	0.92(a)
64	Styrene	104	8.265	8.265	(1.078)	7958	1.00000	0.89(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	8120	1.00000	0.98(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	2393	1.00000	1.07
50	Toluene	91	6.453	6.453	(0.841)	12641	1.00000	0.96(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	2745	1.00000	0.93(a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	5093	1.00000	0.96(a)
38	Trichloroethene	130	5.214	5.214	(1.049)	2888	1.00000	0.97(a)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	5123	1.00000	0.98(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	5520	1.00000	1.03(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\X200521.b\X052104.D
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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\X200521.b\X052104.D

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052105.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 21-MAY-2020 13:52
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\X200521.b\8260W.m
Meth Date : 04-Jun-2020 10:02 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 13:28 Cal File: X052104.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

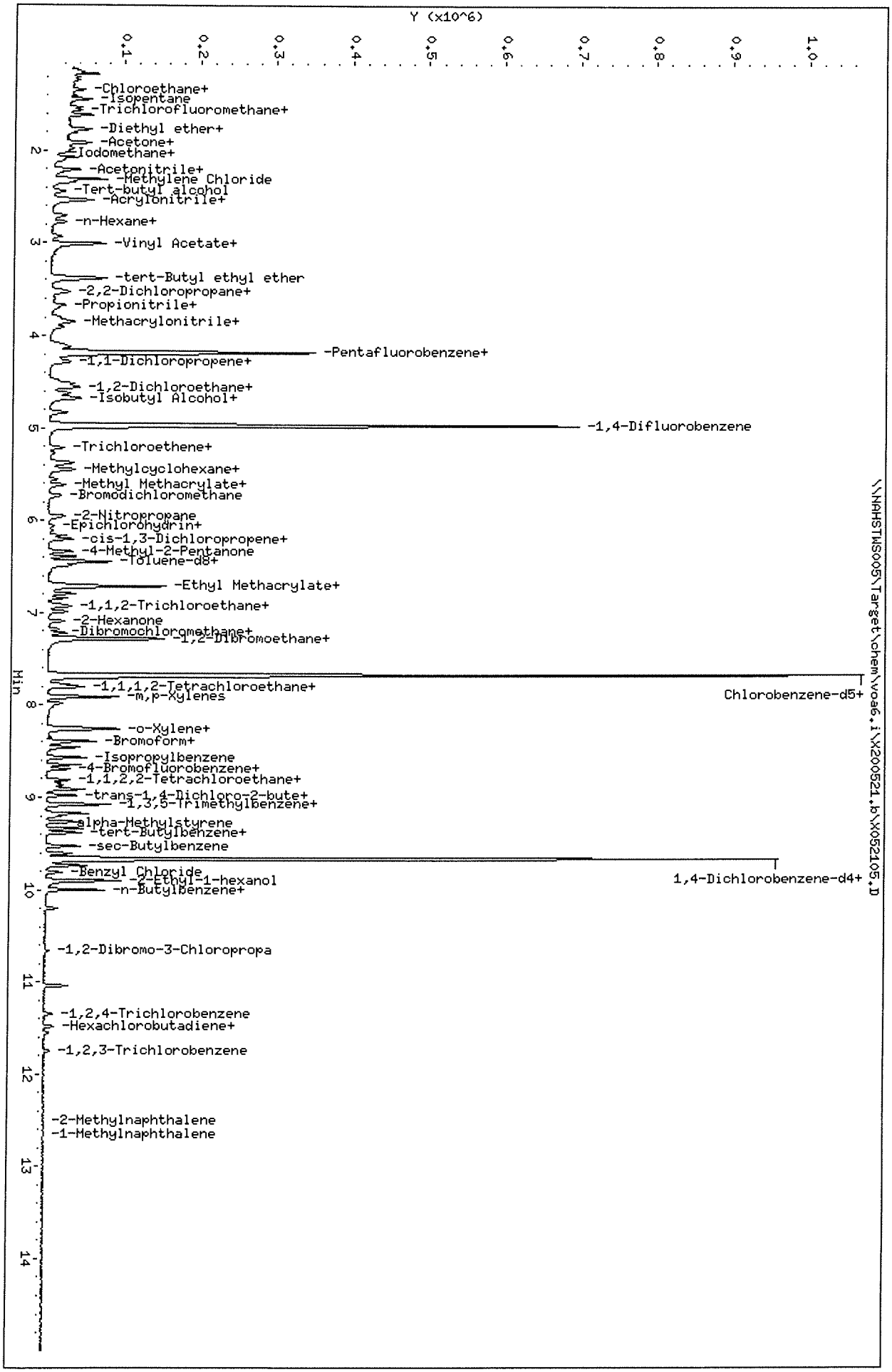
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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)	245103	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	441680	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	402753	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	183302	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	5396	2.00000	1.64
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	9946	2.00000	1.61
$ 48 Toluene-d8	98	6.395	6.395	(0.834)	20427	2.00000	1.74
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	8367	2.00000	1.63
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	6031	2.00000	1.95(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	9274	2.00000	1.77
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	7578	2.00000	1.92(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	5218	2.00000	1.90(a)
22 1,1-Dichloroethane	63	2.929	2.929	(0.699)	14991	2.00000	1.88
11 1,1-Dichloroethene	96	1.911	1.911	(0.456)	5154	2.00000	1.89(a)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	8750	2.00000	1.93(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	2001	2.00000	2.24(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	7012	2.00000	1.93(aM)
90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.173)	2863	2.00000	1.86(a)
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	20943	2.00000	1.92(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.103)	623	2.00000	1.64(a)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	6186	2.00000	1.88
88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	10156	2.00000	1.92(a)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	12459	2.00000	1.93
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	8148	2.00000	1.85(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	20565	2.00000	1.93(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	10356	2.00000	1.82(a)
54	1,3-Dichloropropane	76	6.990	6.990	(0.911)	10193	2.00000	1.78(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	11137	2.00000	1.90(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	9420	2.00000	1.80(a)
24	2-Butanone	43	3.595	3.595	(0.858)	8065	4.00000	2.98
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	17697	2.00000	1.87(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	17309	4.00000	3.75(a)
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	21231	2.00000	1.91(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	19525	2.00000	1.90(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	23747	4.00000	3.55(a)
10	Acetone	43	1.976	1.976	(0.472)	10614	4.00000	2.83(a)
37	Benzene	78	4.519	4.519	(0.909)	24719	2.00000	1.86
74	Bromobenzene	156	8.809	8.809	(0.911)	6366	2.00000	1.89(a)
29	Bromochloromethane	128	3.802	3.802	(0.908)	3374	2.00000	1.98(a)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	8910	2.00000	1.81(a)
66	Bromoform	173	8.415	8.415	(1.097)	4250	2.00000	1.91(Ta)
6	Bromomethane	94	1.338	1.338	(0.320)	5914	2.00000	1.83(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.494)	32937	4.00000	3.64(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	9120	2.00000	2.04(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	15307	2.00000	1.86
7	Chloroethane	64	1.403	1.403	(0.335)	6223	2.00000	2.07(a)
28	Chloroform	83	3.910	3.910	(0.933)	11583	2.00000	1.83
3	Chloromethane	50	1.080	1.080	(0.258)	15866	2.00000	1.62(a)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	6457	2.00000	1.80(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	10665	2.00000	1.83(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	6229	2.00000	1.84(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	4094	2.00000	1.77(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	6319	2.00000	3.45(a)
61	Ethylbenzene	106	7.807	7.807	(1.018)	8243	2.00000	1.93
91	Hexachlorobutadiene	225	11.488	11.488	(1.188)	1989	2.00000	3.34(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	24547	2.00000	1.91(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	19166	4.00000	3.67
17	Methylene Chloride	84	2.305	2.305	(0.550)	7313	2.00000	1.30(aM)
87	n-Butylbenzene	91	9.998	9.998	(1.034)	18487	2.00000	1.89(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	29340	2.00000	1.89(a)
92	Naphthalene	128	11.553	11.553	(1.195)	5207	2.00000	1.87(a)
63	o-Xylene	106	8.243	8.243	(1.075)	9780	2.00000	1.92
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	24119	2.00000	1.97(a)
64	Styrene	104	8.265	8.265	(1.078)	16925	2.00000	1.88
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	15886	2.00000	1.91(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	4449	2.00000	1.97
50	Toluene	91	6.453	6.453	(0.841)	25822	2.00000	1.95
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.605)	5221	2.00000	1.74(a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	10064	2.00000	1.88(a)
38	Trichloroethene	130	5.214	5.214	(1.049)	5698	2.00000	1.89
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	9586	2.00000	1.81(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	10739	2.00000	1.98(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\X200521.b\X052105.D
Date : 21-MAY-2020 13:52
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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052106.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 21-MAY-2020 14:15
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\X200521.b\8260W.m
Meth Date : 04-Jun-2020 10:02 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 13:52 Cal File: X052105.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

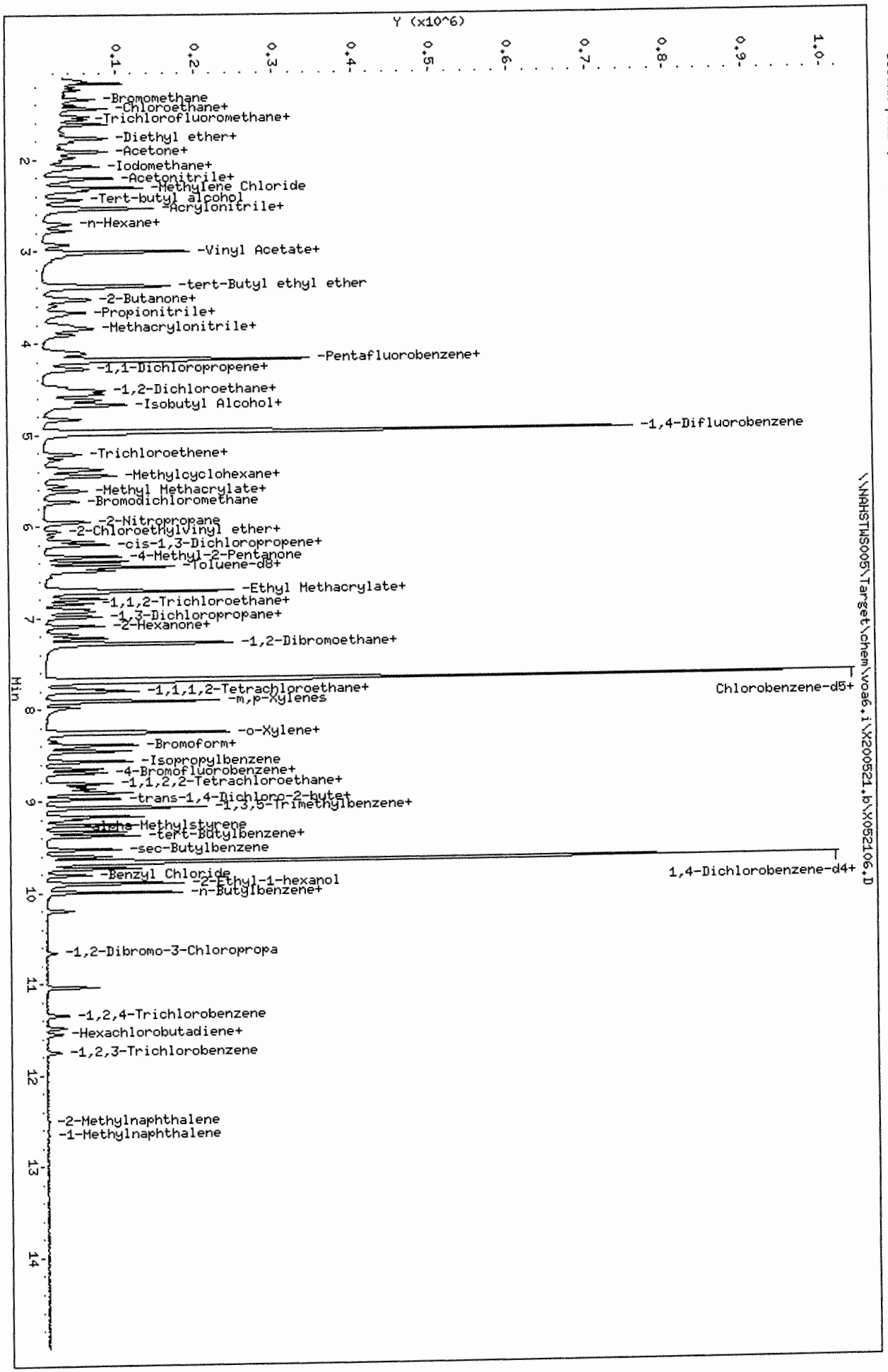
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	235460	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	424329	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	388924	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	180292	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	15007	5.00000	4.93
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	24487	5.00000	4.96
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	52927	5.00000	4.97
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	21837	5.00000	5.08
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	14661	5.00000	4.91(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	22927	5.00000	4.57
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	19625	5.00000	5.07
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	13693	5.00000	5.19
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	36012	5.00000	4.70
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	11315	5.00000	4.33(a)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	19721	5.00000	4.53(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	4126	5.00000	4.71(a)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	20715	5.00000	5.80(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.173)	7293	5.00000	4.83(a)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	48116	5.00000	4.49(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	1901	5.00000	5.09
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	16248	5.00000	5.12
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	25000	5.00000	4.80(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052106.D Page 2
Report Date: 04-Jun-2020 10:02

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	30276	5.00000	4.90
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	21028	5.00000	4.99(aM)
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	46543	5.00000	4.45(a)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	26272	5.00000	4.69(a)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	26858	5.00000	4.87(a)
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	27016	5.00000	4.68(a)
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	23245	5.00000	4.62(a)
24 2-Butanone	43	3.588	3.588	(0.858)	27638	10.0000	10.13
76 2-Chlorotoluene	91	8.981	8.981	(0.929)	41783	5.00000	4.49(a)
52 2-Hexanone	43	7.090	7.090	(0.924)	47660	10.0000	10.70
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	50013	5.00000	4.58(a)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	41157	5.00000	4.08(a)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	68920	10.0000	10.67
10 Acetone	43	1.976	1.976	(0.473)	23405	10.0000	9.22
37 Benzene	78	4.519	4.519	(0.909)	61332	5.00000	4.82
74 Bromobenzene	156	8.810	8.810	(0.911)	16022	5.00000	4.85(a)
29 Bromochloromethane	128	3.803	3.803	(0.909)	7677	5.00000	4.70(a)
39 Bromodichloromethane	83	5.729	5.729	(1.153)	23271	5.00000	4.94(a)
66 Bromoform	173	8.416	8.416	(1.097)	10127	5.00000	4.71(a)
6 Bromomethane	94	1.338	1.338	(0.320)	15003	5.00000	6.29(M)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	76726	10.0000	8.84
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	18920	5.00000	4.41(a)
59 Chlorobenzene	112	7.699	7.699	(1.004)	37715	5.00000	4.76
7 Chloroethane	64	1.403	1.403	(0.336)	13139	5.00000	4.56(a)
28 Chloroform	83	3.910	3.910	(0.935)	30270	5.00000	4.98
3 Chloromethane	50	1.081	1.081	(0.258)	37520	5.00000	4.74(a)
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	16860	5.00000	4.89(a)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	28194	5.00000	5.03
55 Dibromochloromethane	129	7.176	7.176	(0.936)	16418	5.00000	5.04
44 Dibromomethane	93	5.557	5.557	(1.118)	11622	5.00000	5.25
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	14377	5.00000	5.64
61 Ethylbenzene	106	7.800	7.800	(1.017)	18432	5.00000	4.47
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	3527	5.00000	5.19
67 Isopropylbenzene	105	8.566	8.566	(1.117)	53437	5.00000	4.31(a)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	45798	10.0000	9.09
17 Methylene Chloride	84	2.305	2.305	(0.551)	22687	5.00000	6.02
87 n-Butylbenzene	91	9.999	9.999	(1.034)	38790	5.00000	4.03(a)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	64303	5.00000	4.23(a)
92 Naphthalene	128	11.546	11.546	(1.194)	13468	5.00000	4.93(a)
63 o-Xylene	106	8.244	8.244	(1.075)	22782	5.00000	4.65
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	47369	5.00000	3.93(a)
64 Styrene	104	8.265	8.265	(1.078)	42767	5.00000	4.92
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	34372	5.00000	4.21(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	9792	5.00000	4.50
50 Toluene	91	6.453	6.453	(0.841)	62100	5.00000	4.86
20 trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	14041	5.00000	4.89(a)
51 trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	25791	5.00000	5.03
38 Trichloroethene	130	5.214	5.214	(1.049)	13924	5.00000	4.81
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	21889	5.00000	4.32(a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	23621	5.00000	4.55(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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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\X200521.b\X052107.D Page 1
Report Date: 04-Jun-2020 10:02

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052107.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 21-MAY-2020 14:39
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\X200521.b\8260W.m
Meth Date : 04-Jun-2020 10:02 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 14:15 Cal File: X052106.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

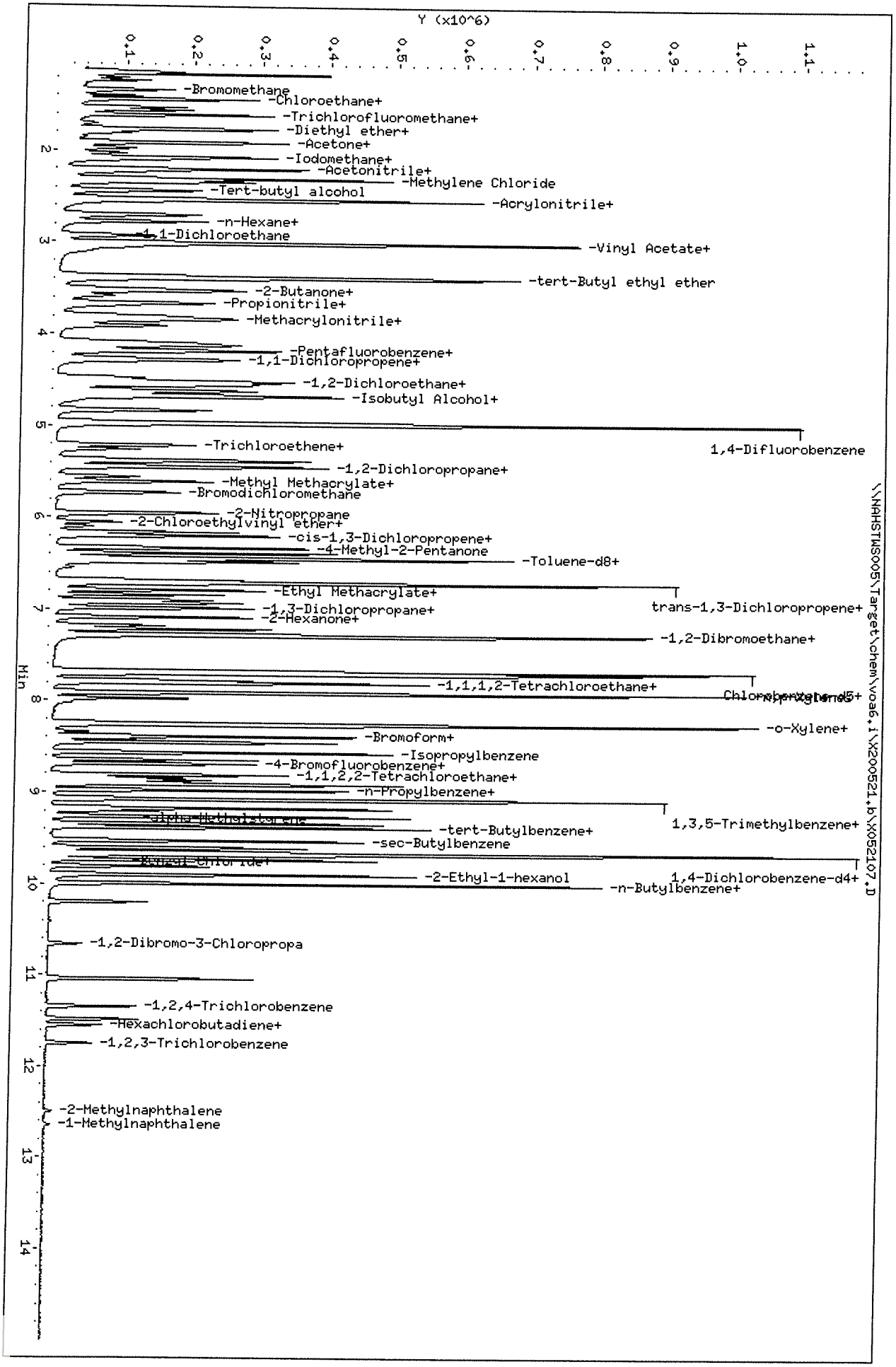
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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)	223677	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	413664	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	382952	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	178926	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	58156	20.0000	20.41
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	89078	20.0000	20.54
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	202272	20.0000	19.78
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	80742	20.0000	20.17
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	58447	20.0000	19.91
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	100478	20.0000	21.11
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	78931	20.0000	20.56
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	51587	20.0000	19.85
22 1,1-Dichloroethane	63	2.929	2.929	(0.699)	148584	20.0000	20.44
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	51967	20.0000	20.96
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	86040	20.0000	20.29
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	16379	20.0000	18.86
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	69014	20.0000	19.49(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	29096	20.0000	19.43
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	218650	20.0000	20.59
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	7019	20.0000	18.96
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	63604	20.0000	20.35
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	106244	20.0000	20.58

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	120558	20.0000	20.01
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	86399	20.0000	21.03
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	213025	20.0000	20.53
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	111537	20.0000	20.08
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	108313	20.0000	19.97
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	114865	20.0000	20.07
26 2,2-Dichloropropane	77	3.516	3.516	(0.839)	101273	20.0000	21.21
24 2-Butanone	43	3.580	3.580	(0.855)	109929	40.0000	41.82
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	186356	20.0000	20.19
52 2-Hexanone	43	7.090	7.090	(0.924)	181577	40.0000	41.41
77 4-Chlorotoluene	91	9.074	9.074	(0.939)	217851	20.0000	20.12
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	205903	20.0000	20.59
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	254083	40.0000	39.98
10 Acetone	43	1.976	1.976	(0.472)	87794	40.0000	42.57
37 Benzene	78	4.519	4.519	(0.909)	252011	20.0000	20.35
74 Bromobenzene	156	8.809	8.809	(0.911)	66383	20.0000	20.27
29 Bromochloromethane	128	3.802	3.802	(0.908)	31952	20.0000	20.62
39 Bromodichloromethane	83	5.729	5.729	(1.153)	93496	20.0000	20.36
66 Bromoform	173	8.415	8.415	(1.097)	41447	20.0000	19.60
6 Bromomethane	94	1.338	1.338	(0.320)	51599	20.0000	25.08
19 Carbon Disulfide	76	2.069	2.069	(0.494)	346396	40.0000	42.05
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	84255	20.0000	20.17
59 Chlorobenzene	112	7.699	7.699	(1.004)	157040	20.0000	20.17
7 Chloroethane	64	1.403	1.403	(0.335)	53493	20.0000	19.55
28 Chloroform	83	3.910	3.910	(0.933)	120336	20.0000	20.87
3 Chloromethane	50	1.081	1.081	(0.258)	157534	20.0000	22.74
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	68254	20.0000	20.87
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	110892	20.0000	20.31
55 Dibromochloromethane	129	7.176	7.176	(0.936)	62424	20.0000	19.46
44 Dibromomethane	93	5.557	5.557	(1.118)	45234	20.0000	20.96
2 Dichlorodifluoromethane	85	0.973	0.973	(0.232)	67938	20.0000	20.68
61 Ethylbenzene	106	7.799	7.799	(1.017)	82362	20.0000	20.28
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	17992	20.0000	22.15
67 Isopropylbenzene	105	8.566	8.566	(1.117)	249240	20.0000	20.42
62 m,p-Xylenes	106	7.907	7.907	(1.031)	199286	40.0000	40.20
17 Methylene Chloride	84	2.305	2.305	(0.550)	72755	20.0000	22.26
87 n-Butylbenzene	91	9.999	9.999	(1.034)	198523	20.0000	20.82
73 n-Propylbenzene	91	8.917	8.917	(0.922)	309502	20.0000	20.52
92 Naphthalene	128	11.546	11.546	(1.194)	48648	20.0000	17.96
63 o-Xylene	106	8.244	8.244	(1.075)	97106	20.0000	20.13
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	243366	20.0000	20.38
64 Styrene	104	8.258	8.258	(1.077)	175112	20.0000	20.48
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	164172	20.0000	20.27
56 Tetrachloroethene	164	6.933	6.933	(0.904)	43077	20.0000	20.11
50 Toluene	91	6.446	6.446	(0.840)	256302	20.0000	20.37
20 trans-1,2-Dichloroethene	96	2.535	2.535	(0.605)	58565	20.0000	21.49
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	102572	20.0000	20.54
38 Trichloroethene	130	5.214	5.214	(1.049)	59086	20.0000	20.94
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	102008	20.0000	21.20
5 Vinyl Chloride	62	1.138	1.138	(0.272)	101132	20.0000	20.52

QC Flag Legend

M - Compound response manually integrated.



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Date : 21-MAY-2020 14:39
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\X200521.b\X052108.D Page 1
Report Date: 04-Jun-2020 10:02

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052108.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 21-MAY-2020 15:03
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\X200521.b\8260W.m
Meth Date : 04-Jun-2020 10:02 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 14:39 Cal File: X052107.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

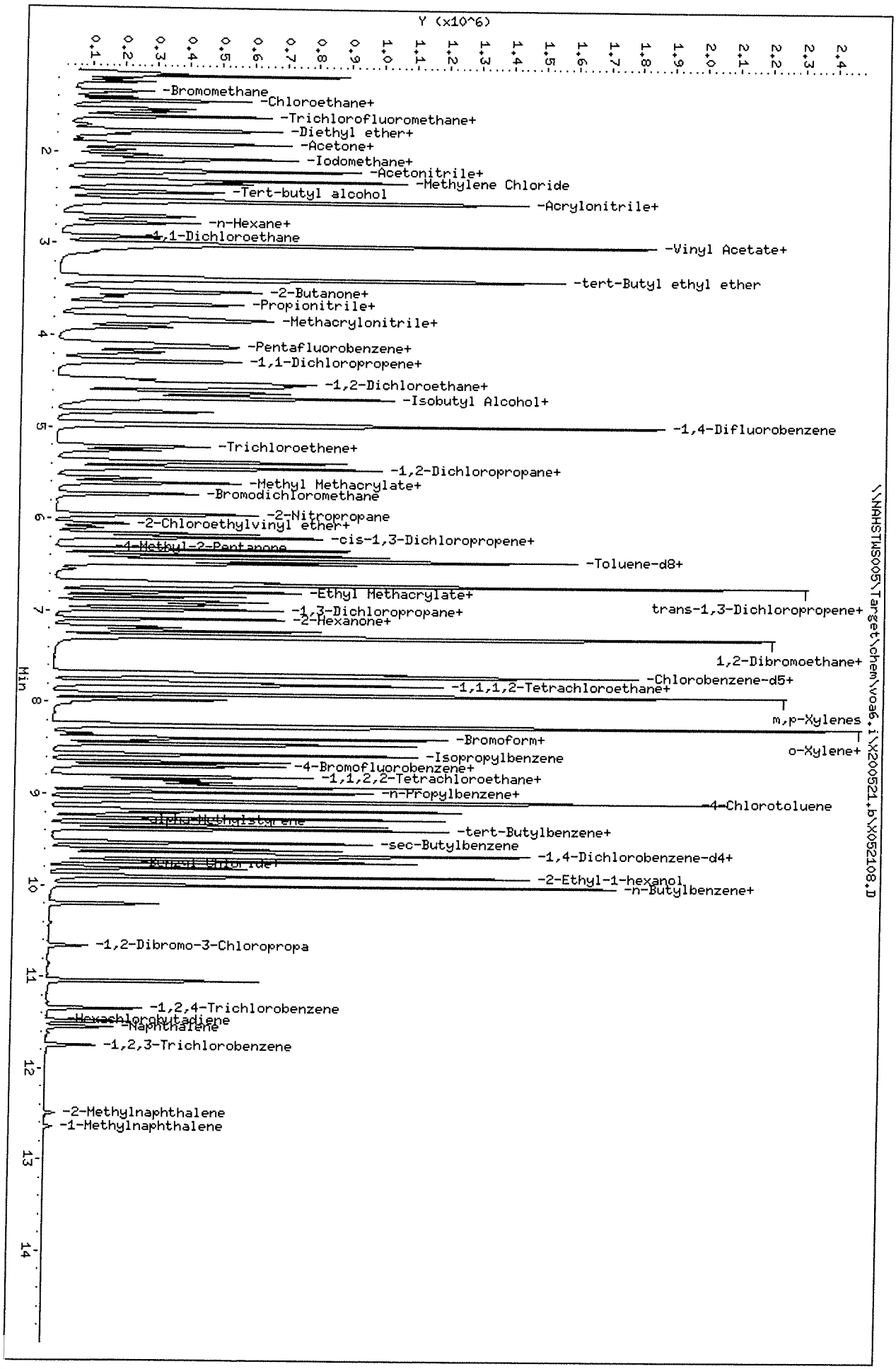
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	216780	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	400817	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	375634	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	176026	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.981)	140049	50.0000	50.86
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	213876	50.0000	51.70
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	496584	50.0000	49.76
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	191321	50.0000	49.30
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	138246	50.0000	48.03
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	223089	50.0000	48.36
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	187976	50.0000	49.78
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	121835	50.0000	47.81
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	345794	50.0000	49.10
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	116684	50.0000	48.57
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	185123	50.0000	45.06
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	34935	50.0000	40.89
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	170034	50.0000	48.82(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	66035	50.0000	44.84
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	488239	50.0000	46.74
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	17753	50.0000	48.76
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	148875	50.0000	48.57
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	248698	50.0000	48.97

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052108.D
Report Date: 04-Jun-2020 10:02

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	285588	50.0000	48.94
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	201622	50.0000	50.65
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	466439	50.0000	45.70
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	260670	50.0000	47.70
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	255457	50.0000	48.01
84 1,4-Dichlorobenzene	146	9.684	9.684	(1.001)	267477	50.0000	47.52
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	219417	50.0000	47.42
24 2-Butanone	43	3.581	3.581	(0.856)	262391	100.000	102.72
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	417933	50.0000	46.03
52 2-Hexanone	43	7.091	7.091	(0.924)	438507	100.000	101.97
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	494876	50.0000	46.47
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	443388	50.0000	45.08
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	622328	100.000	99.84
10 Acetone	43	1.976	1.976	(0.473)	202080	100.000	103.99
37 Benzene	78	4.519	4.519	(0.909)	575893	50.0000	47.99
74 Bromobenzene	156	8.810	8.810	(0.911)	156637	50.0000	48.62
29 Bromochloromethane	128	3.796	3.796	(0.908)	76182	50.0000	50.73
39 Bromodichloromethane	83	5.730	5.730	(1.153)	220558	50.0000	49.58
66 Bromoform	173	8.416	8.416	(1.097)	102145	50.0000	49.25
6 Bromomethane	94	1.339	1.339	(0.320)	96835	50.0000	49.40
19 Carbon Disulfide	76	2.069	2.069	(0.495)	779224	100.000	97.61
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	178168	50.0000	44.02
59 Chlorobenzene	112	7.699	7.699	(1.004)	361140	50.0000	47.28
7 Chloroethane	64	1.403	1.403	(0.336)	121772	50.0000	45.93
28 Chloroform	83	3.910	3.910	(0.935)	280986	50.0000	50.30
3 Chloromethane	50	1.074	1.074	(0.257)	335826	50.0000	50.65
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	157470	50.0000	49.69
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	258964	50.0000	48.96
55 Dibromochloromethane	129	7.176	7.176	(0.936)	149465	50.0000	47.51
44 Dibromomethane	93	5.558	5.558	(1.118)	105909	50.0000	50.65
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	151725	50.0000	45.23
61 Ethylbenzene	106	7.800	7.800	(1.017)	185681	50.0000	46.62
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	34215	50.0000	41.32
67 Isopropylbenzene	105	8.566	8.566	(1.117)	540561	50.0000	45.15
62 m,p-Xylenes	106	7.907	7.907	(1.031)	452382	100.000	93.04
17 Methylene Chloride	84	2.306	2.306	(0.551)	156257	50.0000	50.32
87 n-Butylbenzene	91	9.999	9.999	(1.034)	427154	50.0000	45.54
73 n-Propylbenzene	91	8.917	8.917	(0.922)	676523	50.0000	45.60
92 Naphthalene	128	11.546	11.546	(1.194)	118772	50.0000	44.59
63 o-Xylene	106	8.244	8.244	(1.075)	225576	50.0000	47.69
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	515485	50.0000	43.89
64 Styrene	104	8.258	8.258	(1.077)	412917	50.0000	49.24
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	358594	50.0000	45.00
56 Tetrachloroethene	164	6.933	6.933	(0.904)	92752	50.0000	44.15
50 Toluene	91	6.446	6.446	(0.840)	579169	50.0000	46.93
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	131483	50.0000	49.79
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	239724	50.0000	49.55
38 Trichloroethene	130	5.207	5.207	(1.048)	131324	50.0000	48.03
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	221577	50.0000	47.51
5 Vinyl Chloride	62	1.138	1.138	(0.272)	226469	50.0000	47.41

QC Flag Legend

M - Compound response manually integrated.



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Date : 21-MAY-2020 15:03
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\X200521.b\X052109.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 21-MAY-2020 15:27
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\X200521.b\8260W.m
Meth Date : 04-Jun-2020 10:02 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 15:03 Cal File: X052108.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

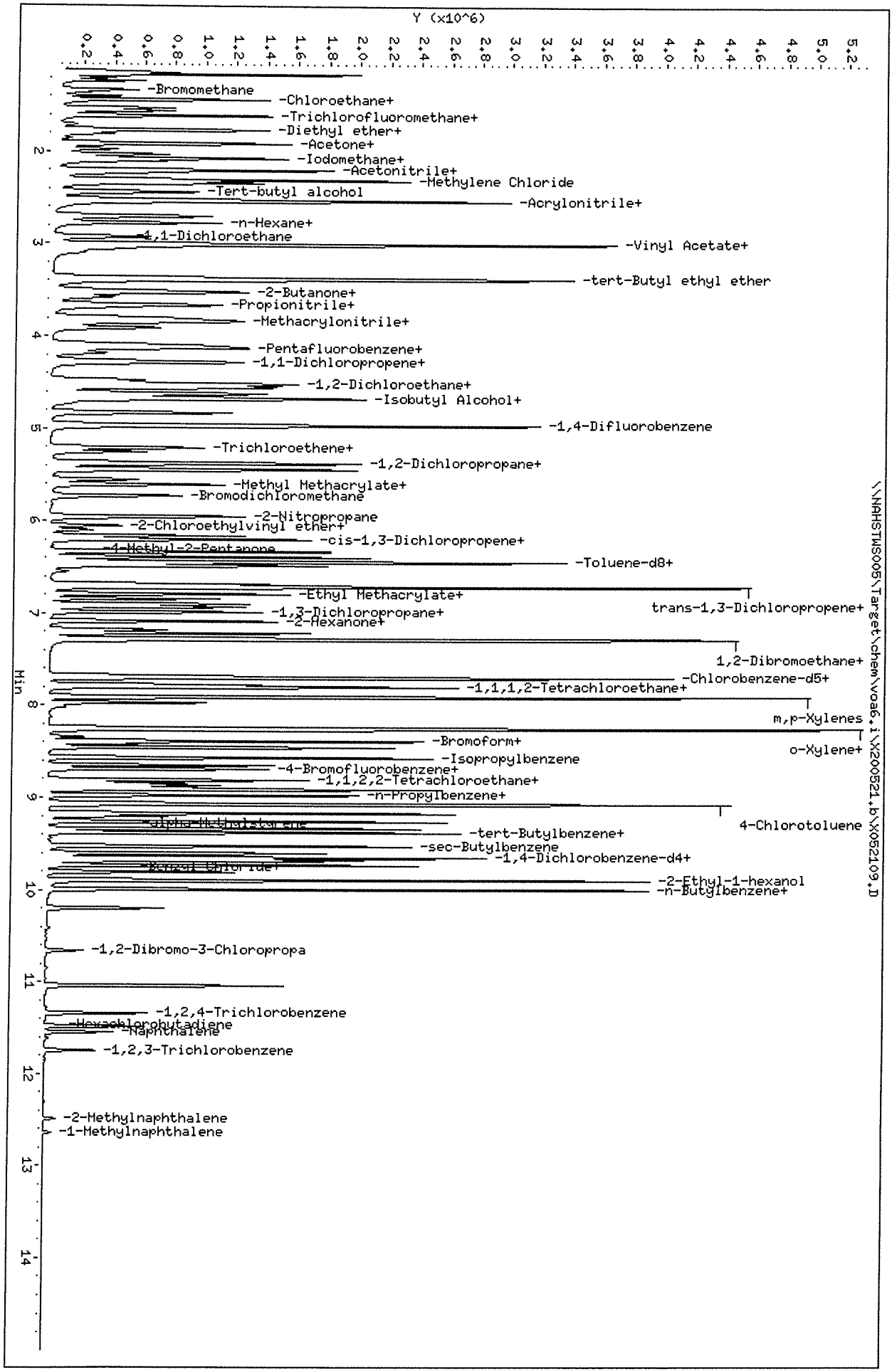
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	226873	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	403209	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	370457	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	178358	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	284174	100.000	98.70
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	424688	100.000	98.57
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1000150	100.000	101.80
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	389481	100.000	102.20
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	284474	100.000	100.22
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	476689	100.000	98.75
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	365698	100.000	95.59
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	246349	100.000	98.03
22 1,1-Dichloroethane	63	2.922	2.922	(0.697)	700997	100.000	95.11
11 1,1-Dichloroethene	96	1.912	1.912	(0.456)	247876	100.000	98.59
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	406695	100.000	98.40
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	79612	100.000	91.97
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	334629	100.000	94.84(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	148778	100.000	99.71
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1072433	100.000	101.33
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	35848	100.000	97.17
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	300152	100.000	99.30
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	517596	100.000	100.59

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052109.D Page 2
Report Date: 04-Jun-2020 10:02

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	555405	100.000	94.61
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	401298	100.000	100.22
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1040913	100.000	100.65
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	559214	100.000	101.01
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	513974	100.000	97.96
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	561940	100.000	98.53
26 2,2-Dichloropropane	77	3.516	3.516	(0.839)	460745	100.000	95.15
24 2-Butanone	43	3.581	3.581	(0.855)	518367	200.000	193.73
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	894547	100.000	97.24
52 2-Hexanone	43	7.090	7.090	(0.924)	865983	200.000	204.19
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	1057252	100.000	97.99
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1032136	100.000	103.58
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	1236969	200.000	201.22
10 Acetone	43	1.976	1.976	(0.472)	394412	200.000	195.75
37 Benzene	78	4.519	4.519	(0.909)	1188104	100.000	98.43
74 Bromobenzene	156	8.810	8.810	(0.911)	325073	100.000	99.58
29 Bromochloromethane	128	3.795	3.795	(0.906)	151213	100.000	96.21
39 Bromodichloromethane	83	5.729	5.729	(1.153)	435243	100.000	97.26
66 Bromoform	173	8.416	8.416	(1.097)	209758	100.000	102.56
6 Bromomethane	94	1.339	1.339	(0.320)	186176	100.000	91.49
19 Carbon Disulfide	76	2.069	2.069	(0.494)	1655233	200.000	198.12(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	396331	100.000	97.34
59 Chlorobenzene	112	7.699	7.699	(1.004)	741813	100.000	98.49
7 Chloroethane	64	1.403	1.403	(0.335)	253414	100.000	91.34
28 Chloroform	83	3.910	3.910	(0.933)	563614	100.000	96.41
3 Chloromethane	50	1.073	1.073	(0.256)	664349	100.000	96.21
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	318177	100.000	95.95
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	522580	100.000	98.23
55 Dibromochloromethane	129	7.176	7.176	(0.936)	306274	100.000	98.71
44 Dibromomethane	93	5.558	5.558	(1.118)	207791	100.000	98.78
2 Dichlorodifluoromethane	85	0.973	0.973	(0.232)	338855	100.000	94.41
61 Ethylbenzene	106	7.800	7.800	(1.017)	406801	100.000	103.57(A)
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	87138	100.000	98.11
67 Isopropylbenzene	105	8.566	8.566	(1.117)	1231653	100.000	104.33
62 m,p-Xylenes	106	7.907	7.907	(1.031)	967123	200.000	201.70(A)
17 Methylene Chloride	84	2.306	2.306	(0.550)	311412	100.000	96.57
87 n-Butylbenzene	91	9.999	9.999	(1.034)	1006889	100.000	105.94
73 n-Propylbenzene	91	8.917	8.917	(0.922)	1526702	100.000	101.57
92 Naphthalene	128	11.546	11.546	(1.194)	259736	100.000	96.24
63 o-Xylene	106	8.244	8.244	(1.075)	478223	100.000	102.52(A)
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	1229897	100.000	103.35
64 Styrene	104	8.265	8.265	(1.078)	840604	100.000	101.65(A)
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	815735	100.000	101.04
56 Tetrachloroethene	164	6.933	6.933	(0.904)	214070	100.000	103.32(A)
50 Toluene	91	6.446	6.446	(0.840)	1210478	100.000	99.46
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.603)	273628	100.000	99.01
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	484893	100.000	99.64
38 Trichloroethene	130	5.207	5.207	(1.048)	281322	100.000	102.29(A)
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	488040	100.000	99.99
5 Vinyl Chloride	62	1.138	1.138	(0.272)	497419	100.000	99.51

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



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Client ID: VSTD100
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Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052110.D Page 1
Report Date: 04-Jun-2020 10:02

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052110.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 21-MAY-2020 15:51
Operator : PC Inst ID: voa6.i
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Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200521.b\8260W.m
Meth Date : 04-Jun-2020 10:02 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 15:27 Cal File: X052109.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

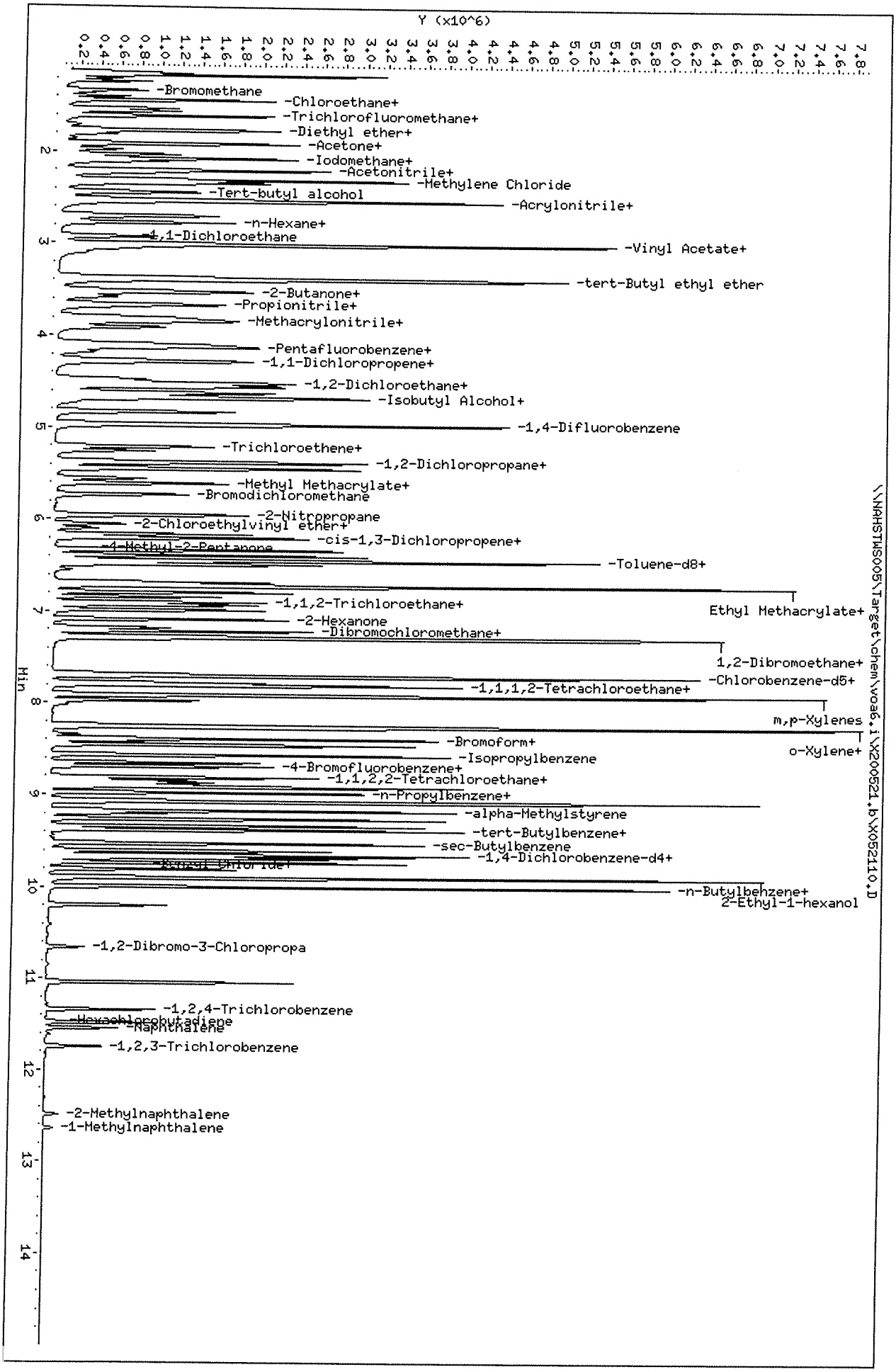
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	215763	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	396354	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	370005	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	174498	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	413569	150.000	151.09
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	616356	150.000	150.71
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1471985	150.000	150.09
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	570349	150.000	150.03
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	426931	150.000	150.59
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	723714	150.000	157.65(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	553196	150.000	147.80
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	366222	150.000	145.91
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	1055187	150.000	150.54(A)
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	373387	150.000	156.16
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	625529	150.000	153.97
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	132463	150.000	156.41
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	489565	150.000	141.82(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	239415	150.000	164.01
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1609728	150.000	155.46
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	55956	150.000	155.04
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	447529	150.000	148.24(A)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	779254	150.000	154.79

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052110.D Page 2
Report Date: 04-Jun-2020 10:02

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	825090	150.000	142.99(A)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	606544	150.000	154.10
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1585937	150.000	156.75
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	842955	150.000	155.63
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	764394	150.000	145.86
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	846689	150.000	151.74
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	695481	150.000	151.03
24 2-Butanone	43	3.581	3.581	(0.856)	773344	300.000	303.80(A)
76 2-Chlorotoluene	91	8.981	8.981	(0.929)	1359054	150.000	151.00
52 2-Hexanone	43	7.090	7.090	(0.924)	1297414	300.000	306.30
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	1609063	150.000	152.43
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1579863	150.000	162.06
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	1868577	300.000	304.34
10 Acetone	43	1.976	1.976	(0.473)	575324	300.000	301.37
37 Benzene	78	4.512	4.512	(0.908)	1797397	150.000	151.49(A)
74 Bromobenzene	156	8.810	8.810	(0.911)	491757	150.000	153.98
29 Bromochloromethane	128	3.795	3.795	(0.908)	220505	150.000	147.53
39 Bromodichloromethane	83	5.729	5.729	(1.153)	661167	150.000	150.30
66 Bromoform	173	8.416	8.416	(1.097)	317168	150.000	155.28
6 Bromomethane	94	1.331	1.331	(0.318)	292644	150.000	151.80
19 Carbon Disulfide	76	2.069	2.069	(0.495)	2536341	300.000	319.22(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	616513	150.000	154.04
59 Chlorobenzene	112	7.699	7.699	(1.004)	1133145	150.000	150.63(A)
7 Chloroethane	64	1.396	1.396	(0.334)	380852	150.000	144.35
28 Chloroform	83	3.910	3.910	(0.935)	841088	150.000	151.28(A)
3 Chloromethane	50	1.073	1.073	(0.257)	991948	150.000	151.34
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	482872	150.000	153.11(A)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	786728	150.000	150.44
55 Dibromochloromethane	129	7.184	7.184	(0.937)	462610	150.000	149.28
44 Dibromomethane	93	5.558	5.558	(1.118)	317436	150.000	153.52
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	522911	150.000	152.04
61 Ethylbenzene	106	7.800	7.800	(1.017)	607747	150.000	154.92(A)
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	146468	150.000	159.23
67 Isopropylbenzene	105	8.566	8.566	(1.117)	1874691	150.000	158.99
62 m,p-Xylenes	106	7.907	7.907	(1.031)	1479284	300.000	308.89(A)
17 Methylene Chloride	84	2.306	2.306	(0.551)	461634	150.000	150.98
87 n-Butylbenzene	91	9.999	9.999	(1.034)	1548558	150.000	166.54
73 n-Propylbenzene	91	8.917	8.917	(0.922)	2345958	150.000	159.52
92 Naphthalene	128	11.546	11.546	(1.194)	420234	150.000	159.15
63 o-Xylene	106	8.244	8.244	(1.075)	728434	150.000	156.35(A)
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	1894866	150.000	162.76
64 Styrene	104	8.265	8.265	(1.078)	1282858	150.000	155.33(A)
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	1251623	150.000	158.46
56 Tetrachloroethene	164	6.933	6.933	(0.904)	328407	150.000	158.70(A)
50 Toluene	91	6.446	6.446	(0.840)	1837956	150.000	151.21(A)
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	413634	150.000	157.39
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	734878	150.000	153.62
38 Trichloroethene	130	5.207	5.207	(1.048)	429752	150.000	158.97(A)
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	745431	150.000	160.60
5 Vinyl Chloride	62	1.138	1.138	(0.272)	764258	150.000	160.77

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052110.D
Date : 21-MAY-2020 15:51
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\X200521.b\X052111.D Page 1
Report Date: 04-Jun-2020 10:02

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052111.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 21-MAY-2020 16:15
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\X200521.b\8260W.m
Meth Date : 04-Jun-2020 10:02 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 15:51 Cal File: X052110.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

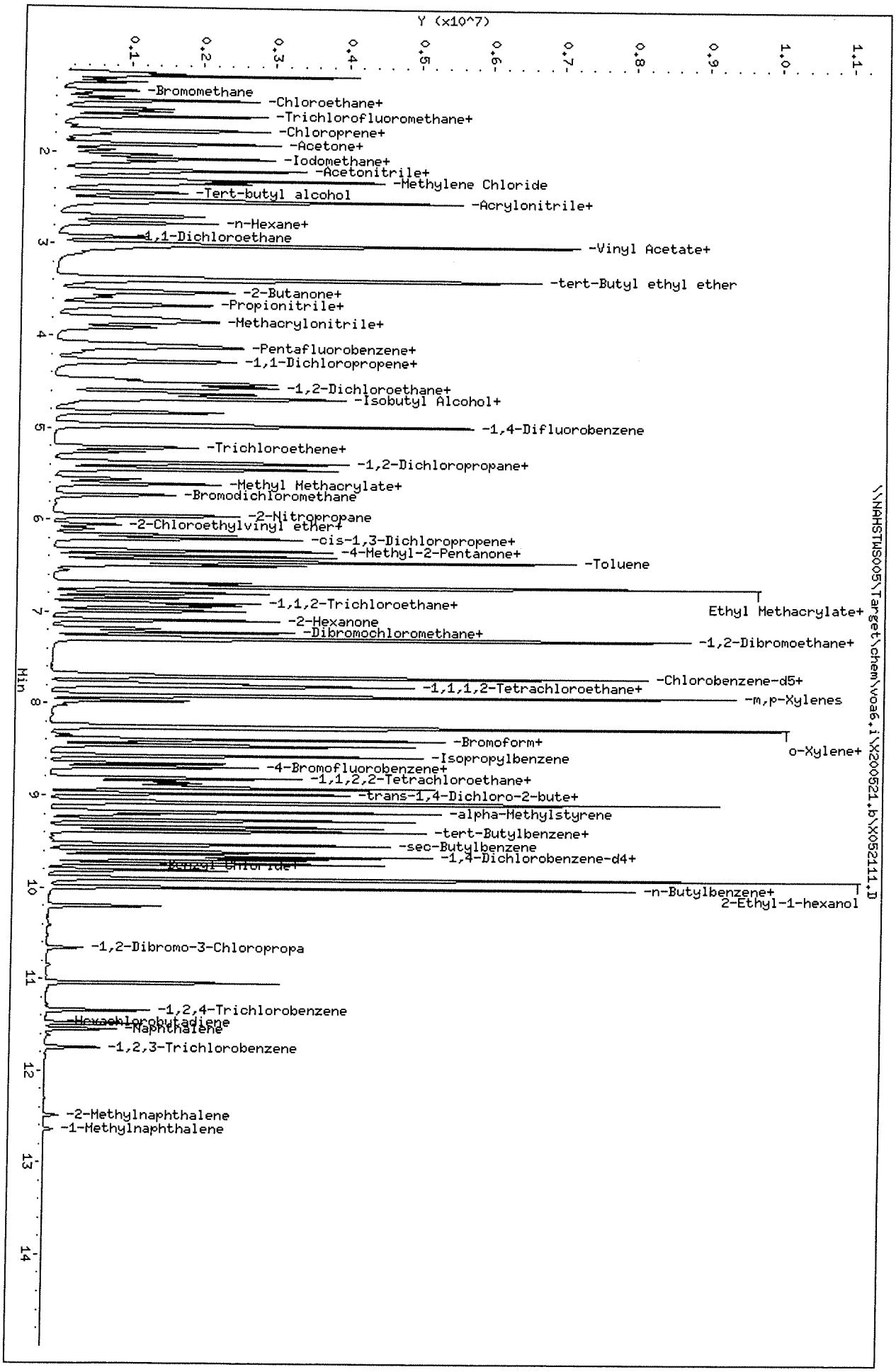
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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)	214113	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	389501	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	367938	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	171711	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	541917	200.000	199.54
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	809583	200.000	199.66
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1941016	200.000	199.08
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	751717	200.000	198.99
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	561386	200.000	199.13
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	943445	200.000	207.10(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	731616	200.000	198.64
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	482118	200.000	193.16
22 1,1-Dichloroethane	63	2.922	2.922	(0.697)	1383233	200.000	198.86(A)
11 1,1-Dichloroethene	96	1.912	1.912	(0.456)	480268	200.000	202.41(A)
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	811696	200.000	203.31(A)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	179912	200.000	215.89(A)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	628715	200.000	185.08(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	317012	200.000	220.69(A)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	2101727	200.000	206.27(A)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	73373	200.000	206.60(A)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	584546	200.000	194.72(A)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	1016576	200.000	205.21(A)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	1075555	200.000	189.68 (A)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	787269	200.000	203.54 (A)
75 1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	2047098	200.000	205.61 (A)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	1107473	200.000	207.79 (A)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	996067	200.000	191.14
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	1106422	200.000	201.51 (A)
26 2,2-Dichloropropane	77	3.516	3.516	(0.839)	889432	200.000	194.64
24 2-Butanone	43	3.581	3.581	(0.855)	1008719	400.000	399.26 (A)
76 2-Chlorotoluene	91	8.981	8.981	(0.929)	1766148	200.000	199.42
52 2-Hexanone	43	7.090	7.090	(0.924)	1720129	400.000	408.37 (A)
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	2071571	200.000	199.44
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	2047103	200.000	213.40 (A)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	2463058	400.000	403.42 (A)
10 Acetone	43	1.976	1.976	(0.472)	756025	400.000	399.75
37 Benzene	78	4.519	4.519	(0.909)	2356731	200.000	202.13 (A)
74 Bromobenzene	156	8.810	8.810	(0.911)	636159	200.000	202.43 (A)
29 Bromochloromethane	128	3.795	3.795	(0.906)	275908	200.000	186.02
39 Bromodichloromethane	83	5.729	5.729	(1.153)	865142	200.000	200.13 (A)
66 Bromoform	173	8.416	8.416	(1.097)	416669	200.000	205.14 (A)
6 Bromomethane	94	1.331	1.331	(0.318)	385825	200.000	201.97 (A)
19 Carbon Disulfide	76	2.069	2.069	(0.494)	3304851	400.000	419.15 (A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	800920	200.000	203.64 (A)
59 Chlorobenzene	112	7.699	7.699	(1.004)	1481964	200.000	198.11 (A)
7 Chloroethane	64	1.396	1.396	(0.333)	486426	200.000	185.78
28 Chloroform	83	3.910	3.910	(0.933)	1092474	200.000	198.01 (A)
3 Chloromethane	50	1.073	1.073	(0.256)	1301878	200.000	200.33 (A)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	629636	200.000	201.19 (A)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	1035658	200.000	201.52 (A)
55 Dibromochloromethane	129	7.184	7.184	(0.937)	611620	200.000	198.48
44 Dibromomethane	93	5.558	5.558	(1.118)	416654	200.000	205.06 (A)
2 Dichlorodifluoromethane	85	0.973	0.973	(0.232)	691448	200.000	201.98 (A)
61 Ethylbenzene	106	7.807	7.807	(1.018)	802637	200.000	205.75 (A)
91 Hexachlorobutadiene	225	11.489	11.489	(1.188)	183102	200.000	194.94
67 Isopropylbenzene	105	8.566	8.566	(1.117)	2443875	200.000	208.43 (A)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	1939710	400.000	407.31 (A)
17 Methylene Chloride	84	2.306	2.306	(0.550)	607704	200.000	200.55 (A)
87 n-Butylbenzene	91	9.999	9.999	(1.034)	1978832	200.000	216.27 (A)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	3040786	200.000	210.13 (A)
92 Naphthalene	128	11.546	11.546	(1.194)	572665	200.000	220.40 (A)
63 o-Xylene	106	8.244	8.244	(1.075)	942795	200.000	203.50 (A)
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	2449809	200.000	213.84 (A)
64 Styrene	104	8.265	8.265	(1.078)	1672656	200.000	203.66 (A)
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	1625833	200.000	209.18 (A)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	428164	200.000	208.07 (A)
50 Toluene	91	6.453	6.453	(0.841)	2389473	200.000	197.69 (A)
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.603)	535406	200.000	205.29 (A)
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	962112	200.000	204.66 (A)
38 Trichloroethene	130	5.207	5.207	(1.048)	563748	200.000	212.21 (A)
8 Trichlorofluoromethane	101	1.553	1.553	(0.371)	963769	200.000	209.24 (A)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	1004439	200.000	212.92 (A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



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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: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052114.D Page 1
Report Date: 04-Jun-2020 10:02

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052114.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 21-MAY-2020 17:27
Operator : PC Inst ID: voa6.i
Smp Info : ICV;ICV;2;;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 04-Jun-2020 10:02 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

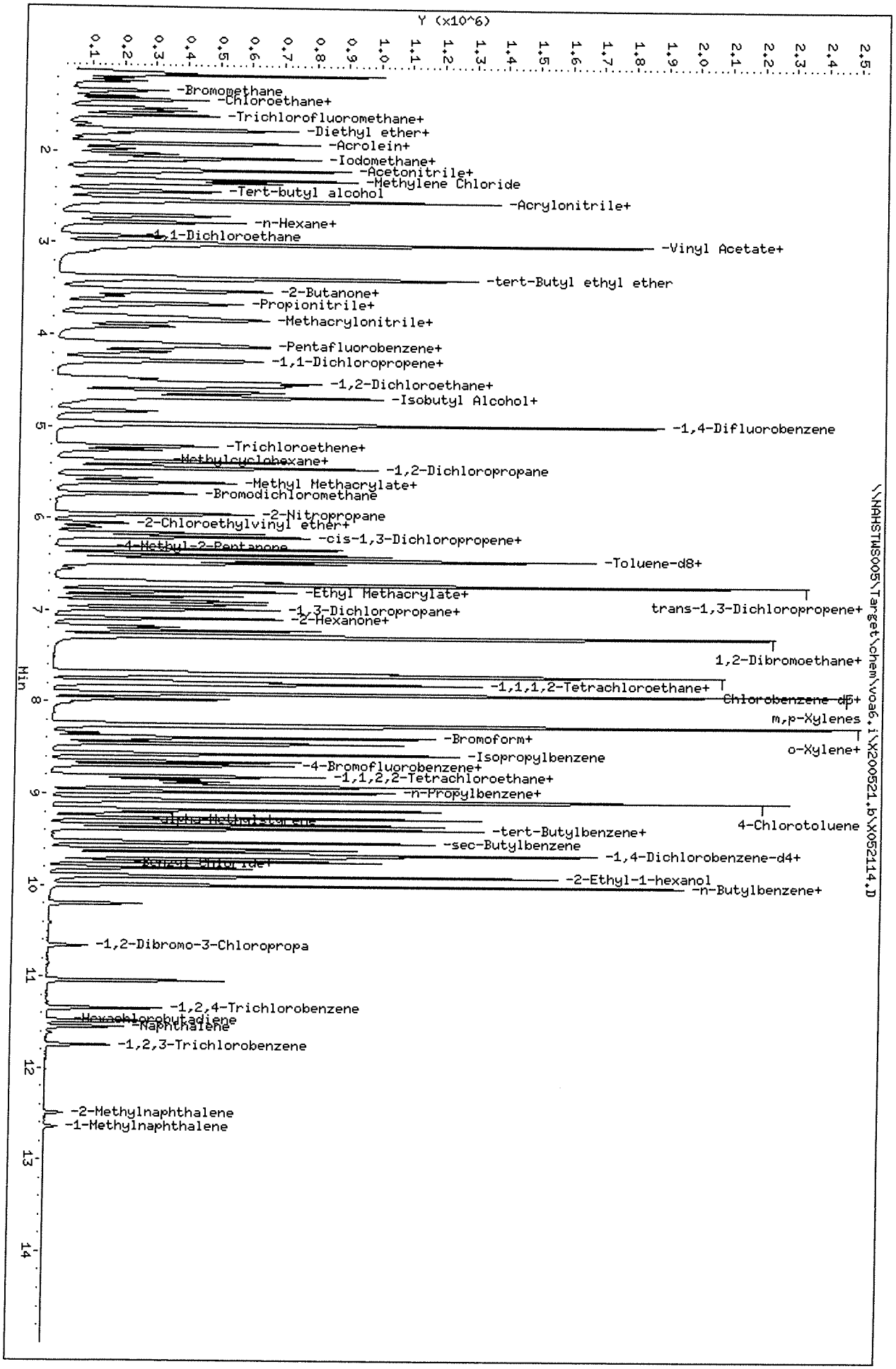
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.189	(1.000)	232502	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	418163	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	379228	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	180143	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	146548	49.6261	49.62
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	218404	49.2003	49.20
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	513812	51.0076	51.00
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	201073	51.3484	51.34
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	141082	48.5551	48.55
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	242519	49.0264	49.02
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	189239	48.9764	48.97
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	124156	48.2638	48.26
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	360316	47.7048	47.70
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	126183	48.9761	48.97
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	209980	48.9909	48.99
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	48211	55.1443	55.14
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	169462	47.5530	47.55(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	80715	53.5626	53.56
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	541526	50.6612	50.66
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	17914	48.0817	48.08
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	151285	48.8954	48.89
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	263949	50.7881	50.78

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052114.D Page 2
Report Date: 04-Jun-2020 10:02

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	286205	47.0146	47.01
42 1,2-Dichloropropane	63	5.436	5.443	(1.094)	207393	49.9445	49.94
75 1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	526994	50.4550	50.45
83 1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	285972	51.1444	51.14
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	257704	47.9817	47.98
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	285046	49.4863	49.48
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	251499	50.6850	50.68
24 2-Butanone	43	3.581	3.581	(0.856)	266547	97.3039	97.30
76 2-Chlorotoluene	91	8.974	8.981	(0.929)	452790	48.7337	48.73
52 2-Hexanone	43	7.090	7.090	(0.924)	436597	100.567	100.56
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	536098	49.1973	49.19
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	522095	51.8803	51.88
45 4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	618680	98.3180	98.31
10 Acetone	43	1.976	1.976	(0.473)	207536	99.4958	99.49
37 Benzene	78	4.512	4.519	(0.908)	604618	48.3031	48.30
74 Bromobenzene	156	8.810	8.810	(0.912)	161143	48.8782	48.87
29 Bromochloromethane	128	3.795	3.795	(0.908)	77332	48.0150	48.01
39 Bromodichloromethane	83	5.729	5.729	(1.153)	222258	47.8913	47.89
66 Bromoform	173	8.416	8.416	(1.097)	103606	49.4904	49.49
6 Bromomethane	94	1.339	1.331	(0.320)	119957	57.1993	57.19
19 Carbon Disulfide	76	2.069	2.069	(0.495)	867822	101.360	101.35(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	203143	48.1109	48.11
59 Chlorobenzene	112	7.699	7.699	(1.004)	378502	49.0932	49.09
7 Chloroethane	64	1.403	1.396	(0.336)	127340	44.7898	44.78
28 Chloroform	83	3.910	3.910	(0.935)	287107	47.9245	47.92
3 Chloromethane	50	1.073	1.073	(0.257)	313773	44.0617	44.06
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	163972	48.2516	48.25
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	266894	48.3748	48.37
55 Dibromochloromethane	129	7.176	7.184	(0.936)	152399	47.9842	47.98
44 Dibromomethane	93	5.558	5.558	(1.118)	106470	48.8087	48.80
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	172979	47.9659	47.96
61 Ethylbenzene	106	7.800	7.807	(1.017)	205691	51.1599	51.15
91 Hexachlorobutadiene	225	11.481	11.489	(1.188)	49937	57.8295	57.82
67 Isopropylbenzene	105	8.566	8.566	(1.117)	624798	51.7009	51.70
62 m,p-Xylenes	106	7.907	7.907	(1.031)	494238	100.694	100.69
17 Methylene Chloride	84	2.306	2.306	(0.551)	167380	50.2626	50.26
87 n-Butylbenzene	91	9.999	9.999	(1.035)	521153	54.2918	54.29
73 n-Propylbenzene	91	8.917	8.917	(0.923)	773906	50.9771	50.97
92 Naphthalene	128	11.546	11.546	(1.195)	144216	52.9084	52.90
63 o-Xylene	106	8.244	8.244	(1.075)	242035	50.6895	50.68
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	626442	52.1232	52.12
64 Styrene	104	8.258	8.265	(1.077)	431282	50.9512	50.95
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	417297	51.1781	51.17
56 Tetrachloroethene	164	6.933	6.933	(0.904)	109743	51.7448	51.74
50 Toluene	91	6.446	6.453	(0.840)	624728	50.1486	50.14
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	140155	49.4904	49.49
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	244732	48.4927	48.49
38 Trichloroethene	130	5.207	5.207	(1.048)	144521	50.6740	50.67
8 Trichlorofluoromethane	101	1.561	1.553	(0.373)	250381	50.0611	50.06
5 Vinyl Chloride	62	1.138	1.138	(0.272)	249812	48.7687	48.76

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\X052114.D
Date : 21-MAY-2020 17:27
Client ID: ICV
Sample Info: ICV;ICV;2;;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Lab File ID: Y052102 BFB Injection Date: 05/21/20

Instrument ID: VOA6 BFB Injection Time: 1815

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	28.2
75	30.0 - 60.0% of mass 95	50.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.6 (0.8)1
174	Greater than 50.0% of mass 95	75.4
175	5.0 - 9.0% of mass 174	6.0 (8.0)1
176	95.0 - 101.0% of mass 174	74.5 (98.8)1
177	5.0 - 9.0% of mass 176	4.7 (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	Y052103	05/21/20	1839
02	VLCSW-200521	VLCSW-200521	Y052105	05/21/20	1927
03	VBLKW-200521	VBLKW-200521	Y052107	05/21/20	2015
04	HS20050757-0	HS20050757-03	Y052109	05/21/20	2103
05	HS20050754-0	HS20050754-01M	Y052112	05/21/20	2215
06	HS20050754-0	HS20050754-01M	Y052113	05/21/20	2239
07	CCV-END	CCV-END	Y052114	05/21/20	2303
08					
09					
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20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Instrument ID: VOA6 Calibration Date: 05/21/20 Time: 1839

Lab File ID: Y052103 Init. Calib. Date(s): 05/21/20 05/21/20

Init. Calib. Times: 1216 1615

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
Bromochloromethane	0.3460000	0.3283841	0.3283841	0.1	5.09	20.00	AVRG
Vinyl Chloride	1.1010000	1.0335769	1.0335769	0.1	6.12	20.00	AVRG
Chloromethane	43.191026	50.000000	1.3231917	0.1	13.62	20.00	LINR
Bromomethane	54.992658	50.000000	0.4963380	0.1	-9.98	20.00	LINR
Chloroethane	0.6110000	0.5326847	0.5326847	0.1	12.82	20.00	AVRG
Methylene Chloride	49.256471	50.000000	0.7057268	0.1	1.49	20.00	LINR
Acetone	96.614087	100.00000	0.4336494	0.1	3.38	20.00	LINR
1,1-Dichloroethene	0.5540000	0.5249005	0.5249005	0.1	5.25	20.00	AVRG
trans-1,2-Dichloroethene	0.6090000	0.5956967	0.5956967	0.1	2.18	20.00	AVRG
Carbon Tetrachloride	0.5050000	0.4606313	0.4606313	0.1	8.78	20.00	AVRG
Bromodichloromethane	0.5550000	0.5362870	0.5362870	0.2	3.37	20.00	AVRG
1,1-Dichloroethane	1.6240000	1.5291985	1.5291985	0.2	5.84	20.00	AVRG
1,2-Dichloropropane	0.4960000	0.4906507	0.4906507	0.1	1.08	20.00	AVRG
2-Butanone	95.812302	100.00000	0.5644100	0.1	4.19	20.00	LINR
cis-1,3-Dichloropropene	0.6600000	0.6358305	0.6358305	0.2	3.66	20.00	AVRG
Dibromochloromethane	0.4190000	0.4024258	0.4024258	0.1	3.96	20.00	AVRG
cis-1,2-Dichloroethene	0.7310000	0.6929282	0.6929282	0.1	5.21	20.00	AVRG
1,1,2-Trichloroethane	0.3390000	0.3297980	0.3297980	0.1	2.71	20.00	AVRG
Benzene	1.4970000	1.4514693	1.4514693	0.5	3.04	20.00	AVRG
Chloroform	1.2880000	1.2254262	1.2254262	0.2	4.86	20.00	AVRG
trans-1,3-Dichloropropene	0.6040000	0.5945023	0.5945023	0.1	1.57	20.00	AVRG
Bromoform	0.2760000	0.2724516	0.2724516	0.1	1.28	20.00	AVRG
4-Methyl-2-Pentanone	0.8300000	0.8087920	0.8087920	0.1	2.56	20.00	AVRG
1,1,1-Trichloroethane	1.0640000	1.0199490	1.0199490	0.1	4.14	20.00	AVRG
2-Hexanone	0.5720000	0.5560251	0.5560251	0.1	2.79	20.00	AVRG
1,2-Dichloroethane	0.7280000	0.6878725	0.6878725	0.1	5.51	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.0720000	1.0171796	1.0171796	0.3	5.11	20.00	AVRG
Trichloroethene	0.3410000	0.3426928	0.3426928	0.2	-0.50	20.00	AVRG
Toluene	1.6420000	1.5937373	1.5937373	0.4	2.94	20.00	AVRG
Dichlorodifluoromethane	45.873790	50.000000	0.7102289	0.1	8.25	20.00	LINR
Trichlorofluoromethane	1.0760000	1.0326522	1.0326522	0.1	4.03	20.00	AVRG
Tetrachloroethene	0.2800000	0.2663619	0.2663619	0.2	4.87	20.00	AVRG
1,2-Dibromoethane	0.4080000	0.3944044	0.3944044	0.1	3.33	20.00	AVRG
Chlorobenzene	1.0160000	0.9737839	0.9737839	0.5	4.16	20.00	AVRG
1,3-Dichlorobenzene	1.5520000	1.4978929	1.4978929	0.6	3.49	20.00	AVRG
1,4-Dichlorobenzene	1.5990000	1.5172630	1.5172630	0.4	5.11	20.00	AVRG
Ethylbenzene	0.5300000	0.5109866	0.5109866	0.1	3.59	20.00	AVRG
1,2-Dichlorobenzene	1.4420000	1.4009752	1.4009752	0.4	2.84	20.00	AVRG
m,p-Xylenes	0.6470000	0.6235688	0.6235688	0.1	3.62	20.00	AVRG
o-Xylene	0.6290000	0.6153922	0.6153922	0.3	2.16	20.00	AVRG
Styrene	1.1160000	1.0971059	1.0971059	0.3	1.69	20.00	AVRG
Carbon Disulfide	1.8410000	1.8083135	1.8083135	0.1	1.78	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005075

Instrument ID: VOA6 Calibration Date: 05/21/20 Time: 1839

Lab File ID: Y052103 Init. Calib. Date(s): 05/21/20 05/21/20

Init. Calib. Times: 1216 1615

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
2,2-Dichloropropane	1.0670000	1.0323092	1.0323092	0.1	3.25	20.00	AVRG
1,1-Dichloropropene	0.5120000	0.4841299	0.4841299	0.1	5.44	20.00	AVRG
Dibromomethane	0.2610000	0.2596766	0.2596766	0.1	0.51	20.00	AVRG
1,3-Dichloropropane	0.7080000	0.6796987	0.6796987	0.1	4.00	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3830000	0.3721207	0.3721207	0.1	2.84	20.00	AVRG
Isopropylbenzene	1.5930000	1.4917199	1.4917199	0.1	6.36	20.00	AVRG
Bromobenzene	0.9150000	0.8833285	0.8833285	0.1	3.46	20.00	AVRG
1,2,3-Trichloropropane	0.9890000	0.9379698	0.9379698	0.1	5.16	20.00	AVRG
n-Propylbenzene	4.2140000	3.9138738	3.9138738	0.1	7.12	20.00	AVRG
2-Chlorotoluene	2.5790000	2.3830783	2.3830783	0.1	7.60	20.00	AVRG
1,3,5-Trimethylbenzene	2.8990000	2.6528989	2.6528989	0.1	8.49	20.00	AVRG
4-Chlorotoluene	3.0240000	2.8279756	2.8279756	0.1	6.48	20.00	AVRG
tert-Butylbenzene	2.2630000	2.0437553	2.0437553	0.1	9.69	20.00	AVRG
1,2,4-Trimethylbenzene	2.9670000	2.8156941	2.8156941	0.1	5.10	20.00	AVRG
sec-Butylbenzene	3.3360000	3.0142663	3.0142663	0.1	9.64	20.00	AVRG
p-Isopropyltoluene	2.7930000	2.5644876	2.5644876	0.1	8.18	20.00	AVRG
n-Butylbenzene	2.6640000	2.4650625	2.4650625	0.5	7.47	20.00	AVRG
1,2-Dibromo-3-Chloropropane	0.1030000	9.85e-002	9.85e-002	0.05	4.37	20.00	AVRG
1,2,4-Trichlorobenzene	0.4180000	0.3965441	0.3965441	0.2	5.13	20.00	AVRG
Hexachlorobutadiene	44.171546	50.000000	0.2085020	0.1	11.66	20.00	2RDR
Naphthalene	0.7560000	0.7194825	0.7194825	0.2	4.83	20.00	AVRG
1,2,3-Trichlorobenzene	0.2430000	0.2212394	0.2212394	0.1	8.95	20.00	AVRG
Dibromofluoromethane	48.835301	50.000000	0.6202825	0.1	2.33	20.00	LINR
1,2-Dichloroethane-d4	49.061139	50.000000	0.9367362	0.1	1.88	20.00	LINR
Toluene-d8	49.734281	50.000000	1.3211770	0.1	0.53	20.00	LINR
4-Bromofluorobenzene	51.148663	50.000000	0.5281704	0.1	-2.30	20.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Lab File ID (Standard): Y052103 Date Analyzed: 05/21/20

Instrument ID: VOA6 Time Analyzed: 1839

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	230337	4.18	408535	4.97	376867	7.67
	UPPER LIMIT	460674	4.68	817070	5.47	753734	8.17
	LOWER LIMIT	115169	3.68	204268	4.47	188434	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-200521	226455	4.18	420848	4.97	384214	7.67
02	VBLKW-200521	297696	4.18	507057	4.97	439361	7.67
03	HS20050757-03	296921	4.18	503932	4.97	433211	7.67
04	HS20050754-01	247122	4.19	431719	4.97	389367	7.67
05	HS20050754-01	247808	4.18	432919	4.97	389164	7.67
06	CCV-END	208094	4.18	392994	4.97	362792	7.67
07							
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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 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Lab File ID (Standard): Y052103 Date Analyzed: 05/21/20

Instrument ID: VOA6 Time Analyzed: 1839

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	179864	9.66				
	UPPER LIMIT	359728	10.16				
	LOWER LIMIT	89932	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-200521	178443	9.67				
02	VBLKW-200521	188524	9.67				
03	HS20050757-03	186559	9.66				
04	HS20050754-01	183792	9.66				
05	HS20050754-01	178541	9.67				
06	CCV-END	170369	9.66				
07							
08							
09							
10							
11							
12							
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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

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Instrument ID: VOA6 Calibration Date: 05/21/20 Time: 2303

Lab File ID: Y052114 Init. Calib. Date(s): 05/21/20 05/21/20

Init. Calib. Times: 1216 1615

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	
Bromochloromethane	0.3460000	0.3507261	0.3507261	0.1	-1.36	20.00	AVRG	
Vinyl Chloride	1.1010000	1.1290282	1.1290282	0.1	-2.54	20.00	AVRG	
Chloromethane	61.156491	50.000000	1.8670553	0.1	-22.31	20.00	LINR	<-
Bromomethane	45.245948	50.000000	0.4097571	0.1	9.51	20.00	LINR	
Chloroethane	0.6110000	0.5998972	0.5998972	0.1	1.82	20.00	AVRG	
Methylene Chloride	57.222015	50.000000	0.8180005	0.1	-14.44	20.00	LINR	
Acetone	94.635579	100.00000	0.4249570	0.1	5.36	20.00	LINR	
1,1-Dichloroethene	0.5540000	0.5756101	0.5756101	0.1	-3.90	20.00	AVRG	
trans-1,2-Dichloroethene	0.6090000	0.6373994	0.6373994	0.1	-4.66	20.00	AVRG	
Carbon Tetrachloride	0.5050000	0.4729156	0.4729156	0.1	6.35	20.00	AVRG	
Bromodichloromethane	0.5550000	0.5365196	0.5365196	0.2	3.33	20.00	AVRG	
1,1-Dichloroethane	1.6240000	1.6542476	1.6542476	0.2	-1.86	20.00	AVRG	
1,2-Dichloropropane	0.4960000	0.4902721	0.4902721	0.1	1.15	20.00	AVRG	
2-Butanone	96.002946	100.00000	0.5655353	0.1	4.00	20.00	LINR	
cis-1,3-Dichloropropene	0.6600000	0.6184954	0.6184954	0.2	6.29	20.00	AVRG	
Dibromochloromethane	0.4190000	0.3949260	0.3949260	0.1	5.74	20.00	AVRG	
cis-1,2-Dichloroethene	0.7310000	0.8172220	0.8172220	0.1	-11.80	20.00	AVRG	
1,1,2-Trichloroethane	0.3390000	0.3235986	0.3235986	0.1	4.54	20.00	AVRG	
Benzene	1.4970000	1.4614422	1.4614422	0.5	2.38	20.00	AVRG	
Chloroform	1.2880000	1.3108980	1.3108980	0.2	-1.78	20.00	AVRG	
trans-1,3-Dichloropropene	0.6040000	0.5711029	0.5711029	0.1	5.45	20.00	AVRG	
Bromoform	0.2760000	0.2657887	0.2657887	0.1	3.70	20.00	AVRG	
4-Methyl-2-Pentanone	0.8300000	0.7733908	0.7733908	0.1	6.82	20.00	AVRG	
1,1,1-Trichloroethane	1.0640000	1.1035446	1.1035446	0.1	-3.72	20.00	AVRG	
2-Hexanone	0.5720000	0.5325462	0.5325462	0.1	6.90	20.00	AVRG	
1,2-Dichloroethane	0.7280000	0.6949724	0.6949724	0.1	4.54	20.00	AVRG	
1,1,2,2-Tetrachloroethane	1.0720000	1.0057640	1.0057640	0.3	6.18	20.00	AVRG	
Trichloroethene	0.3410000	0.4020418	0.4020418	0.2	-17.90	20.00	AVRG	
Toluene	1.6420000	1.6179546	1.6179546	0.4	1.46	20.00	AVRG	
Dichlorodifluoromethane	48.741401	50.000000	0.7565043	0.1	2.52	20.00	LINR	
Trichlorofluoromethane	1.0760000	1.1269667	1.1269667	0.1	-4.74	20.00	AVRG	
Tetrachloroethene	0.2800000	0.2829362	0.2829362	0.2	-1.05	20.00	AVRG	
1,2-Dibromoethane	0.4080000	0.3838729	0.3838729	0.1	5.91	20.00	AVRG	
Chlorobenzene	1.0160000	0.9896552	0.9896552	0.5	2.59	20.00	AVRG	
1,3-Dichlorobenzene	1.5520000	1.5385780	1.5385780	0.6	0.86	20.00	AVRG	
1,4-Dichlorobenzene	1.5990000	1.5479635	1.5479635	0.4	3.19	20.00	AVRG	
Ethylbenzene	0.5300000	0.5351165	0.5351165	0.1	-0.96	20.00	AVRG	
1,2-Dichlorobenzene	1.4420000	1.4155392	1.4155392	0.4	1.84	20.00	AVRG	
m,p-Xylenes	0.6470000	0.6388041	0.6388041	0.1	1.27	20.00	AVRG	
o-Xylene	0.6290000	0.6227122	0.6227122	0.3	1.00	20.00	AVRG	
Styrene	1.1160000	1.1155538	1.1155538	0.3	0.04	20.00	AVRG	
Carbon Disulfide	1.8410000	1.9048891	1.9048891	0.1	-3.47	20.00	AVRG	

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005075

Instrument ID: VOA6 Calibration Date: 05/21/20 Time: 2303

Lab File ID: Y052114 Init. Calib. Date(s): 05/21/20 05/21/20

Init. Calib. Times: 1216 1615

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	
2,2-Dichloropropane	1.0670000	0.9686776	0.9686776	0.1	9.21	20.00	AVRG	
1,1-Dichloropropene	0.5120000	0.4974529	0.4974529	0.1	2.84	20.00	AVRG	
Dibromomethane	0.2610000	0.2556197	0.2556197	0.1	2.06	20.00	AVRG	
1,3-Dichloropropane	0.7080000	0.6731984	0.6731984	0.1	4.92	20.00	AVRG	
1,1,1,2-Tetrachloroethane	0.3830000	0.3713367	0.3713367	0.1	3.04	20.00	AVRG	
Isopropylbenzene	1.5930000	1.6096331	1.6096331	0.1	-1.04	20.00	AVRG	
Bromobenzene	0.9150000	0.8970294	0.8970294	0.1	1.96	20.00	AVRG	
1,2,3-Trichloropropane	0.9890000	0.9096549	0.9096549	0.1	8.02	20.00	AVRG	
n-Propylbenzene	4.2140000	4.2543831	4.2543831	0.1	-0.96	20.00	AVRG	
2-Chlorotoluene	2.5790000	2.5053267	2.5053267	0.1	2.86	20.00	AVRG	
1,3,5-Trimethylbenzene	2.8990000	2.9104884	2.9104884	0.1	-0.40	20.00	AVRG	
4-Chlorotoluene	3.0240000	2.9603977	2.9603977	0.1	2.10	20.00	AVRG	
tert-Butylbenzene	2.2630000	2.2880043	2.2880043	0.1	-1.10	20.00	AVRG	
1,2,4-Trimethylbenzene	2.9670000	2.9822033	2.9822033	0.1	-0.51	20.00	AVRG	
sec-Butylbenzene	3.3360000	3.3960873	3.3960873	0.1	-1.80	20.00	AVRG	
p-Isopropyltoluene	2.7930000	2.7984962	2.7984962	0.1	-0.20	20.00	AVRG	
n-Butylbenzene	2.6640000	2.7099179	2.7099179	0.5	-1.72	20.00	AVRG	
1,2-Dibromo-3-Chloropropane	0.1030000	8.77e-002	8.77e-002	0.05	14.85	20.00	AVRG	
1,2,4-Trichlorobenzene	0.4180000	0.3369627	0.3369627	0.2	19.39	20.00	AVRG	
Hexachlorobutadiene	46.678219	50.000000	0.2210085	0.1	6.64	20.00	2RDR	
Naphthalene	0.7560000	0.5907354	0.5907354	0.2	21.86	20.00	AVRG	<-
1,2,3-Trichlorobenzene	0.2430000	0.1861489	0.1861489	0.1	23.40	20.00	AVRG	<-
Dibromofluoromethane	51.858956	50.000000	0.6586158	0.1	-3.72	20.00	LINR	
1,2-Dichloroethane-d4	51.296933	50.000000	0.9789614	0.1	-2.59	20.00	LINR	
Toluene-d8	49.123098	50.000000	1.3049957	0.1	1.75	20.00	LINR	
4-Bromofluorobenzene	49.135417	50.000000	0.5075415	0.1	1.73	20.00	LINR	

FORM VII VOA

MSVOA06 -Logbook

Batch: 40580
Date: 05-21-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	05-21-2020 11:52 am	1.00	50 mL	50 mL	X052101.D	Liquid	Y	NA
2	*Auto find/ purged* VSTD000.25	ICAL1	05-21-2020 12:16 pm	1.00	50 mL	50 mL	X052102.D	Liquid	Y	NA
3	*0.10 uL cal std/100 mL DI* VSTD000.5	ICAL2	05-21-2020 01:04 pm	1.00	50 mL	50 mL	X052103.D	Liquid	Y	NA
4	*0.10 uL cal std/50 mL DI* VSTD001	ICAL3	05-21-2020 01:28 pm	1.00	50 mL	50 mL	X052104.D	Liquid	Y	NA
5	*0.20 uL cal std/50 mL DI* VSTD002	ICAL4	05-21-2020 01:52 pm	1.00	50 mL	50 mL	X052105.D	Liquid	Y	NA
6	*0.40 uL cal std/50 mL DI* VSTD005	ICAL5	05-21-2020 02:15 pm	1.00	50 mL	50 mL	X052106.D	Liquid	Y	NA
7	*1.0 uL cal std/50 mL DI* VSTD020	ICAL6	05-21-2020 02:39 pm	1.00	50 mL	50 mL	X052107.D	Liquid	Y	NA
8	*4.0 uL cal std/50 mL DI* VSTD050	ICAL7	05-21-2020 03:03 pm	1.00	50 mL	50 mL	X052108.D	Liquid	Y	NA
9	*10 uL cal std/50 mL DI* VSTD100	ICAL8	05-21-2020 03:27 pm	1.00	50 mL	50 mL	X052109.D	Liquid	Y	NA
10	*20 uL cal std/50 mL DI* VSTD150	ICAL9	05-21-2020 03:51 pm	1.00	50 mL	50 mL	X052110.D	Liquid	Y	NA
11	*30 uL cal std/50 mL DI* VSTD200	ICAL	05-21-2020 04:15 pm	1.00	50 mL	50 mL	X052111.D	Liquid	Y	NA
12	*40 uL cal std/50 mL DI* BLANK	SAMP	05-21-2020 04:39 pm	1.00	50 mL	50 mL	X052112.D	Liquid	Y	NA
13	*clean up blank* BLANK	SAMP	05-21-2020 05:03 pm	1.00	50 mL	50 mL	X052113.D	Liquid	Y	NA
14	CCV	ICV	05-21-2020 05:27 pm	1.00	50 mL	50 mL	X052114.D	Liquid	Y	NA
15	*10 uL icv std/50 mL DI* BFB	TUNE	05-21-2020 05:51 pm	1.00	50 mL	50 mL	Y052101a.D	Liquid	Y	NA
16	BFB	TUNE	05-21-2020 06:15 pm	1.00	50 mL	50 mL	Y052102.D	Liquid	Y	NA
17	*Auto find/ purged* CCV	CCV	05-21-2020 06:39 pm	1.00	50 mL	50 mL	Y052103.D	Liquid	Y	NA
18	*10 uL cal std/50 mL DI* CCB	SAMP	05-21-2020 07:03 pm	1.00	50 mL	50 mL	Y052104.D	Liquid	Y	NA
19	VLCSW-200521	LCS	05-21-2020 07:27 pm	1.00	50 mL	50 mL	Y052105.D	Liquid	Y	NA
20	*4.0 uL cal std/50 mL DI* BLANK	SAMP	05-21-2020 07:51 pm	1.00	50 mL	50 mL	Y052106.D	Liquid	Y	NA
21	VBLKW-200521	MBLK	05-21-2020 08:15 pm	1.00	50 mL	50 mL	Y052107.D	Liquid	Y	NA
22	HS20050754-02	SAMP	05-21-2020 08:39 pm	1.00	50 mL	50 mL	Y052108.D	Liquid	Y	<2
23	HS20050757-03	SAMP	05-21-2020 09:03 pm	1.00	50 mL	50 mL	Y052109.D	Liquid	Y	<2
24	HS20050754-01	SAMP	05-21-2020 09:27 pm	1.00	50 mL	50 mL	Y052110.D	Liquid	Y	<2
25	HS20050757-01n/r	SAMP	05-21-2020 09:51 pm	1.00	50 mL	50 mL	Y052111.D	Liquid	Y	<2
26	HS20050754-01MS	MS	05-21-2020 10:15 pm	1.00	50 mL	50 mL	Y052112.D	Liquid	Y	<2
27	*3.5 uL cal std/40 mL samp* HS20050754-01MSD	MSD	05-21-2020 10:39 pm	1.00	50 mL	50 mL	Y052113.D	Liquid	Y	<2
28	*3.5 uL cal std/40 mL samp* CCV-END	CCV	05-21-2020 11:03 pm	1.00	50 mL	50 mL	Y052114.D	Liquid	Y	NA
29	*10 uL cal std/50 mL DI* MBLK-153693	MBLK	05-21-2020 11:27 pm	20.00	2.5 mL	50 mL	Y052115.D	Liquid	Y	NA
30	*tclps* HS20050723-01	SAMP	05-21-2020 11:51 pm	20.00	2.5 mL	50 mL	Y052116.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
31	HS20050765-01	SAMP	05-22-2020 12:15 am	1.00	50 mL	50 mL	Y052117.D	Liquid	Y	NA
32	HS20050786-09	SAMP	05-22-2020 12:39 am	1.00	50 mL	50 mL	Y052118.D	Liquid	Y	NA
33	HS20050786-06	SAMP	05-22-2020 01:03 am	1.00	50 mL	50 mL	Y052119.D	Liquid	Y	NA
34	HS20050786-07	SAMP	05-22-2020 01:27 am	1.00	50 mL	50 mL	Y052120.D	Liquid	Y	NA
35	HS20050812-01	SAMP	05-22-2020 01:52 am	1.00	50 mL	50 mL	Y052121.D	Liquid	Y	NA
36	HS20050812-05	SAMP	05-22-2020 02:16 am	1.00	50 mL	50 mL	Y052122.D	Liquid	Y	NA
37	HS20050812-02	SAMP	05-22-2020 02:40 am	1.00	50 mL	50 mL	Y052123.D	Liquid	Y	NA
38	HS20050812-03	SAMP	05-22-2020 03:04 am	1.00	50 mL	50 mL	Y052124.D	Liquid	Y	NA
39	HS20050812-04	SAMP	05-22-2020 03:28 am	1.00	50 mL	50 mL	Y052125.D	Liquid	Y	NA
40	HS20050812-06	SAMP	05-22-2020 03:52 am	1.00	50 mL	50 mL	Y052126.D	Liquid	Y	NA
41	HS20050812-07	SAMP	05-22-2020 04:16 am	1.00	50 mL	50 mL	Y052127.D	Liquid	Y	NA
42	HS20050812-08	SAMP	05-22-2020 04:40 am	1.00	50 mL	50 mL	Y052128.D	Liquid	Y	NA
43	HS20050811-01	SAMP	05-22-2020 05:04 am	1.00	50 mL	50 mL	Y052129.D	Liquid	Y	NA
44	HS20050811-02	SAMP	05-22-2020 05:28 am	1.00	50 mL	50 mL	Y052130.D	Liquid	Y	NA
45	HS20050811-03	SAMP	05-22-2020 05:52 am	1.00	50 mL	50 mL	Y052131.D	Liquid	Y	NA
46	BLANK	SAMP	05-22-2020 06:16 am	1.00	50 mL	50 mL	Y052132.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-30-06
IS ID	31106-30-06
CAL STD ID	31106-30-01/02
BFB ID	31106-30-06
pH Paper	634-64-11

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052102.D

Date : 21-MAY-2020 18:15

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

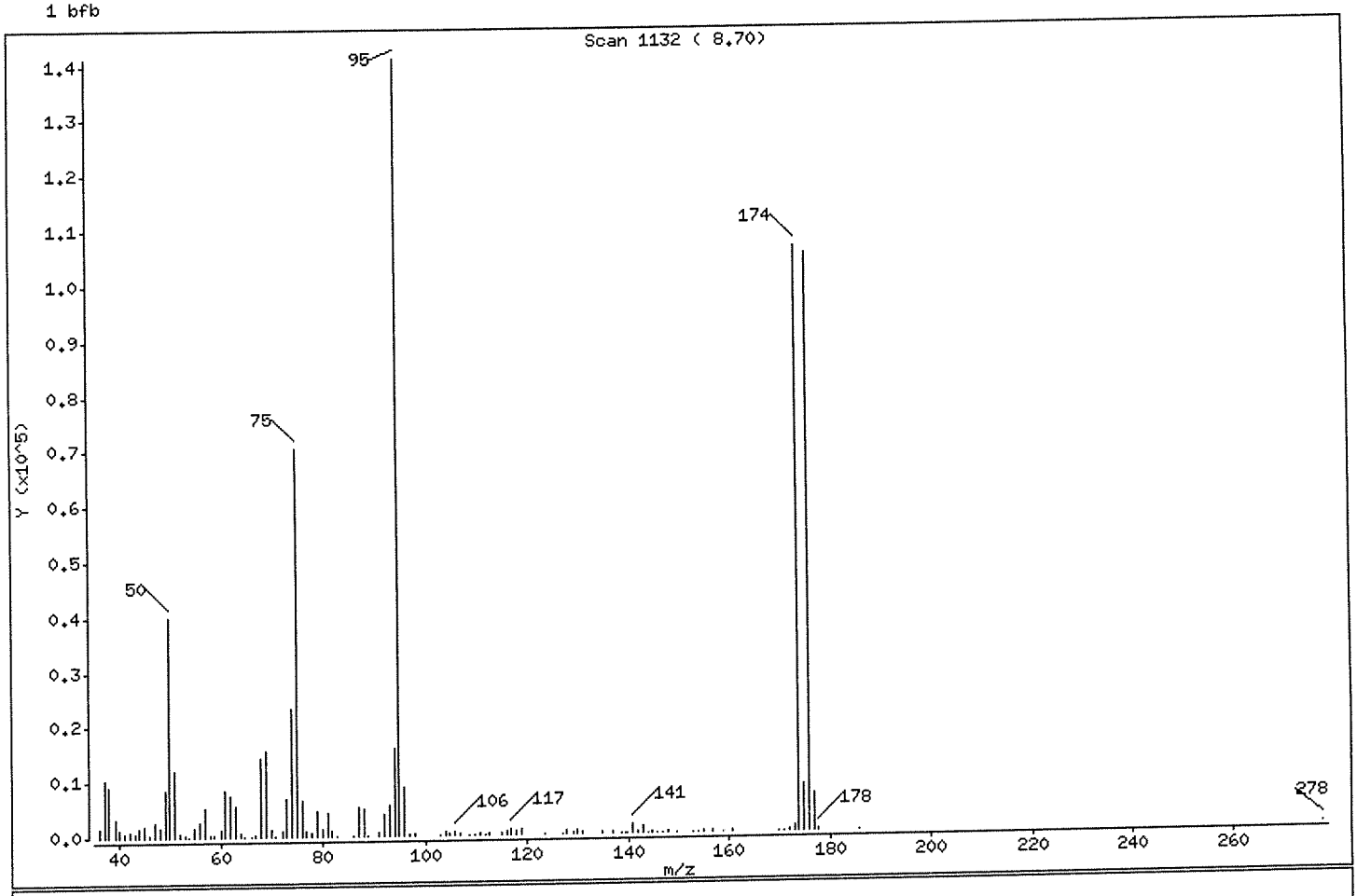
Volume Injected (uL): 2.0

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	28.22
75	30.00 - 60.00% of mass 95	49.99
96	5.00 - 9.00% of mass 95	6.27
173	Less than 2.00% of mass 174	0.61 (0.80)
174	Greater than 50.00% of mass 95	75.41
175	5.00 - 9.00% of mass 174	6.04 (8.01)
176	95.00 - 101.00% of mass 174	74.54 (98.84)
177	5.00 - 9.00% of mass 176	4.73 (6.35)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052102.D

Date : 21-MAY-2020 18:15

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: Y052102.D
Spectrum: Scan 1132 (8.70)
Location of Maximum: 95.00
Number of points: 112

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1708	64.80	51	97.00	240	141.90	211
37.00	10288	66.10	104	98.00	217	142.80	1412
38.00	9122	67.00	379	102.90	99	144.00	68
39.10	3309	68.00	14370	103.90	681	144.90	174
39.90	1381	69.00	15546	104.80	268	145.70	148
41.10	599	70.00	1346	105.90	745	146.90	114
42.10	860	70.90	85	106.80	257	147.80	453
43.00	698	72.00	857	108.80	78	149.80	125
44.00	1598	73.00	6687	109.80	132	153.00	88
45.00	2059	74.00	23232	110.80	179	154.00	90
46.00	171	75.00	70576	111.90	69	154.90	312
47.00	2469	76.00	6520	112.70	180	156.90	308
48.00	1471	76.90	901	115.00	272	159.00	144
49.00	8584	77.90	514	115.90	559	160.80	220
50.00	39840	78.90	4389	116.80	874	170.00	105
51.00	11883	79.90	1332	117.90	542	171.10	94
52.00	548	80.90	4327	118.80	851	172.10	174
53.10	219	81.90	946	123.60	103	172.90	856
53.90	51	82.90	137	126.90	148	173.90	106472
55.00	1628	85.80	159	127.90	574	174.90	8528
56.00	2615	86.90	5158	129.00	319	175.90	105240
57.00	5256	88.00	4757	129.90	676	176.90	6683
57.90	247	88.80	89	130.80	204	177.80	203
58.80	272	91.00	581	134.80	316	185.90	71
60.00	1454	92.00	4042	136.90	301	277.90	81
61.00	8405	93.00	5530	138.80	80		
62.00	7583	94.00	15965	139.30	56		
63.00	5465	95.00	141184	139.90	91		
64.10	560	96.00	8856	140.90	1757		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052102.D

Date : 21-MAY-2020 18:15

Client ID: BFB

Instrument: voa6.i

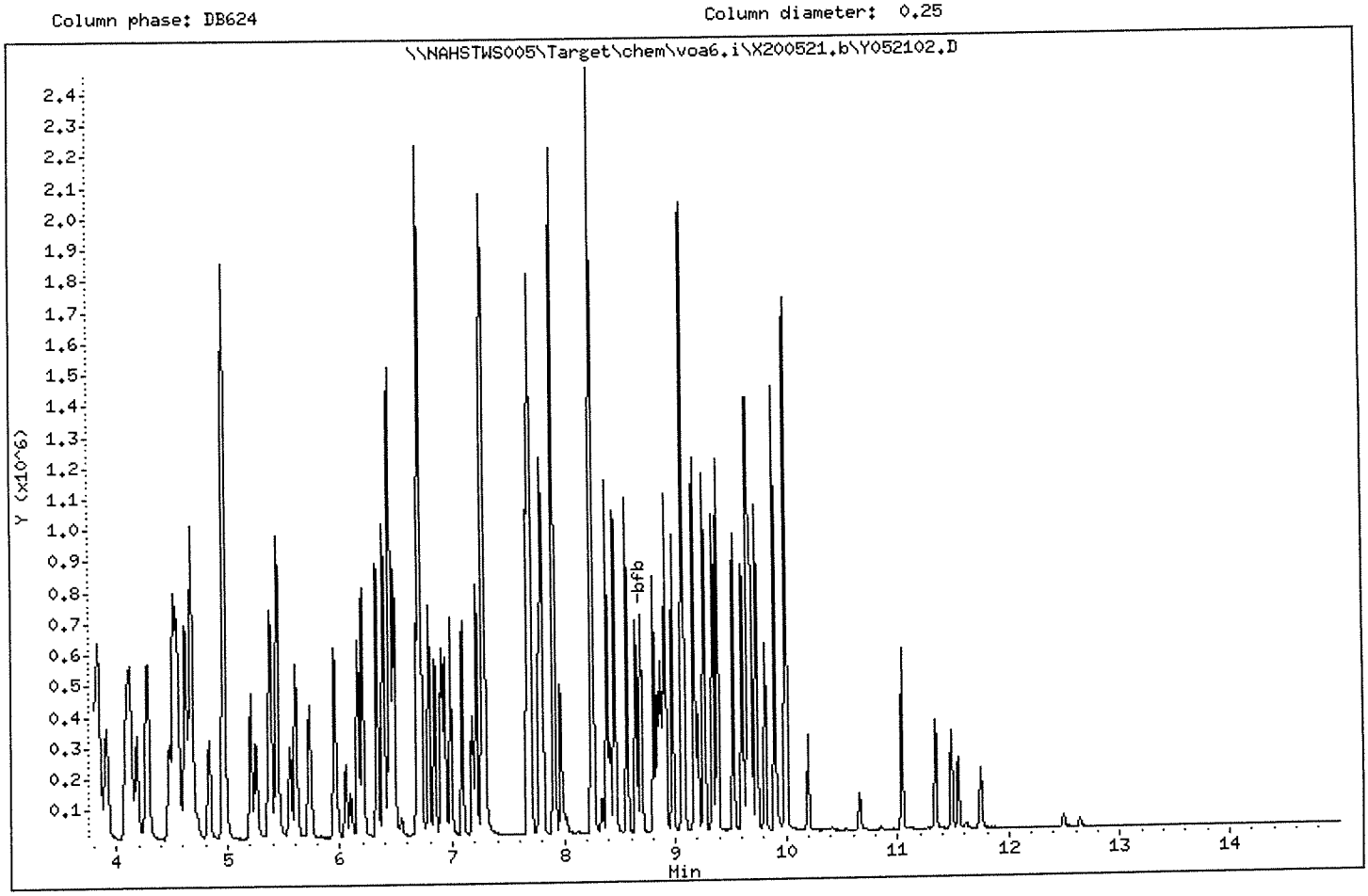
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052103.D Page 1
Report Date: 04-Jun-2020 10:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052103.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 21-MAY-2020 18:39
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200521.b\8260W.m
Meth Date : 04-Jun-2020 10:05 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 18 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

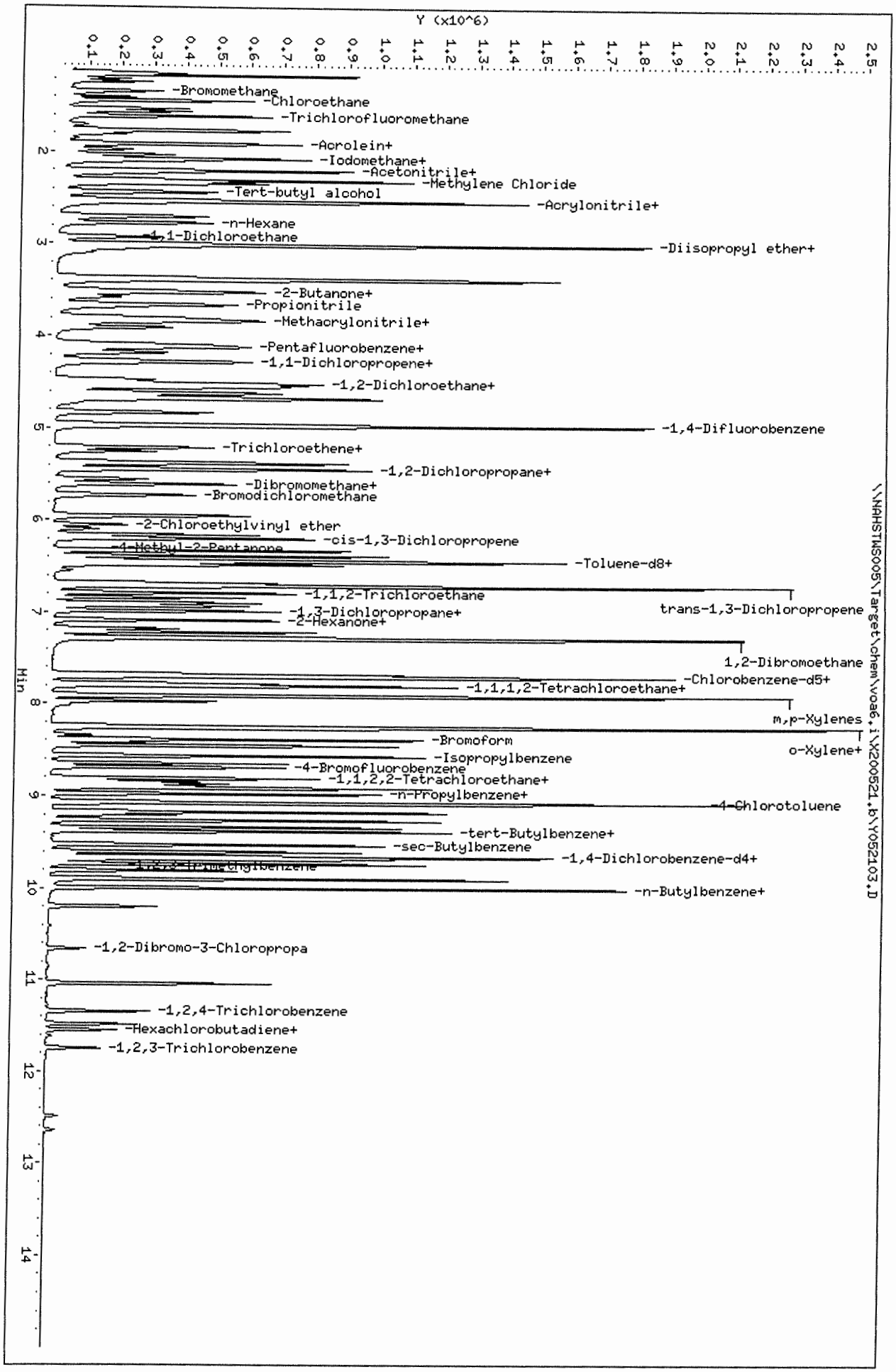
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	230337	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	408535	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	376867	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	179864	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	142874	50.0000	48.83
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	215765	50.0000	49.06
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	497908	50.0000	49.73
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	199050	50.0000	51.14
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	140240	50.0000	48.56
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	234932	50.0000	47.93
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	182954	50.0000	47.42
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	124290	50.0000	48.61
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	352231	50.0000	47.07
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	120904	50.0000	47.36
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	197784	50.0000	47.23
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	39793	50.0000	45.58
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	168707	50.0000	47.41(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	71324	50.0000	47.40
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	506442	50.0000	47.45
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	17721	50.0000	47.63
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	148638	50.0000	48.34
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	251985	50.0000	48.56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	281020	50.0000	47.25
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	200448	50.0000	49.40
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	477161	50.0000	45.75
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	269417	50.0000	48.25
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	256156	50.0000	47.99
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	272901	50.0000	47.45
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	237779	50.0000	48.37
24	2-Butanone	43	3.580	3.580	(0.856)	260009	100.000	95.81
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	428630	50.0000	46.20
52	2-Hexanone	43	7.090	7.090	(0.924)	419095	100.000	97.14
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	508651	50.0000	46.75
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	461259	50.0000	45.90
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	609614	100.000	97.48
10	Acetone	43	1.976	1.976	(0.473)	199771	100.000	96.61
37	Benzene	78	4.519	4.519	(0.909)	592976	50.0000	48.48
74	Bromobenzene	156	8.809	8.809	(0.912)	158879	50.0000	48.26
29	Bromochloromethane	128	3.795	3.795	(0.908)	75639	50.0000	47.40
39	Bromodichloromethane	83	5.729	5.729	(1.153)	219092	50.0000	48.32
66	Bromoform	173	8.415	8.415	(1.097)	102678	50.0000	49.35
6	Bromomethane	94	1.338	1.338	(0.320)	114325	50.0000	54.99
19	Carbon Disulfide	76	2.069	2.069	(0.495)	833043	100.000	98.21
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	188184	50.0000	45.61
59	Chlorobenzene	112	7.699	7.699	(1.004)	366987	50.0000	47.89
7	Chloroethane	64	1.403	1.403	(0.336)	122697	50.0000	43.56
28	Chloroform	83	3.910	3.910	(0.935)	282261	50.0000	47.55
3	Chloromethane	50	1.081	1.081	(0.258)	304780	50.0000	43.19
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	159607	50.0000	47.40
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	259759	50.0000	48.19
55	Dibromochloromethane	129	7.176	7.176	(0.936)	151661	50.0000	48.05
44	Dibromomethane	93	5.557	5.557	(1.118)	106087	50.0000	49.77
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	163592	50.0000	45.87
61	Ethylbenzene	106	7.799	7.799	(1.017)	192574	50.0000	48.19
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	37502	50.0000	44.17
67	Isopropylbenzene	105	8.566	8.566	(1.117)	562180	50.0000	46.81
62	m,p-Xylenes	106	7.907	7.907	(1.031)	470005	100.000	96.35
17	Methylene Chloride	84	2.305	2.305	(0.551)	162555	50.0000	49.25
87	n-Butylbenzene	91	9.999	9.999	(1.035)	443376	50.0000	46.26
73	n-Propylbenzene	91	8.917	8.917	(0.923)	703965	50.0000	46.44
92	Naphthalene	128	11.546	11.546	(1.195)	129409	50.0000	47.54
63	o-Xylene	106	8.244	8.244	(1.075)	231921	50.0000	48.87
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	542158	50.0000	45.18
64	Styrene	104	8.258	8.258	(1.077)	413463	50.0000	49.15
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	367598	50.0000	45.15
56	Tetrachloroethene	164	6.933	6.933	(0.904)	100383	50.0000	47.62
50	Toluene	91	6.446	6.446	(0.840)	600627	50.0000	48.51
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	137211	50.0000	48.90
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	242875	50.0000	49.25
38	Trichloroethene	130	5.206	5.206	(1.048)	140002	50.0000	50.24
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	237858	50.0000	48.00
5	Vinyl Chloride	62	1.138	1.138	(0.272)	238071	50.0000	46.91

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052103.D
Date : 21-MAY-2020 18:39
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\X200521.b\Y052105.D
Lab Smp Id: VLCSW-200521 Client Smp ID: VLCSW-200521
Inj Date : 21-MAY-2020 19:27
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200521;VLCSW-200521;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 04-Jun-2020 10:05 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 20 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

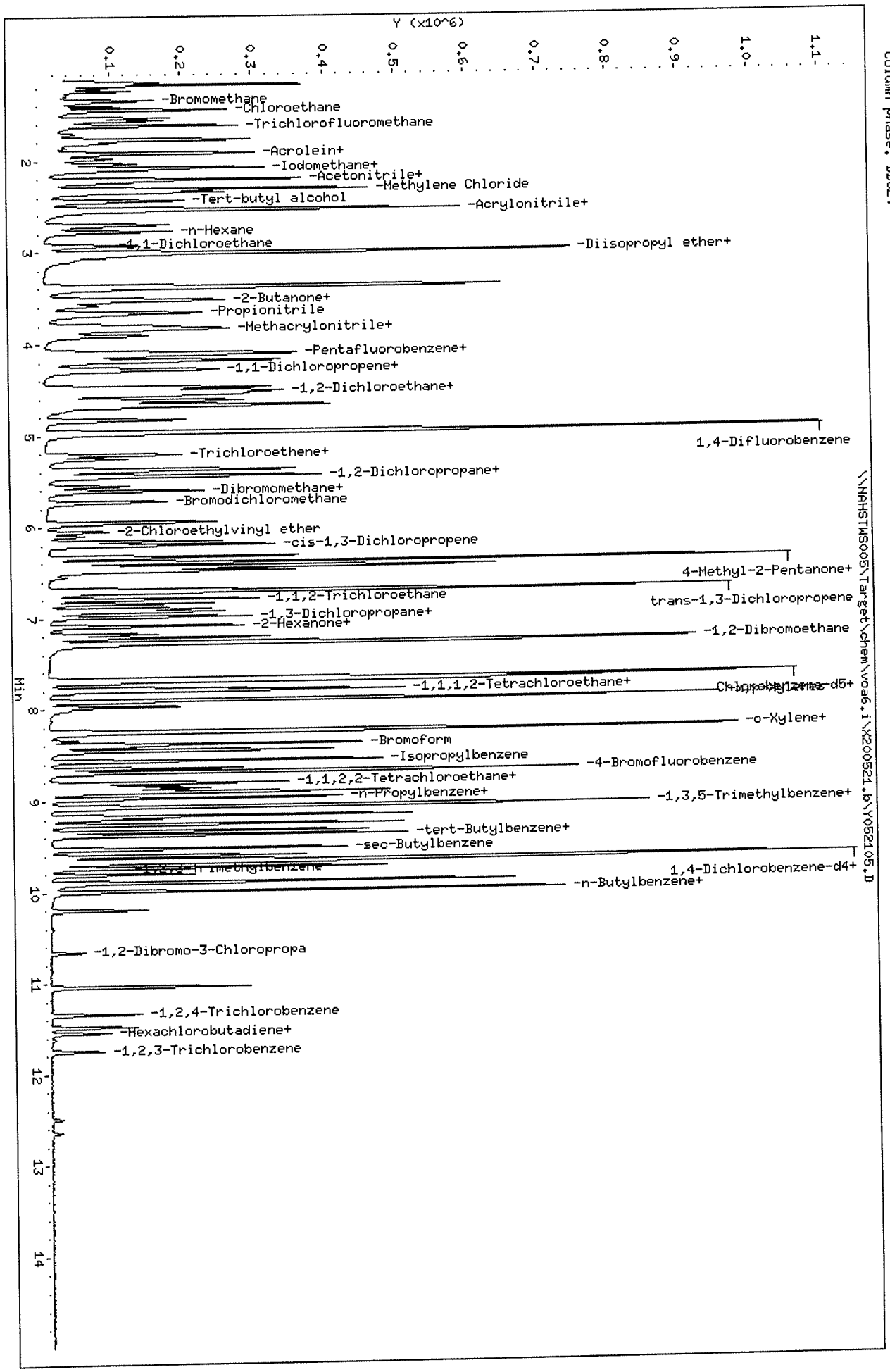
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	226455	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	420848	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	384214	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	178443	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	147475	51.2766	51.27
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	223590	51.7410	51.74
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	512246	50.1896	50.18
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	200867	50.6245	50.62
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	54644	18.5624	18.56
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	95412	19.8030	19.80
68 1,1,2,2-Tetrachloroethane	83	8.845	8.838	(0.915)	74290	19.4100	19.40
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	49454	18.9750	18.97
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	144047	19.5807	19.58
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	47901	19.0885	19.08
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	79286	18.3804	18.38
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	16737	19.3264	19.32
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	66048	18.7104	18.71(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	28963	19.4030	19.40
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.970)	201117	18.9943	18.99
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	7503	20.3301	20.33
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	60287	19.2319	19.23
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	98934	19.2179	19.21

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052105.D Page 2
Report Date: 04-Jun-2020 10:05

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	116865	19.0748	19.07
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	80549	19.2741	19.27
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	196904	19.0314	19.03
83	1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	107835	19.4694	19.46
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	103649	19.0479	19.04
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	109390	19.1719	19.17
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	92544	19.1486	19.14
24	2-Butanone	43	3.581	3.580	(0.856)	99566	37.4367	37.43
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	175027	19.0176	19.01
52	2-Hexanone	43	7.090	7.090	(0.924)	171434	38.9763	38.97
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	209250	19.3856	19.38
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	186620	18.7210	18.72
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	237676	37.2803	37.28
10	Acetone	43	1.976	1.976	(0.473)	81175	38.7047	38.70
37	Benzene	78	4.519	4.519	(0.909)	241194	19.1461	19.14
74	Bromobenzene	156	8.810	8.809	(0.911)	62406	19.1095	19.10
29	Bromochloromethane	128	3.795	3.795	(0.908)	30433	19.4002	19.40
39	Bromodichloromethane	83	5.729	5.729	(1.153)	87922	18.8242	18.82
66	Bromoform	173	8.416	8.415	(1.097)	39986	18.8526	18.85
6	Bromomethane	94	1.338	1.338	(0.320)	50146	24.0463	24.04
19	Carbon Disulfide	76	2.069	2.069	(0.495)	332032	39.8163	39.81
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	75372	17.7367	17.73
59	Chlorobenzene	112	7.699	7.699	(1.004)	148810	19.0508	19.05
7	Chloroethane	64	1.403	1.403	(0.336)	49783	17.9779	17.97
28	Chloroform	83	3.910	3.910	(0.935)	114760	19.6675	19.66
3	Chloromethane	50	1.081	1.081	(0.258)	123613	17.5134	17.51
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	64690	19.5445	19.54
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	103931	18.7174	18.71
55	Dibromochloromethane	129	7.176	7.176	(0.936)	60404	18.7720	18.77
44	Dibromomethane	93	5.558	5.557	(1.118)	42761	19.4777	19.47
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	61540	18.7022	18.70
61	Ethylbenzene	106	7.800	7.799	(1.017)	79456	19.5060	19.50
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	16428	20.3956	20.39
67	Isopropylbenzene	105	8.566	8.566	(1.117)	231593	18.9152	18.91
62	m,p-Xylenes	106	7.907	7.907	(1.031)	190857	38.3799	38.37
17	Methylene Chloride	84	2.305	2.305	(0.551)	70294	21.2097	21.20
87	n-Butylbenzene	91	9.999	9.999	(1.034)	174574	18.3597	18.35
73	n-Propylbenzene	91	8.917	8.917	(0.922)	287467	19.1158	19.11
92	Naphthalene	128	11.546	11.546	(1.194)	48915	18.1164	18.11
63	o-Xylene	106	8.244	8.244	(1.075)	92390	19.0982	19.09
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	217310	18.2536	18.25
64	Styrene	104	8.265	8.258	(1.078)	163394	19.0527	19.05
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	149954	18.5658	18.56
56	Tetrachloroethene	164	6.933	6.933	(0.904)	41167	19.1587	19.15
50	Toluene	91	6.453	6.446	(0.841)	244252	19.3523	19.35
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	54381	19.7153	19.71
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	96493	18.9977	18.99
38	Trichloroethene	130	5.214	5.206	(1.049)	54908	19.1298	19.12
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	94717	19.4434	19.44
5	Vinyl Chloride	62	1.138	1.138	(0.272)	93522	18.7450	18.74

QC Flag Legend

M - Compound response manually integrated.



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Sample Info: VLCSW-200521;VLCSW-200521;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\X200521.b\Y052107.D Page 1
Report Date: 04-Jun-2020 10:05

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052107.D
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Inj Date : 21-MAY-2020 20:15
Operator : PC Inst ID: voa6.i
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Comment :
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Meth Date : 04-Jun-2020 10:05 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 22 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

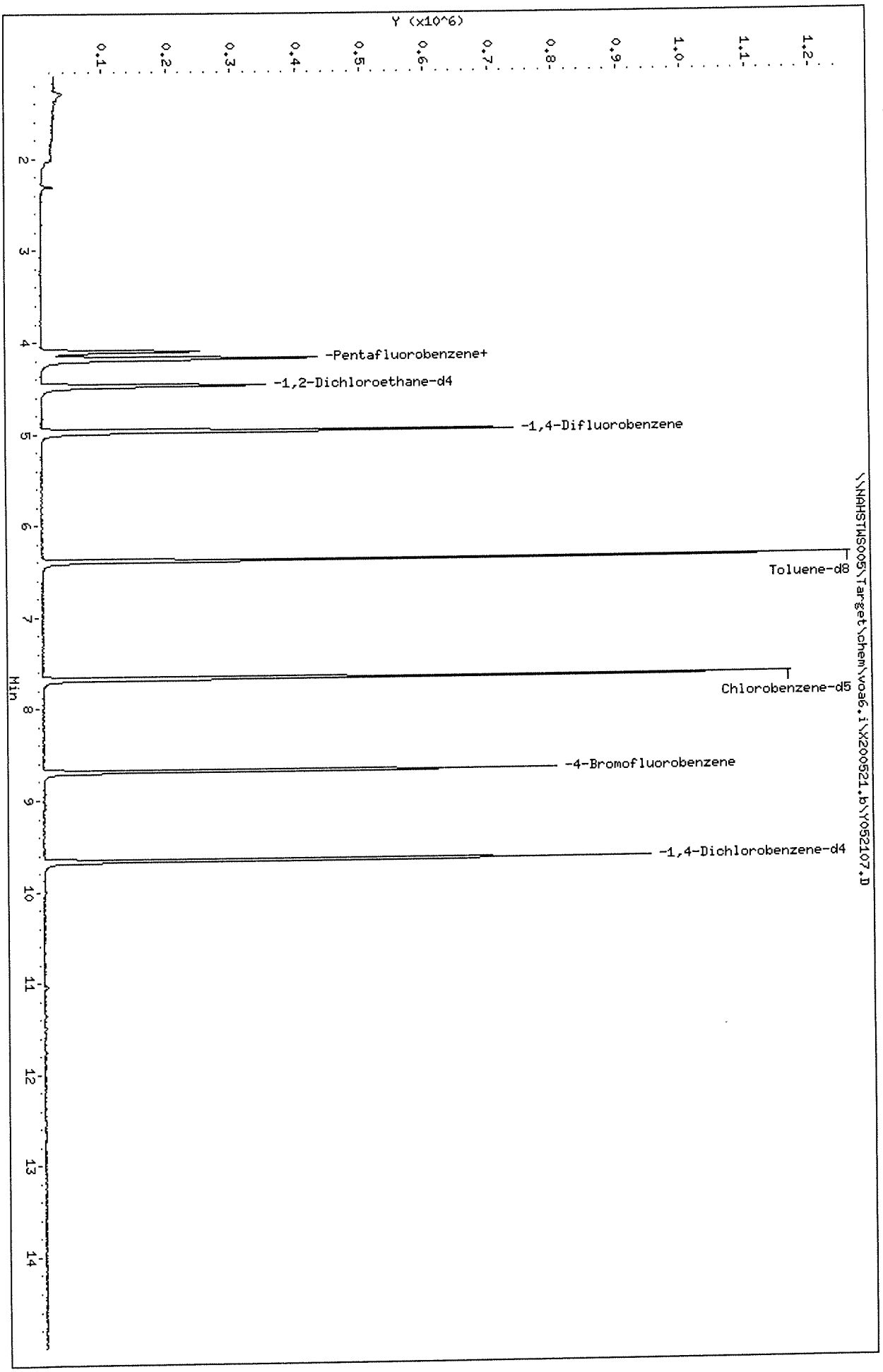
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.182	4.182	(1.000)	297696	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	507057	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	439361	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	188524	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	170392	45.0560	45.05
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	252797	44.4250	44.42
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	618710	53.0214	53.02
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	219207	48.2942	48.29

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052107.D
Date : 21-MAY-2020 20:15
Client ID: VBLKW-200521
Sample Info: VBLKW-200521;VBLKW-200521;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\X200521.b\Y052109.D
Lab Smp Id: HS20050757-03 Client Smp ID: HS20050757-03
Inj Date : 21-MAY-2020 21:03
Operator : PC Inst ID: voa6.i
Smp Info : HS20050757-03;HS20050757-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200521.b\8260W.m
Meth Date : 04-Jun-2020 10:05 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

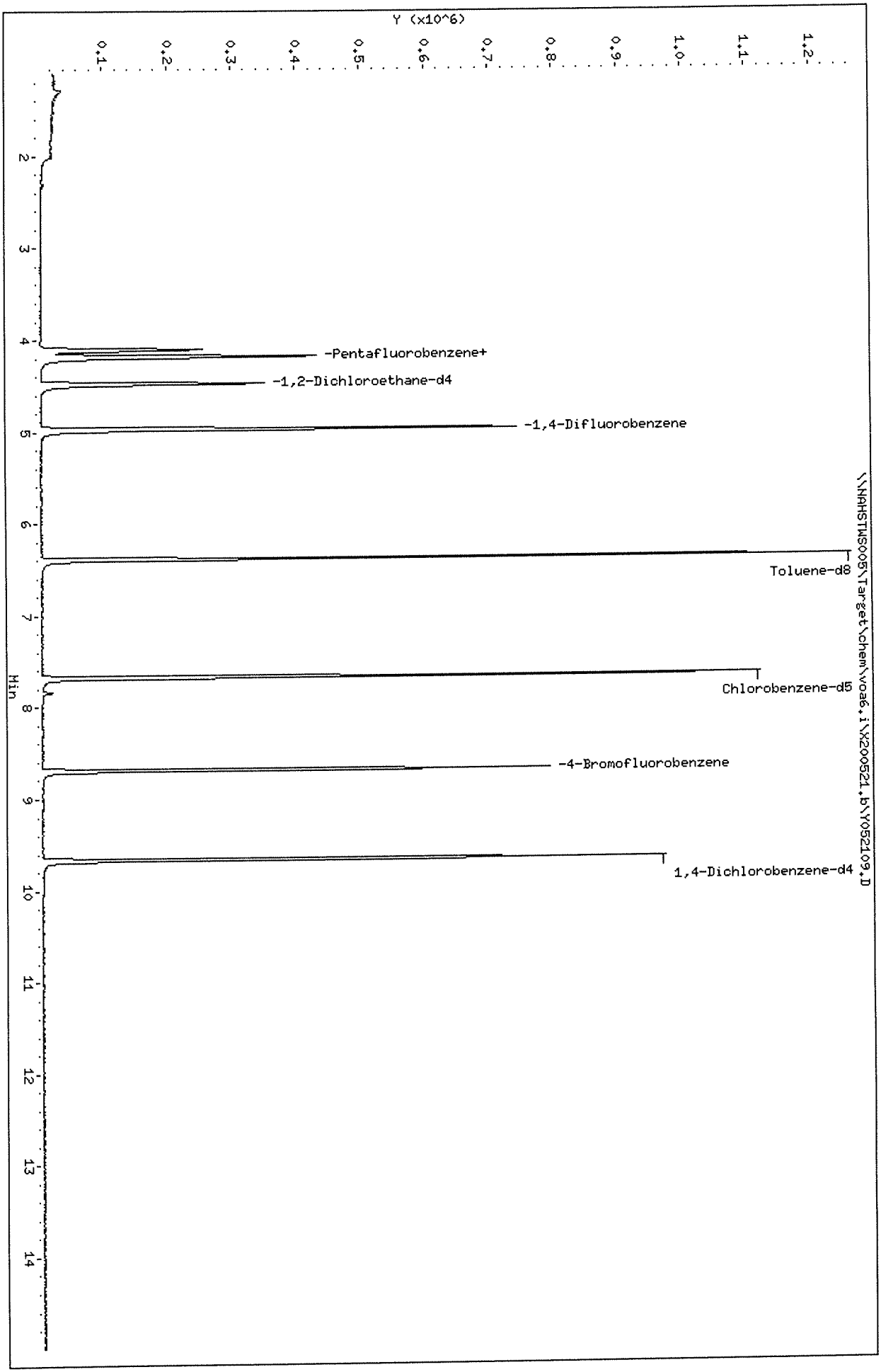
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	296921	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	503932	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	433211	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	186559	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	168703	44.7252	44.72
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	252396	44.4709	44.47
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	615618	53.5069	53.50
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	216139	48.2943	48.29

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052109.D
Date : 21-MAY-2020 21:03
Client ID: HS20050757-03
Sample Info: HS20050757-03;HS20050757-03;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



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Report Date: 04-Jun-2020 10:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052112.D
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Inj Date : 21-MAY-2020 22:15
Operator : PC Inst ID: voa6.i
Smp Info : HS20050754-01MS;HS20050754-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200521.b\8260W.m
Meth Date : 04-Jun-2020 10:05 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 27 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

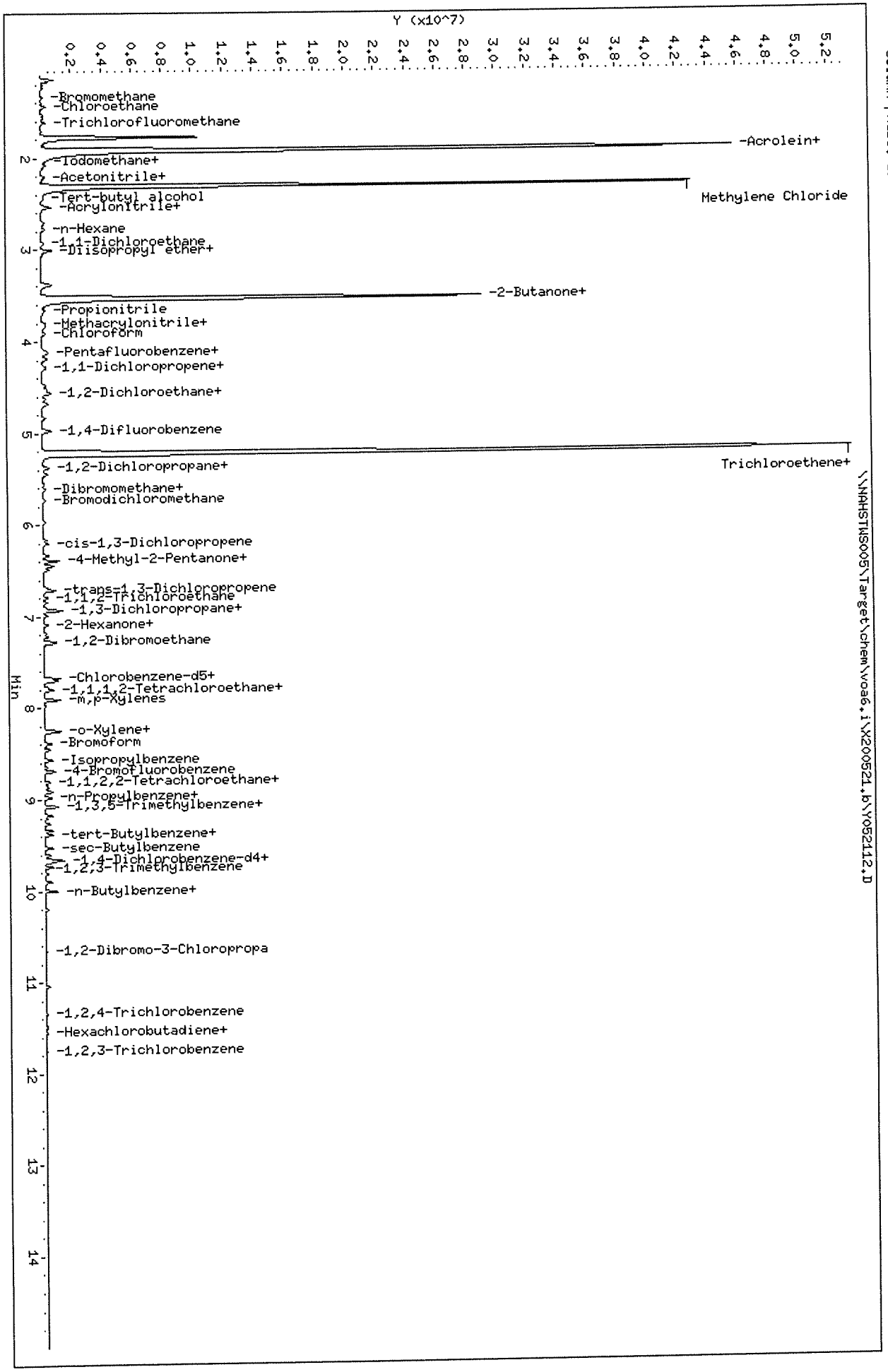
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.182	(1.000)	247122	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	431719	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	389367	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	183792	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	143303	45.6490	45.64
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	214913	45.5097	45.50
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	516765	49.9615	49.96
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	202020	50.2383	50.23
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	59707	20.0138	20.01
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	114609	21.7981	21.79
68 1,1,2,2-Tetrachloroethane	83	8.845	8.838	(0.915)	73980	18.7664	18.76
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	55094	20.8593	20.85
22 1,1-Dichloroethane	63	2.929	2.921	(0.699)	218887	27.2655	27.26
11 1,1-Dichloroethene	96	1.911	1.911	(0.456)	315266	115.127	115.12
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	89057	20.1256	20.12
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	11708	13.1259	13.12
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	65849	18.1111	18.11(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	23393	15.2154	15.21
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	228564	20.9582	20.95
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.658	(1.103)	5919	15.5713	15.57
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	60030	18.8965	18.89
88 1,2-Dichlorobenzene	146	9.998	9.999	(1.035)	105902	19.9727	19.97

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052112.D Page 2
Report Date: 04-Jun-2020 10:05

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	422568	67.2351	67.23
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	79154	18.4634	18.46
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	221852	20.8187	20.81
83	1,3-Dichlorobenzene	146	9.604	9.605	(0.994)	112377	19.6989	19.69
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	104859	19.0152	19.01
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	116009	19.7403	19.74
26	2,2-Dichloropropane	77	3.523	3.516	(0.841)	92480	17.5350	17.53
24	2-Butanone	43	3.580	3.580	(0.855)	91241	31.4684	31.46
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	192411	20.2980	20.29
52	2-Hexanone	43	7.090	7.090	(0.924)	163314	36.6388	36.63
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	225003	20.2384	20.23
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	220229	21.4496	21.44
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	237064	36.6922	36.69
10	Acetone	43	1.976	1.976	(0.472)	93504	40.9709	40.97
37	Benzene	78	4.519	4.519	(0.909)	280966	21.7416	21.74
74	Bromobenzene	156	8.809	8.809	(0.912)	65905	19.5936	19.59
29	Bromochloromethane	128	3.802	3.795	(0.908)	51553	30.1153	30.11
39	Bromodichloromethane	83	5.729	5.729	(1.153)	86893	18.1354	18.13
66	Bromoform	173	8.415	8.415	(1.097)	40521	18.8520	18.85
6	Bromomethane	94	1.338	1.338	(0.320)	55669	24.4775	24.47
19	Carbon Disulfide	76	2.069	2.069	(0.494)	339070	37.2598	37.25
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	116773	26.7873	26.78
59	Chlorobenzene	112	7.699	7.699	(1.004)	156411	19.7588	19.75
7	Chloroethane	64	1.403	1.403	(0.335)	61323	20.2933	20.29
28	Chloroform	83	3.910	3.910	(0.933)	199295	31.2986	31.29
3	Chloromethane	50	1.080	1.081	(0.258)	214826	28.1980	28.19
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	11657518	3227.48	3227.47(A)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	104072	18.2709	18.27
55	Dibromochloromethane	129	7.176	7.176	(0.936)	62369	19.1261	19.12
44	Dibromomethane	93	5.557	5.557	(1.118)	40158	17.8314	17.83
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	109622	29.3509	29.35
61	Ethylbenzene	106	7.799	7.799	(1.017)	91681	22.2093	22.20
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	16109	19.4786	19.47
67	Isopropylbenzene	105	8.566	8.566	(1.117)	267318	21.5441	21.54
62	m,p-Xylenes	106	7.907	7.907	(1.031)	210225	41.7152	41.71
17	Methylene Chloride	84	2.305	2.305	(0.550)	14504273	4163.29	4163.29(A)
87	n-Butylbenzene	91	9.998	9.999	(1.035)	215249	21.9787	21.97
73	n-Propylbenzene	91	8.917	8.917	(0.923)	331490	21.4017	21.40
92	Naphthalene	128	11.546	11.546	(1.195)	39082	14.0533	14.05
63	o-Xylene	106	8.243	8.244	(1.075)	103532	21.1182	21.11
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	267232	21.7936	21.79
64	Styrene	104	8.265	8.258	(1.078)	183412	21.1039	21.10
78	tert-Butylbenzene	119	9.339	9.340	(0.967)	179832	21.6171	21.61
56	Tetrachloroethene	164	6.933	6.933	(0.904)	207073	95.0944	95.09
50	Toluene	91	6.453	6.446	(0.841)	282246	22.0667	22.06
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.605)	86466	28.7259	28.72
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	96535	18.5274	18.52
38	Trichloroethene	130	5.221	5.206	(1.050)	18011047	6116.99	6116.98(A)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	121893	22.9294	22.92
5	Vinyl Chloride	62	1.138	1.138	(0.272)	632687	116.207	116.20

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



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Sample Info: HS20050754-01MS;HS20050754-01MS;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\X200521.b\Y052113.D Page 1
Report Date: 04-Jun-2020 10:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052113.D
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Inj Date : 21-MAY-2020 22:39
Operator : PC Inst ID: voa6.i
Smp Info : HS20050754-01MSD;HS20050754-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
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Meth Date : 04-Jun-2020 10:05 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 27 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

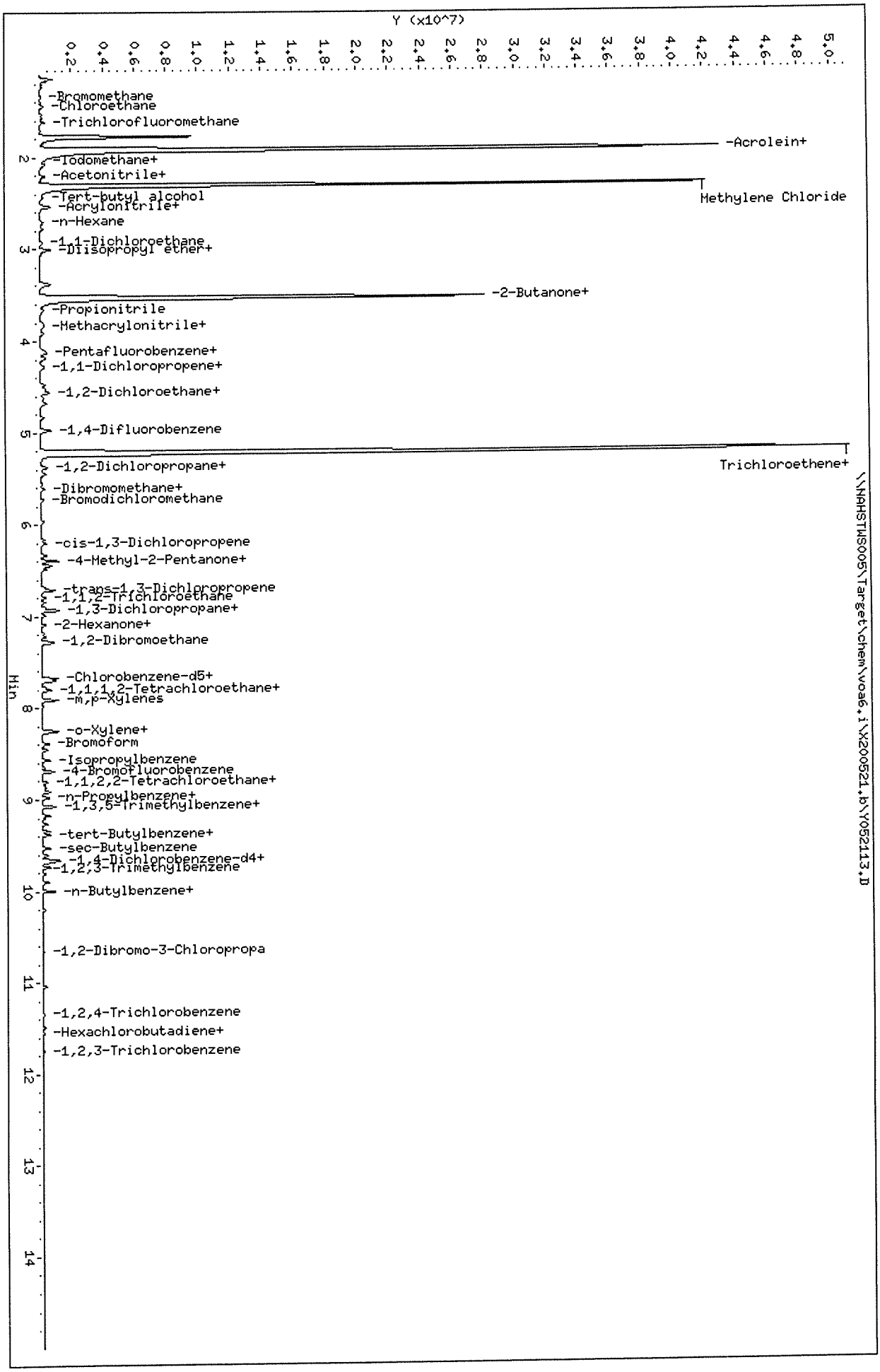
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	247808	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	432919	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	389164	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	178541	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	143676	45.6412	45.64
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	214081	45.2045	45.20
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	521215	50.4195	50.41
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	202361	50.3502	50.35
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	56467	18.9376	18.93
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	108776	20.6314	20.63
68 1,1,2,2-Tetrachloroethane	83	8.845	8.838	(0.915)	74455	19.4424	19.44
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	54628	20.6936	20.69
22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	211751	26.3036	26.30
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	296752	108.066	108.06
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	84705	19.0891	19.08
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	13953	16.1028	16.10
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	66701	18.8850	18.88 (M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	26230	17.5624	17.56
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.970)	220954	20.8563	20.85
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	6192	16.7686	16.76
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	59453	18.7246	18.72
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	105467	20.4757	20.47

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052113.D Page 2
Report Date: 04-Jun-2020 10:05

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	413343	65.5850	65.58
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	75437	17.5476	17.54
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	214771	20.7469	20.74
83 1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	112239	20.2534	20.25
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	103709	18.8165	18.81
84 1,4-Dichlorobenzene	146	9.684	9.683	(1.001)	112950	19.7850	19.78
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	86503	16.3563	16.35
24 2-Butanone	43	3.581	3.580	(0.856)	91361	31.4228	31.42
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	184951	20.0848	20.08
52 2-Hexanone	43	7.090	7.090	(0.924)	166129	37.2898	37.28
77 4-Chlorotoluene	91	9.075	9.074	(0.939)	219153	20.2920	20.29
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	210836	21.1386	21.13
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	235185	36.4204	36.42
10 Acetone	43	1.976	1.976	(0.473)	88389	38.5026	38.50
37 Benzene	78	4.519	4.519	(0.909)	268011	20.6817	20.68
74 Bromobenzene	156	8.810	8.809	(0.911)	64398	19.7086	19.70
29 Bromochloromethane	128	3.803	3.795	(0.909)	47235	27.5165	27.51
39 Bromodichloromethane	83	5.730	5.729	(1.153)	86298	17.9613	17.96
66 Bromoform	173	8.416	8.415	(1.097)	40499	18.8516	18.85
6 Bromomethane	94	1.339	1.338	(0.320)	42504	18.4267	18.42
19 Carbon Disulfide	76	2.069	2.069	(0.495)	319420	35.0033	35.00
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	109671	25.0884	25.08
59 Chlorobenzene	112	7.699	7.699	(1.004)	151384	19.1338	19.13
7 Chloroethane	64	1.403	1.403	(0.336)	56797	18.7435	18.74
28 Chloroform	83	3.910	3.910	(0.935)	192511	30.1495	30.14
3 Chloromethane	50	1.074	1.081	(0.257)	219962	28.8031	28.80
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	11202123	3092.81	3092.81(A)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	101289	17.7330	17.73
55 Dibromochloromethane	129	7.176	7.176	(0.936)	60409	18.5347	18.53
44 Dibromomethane	93	5.558	5.557	(1.118)	40587	17.9720	17.97
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	100718	27.0482	27.04
61 Ethylbenzene	106	7.800	7.799	(1.017)	88149	21.3648	21.36
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	17676	21.8348	21.83
67 Isopropylbenzene	105	8.566	8.566	(1.117)	254802	20.5461	20.54
62 m,p-Xylenes	106	7.907	7.907	(1.031)	202832	40.2692	40.26
17 Methylene Chloride	84	2.298	2.305	(0.550)	14012977	4011.11	4011.10(A)
87 n-Butylbenzene	91	9.999	9.999	(1.034)	208162	21.8801	21.88
73 n-Propylbenzene	91	8.917	8.917	(0.922)	319627	21.2427	21.24
92 Naphthalene	128	11.546	11.546	(1.194)	44156	16.3448	16.34
63 o-Xylene	106	8.244	8.244	(1.075)	100599	20.5306	20.53
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	258492	21.7009	21.70
64 Styrene	104	8.265	8.258	(1.077)	173671	19.9935	19.99
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	171824	21.2619	21.26
56 Tetrachloroethene	164	6.933	6.933	(0.904)	197410	90.7042	90.70
50 Toluene	91	6.446	6.446	(0.840)	270473	21.1573	21.15
20 trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	83069	27.5209	27.52
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	96324	18.4357	18.43
38 Trichloroethene	130	5.228	5.206	(1.052)	17470961	5917.11	5917.11(A)
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	111181	20.8565	20.85
5 Vinyl Chloride	62	1.138	1.138	(0.272)	578777	106.011	106.01

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



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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\X200521.b\Y052114.D
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Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

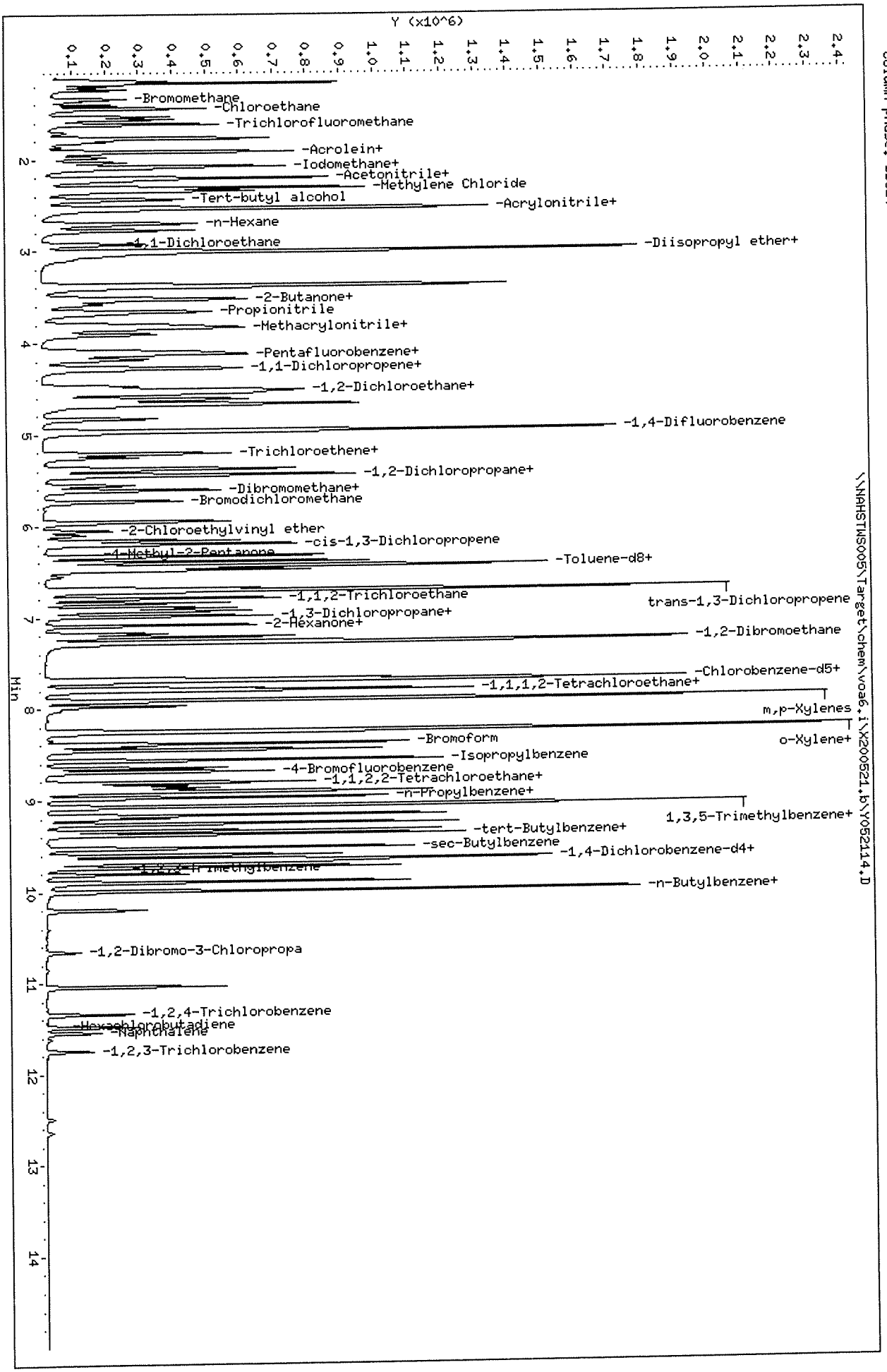
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	208094	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	392994	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	362792	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	170369	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	137054	51.8590	51.85(RR)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	203716	51.2969	51.29(RR)
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	473442	49.1231	49.12(RR)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	184132	49.1354	49.13(RR)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	134718	48.4654	48.46
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	229641	51.8682	51.86(R)
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	171351	46.8910	46.89(R)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	117399	47.7046	47.70(R)
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	344239	50.9220	50.92(R)
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	119781	51.9444	51.94(R)
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	195496	48.5327	48.53
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	31714	38.3559	38.35
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	154977	45.9832	45.98(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	57408	40.2816	40.28
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.971)	508075	50.2587	50.25
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	14937	42.3914	42.39
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	139266	47.0500	47.05
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	241164	49.0661	49.06

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200521.b\Y052114.D Page 2
Report Date: 04-Jun-2020 10:05

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	273120	47.7385	47.73 (R)
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	192674	49.3716	49.37 (R)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	495857	50.1975	50.19
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	262126	49.5691	49.56
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	244231	47.5333	47.53
84	1,4-Dichlorobenzene	146	9.684	9.683	(1.002)	263725	48.4115	48.41
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	201576	45.3888	45.38
24	2-Butanone	43	3.581	3.580	(0.856)	235369	96.0029	96.00 (R)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	426830	48.5751	48.57
52	2-Hexanone	43	7.090	7.090	(0.924)	386407	93.0388	93.03 (R)
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	504360	48.9401	48.94
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	476777	50.0951	50.09
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	561160	93.2172	93.21 (R)
10	Acetone	43	1.976	1.976	(0.473)	176862	94.6356	94.63 (R)
37	Benzene	78	4.512	4.519	(0.908)	574338	48.8226	48.82 (R)
74	Bromobenzene	156	8.810	8.809	(0.912)	152826	49.0149	49.01
29	Bromochloromethane	128	3.795	3.795	(0.908)	72984	50.6305	50.63
39	Bromodichloromethane	83	5.730	5.729	(1.153)	210849	48.3426	48.34 (R)
66	Bromoform	173	8.416	8.415	(1.097)	96426	48.1474	48.14 (R)
6	Bromomethane	94	1.339	1.338	(0.320)	85268	45.2459	45.24 (R)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	792792	103.458	103.45 (AR)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	185853	46.8350	46.83 (R)
59	Chlorobenzene	112	7.699	7.699	(1.004)	359039	48.6785	48.67 (R)
7	Chloroethane	64	1.403	1.403	(0.336)	124835	49.0589	49.05 (R)
28	Chloroform	83	3.910	3.910	(0.935)	272790	50.8756	50.87 (R)
3	Chloromethane	50	1.074	1.081	(0.257)	388523	61.1565	61.15 (R)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	170059	55.9125	55.91 (R)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	243065	46.8773	46.87 (R)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	143276	47.1555	47.15 (R)
44	Dibromomethane	93	5.558	5.557	(1.118)	100457	49.0015	49.00
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	157424	48.7414	48.74
61	Ethylbenzene	106	7.800	7.799	(1.017)	194136	50.4735	50.47 (R)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	37653	46.6782	46.67
67	Isopropylbenzene	105	8.566	8.566	(1.117)	583962	50.5110	50.51
62	m,p-Xylenes	106	7.907	7.907	(1.031)	463506	98.7113	98.71 (R)
17	Methylene Chloride	84	2.306	2.305	(0.551)	170221	57.2220	57.22 (R)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	461686	50.8561	50.85
73	n-Propylbenzene	91	8.917	8.917	(0.923)	724815	50.4825	50.48
92	Naphthalene	128	11.546	11.546	(1.195)	100643	39.0410	39.04
63	o-Xylene	106	8.244	8.244	(1.075)	225915	49.4570	49.45 (R)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	578588	50.9034	50.90
64	Styrene	104	8.258	8.258	(1.077)	404714	49.9786	49.97 (R)
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	389805	50.5490	50.54
56	Tetrachloroethene	164	6.933	6.933	(0.904)	102647	50.5917	50.59 (R)
50	Toluene	91	6.446	6.446	(0.840)	586981	49.2532	49.25 (R)
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	132639	52.3300	52.33 (R)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	224440	47.3200	47.32 (R)
38	Trichloroethene	130	5.207	5.206	(1.048)	158000	58.9483	58.94 (R)
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	234515	52.3886	52.38
5	Vinyl Chloride	62	1.138	1.138	(0.272)	234944	51.2459	51.24 (R)

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\voa6.i\X200521.b\Y052114.D
Date : 21-MAY-2020 23:03
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

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Lab File ID: X052201 BFB Injection Date: 05/22/20

Instrument ID: VOA6 BFB Injection Time: 1024

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	36.4
75	30.0 - 60.0% of mass 95	53.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.3
173	Less than 2.0% of mass 174	0.5 (1.0)1
174	Greater than 50.0% of mass 95	52.9
175	5.0 - 9.0% of mass 174	3.9 (7.4)1
176	95.0 - 101.0% of mass 174	51.2 (96.7)1
177	5.0 - 9.0% of mass 176	3.6 (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	CCV	CCV	X052203	05/22/20	1112
02	VLCSW-200522	VLCSW-200522	X052205	05/22/20	1200
03	VBLKW-200522	VBLKW-200522	X052207	05/22/20	1248
04	HS20050757-0	HS20050757-01	X052209	05/22/20	1336
05	HS20050797-0	HS20050797-01M	X052213	05/22/20	1512
06	HS20050797-0	HS20050797-01M	X052214	05/22/20	1536
07	CCV-END	CCV-END	X052229	05/22/20	2136
08					
09					
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22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Instrument ID: VOA6 Calibration Date: 05/22/20 Time: 1112

Lab File ID: X052203 Init. Calib. Date(s): 05/21/20 05/21/20

Init. Calib. Times: 1216 1615

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
Bromochloromethane	0.3460000	0.3423760	0.3423760	0.1	1.05	20.00	AVRG
Vinyl Chloride	1.1010000	0.9673754	0.9673754	0.1	12.14	20.00	AVRG
Chloromethane	42.436439	50.000000	1.3003483	0.1	15.13	20.00	LINR
Bromomethane	50.015309	50.000000	0.4521238	0.1	-0.03	20.00	LINR
Chloroethane	0.6110000	0.5300535	0.5300535	0.1	13.25	20.00	AVRG
Methylene Chloride	50.621135	50.000000	0.7249617	0.1	-1.24	20.00	LINR
Acetone	97.037767	100.00000	0.4355108	0.1	2.96	20.00	LINR
1,1-Dichloroethene	0.5540000	0.5008788	0.5008788	0.1	9.59	20.00	AVRG
trans-1,2-Dichloroethene	0.6090000	0.5836989	0.5836989	0.1	4.15	20.00	AVRG
Carbon Tetrachloride	0.5050000	0.4208793	0.4208793	0.1	16.66	20.00	AVRG
Bromodichloromethane	0.5550000	0.5216704	0.5216704	0.2	6.00	20.00	AVRG
1,1-Dichloroethane	1.6240000	1.5378436	1.5378436	0.2	5.30	20.00	AVRG
1,2-Dichloropropane	0.4960000	0.4834428	0.4834428	0.1	2.53	20.00	AVRG
2-Butanone	99.192665	100.00000	0.5843632	0.1	0.81	20.00	LINR
cis-1,3-Dichloropropene	0.6600000	0.6260720	0.6260720	0.2	5.14	20.00	AVRG
Dibromochloromethane	0.4190000	0.3900139	0.3900139	0.1	6.92	20.00	AVRG
cis-1,2-Dichloroethene	0.7310000	0.7088312	0.7088312	0.1	3.03	20.00	AVRG
1,1,2-Trichloroethane	0.3390000	0.3210497	0.3210497	0.1	5.30	20.00	AVRG
Benzene	1.4970000	1.4009216	1.4009216	0.5	6.42	20.00	AVRG
Chloroform	1.2880000	1.2330712	1.2330712	0.2	4.26	20.00	AVRG
trans-1,3-Dichloropropene	0.6040000	0.5879894	0.5879894	0.1	2.65	20.00	AVRG
Bromoform	0.2760000	0.2695474	0.2695474	0.1	2.34	20.00	AVRG
4-Methyl-2-Pentanone	0.8300000	0.7968651	0.7968651	0.1	3.99	20.00	AVRG
1,1,1-Trichloroethane	1.0640000	0.9803824	0.9803824	0.1	7.86	20.00	AVRG
2-Hexanone	0.5720000	0.5532300	0.5532300	0.1	3.28	20.00	AVRG
1,2-Dichloroethane	0.7280000	0.6753937	0.6753937	0.1	7.23	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.0720000	1.0211532	1.0211532	0.3	4.74	20.00	AVRG
Trichloroethene	0.3410000	0.3172653	0.3172653	0.2	6.96	20.00	AVRG
Toluene	1.6420000	1.5359158	1.5359158	0.4	6.46	20.00	AVRG
Dichlorodifluoromethane	41.263354	50.000000	0.6358292	0.1	17.47	20.00	LINR
Trichlorofluoromethane	1.0760000	0.9643498	0.9643498	0.1	10.38	20.00	AVRG
Tetrachloroethene	0.2800000	0.2483400	0.2483400	0.2	11.31	20.00	AVRG
1,2-Dibromoethane	0.4080000	0.3938435	0.3938435	0.1	3.47	20.00	AVRG
Chlorobenzene	1.0160000	0.9513109	0.9513109	0.5	6.37	20.00	AVRG
1,3-Dichlorobenzene	1.5520000	1.4778543	1.4778543	0.6	4.78	20.00	AVRG
1,4-Dichlorobenzene	1.5990000	1.4891165	1.4891165	0.4	6.87	20.00	AVRG
Ethylbenzene	0.5300000	0.4862185	0.4862185	0.1	8.26	20.00	AVRG
1,2-Dichlorobenzene	1.4420000	1.3695812	1.3695812	0.4	5.02	20.00	AVRG
m,p-Xylenes	0.6470000	0.5910294	0.5910294	0.1	8.65	20.00	AVRG
o-Xylene	0.6290000	0.5983674	0.5983674	0.3	4.87	20.00	AVRG
Styrene	1.1160000	1.0808323	1.0808323	0.3	3.15	20.00	AVRG
Carbon Disulfide	1.8410000	1.7122321	1.7122321	0.1	6.99	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005075

Instrument ID: VOA6 Calibration Date: 05/22/20 Time: 1112

Lab File ID: X052203 Init. Calib. Date(s): 05/21/20 05/21/20

Init. Calib. Times: 1216 1615

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
2,2-Dichloropropane	1.0670000	1.0385406	1.0385406	0.1	2.67	20.00	AVRG
1,1-Dichloropropene	0.5120000	0.4437224	0.4437224	0.1	13.34	20.00	AVRG
Dibromomethane	0.2610000	0.2557820	0.2557820	0.1	2.00	20.00	AVRG
1,3-Dichloropropane	0.7080000	0.6653585	0.6653585	0.1	6.02	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3830000	0.3558056	0.3558056	0.1	7.10	20.00	AVRG
Isopropylbenzene	1.5930000	1.4163816	1.4163816	0.1	11.09	20.00	AVRG
Bromobenzene	0.9150000	0.8661733	0.8661733	0.1	5.34	20.00	AVRG
1,2,3-Trichloropropane	0.9890000	0.9202582	0.9202582	0.1	6.95	20.00	AVRG
n-Propylbenzene	4.2140000	3.7509581	3.7509581	0.1	10.99	20.00	AVRG
2-Chlorotoluene	2.5790000	2.3626047	2.3626047	0.1	8.39	20.00	AVRG
1,3,5-Trimethylbenzene	2.8990000	2.5842054	2.5842054	0.1	10.86	20.00	AVRG
4-Chlorotoluene	3.0240000	2.8103614	2.8103614	0.1	7.06	20.00	AVRG
tert-Butylbenzene	2.2630000	1.9659438	1.9659438	0.1	13.13	20.00	AVRG
1,2,4-Trimethylbenzene	2.9670000	2.7325301	2.7325301	0.1	7.90	20.00	AVRG
sec-Butylbenzene	3.3360000	2.8571256	2.8571256	0.1	14.35	20.00	AVRG
p-Isopropyltoluene	2.7930000	2.4768675	2.4768675	0.1	11.32	20.00	AVRG
n-Butylbenzene	2.6640000	2.4194951	2.4194951	0.5	9.18	20.00	AVRG
1,2-Dibromo-3-Chloropropane	0.1030000	9.55e-002	9.55e-002	0.05	7.28	20.00	AVRG
1,2,4-Trichlorobenzene	0.4180000	0.3930293	0.3930293	0.2	5.97	20.00	AVRG
Hexachlorobutadiene	46.453458	50.000000	0.2198853	0.1	7.09	20.00	2RDR
Naphthalene	0.7560000	0.7145783	0.7145783	0.2	5.48	20.00	AVRG
1,2,3-Trichlorobenzene	0.2430000	0.2243718	0.2243718	0.1	7.66	20.00	AVRG
Dibromofluoromethane	50.078144	50.000000	0.6360390	0.1	-0.16	20.00	LINR
1,2-Dichloroethane-d4	50.498328	50.000000	0.9638790	0.1	-1.00	20.00	LINR
Toluene-d8	48.201637	50.000000	1.2805997	0.1	3.60	20.00	LINR
4-Bromofluorobenzene	49.725086	50.000000	0.5135836	0.1	0.55	20.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Lab File ID (Standard): X052203 Date Analyzed: 05/22/20

Instrument ID: VOA6 Time Analyzed: 1112

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	214501	4.18	399946	4.97	368974	7.67
	UPPER LIMIT	429002	4.68	799892	5.47	737948	8.17
	LOWER LIMIT	107251	3.68	199973	4.47	184487	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-200522	208462	4.18	389439	4.97	361165	7.67
02	VBLKW-200522	294243	4.18	496159	4.97	425446	7.67
03	HS20050757-01	284609	4.18	482483	4.97	410715	7.67
04	HS20050797-01	272925	4.18	463972	4.97	404344	7.67
05	HS20050797-01	281225	4.18	476034	4.97	418811	7.67
06	CCV-END	204016	4.18	388648	4.97	365036	7.67
07							
08							
09							
10							
11							
12							
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 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Lab File ID (Standard): X052203 Date Analyzed: 05/22/20

Instrument ID: VOA6 Time Analyzed: 1112

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	174300	9.67				
	UPPER LIMIT	348600	10.17				
	LOWER LIMIT	87150	9.17				
	CLIENT SAMPLE NO.						
01	VLCSW-200522	171532	9.67				
02	VBLKW-200522	191502	9.67				
03	HS20050757-01	181151	9.67				
04	HS20050797-01	182042	9.67				
05	HS20050797-01	192604	9.67				
06	CCV-END	171739	9.66				
07							
08							
09							
10							
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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

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Instrument ID: VOA6 Calibration Date: 05/22/20 Time: 2136

Lab File ID: X052229 Init. Calib. Date(s): 05/21/20 05/21/20

Init. Calib. Times: 1216 1615

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
Bromochloromethane	0.3460000	0.3667850	0.3667850	0.1	-6.01	20.00	AVRG
Vinyl Chloride	1.1010000	1.0957621	1.0957621	0.1	0.48	20.00	AVRG
Chloromethane	45.183171	50.000000	1.3834993	0.1	9.63	20.00	LINR
Bromomethane	59.446197	50.000000	0.5358991	0.1	-18.89	20.00	LINR
Chloroethane	0.6110000	0.5927574	0.5927574	0.1	2.98	20.00	AVRG
Methylene Chloride	55.951947	50.000000	0.8000990	0.1	-11.90	20.00	LINR
Acetone	107.94990	100.00000	0.4834523	0.1	-7.95	20.00	LINR
1,1-Dichloroethene	0.5540000	0.5578288	0.5578288	0.1	-0.69	20.00	AVRG
trans-1,2-Dichloroethene	0.6090000	0.6449886	0.6449886	0.1	-5.91	20.00	AVRG
Carbon Tetrachloride	0.5050000	0.4469469	0.4469469	0.1	11.50	20.00	AVRG
Bromodichloromethane	0.5550000	0.5503515	0.5503515	0.2	0.84	20.00	AVRG
1,1-Dichloroethane	1.6240000	1.6814956	1.6814956	0.2	-3.54	20.00	AVRG
1,2-Dichloropropane	0.4960000	0.5107269	0.5107269	0.1	-2.97	20.00	AVRG
2-Butanone	107.60212	100.00000	0.6340017	0.1	-7.60	20.00	LINR
cis-1,3-Dichloropropene	0.6600000	0.6259880	0.6259880	0.2	5.15	20.00	AVRG
Dibromochloromethane	0.4190000	0.4036917	0.4036917	0.1	3.65	20.00	AVRG
cis-1,2-Dichloroethene	0.7310000	0.7706258	0.7706258	0.1	-5.42	20.00	AVRG
1,1,2-Trichloroethane	0.3390000	0.3352519	0.3352519	0.1	1.10	20.00	AVRG
Benzene	1.4970000	1.4940023	1.4940023	0.5	0.20	20.00	AVRG
Chloroform	1.2880000	1.3617069	1.3617069	0.2	-5.72	20.00	AVRG
trans-1,3-Dichloropropene	0.6040000	0.5735318	0.5735318	0.1	5.04	20.00	AVRG
Bromoform	0.2760000	0.2727320	0.2727320	0.1	1.18	20.00	AVRG
4-Methyl-2-Pentanone	0.8300000	0.8224052	0.8224052	0.1	0.92	20.00	AVRG
1,1,1-Trichloroethane	1.0640000	1.0774596	1.0774596	0.1	-1.26	20.00	AVRG
2-Hexanone	0.5720000	0.5752638	0.5752638	0.1	-0.57	20.00	AVRG
1,2-Dichloroethane	0.7280000	0.7053684	0.7053684	0.1	3.11	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.0720000	1.0430886	1.0430886	0.3	2.70	20.00	AVRG
Trichloroethene	0.3410000	0.3465732	0.3465732	0.2	-1.63	20.00	AVRG
Toluene	1.6420000	1.6016968	1.6016968	0.4	2.45	20.00	AVRG
Dichlorodifluoromethane	44.872025	50.000000	0.6940632	0.1	10.26	20.00	LINR
Trichlorofluoromethane	1.0760000	1.0748373	1.0748373	0.1	0.11	20.00	AVRG
Tetrachloroethene	0.2800000	0.2550105	0.2550105	0.2	8.92	20.00	AVRG
1,2-Dibromoethane	0.4080000	0.4000153	0.4000153	0.1	1.96	20.00	AVRG
Chlorobenzene	1.0160000	0.9725589	0.9725589	0.5	4.28	20.00	AVRG
1,3-Dichlorobenzene	1.5520000	1.4958571	1.4958571	0.6	3.62	20.00	AVRG
1,4-Dichlorobenzene	1.5990000	1.5234047	1.5234047	0.4	4.73	20.00	AVRG
Ethylbenzene	0.5300000	0.5101853	0.5101853	0.1	3.74	20.00	AVRG
1,2-Dichlorobenzene	1.4420000	1.4140353	1.4140353	0.4	1.94	20.00	AVRG
m,p-Xylenes	0.6470000	0.6078989	0.6078989	0.1	6.04	20.00	AVRG
o-Xylene	0.6290000	0.6122054	0.6122054	0.3	2.67	20.00	AVRG
Styrene	1.1160000	1.0920567	1.0920567	0.3	2.14	20.00	AVRG
Carbon Disulfide	1.8410000	1.8723041	1.8723041	0.1	-1.70	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005075

Instrument ID: VOA6 Calibration Date: 05/22/20 Time: 2136

Lab File ID: X052229 Init. Calib. Date(s): 05/21/20 05/21/20

Init. Calib. Times: 1216 1615

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	
2,2-Dichloropropane	1.0670000	0.8618540	0.8618540	0.1	19.23	20.00	AVRG	
1,1-Dichloropropene	0.5120000	0.4693193	0.4693193	0.1	8.34	20.00	AVRG	
Dibromomethane	0.2610000	0.2675686	0.2675686	0.1	-2.52	20.00	AVRG	
1,3-Dichloropropane	0.7080000	0.6940713	0.6940713	0.1	1.97	20.00	AVRG	
1,1,1,2-Tetrachloroethane	0.3830000	0.3713579	0.3713579	0.1	3.04	20.00	AVRG	
Isopropylbenzene	1.5930000	1.4531252	1.4531252	0.1	8.78	20.00	AVRG	
Bromobenzene	0.9150000	0.8996209	0.8996209	0.1	1.68	20.00	AVRG	
1,2,3-Trichloropropane	0.9890000	0.9497377	0.9497377	0.1	3.97	20.00	AVRG	
n-Propylbenzene	4.2140000	3.8282568	3.8282568	0.1	9.15	20.00	AVRG	
2-Chlorotoluene	2.5790000	2.4107745	2.4107745	0.1	6.52	20.00	AVRG	
1,3,5-Trimethylbenzene	2.8990000	2.6405243	2.6405243	0.1	8.92	20.00	AVRG	
4-Chlorotoluene	3.0240000	2.8391571	2.8391571	0.1	6.11	20.00	AVRG	
tert-Butylbenzene	2.2630000	2.0367010	2.0367010	0.1	10.0	20.00	AVRG	
1,2,4-Trimethylbenzene	2.9670000	2.8094201	2.8094201	0.1	5.31	20.00	AVRG	
sec-Butylbenzene	3.3360000	2.9158432	2.9158432	0.1	12.59	20.00	AVRG	
p-Isopropyltoluene	2.7930000	2.4738178	2.4738178	0.1	11.43	20.00	AVRG	
n-Butylbenzene	2.6640000	2.3067678	2.3067678	0.5	13.41	20.00	AVRG	
1,2-Dibromo-3-Chloropropane	0.1030000	9.43e-002	9.43e-002	0.05	8.45	20.00	AVRG	
1,2,4-Trichlorobenzene	0.4180000	0.3458038	0.3458038	0.2	17.27	20.00	AVRG	
Hexachlorobutadiene	38.458976	50.000000	0.1801687	0.1	23.08	20.00	2RDR	<-
Naphthalene	0.7560000	0.6404661	0.6404661	0.2	15.28	20.00	AVRG	
1,2,3-Trichlorobenzene	0.2430000	0.1781774	0.1781774	0.1	26.68	20.00	AVRG	<-
Dibromofluoromethane	53.885199	50.000000	0.6843042	0.1	-7.77	20.00	LINR	
1,2-Dichloroethane-d4	54.486147	50.000000	1.0391930	0.1	-8.97	20.00	LINR	
Toluene-d8	49.891852	50.000000	1.3253487	0.1	0.22	20.00	LINR	
4-Bromofluorobenzene	50.401621	50.000000	0.5205158	0.1	-0.80	20.00	LINR	

FORM VII VOA

MSVOA06 -Logbook

Batch: 40581
Date: 05-22-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	05-22-2020 10:24 am	1.00	50 mL	50 mL	X052201.D	Liquid	Y	NA
2	*Auto find/ purged* CCV	CCV	05-22-2020 10:48 am	1.00	50 mL	50 mL	X052202a.D	Liquid	Y	NA
3	*10 uL cal std/50 mL DI* CCV	CCV	05-22-2020 11:12 am	1.00	50 mL	50 mL	X052203.D	Liquid	Y	NA
4	*10 uL cal std/50 mL DI* CCB	SAMP	05-22-2020 11:36 am	1.00	50 mL	50 mL	X052204.D	Liquid	Y	NA
5	VLCSW-200522	LCS	05-22-2020 12:00 pm	1.00	50 mL	50 mL	X052205.D	Liquid	Y	NA
6	*4.0 uL cal std/50 mL DI* BLANK	SAMP	05-22-2020 12:24 pm	1.00	50 mL	50 mL	X052206.D	Liquid	Y	NA
7	VBLKW-200522	MBLK	05-22-2020 12:48 pm	1.00	50 mL	50 mL	X052207.D	Liquid	Y	NA
8	HS20050793-06	SAMP	05-22-2020 01:12 pm	1.00	50 mL	50 mL	X052208.D	Liquid	Y	<2
9	HS20050757-01	SAMP	05-22-2020 01:36 pm	1.00	50 mL	50 mL	X052209.D	Liquid	Y	<2
10	HS20050797-04	SAMP	05-22-2020 02:00 pm	1.00	50 mL	50 mL	X052210.D	Liquid	Y	<2
11	HS20050797-01	SAMP	05-22-2020 02:24 pm	25.00	2 mL	50 mL	X052211.D	Liquid	Y	<2
12	HS20050797-01	SAMP	05-22-2020 02:48 pm	5.00	10 mL	50 mL	X052212.D	Liquid	Y	<2
13	HS20050797-01MS	MS	05-22-2020 03:12 pm	25.00	2 mL	50 mL	X052213.D	Liquid	Y	<2
14	*3.5 uL cal std/40 mL samp* HS20050797-01MSD	MSD	05-22-2020 03:36 pm	25.00	2 mL	50 mL	X052214.D	Liquid	Y	<2
15	*3.5 uL cal std/40 mL samp* HS20050754-01	SAMP	05-22-2020 04:00 pm	200.0(	250 µL	50 mL	X052215.D	Liquid	Y	<2
16	HS20050793-04	SAMP	05-22-2020 04:24 pm	1.00	50 mL	50 mL	X052216.D	Liquid	Y	<2
17	HS20050793-05	SAMP	05-22-2020 04:48 pm	5.00	10 mL	50 mL	X052217.D	Liquid	Y	<2
18	HS20050797-02	SAMP	05-22-2020 05:12 pm	5.00	10 mL	50 mL	X052218.D	Liquid	Y	<2
19	HS20050797-02	SAMP	05-22-2020 05:36 pm	25.00	2 mL	50 mL	X052219.D	Liquid	Y	<2
20	HS20050797-03	SAMP	05-22-2020 06:00 pm	5.00	10 mL	50 mL	X052220.D	Liquid	Y	<2
21	HS20050797-03	SAMP	05-22-2020 06:24 pm	50.00	1 mL	50 mL	X052221.D	Liquid	Y	<2
22	HS20050793-01	SAMP	05-22-2020 06:48 pm	5.00	10 mL	50 mL	X052222.D	Liquid	Y	<2
23	HS20050793-01	SAMP	05-22-2020 07:12 pm	25.00	2 mL	50 mL	X052223.D	Liquid	Y	<2
24	HS20050793-02	SAMP	05-22-2020 07:36 pm	10.00	5 mL	50 mL	X052224.D	Liquid	Y	<2
25	HS20050793-02	SAMP	05-22-2020 08:00 pm	100.0(	500 µL	50 mL	X052225.D	Liquid	Y	<2
26	HS20050793-03	SAMP	05-22-2020 08:24 pm	10.00	5 mL	50 mL	X052226.D	Liquid	Y	<2
27	HS20050793-03	SAMP	05-22-2020 08:49 pm	100.0(	500 µL	50 mL	X052227.D	Liquid	Y	<2
28	HS20050793-04	SAMP	05-22-2020 09:13 pm	5.00	10 mL	50 mL	X052228.D	Liquid	Y	<2
29	CCV-END	CCV	05-22-2020 09:36 pm	1.00	50 mL	50 mL	X052229.D	Liquid	Y	na
30	*10 uL cal std/50 mL DI* HS20050853-05	SAMP	05-22-2020 10:01 pm	1.00	50 mL	50 mL	X052230.D	Liquid	Y	<2
31	BFB	TUNE	05-22-2020 10:24 pm	1.00	50 mL	50 mL	Y052201.D	Liquid	Y	na
32	*Auto find/ purged* CCV	CCV	05-22-2020 10:48 pm	1.00	50 mL	50 mL	Y052202a.D	Liquid	Y	na
33	*10 uL cal std/50 mL DI* CCV	CCV	05-22-2020 11:12 pm	1.00	50 mL	50 mL	Y052203.D	Liquid	Y	na
34	*10 uL cal std/50 mL DI* CCB	SAMP	05-22-2020 11:36 pm	1.00	50 mL	50 mL	Y052204.D	Liquid	Y	na
35	VLCSW-200522	LCS	05-23-2020 12:00 am	1.00	50 mL	50 mL	Y052205.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
36	BLANK	SAMP	05-23-2020 12:24 am	1.00	50 mL	50 mL	Y052206.D	Liquid	Y	na
37	VBLKW-200522	MBLK	05-23-2020 12:48 am	1.00	50 mL	50 mL	Y052207.D	Liquid	Y	na
38	HS20050853-09	SAMP	05-23-2020 01:12 am	1.00	50 mL	50 mL	Y052208.D	Liquid	Y	<2
39	HS20050854-13	SAMP	05-23-2020 01:37 am	1.00	50 mL	50 mL	Y052209.D	Liquid	Y	<2
40	HS20050863-07	SAMP	05-23-2020 02:01 am	1.00	50 mL	50 mL	Y052210.D	Liquid	Y	<2
41	HS20050863-07MS	MS	05-23-2020 02:25 am	1.00	50 mL	50 mL	Y052211.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
42	HS20050863-07MSD	MSD	05-23-2020 02:49 am	1.00	50 mL	50 mL	Y052212.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
43	HS20050863-08	SAMP	05-23-2020 03:13 am	1.00	50 mL	50 mL	Y052213.D	Liquid	Y	<2
44	HS20050863-09	SAMP	05-23-2020 03:37 am	1.00	50 mL	50 mL	Y052214.D	Liquid	Y	<2
45	HS20050863-10	SAMP	05-23-2020 04:01 am	1.00	50 mL	50 mL	Y052215.D	Liquid	Y	<2
46	HS20050863-11	SAMP	05-23-2020 04:25 am	1.00	50 mL	50 mL	Y052216.D	Liquid	Y	<2
47	HS20050863-12	SAMP	05-23-2020 04:49 am	1.00	50 mL	50 mL	Y052217.D	Liquid	Y	<2
48	HS20050854-01	SAMP	05-23-2020 05:13 am	1.00	50 mL	50 mL	Y052218.D	Liquid	Y	<2
49	HS20050854-07	SAMP	05-23-2020 05:37 am	1.00	50 mL	50 mL	Y052219.D	Liquid	Y	<2
50	HS20050854-08	SAMP	05-23-2020 06:01 am	1.00	50 mL	50 mL	Y052220.D	Liquid	Y	<2
51	HS20050854-09	SAMP	05-23-2020 06:25 am	1.00	50 mL	50 mL	Y052221.D	Liquid	Y	<2
52	HS20050854-11	SAMP	05-23-2020 06:49 am	1.00	50 mL	50 mL	Y052222.D	Liquid	Y	<2
53	HS20050854-03	SAMP	05-23-2020 07:13 am	1.00	50 mL	50 mL	Y052223.D	Liquid	Y	<2
54	HS20050854-04	SAMP	05-23-2020 07:37 am	1.00	50 mL	50 mL	Y052224.D	Liquid	Y	<2
55	HS20050854-02	SAMP	05-23-2020 08:02 am	10.00	5 mL	50 mL	Y052225.D	Liquid	Y	<2
56	HS20050854-05	SAMP	05-23-2020 08:26 am	10.00	5 mL	50 mL	Y052226.D	Liquid	Y	<2
57	HS20050854-06	SAMP	05-23-2020 08:50 am	25.00	2 mL	50 mL	Y052227.D	Liquid	Y	<2
58	HS20050853-08	SAMP	05-23-2020 09:14 am	1.00	50 mL	50 mL	Y052228.D	Liquid	Y	<2
59	HS20050853-07	SAMP	05-23-2020 09:38 am	1.00	50 mL	50 mL	Y052229.D	Liquid	Y	<2
60	BLANK	SAMP	05-23-2020 10:02 am	1.00	50 mL	50 mL	Y052240.D	Liquid	Y	<2

Chemical	Value
SURR SPK ID	31106-30-06
IS ID	31106-30-06
CAL STD ID	31106-30-01/02
BFB ID	31106-30-06
pH Paper	634-64-11

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052201.D

Date : 22-MAY-2020 10:24

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

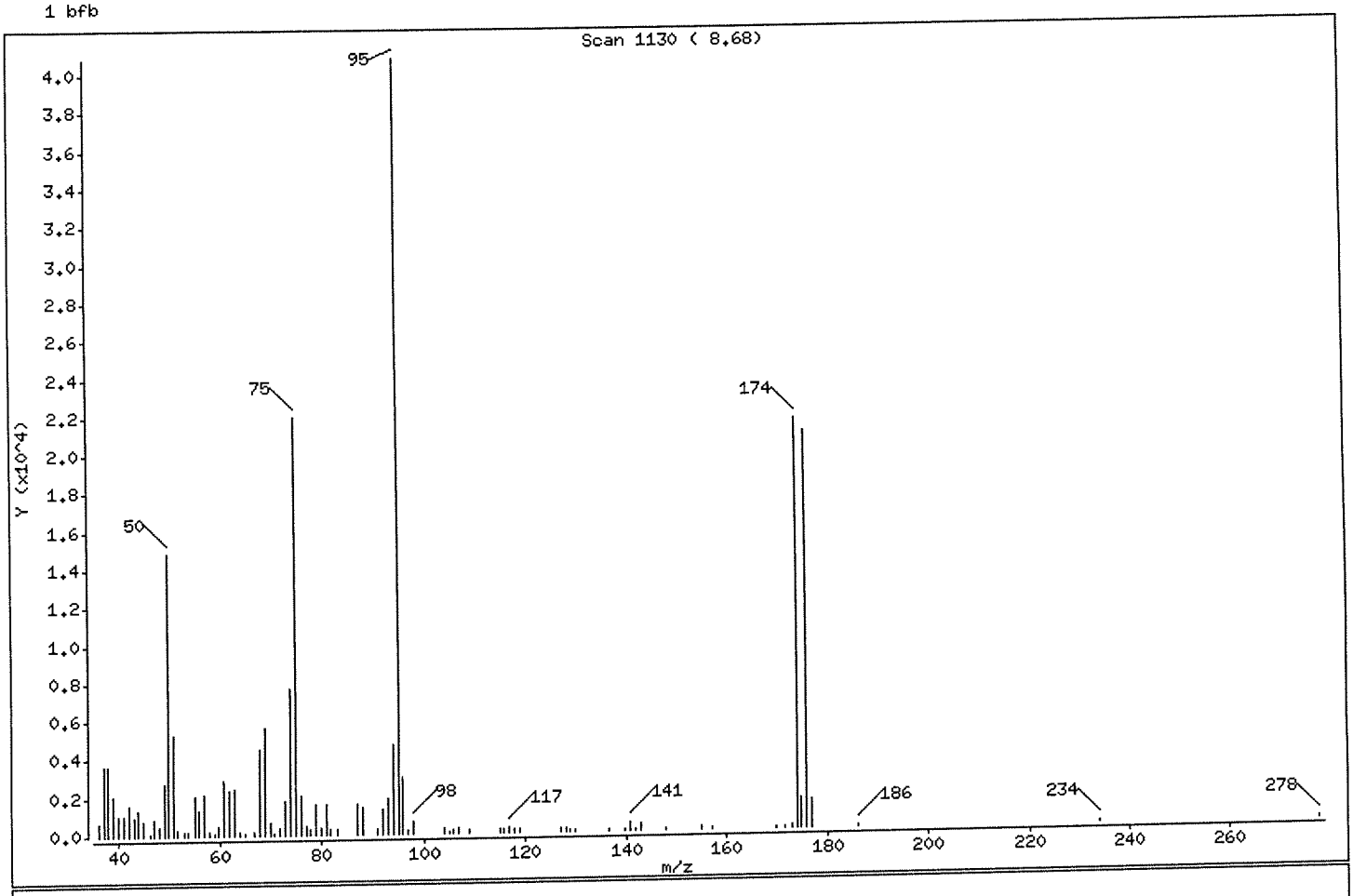
Volume Injected (uL): 2.0

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	36.43
75	30.00 - 60.00% of mass 95	53.70
96	5.00 - 9.00% of mass 95	7.28
173	Less than 2.00% of mass 174	0.51 (0.97)
174	Greater than 50.00% of mass 95	52.94
175	5.00 - 9.00% of mass 174	3.90 (7.36)
176	95.00 - 101.00% of mass 174	51.21 (96.75)
177	5.00 - 9.00% of mass 176	3.59 (7.00)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052201.D

Date : 22-MAY-2020 10:24

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: X052201.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 89

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	644	59.00	105	83.00	325	128.70	114
37.00	3648	59.90	488	87.00	1556	129.70	137
38.00	3702	61.00	2949	87.90	1414	136.60	67
39.00	2106	61.90	2362	90.90	254	139.70	76
40.00	1061	63.00	2422	91.90	1297	140.80	454
41.00	1038	63.90	146	92.90	1895	141.90	95
42.00	1585	64.90	118	94.00	4738	142.90	354
43.00	913	67.00	194	95.00	40864	147.80	71
43.90	1290	68.00	4536	95.90	2973	154.90	171
45.00	767	69.00	5634	96.90	153	157.00	68
46.20	72	69.90	635	98.10	633	169.90	83
46.90	852	70.90	66	103.90	261	171.60	74
48.00	439	71.90	331	104.90	107	173.00	209
49.00	2741	73.00	1766	105.70	157	173.90	21632
50.00	14888	74.00	7743	106.90	277	174.90	1593
51.00	5276	75.00	21944	108.90	183	175.90	20928
51.80	277	76.00	2085	114.90	174	176.90	1466
53.10	194	77.10	477	115.80	173	186.00	112
53.80	149	77.80	276	116.80	309	233.70	70
55.00	2094	78.90	1580	117.90	143	277.80	71
56.00	1347	79.90	340	118.90	165		
57.00	2165	80.90	1601	126.90	164		
57.90	186	81.80	321	128.00	218		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052201.D

Date : 22-MAY-2020 10:24

Client ID: BFB

Instrument: voa6.i

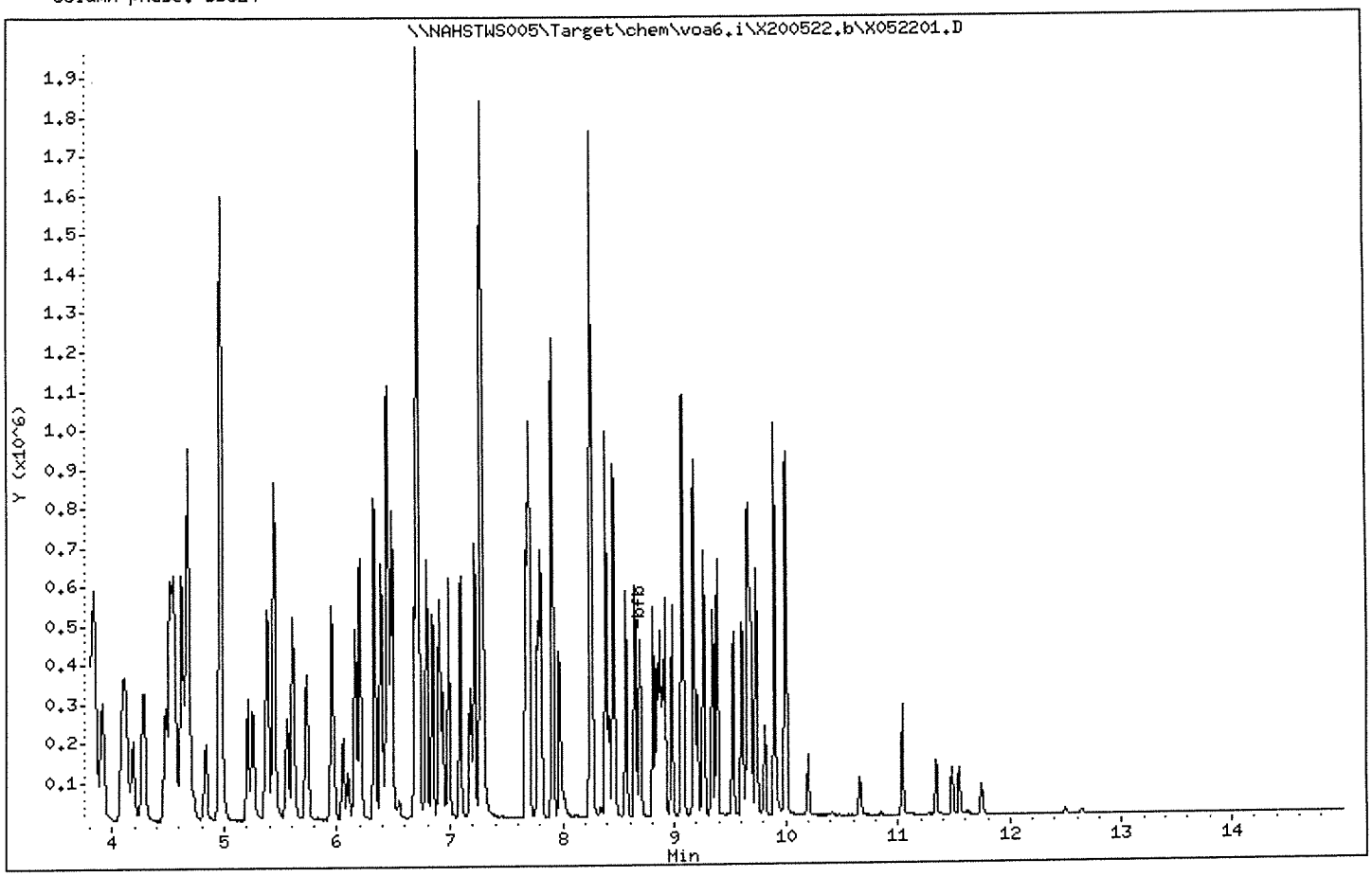
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052203.D Page 1
Report Date: 04-Jun-2020 10:16

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052203.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 22-MAY-2020 11:12
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200522.b\8260W.m
Meth Date : 04-Jun-2020 10:16 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

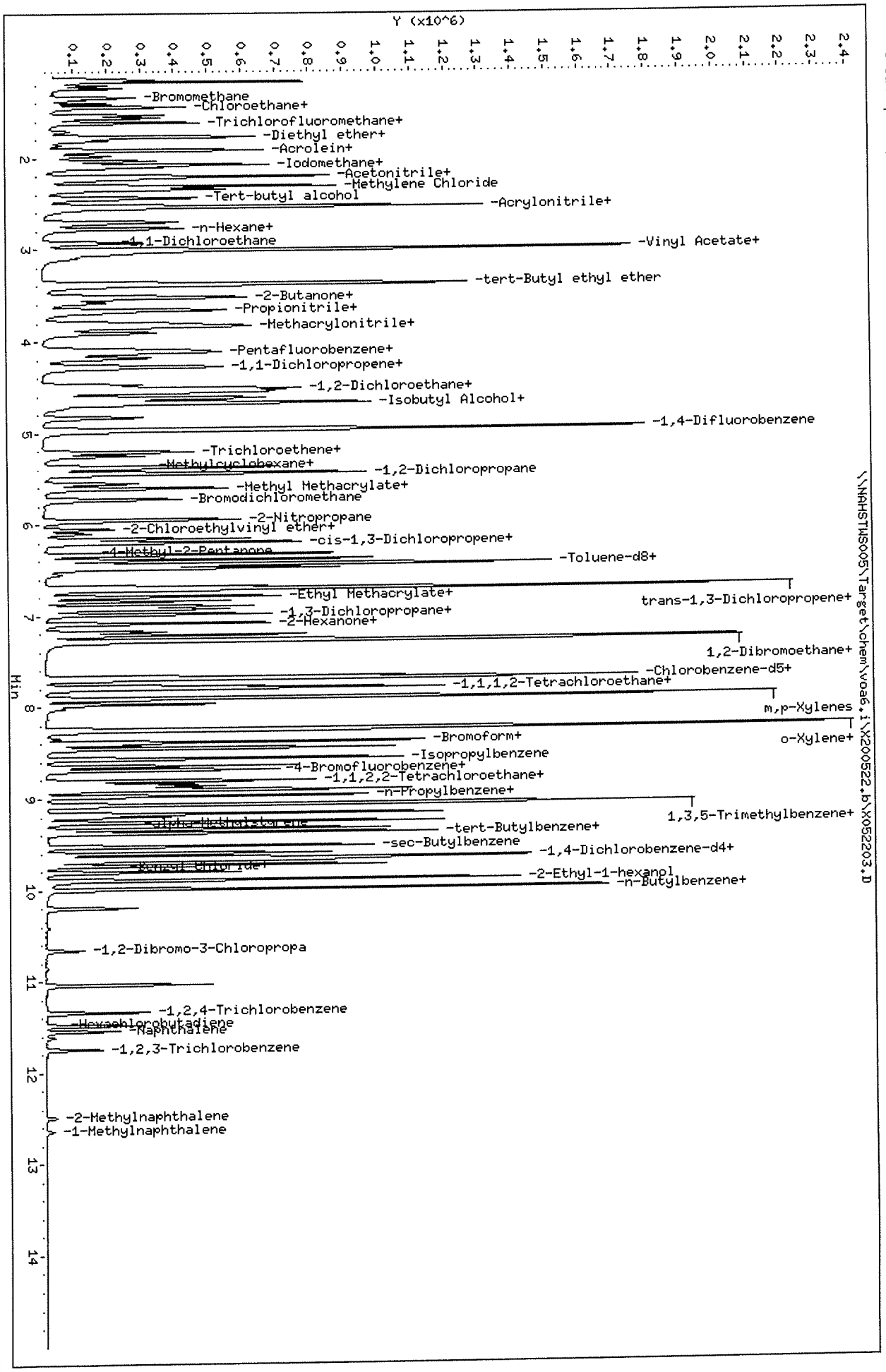
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	214501	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	399946	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	368974	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	174300	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	136431	50.0000	50.07
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	206753	50.0000	50.49
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	472508	50.0000	48.20
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	189499	50.0000	49.72
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	131283	50.0000	46.43
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	210293	50.0000	46.07
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	177987	50.0000	47.60
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	118459	50.0000	47.32
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	329869	50.0000	47.33
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	107439	50.0000	45.20
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	177465	50.0000	43.29
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	39108	50.0000	46.23
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	160401	50.0000	46.51(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	68505	50.0000	46.98
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	476280	50.0000	46.05
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	16637	50.0000	46.15
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	145318	50.0000	48.27
88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	238718	50.0000	47.47

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052203.D Page 2
Report Date: 04-Jun-2020 10:16

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	270121	50.0000	46.39
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	193351	50.0000	48.68
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	450427	50.0000	44.57
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	257590	50.0000	47.61
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	245500	50.0000	46.97
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	259553	50.0000	46.57
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	222768	50.0000	48.66
24	2-Butanone	43	3.580	3.580	(0.856)	250693	100.000	99.19
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	411802	50.0000	45.80
52	2-Hexanone	43	7.090	7.090	(0.924)	408255	100.000	96.65
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	489846	50.0000	46.45
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	431718	50.0000	44.33
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	588045	100.000	96.04
10	Acetone	43	1.976	1.976	(0.473)	186835	100.000	97.03
37	Benzene	78	4.512	4.512	(0.908)	560293	50.0000	46.80
74	Bromobenzene	156	8.809	8.809	(0.911)	150974	50.0000	47.32
29	Bromochloromethane	128	3.795	3.795	(0.908)	73440	50.0000	49.42
39	Bromodichloromethane	83	5.729	5.729	(1.153)	208640	50.0000	47.00
66	Bromoform	173	8.415	8.415	(1.097)	99456	50.0000	48.82
6	Bromomethane	94	1.338	1.338	(0.320)	96981	50.0000	50.01
19	Carbon Disulfide	76	2.069	2.069	(0.495)	734551	100.000	92.99
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	168329	50.0000	41.68
59	Chlorobenzene	112	7.699	7.699	(1.004)	351009	50.0000	46.79
7	Chloroethane	64	1.403	1.403	(0.336)	113697	50.0000	43.34
28	Chloroform	83	3.910	3.910	(0.935)	264495	50.0000	47.85
3	Chloromethane	50	1.081	1.081	(0.258)	278926	50.0000	42.43
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	152045	50.0000	48.49
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	250395	50.0000	47.45
55	Dibromochloromethane	129	7.176	7.176	(0.936)	143905	50.0000	46.56
44	Dibromomethane	93	5.557	5.557	(1.118)	102299	50.0000	49.03
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	136386	50.0000	41.26
61	Ethylbenzene	106	7.799	7.799	(1.017)	179402	50.0000	45.86
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	38326	50.0000	46.45
67	Isopropylbenzene	105	8.566	8.566	(1.117)	522608	50.0000	44.44
62	m,p-Xylenes	106	7.907	7.907	(1.031)	436149	100.000	91.32
17	Methylene Chloride	84	2.305	2.305	(0.551)	155505	50.0000	50.62
87	n-Butylbenzene	91	9.998	9.998	(1.034)	421718	50.0000	45.40
73	n-Propylbenzene	91	8.917	8.917	(0.922)	653792	50.0000	44.50
92	Naphthalene	128	11.546	11.546	(1.194)	124551	50.0000	47.22
63	o-Xylene	106	8.244	8.244	(1.075)	220782	50.0000	47.52
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	497997	50.0000	42.82
64	Styrene	104	8.258	8.258	(1.077)	398799	50.0000	48.42
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	342664	50.0000	43.43
56	Tetrachloroethene	164	6.933	6.933	(0.904)	91631	50.0000	44.40
50	Toluene	91	6.446	6.446	(0.840)	566713	50.0000	46.75
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	125204	50.0000	47.92
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	235164	50.0000	48.71
38	Trichloroethene	130	5.206	5.206	(1.048)	126889	50.0000	46.51
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	206854	50.0000	44.82
5	Vinyl Chloride	62	1.138	1.138	(0.272)	207503	50.0000	43.90

QC Flag Legend

M - Compound response manually integrated.



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Date : 22-MAY-2020 11:12
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\X200522.b\X052205.D Page 1
Report Date: 04-Jun-2020 10:16

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052205.D
Lab Smp Id: VLCSW-200522 Client Smp ID: VLCSW-200522
Inj Date : 22-MAY-2020 12:00
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200522;VLCSW-200522;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200522.b\8260W.m
Meth Date : 04-Jun-2020 10:16 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

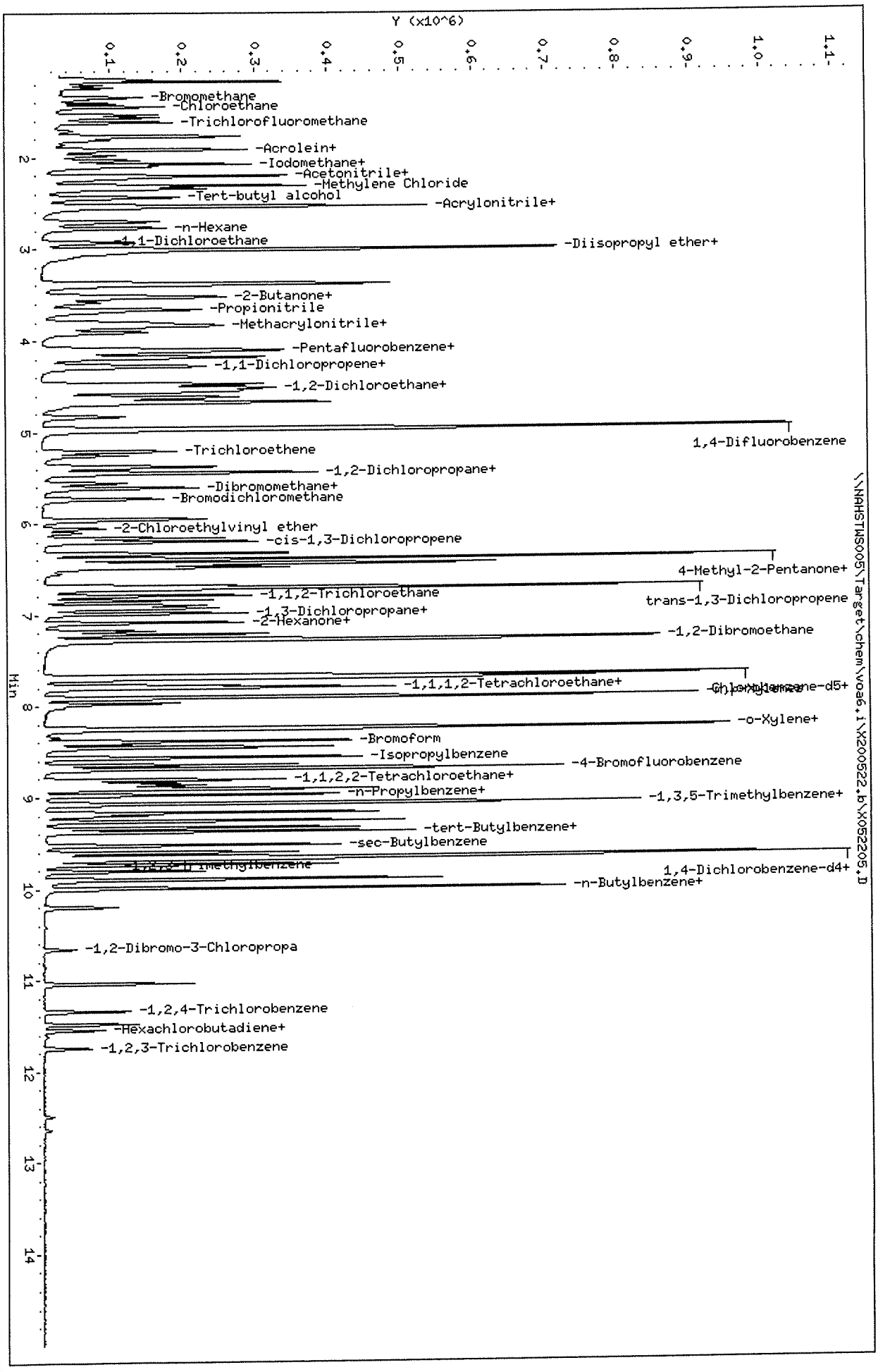
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	208462	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	389439	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	361165	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	171532	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	141694	53.5229	53.52
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	216751	54.5163	54.51
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	491006	51.1820	51.18
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	193337	51.8459	51.84
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	53743	19.4214	19.42
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	88740	20.0080	20.00
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	73598	20.0039	20.00
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	49191	20.0786	20.07
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	141185	20.8481	20.84
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	44893	19.4340	19.43
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	76213	19.0929	19.09
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	16150	19.3999	19.39
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	65213	19.2182	19.21(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	29005	20.2140	20.21
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	201618	19.8088	19.80
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	6610	18.6321	18.63
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	59388	20.1542	20.15
88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	101252	20.4606	20.46

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052205.D Page 2
Report Date: 04-Jun-2020 10:16

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	115211	20.3215	20.32
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	79625	20.5897	20.58
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	195081	19.6149	19.61
83	1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	105571	19.8286	19.82
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	102800	20.0975	20.09
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	108351	19.7549	19.75
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	95676	21.5053	21.50
24	2-Butanone	43	3.580	3.580	(0.856)	100828	41.1641	41.16
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	172794	19.5314	19.53
52	2-Hexanone	43	7.090	7.090	(0.924)	168720	40.8073	40.80
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	205881	19.8420	19.84
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	182975	19.0949	19.09
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	241119	40.2340	40.23
10	Acetone	43	1.976	1.976	(0.473)	82354	42.8696	42.86
37	Benzene	78	4.519	4.512	(0.909)	234733	20.1361	20.13
74	Bromobenzene	156	8.809	8.809	(0.911)	64071	20.4098	20.40
29	Bromochloromethane	128	3.802	3.795	(0.909)	30372	21.0325	21.03
39	Bromodichloromethane	83	5.729	5.729	(1.153)	86740	20.0690	20.06
66	Bromoform	173	8.415	8.415	(1.097)	39318	19.7207	19.72
6	Bromomethane	94	1.338	1.338	(0.320)	45687	23.7900	23.79
19	Carbon Disulfide	76	2.069	2.069	(0.495)	311862	40.6254	40.62
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	69525	17.6803	17.68
59	Chlorobenzene	112	7.699	7.699	(1.004)	146602	19.9658	19.96
7	Chloroethane	64	1.403	1.403	(0.336)	49741	19.5132	19.51
28	Chloroform	83	3.910	3.910	(0.935)	113674	21.1629	21.16
3	Chloromethane	50	1.080	1.081	(0.258)	119824	18.4694	18.46
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	64298	21.1028	21.10
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	104112	20.2622	20.26
55	Dibromochloromethane	129	7.176	7.176	(0.936)	58814	19.4443	19.44
44	Dibromomethane	93	5.557	5.557	(1.118)	43056	21.1938	21.19
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	55745	18.4330	18.43
61	Ethylbenzene	106	7.799	7.799	(1.017)	76236	19.9099	19.90
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	17497	22.4565	22.45
67	Isopropylbenzene	105	8.566	8.566	(1.117)	221089	19.2097	19.20
62	m,p-Xylenes	106	7.907	7.907	(1.031)	185393	39.6604	39.66
17	Methylene Chloride	84	2.305	2.305	(0.551)	72050	23.7082	23.70
87	n-Butylbenzene	91	9.998	9.998	(1.034)	180447	19.7420	19.74
73	n-Propylbenzene	91	8.917	8.917	(0.922)	277510	19.1972	19.19
92	Naphthalene	128	11.546	11.546	(1.194)	49678	19.1402	19.14
63	o-Xylene	106	8.244	8.244	(1.075)	91830	20.1939	20.19
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	215897	18.8655	18.86
64	Styrene	104	8.265	8.258	(1.078)	164872	20.4519	20.45
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	145283	18.7122	18.71
56	Tetrachloroethene	164	6.933	6.933	(0.904)	39133	19.3744	19.37
50	Toluene	91	6.453	6.446	(0.841)	239808	20.2128	20.21
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	53337	21.0059	21.00
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	96669	20.5674	20.56
38	Trichloroethene	130	5.214	5.206	(1.049)	54518	20.5258	20.52
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	88274	19.6848	19.68
5	Vinyl Chloride	62	1.138	1.138	(0.272)	89040	19.3871	19.38

QC Flag Legend

M - Compound response manually integrated.



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Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052207.D Page 1
Report Date: 04-Jun-2020 10:16

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052207.D
Lab Smp Id: VBLKW-200522 Client Smp ID: VBLKW-200522
Inj Date : 22-MAY-2020 12:48
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Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

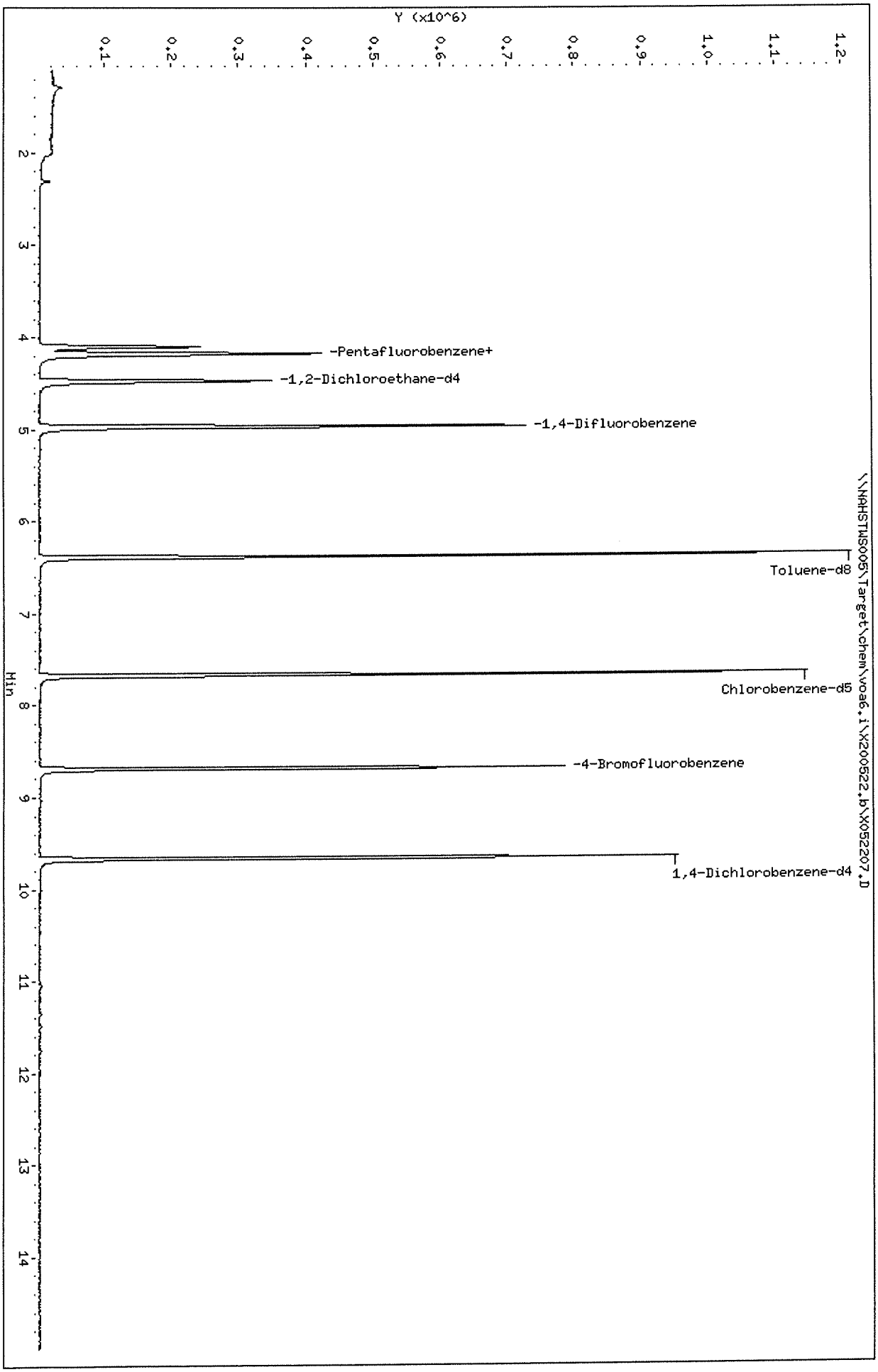
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.182	4.182	(1.000)	294243	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	496159	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	425446	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	191502	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	164828	44.0943	44.09
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	249628	44.3824	44.38
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	603532	53.4135	53.41
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	219259	49.8987	49.89

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052207.D
Date : 22-MAY-2020 12:48
Client ID: VBLKW-200522
Sample Info: VBLKW-200522;VBLKW-200522;3;;BLANK
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\X200522.b\X052209.D
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Inj Date : 22-MAY-2020 13:36
Operator : PC Inst ID: voa6.i
Smp Info : HS20050757-01;HS20050757-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 04-Jun-2020 10:16 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

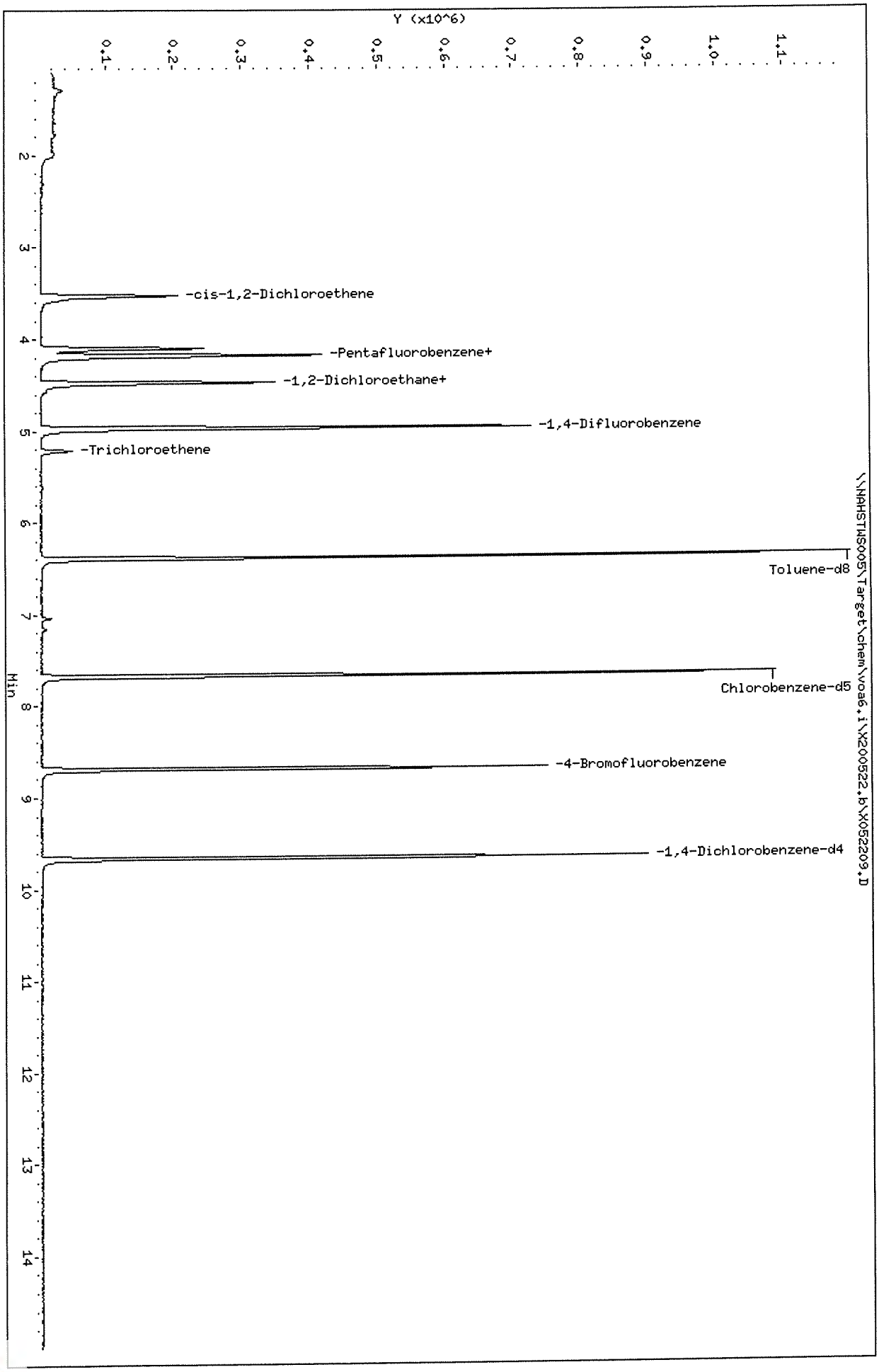
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	284609	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	482483	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	410715	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	181151	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	166192	45.9680	45.96
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	248355	45.6661	45.66
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	587608	53.8709	53.87
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	205426	48.4157	48.41
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	6401	0.91131	0.91(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	82599	19.8561	19.85
38 Trichloroethene	130	5.214	5.206	(1.049)	13012	3.95423	3.95

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052209.D
Date : 22-MAY-2020 13:36
Client ID: HS20050757-01
Sample Info: HS20050757-01;HS20050757-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052209.D

Date : 22-MAY-2020 13:36

Client ID: HS20050757-01

Instrument: voa6.i

Sample Info: HS20050757-01;HS20050757-01;;;

Purge Volume: 5.0

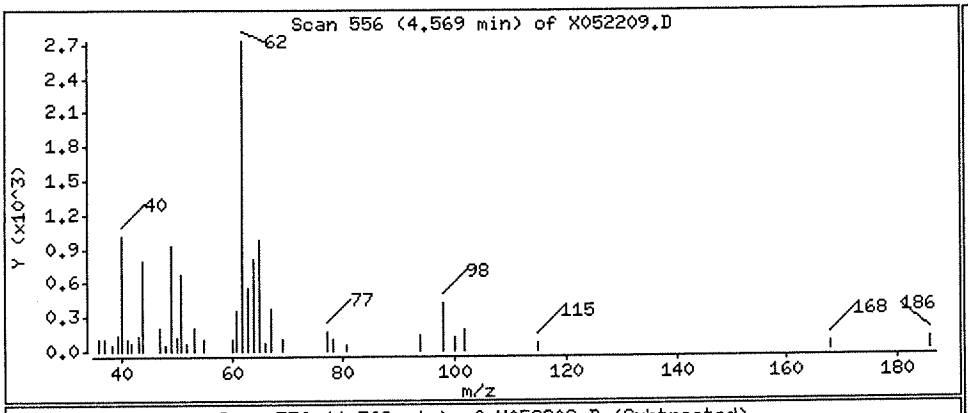
Operator: PC

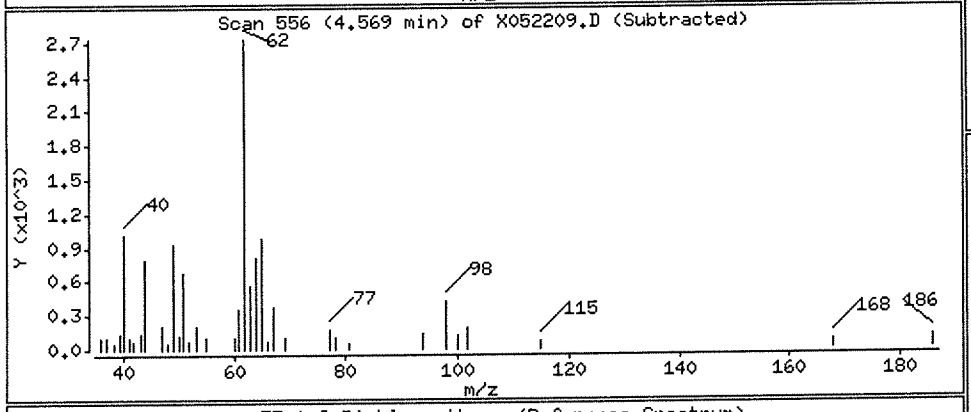
Column phase: DB624

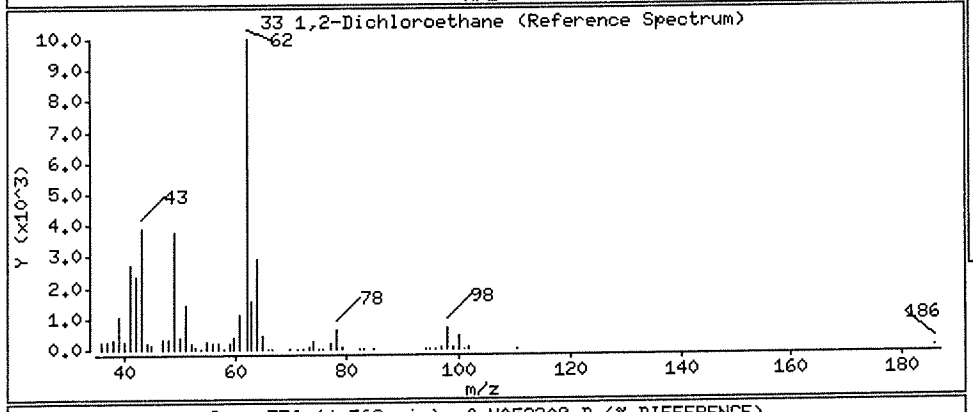
Column diameter: 0.18

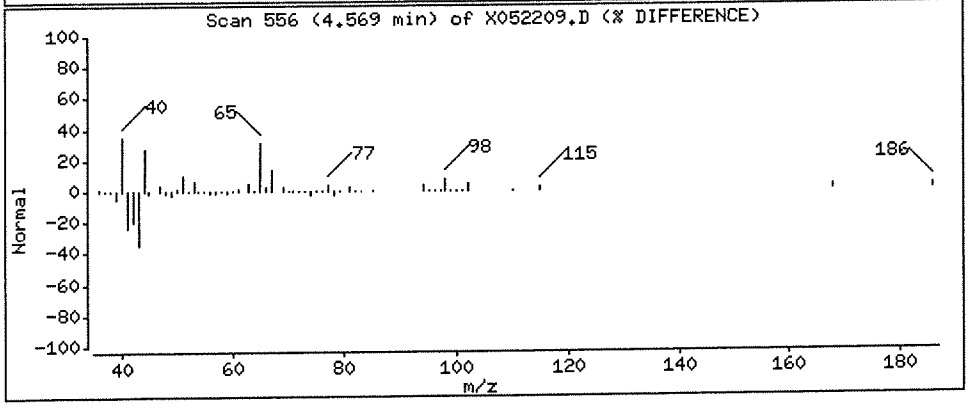
33 1,2-Dichloroethane

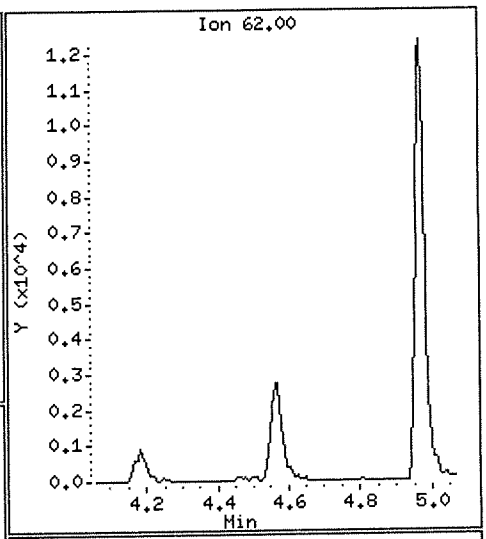
Concentration: 0.91 ug/l

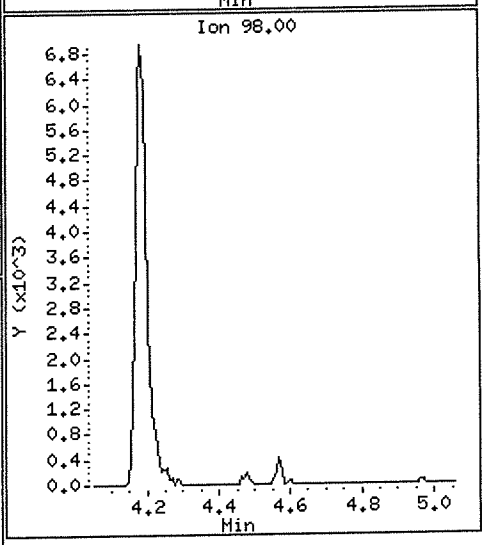












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052209.D

Date : 22-MAY-2020 13:36

Client ID: HS20050757-01

Instrument: voa6.i

Sample Info: HS20050757-01;HS20050757-01;;;

Purge Volume: 5.0

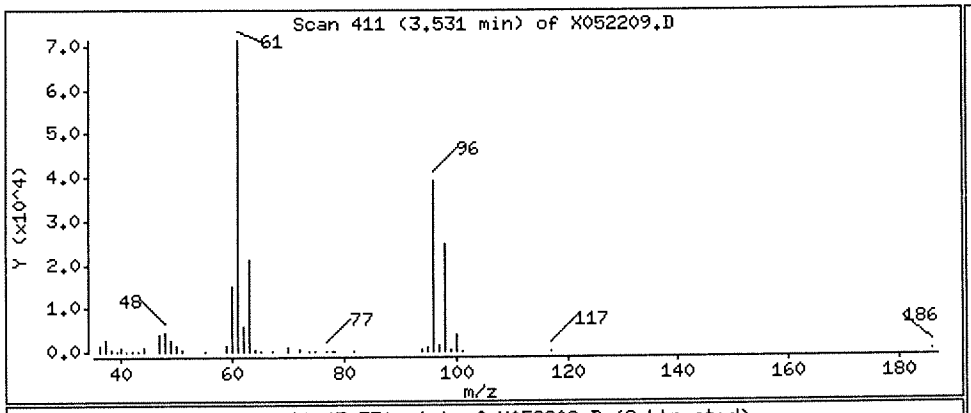
Operator: PC

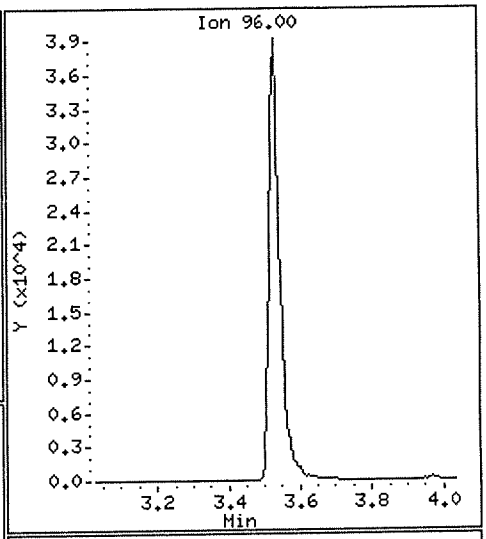
Column phase: DB624

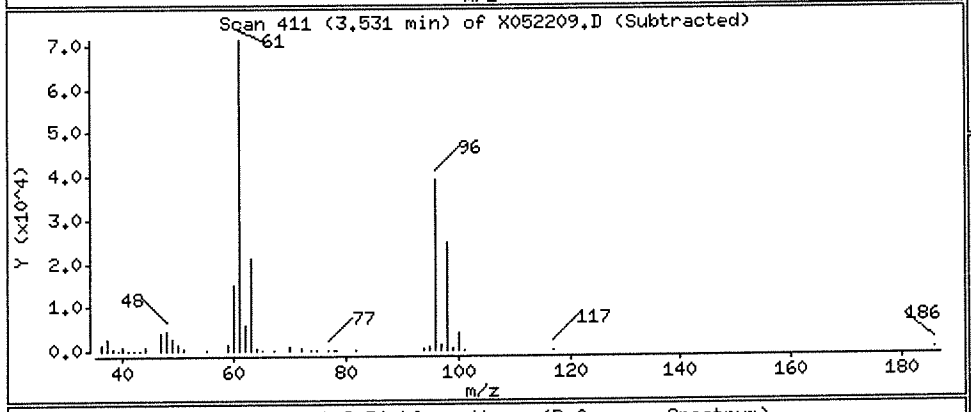
Column diameter: 0.18

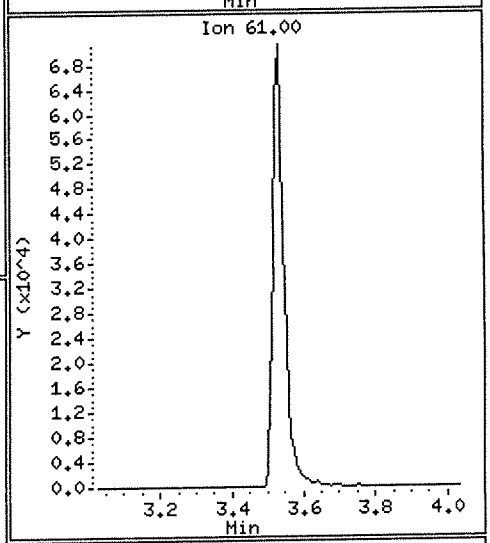
27 cis-1,2-Dichloroethene

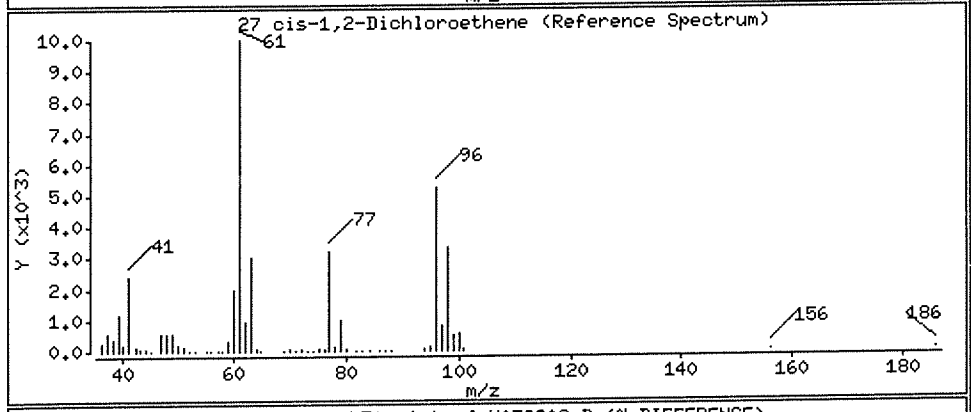
Concentration: 19.85 ug/l

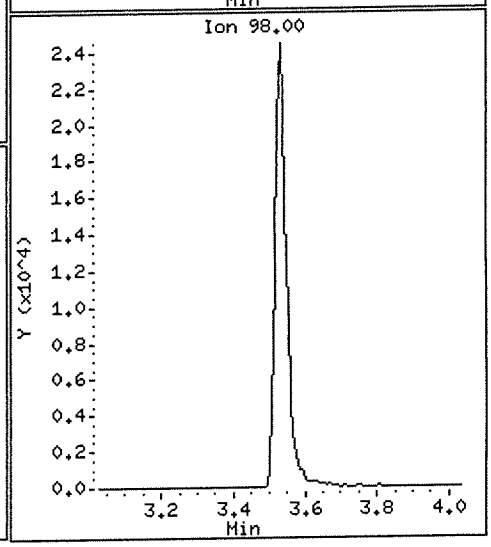


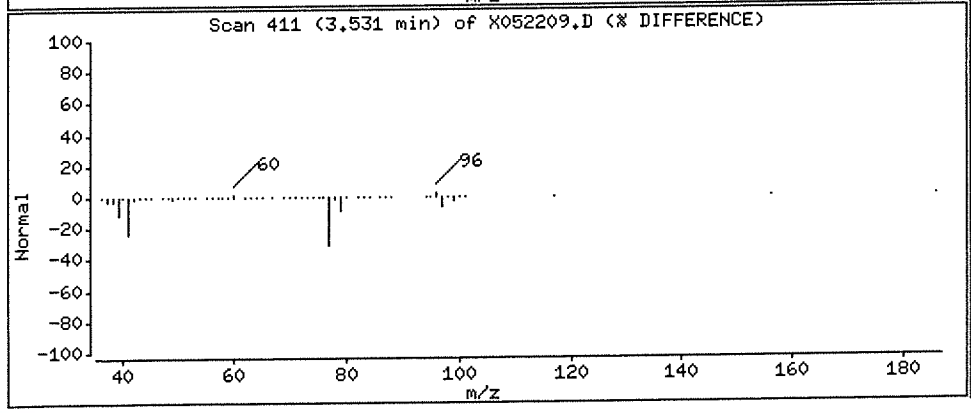












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052209.D

Date : 22-MAY-2020 13:36

Client ID: HS20050757-01

Instrument: voa6.i

Sample Info: HS20050757-01;HS20050757-01;;;

Purge Volume: 5.0

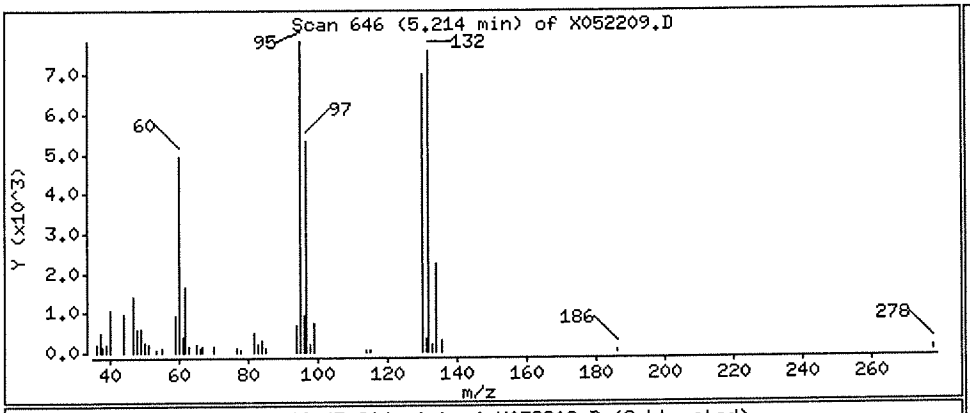
Operator: PC

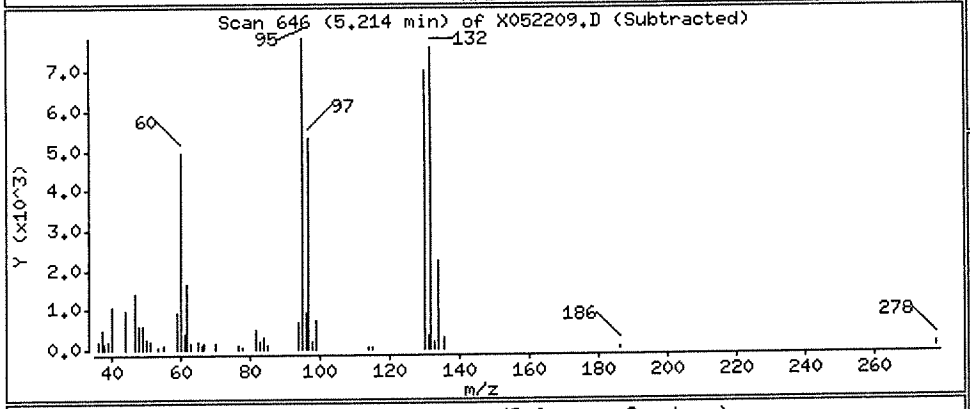
Column phase: DB624

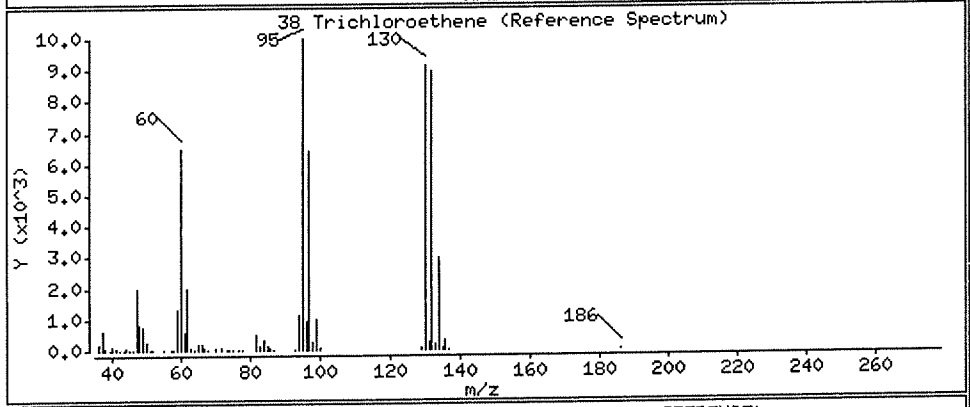
Column diameter: 0.18

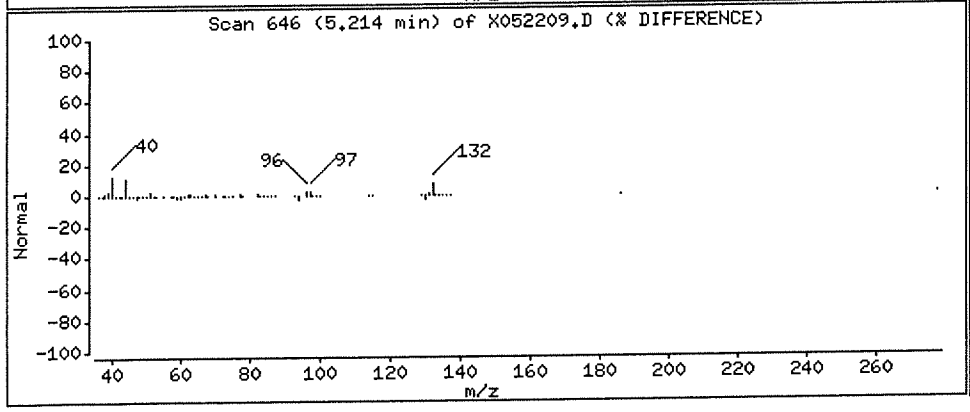
38 Trichloroethene

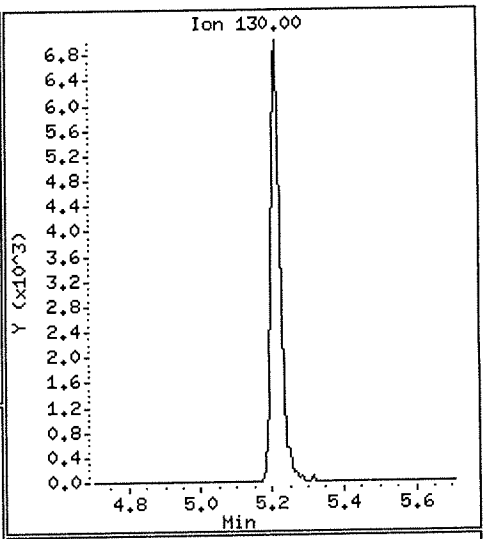
Concentration: 3.95 ug/l

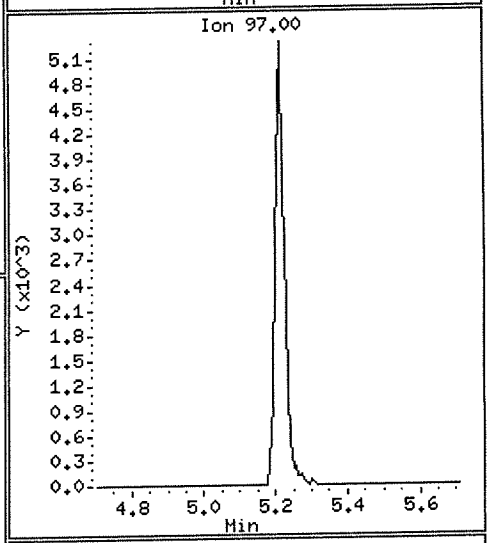


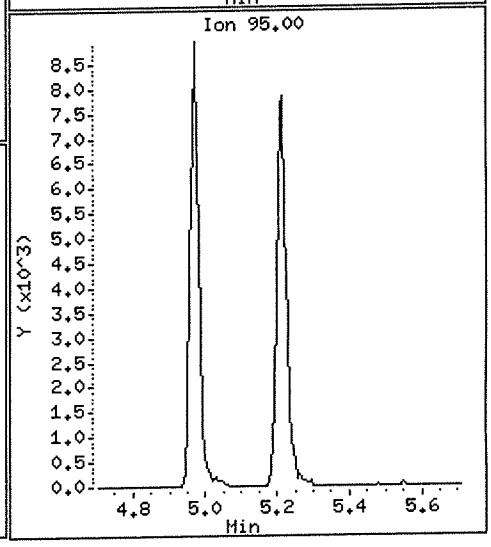












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052213.D Page 1
Report Date: 04-Jun-2020 10:16

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052213.D
Lab Smp Id: HS20050797-01MS Client Smp ID: HS20050797-01MS
Inj Date : 22-MAY-2020 15:12
Operator : PC Inst ID: voa6.i
Smp Info : HS20050797-01MS;HS20050797-01MS;3;;MS
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200522.b\8260W.m
Meth Date : 04-Jun-2020 10:16 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 13 QC Sample: MS
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

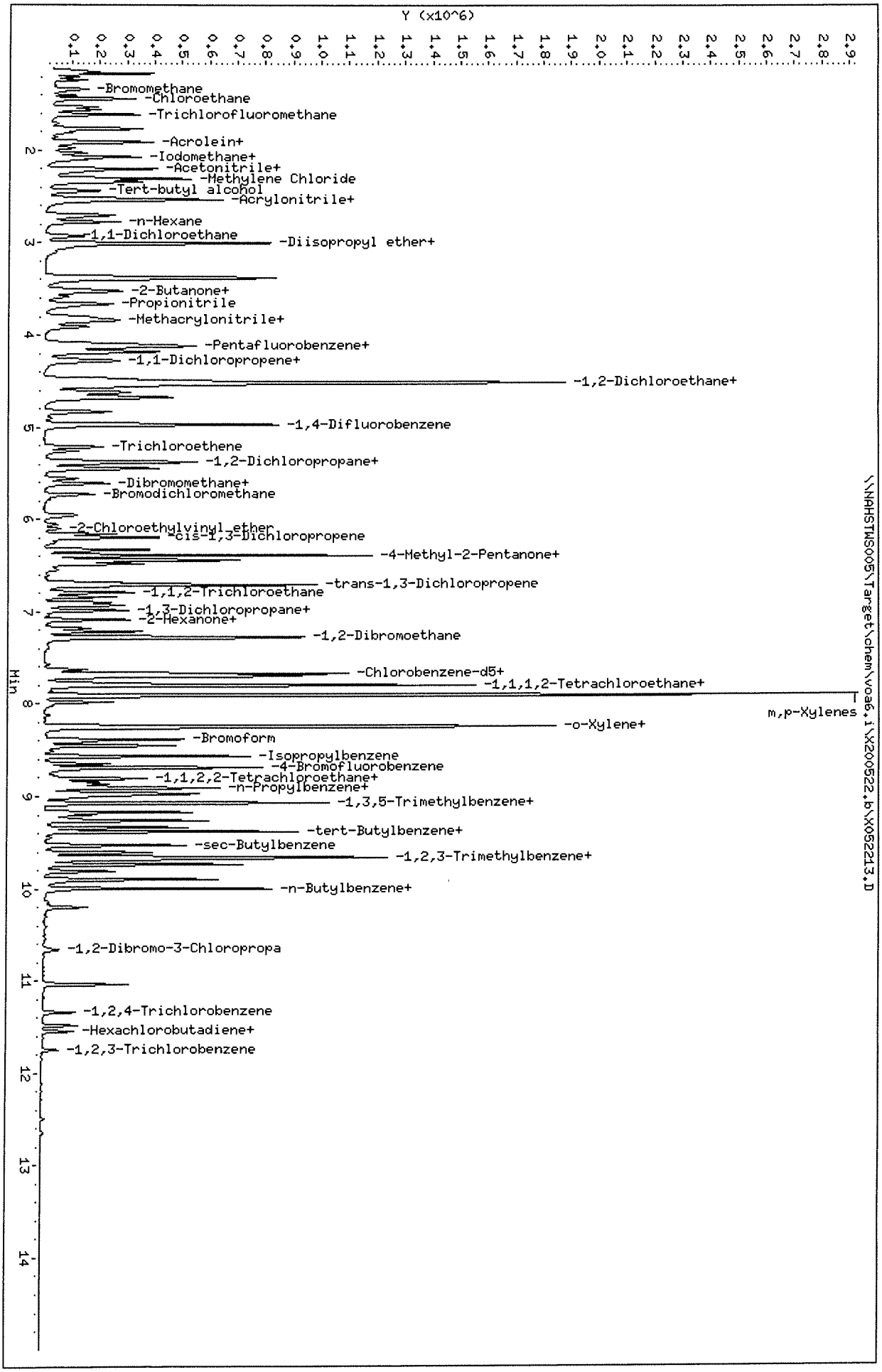
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	272925	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	463972	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	404344	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	182042	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	157665	45.4754	45.47
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	233850	44.8301	44.83
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	565910	52.6955	52.69
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	203176	48.6417	48.64
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	59504	19.2070	480.17
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	104933	18.0709	451.77
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.914)	76836	19.6783	491.95
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	53122	19.3677	484.19
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	151759	17.1165	427.91
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	53520	17.6963	442.40
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	90392	19.0073	475.18
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	13467	15.2430	381.07
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	67591	18.7690	469.22 (M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	26427	17.3541	433.85
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.970)	360383	33.3631	834.07
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.657	(1.102)	7274	19.3200	482.99
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	62358	18.9022	472.55
88 1,2-Dichlorobenzene	146	9.999	9.998	(1.034)	107508	20.4705	511.76

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052213.D Page 2
Report Date: 04-Jun-2020 10:16

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	122175	18.0880	452.20
42 1,2-Dichloropropane	63	5.436	5.443	(1.094)	85573	18.5731	464.32
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	258595	24.4999	612.49
83 1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	115127	20.3750	509.37
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	107600	18.7895	469.73
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	117647	20.2114	505.28
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	110583	18.9852	474.62
24 2-Butanone	43	3.581	3.580	(0.856)	106587	33.2745	831.86
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	207367	22.0860	552.15
52 2-Hexanone	43	7.090	7.090	(0.924)	184211	39.7962	994.90
77 4-Chlorotoluene	91	9.075	9.074	(0.939)	226744	20.5911	514.77
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	237674	23.3712	584.27
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	261727	39.0090	975.22
10 Acetone	43	1.976	1.976	(0.473)	81152	31.7491	793.72
37 Benzene	78	4.512	4.512	(0.908)	1456456	104.869	2621.71(A)
74 Bromobenzene	156	8.810	8.809	(0.911)	67580	20.2847	507.11
29 Bromochloromethane	128	3.803	3.795	(0.909)	32501	17.1909	429.77
39 Bromodichloromethane	83	5.729	5.729	(1.153)	91899	17.8469	446.17
66 Bromoform	173	8.416	8.415	(1.097)	40911	18.3284	458.21
6 Bromomethane	94	1.338	1.338	(0.320)	53547	21.2047	530.11
19 Carbon Disulfide	76	2.069	2.069	(0.495)	373434	37.1563	928.90
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	84449	18.0256	450.64
59 Chlorobenzene	112	7.699	7.699	(1.004)	159668	19.4232	485.57
7 Chloroethane	64	1.403	1.403	(0.336)	55716	16.6947	417.36
28 Chloroform	83	3.910	3.910	(0.935)	123050	17.4976	437.44
3 Chloromethane	50	1.081	1.081	(0.258)	139101	16.3179	407.94
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	69247	17.3591	433.97
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	109374	17.8669	446.67
55 Dibromochloromethane	129	7.176	7.176	(0.936)	61667	18.2104	455.25
44 Dibromomethane	93	5.558	5.557	(1.118)	43811	18.1012	452.52
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	77506	19.4600	486.49
61 Ethylbenzene	106	7.800	7.799	(1.017)	239976	55.9798	1399.49
91 Hexachlorobutadiene	225	11.489	11.481	(1.188)	17415	21.1429	528.57
67 Isopropylbenzene	105	8.566	8.566	(1.117)	346817	26.9159	672.89
62 m,p-Xylenes	106	7.907	7.907	(1.031)	596323	113.946	2848.65
17 Methylene Chloride	84	2.305	2.305	(0.551)	76911	19.1801	479.50
87 n-Butylbenzene	91	9.999	9.998	(1.034)	210306	21.6804	542.00
73 n-Propylbenzene	91	8.917	8.917	(0.922)	375907	24.5026	612.56
92 Naphthalene	128	11.546	11.546	(1.194)	64310	23.3472	583.68
63 o-Xylene	106	8.244	8.244	(1.075)	281443	55.2815	1382.03
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	262522	21.6153	540.38
64 Styrene	104	8.258	8.258	(1.077)	188263	20.8597	521.49
78 tert-Butylbenzene	119	9.340	9.339	(0.966)	171066	20.7610	519.02
56 Tetrachloroethene	164	6.933	6.933	(0.904)	47535	21.0210	525.52
50 Toluene	91	6.446	6.446	(0.840)	266942	20.0971	502.42
20 trans-1,2-Dichloroethene	96	2.528	2.535	(0.604)	58576	17.6204	440.50
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	98530	17.5957	439.89
38 Trichloroethene	130	5.214	5.206	(1.049)	61108	19.3111	482.77
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	109739	18.6915	467.28
5 Vinyl Chloride	62	1.138	1.138	(0.272)	110064	18.3044	457.61

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052213.D
Date : 22-MAY-2020 15:12
Client ID: HS20050797-01MS
Sample Info: HS20050797-01MS;HS20050797-01MS;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\X200522.b\X052214.D Page 1
Report Date: 04-Jun-2020 10:16

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052214.D
Lab Smp Id: HS20050797-01MSD Client Smp ID: HS20050797-01MSD
Inj Date : 22-MAY-2020 15:36
Operator : PC Inst ID: voa6.i
Smp Info : HS20050797-01MSD;HS20050797-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200522.b\8260W.m
Meth Date : 04-Jun-2020 10:16 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 13 QC Sample: MSD
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

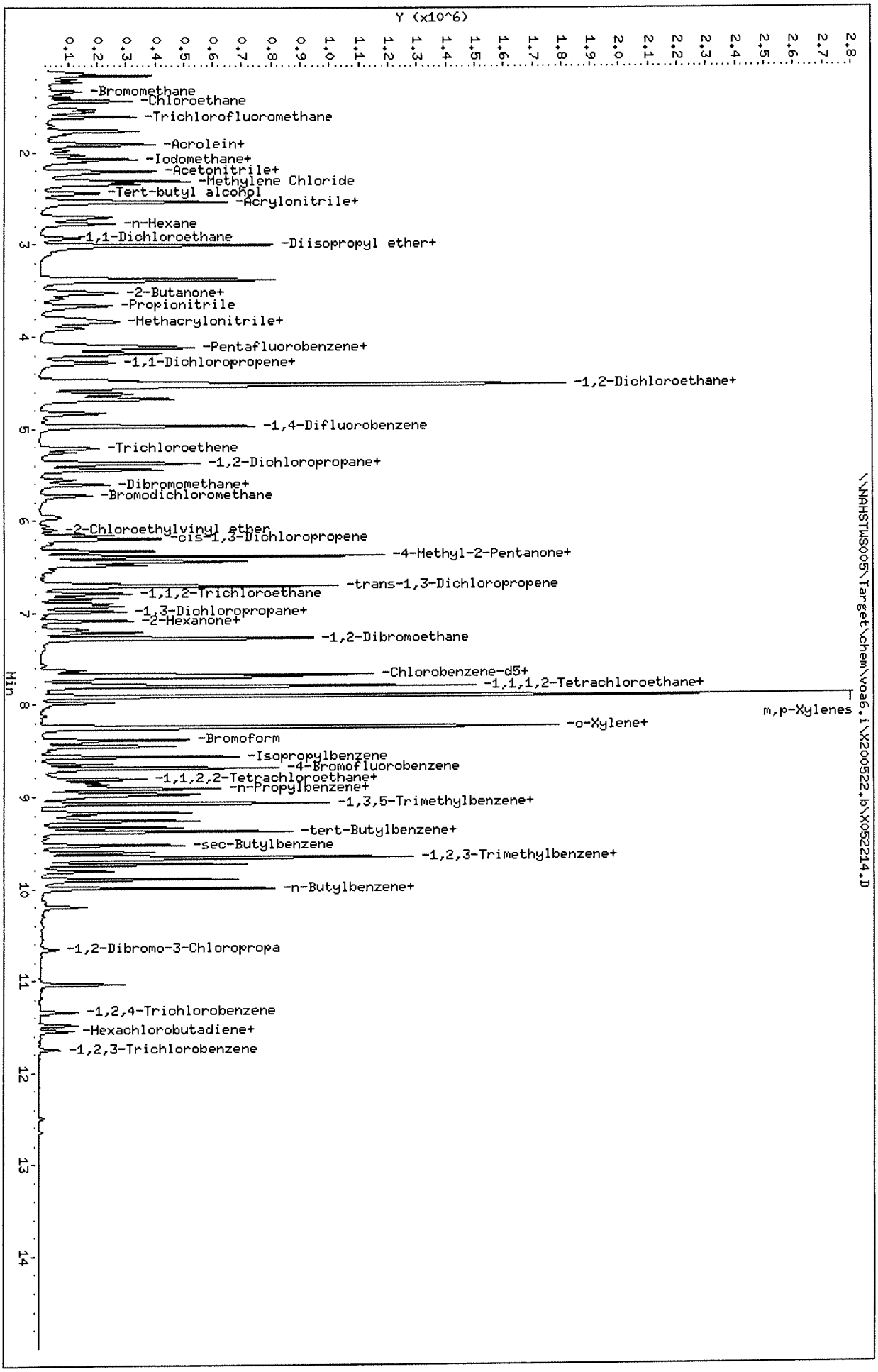
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	281225	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	476034	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	418811	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	192604	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	161034	45.0755	45.07
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	235252	43.7551	43.75
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	579866	52.1281	52.12
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	213927	49.4530	49.45
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	57393	17.8857	447.14
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	101527	16.9683	424.20
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	78294	18.9521	473.80
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	52957	18.6406	466.01
22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	148844	16.2923	407.30
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	52365	16.8034	420.08
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	87513	17.9357	448.39
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	17034	18.2231	455.57
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	67641	17.7528	443.82(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	30727	19.0713	476.78
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.970)	350640	30.6810	767.02
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.657	(1.102)	7235	18.1626	454.06
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	61082	17.8759	446.89
88 1,2-Dichlorobenzene	146	9.999	9.998	(1.034)	103919	18.7021	467.55

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052214.D Page 2
Report Date: 04-Jun-2020 10:16

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	121086	17.4726	436.81
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	84500	17.8755	446.88
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	253232	22.6761	566.90
83	1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	114187	19.1004	477.51
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	107876	18.1870	454.67
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	117378	19.0594	476.48
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	103089	17.1762	429.40
24	2-Butanone	43	3.580	3.580	(0.856)	107936	32.7044	817.61
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	201468	20.2810	507.02
52	2-Hexanone	43	7.090	7.090	(0.924)	186027	38.8003	970.00
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	223610	19.1929	479.82
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	231673	21.5318	538.29
45	4-Methyl-2-Pentanone	43	6.331	6.324	(0.825)	260783	37.5257	938.14
10	Acetone	43	1.976	1.976	(0.473)	80157	30.3477	758.69
37	Benzene	78	4.512	4.512	(0.908)	1402164	98.4012	2460.03
74	Bromobenzene	156	8.810	8.809	(0.911)	66595	18.8929	472.32
29	Bromochloromethane	128	3.803	3.795	(0.909)	32969	16.9237	423.09
39	Bromodichloromethane	83	5.729	5.729	(1.153)	90427	17.1161	427.90
66	Bromoform	173	8.416	8.415	(1.097)	40915	17.6970	442.42
6	Bromomethane	94	1.338	1.338	(0.320)	49890	19.0890	477.22
19	Carbon Disulfide	76	2.069	2.069	(0.495)	365727	35.3155	882.88
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	80910	16.8326	420.81
59	Chlorobenzene	112	7.699	7.699	(1.004)	155451	18.2570	456.42
7	Chloroethane	64	1.403	1.403	(0.336)	54281	15.7846	394.61
28	Chloroform	83	3.910	3.910	(0.935)	117892	16.2694	406.73
3	Chloromethane	50	1.081	1.081	(0.258)	134851	15.3218	383.04
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	67015	16.3037	407.59
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	106728	16.9929	424.82
55	Dibromochloromethane	129	7.176	7.176	(0.936)	61626	17.5696	439.24
44	Dibromomethane	93	5.557	5.557	(1.118)	44135	17.7730	444.32
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	74914	18.3694	459.23
61	Ethylbenzene	106	7.800	7.799	(1.017)	232695	52.4063	1310.15
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	17805	20.4746	511.86
67	Isopropylbenzene	105	8.566	8.566	(1.117)	336232	25.1930	629.82
62	m,p-Xylenes	106	7.907	7.907	(1.031)	574513	105.987	2649.66
17	Methylene Chloride	84	2.305	2.305	(0.551)	77138	18.6473	466.18
87	n-Butylbenzene	91	9.999	9.998	(1.034)	206553	20.1258	503.14
73	n-Propylbenzene	91	8.917	8.917	(0.922)	364030	22.4272	560.68
92	Naphthalene	128	11.546	11.546	(1.194)	67681	23.2236	580.59
63	o-Xylene	106	8.244	8.244	(1.075)	273571	51.8791	1296.97
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	256349	19.9496	498.73
64	Styrene	104	8.265	8.258	(1.078)	184682	19.7560	493.90
78	tert-Butylbenzene	119	9.340	9.339	(0.966)	167826	19.2509	481.27
56	Tetrachloroethene	164	6.933	6.933	(0.904)	45683	19.5042	487.60
50	Toluene	91	6.446	6.446	(0.840)	260244	18.9161	472.90
20	trans-1,2-Dichloroethene	96	2.528	2.535	(0.604)	58311	17.0230	425.57
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	98120	17.0785	426.96
38	Trichloroethene	130	5.214	5.206	(1.049)	59556	18.3437	458.59
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	104821	17.3269	433.17
5	Vinyl Chloride	62	1.138	1.138	(0.272)	107288	17.3162	432.90

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052214.D
Date : 22-MAY-2020 15:36
Client ID: HS20050797-01MSD
Sample Info: HS20050797-01MSD;HS20050797-01MSD;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\X200522.b\X052229.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 22-MAY-2020 21:36
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\X200522.b\8260W.m
Meth Date : 04-Jun-2020 10:16 voa6.i Quant Type: ISTD
Cal Date : 21-MAY-2020 16:15 Cal File: X052111.D
Als bottle: 28 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_Bha.sub
Target Version: 4.14
Processing Host: NAHSTW7142

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

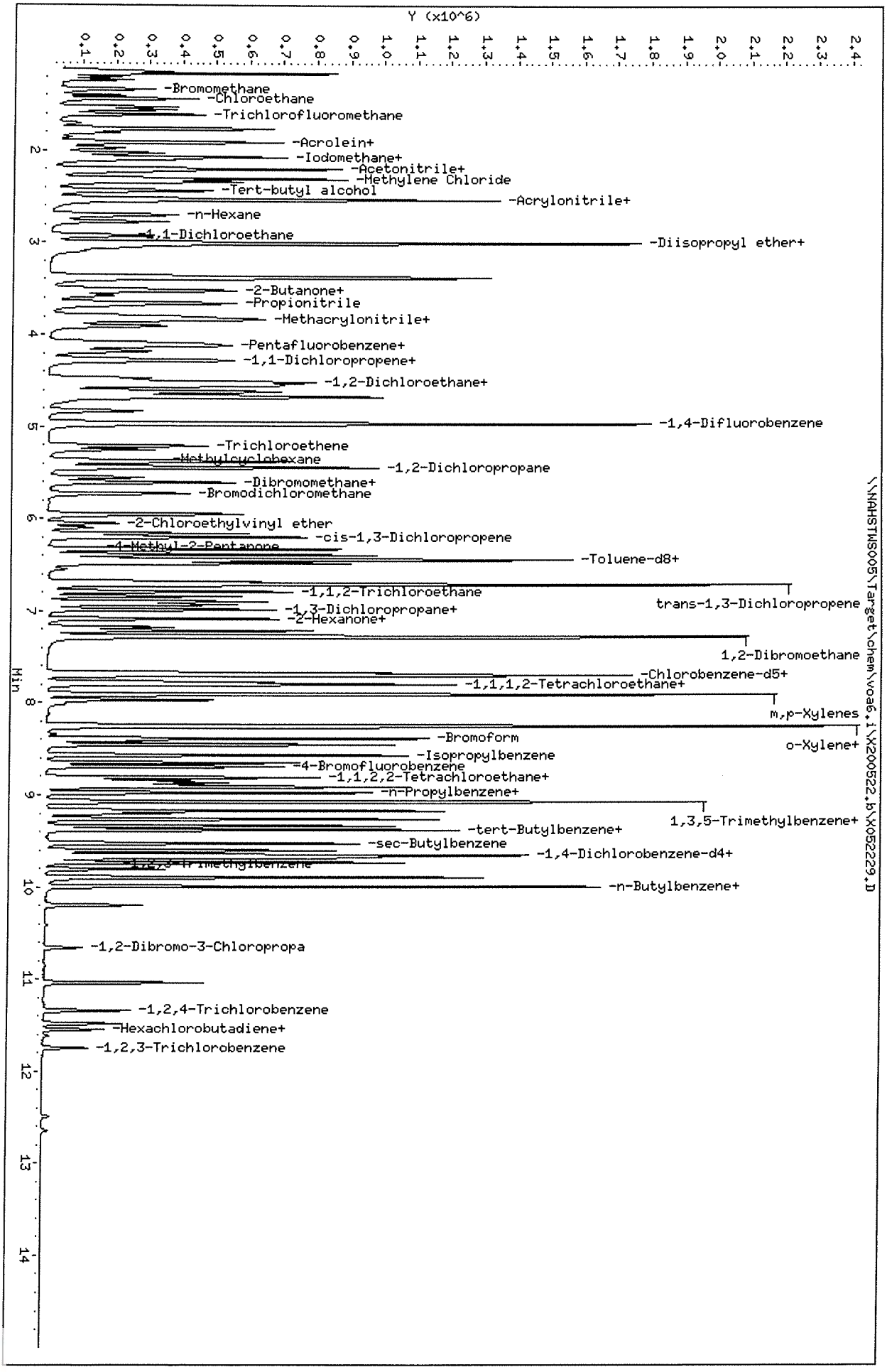
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	204016	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	388648	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	365036	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	171739	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	139609	53.8852	53.88
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	212012	54.4861	54.48
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	483800	49.8919	49.89
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	190007	50.4016	50.40
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	135559	48.4682	48.46
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	219819	50.6421	50.64
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	179139	48.6312	48.63
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	122379	49.4225	49.42
22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	343052	51.7608	51.76
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	113806	50.3397	50.33
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	182400	45.7879	45.78
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	30600	36.7134	36.71(R)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	163107	48.0094	48.00(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	59388	41.3385	41.33
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.971)	482487	47.3468	47.34
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.657	(1.103)	16198	45.6034	45.60
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	146020	49.0285	49.02
88 1,2-Dichlorobenzene	146	9.999	9.998	(1.035)	242845	49.0140	49.01

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200522.b\X052229.D Page 2
Report Date: 04-Jun-2020 10:16

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	274140	48.4526	48.45
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	198493	51.4314	51.43
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	453481	45.5414	45.54
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	256897	48.1927	48.19
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	253361	49.0070	49.00
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	261628	47.6434	47.64
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	175832	40.3834	40.38
24 2-Butanone	43	3.581	3.580	(0.856)	258693	107.602	107.60
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	414024	46.7419	46.74
52 2-Hexanone	43	7.090	7.090	(0.924)	419984	100.502	100.50
77 4-Chlorotoluene	91	9.075	9.074	(0.939)	487594	46.9358	46.93
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	424851	44.2831	44.28
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	600415	99.1250	99.12
10 Acetone	43	1.976	1.976	(0.473)	197264	107.950	107.94
37 Benzene	78	4.519	4.512	(0.909)	580641	49.9104	49.91
74 Bromobenzene	156	8.810	8.809	(0.912)	154500	49.1565	49.15
29 Bromochloromethane	128	3.795	3.795	(0.908)	74830	52.9487	52.94
39 Bromodichloromethane	83	5.729	5.729	(1.153)	213893	49.5889	49.58
66 Bromoform	173	8.416	8.415	(1.097)	99557	49.4052	49.40
6 Bromomethane	94	1.338	1.338	(0.320)	109332	59.4462	59.44
19 Carbon Disulfide	76	2.069	2.069	(0.495)	763960	101.688	101.68(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	173705	44.2632	44.26
59 Chlorobenzene	112	7.699	7.699	(1.004)	355019	47.8376	47.83
7 Chloroethane	64	1.403	1.403	(0.336)	120932	48.4750	48.47
28 Chloroform	83	3.910	3.910	(0.935)	277810	52.8475	52.84
3 Chloromethane	50	1.081	1.081	(0.258)	282256	45.1832	45.18
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	157220	52.7245	52.72
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	243289	47.4452	47.44
55 Dibromochloromethane	129	7.176	7.176	(0.936)	147362	48.2022	48.20
44 Dibromomethane	93	5.558	5.557	(1.118)	103990	51.2921	51.29
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	141600	44.8720	44.87
61 Ethylbenzene	106	7.800	7.799	(1.017)	186236	48.1219	48.12
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	30942	38.4590	38.45(R)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	530443	45.5997	45.59
62 m,p-Xylenes	106	7.907	7.907	(1.031)	443810	93.9357	93.93
17 Methylene Chloride	84	2.306	2.305	(0.551)	163233	55.9519	55.95
87 n-Butylbenzene	91	9.999	9.998	(1.035)	396162	43.2903	43.29
73 n-Propylbenzene	91	8.917	8.917	(0.923)	657461	45.4260	45.42
92 Naphthalene	128	11.546	11.546	(1.195)	109993	42.3277	42.32
63 o-Xylene	106	8.244	8.244	(1.075)	223477	48.6226	48.62
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	500764	43.7051	43.70
64 Styrene	104	8.258	8.258	(1.077)	398640	48.9259	48.92
78 tert-Butylbenzene	119	9.340	9.339	(0.967)	349781	44.9970	44.99
56 Tetrachloroethene	164	6.933	6.933	(0.904)	93088	45.5983	45.59
50 Toluene	91	6.446	6.446	(0.840)	584677	48.7583	48.75
20 trans-1,2-Dichloroethene	96	2.528	2.535	(0.604)	131588	52.9531	52.95
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	222902	47.5213	47.52
38 Trichloroethene	130	5.207	5.206	(1.048)	134695	50.8153	50.81
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	219284	49.9653	49.96
5 Vinyl Chloride	62	1.138	1.138	(0.272)	223553	49.7360	49.73

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.



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Date : 22-MAY-2020 21:36
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

HS20050757 8270 Raw Data

ALS WO# HS20050757

PREP BATCH REPORT

Batch ID: **153733**

Prep Code: **3510_B_SIM**

InitSampWt/Vol 0

FinSampVol: 1

Start Date: **21-May-20 09:30 am**

End Date: **21-May-20 01:30 pm**

OriginalFac: 0.001

Technician:

PrepUnitFac: 1

SampID	Frac	Matrix	pH	Init Wt/Vol	FinalVol (mL)	PrepFac	SpkFac	Failsafe	TestDueDate	Comments
HS20050754-01	E	Water	7	1000	1	0.001	1	06-02-20	06-05-20	ph adj 1/13
HS20050757-01	E	Water	7	1000	1	0.001	1	06-02-20	06-05-20	ph adj 1/13
LCS-153733	A		5	1000	1	0.001	1			ph adj 1/13
LCSD-153733	A		5	1000	1	0.001	1			ph adj 1/13
MBLK-153733	A		5	1000	1	0.001	1			ph adj 1/13

SV06 -Logbook

Batch: 37098 **Analyst:** Linda Graham

Date: 08-20-2019 **Reviewer:**

Method: 8270D-LL & SIM **Laboratory:** Houston

Comments: MSSV003

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	DFTPP02	TUNE	08-20-2019 08:34 am	1.00			001.D		Y	NA
2	SLSTD-2.5	CCV	08-20-2019 08:59 am	1.00			002.D		Y	NA
3	SIMDX-0.08	SAMP	08-20-2019 09:27 am	1.00			003.D		Y	NA
4	SIMDX-0.01	SAMP	08-20-2019 09:52 am	1.00			004.D		Y	NA
5	SIMDX-0.03	ICAL2	08-20-2019 10:13 am	1.00			005.D		Y	NA
6	SIMDX-0.05	ICAL3	08-20-2019 10:32 am	1.00			006.D		Y	NA
7	SIMDX-0.08	ICAL4	08-20-2019 10:51 am	1.00			007.D		Y	NA
8	SIMDX-0.1	ICAL5	08-20-2019 11:10 am	1.00			008.D		Y	NA
9	SIMDX-0.15	ICAL6	08-20-2019 11:29 am	1.00			009.D		Y	NA
10	SIMDX-0.2	ICAL7	08-20-2019 11:49 am	1.00			010.D		Y	NA
11	SIMDX-0.5	ICAL8	08-20-2019 12:08 pm	1.00			011.D		Y	NA
12	SIMDX-0.01	ICAL1	08-20-2019 12:27 pm	1.00			012.D		Y	NA
13	SIMDX-ICV	SAMP	08-20-2019 12:46 pm	1.00			013.D		Y	NA
14	CCB	SAMP	08-20-2019 01:05 pm	1.00			014.D		Y	NA
15	MBLK-144188	MBLK	08-20-2019 01:24 pm	1.00	1000.00 mL	1.00 mL	015.D	Liquid	Y	NA
16	LCS-144188	LCS	08-20-2019 01:43 pm	1.00	1000.00 mL	1.00 mL	016.D	Liquid	Y	NA
17	LCSD-144188	LCSD	08-20-2019 02:02 pm	1.00	1000.00 mL	1.00 mL	017.D	Liquid	Y	NA
18	HS19080732-01	SAMP	08-20-2019 02:21 pm	1.00	1000.00 mL	1.00 mL	018.D	Liquid	Y	NA
19	HS19080732-01	SAMP	08-20-2019 02:43 pm	1.00	1000.00 mL	1.00 mL	019.D	Liquid	Y	NA
20	SIMDX-0.08	CCV	08-20-2019 03:05 pm	1.00			020.D		Y	NA
21	SPIKE	SAMP	08-20-2019 03:24 pm	1.00	1000.00 mL	1.00 mL	021.D	Liquid	Y	NA
22	HS19080732-01	SAMP	08-20-2019 03:52 pm	5.00	1000.00 mL	1.00 mL	022.D	Liquid	Y	NA
23	CCB	SAMP	08-20-2019 04:16 pm	1.00			023.D		Y	NA
24	HS19080727-02	SAMP	08-20-2019 04:42 pm	100.0(	30.00 gm	1.00 mL	024.D	Solid	Y	NA
25	HS19080727-03	SAMP	08-20-2019 05:01 pm	100.0(	30.00 gm	1.00 mL	025.D	Solid	Y	NA
26	HS19080727-04	SAMP	08-20-2019 05:19 pm	5.00	30.00 gm	1.00 mL	026.D	Solid	Y	NA
27	HS19080727-07	SAMP	08-20-2019 05:38 pm	10.00	30.00 gm	1.00 mL	027.D	Solid	Y	NA
28	HS19080727-05	SAMP	08-20-2019 05:57 pm	100.0(	30.00 gm	1.00 mL	028.D	Solid	Y	NA

Chemical	Value
IS ID	3081958-02 & 3081957-10
CAL STD ID	3081945-06 & 3081962-05
DFTPP ID	3081958-01
PCP Tailing	0.91
Benz. Tailing	0.82
STD-01	3081962-02 - 3081962-09
ICV ID	3081962-10
Routine SOP Maintenance	LG

FORM 3
WATER SEMIVOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Matrix Spike - Sample No.: SIMDX-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	% REC #	QC. LIMITS REC.
1,4-Dioxane	0.08000	0.06515	81	75-125

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

_____

FORM III SV

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Lab File ID: 001 DFTPP Injection Date: 08/20/19

Instrument ID: SV6 DFTPP Injection Time: 0834

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	37.3
68	Less than 2.0% of mass 69	0.7 (1.3)1
69	Mass 69 relative abundance	52.4
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	10.0 - 80.0% of mass 198	50.4
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 60.0% of mass 198	30.5
365	1.0 - 100.0% of mass 198	5.4
441	Present, but less than mass 443	15.3
442	50.0 - 150.0% of mass 198	94.0
443	15.0 - 24.0% of mass 442	17.6 (18.7)2

1-Value is % mass 69 2-Value is % mass 442

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	SIMDX-0.03	SIMDX-0.03	005	08/20/19	1013
02	SIMDX-0.05	SIMDX-0.05	006	08/20/19	1032
03	SIMDX-0.08	SIMDX-0.08	007	08/20/19	1051
04	SIMDX-0.1	SIMDX-0.1	008	08/20/19	1110
05	SIMDX-0.15	SIMDX-0.15	009	08/20/19	1129
06	SIMDX-0.2	SIMDX-0.2	010	08/20/19	1149
07	SIMDX-0.5	SIMDX-0.5	011	08/20/19	1208
08	SIMDX-0.01	SIMDX-0.01	012	08/20/19	1227
09	SIMDX-ICV	SIMDX-ICV	013	08/20/19	1246
10					
11					
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22					

FORM V SV

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Instrument ID: SV6 Calibration Date(s): 08/20/19 08/20/19

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1013 1227

LAB FILE ID: RF0.01: 012 RF0.03: 005 RF0.05: 006
RF0.08: 007 RF0.1: 008 RF0.15: 009

COMPOUND	RF0.01	RF0.03	RF0.05	RF0.08	RF0.1	RF0.15
1,4-Dioxane	0.068	0.066	0.062	0.062	0.066	0.058
Nitrobenzene-d5	0.259	0.253	0.248	0.235	0.256	0.251
4-Terphenyl-d14	0.864	0.799	0.804	0.815	0.808	0.822
2-Fluorobiphenyl	1.190	1.244	1.156	1.138	1.196	1.178

FORM VI SV

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005075

Instrument ID: SV6 Calibration Date(s): 08/20/19 08/20/19

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1013 1227

LAB FILE ID: RF0.2: 010 RF0.5: 011

COMPOUND	RF0.2	RF0.5	CURVE	COEFFICENT A1	%RSD OR R^2	MAX %RSD OR R^2
1,4-Dioxane	0.067	0.058	AVRG	6.346e-002	6.165	20.000
Nitrobenzene-d5	0.298	0.288	AVRG	0.26110947	8.070	20.000
4-Terphenyl-d14	0.864	0.822	AVRG	0.82462670	3.080	20.000
2-Fluorobiphenyl	1.198	1.196	AVRG	1.18704840	2.670	20.000

FORM VI SV

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\001.D

Date : 20-AUG-2019 08:34

Client ID: DFTPP02

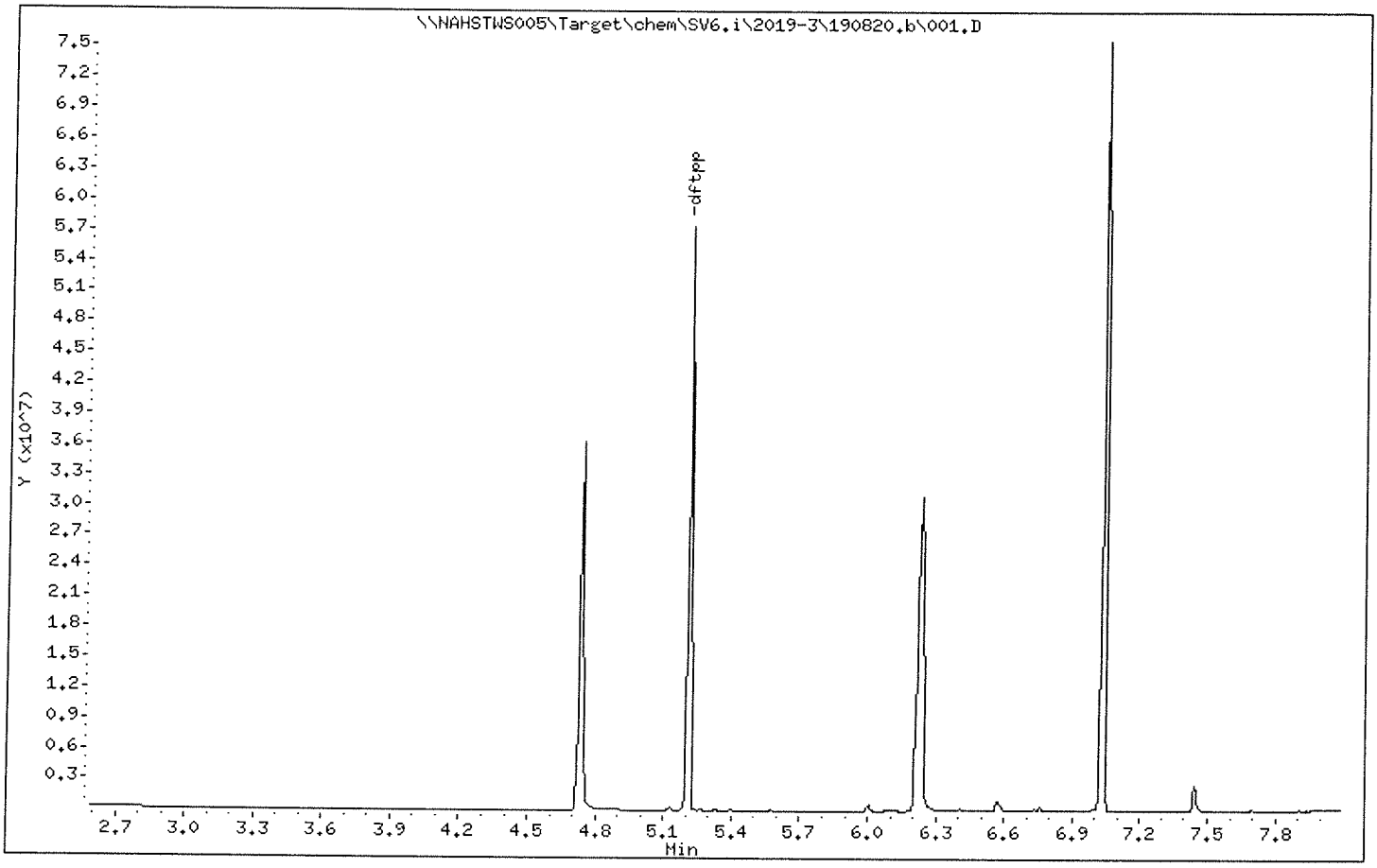
Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\001.D

Date : 20-AUG-2019 08:34

Client ID: DFTPP02

Instrument: SV6.i

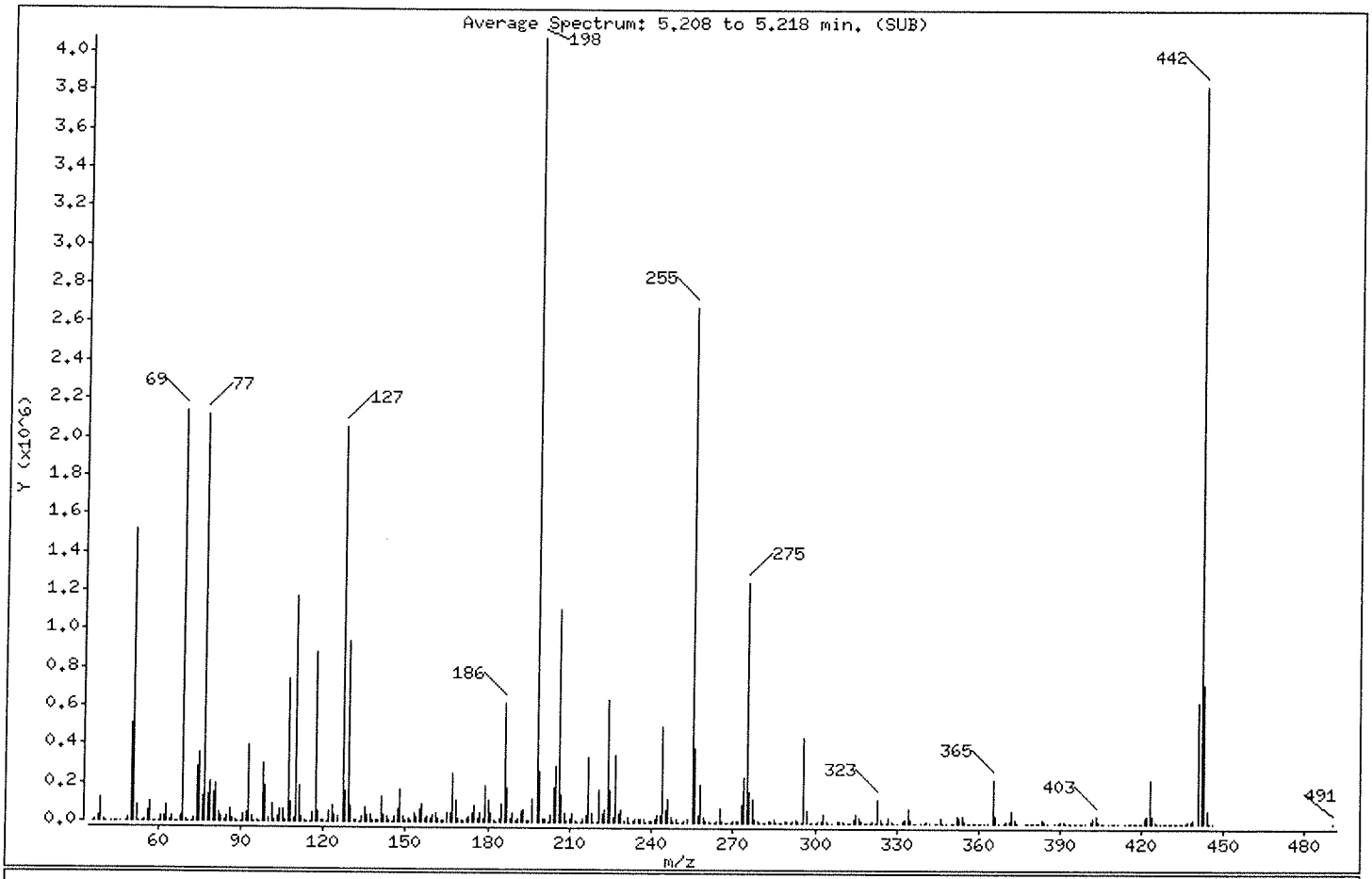
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	37.27
68	Less than 2.00% of mass 69	0.66 (1.27)
69	Mass 69 relative abundance	52.42
70	Less than 2.00% of mass 69	0.21 (0.40)
127	10.00 - 80.00% of mass 198	50.38
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.54
275	10.00 - 60.00% of mass 198	30.53
365	1.00 - 100.00% of mass 198	5.43
441	Present, but less than mass 443	15.33
442	50.00 - 150.00% of mass 198	93.99
443	15.00 - 24.00% of mass 442	17.61 (18.74)

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\001.D

Date : 20-AUG-2019 08:34

Client ID: DFTPP02

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.208 to 5.218 min. (SUB)
Location of Maximum: 198.00
Number of points: 391

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	835	137.00	33208	236.00	14798	337.00	100
37.00	12102	138.00	8411	237.00	22248	339.00	2477
38.00	25296	139.00	4795	238.00	2941	340.00	1567
39.00	117160	140.00	12158	239.00	13468	341.00	13981
40.00	5499	141.00	131200	240.00	9878	342.00	3948
41.00	753	142.00	36240	241.00	19728	344.00	804
43.00	91	143.00	24424	242.00	35264	345.00	480
44.00	1276	144.00	6124	243.00	41928	346.00	28472
45.00	3402	145.00	4643	244.00	496256	347.00	4140
46.00	106	146.00	26048	245.00	67520	348.00	271
48.00	1625	147.00	64000	246.00	122680	350.00	1935
49.00	14501	148.00	169408	247.00	24744	351.00	4169
50.00	504320	149.00	25880	248.00	4938	352.00	37592
51.00	1518592	150.00	7101	249.00	19120	353.00	27976
52.00	83816	151.00	16800	250.00	4389	354.00	36440
53.00	3136	152.00	9343	251.00	4453	355.00	7095
54.00	184	153.00	44568	252.00	6078	356.00	446
55.00	11858	154.00	31536	253.00	17208	357.00	391
56.00	54208	155.00	64536	255.00	2677248	358.00	1318
57.00	102632	156.00	92080	256.00	382592	359.00	2789
58.00	3650	157.00	15872	257.00	33904	360.00	1244
59.00	1625	158.00	23880	258.00	193536	361.00	1450
60.00	1858	159.00	18264	259.00	31792	362.00	1798
61.00	24904	160.00	36112	260.00	5628	363.00	1262
62.00	32112	161.00	51192	261.00	5009	365.00	221376
63.00	80232	162.00	14572	262.00	603	366.00	34008
64.00	12711	163.00	5995	263.00	2490	367.00	1707
65.00	29088	164.00	6170	264.00	6905	369.00	407
66.00	1294	165.00	51448	265.00	76376	370.00	5368
67.00	922	166.00	42280	266.00	13210	371.00	11263
68.00	27024	167.00	255744	267.00	1076	372.00	67920
69.00	2136064	168.00	107920	268.00	2066	373.00	18112
70.00	8518	169.00	18928	269.00	956	374.00	1860
71.00	489	170.00	10335	270.00	5559	377.00	1403
72.00	1438	171.00	7634	271.00	7831	378.00	915

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\001.D

Date : 20-AUG-2019 08:34

Client ID: DFTPP02

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.208 to 5.218 min. (SUB)
Location of Maximum: 198.00
Number of points: 391

m/z	Y	m/z	Y	m/z	Y	m/z	Y
73.00	21832	172.00	21320	272.00	12923	379.00	143
74.00	279552	173.00	29712	273.00	90072	380.00	144
75.00	360000	174.00	45472	274.00	231936	381.00	498
76.00	127952	175.00	80656	275.00	1244160	382.00	629
77.00	2114048	176.00	21440	276.00	161152	383.00	20544
78.00	137728	177.00	47248	277.00	122616	384.00	4734
79.00	204864	178.00	18200	278.00	18792	385.00	1203
80.00	153472	179.00	183168	279.00	5011	388.00	451
81.00	199296	180.00	113264	280.00	604	389.00	265
82.00	46040	181.00	49512	281.00	900	390.00	10255
83.00	31856	182.00	11982	282.00	4109	391.00	6532
84.00	5566	183.00	3715	283.00	13570	392.00	4418
85.00	32504	184.00	16784	284.00	11220	393.00	1245
86.00	61824	185.00	89160	285.00	20912	394.00	513
87.00	21392	186.00	620608	286.00	3760	395.00	749
88.00	9127	187.00	175296	287.00	1271	396.00	444
89.00	3136	188.00	16624	288.00	1937	397.00	691
90.00	443	189.00	45672	289.00	5097	398.00	405
91.00	41216	190.00	7016	290.00	4794	399.00	123
92.00	50488	191.00	19680	291.00	3934	401.00	5262
93.00	394112	192.00	59496	292.00	8215	402.00	29296
94.00	24512	193.00	62640	293.00	21280	403.00	40856
95.00	3693	194.00	12573	294.00	8043	404.00	14012
96.00	9479	195.00	6966	295.00	4289	405.00	1459
97.00	44	196.00	124048	296.00	436544	406.00	138
98.00	303680	198.00	4075008	297.00	62032	408.00	284
99.00	191552	199.00	266624	298.00	3806	409.00	264
100.00	15372	200.00	19696	299.00	1143	410.00	1263
101.00	94456	201.00	17256	300.00	676	411.00	294
102.00	5355	202.00	1968	301.00	6097	414.00	403
103.00	32272	203.00	40488	302.00	8958	415.00	1669
104.00	67864	204.00	179392	303.00	43928	416.00	498
105.00	62672	205.00	294784	304.00	10193	417.00	65
106.00	12815	206.00	1107456	305.00	1447	418.00	1538
107.00	743744	207.00	142720	306.00	106	419.00	1353

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\001.D

Date : 20-AUG-2019 08:34

Client ID: DFTPP02

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.208 to 5.218 min. (SUB)
Location of Maximum: 198.00
Number of points: 391

m/z	Y	m/z	Y	m/z	Y	m/z	Y
108.00	101768	208.00	46152	308.00	6241	420.00	2993
109.00	17928	209.00	12596	309.00	6298	421.00	29488
110.00	1171456	210.00	19512	310.00	6172	422.00	36720
111.00	184832	211.00	45856	311.00	604	423.00	226496
112.00	25208	212.00	5547	312.00	1912	424.00	41632
113.00	6233	213.00	3969	313.00	3850	425.00	5802
114.00	2033	214.00	2043	314.00	19248	426.00	59
115.00	4354	215.00	17152	315.00	48288	427.00	586
116.00	48960	216.00	34016	316.00	24504	428.00	274
117.00	878976	217.00	341696	317.00	4752	429.00	576
118.00	56712	218.00	43448	318.00	87	430.00	1543
119.00	5084	219.00	3982	319.00	1150	431.00	1228
120.00	8536	220.00	3610	320.00	3527	432.00	2552
121.00	3746	221.00	168960	321.00	11938	433.00	1912
122.00	60432	222.00	45336	322.00	2915	434.00	2804
123.00	81152	223.00	66888	323.00	123376	435.00	3410
124.00	36080	224.00	638528	324.00	20024	436.00	3032
125.00	28848	225.00	166336	325.00	3713	437.00	7750
127.00	2053120	226.00	23496	326.00	3277	438.00	8493
128.00	154816	227.00	346624	327.00	25960	439.00	15936
129.00	939136	228.00	46312	328.00	10207	441.00	624704
130.00	80128	229.00	62808	329.00	3443	442.00	3830272
131.00	12860	230.00	8935	330.00	592	443.00	717696
132.00	9218	231.00	23840	332.00	10907	444.00	65712
133.00	3460	232.00	4201	333.00	16824	445.00	3400
134.00	26576	233.00	6938	334.00	79336	446.00	239
135.00	73008	234.00	21800	335.00	21480	491.00	180
136.00	35592	235.00	17528	336.00	2596		

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\005.D
Lab Smp Id: SIMDX-0.03 Client Smp ID: SIMDX-0.03
Inj Date : 20-AUG-2019 10:13 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.03;SIMDX-0.03
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 18-JUL-2019 10:08 Cal File: 002.D
Als bottle: 5 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

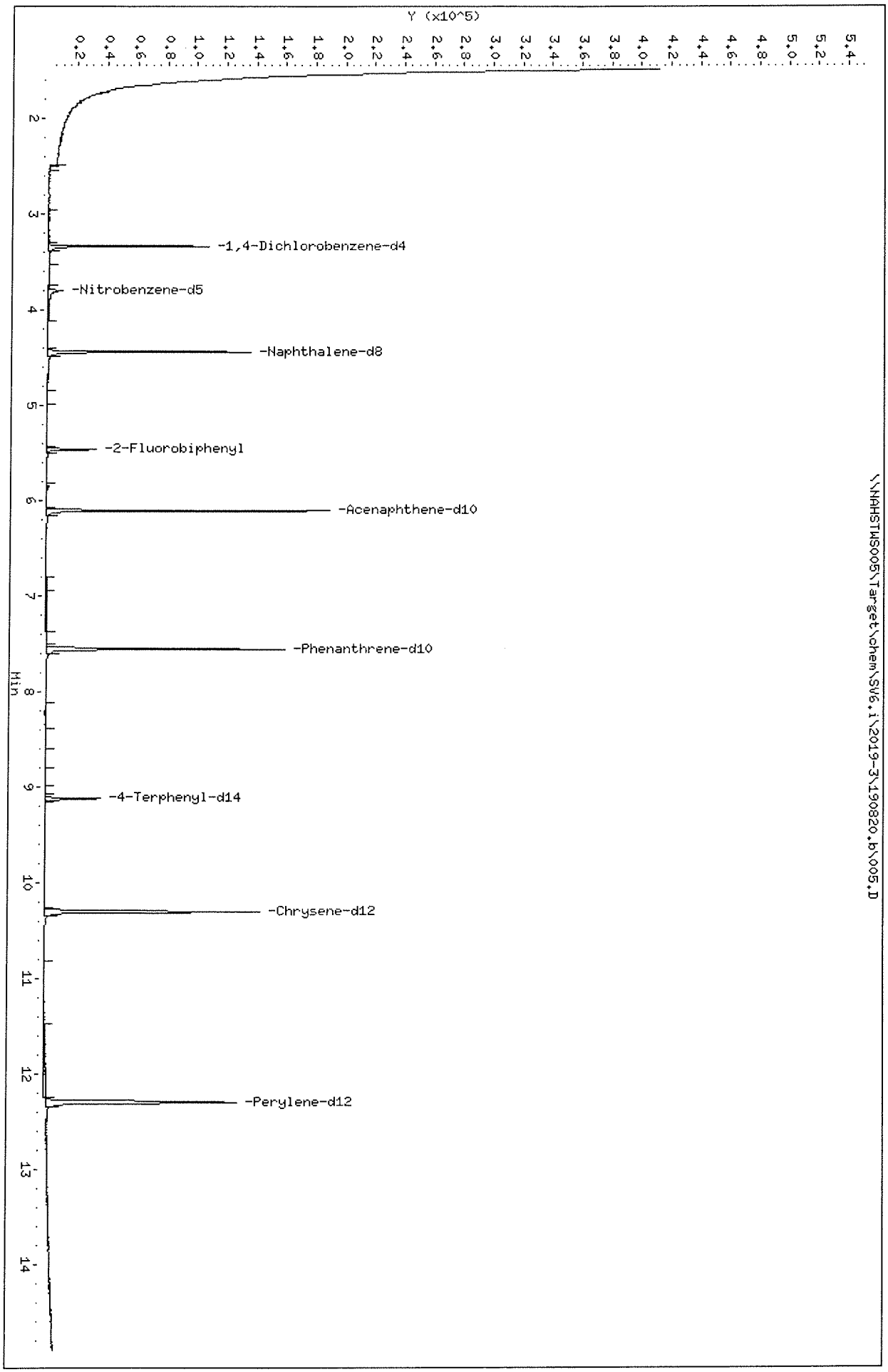
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.339	3.334	(1.000)	33546	0.10000		(aQH)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	136953	0.10000		(QH)
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	10387	0.03000		(QM)
* 86 Acenaphthene-d10	164	6.105	6.110	(1.000)	81893	0.10000		(QH)
$ 69 2-Fluorobiphenyl	172	5.463	5.464	(0.868)	30574	0.03000		(aQ)
* 126 Phenanthrene-d10	188	7.549	7.555	(1.000)	160375	0.10000		(Q)
* 182 Chrysene-d12	240	10.298	10.304	(1.000)	153711	0.10000		(QH)
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.849)	36860	0.03000		(aQH)
* 198 Perylene-d12	264	12.292	12.297	(1.000)	170856	0.10000		(QM)
1 1,4-Dioxane	58	1.652	1.612	(0.468)	666	0.03000		(aH)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\005.D
Date : 20-AUG-2019 10:13
Client ID: SIMDX-0.03
Sample Info: SIMDX-0.03;SIMDX-0.03
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\006.D Page 1
Report Date: 01-Jun-2020 15:41

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\006.D
Lab Smp Id: SIMDX-0.05 Client Smp ID: SIMDX-0.05
Inj Date : 20-AUG-2019 10:32 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.05;SIMDX-0.05
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 10:13 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

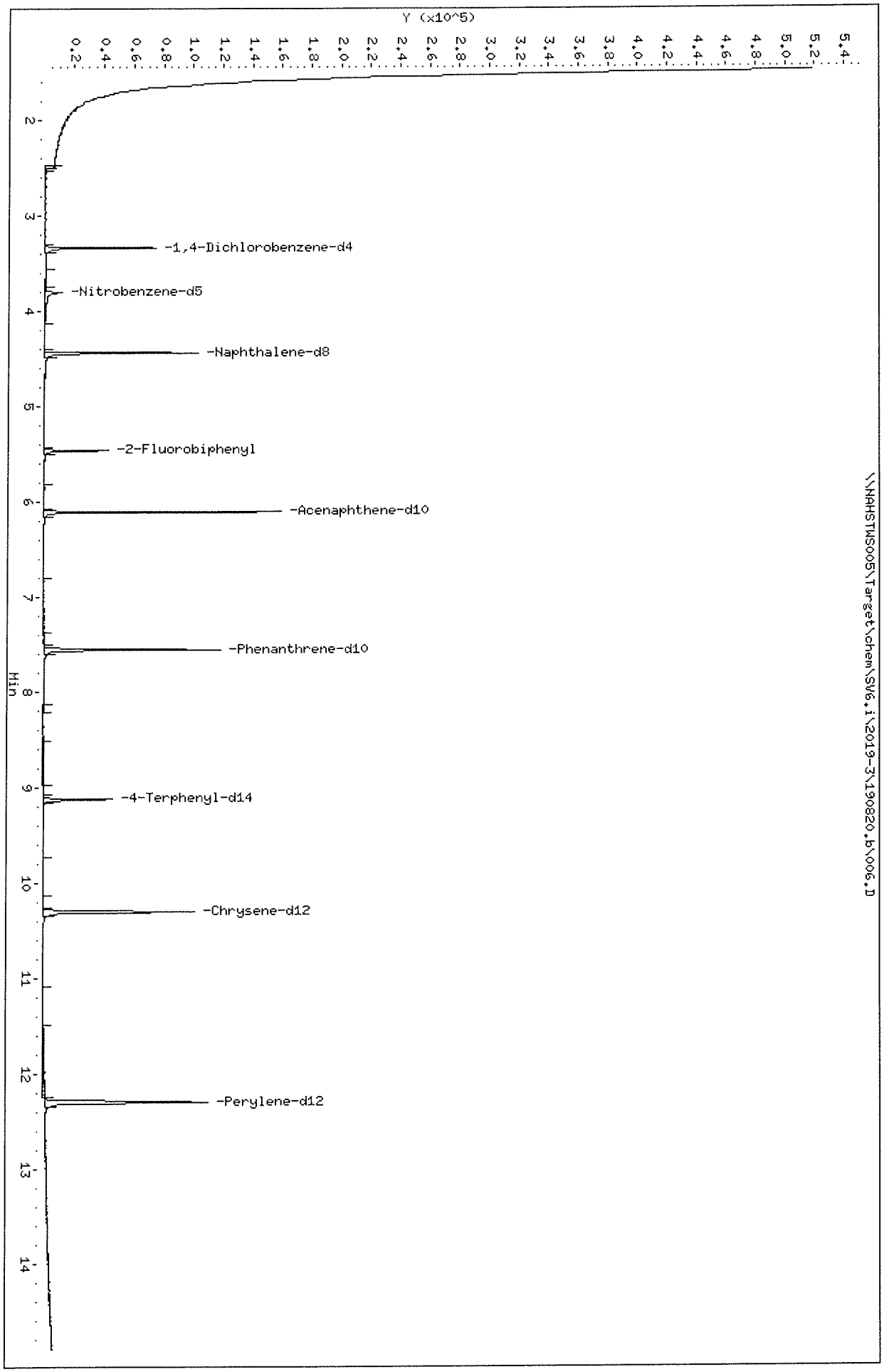
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.339	3.334	(1.000)	25816	0.10000	(a)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	94844	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	11773	0.05000	0.04910(QM)
* 86 Acenaphthene-d10	164	6.105	6.110	(1.000)	61276	0.10000	
$ 69 2-Fluorobiphenyl	172	5.463	5.464	(0.895)	35405	0.05000	0.04643
* 126 Phenanthrene-d10	188	7.549	7.555	(1.000)	119311	0.10000	
* 182 Chrysene-d12	240	10.298	10.304	(1.000)	113920	0.10000	
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.886)	45770	0.05000	0.05026
* 198 Perylene-d12	264	12.292	12.297	(1.000)	125817	0.10000	
1 1,4-Dioxane	58	1.641	1.612	(0.492)	803	0.05000	0.04700(aM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\006.D
Date : 20-AUG-2019 10:32
Client ID: SIMDX-0.05
Sample Info: SIMDX-0.05;SIMDX-0.05
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\007.D
Lab Smp Id: SIMDX-0.08 Client Smp ID: SIMDX-0.08
Inj Date : 20-AUG-2019 10:51 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.08;SIMDX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 10:32 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

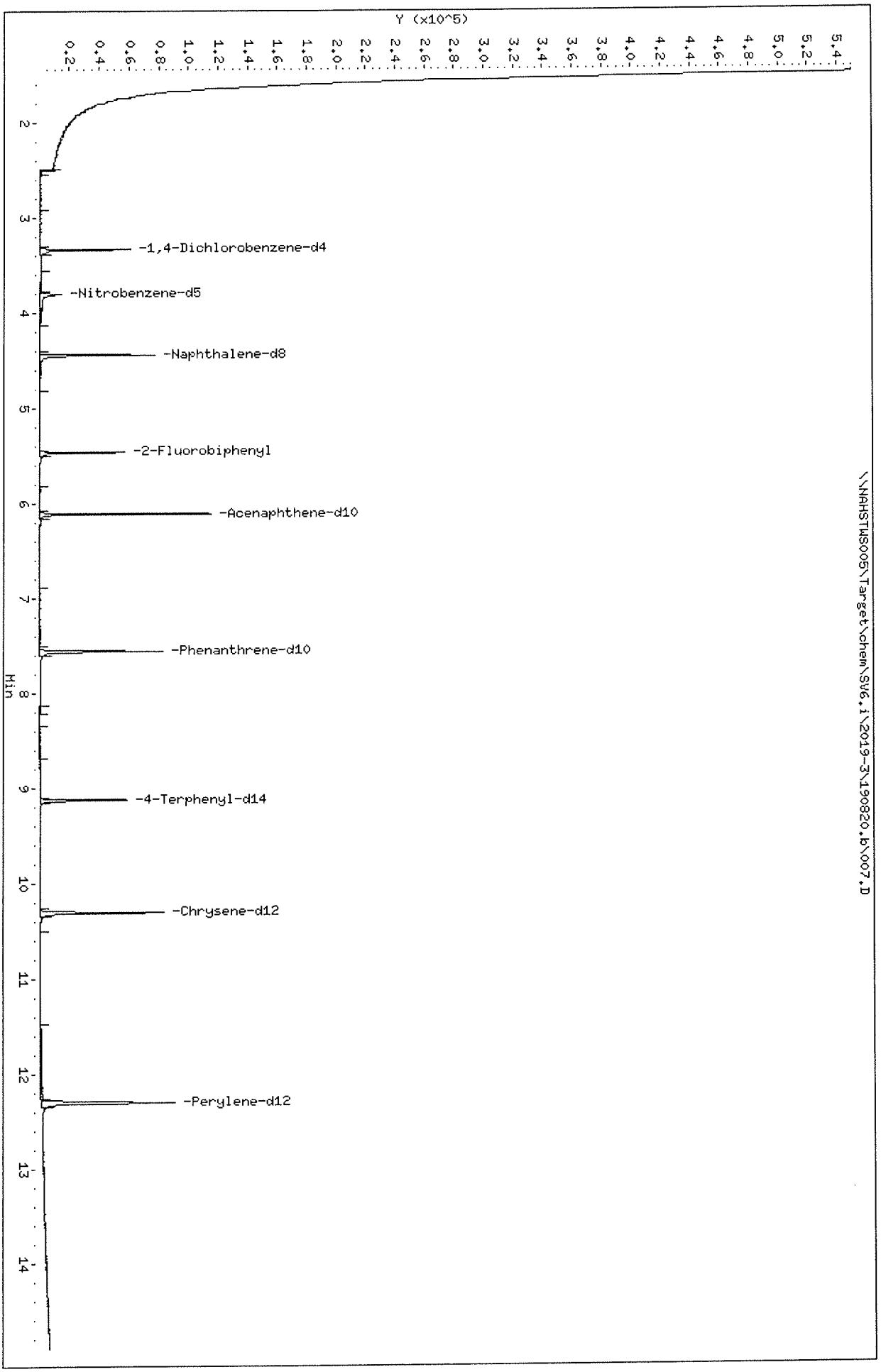
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.334	3.334	(1.000)	21258	0.10000		(a)
* 45 Naphthalene-d8	136	4.442	4.442	(1.000)	78809	0.10000		
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	14821	0.08000	0.07202	(M)
* 86 Acenaphthene-d10	164	6.110	6.110	(1.000)	46108	0.10000		
$ 69 2-Fluorobiphenyl	172	5.464	5.464	(0.894)	41986	0.08000	0.07671	
* 126 Phenanthrene-d10	188	7.555	7.555	(1.000)	88651	0.10000		
* 182 Chrysene-d12	240	10.304	10.304	(1.000)	83555	0.10000		(M)
$ 158 4-Terphenyl-d14	244	9.125	9.125	(0.889)	54489	0.08000	0.07908	
* 198 Perylene-d12	264	12.297	12.297	(1.000)	95521	0.10000		
1 1,4-Dioxane	58	1.612	1.612	(0.483)	1060	0.08000	0.07857	(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\SV6.i\2019-3\190820.b\007.D
Date : 20-AUG-2019 10:51
Client ID: SIMDX-0.08
Sample Info: SIMDX-0.08;SIMDX-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



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GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\008.D
Lab Smp Id: SIMDX-0.1 Client Smp ID: SIMDX-0.1
Inj Date : 20-AUG-2019 11:10 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.1;SIMDX-0.1
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 10:51 Cal File: 007.D
Als bottle: 8 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

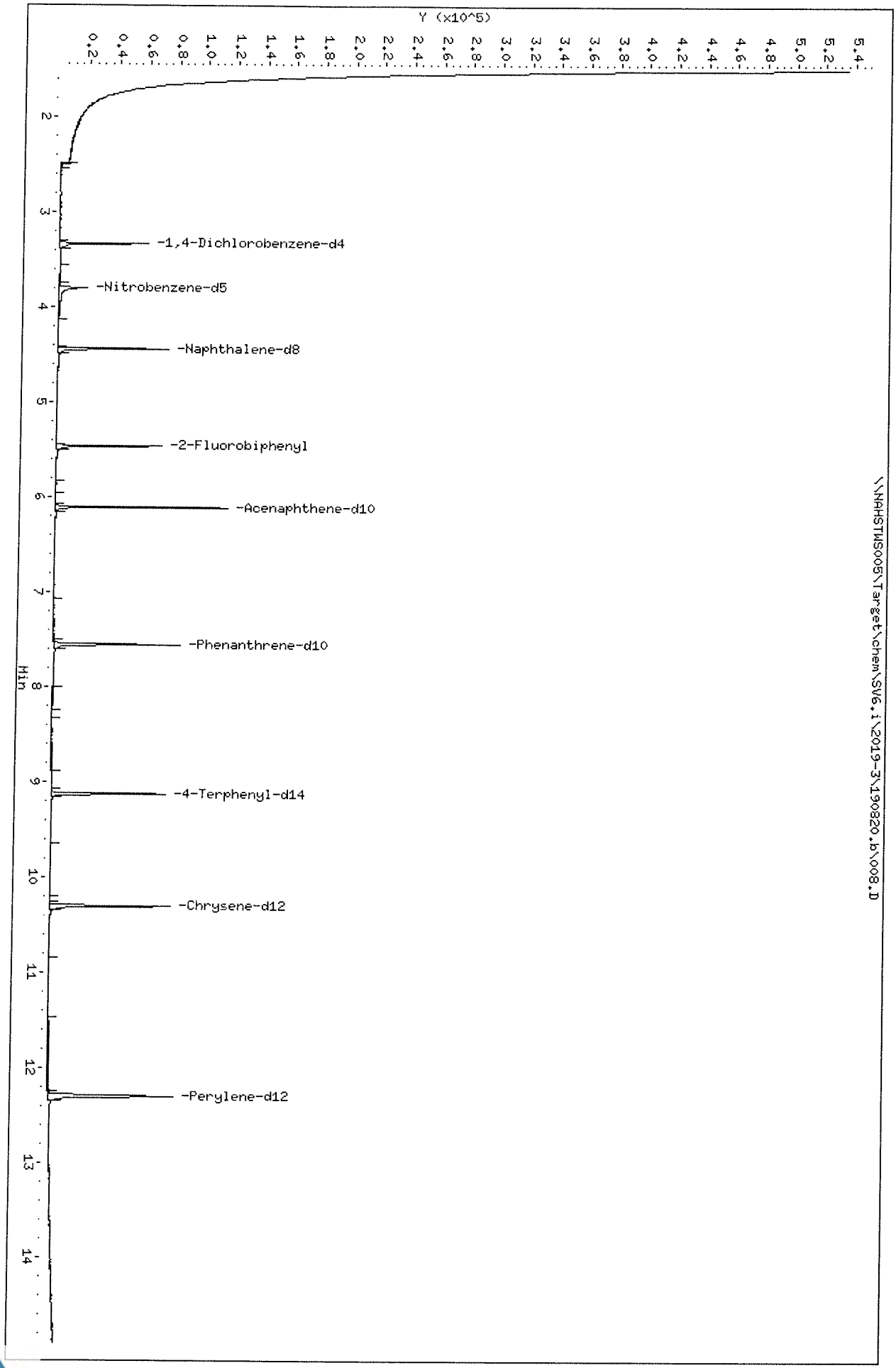
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.334	3.334	(1.000)	18520	0.10000	(a)
* 45 Naphthalene-d8	136	4.443	4.442	(1.000)	77644	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	19915	0.10000	0.1045(M)
* 86 Acenaphthene-d10	164	6.110	6.110	(1.000)	45687	0.10000	
$ 69 2-Fluorobiphenyl	172	5.464	5.464	(0.894)	54630	0.10000	0.1014
* 126 Phenanthrene-d10	188	7.555	7.555	(1.000)	94205	0.10000	
* 182 Chrysene-d12	240	10.304	10.304	(1.000)	87080	0.10000	
$ 158 4-Terphenyl-d14	244	9.126	9.125	(0.886)	70350	0.10000	0.1002
* 198 Perylene-d12	264	12.297	12.297	(1.000)	96547	0.10000	
1 1,4-Dioxane	58	1.612	1.612	(0.484)	1224	0.10000	0.1040(aM)

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\SV6.i\2019-3\190820.b\008.D
Date : 20-AUG-2019 11:10
Client ID: SIMDX-0.1
Sample Info: SIMDX-0.1;SIMDX-0.1
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



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GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\009.D
Lab Smp Id: SIMDX-0.15 Client Smp ID: SIMDX-0.15
Inj Date : 20-AUG-2019 11:29 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.15;SIMDX-0.15
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 11:10 Cal File: 008.D
Als bottle: 9 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

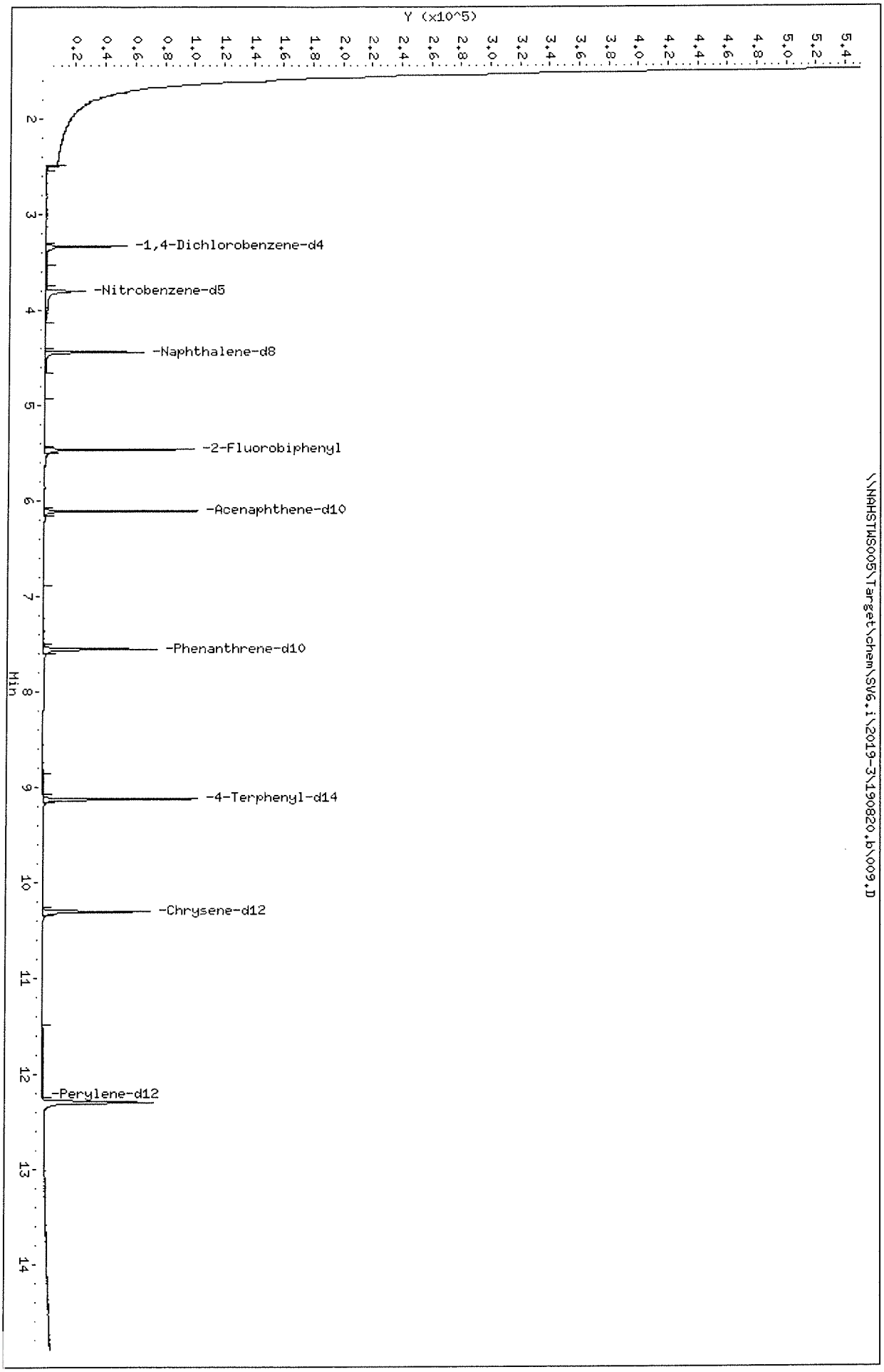
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.334	3.334	(1.000)	18250	0.10000	(a)
* 45 Naphthalene-d8	136	4.443	4.442	(1.000)	69930	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	26336	0.15000	0.1518(AM)
* 86 Acenaphthene-d10	164	6.110	6.110	(1.000)	42317	0.10000	
$ 69 2-Fluorobiphenyl	172	5.464	5.464	(0.894)	74789	0.15000	0.1493
* 126 Phenanthrene-d10	188	7.550	7.555	(1.000)	87386	0.10000	
* 182 Chrysene-d12	240	10.304	10.304	(1.000)	79255	0.10000	
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.885)	97729	0.15000	0.1529(A)
* 198 Perylene-d12	264	12.297	12.297	(1.000)	88054	0.10000	
1 1,4-Dioxane	58	1.612	1.612	(0.484)	1583	0.15000	0.1351(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.
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\009.D
Date : 20-AUG-2019 11:29
Client ID: SIMDX-0.15
Sample Info: SIMDX-0.15;SIMDX-0.15
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



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GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\010.D
Lab Smp Id: SIMDX-0.2 Client Smp ID: SIMDX-0.2
Inj Date : 20-AUG-2019 11:49 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.2;SIMDX-0.2
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 11:29 Cal File: 009.D
Als bottle: 10 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

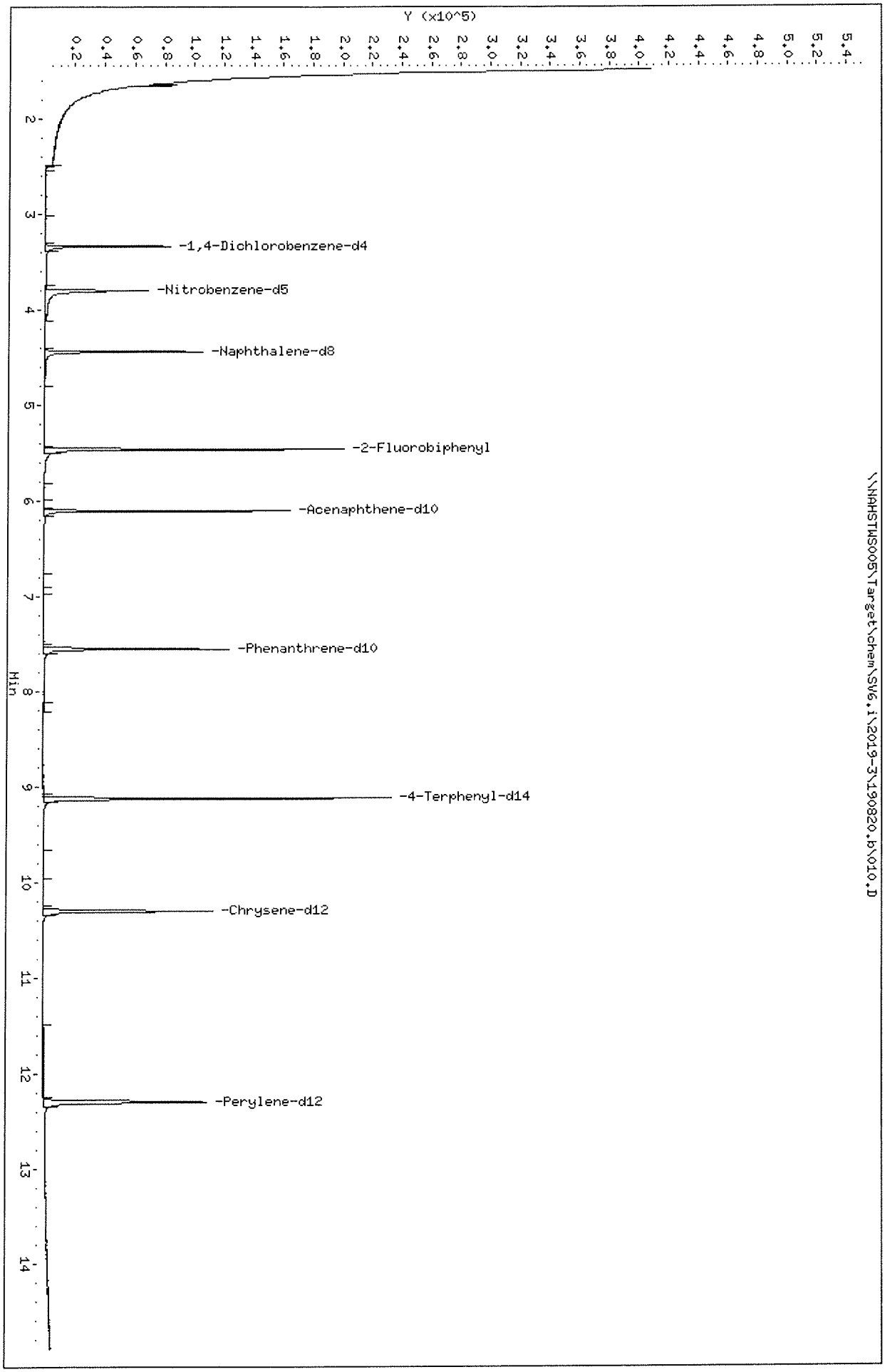
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.339	3.334	(1.000)	29701	0.10000	(a)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	114404	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	68087	0.20000	0.2331(AM)
* 86 Acenaphthene-d10	164	6.105	6.110	(1.000)	67885	0.10000	
$ 69 2-Fluorobiphenyl	172	5.463	5.464	(0.895)	162627	0.20000	0.2022(AM)
* 126 Phenanthrene-d10	188	7.549	7.555	(1.000)	130309	0.10000	
* 182 Chrysene-d12	240	10.298	10.304	(1.000)	128572	0.10000	
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.886)	222096	0.20000	0.2128(A)
* 198 Perylene-d12	264	12.292	12.297	(1.000)	144072	0.10000	
1 1,4-Dioxane	58	1.648	1.612	(0.494)	3958	0.20000	0.2144

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.
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\010.D
Date : 20-AUG-2019 11:49
Client ID: SIMDX-0.2
Sample Info: SIMDX-0.2;SIMDX-0.2
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\011.D Page 1
Report Date: 01-Jun-2020 15:41

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GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\011.D
Lab Smp Id: SIMDX-0.5 Client Smp ID: SIMDX-0.5
Inj Date : 20-AUG-2019 12:08 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.5;SIMDX-0.5
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 11:29 Cal File: 009.D
Als bottle: 11 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

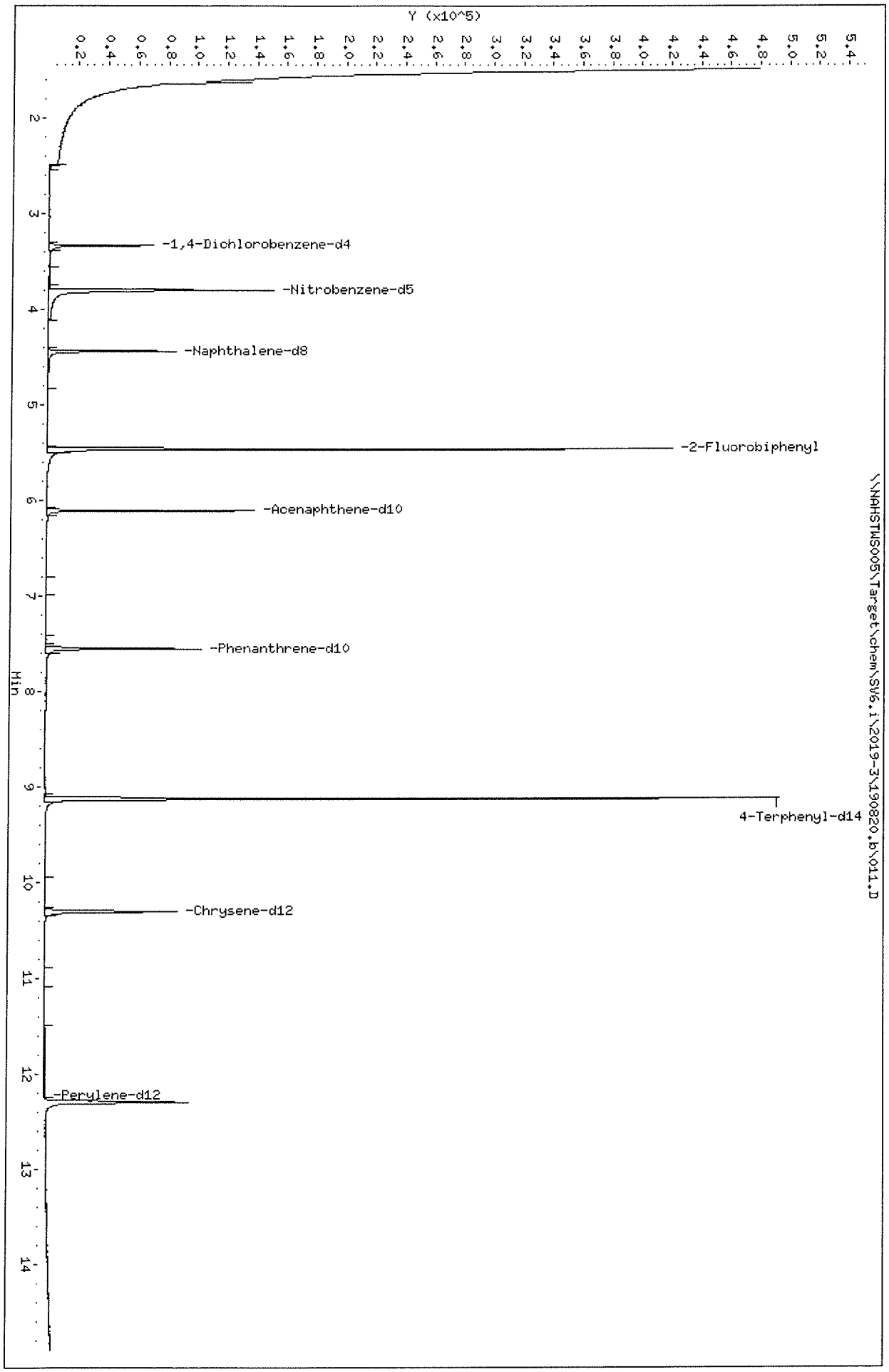
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.334	3.334	(1.000)	24883	0.10000	(a)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	93180	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	134339	0.50000	0.5521(AM)
* 86 Acenaphthene-d10	164	6.105	6.110	(1.000)	55005	0.10000	
$ 69 2-Fluorobiphenyl	172	5.464	5.464	(0.895)	328985	0.50000	0.5038(A)
* 126 Phenanthrene-d10	188	7.550	7.555	(1.000)	104825	0.10000	
* 182 Chrysene-d12	240	10.298	10.304	(1.000)	99506	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.894)	408835	0.50000	0.4982(A)
* 198 Perylene-d12	264	12.292	12.297	(1.000)	114944	0.10000	
1 1,4-Dioxane	58	1.630	1.612	(0.489)	7255	0.50000	0.4594(M)

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.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\011.D
Date : 20-AUG-2019 12:08
Client ID: SIMDX-0.5
Sample Info: SIMDX-0.5;SIMDX-0.5
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28

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GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\012.D
Lab Smp Id: SIMDX-0.01 Client Smp ID: SIMDX-0.01
Inj Date : 20-AUG-2019 12:27 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.01;SIMDX-0.01
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 11:49 Cal File: 010.D
Als bottle: 12 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

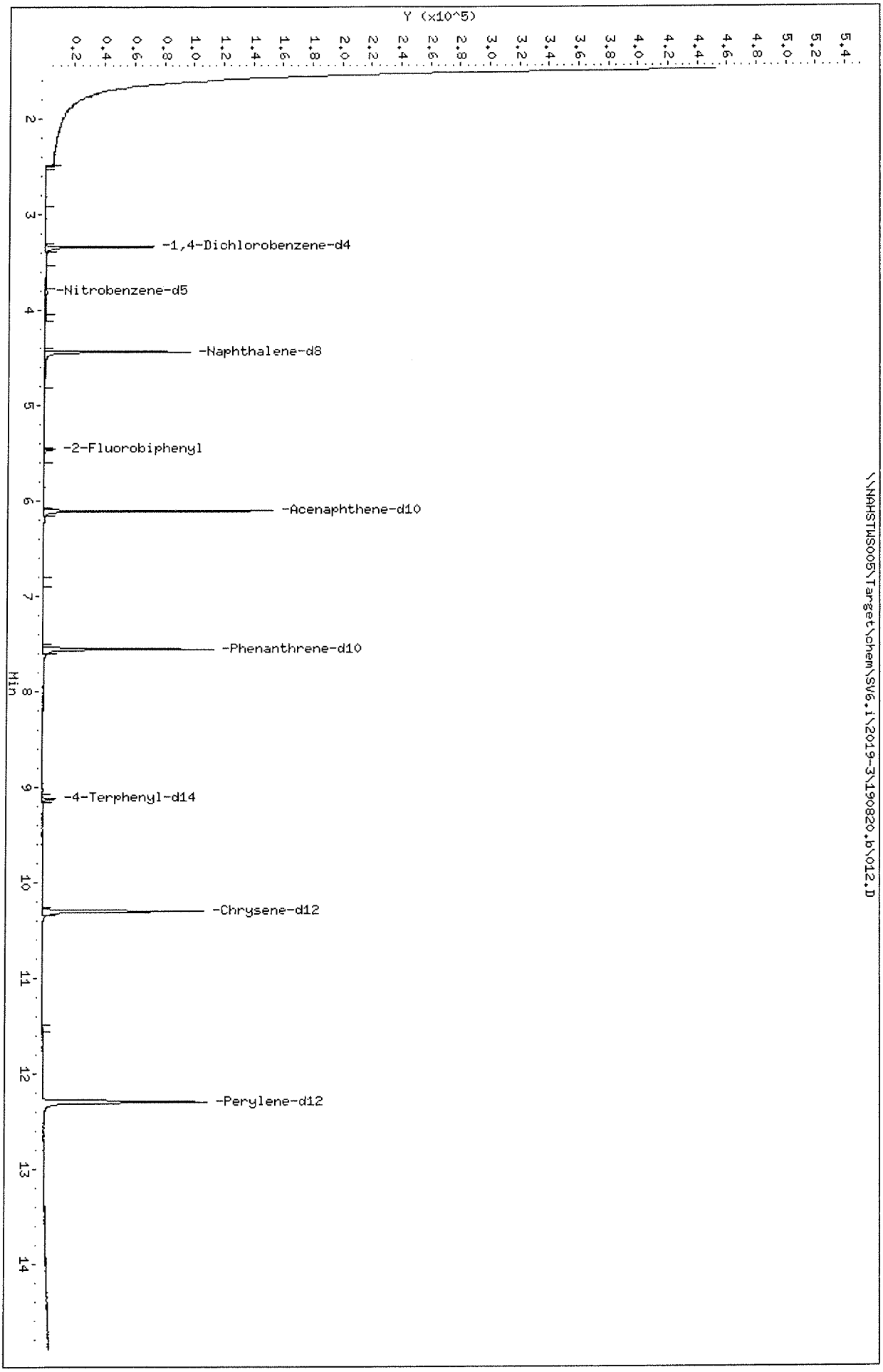
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.339	3.334	(1.000)	26864	0.10000	(a)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	99904	0.10000	
$ 33 Nitrobenzene-d5	82	3.806	3.801	(0.857)	2590	0.01000	0.009919(QM)
* 86 Acenaphthene-d10	164	6.105	6.110	(1.000)	62399	0.10000	
$ 69 2-Fluorobiphenyl	172	5.463	5.464	(0.895)	7426	0.01000	0.01003
* 126 Phenanthrene-d10	188	7.549	7.555	(1.000)	119188	0.10000	
* 182 Chrysene-d12	240	10.298	10.304	(1.000)	118702	0.10000	
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.886)	10251	0.01000	0.01054
* 198 Perylene-d12	264	12.292	12.297	(1.000)	130498	0.10000	
1 1,4-Dioxane	58	1.637	1.612	(0.490)	183	0.01000	0.01085(aM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\012.D
Date : 20-AUG-2019 12:27
Client ID: SIMDX-0.01
Sample Info: SIMDX-0.01;SIMDX-0.01
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



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GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\013.D
Lab Smp Id: SIMDX-ICV Client Smp ID: SIMDX-ICV
Inj Date : 20-AUG-2019 12:46 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-ICV;SIMDX-ICV
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 13 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

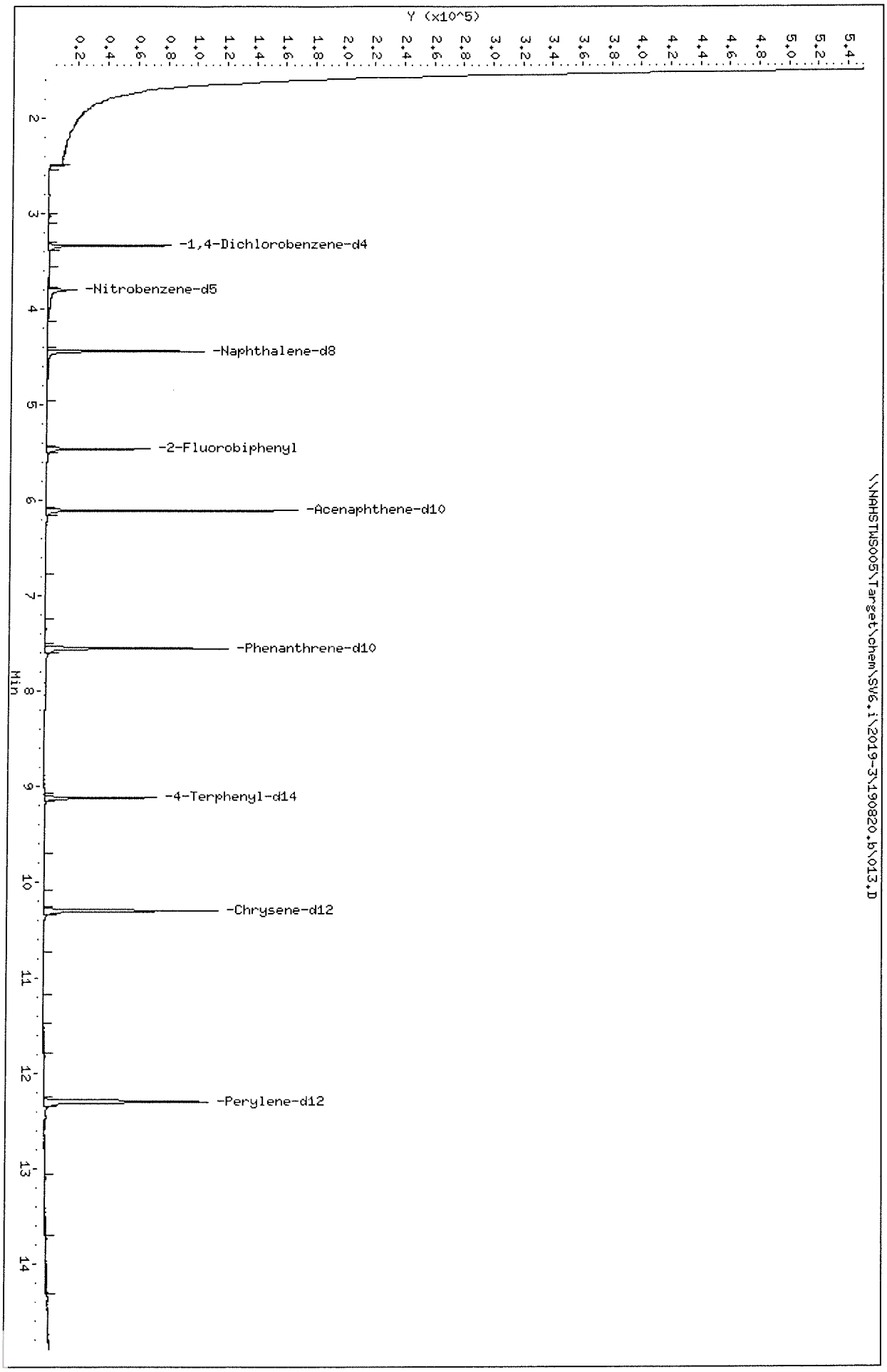
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.339	3.334	(1.000)	28781	0.10000		(a)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	106230	0.10000		
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	21420	0.07722	0.07722	(M)
* 86 Acenaphthene-d10	164	6.105	6.110	(1.000)	65527	0.10000		
$ 69 2-Fluorobiphenyl	172	5.464	5.464	(0.895)	55855	0.07181	0.07181	
* 126 Phenanthrene-d10	188	7.550	7.555	(1.000)	124804	0.10000		
* 182 Chrysene-d12	240	10.298	10.304	(1.000)	120805	0.10000		(M)
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.896)	70816	0.07109	0.07109	
* 198 Perylene-d12	264	12.292	12.297	(1.000)	136762	0.10000		
1 1,4-Dioxane	58	1.634	1.612	(0.489)	1190	0.06515	0.06515	(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\SV6.i\2019-3\190820.b\013.D
Date : 20-AUG-2019 12:46
Client ID: SIMDX-ICV
Sample Info: SIMDX-ICV;SIMDX-ICV
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



SV06 -Logbook

Batch: 40621 **Analyst:** Andrew Neir

Date: 05-29-2020 **Reviewer:**

Method: 8270D-LL/SIM **Laboratory:** Houston

Comments: MSSV-003

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	DFTPP	TUNE	05-29-2020 11:22 am	1.00			001.D		Y	NA
2	SLSTD-2.5	CCV	05-29-2020 11:35 am	1.00			002.D		Y	NA
3	SLSTD-2.5	CCV	05-29-2020 12:11 pm	1.00			003.D		Y	NA
4	DX0.089	CCV	05-29-2020 12:42 pm	1.00			004.D		Y	NA
5	CCB	SAMP	05-29-2020 01:02 pm	1.00			005.D		Y	NA
6	MBLK-153733	MBLK	05-29-2020 01:21 pm	1.00	1000.00 mL	1.00 mL	006.D	Liquid	Y	NA
7	LCS-153733	LCS	05-29-2020 01:40 pm	1.00	1000.00 mL	1.00 mL	007.D	Liquid	Y	NA
8	LCSD-153733	LCSD	05-29-2020 01:59 pm	1.00	1000.00 mL	1.00 mL	008.D	Liquid	Y	NA
9	HS20050754-01	SAMP	05-29-2020 02:18 pm	1.00	1000.00 mL	1.00 mL	009.D	Liquid	Y	NA
10	HS20050757-01	SAMP	05-29-2020 02:37 pm	1.00	1000.00 mL	1.00 mL	010.D	Liquid	Y	NA
11	HS20050754-01	SAMP	05-29-2020 02:56 pm	100.0(	1000.00 mL	1.00 mL	011.D	Liquid	Y	NA
12	HS20050757-01	SAMP	05-29-2020 03:15 pm	1.00	1000.00 mL	1.00 mL	012.D	Liquid	Y	NA
13	14DX-0.08	SAMP	05-29-2020 03:35 pm	1.00			013.D		Y	NA
14	SKX-2.5	SAMP	05-29-2020 03:54 pm	1.00			014.D		Y	NA
15	MBLK-153894	MBLK	05-29-2020 04:15 pm	1.00	1000.00 mL	1.00 mL	015.D	Liquid	Y	NA
16	LCS-153894	LCS	05-29-2020 04:35 pm	1.00	1000.00 mL	1.00 mL	016.D	Liquid	Y	NA
17	LCSD-153894	LCSD	05-29-2020 04:54 pm	1.00	1000.00 mL	1.00 mL	017.D	Liquid	Y	NA
18	HS20050917-02	SAMP	05-29-2020 05:14 pm	1.00	1000.00 mL	1.00 mL	018.D	Liquid	Y	NA
19	HS20050917-03	SAMP	05-29-2020 05:33 pm	1.00	1000.00 mL	1.00 mL	019.D	Liquid	Y	NA
20	HS20050917-04	SAMP	05-29-2020 05:52 pm	1.00	1000.00 mL	1.00 mL	020.D	Liquid	Y	NA
21	HS20050917-05	SAMP	05-29-2020 06:12 pm	1.00	1000.00 mL	1.00 mL	021.D	Liquid	Y	NA
22	HS20050917-06	SAMP	05-29-2020 06:31 pm	1.00	1000.00 mL	1.00 mL	022.D	Liquid	Y	NA
23	HS20050917-07	SAMP	05-29-2020 06:51 pm	1.00	1000.00 mL	1.00 mL	023.D	Liquid	Y	NA
24	HS20050911-01	SAMP	05-29-2020 07:08 pm	1.00	1000.00 mL	1.00 mL	024.D	Liquid	Y	NA
25	HS20050911-02	SAMP	05-29-2020 07:28 pm	1.00	1000.00 mL	1.00 mL	025.D	Liquid	Y	NA
26	HS20050911-04	SAMP	05-29-2020 07:47 pm	1.00	1000.00 mL	1.00 mL	026.D	Liquid	Y	NA
27	HS20050911-06	SAMP	05-29-2020 08:06 pm	1.00	1000.00 mL	1.00 mL	027.D	Liquid	Y	NA
28	HS20050911-07	SAMP	05-29-2020 08:26 pm	1.00	1000.00 mL	1.00 mL	028.D	Liquid	Y	NA
29	HS20050911-08	SAMP	05-29-2020 08:45 pm	1.00	1000.00 mL	1.00 mL	029.D	Liquid	Y	NA
30	HS20050911-09	SAMP	05-29-2020 09:04 pm	1.00	1000.00 mL	1.00 mL	030.D	Liquid	Y	NA
31	HS20050911-11	SAMP	05-29-2020 09:24 pm	1.00	1000.00 mL	1.00 mL	031.D	Liquid	Y	NA
32	HS20050911-12	SAMP	05-29-2020 09:43 pm	1.00	1000.00 mL	1.00 mL	032.D	Liquid	Y	NA
33	HS20050939-16	SAMP	05-29-2020 10:03 pm	10.00	30.00 gm	1.00 mL	033.D	Solid	Y	NA
34	HS20050939-16MS	MS	05-29-2020 10:22 pm	10.00	30.00 gm	1.00 mL	034.D	Solid	Y	NA
35	HS20050939-16MSD	MSD	05-29-2020 10:41 pm	10.00	30.00 gm	1.00 mL	035.D	Solid	Y	NA
36	HS20050939-04	SAMP	05-29-2020 11:01 pm	10.00	30.00 gm	1.00 mL	036.D	Solid	Y	NA
37	HS20050939-01	SAMP	05-29-2020 11:20 pm	10.00	30.00 gm	1.00 mL	037.D	Solid	Y	NA
38	HS20050939-05	SAMP	05-29-2020 11:40 pm	10.00	30.00 gm	1.00 mL	038.D	Solid	Y	NA
39	HS20050939-11	SAMP	05-29-2020 11:59 pm	10.00	30.00 gm	1.00 mL	039.D	Solid	Y	NA
40	HS20050939-20	SAMP	05-30-2020 12:18 am	10.00	30.00 gm	1.00 mL	040.D	Solid	Y	NA
41	HS20050939-01	SAMP	05-30-2020 12:38 am	1.00	30.00 gm	1.00 mL	041.D	Solid	Y	NA

SV06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS20050939-04	SAMP	05-30-2020 12:57 am	1.00	30.00 gm	1.00 mL	042.D	Solid	Y	NA
43	HS20050939-05	SAMP	05-30-2020 01:16 am	1.00	30.00 gm	1.00 mL	043.D	Solid	Y	NA
44	HS20050939-11	SAMP	05-30-2020 01:36 am	1.00	30.00 gm	1.00 mL	044.D	Solid	Y	NA
45	HS20050939-16	SAMP	05-30-2020 01:55 am	1.00	30.00 gm	1.00 mL	045.D	Solid	Y	NA
46	HS20050939-20	SAMP	05-30-2020 02:15 am	1.00	30.00 gm	1.00 mL	046.D	Solid	Y	NA

Chemical	Value
IS ID	311824-11
CAL STD ID	3111832-06/ 3111836-05
DFTPP ID	311820-01
PCP Tailing	0.66
Benz. Tailing	0.89
Routine SOP Maintenance	ACN

FORM 2
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

	CLIENT SAMPLE NO.	S1 (NBZ) #	S2 #	S3 (FBP) #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	MBLK-153733	95	142D	124						0
02	LCS-153733	75	92	88						0
03	LCSD-153733	84	102	95						0
04	HS20050757-01	0D	0D	0D						0
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(40-140)
S2 = 4-Terphenyl-d14	(40-140)
S3 (FBP) = 2-Fluorobiphenyl	(40-140)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Lab File ID: 001 DFTPP Injection Date: 05/29/20

Instrument ID: SV6 DFTPP Injection Time: 1122

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	47.1
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	49.0
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	10.0 - 80.0% of mass 198	59.6
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	27.4
365	1.0 - 100.0% of mass 198	4.1
441	Present, but less than mass 443	21.7
442	50.0 - 150.0% of mass 198	131.1
443	15.0 - 24.0% of mass 442	25.0 (19.1)2

1-Value is % mass 69 2-Value is % mass 442

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	DX-0.08	DX0.089	004	05/29/20	1242
02	MBLK-153733	MBLK-153733	006	05/29/20	1321
03	LCS-153733	LCS-153733	007	05/29/20	1340
04	LCSD-153733	LCSD-153733	008	05/29/20	1359
05	HS20050757-0	HS20050757-01	012	05/29/20	1515
06	14DZ-0.08	14DX-0.08	013	05/29/20	1535
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
SEMIVOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Instrument ID: SV6 Calibration Date: 05/29/20 Time: 1242

Lab File ID: 004 Init. Calib. Date(s): 08/20/19 08/20/19

Init. Calib. Times: 1013 1227

GC Column: RTX-5SIL MS ID: 0.28 (mm)

COMPOUND	RRF OR AMOUNT	RRF8e-002 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
1,4-Dioxane	6.3e-002	6.34e-002	0.01	0.63	20.00	AVRG
Nitrobenzene-d5	0.2610000	0.2166276	0.01	-17.00	20.00	AVRG
4-Terphenyl-d14	0.8250000	0.7098173	0.01	-13.96	20.00	AVRG
2-Fluorobiphenyl	1.1870000	1.0082298	0.01	-15.06	20.00	AVRG

FORM VII SV

FORM 7B
SEMIVOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Instrument ID: SV6 Calibration Date: 05/29/20 Time: 1535

Lab File ID: 013 Init. Calib. Date(s): 08/20/19 08/20/19

Init. Calib. Times: 1013 1227

GC Column: RTX-5SIL MS ID: 0.28 (mm)

COMPOUND	RRF OR AMOUNT	RRF8e-002 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
1,4-Dioxane	6.3e-002	8.58e-002	0.01	36.19	50.00	AVRG
Nitrobenzene-d5	0.2610000	0.2130605	0.01	-18.37	50.00	AVRG
4-Terphenyl-d14	0.8250000	0.8121728	0.01	-1.55	50.00	AVRG
2-Fluorobiphenyl	1.1870000	1.0483966	0.01	-11.68	50.00	AVRG

FORM VII SV

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Lab File ID (Standard): 004 Date Analyzed: 05/29/20

Instrument ID: SV6 Time Analyzed: 1242

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	12763	3.05	46468	4.15	23907	5.81
	UPPER LIMIT	25526	3.55	92936	4.65	47814	6.31
	LOWER LIMIT	6382	2.55	23234	3.65	11954	5.31
	CLIENT SAMPLE NO.						
01	MBLK-153733	6985	3.05	24390	4.15	12129	5.81
02	LCS-153733	12177	3.05	44408	4.15	21670	5.81
03	LCSD-153733	12866	3.05	49609	4.15	24905	5.81
04	HS20050757-01	11329	3.05	43715	4.15	21708	5.81
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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 internal standard area values with an asterisk.
* Values outside of QC limits.

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050757

Lab File ID (Standard): 004 Date Analyzed: 05/29/20

Instrument ID: SV6 Time Analyzed: 1242

		IS4(PHN) AREA	#	RT	#	IS5(CRY) AREA	#	RT	#	IS6(PRY) AREA	#	RT	#
	12 HOUR STD	40181		7.25		33329		9.93		44779		11.83	
	UPPER LIMIT	80362		7.75		66658		10.43		89558		12.33	
	LOWER LIMIT	20091		6.75		16665		9.43		22390		11.33	
	CLIENT SAMPLE NO.												
01	MBLK-153733	21167		7.24		16811		9.92		25505		11.83	
02	LCS-153733	37554		7.24		32714		9.92		39590		11.82	
03	LCSD-153733	42268		7.24		35428		9.92		42508		11.82	
04	HS20050757-01	37080		7.25		31385		9.92		37088		11.82	
05													
06													
07													
08													
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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 internal standard area values with an asterisk.
* Values outside of QC limits.

FORM VIII SV

Data File: \\nahstws005\Target\chem\SV6.i\200529.b\001.D

Date : 29-MAY-2020 11:22

Client ID: DFTPP

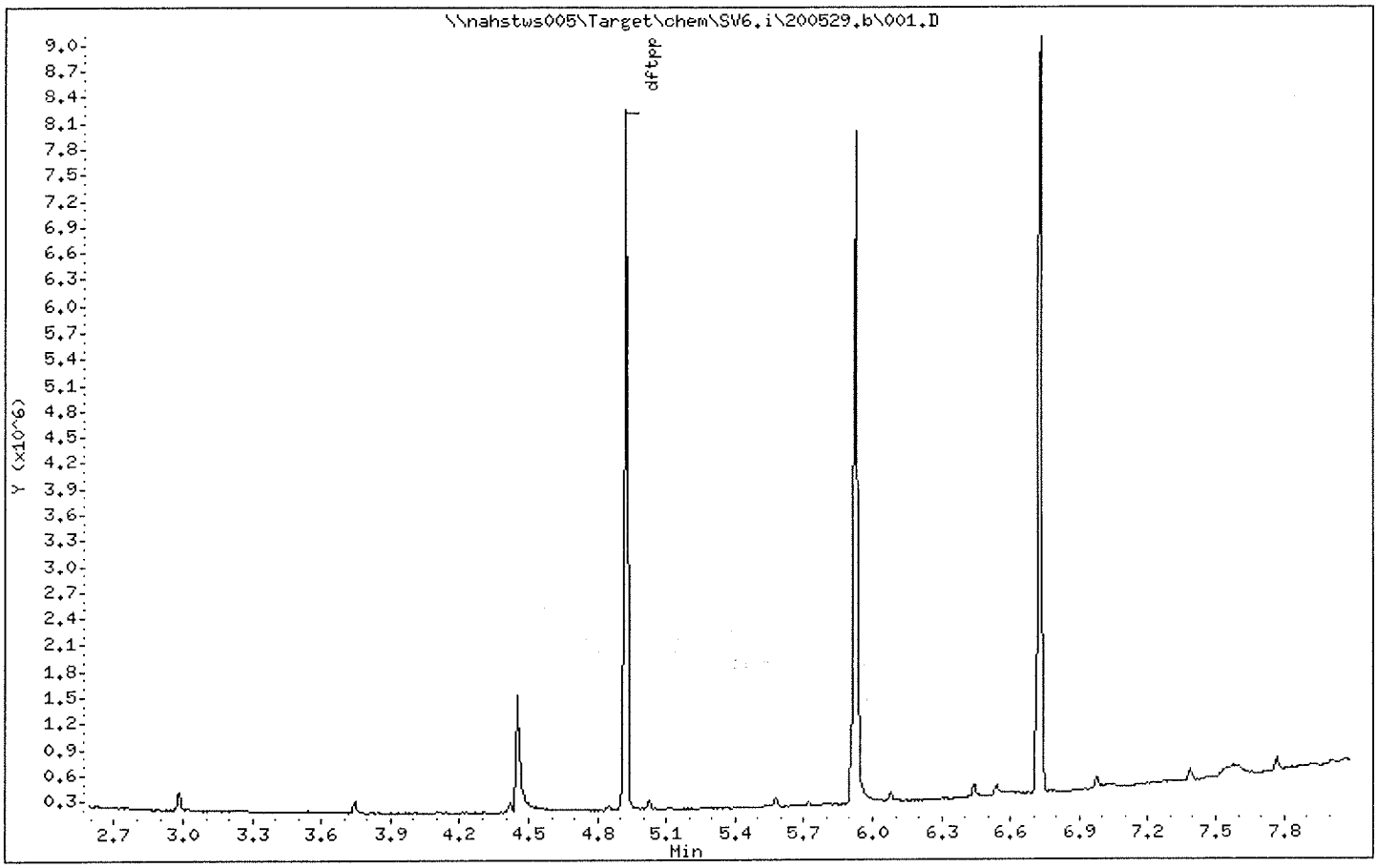
Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\SV6.i\200529.b\001.D

Date : 29-MAY-2020 11:22

Client ID: DFTPP

Instrument: SV6.i

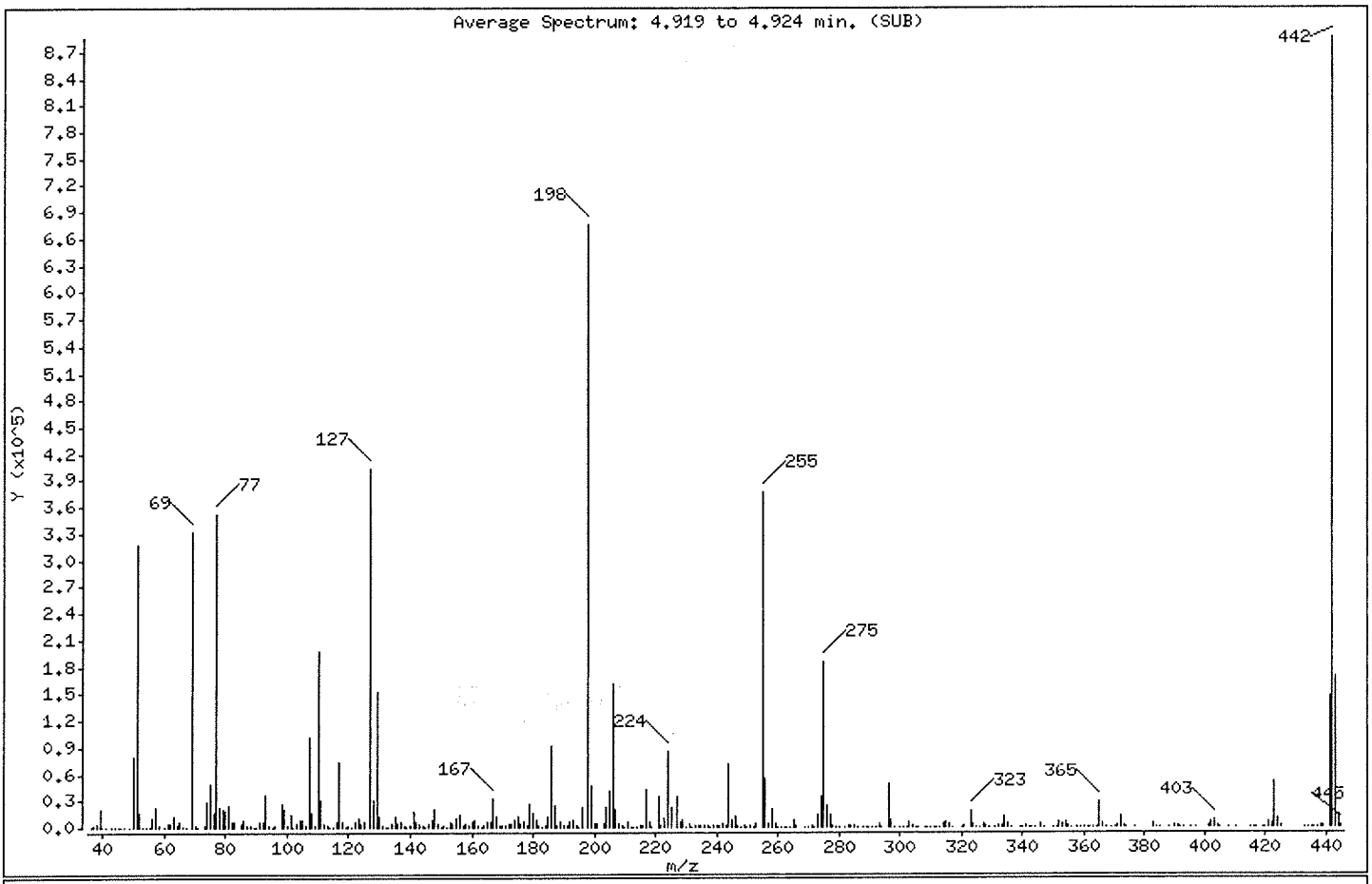
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LC

Column phase: DB-5MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	47.09
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	49.01
70	Less than 2.00% of mass 69	0.23 (0.47)
127	10.00 - 80.00% of mass 198	59.64
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.83
275	10.00 - 60.00% of mass 198	27.37
365	1.00 - 100.00% of mass 198	4.09
441	Present, but less than mass 443	21.65
442	50.00 - 150.00% of mass 198	131.05
443	15.00 - 24.00% of mass 442	25.05 (19.11)

Data File: \\nahstws005\Target\chem\SV6.i\200529.b\001.D

Date : 29-MAY-2020 11:22

Client ID: DFTPP Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LC

Column phase: DB-5MS Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 4.919 to 4.924 min. (SUB)
Location of Maximum: 442.00
Number of points: 348

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	385	132.00	687	223.00	10156	323.00	17696
37.00	1123	133.00	990	224.00	85960	324.00	3599
38.00	3526	134.00	3529	225.00	22792	325.00	434
39.00	20648	135.00	11595	227.00	34888	326.00	476
40.00	755	136.00	4796	228.00	5448	327.00	3428
41.00	729	137.00	5727	229.00	7671	328.00	1814
43.00	38	138.00	1345	230.00	534	329.00	288
44.00	289	139.00	866	231.00	3055	331.00	154
45.00	455	140.00	1899	232.00	611	332.00	1487
46.00	89	141.00	18424	233.00	1234	333.00	2308
47.00	175	142.00	5788	234.00	2440	334.00	11715
49.00	748	143.00	4537	235.00	3005	335.00	3301
50.00	79168	144.00	1450	236.00	1473	336.00	546
51.00	318272	145.00	1010	237.00	2646	339.00	492
52.00	16236	146.00	3366	238.00	479	340.00	374
53.00	514	147.00	8530	239.00	1746	341.00	2082
54.00	200	148.00	19776	240.00	1126	342.00	700
55.00	186	149.00	3605	241.00	2230	343.00	200
56.00	9466	150.00	894	242.00	5030	344.00	79
57.00	22360	151.00	2322	243.00	2378	346.00	3442
58.00	1225	152.00	489	244.00	71784	347.00	761
60.00	111	153.00	5177	245.00	9081	350.00	338
61.00	3657	154.00	4102	246.00	12871	351.00	547
62.00	4232	155.00	9730	247.00	2955	352.00	5639
63.00	12839	156.00	14058	248.00	637	353.00	4187
64.00	2280	157.00	2780	249.00	2779	354.00	5536
65.00	6916	158.00	3109	250.00	622	355.00	1086
66.00	902	159.00	2270	251.00	1315	356.00	283
67.00	349	160.00	5634	252.00	972	358.00	218
69.00	331264	161.00	8304	253.00	3076	359.00	694
70.00	1564	162.00	2132	255.00	376128	360.00	87
71.00	114	163.00	785	256.00	55496	361.00	119
73.00	2400	164.00	1261	257.00	4611	362.00	88
74.00	29256	165.00	6424	258.00	21376	363.00	283
75.00	49624	166.00	5835	259.00	3543	364.00	773

Data File: \\nahstws005\Target\chem\SV6.i\200529.b\001.D

Date : 29-MAY-2020 11:22

Client ID: DFTPP

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 4.919 to 4.924 min. (SUB)
Location of Maximum: 442.00
Number of points: 348

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	16712	167.00	32152	260.00	691	365.00	27648
77.00	352128	168.00	12152	261.00	833	366.00	3830
78.00	23064	169.00	2155	262.00	198	367.00	257
79.00	21304	170.00	1141	263.00	720	369.00	140
80.00	17936	171.00	1230	264.00	1002	370.00	787
81.00	24088	172.00	3316	265.00	7966	371.00	2272
82.00	6245	173.00	4637	266.00	1397	372.00	11715
83.00	6487	174.00	7168	269.00	107	373.00	2610
85.00	4306	175.00	11224	270.00	433	374.00	438
86.00	7225	176.00	4654	271.00	1150	377.00	346
87.00	2818	177.00	5999	272.00	653	383.00	3223
88.00	1396	178.00	1042	273.00	13571	384.00	926
89.00	707	179.00	25768	274.00	34040	385.00	404
90.00	77	180.00	16960	275.00	184960	388.00	168
91.00	5217	181.00	8636	276.00	24456	390.00	2179
92.00	5816	182.00	1140	277.00	14027	391.00	1389
93.00	36064	183.00	757	278.00	2772	392.00	797
94.00	2414	184.00	1857	279.00	513	393.00	180
95.00	327	185.00	11518	280.00	80	395.00	80
96.00	1710	186.00	91776	282.00	370	397.00	424
98.00	27056	187.00	23448	283.00	2151	401.00	1106
99.00	21152	188.00	2517	284.00	1235	402.00	5126
100.00	1881	189.00	6466	285.00	2282	403.00	7332
101.00	13642	190.00	1030	286.00	609	404.00	3042
102.00	789	191.00	2399	288.00	89	405.00	445
103.00	4575	192.00	6969	289.00	660	408.00	117
104.00	8978	193.00	7446	290.00	613	410.00	261
105.00	8012	194.00	1613	291.00	508	415.00	448
106.00	1402	195.00	719	292.00	829	416.00	134
107.00	101544	196.00	21576	293.00	3810	417.00	201
108.00	16408	198.00	675904	294.00	908	419.00	194
109.00	1707	199.00	46184	296.00	48456	420.00	441
110.00	197504	200.00	3347	297.00	7370	421.00	6645
111.00	31216	201.00	3611	298.00	625	422.00	4540
112.00	3610	203.00	4327	300.00	107	423.00	50952

Data File: \\nahstws005\Target\chem\SV6.i\200529.b\001.D

Date : 29-MAY-2020 11:22

Client ID: DFTPP

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 4.919 to 4.924 min. (SUB)
Location of Maximum: 442.00
Number of points: 348

m/z	Y	m/z	Y	m/z	Y	m/z	Y
113.00	1204	204.00	23112	301.00	743	424.00	9858
114.00	502	205.00	40528	302.00	621	425.00	1182
115.00	422	206.00	161856	303.00	6588	433.00	122
116.00	5725	207.00	20160	304.00	1787	434.00	123
117.00	73472	208.00	4793	305.00	105	435.00	385
118.00	5477	209.00	1523	306.00	78	436.00	718
119.00	751	210.00	973	308.00	864	437.00	832
120.00	1084	211.00	6814	309.00	505	438.00	1576
121.00	420	212.00	255	310.00	773	439.00	1320
122.00	5808	213.00	607	311.00	250	441.00	146304
123.00	10996	214.00	114	312.00	251	442.00	885824
124.00	4506	215.00	1834	313.00	974	443.00	169280
125.00	5153	216.00	2464	314.00	3370	444.00	14806
127.00	403072	217.00	42472	315.00	5397	445.00	1110
128.00	30376	218.00	5250	316.00	3147		
129.00	151872	219.00	816	317.00	587		
130.00	12778	221.00	34432	320.00	251		
131.00	2578	222.00	2200	321.00	2283		

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200529.b\004.D
Lab Smp Id: DX0.089 Client Smp ID: DX-0.08
Inj Date : 29-MAY-2020 12:42 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : DX0.089;DX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200529.b\DXSIM.m
Meth Date : 16-Jul-2020 15:57 SV6.i Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 4 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

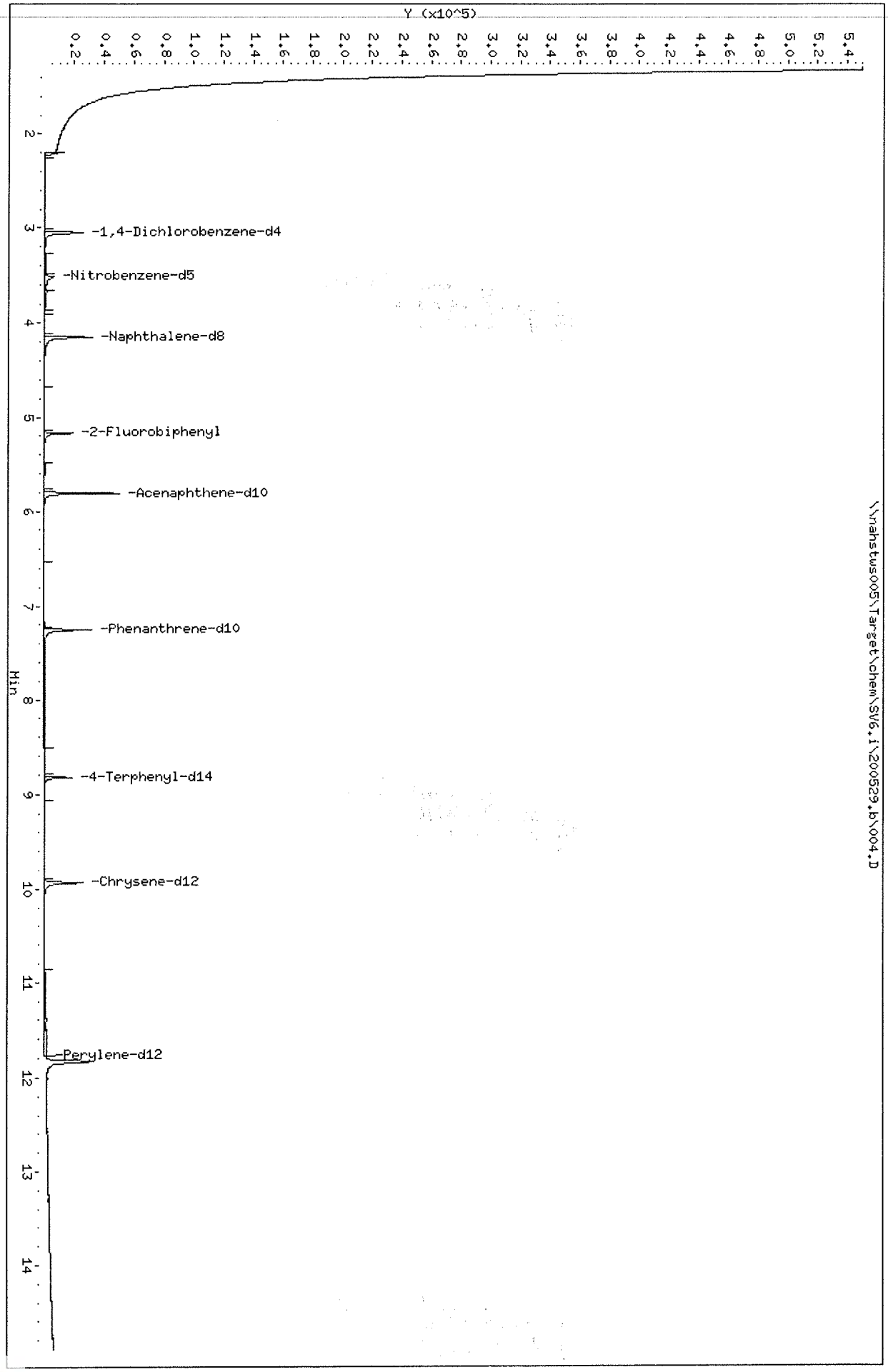
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.054	3.054	(1.000)	12763	0.10000		(a)
* 45 Naphthalene-d8	136	4.151	4.147	(1.000)	46468	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.521	3.521	(0.848)	8299	0.08000	0.06840	(M)
* 86 Acenaphthene-d10	164	5.811	5.805	(1.000)	23907	0.10000		(QM)
$ 69 2-Fluorobiphenyl	172	5.172	5.172	(0.890)	19283	0.08000	0.06795	(QM)
* 126 Phenanthrene-d10	188	7.250	7.250	(1.000)	40181	0.10000		(M)
* 182 Chrysene-d12	240	9.934	9.923	(1.000)	33329	0.10000		(M)
$ 158 4-Terphenyl-d14	244	8.826	8.820	(0.888)	18926	0.08000	0.06886	(M)
* 198 Perylene-d12	264	11.830	11.819	(1.000)	44779	0.10000		(M)
1 1,4-Dioxane	58	1.360	1.367	(0.445)	647	0.08000	0.07988	(aMH)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\nahstws005\Target\chem\SV6.i\200529.b\004.D
Date : 29-MAY-2020 12:42
Client ID: DX-0.08
Sample Info: DX0.089;DX-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200529.b\006.D
Lab Smp Id: MBLK-153733 Client Smp ID: MBLK-153733
Inj Date : 29-MAY-2020 13:21 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : MBLK-153733;MBLK-153733;3;;BLANK
Misc Info : HS20050754;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200529.b\DXSIM.m
Meth Date : 16-Jul-2020 15:57 SV6.i Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 6 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

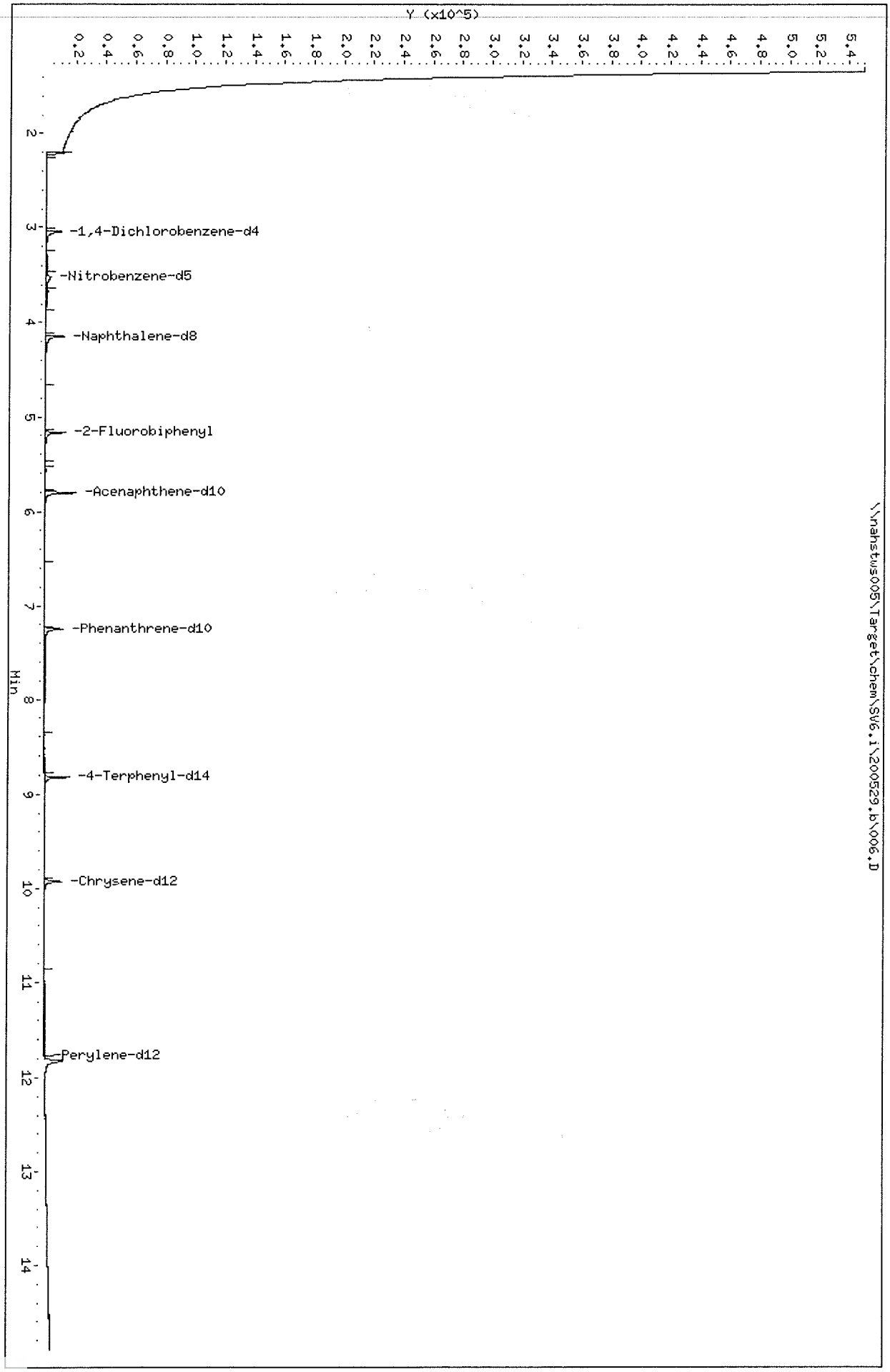
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.049	3.054	(1.000)	6985	0.10000		(aQ)
* 45 Naphthalene-d8	136	4.148	4.147	(1.000)	24390	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.516	3.521	(0.848)	4842	0.07603	0.07603	(M)
* 86 Acenaphthene-d10	164	5.805	5.805	(1.000)	12129	0.10000		(M)
$ 69 2-Fluorobiphenyl	172	5.172	5.172	(0.891)	14336	0.09957	0.09957	(M)
* 126 Phenanthrene-d10	188	7.244	7.250	(1.000)	21167	0.10000		(M)
* 182 Chrysene-d12	240	9.923	9.923	(1.000)	16811	0.10000		(M)
$ 158 4-Terphenyl-d14	244	8.820	8.820	(0.889)	15791	0.11391	0.1139	(RM)
* 198 Perylene-d12	264	11.825	11.819	(1.000)	25505	0.10000		(M)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\SV6.i\200529.b\006.D
Date : 29-MAY-2020 13:21
Client ID: MBLK-153733
Sample Info: MBLK-153733;MBLK-153733;3;;BLANK
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LC
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200529.b\007.D
Lab Smp Id: LCS-153733 Client Smp ID: LCS-153733
Inj Date : 29-MAY-2020 13:40 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : LCS-153733;LCS-153733;3;;LCS
Misc Info : HS20050754;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200529.b\DXSIM.m
Meth Date : 16-Jul-2020 15:57 SV6.i Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 7 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.054	3.054	(1.000)	12177	0.10000		(a)
* 45 Naphthalene-d8	136	4.148	4.147	(1.000)	44408	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.521	3.521	(1.000)	6973	0.06014	0.06014	(M)
* 86 Acenaphthene-d10	164	5.805	5.805	(1.000)	21670	0.10000		(M)
$ 69 2-Fluorobiphenyl	172	5.169	5.172	(0.000)	18217	0.07082	0.07082	(M)
* 126 Phenanthrene-d10	188	7.244	7.250	(1.000)	37554	0.10000		(M)
* 182 Chrysene-d12	240	9.923	9.923	(1.000)	32714	0.10000		(M)
$ 158 4-Terphenyl-d14	244	8.820	8.820	(1.000)	19950	0.07395	0.07395	(M)
* 198 Perylene-d12	264	11.819	11.819	(1.000)	39590	0.10000		(M)
1 1,4-Dioxane	58	1.640	1.367	(0.537)	396	0.05124	0.05124	(aH)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: \\nahstws005\Target\chem\SV6.i\200529.b\007.D

Date : 29-MAY-2020 13:40

Client ID: LCS-153733

Instrument: SV6.i

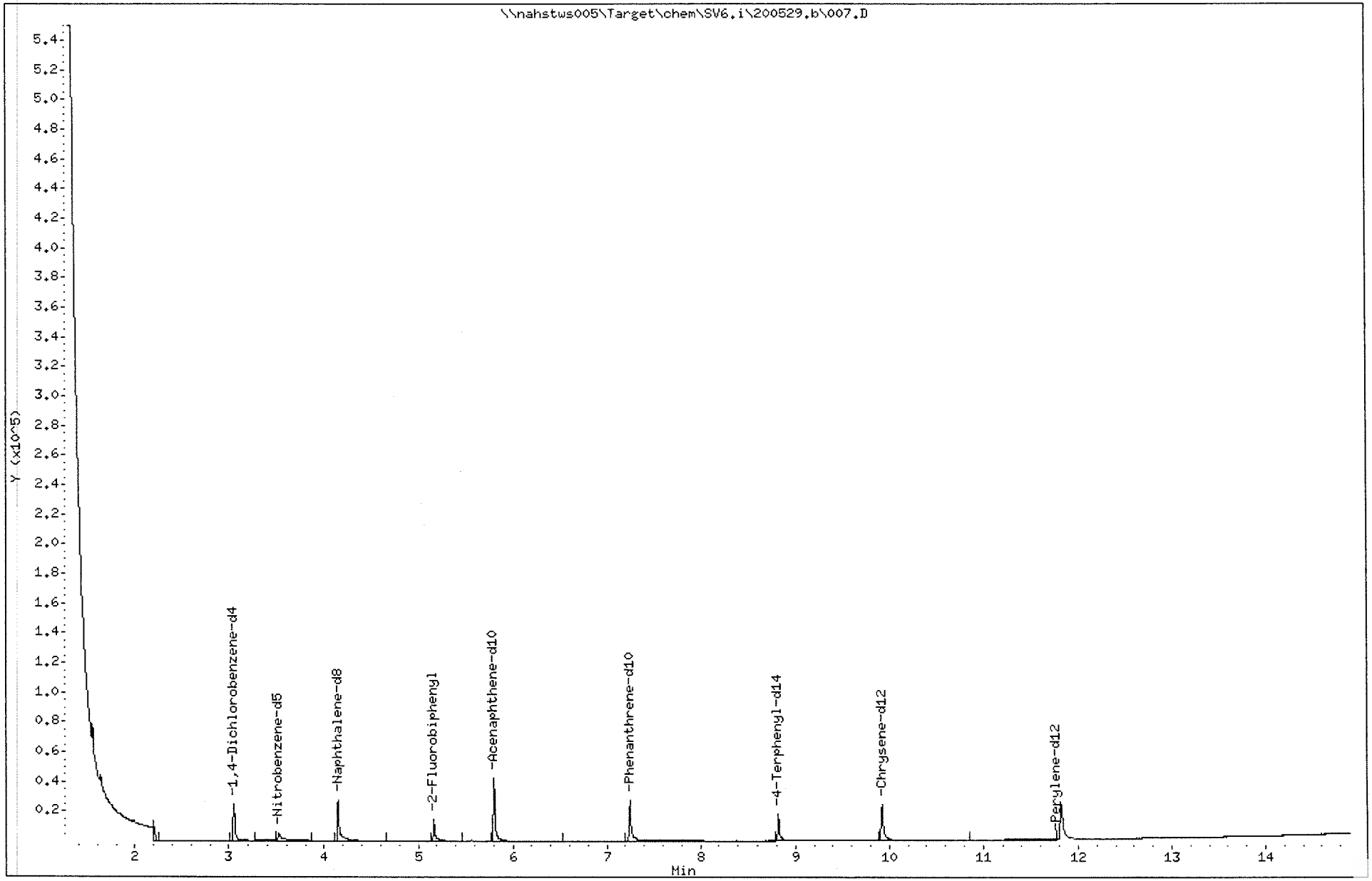
Sample Info: LCS-153733;LCS-153733;3;;LCS

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200529.b\008.D
Lab Smp Id: LCSD-153733 Client Smp ID: LCSD-153733
Inj Date : 29-MAY-2020 13:59 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : LCSD-153733;LCSD-153733;3;;LCSD
Misc Info : HS20050754;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200529.b\DXSIM.m
Meth Date : 16-Jul-2020 15:57 SV6.i Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 8 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

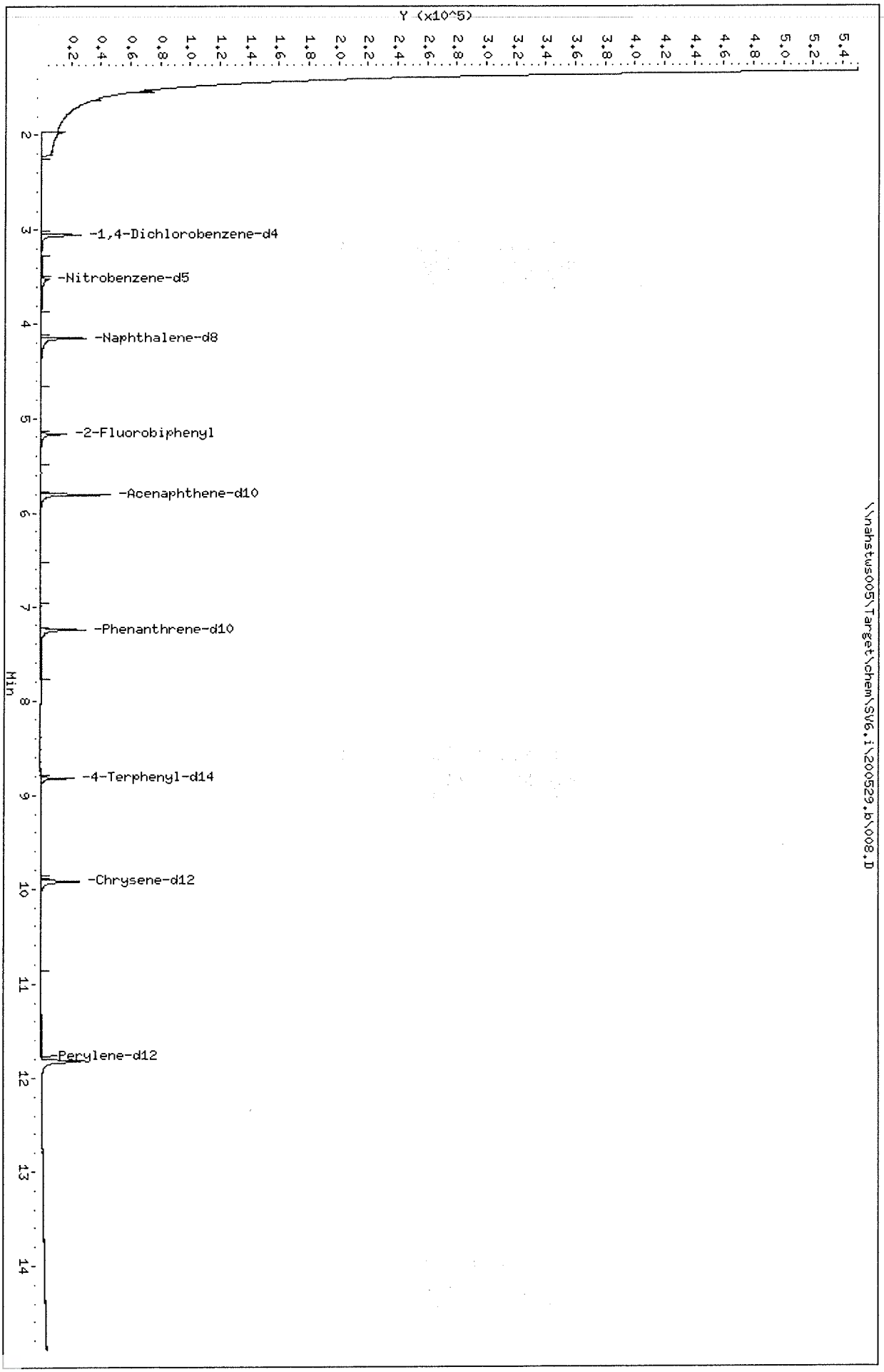
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.048	3.054	(1.000)	12866	0.10000		(a)
* 45 Naphthalene-d8	136	4.147	4.147	(1.000)	49609	0.10000		
$ 33 Nitrobenzene-d5	82	3.521	3.521	(0.849)	8690	0.06709	0.06709	(M)
* 86 Acenaphthene-d10	164	5.805	5.805	(1.000)	24905	0.10000		(Q)
$ 69 2-Fluorobiphenyl	172	5.169	5.172	(0.890)	22542	0.07625	0.07625	
* 126 Phenanthrene-d10	188	7.244	7.250	(1.000)	42268	0.10000		
* 182 Chrysene-d12	240	9.923	9.923	(1.000)	35428	0.10000		(M)
$ 158 4-Terphenyl-d14	244	8.820	8.820	(0.889)	23852	0.08164	0.08164	(M)
* 198 Perylene-d12	264	11.819	11.819	(1.000)	42508	0.10000		
1 1,4-Dioxane	58	1.628	1.367	(0.534)	627	0.07679	0.07679	(aQH)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\nahstws005\Target\chem\SV6.i\200529.b\008.D
Date : 29-MAY-2020 13:59
Client ID: LCSD-153733
Sample Info: LCSD-153733;LCSD-153733;3;;LCSD
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LC
Column diameter: 0.28

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200529.b\012.D
Lab Smp Id: HS20050757-01 Client Smp ID: HS20050757-01
Inj Date : 29-MAY-2020 15:15 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : HS20050757-01;HS20050757-01
Misc Info : HS20050754;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200529.b\DXSIM.m
Meth Date : 16-Jul-2020 15:57 Luke.Targe Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.054	3.054	(1.000)	11329	0.10000		(a)
* 45 Naphthalene-d8	136	4.147	4.147	(1.000)	43715	0.10000		(M)
* 86 Acenaphthene-d10	164	5.805	5.805	(1.000)	21708	0.10000		(Q)
* 126 Phenanthrene-d10	188	7.250	7.250	(1.000)	37080	0.10000		
* 182 Chrysene-d12	240	9.923	9.923	(1.000)	31385	0.10000		(M)
* 198 Perylene-d12	264	11.819	11.819	(1.000)	37088	0.10000		
1 1,4-Dioxane	58	1.367	1.367	(0.448)	2397	0.33340	0.3334	(Q)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

00980520

Data File: \\nahstws005\Target\chem\SV6.i\200529.b\012.D

Date : 29-MAY-2020 15:15

Client ID: HS20050757-01

Instrument: SV6.i

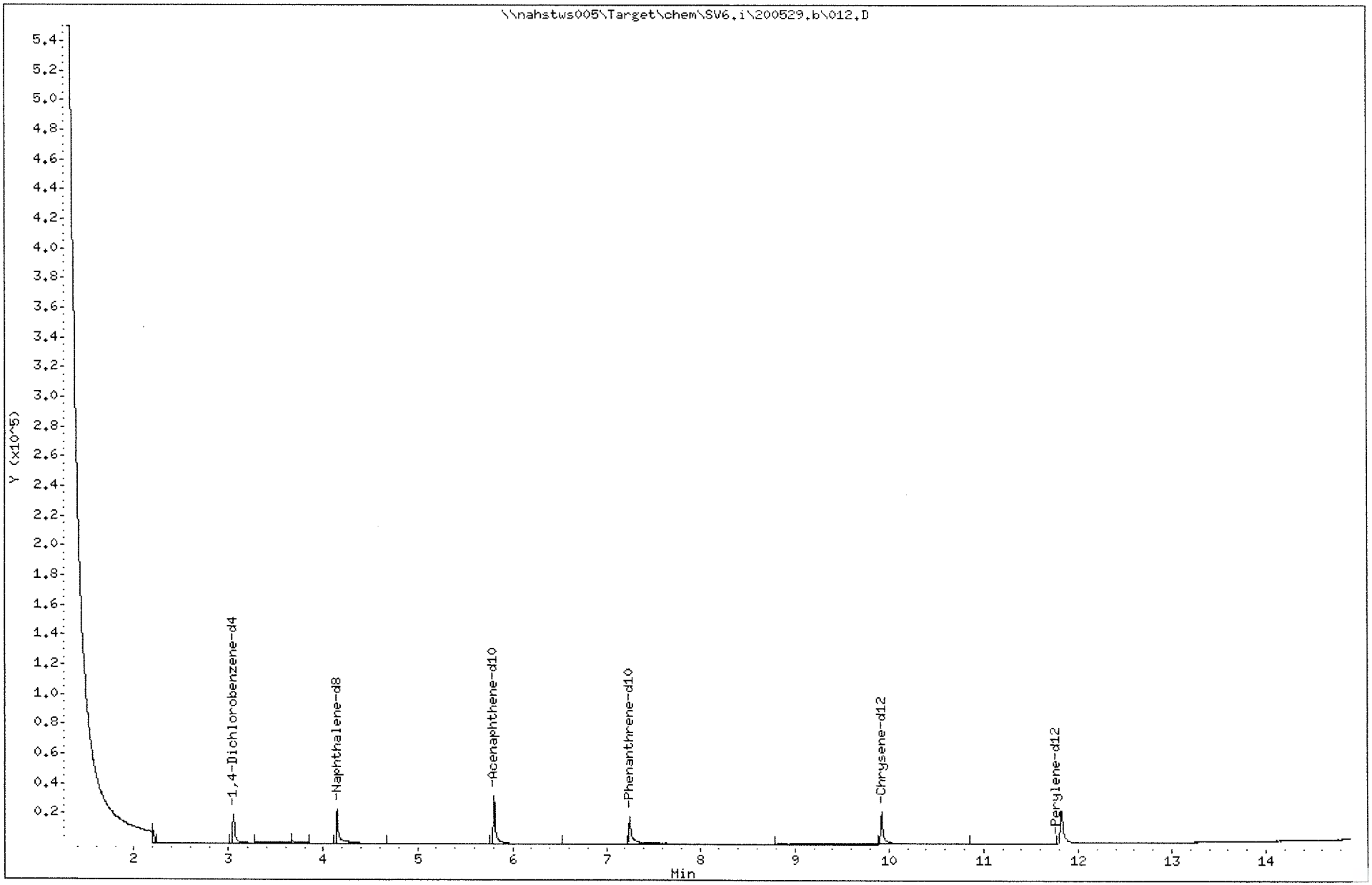
Sample Info: HS20050757-01;HS20050757-01

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\nahstws005\Target\chem\SV6.i\200529.b\012.D

Date : 29-MAY-2020 15:15

Client ID: HS20050757-01

Instrument: SV6.i

Sample Info: HS20050757-01;HS20050757-01

Purge Volume: 1000.0

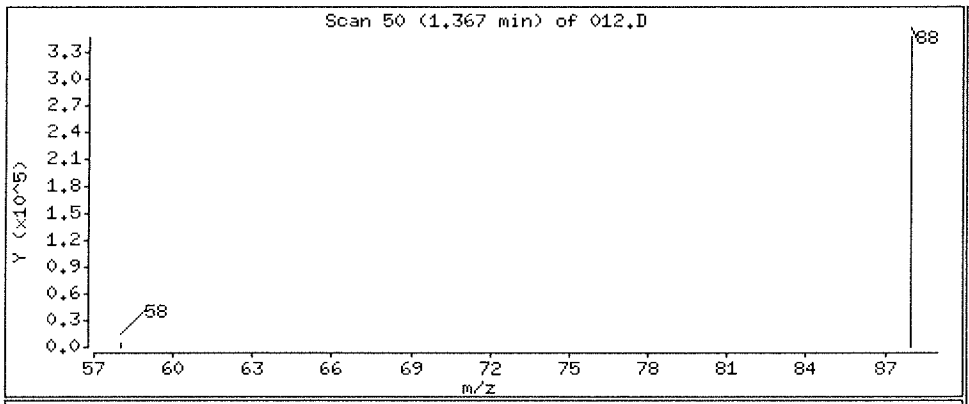
Operator: LG

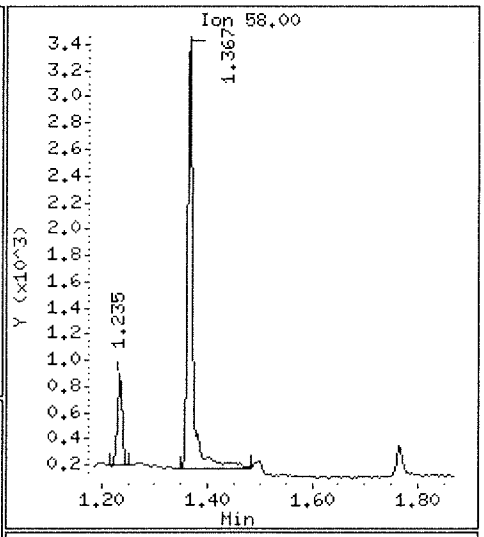
Column phase: RTX-5SIL MS

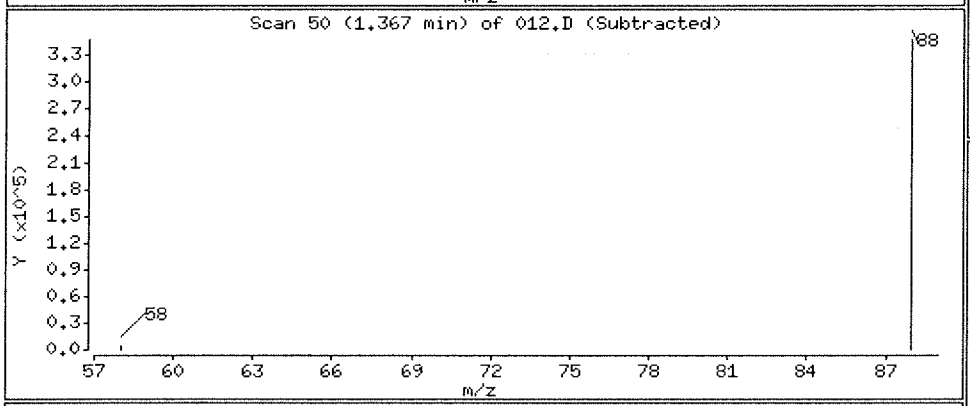
Column diameter: 0.28

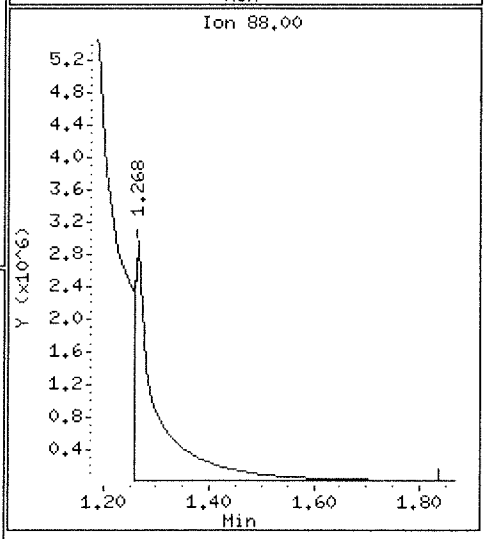
1 1,4-Dioxane

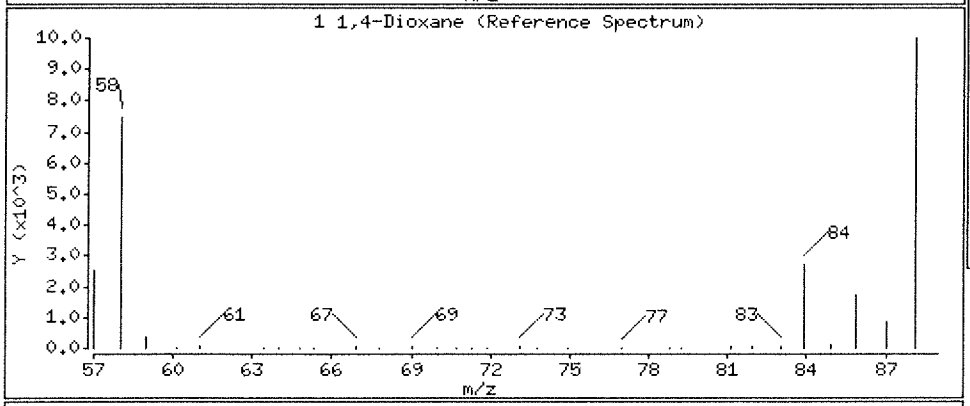
Concentration: 0.3334 ug/L

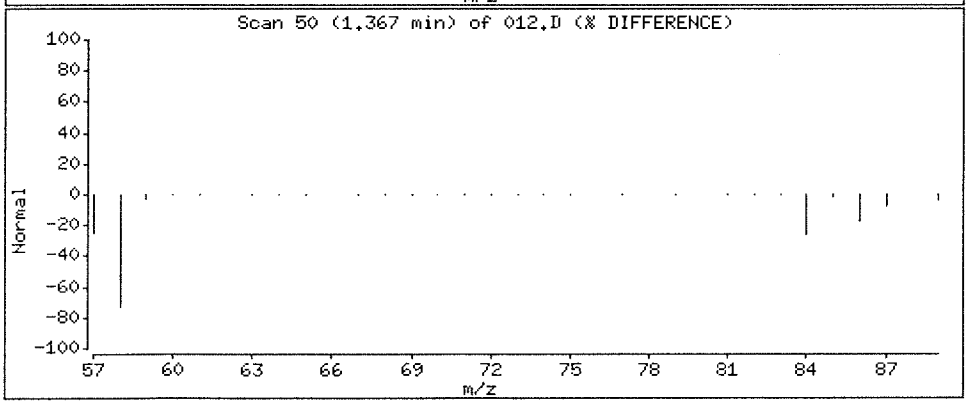












ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200529.b\013.D
Lab Smp Id: 14DX-0.08 Client Smp ID: 14DZ-0.08
Inj Date : 29-MAY-2020 15:35 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : 14DX-0.08;14DZ-0.08
Misc Info : HS20050754;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200529.b\DXSIM.m
Meth Date : 16-Jul-2020 15:57 SV6.i Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 13 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

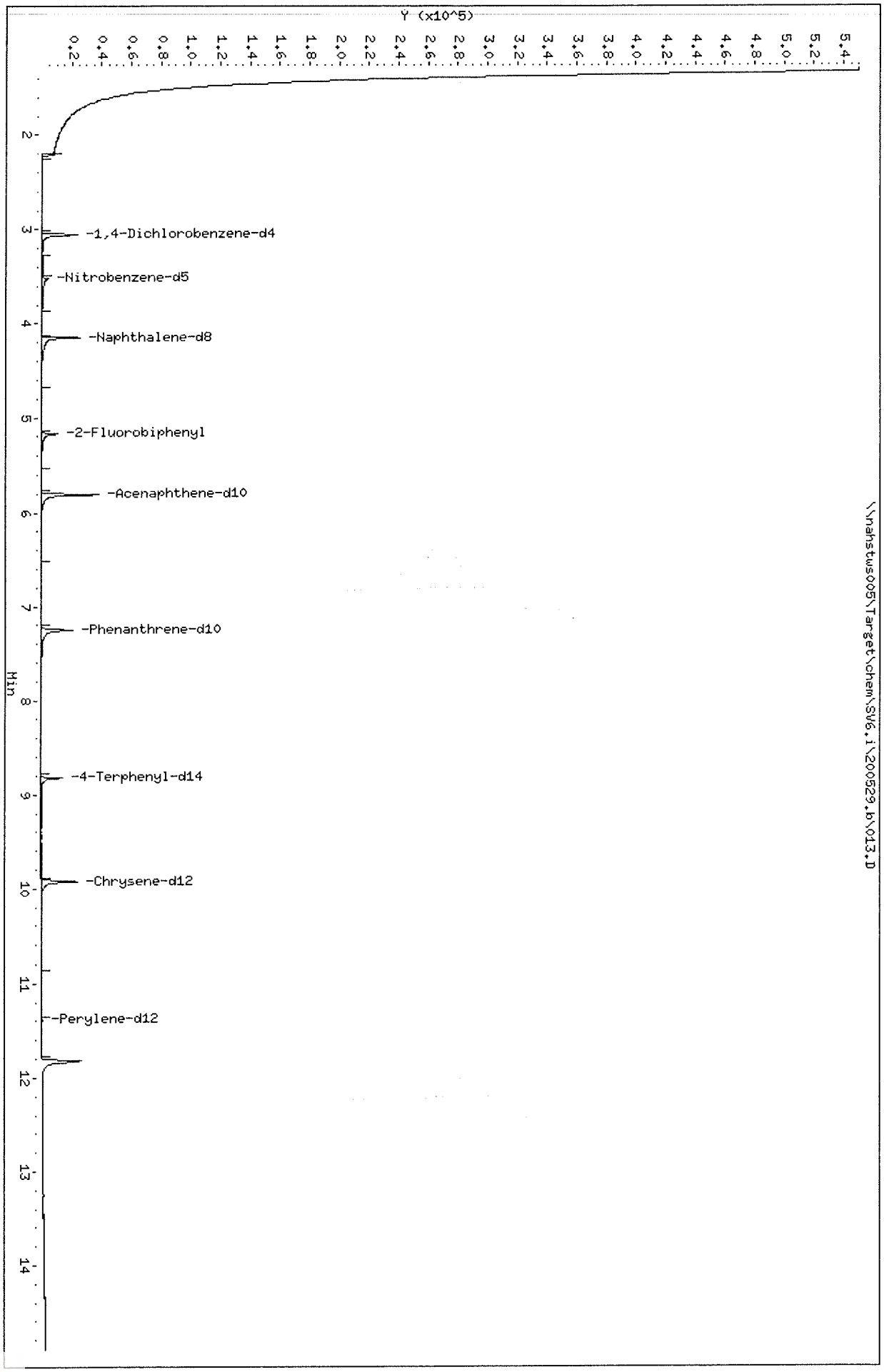
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.054	3.054	(1.000)	12835	0.10000		(a)
* 45 Naphthalene-d8	136	4.147	4.147	(1.000)	49933	0.10000		
$ 33 Nitrobenzene-d5	82	3.521	3.521	(0.849)	8511	0.08000	0.06528	(M)
* 86 Acenaphthene-d10	164	5.805	5.805	(1.000)	25384	0.10000		(Q)
$ 69 2-Fluorobiphenyl	172	5.172	5.172	(0.891)	21290	0.08000	0.07066	
* 126 Phenanthrene-d10	188	7.250	7.250	(1.000)	42679	0.10000		
* 182 Chrysene-d12	240	9.923	9.923	(1.000)	34577	0.10000		(M)
$ 158 4-Terphenyl-d14	244	8.820	8.820	(0.889)	22466	0.08000	0.07879	(M)
* 198 Perylene-d12	264	11.819	11.819	(1.000)	43998	0.10000		
1 1,4-Dioxane	58	1.367	1.367	(0.448)	881	0.08000	0.1082	(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.



Data File: \\nahstws005\Target\chem\SV6.i\200529.b\013.D
Date : 29-MAY-2020 15:35
Client ID: 14DZ-0.08
Sample Info: 14DX-0.08;14DZ-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28

HS20050757 - ME - HG_W_DODICP_W_DOD

ALS WO# HS20050757

ALS Houston, US

Date: 19-Jun-20

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc.

Instrument:ICPMS05

Project: Groundwater Treatment Plant Quarterly Effluent Samples

WorkOrder: HS20050757

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		Ar
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
114	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
137	Barium	Indium		Ar
205	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Houston, US Date: 19-Jun-20

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757
Start Date: 28-May-2020 11:30 End Date: 28-May-2020 13:30

Batch ID: 153928
Prep Code: Hg_WPr
Method: SW7470
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS20050757-01	LH18/24-SP650_051920	Water		10	10	1
HS20050905-01MS				10	10	1
HS20050905-01MSD				10	10	1
LCS-153928				10	10	1
MBLK-153928				10	10	1

ALS Houston, US Date: 19-Jun-20

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757
Start Date: 26-May-2020 09:04 End Date: 26-May-2020 13:00

Batch ID: 153795
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS20050757-01	LH18/24-SP650_051920	Water		10	10	1
HS20050797-01MS				10	10	1
HS20050797-01MSD				10	10	1
HS20050797-01PDS				10	10	1
HS20050797-01SD				10	10	1
LCS-153795				10	10	1
MBLK-153795				10	10	1

ALS Houston, US Date: 19-Jun-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757
Start Date: 28-May-2020 End Date: 29-May-2020

Run ID:HG03_362311
Instrument:HG03
Method:SW7470

Sample No.	D/F	Time	FileID	Analytes
ICCV 1	1	28-May-2020 13:31	HG03_362311 Raw Data_5599747	HG
ICV	1	28-May-2020 13:33	_5599748	HG
ICB	1	28-May-2020 13:35	_5599749	HG
CRA	1	28-May-2020 13:36	_5599750	HG
CCV 2	1	28-May-2020 13:57	_5599757	HG
CCB 1	1	28-May-2020 13:58	_5599758	HG
CCV 3	1	28-May-2020 14:17	_5599769	HG
CCB 2	1	28-May-2020 14:19	_5599770	HG
CCV 4	1	28-May-2020 14:42	_5599784	HG
CCB 3	1	28-May-2020 14:43	_5599785	HG
CCV 5	1	28-May-2020 15:02	_5599796	HG
CCB 4	1	28-May-2020 15:04	_5599797	HG
CCV 6	1	28-May-2020 15:26	_5599808	HG
CCB 5	1	28-May-2020 15:28	_5599809	HG
CCV 7	1	28-May-2020 15:47	_5600122	HG
CCB 6	1	28-May-2020 15:49	_5600123	HG
CCV 8	1	28-May-2020 16:07	_5600134	HG
CCB 7	1	28-May-2020 16:09	_5600135	HG
MBLK-153928	1	28-May-2020 16:16	_5600137	HG
LCS-153928	1	28-May-2020 16:18	_5600138	HG
ZZZZZZMS	1	28-May-2020 16:21	_5600140	HG
ZZZZZZMSD	1	28-May-2020 16:23	_5600141	HG
LH18/24-SP650_051920	1	28-May-2020 16:26	_5600159	HG
CCV 9	1	28-May-2020 16:31	_5600144	HG
CCB 8	1	28-May-2020 16:33	_5600145	HG
CCV 10	1	28-May-2020 16:53	_5600156	HG
CCB 9	1	28-May-2020 16:55	_5600157	HG
CCV 11	1	28-May-2020 17:17	_5600194	HG
CCB 10	1	28-May-2020 17:19	_5600195	HG
CCV 12	1	28-May-2020 17:37	_5600242	HG
CCB 11	1	28-May-2020 17:38	_5600243	HG
CCV 13	1	29-May-2020 15:19	_5601774	HG
CCB 12	1	29-May-2020 15:21	_5601775	HG
CCV 14	1	29-May-2020 15:37	_5601782	HG
CCB 13	1	29-May-2020 15:38	_5601783	HG
CCV 15	1	29-May-2020 15:56	_5601792	HG
CCB 14	1	29-May-2020 15:57	_5601793	HG
CCV 16	1	29-May-2020 16:22	_5601914	HG
CCB 15	1	29-May-2020 16:24	_5601915	HG
CCV 17	1	29-May-2020 16:43	_5601926	HG
CCB 16	1	29-May-2020 16:44	_5601927	HG
CCV 18	1	29-May-2020 17:15	_5601938	HG
CCB 17	1	29-May-2020 17:16	_5601999	HG
CCV 19	1	29-May-2020 17:35	_5602010	HG
CCB 18	1	29-May-2020 17:37	_5602011	HG
CCV 20	1	29-May-2020 17:54	_5602021	HG
CCB 19	1	29-May-2020 17:56	_5602022	HG
CCV 21	1	29-May-2020 18:22	_5602039	HG
CCB 20	1	29-May-2020 18:24	_5602040	HG
CCV 22	1	29-May-2020 18:34	_5602042	HG
CCB 21	1	29-May-2020 18:36	_5602043	HG

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FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757
Start Date: 28-May-2020 End Date: 28-May-2020

Run ID:ICPMS05_362274
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_362274_Tune	1	28-May-2020 00:00	ICPMS05_362274_Tune_1	
CAL BLK	1	28-May-2020 11:47	017CALB.d_5599186	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	28-May-2020 11:49	018CALS.d_5599187	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	28-May-2020 11:51	019CALS.d_5599188	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	28-May-2020 11:54	020CALS.d_5599189	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	28-May-2020 11:56	021CALS.d_5599190	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	28-May-2020 11:58	022CALS.d_5599191	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	28-May-2020 12:04	024CALS.d_5599193	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICV	1	28-May-2020 12:09	026_ICV.d_5599195	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV2	1	28-May-2020 12:11	027LCV2.d_5599196	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV5	1	28-May-2020 12:14	028LCV5.d_5599197	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICB	1	28-May-2020 12:16	029_ICB.d_5599212	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	28-May-2020 12:24	031ICSA.d_5599222	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	28-May-2020 12:34	034ICSB.d_5599251	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CAL BLK	1	28-May-2020 15:35	104CALB.d_5599894	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	28-May-2020 15:37	105CALS.d_5599895	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	28-May-2020 15:39	106CALS.d_5599896	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	28-May-2020 15:42	107CALS.d_5599897	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	28-May-2020 15:44	108CALS.d_5599898	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	28-May-2020 15:47	109CALS.d_5599899	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICV	1	28-May-2020 15:53	111_ICV.d_5599901	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLCCV2	1	28-May-2020 15:55	112LCV2.d_5599902	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLCCV5	1	28-May-2020 15:58	113LCV5.d_5599903	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICCB 1	1	28-May-2020 16:03	115_ICB.d_5599904	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
MBLK-153795	1	28-May-2020 16:06	116SMPL.d_5599970	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LCS-153795	1	28-May-2020 16:08	117SMPL.d_5599971	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZSD	5	28-May-2020 16:13	119SMPL.d_5599973	AG AL AS BA BE CA CD CO CR FE K MG NA NI PB SB SE TL V ZN
ZZZZZZMS	1	28-May-2020 16:15	120SMPL.d_5599974	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZMSD	1	28-May-2020 16:18	121SMPL.d_5599975	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZPDS	1	28-May-2020 16:20	122SMPL.d_5599976	AG AL AS BA BE CA CD CO CR FE K MG NA NI PB SB SE TL V ZN
LH18/24-SP650_051920	1	28-May-2020 16:25	124SMPL.d_5599978	AG AL AS BA BE CA CD CO CR FE K MG MN NI PB SB SE TL V ZN
CCV 1	1	28-May-2020 16:32	126_CCV.d_5600047	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN

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FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757
Start Date: 28-May-2020 End Date: 28-May-2020

Run ID:ICPMS05_362274
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
CCB 2	1	28-May-2020 16:34	127_CCB.d_5600048	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 2	1	28-May-2020 17:03	138_CCV.d_5600065	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 3	1	28-May-2020 17:05	139_CCB.d_5600066	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZSD	500	28-May-2020 17:16	143SMPL.d_5600100	MN
ZZZZZZPDS	100	28-May-2020 17:18	144SMPL.d_5600101	MN
LH18/24-SP650_051920	10	28-May-2020 17:20	145SMPL.d_5600102	NA
CCV 3	1	28-May-2020 17:32	150_CCV.d_5600213	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 4	1	28-May-2020 17:35	151_CCB.d_5600214	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 4	1	28-May-2020 18:01	162_CCV.d_5600269	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 5	1	28-May-2020 18:03	163_CCB.d_5600270	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 5	1	28-May-2020 18:31	174_CCV.d_5600293	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 6	1	28-May-2020 18:33	175_CCB.d_5600294	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 6	1	28-May-2020 18:55	184_CCV.d_5600303	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 7	1	28-May-2020 18:57	185_CCB.d_5600304	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN

ALS Houston, US Date: 19-Jun-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: HG03_362311
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: HG03
WorkOrder: HS20050757 Method: SW7470

ICCV1	Date: 28-May-2020 13:31		Seq: 5599747	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.86	97	90-110	

ICV	Date: 28-May-2020 13:33		Seq: 5599748	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.85	97	90-110	

CCV2	Date: 28-May-2020 13:57		Seq: 5599757	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.25	105	90-110	

CCV3	Date: 28-May-2020 14:17		Seq: 5599769	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.94	99	90-110	

CCV4	Date: 28-May-2020 14:42		Seq: 5599784	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5	100	90-110	

CCV5	Date: 28-May-2020 15:02		Seq: 5599796	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.99	100	90-110	

CCV6	Date: 28-May-2020 15:26		Seq: 5599808	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.12	102	90-110	

CCV7	Date: 28-May-2020 15:47		Seq: 5600122	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.1	102	90-110	

CCV8	Date: 28-May-2020 16:07		Seq: 5600134	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.89	98	90-110	

CCV9	Date: 28-May-2020 16:31		Seq: 5600144	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.98	100	90-110	

CCV10	Date: 28-May-2020 16:53		Seq: 5600156	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.14	103	90-110	

CCV11	Date: 28-May-2020 17:17		Seq: 5600194	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.13	103	90-110	

CCV12	Date: 28-May-2020 17:37		Seq: 5600242	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5	100	90-110	

CCV13	Date: 29-May-2020 15:19		Seq: 5601774	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.43	109	90-110	

ALS Houston, US Date: 19-Jun-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: HG03_362311
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: HG03
WorkOrder: HS20050757 Method: SW7470

CCV14	Date: 29-May-2020 15:37		Seq: 5601782	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.13	103	90-110	

CCV15	Date: 29-May-2020 15:56		Seq: 5601792	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.76	95	90-110	

CCV16	Date: 29-May-2020 16:22		Seq: 5601914	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.45	109	90-110	

CCV17	Date: 29-May-2020 16:43		Seq: 5601926	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.43	109	90-110	

CCV18	Date: 29-May-2020 17:15		Seq: 5601938	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.5	110	90-110	

CCV19	Date: 29-May-2020 17:35		Seq: 5602010	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.11	102	90-110	

CCV20	Date: 29-May-2020 17:54		Seq: 5602021	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.12	102	90-110	

CCV21	Date: 29-May-2020 18:22		Seq: 5602039	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.08	102	90-110	

CCV22	Date: 29-May-2020 18:34		Seq: 5602042	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.26	105	90-110	

ALS Houston, US Date: 19-Jun-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Run ID: ICPMS05_362274
Instrument: ICPMS05
Method: SW6020

ICV Date: 28-May-2020 12:09 Seq: 5599195 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	97.939	98	90-110	
Antimony	100	104.8	105	90-110	
Arsenic	100	103.964	104	90-110	
Barium	100	99.975	100	90-110	
Beryllium	100	102.134	102	90-110	
Cadmium	100	102.525	103	90-110	
Calcium	10000	10491.448	105	90-110	
Chromium	100	100.232	100	90-110	
Cobalt	100	97.354	97	90-110	
Iron	10000	10427.173	104	90-110	
Lead	100	98.785	99	90-110	
Magnesium	10000	10293.751	103	90-110	
Manganese	100	101.121	101	90-110	
Nickel	100	102.335	102	90-110	
Potassium	10000	10552.711	106	90-110	
Selenium	100	99.734	100	90-110	
Silver	100	101.123	101	90-110	
Sodium	10000	10310.015	103	90-110	
Thallium	100	104.16	104	90-110	
Vanadium	100	100.381	100	90-110	
Zinc	100	100.467	100	90-110	

ICV Date: 28-May-2020 15:53 Seq: 5599901 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	98.029	98	90-110	
Antimony	100	104.626	105	90-110	
Arsenic	100	102.412	102	90-110	
Barium	100	103.186	103	90-110	
Beryllium	100	101.045	101	90-110	
Cadmium	100	100.588	101	90-110	
Calcium	10000	10160.812	102	90-110	
Chromium	100	99.012	99	90-110	
Cobalt	100	96.136	96	90-110	
Iron	10000	10345.362	103	90-110	
Lead	100	98.261	98	90-110	
Magnesium	10000	10441.387	104	90-110	
Manganese	100	100.153	100	90-110	
Nickel	100	101.487	101	90-110	
Potassium	10000	10357.812	104	90-110	
Selenium	100	103.83	104	90-110	
Silver	100	98.807	99	90-110	
Sodium	10000	10384.138	104	90-110	
Thallium	100	106.523	107	90-110	
Vanadium	100	99.239	99	90-110	
Zinc	100	101.007	101	90-110	

CCV1 Date: 28-May-2020 16:32 Seq: 5600047 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.67	101	90-110	
Antimony	100	99.965	100	90-110	
Arsenic	100	101.509	102	90-110	
Barium	100	103.814	104	90-110	
Beryllium	100	98.219	98	90-110	
Cadmium	100	103.195	103	90-110	
Calcium	10000	10016.344	100	90-110	

ALS Houston, US Date: 19-Jun-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Run ID: ICPMS05_362274
Instrument: ICPMS05
Method: SW6020

CCV1 Date: 28-May-2020 16:32 Seq: 5600047 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Chromium	100	103.413	103	90-110	
Cobalt	100	98.664	99	90-110	
Iron	10000	10282.659	103	90-110	
Lead	100	98.854	99	90-110	
Magnesium	10000	10251.02	103	90-110	
Manganese	100	102.656	103	90-110	
Nickel	100	103.186	103	90-110	
Potassium	10000	10293.442	103	90-110	
Selenium	100	102.893	103	90-110	
Silver	100	99.626	100	90-110	
Sodium	10000	10306.58	103	90-110	
Thallium	100	101.865	102	90-110	
Vanadium	100	101.608	102	90-110	
Zinc	100	102.478	102	90-110	

CCV2 Date: 28-May-2020 17:03 Seq: 5600065 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	97.532	98	90-110	
Antimony	100	102.385	102	90-110	
Arsenic	100	102.593	103	90-110	
Barium	100	104.713	105	90-110	
Beryllium	100	97.475	98	90-110	
Cadmium	100	103.688	104	90-110	
Calcium	10000	10231.707	102	90-110	
Chromium	100	102.95	103	90-110	
Cobalt	100	99.784	100	90-110	
Iron	10000	10372.779	104	90-110	
Lead	100	100.337	100	90-110	
Magnesium	10000	10355.69	104	90-110	
Manganese	100	102.358	102	90-110	
Nickel	100	105.164	105	90-110	
Potassium	10000	10351.848	104	90-110	
Selenium	100	100.025	100	90-110	
Silver	100	100.967	101	90-110	
Sodium	10000	10339.495	103	90-110	
Thallium	100	106.685	107	90-110	
Vanadium	100	101.672	102	90-110	
Zinc	100	103.48	103	90-110	

CCV3 Date: 28-May-2020 17:32 Seq: 5600213 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	97.836	98	90-110	
Antimony	100	102.054	102	90-110	
Arsenic	100	101.523	102	90-110	
Barium	100	104.618	105	90-110	
Beryllium	100	98.18	98	90-110	
Cadmium	100	102.555	103	90-110	
Calcium	10000	10038.877	100	90-110	
Chromium	100	101.829	102	90-110	
Cobalt	100	99.782	100	90-110	
Iron	10000	10265.037	103	90-110	
Lead	100	99.105	99	90-110	
Magnesium	10000	10400.1	104	90-110	
Manganese	100	99.979	100	90-110	
Nickel	100	104.427	104	90-110	

ALS Houston, US Date: 19-Jun-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Run ID: ICPMS05_362274
Instrument: ICPMS05
Method: SW6020

CCV3 Date: 28-May-2020 17:32 Seq: 5600213 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Potassium	10000	10265.171	103	90-110	
Selenium	100	103.84	104	90-110	
Silver	100	99.845	100	90-110	
Sodium	10000	10361.076	104	90-110	
Thallium	100	104.261	104	90-110	
Vanadium	100	102.046	102	90-110	
Zinc	100	102.38	102	90-110	

CCV4 Date: 28-May-2020 18:01 Seq: 5600269 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	98.651	99	90-110	
Antimony	100	101.391	101	90-110	
Arsenic	100	102.34	102	90-110	
Barium	100	105.315	105	90-110	
Beryllium	100	97.63	98	90-110	
Cadmium	100	103.009	103	90-110	
Calcium	10000	9975.806	100	90-110	
Chromium	100	103.32	103	90-110	
Cobalt	100	98.517	99	90-110	
Iron	10000	10178.713	102	90-110	
Lead	100	99.561	100	90-110	
Magnesium	10000	10348.566	103	90-110	
Manganese	100	101.249	101	90-110	
Nickel	100	103.733	104	90-110	
Potassium	10000	10073.596	101	90-110	
Selenium	100	99.759	100	90-110	
Silver	100	99.91	100	90-110	
Sodium	10000	10304.038	103	90-110	
Thallium	100	100.86	101	90-110	
Vanadium	100	101.446	101	90-110	
Zinc	100	101.47	101	90-110	

CCV5 Date: 28-May-2020 18:31 Seq: 5600293 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	97.49	98	90-110	
Antimony	100	105.64	106	90-110	
Arsenic	100	102.954	103	90-110	
Barium	100	107.067	107	90-110	
Beryllium	100	98.228	98	90-110	
Cadmium	100	103.661	104	90-110	
Calcium	10000	10019.297	100	90-110	
Chromium	100	103.084	103	90-110	
Cobalt	100	99.388	99	90-110	
Iron	10000	10225.798	102	90-110	
Lead	100	98.753	99	90-110	
Magnesium	10000	10273.417	103	90-110	
Manganese	100	102.241	102	90-110	
Nickel	100	105.492	105	90-110	
Potassium	10000	10167.563	102	90-110	
Selenium	100	106.408	106	90-110	
Silver	100	100.176	100	90-110	
Sodium	10000	10364.062	104	90-110	
Thallium	100	102.444	102	90-110	
Vanadium	100	102.46	102	90-110	
Zinc	100	103.571	104	90-110	

ALS Houston, US Date: 19-Jun-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Run ID: ICPMS05_362274
Instrument: ICPMS05
Method: SW6020

CCV6 Date: 28-May-2020 18:55 Seq: 5600303 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	99.014	99	90-110	
Antimony	100	102.355	102	90-110	
Arsenic	100	100.933	101	90-110	
Barium	100	104.305	104	90-110	
Beryllium	100	99.555	100	90-110	
Cadmium	100	104.529	105	90-110	
Calcium	10000	9998.703	100	90-110	
Chromium	100	102.331	102	90-110	
Cobalt	100	98.612	99	90-110	
Iron	10000	10188.702	102	90-110	
Lead	100	99.998	100	90-110	
Magnesium	10000	10387.995	104	90-110	
Manganese	100	101.498	101	90-110	
Nickel	100	103.833	104	90-110	
Potassium	10000	10210.775	102	90-110	
Selenium	100	103.732	104	90-110	
Silver	100	100.288	100	90-110	
Sodium	10000	10337.549	103	90-110	
Thallium	100	104.367	104	90-110	
Vanadium	100	101.719	102	90-110	
Zinc	100	102.687	103	90-110	

ALS Houston, US Date: 19-Jun-20

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Run ID: HG03_362311
Instrument: HG03
Method: SW7470

ICB	Date: 28-May-2020 13:35		Seq: 5599749	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB1	Date: 28-May-2020 13:58		Seq: 5599758	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB2	Date: 28-May-2020 14:19		Seq: 5599770	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB3	Date: 28-May-2020 14:43		Seq: 5599785	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB4	Date: 28-May-2020 15:04		Seq: 5599797	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB5	Date: 28-May-2020 15:28		Seq: 5599809	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB6	Date: 28-May-2020 15:49		Seq: 5600123	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB7	Date: 28-May-2020 16:09		Seq: 5600135	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
MBLK-153928	Date: 28-May-2020 16:16		Seq: 5600137	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB8	Date: 28-May-2020 16:33		Seq: 5600145	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB9	Date: 28-May-2020 16:55		Seq: 5600157	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB10	Date: 28-May-2020 17:19		Seq: 5600195	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB11	Date: 28-May-2020 17:38		Seq: 5600243	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB12	Date: 29-May-2020 15:21		Seq: 5601775	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	
CCB13	Date: 29-May-2020 15:38		Seq: 5601783	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Run ID: HG03_362311
Instrument: HG03
Method: SW7470

CCB14	Date: 29-May-2020 15:57		Seq: 5601793	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB15	Date: 29-May-2020 16:24		Seq: 5601915	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB16	Date: 29-May-2020 16:44		Seq: 5601927	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB17	Date: 29-May-2020 17:16		Seq: 5601999	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB18	Date: 29-May-2020 17:37		Seq: 5602011	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB19	Date: 29-May-2020 17:56		Seq: 5602022	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB20	Date: 29-May-2020 18:24		Seq: 5602040	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB21	Date: 29-May-2020 18:36		Seq: 5602043	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Run ID: ICPMS05_362274
Instrument: ICPMS05
Method: SW6020

ICB	Date: 28-May-2020 12:16		Seq: 5599212	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	5	0.4	5	U	
Arsenic	5	0.4	5	U	
Barium	5	1.9	5	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	5	0.4	5	U	
Cobalt	5	0.1	5	U	
Iron	200	12	200	U	
Lead	5	0.6	5	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	5	0.6	5	U	
Potassium	200	18	200	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	
Sodium	200	14	200	U	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	5	2	5	U	

ICCB1	Date: 28-May-2020 16:03		Seq: 5599904	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	5	0.4	5	U	
Arsenic	5	0.4	5	U	
Barium	5	1.9	5	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	5	0.4	5	U	
Cobalt	5	0.1	5	U	
Iron	200	12	200	U	
Lead	5	0.6	5	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	5	0.6	5	U	
Potassium	200	18	200	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	
Sodium	200	14	200	U	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	5	2	5	U	

MBLK-153795	Date: 28-May-2020 16:06		Seq: 5599970	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	5.208	1.8	10	J	
Antimony	5	0.4	5	U	
Arsenic	5	0.4	5	U	
Barium	5	1.9	5	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Run ID: ICPMS05_362274
Instrument: ICPMS05
Method: SW6020

MBLK-153795	Date: 28-May-2020 16:06		Seq: 5599970	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Chromium	5	0.4	5	U	
Cobalt	5	0.1	5	U	
Iron	200	12	200	U	
Lead	5	0.6	5	U	
Magnesium	18.54	10	200	J	
Manganese	5	0.7	5	U	
Nickel	5	0.6	5	U	
Potassium	200	18	200	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	
Sodium	200	14	200	U	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	5	2	5	U	

CCB2	Date: 28-May-2020 16:34		Seq: 5600048	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.675	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	22.1	14	200	J	
Thallium	0.41	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB3	Date: 28-May-2020 17:05		Seq: 5600066	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.574	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Run ID: ICPMS05_362274
Instrument: ICPMS05
Method: SW6020

CCB3	Date: 28-May-2020 17:05		Seq: 5600066	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	200	14	200	U	
Thallium	0.409	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB4	Date: 28-May-2020 17:35		Seq: 5600214	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.705	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	200	14	200	U	
Thallium	0.447	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB5	Date: 28-May-2020 18:03		Seq: 5600270	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.626	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	200	14	200	U	
Thallium	0.425	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

ALS Houston, US Date: 19-Jun-20

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Run ID: ICPMS05_362274
Instrument: ICPMS05
Method: SW6020

CCB6	Date: 28-May-2020 18:33		Seq: 5600294	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	1.29	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	200	14	200	U	
Thallium	0.425	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB7	Date: 28-May-2020 18:57		Seq: 5600304	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.501	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	200	14	200	U	
Thallium	0.417	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

ALS Houston, US Date: 19-Jun-20

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS05_362274
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument:ICPMS05
WorkOrder: HS20050757 Method:SW6020

ICSA	Date: 28-May-2020 12:24	Seq: 5599222	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	96180	96.2	
Antimony		0.09	0	
Arsenic		0.072	0	
Barium		0.024	0	
Beryllium		-0.005	0	
Cadmium		1.965	0	
Calcium	100000	103600	104	
Chromium		0.918	0	
Cobalt		0.181	0	
Iron	100000	102800	103	
Lead		0.032	0	
Magnesium	100000	102100	102	
Manganese		0.172	0	
Nickel		0.24	0	
Potassium	100000	104500	104	
Selenium		0.226	0	
Silver		0.006	0	
Sodium	100000	103300	103	
Thallium		0.025	0	
Vanadium		-0.088	0	
Zinc		0.325	0	

ICSAB	Date: 28-May-2020 12:34	Seq: 5599251	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	98300	97.8	
Antimony	100	111.4	111	
Arsenic	100	113.8	114	
Barium	100	110.2	110	
Beryllium	100	102.8	103	
Cadmium	100	111.3	111	
Calcium	110000	115200	105	
Chromium	100	110.7	111	
Cobalt	100	108.1	108	
Iron	110000	117100	106	
Lead	100	105.5	105	
Magnesium	110000	115300	105	
Manganese	100	110.9	111	
Nickel	100	111.8	112	
Potassium	110000	118000	107	
Selenium	100	113.1	113	
Silver	100	101	101	
Sodium	110000	117600	107	
Thallium	100	109.2	109	
Vanadium	100	112.5	112	
Zinc	100	112	112	

ALS Houston, US Date: 19-Jun-20

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Date Analyzed: 28-May-2020 16:23
Date Extracted: 28-May-2020 11:30
Units: ug/L

Matrix Spike: HS20050905-01MS
Client Sample ID:

Analysis Method: SW7470

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Mercury	0.2000	4.970	5.000	99.3	5.270	5.000	105	75-125	5.86	20

ALS Houston, US Date: 19-Jun-20

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Date Analyzed: 28-May-2020 16:18
Date Extracted: 26-May-2020 13:00
Units: ug/L

Matrix Spike: HS20050797-01MS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Aluminum	7.035	94.61	100.0	87.6	97.44	100.0	90.4	84-117	2.95	20
Antimony	0.7090	45.48	50.00	89.5	46.94	50.00	92.5	85-117	3.18	20
Arsenic	9.884	54.15	50.00	88.5	56.68	50.00	93.6	84-116	4.55	20
Barium	712.2	669.5	50.00	-85.2	665.7	50.00	-92.9	86-114	0.576	20
Beryllium	2.000	43.00	50.00	86.0	44.82	50.00	89.6	83-121	4.16	20
Cadmium	2.000	46.12	50.00	92.2	48.18	50.00	96.3	87-115	4.38	20
Calcium	122800	111400	5000	-228	115700	5000	-142	87-118	3.80	20
Chromium	0.8910	45.75	50.00	89.7	46.47	50.00	91.2	85-116	1.55	20
Cobalt	0.8340	43.39	50.00	85.1	45.12	50.00	88.6	86-115	3.92	20
Iron	17240	19390	5000	42.9	20180	5000	58.7	87-118	3.99	20
Lead	5.000	44.65	50.00	88.9	45.40	50.00	90.4	88-115	1.66	20
Magnesium	21570	23140	5000	31.5	23690	5000	42.4	83-118	2.34	20
Manganese	9280	7972	50.00	-2620	8319	50.00	-1920	87-115	4.27	20
Nickel	1.935	46.54	50.00	89.2	47.50	50.00	91.1	85-117	2.05	20
Potassium	5307	9189	5000	77.6	9373	5000	81.3	87-115	1.99	20
Selenium	5.000	47.55	50.00	94.7	49.25	50.00	98.1	80-120	3.51	20
Silver	5.000	43.39	50.00	86.8	45.36	50.00	90.7	85-116	4.44	20
Sodium	81690	74780	5000	-138	76650	5000	-101	85-117	2.46	20
Thallium	0.4450	44.50	50.00	88.1	44.89	50.00	88.9	82-116	0.870	20
Vanadium	5.000	45.40	50.00	90.6	46.43	50.00	92.7	86-115	2.24	20
Zinc	5.000	47.90	50.00	92.6	48.92	50.00	94.6	83-119	2.10	20

ALS Houston, US Date: 19-Jun-20

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Date Analyzed: 28-May-2020 16:20
Date Extracted: 26-May-2020 13:00
Units: ug/L

Lab Sample ID: HS20050797-01PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Aluminum	7.035	99.86	100	93	80-120
Antimony	0.709	98.43	100	98	80-120
Arsenic	9.884	107.7	100	98	80-120
Barium	712.2	733.7	100	22	80-120
Beryllium	0	92.42	100	92	80-120
Cadmium	0	96.39	100	96	80-120
Calcium	122800	125000	10000	21	80-120
Chromium	0.891	97.33	100	96	80-120
Cobalt	0.834	92.5	100	92	80-120
Iron	17240	25750	10000	85	80-120
Lead	0	92.96	100	93	80-120
Magnesium	21570	29600	10000	80	80-120
Nickel	1.935	97.06	100	95	80-120
Potassium	5307	14600	10000	93	80-120
Selenium	0	103.1	100	103	80-120
Silver	0	94.59	100	95	80-120
Sodium	81690	84330	10000	26	80-120
Thallium	0.445	100.9	100	101	80-120
Vanadium	0	98.8	100	99	80-120
Zinc	0	111.6	100	110	80-120
Manganese	9308	19030	10000	97	80-120

ALS Houston, US Date: 19-Jun-20

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Date Analyzed: 28-May-2020 16:18
Date Extracted: 28-May-2020 11:30
Units: ug/L

Lab Sample ID: LCS-153928 Analysis Method: SW7470

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Mercury	5	5.03	101	80-120

ALS Houston, US Date: 19-Jun-20

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Date Analyzed: 28-May-2020 16:08
Date Extracted: 26-May-2020 13:00
Units: ug/L

Lab Sample ID: LCS-153795 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Aluminum	100	100.3	100	84-117
Antimony	50	46.95	94	85-117
Arsenic	50	48.29	97	84-116
Barium	50	47.37	95	86-114
Beryllium	50	45.31	91	83-121
Cadmium	50	48.57	97	87-115
Calcium	5000	4746	95	87-118
Chromium	50	47.45	95	85-116
Cobalt	50	45.71	91	86-115
Iron	5000	4925	99	87-118
Lead	50	46.05	92	88-115
Magnesium	5000	5048	101	83-118
Manganese	50	47.27	95	87-115
Nickel	50	49.41	99	85-117
Potassium	5000	5074	101	87-115
Selenium	50	49.22	98	80-120
Silver	50	46.57	93	85-116
Sodium	5000	4934	99	85-117
Thallium	50	44.05	88	82-116
Vanadium	50	47.27	95	86-115
Zinc	50	49.92	100	83-119

ALS Houston, US Date: 19-Jun-20

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Date Analyzed: 28-May-2020 16:13
Date Extracted: 26-May-2020 13:00
Units: ug/L

Lab Sample ID: HS20050797-01SD
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	C	SD Result	C	RPD	Q
Aluminum	7.035	J	10.28	J	46	
Antimony	0.709	J	0	U	0	
Arsenic	9.884		8.982	J	9	
Barium	712.2		654		8	
Beryllium	0	U	0	U	0	
Cadmium	0	U	0	U	0	
Calcium	122800		122100		1	
Chromium	0.891	J	0	U	0	
Cobalt	0.834	J	0.869	J	4	
Iron	17240		17350		1	
Lead	0	U	0	U	0	
Magnesium	21570		21860		1	
Nickel	1.935	J	7.287	J	277	
Potassium	5307		5001		6	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	
Sodium	81690		81210		1	
Thallium	0.445	J	0	U	0	
Vanadium	0	U	0	U	0	
Zinc	0	U	0	U	0	
Manganese	9308		9457		2	

Report Generated By Teledyne Leeman QuickTrace

Analyst: ALSHS.NoUser

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\Worksheets\052820AW.wszf

Creation Date: 5/28/2020 1:02:32 PM

Comment:

Results

Sample Name		Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
Calibration Blank		STD	05/28/20 01:19:29 pm	0.000	-153	8.59	0.00	
Replicates	-166.3	-149.6	-161.1	-136.6				
Standard #1 (0.2 ppb)		STD	05/28/20 01:21:10 pm	0.200	1178	2.87	53.33	
Replicates	1130.8	1209.0	1180.5	1193.5				
Standard #2 (0.5 ppb)		STD	05/28/20 01:22:52 pm	0.500	2759	1.51	54.03	
Replicates	2738.1	2721.1	2816.6	2761.6				
Standard #3 (2.0 ppb)		STD	05/28/20 01:24:34 pm	2.000	10402	0.29	7.72	
Replicates	10447.4	10384.5	10384.0	10392.5				
Standard #4 (5.0 ppb)		STD	05/28/20 01:28:32 pm	5.000	26734	0.33	114.05	
Replicates	26768.9	26797.0	26767.5	26601.0				
Standard #5 (10.0 ppb)		STD	05/28/20 01:30:15 pm	10.000	52094	0.18	-62.34	
Replicates	51965.8	52081.4	52159.4	52167.9				

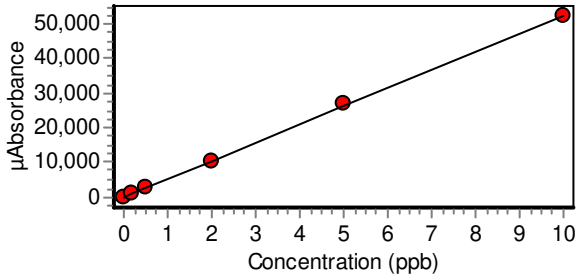
Calibration

Equation: Abs = 5257.482x + -153.432

R2: 0.99965

SEE: 457.4973

Flags:



ICCV		UNK	05/28/20 01:31:56 pm	4.860	25385	0.44		
Replicates	25554.8	25320.4	25335.9	25329.9				
ICV		UNK	05/28/20 01:33:37 pm	4.850	25335	0.42		
Replicates	25181.2	25358.2	25367.7	25431.2				
ICB		UNK	05/28/20 01:35:18 pm	0.005	-127	69.41		
Replicates	-121.5	-105.7	-150.7	-128.2				
CRA		UNK	05/28/20 01:36:59 pm	0.209	943	1.93		
Replicates	944.8	964.0	914.0	950.5				
MBLK-153922		UNK	05/28/20 01:44:20 pm	0.008	-109	96.43		
Replicates	-153.6	-107.6	-52.1	-123.6				
LCS-153922		UNK	05/28/20 01:46:02 pm	4.940	25856	0.10		
Replicates	25843.7	25882.2	25872.2	25826.2				
HS20050886-01		UNK	05/28/20 01:47:44 pm	0.057	147	4.35		
Replicates	129.7	153.1	160.1	144.6				

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS20050886-01MS					UNK	05/28/20 01:49:26 pm	5.010	26185	0.43		
	Replicates	26033.1	26160.8	26278.8	26265.3						
HS20050886-01MSD					UNK	05/28/20 01:51:08 pm	5.280	27622	0.12		
	Replicates	27606.4	27601.9	27671.9	27609.4						
MBLKT1-153922					UNK	05/28/20 01:52:50 pm	0.005	-126	100.66		
	Replicates	-99.1	-105.8	-142.3	-156.3						
CCV					UNK	05/28/20 01:57:12 pm	5.250	27455	0.32		
	Replicates	27515.5	27536.8	27419.3	27346.8						
CCB					UNK	05/28/20 01:58:55 pm	0.012	-91	23.75		
	Replicates	-87.8	-84.0	-80.5	-113.0						
HS20050835-29					UNK	05/28/20 02:00:37 pm	-0.010	-208	60.60		
	Replicates	-211.5	-240.0	-216.5	-162.0						
HS20050846-01					UNK	05/28/20 02:02:19 pm	0.022	-37	18.88		
	Replicates	-26.0	-15.0	-40.0	-66.0						
HS20050846-02					UNK	05/28/20 02:04:00 pm	0.035	29	22.64		
	Replicates	10.0	85.3	30.8	-10.7						
HS20050846-03					UNK	05/28/20 02:05:42 pm	0.026	-17	20.44		
	Replicates	18.2	-7.3	-43.3	-34.8						
HS20050852-01					UNK	05/28/20 02:07:23 pm	0.025	-20	6.99		
	Replicates	-32.5	-19.8	-19.3	-9.8						
HS20050852-02					UNK	05/28/20 02:09:04 pm	0.056	142	17.01		s
	Replicates	166.7	167.9	66.9	167.9						
HS20050886-02					UNK	05/28/20 02:10:46 pm	0.023	-30	8.71		
	Replicates	-29.4	-38.3	-15.3	-37.8						
HS20050888-01					UNK	05/28/20 02:12:27 pm	0.029	-3	17.32		
	Replicates	-17.2	34.9	-21.1	-10.6						
HS20050889-01					UNK	05/28/20 02:14:09 pm	0.057	146	16.12		s
	Replicates	151.2	211.7	100.2	122.2						
HS20050914-01					UNK	05/28/20 02:15:51 pm	0.037	42	19.95		
	Replicates	13.1	14.2	43.7	96.2						
CCV					UNK	05/28/20 02:17:34 pm	4.940	25855	0.74		
	Replicates	25647.6	25754.6	25932.1	26085.1						
CCB					UNK	05/28/20 02:19:17 pm	0.022	-39	30.58		
	Replicates	-13.8	-85.3	-9.3	-45.8						
HS20050929-01					UNK	05/28/20 02:20:59 pm	0.043	71	8.76		s
	Replicates	72.9	68.5	48.0	96.0						
HS20050933-01					UNK	05/28/20 02:22:41 pm	0.031	11	10.68		
	Replicates	37.6	0.6	2.1	5.1						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS20050983-01					UNK	05/28/20 02:24:23 pm	0.039	54	17.26		s
	Replicates	42.3	23.2	44.7	105.7						
HS20050999-01					UNK	05/28/20 02:26:06 pm	0.041	62	10.98		s
	Replicates	67.5	40.3	47.8	93.3						
MBLK-153924					UNK	05/28/20 02:32:01 pm	-0.007	-190	141.22		
	Replicates	-156.9	-139.2	-211.7	-250.7						
LCS-153924					UNK	05/28/20 02:33:42 pm	5.230	27344	0.79		
	Replicates	27035.2	27374.7	27424.7	27540.7						
HS20050868-01					UNK	05/28/20 02:35:24 pm	-0.019	-254	27.96		
	Replicates	-279.1	-266.1	-214.1	-257.1						
HS20050868-01MS					UNK	05/28/20 02:37:05 pm	4.950	25874	0.22		
	Replicates	25928.9	25907.9	25857.4	25800.4						
HS20050868-01MSD					UNK	05/28/20 02:38:47 pm	4.980	26046	0.36		
	Replicates	26133.9	26115.1	25993.6	25940.1						
HS20050868-02					UNK	05/28/20 02:40:28 pm	0.024	-28	25.63		
	Replicates	-39.4	19.3	-37.2	-53.7						
CCV					UNK	05/28/20 02:42:11 pm	5.000	26180	0.24		
	Replicates	26110.5	26146.8	26251.8	26210.8						
CCB					UNK	05/28/20 02:43:54 pm	0.022	-37	12.84		
	Replicates	-56.9	-39.9	-28.9	-22.9						
HS20050868-03					UNK	05/28/20 02:45:36 pm	0.025	-19	16.85		
	Replicates	-18.7	11.0	-26.5	-43.0						
HS20050868-04					UNK	05/28/20 02:47:18 pm	0.016	-70	36.26		
	Replicates	-102.4	-55.9	-86.4	-34.9						
HS20050868-05					UNK	05/28/20 02:49:00 pm	0.045	85	8.69		s
	Replicates	79.2	113.8	81.3	64.8						
HS20050868-06					UNK	05/28/20 02:50:42 pm	0.013	-85	51.06		
	Replicates	-80.9	-135.7	-62.2	-61.7						
HS20050868-07					UNK	05/28/20 02:52:25 pm	0.009	-109	48.28		
	Replicates	-82.0	-131.5	-101.5	-119.5						
HS20050868-08					UNK	05/28/20 02:54:07 pm	0.010	-101	43.51		
	Replicates	-99.0	-105.9	-126.9	-71.4						
HS20050868-09					UNK	05/28/20 02:55:48 pm	-0.002	-163	395.60		
	Replicates	-181.6	-198.1	-108.6	-164.6						
HS20050868-10					UNK	05/28/20 02:57:30 pm	0.003	-136	367.34		
	Replicates	-121.6	-54.7	-203.7	-164.2						
HS20050868-11					UNK	05/28/20 02:59:11 pm	0.028	-5	19.03		
	Replicates	12.5	-11.5	21.0	-42.0						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS20050868-12					UNK	05/28/20 03:00:52 pm	0.008	-113	82.79		
	Replicates	-146.4	-134.3	-98.8	-73.8						
CCV					UNK	05/28/20 03:02:35 pm	4.990	26094	0.14		
	Replicates	26050.4	26074.1	26127.6	26123.1						
CCB					UNK	05/28/20 03:04:18 pm	0.019	-54	23.04		
	Replicates	-79.1	-23.2	-56.7	-55.7						
HS20050868-13					UNK	05/28/20 03:05:59 pm	0.015	-72	5.54		
	Replicates	-78.8	-68.7	-72.2	-70.2						
HS20050868-14					UNK	05/28/20 03:07:41 pm	-0.007	-189	77.52		
	Replicates	-217.1	-200.6	-188.1	-151.6						
HS20050868-15					UNK	05/28/20 03:09:23 pm	0.011	-94	54.19		
	Replicates	-110.8	-92.0	-124.0	-50.5						
HS20050868-16					UNK	05/28/20 03:11:05 pm	0.009	-108	50.86		
	Replicates	-107.4	-111.7	-134.2	-77.7						
HS20050868-17					UNK	05/28/20 03:12:47 pm	0.053	126	2.26		
	Replicates	128.3	131.0	129.0	117.0						
HS20050868-18					UNK	05/28/20 03:14:29 pm	0.014	-78	69.79		
	Replicates	-31.1	-126.9	-119.9	-32.9						
HS20050868-19					UNK	05/28/20 03:16:12 pm	0.011	-98	109.78		
	Replicates	-52.2	-62.8	-92.8	-185.3						
HS20050868-20					UNK	05/28/20 03:17:54 pm	0.020	-48	46.25		
	Replicates	-96.8	-10.3	-1.8	-82.8						
HS20050828-02					UNK	05/28/20 03:23:34 pm	-0.003	-171	159.47		
	Replicates	-173.6	-164.2	-207.2	-139.2						
HS20050828-03					UNK	05/28/20 03:25:16 pm	-0.014	-229	32.01		
	Replicates	-246.7	-218.4	-250.9	-199.9						
CCV					UNK	05/28/20 03:26:58 pm	5.120	26804	0.13		
	Replicates	26783.1	26850.4	26812.9	26769.9						
CCB					UNK	05/28/20 03:28:41 pm	0.015	-75	56.92		
	Replicates	-60.1	-46.4	-51.4	-141.4						
MBLK-153926					UNK	05/28/20 03:30:23 pm	0.011	-98	60.70		
	Replicates	-122.8	-125.8	-53.8	-88.8						
LCS-153926					UNK	05/28/20 03:32:04 pm	5.000	26154	0.59		
	Replicates	25933.8	26166.1	26288.1	26229.6						
HS20050828-01					UNK	05/28/20 03:33:46 pm	-0.031	-318	9.82		
	Replicates	-324.9	-333.1	-295.6	-316.6						
HS20050828-01MS					UNK	05/28/20 03:35:28 pm	5.360	28065	0.48		
	Replicates	28195.4	28148.1	28024.1	27892.1						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS20050828-01MSD					UNK	05/28/20 03:37:09 pm	4.980	26041	0.07		
Replicates	26039.0	26017.5	26063.5	26044.0							
HS20050828-04					UNK	05/28/20 03:38:51 pm	-0.025	-287	10.47		
Replicates	-288.7	-270.9	-304.9	-284.4							
HS20050828-05					UNK	05/28/20 03:40:34 pm	-0.007	-189	188.81		
Replicates	-223.7	-264.7	-145.2	-121.7							
HS20050834-01					UNK	05/28/20 03:42:16 pm	0.027	-12	19.19		
Replicates	-13.5	-37.8	-22.8	25.7							
HS20050834-02					UNK	05/28/20 03:43:58 pm	0.024	-29	18.50		
Replicates	-62.6	-23.5	-12.0	-17.0							
HS20050834-03					UNK	05/28/20 03:45:41 pm	0.043	71	9.12		s
Replicates	47.6	85.1	90.1	59.1							
CCV					UNK	05/28/20 03:47:24 pm	5.100	26677	0.24		
Replicates	26588.8	26678.4	26697.4	26743.9							
CCB					UNK	05/28/20 03:49:07 pm	-0.012	-215	73.28		
Replicates	-252.6	-183.1	-253.6	-169.1							
HS20050836-01					UNK	05/28/20 03:50:48 pm	0.031	8	12.83		
Replicates	6.6	27.0	18.5	-20.5							
HS20050836-02					UNK	05/28/20 03:52:30 pm	0.024	-25	25.05		
Replicates	-37.1	-64.8	-0.8	3.2							
HS20050836-03					UNK	05/28/20 03:54:11 pm	0.018	-56	27.10		
Replicates	-49.8	-24.5	-87.5	-63.5							
HS20050836-05					UNK	05/28/20 03:55:53 pm	0.012	-92	18.40		
Replicates	-91.2	-90.8	-79.3	-106.8							
HS20050836-06					UNK	05/28/20 03:57:34 pm	0.030	2	23.08		
Replicates	-25.6	-28.6	15.9	46.4							
HS20050836-07					UNK	05/28/20 03:59:16 pm	-0.018	-251	22.42		
Replicates	-227.9	-253.2	-279.7	-242.7							
HS20050836-08					UNK	05/28/20 04:00:58 pm	0.009	-106	54.60		
Replicates	-117.7	-80.4	-136.9	-90.9							
HS20050836-09					UNK	05/28/20 04:02:40 pm	0.032	15	18.98		
Replicates	0.8	-22.7	46.3	36.8							
HS20050836-10					UNK	05/28/20 04:04:22 pm	0.019	-51	58.11		
Replicates	-23.0	-17.2	-24.2	-140.2							
HS20050868-21					UNK	05/28/20 04:06:04 pm	0.026	-14	24.48		
Replicates	-58.6	-1.4	-19.4	22.1							
CCV					UNK	05/28/20 04:07:47 pm	4.890	25584	0.39		
Replicates	25718.2	25593.0	25478.5	25544.5							

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
CCB					UNK	05/28/20 04:09:30 pm	0.025	-23	33.62		
	Replicates	-26.1	-54.4	-51.9	39.6						
HS20050868-22					UNK	05/28/20 04:11:12 pm	0.025	-20	30.11		
	Replicates	6.3	-79.5	-7.0	1.5						
MBLK-153928					UNK	05/28/20 04:16:18 pm	0.012	-92	46.76		
	Replicates	-123.1	-91.6	-54.6	-100.6						
LCS-153928					UNK	05/28/20 04:18:00 pm	5.030	26304	0.59		
	Replicates	26095.3	26308.8	26345.8	26467.3						
HS20050905-01					UNK	05/28/20 04:19:42 pm	0.004	-134	57.28		
	Replicates	-144.4	-125.3	-124.8	-143.3						
HS20050905-01MS					UNK	05/28/20 04:21:24 pm	4.970	25999	0.43		
	Replicates	26119.6	26066.6	25915.6	25894.1						
HS20050905-01MSD					UNK	05/28/20 04:23:05 pm	5.270	27570	0.20		
	Replicates	27598.0	27630.4	27549.9	27501.4						
HS20050754-01					UNK	05/28/20 04:24:47 pm	0.031	8	29.36		
	Replicates	-6.8	64.7	-47.8	22.2						
HS20050757-01					UNK	05/28/20 04:26:29 pm	0.041	60	12.33		s
	Replicates	81.6	64.6	22.1	72.6						
HS20050871-01					UNK	05/28/20 04:28:11 pm	0.048	96	22.75		s
	Replicates	81.9	178.7	48.2	76.7						
HS20050871-02					UNK	05/28/20 04:29:53 pm	0.126	511	6.25		s
	Replicates	510.7	453.4	531.4	548.9						
CCV					UNK	05/28/20 04:31:35 pm	4.980	26051	0.61		
	Replicates	25826.6	26046.5	26140.5	26189.5						
CCB					UNK	05/28/20 04:33:18 pm	0.017	-63	12.74		
	Replicates	-65.9	-46.6	-72.6	-68.1						
HS20050884-01					UNK	05/28/20 04:35:00 pm	-0.008	-197	111.28		
	Replicates	-141.3	-222.1	-250.6	-174.6						
HS20050884-02					UNK	05/28/20 04:36:43 pm	-0.024	-282	65.66		
	Replicates	-381.4	-241.4	-188.9	-315.9						
HS20050884-03					UNK	05/28/20 04:38:25 pm	0.010	-99	96.89		
	Replicates	-161.5	-76.0	-39.0	-118.5						
HS20050884-04					UNK	05/28/20 04:40:08 pm	0.040	57	3.57		
	Replicates	62.4	64.2	55.2	47.7						
HS20050884-05					UNK	05/28/20 04:41:50 pm	0.025	-19	13.48		
	Replicates	-43.4	0.3	-14.7	-18.2						
HS20050884-06					UNK	05/28/20 04:43:31 pm	0.011	-95	52.86		
	Replicates	-54.5	-111.2	-125.2	-90.2						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS20050884-07					UNK	05/28/20 04:45:13 pm	0.009	-108	65.73		
	Replicates	-95.4	-123.4	-139.9	-71.9						
HS20050884-08					UNK	05/28/20 04:46:55 pm	0.007	-115	83.60		
	Replicates	-93.5	-158.8	-87.3	-118.8						
HS20050903-05					UNK	05/28/20 04:48:37 pm	0.018	-58	24.13		
	Replicates	-42.0	-35.7	-71.2	-83.7						
HS20050903-04					UNK	05/28/20 04:52:06 pm	0.067	196	6.89		s
	Replicates	204.3	219.8	162.8	198.8						
CCV					UNK	05/28/20 04:53:49 pm	5.140	26879	0.11		
	Replicates	26844.4	26912.5	26889.5	26869.5						
CCB					UNK	05/28/20 04:55:32 pm	0.026	-16	29.49		
	Replicates	35.4	-16.4	-63.4	-20.4						
MBLK-153934					UNK	05/28/20 05:00:35 pm	0.015	-77	55.96		
	Replicates	-107.3	-109.5	-17.5	-72.5						
LCS-153934					UNK	05/28/20 05:02:17 pm	4.990	26093	0.16		
	Replicates	26109.6	26059.1	26146.1	26056.6						
HS20051041-01					UNK	05/28/20 05:04:00 pm	0.031	8	26.67		
	Replicates	37.7	-29.5	52.0	-28.5						
HS20051041-01MS					UNK	05/28/20 05:05:42 pm	4.990	26087	0.25		
	Replicates	26021.9	26043.3	26127.3	26155.3						
HS20051041-01MSD					UNK	05/28/20 05:07:24 pm	5.100	26700	0.23		
	Replicates	26722.4	26740.2	26729.2	26609.7						
HS20050872-01					UNK	05/28/20 05:09:07 pm	0.040	56	8.45		s
	Replicates	82.2	52.3	49.3	41.8						
HS20050872-03					UNK	05/28/20 05:10:49 pm	0.096	353	11.01		s
	Replicates	346.7	388.4	276.4	399.4						
HS20050872-05					UNK	05/28/20 05:12:31 pm	0.065	190	11.89		s
	Replicates	173.1	142.8	237.3	205.8						
HS20050872-07					UNK	05/28/20 05:14:13 pm	0.140	583	4.88		
	Replicates	584.8	537.5	625.5	583.5						
HS20050872-09					UNK	05/28/20 05:15:55 pm	0.084	286	4.21		
	Replicates	306.4	293.1	263.1	280.1						
CCV					UNK	05/28/20 05:17:38 pm	5.130	26860	0.23		
	Replicates	26806.7	26937.7	26883.2	26814.2						
CCB					UNK	05/28/20 05:19:21 pm	0.024	-27	14.88		
	Replicates	-6.8	-47.4	-36.9	-14.9						
HS20051028-01					UNK	05/28/20 05:21:03 pm	0.009	-105	105.93		
	Replicates	-31.2	-130.2	-112.2	-146.7						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS20051045-01					UNK	05/28/20 05:22:45 pm	0.023	-30	16.90		
	Replicates	-35.9	-56.7	-8.7	-20.2						
MBLK-153936					UNK	05/28/20 05:25:53 pm	0.020	-48	30.10		
	Replicates	-89.7	-46.0	-12.5	-44.5						
LCS-153936					UNK	05/28/20 05:27:35 pm	5.040	26389	0.22		
	Replicates	26384.2	26468.8	26372.8	26331.8						
HS20050910-22					UNK	05/28/20 05:29:17 pm	0.019	-52	30.83		
	Replicates	-66.2	-6.2	-75.2	-61.2						
HS20050910-22MS					UNK	05/28/20 05:30:59 pm	5.020	26242	0.29		
	Replicates	26335.5	26272.8	26169.8	26188.3						
HS20050910-22MSD					UNK	05/28/20 05:35:17 pm	4.990	26077	0.28		
	Replicates	26135.0	26116.1	26088.1	25970.1						
CCV					UNK	05/28/20 05:37:00 pm	5.000	26161	0.45		
	Replicates	26004.5	26137.3	26224.8	26275.3						
CCB					UNK	05/28/20 05:38:43 pm	-0.014	-225	78.97		
	Replicates	-266.6	-267.0	-147.5	-218.5						
CCV					UNK	05/29/20 03:19:47 pm	5.430	28401	0.29		
	Replicates	28475.5	28448.7	28392.7	28287.2						
CCB					UNK	05/29/20 03:21:30 pm	-0.002	-163	530.78		
	Replicates	-161.7	-222.0	-101.5	-165.5						
MBLK-153960					UNK	05/29/20 03:23:11 pm	0.011	-97	37.96		
	Replicates	-73.7	-107.9	-120.9	-84.4						
LCS-153960					UNK	05/29/20 03:24:52 pm	4.950	25872	0.88		
	Replicates	25572.6	25831.4	25980.4	26101.9						
HS20051107-01					UNK	05/29/20 03:26:34 pm	0.010	-100	36.72		
	Replicates	-108.9	-114.2	-106.2	-71.2						
HS20051107-01MS					UNK	05/29/20 03:28:15 pm	4.950	25900	0.21		
	Replicates	25872.1	25981.1	25891.6	25856.6						
HS20051107-01MSD					UNK	05/29/20 03:29:57 pm	4.940	25863	0.47		
	Replicates	26022.7	25883.7	25809.2	25737.7						
HS20051106-01					UNK	05/29/20 03:31:39 pm	0.014	-81	49.86		
	Replicates	-67.7	-45.7	-130.7	-80.7						
CCV					UNK	05/29/20 03:37:16 pm	5.130	26861	0.38		
	Replicates	26902.5	26953.2	26874.7	26714.2						
CCB					UNK	05/29/20 03:38:59 pm	0.028	-4	28.90		
	Replicates	-30.8	-49.8	25.7	39.7						
MBLK-153959					UNK	05/29/20 03:40:40 pm	0.012	-90	23.00		
	Replicates	-101.4	-101.0	-70.5	-88.0						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
LCS-153959					UNK	05/29/20 03:42:22 pm	5.070	26539	0.34		
	Replicates	26618.0	26547.5	26580.5	26409.0						
HS20050972-01					UNK	05/29/20 03:44:05 pm	0.008	-111	67.29		
	Replicates	-109.3	-151.8	-88.3	-95.8						
HS20050972-01MS					UNK	05/29/20 03:45:47 pm	5.090	26612	0.50		
	Replicates	26707.6	26682.7	26640.2	26417.2						
HS20050972-01MSD					UNK	05/29/20 03:47:29 pm	5.080	26555	0.26		
	Replicates	26631.3	26594.3	26521.8	26474.3						
HS20051078-01					UNK	05/29/20 03:49:12 pm	0.018	-61	50.93		
	Replicates	-62.2	-108.2	-76.7	3.8						
HS20051084-01					UNK	05/29/20 03:50:53 pm	0.056	138	11.37		s
	Replicates	135.9	117.1	114.6	186.1						
HS20051084-02					UNK	05/29/20 03:52:34 pm	0.008	-112	131.18		
	Replicates	-50.1	-85.0	-165.5	-148.5						
CCV					UNK	05/29/20 03:56:02 pm	4.760	24907	0.55		
	Replicates	25107.8	24864.8	24796.8	24856.8						
CCB					UNK	05/29/20 03:57:45 pm	0.023	-31	36.42		
	Replicates	-12.3	21.4	-52.6	-80.1						
MBLK-153957					UNK	05/29/20 04:03:00 pm	0.008	-114	49.54		
	Replicates	-105.1	-137.7	-119.7	-91.7						
LCS-153957					UNK	05/29/20 04:04:42 pm	4.740	24768	0.22		
	Replicates	24688.8	24778.0	24812.0	24794.5						
HS20050792-01					UNK	05/29/20 04:06:23 pm	-0.659	-3619	0.30		
	Replicates	-3632.3	-3619.0	-3607.5	-3617.0						
HS20050792-01					UNK	05/29/20 04:09:33 pm	0.004	-132	164.13		
	Replicates	-174.6	-112.1	-95.6	-145.6						
HS20050792-01MS					UNK	05/29/20 04:11:15 pm	5.280	27654	0.35		
	Replicates	27726.7	27728.3	27637.3	27522.3						
HS20050792-01MSD					UNK	05/29/20 04:14:09 pm	5.260	27521	0.19		
	Replicates	27447.2	27514.7	27558.7	27563.7						
HS20050792-03					UNK	05/29/20 04:15:51 pm	0.026	-14	13.80		
	Replicates	-31.7	-10.2	10.8	-26.7						
HS20050792-04					UNK	05/29/20 04:17:33 pm	-0.004	-173	147.10		
	Replicates	-136.9	-174.6	-207.6	-173.1						
HS20050792-05					UNK	05/29/20 04:19:16 pm	0.014	-80	61.11		
	Replicates	-115.5	-25.6	-118.1	-62.1						
HS20050792-06					UNK	05/29/20 04:20:58 pm	0.016	-71	75.21		
	Replicates	-100.3	-133.2	11.3	-60.7						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
CCV					UNK	05/29/20 04:22:41 pm	5.450	28509	0.36		
	Replicates	28560.9	28553.7	28565.2	28356.2						
CCB					UNK	05/29/20 04:24:24 pm	0.020	-49	49.55		
	Replicates	6.2	-31.0	-54.5	-117.0						
HS20050792-07					UNK	05/29/20 04:26:05 pm	0.001	-149	909.49		
	Replicates	-149.7	-145.4	-196.4	-105.9						
HS20050863-07					UNK	05/29/20 04:27:46 pm	0.010	-99	85.56		
	Replicates	-155.0	-93.0	-41.5	-106.0						
HS20050863-08					UNK	05/29/20 04:29:27 pm	0.011	-98	43.75		
	Replicates	-100.1	-92.8	-70.8	-129.3						
HS20050863-09					UNK	05/29/20 04:31:09 pm	0.021	-40	18.26		
	Replicates	-34.2	-67.7	-41.7	-18.2						
HS20050863-10					UNK	05/29/20 04:32:50 pm	0.037	40	4.08		
	Replicates	39.5	29.3	47.8	43.3						
HS20050863-11					UNK	05/29/20 04:34:32 pm	0.014	-82	42.42		
	Replicates	-111.0	-104.7	-51.7	-59.7						
HS20050911-01					UNK	05/29/20 04:36:14 pm	0.014	-79	21.91		
	Replicates	-102.2	-76.8	-65.8	-69.3						
HS20050911-03					UNK	05/29/20 04:37:56 pm	0.015	-74	30.84		
	Replicates	-49.9	-108.1	-66.6	-71.1						
HS20050911-04					UNK	05/29/20 04:39:38 pm	0.007	-118	81.48		
	Replicates	-113.1	-159.9	-102.4	-94.9						
HS20050911-06					UNK	05/29/20 04:41:20 pm	0.019	-53	12.27		
	Replicates	-51.0	-53.3	-38.8	-68.8						
CCV					UNK	05/29/20 04:43:03 pm	5.430	28415	0.12		
	Replicates	28446.0	28419.3	28425.8	28368.3						
CCB					UNK	05/29/20 04:44:46 pm	0.018	-56	19.77		
	Replicates	-39.7	-73.2	-39.7	-72.7						
HS20050911-07					UNK	05/29/20 04:46:28 pm	0.024	-28	18.38		
	Replicates	-7.3	-15.1	-29.6	-59.6						
HS20050911-08					UNK	05/29/20 04:48:11 pm	0.019	-54	31.14		
	Replicates	-47.4	-97.4	-23.9	-47.9						
HS20050911-10					UNK	05/29/20 04:49:52 pm	0.011	-96	39.39		
	Replicates	-81.8	-128.3	-78.8	-94.3						
HS20050911-11					UNK	05/29/20 04:51:33 pm	0.010	-103	90.46		
	Replicates	-102.9	-44.3	-156.8	-106.3						
HS20050792-02					UNK	05/29/20 04:53:15 pm	0.015	-74	11.41		
	Replicates	-86.0	-76.0	-66.5	-67.5						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
MBLK-153958					UNK	05/29/20 05:04:51 pm	0.016	-71	39.23		
	Replicates	-31.1	-67.1	-109.1	-78.1						
LCS-153958					UNK	05/29/20 05:06:32 pm	4.920	25743	0.23		
	Replicates	25746.3	25824.8	25689.8	25711.3						
HS20050911-12					UNK	05/29/20 05:10:09 pm	-0.021	-266	70.03		
	Replicates	-185.3	-228.0	-282.5	-368.0						
HS20050911-12MS					UNK	05/29/20 05:11:51 pm	5.360	28037	0.24		
	Replicates	28098.8	28068.5	28039.0	27940.5						
HS20050911-12MSD					UNK	05/29/20 05:13:33 pm	5.260	27538	0.33		
	Replicates	27605.5	27627.0	27464.0	27454.5						
CCV					UNK	05/29/20 05:15:15 pm	5.500	28810	0.11		
	Replicates	28803.2	28776.7	28854.2	28805.2						
CCB					UNK	05/29/20 05:16:58 pm	0.015	-73	28.85		
	Replicates	-101.3	-80.1	-47.1	-63.1						
HS20050934-01					UNK	05/29/20 05:18:40 pm	-0.022	-270	29.15		
	Replicates	-261.5	-237.7	-263.7	-318.2						
HS20050934-02					UNK	05/29/20 05:20:22 pm	-0.001	-156	461.46		
	Replicates	-149.6	-100.7	-206.7	-168.7						
HS20050934-03					UNK	05/29/20 05:22:04 pm	-0.018	-250	22.25		
	Replicates	-277.6	-237.6	-255.6	-229.1						
HS20050934-04					UNK	05/29/20 05:23:47 pm	0.015	-74	50.47		
	Replicates	-81.6	-126.1	-55.6	-32.6						
HS20050934-05					UNK	05/29/20 05:25:29 pm	-0.010	-208	57.99		
	Replicates	-225.2	-212.5	-162.0	-231.5						
HS20050934-06					UNK	05/29/20 05:27:11 pm	-0.015	-232	38.05		
	Replicates	-274.2	-203.1	-225.6	-226.1						
HS20050940-01					UNK	05/29/20 05:28:52 pm	-0.003	-170	135.67		
	Replicates	-177.4	-198.4	-144.4	-161.4						
HS20050940-02					UNK	05/29/20 05:30:34 pm	-0.023	-275	32.42		
	Replicates	-282.7	-259.4	-232.4	-325.4						
HS20050940-03					UNK	05/29/20 05:32:15 pm	0.003	-136	111.39		
	Replicates	-163.3	-136.1	-123.1	-123.1						
HS20050940-04					UNK	05/29/20 05:33:57 pm	-0.006	-186	141.81		
	Replicates	-216.7	-201.9	-117.9	-205.9						
CCV					UNK	05/29/20 05:35:40 pm	5.110	26734	0.39		
	Replicates	26590.3	26725.5	26801.5	26820.5						
CCB					UNK	05/29/20 05:37:23 pm	0.020	-46	17.24		
	Replicates	-26.5	-67.1	-35.1	-55.1						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS20050940-05					UNK	05/29/20 05:39:04 pm	0.000	-153	969.53		
Replicates	-189.5	-170.0	-126.0	-126.0							
HS20050940-06					UNK	05/29/20 05:40:46 pm	0.006	-120	243.44		
Replicates	-94.3	-210.0	-155.5	-19.0							
HS20050943-01					UNK	05/29/20 05:42:28 pm	0.023	-32	30.95		
Replicates	-55.6	-66.9	16.6	-20.9							
HS20051034-01					UNK	05/29/20 05:44:10 pm	0.008	-110	12.19		
Replicates	-110.1	-116.3	-109.8	-103.3							
HS20051034-02					UNK	05/29/20 05:45:52 pm	0.015	-76	69.04		
Replicates	-154.9	-48.0	-62.5	-39.0							
HS20051049-01					UNK	05/29/20 05:47:35 pm	0.118	469	3.29		
Replicates	491.3	442.1	474.6	467.1							
HS20051049-02					UNK	05/29/20 05:49:17 pm	0.022	-36	6.79		
Replicates	-27.4	-44.4	-31.9	-41.4							
HS20051083-01					UNK	05/29/20 05:50:59 pm	0.009	-105	53.54		
Replicates	-142.8	-99.7	-84.7	-94.2							
HS20051121-01					UNK	05/29/20 05:52:41 pm	0.016	-68	33.48		
Replicates	-41.7	-106.9	-52.4	-70.9							
CCV					UNK	05/29/20 05:54:45 pm	5.120	26798	0.10		
Replicates	26762.7	26822.5	26818.0	26788.0							
CCB					UNK	05/29/20 05:56:28 pm	0.007	-118	117.40		
Replicates	-122.9	-62.4	-125.9	-161.9							
MBLK-153961					UNK	05/29/20 06:05:52 pm	0.020	-48	26.37		
Replicates	-28.4	-88.3	-30.8	-45.8							
LCS-153961					UNK	05/29/20 06:07:34 pm	5.210	27249	0.23		
Replicates	27264.3	27300.0	27274.5	27155.5							
HS20051081-01					UNK	05/29/20 06:09:16 pm	0.009	-105	32.76		
Replicates	-83.5	-116.9	-104.4	-116.9							
HS20051081-01MS					UNK	05/29/20 06:10:57 pm	5.310	27812	0.21		
Replicates	27779.6	27876.6	27841.6	27750.6							
HS20051081-01MSD					UNK	05/29/20 06:12:39 pm	5.260	27527	0.23		
Replicates	27538.5	27590.7	27538.7	27440.7							
MBLKT1-153961					UNK	05/29/20 06:14:21 pm	0.016	-71	72.17		
Replicates	-96.2	12.7	-125.3	-75.3							
HS20051030-01					UNK	05/29/20 06:16:03 pm	0.016	-69	22.86		
Replicates	-62.3	-45.5	-89.5	-79.0							
HS20051059-02					UNK	05/29/20 06:17:46 pm	0.003	-140	181.31		
Replicates	-114.9	-130.0	-171.0	-145.0							

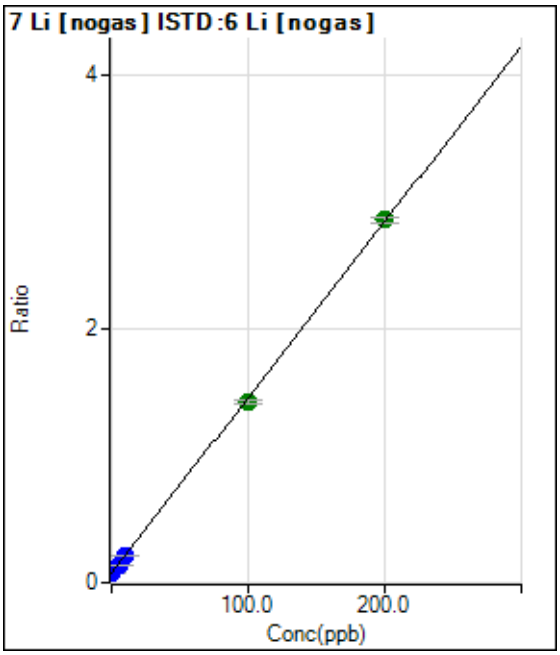
Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS20051029-01					UNK	05/29/20 06:19:28 pm	0.016	-68	65.63		
	Replicates	-50.0	-135.5	-3.5	-85.0						
HS20050979-01					UNK	05/29/20 06:21:11 pm	0.127	514	6.54		s
	Replicates	500.8	499.3	477.8	577.3						
CCV					UNK	05/29/20 06:22:54 pm	5.080	26550	1.04		
	Replicates	26833.6	26731.8	26390.3	26244.8						
CCB					UNK	05/29/20 06:24:37 pm	-0.009	-198	59.99		
	Replicates	-219.8	-223.3	-175.8	-174.3						
HS20051080-01					UNK	05/29/20 06:32:38 pm	0.019	-53	36.56		
	Replicates	-32.8	-105.3	-23.3	-51.3						
CCV					UNK	05/29/20 06:34:20 pm	5.260	27525	0.14		
	Replicates	27506.7	27571.9	27538.9	27483.9						
CCB					UNK	05/29/20 06:36:03 pm	0.014	-78	15.73		
	Replicates	-60.7	-86.6	-80.6	-84.6						

Calibration for 111_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\052820A.b\
Analysis File: 052820A.batch.bin
DA Date-Time: 5/29/2020 7:45:19 AM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	104CALB.d	CAL BLK	5/28/2020 3:35:08 PM
2	105CALS.d	2/10/200	5/28/2020 3:37:33 PM
3	106CALS.d	5/25/500	5/28/2020 3:39:57 PM
4	107CALS.d	10/50/1000	5/28/2020 3:42:23 PM
5	108CALS.d	100/500/10K	5/28/2020 3:44:46 PM
6	109CALS.d	200/1000/20K	5/28/2020 3:47:07 PM
7			

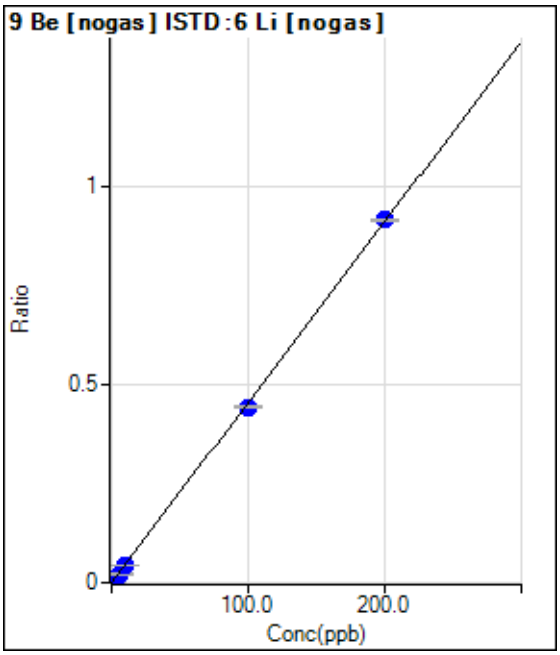
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	65328.01	0.0763	P	0.5
2	☐	2.000	1.922	87139.82	0.1029	P	1.5
3	☐	5.000	4.765	121229.48	0.1423	P	1.6
4	☐	10.000	9.819	178972.10	0.2123	P	0.1
5	☐	100.000	97.699	1135086.83	1.4293	A	1.6
6	☐	200.000	201.166	2178013.72	2.8622	A	1.3
7	☐	1.000					

y = 0.0138 * x + 0.0763
R = 0.9999
DL = 0.08725
BEC = 5.509

Weight: <None>
Min Conc: <None>

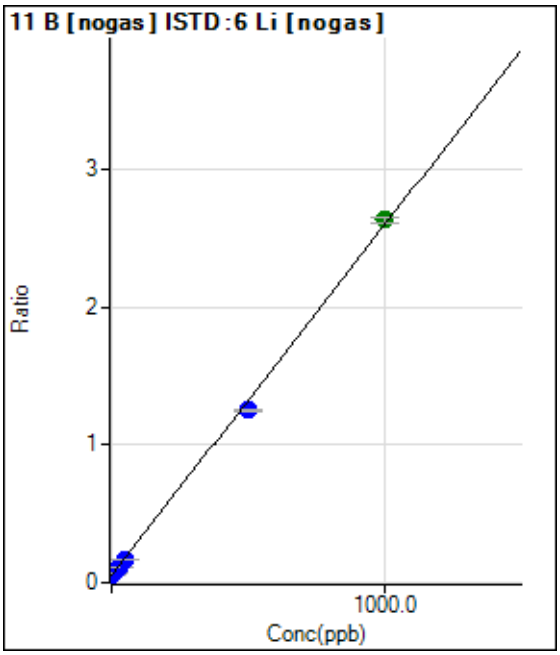


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8.33	0.0000	P	91.5
2	☐	2.000	1.905	7343.11	0.0087	P	2.9
3	☐	5.000	4.789	18567.39	0.0218	P	3.3
4	☐	10.000	9.903	37980.58	0.0450	P	0.8
5	☐	100.000	97.419	351878.09	0.4431	P	0.7
6	☐	200.000	201.302	696703.84	0.9156	P	0.3
7	☐	1.000					

y = 0.0045 * x + 9.7425E-006
R = 0.9999
DL = 0.00588
BEC = 0.002142

Weight: <None>
Min Conc: <None>

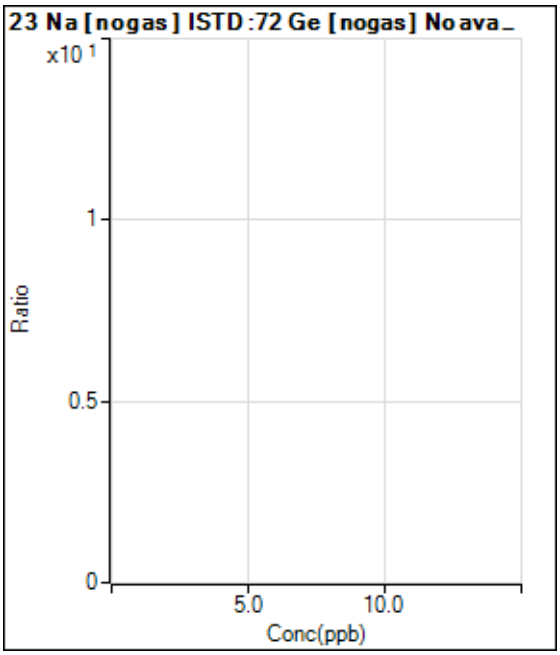
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	45605.30	0.0533	P	2.2
2	☐	10.000	9.067	64647.58	0.0763	P	0.8
3	☐	25.000	22.839	94926.56	0.1114	P	0.8
4	☐	50.000	46.864	145504.61	0.1726	P	1.1
5	☐	500.000	470.784	994184.00	1.2519	P	2.0
6	☐	1000.000	1014.828	2006767.16	2.6371	A	1.5
7	☐	5.000					

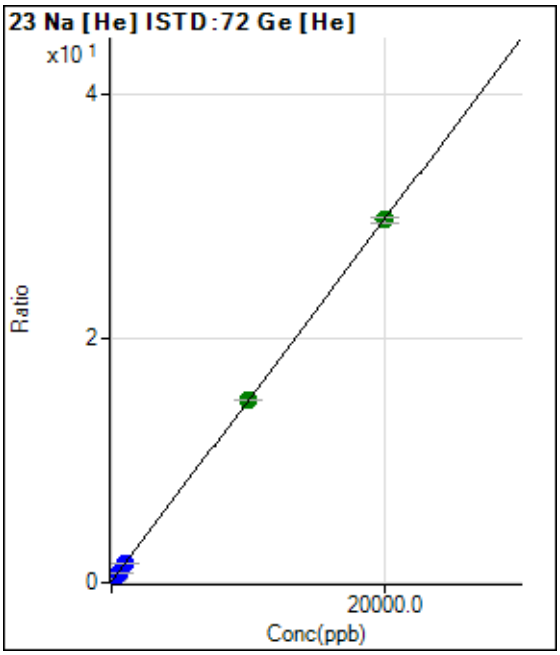
y = 0.0025 * x + 0.0533
R = 0.9994
DL = 1.351
BEC = 20.92

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.00					
6	☐	20000.00					
7	☐	100.000					

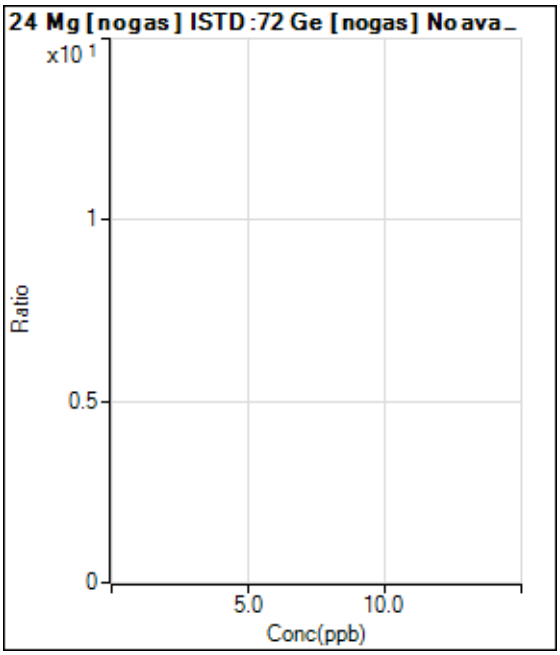
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	42330.67	0.0799	P	1.6
2	☐	200.000	206.949	205208.37	0.3865	P	2.9
3	☐	500.000	513.469	451300.94	0.8408	P	1.6
4	☐	1000.000	1051.820	861486.76	1.6385	P	0.9
5	☐	10000.00	10040.33	7602366.14	14.9585	A	0.7
6	☐	20000.00	19976.83	14969861.8	29.6832	A	1.5
7	☐	100.000					

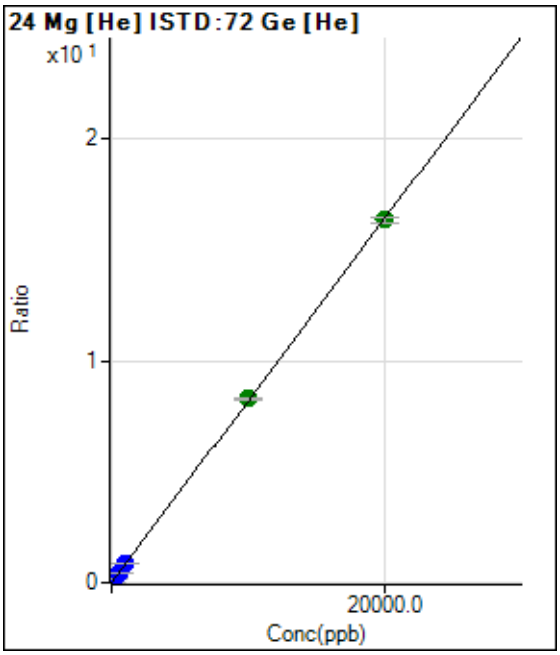
y = 0.0015 * x + 0.0799
R = 1.0000
DL = 2.589
BEC = 53.89

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.00					
6	☐	20000.00					
7	☐	100.000					

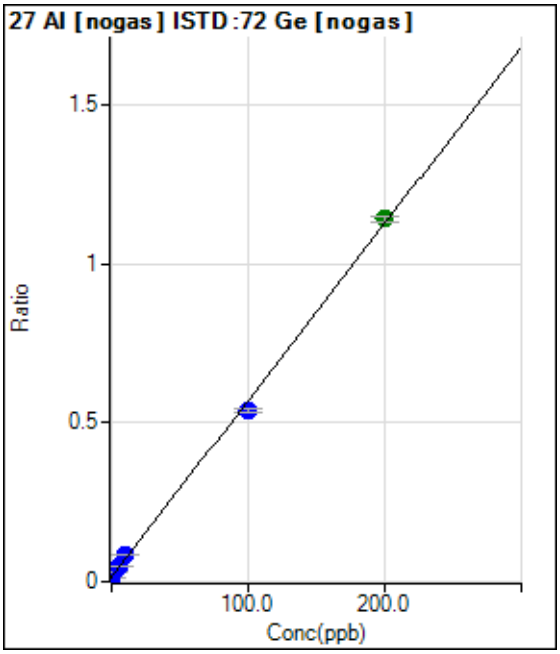
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	420.01	0.0008	P	8.1
2	☐	200.000	206.190	90192.85	0.1699	P	3.0
3	☐	500.000	512.900	226181.08	0.4214	P	1.5
4	☐	1000.000	1045.118	451013.81	0.8578	P	1.2
5	☐	10000.00	10104.40	4211430.98	8.2863	A	0.4
6	☐	20000.00	19945.16	8248470.50	16.3557	A	1.7
7	☐	100.000					

y = 8.1999E-004 * x + 7.9210E-004
R = 1.0000
DL = 0.2338
BEC = 0.966

Weight: <None>
Min Conc: <None>

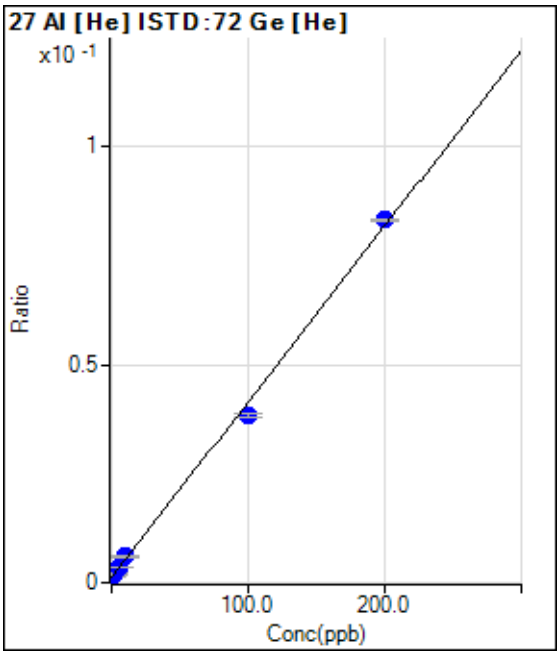


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31112.31	0.0147	P	3.3
2	☐	2.000	2.551	60533.33	0.0289	P	2.3
3	☐	5.000	5.944	101567.22	0.0477	P	1.1
4	☐	10.000	12.489	178686.01	0.0841	P	0.6
5	☐	100.000	94.162	1127291.50	0.5378	P	2.3
6	☐	200.000	202.766	2342381.95	1.1411	A	1.8
7	☐	1.000					

y = 0.0056 * x + 0.0147
R = 0.9993
DL = 0.2605
BEC = 2.644

Weight: <None>
Min Conc: <None>

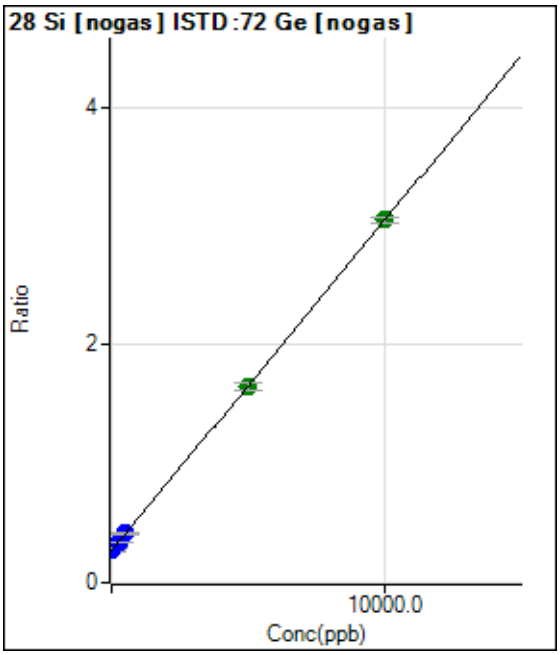
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	636.69	0.0012	P	15.0
2	☐	2.000	1.874	1040.04	0.0020	P	5.9
3	☐	5.000	5.504	1836.79	0.0034	P	6.1
4	☐	10.000	12.205	3220.32	0.0061	P	7.3
5	☐	100.000	92.543	19573.63	0.0385	P	1.9
6	☐	200.000	203.607	42006.77	0.0833	P	0.4
7	☐	1.000					

y = 4.0318E-004 * x + 0.0012
R = 0.9989
DL = 1.344
BEC = 2.98

Weight: <None>
Min Conc: <None>

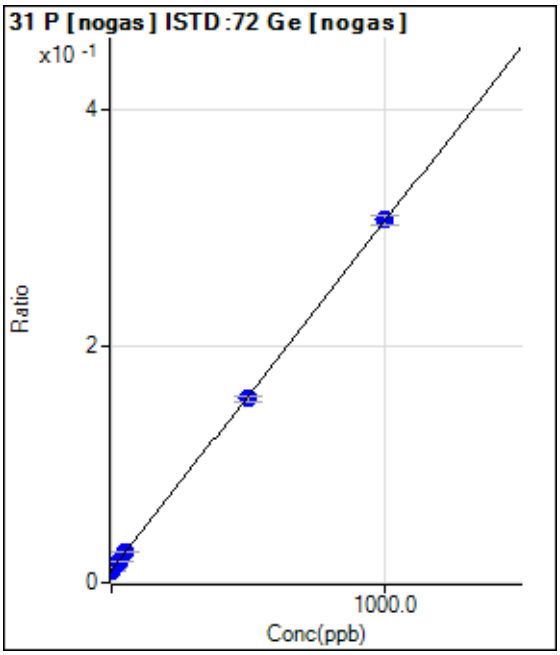


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	570646.59	0.2693	P	2.2
2	☐	100.000	117.959	633864.11	0.3022	P	2.5
3	☐	250.000	270.708	733724.94	0.3447	P	0.9
4	☐	500.000	521.746	881001.84	0.4145	P	1.8
5	☐	5000.000	4967.031	3461070.58	1.6511	A	3.6
6	☐	10000.00	10014.70	6272030.53	3.0552	A	1.2
7	☐	50.000					

y = 2.7818E-004 * x + 0.2693
R = 1.0000
DL = 64.67
BEC = 968.3

Weight: <None>
Min Conc: <None>

Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22343.48	0.0106	P	5.6
2	☐	10.000	9.802	28204.71	0.0134	P	2.2
3	☐	25.000	26.351	39020.61	0.0183	P	4.0
4	☐	50.000	52.237	55190.65	0.0260	P	2.5
5	☐	500.000	490.866	325761.57	0.1554	P	2.4
6	☐	1000.000	1004.423	630082.33	0.3070	P	2.9
7	☐	5.000					

y = 2.9510E-004 * x + 0.0106

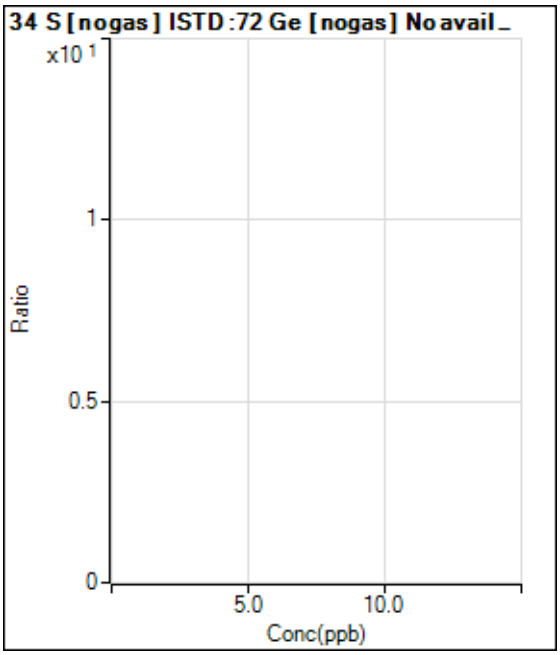
R = 0.9999

DL = 6.007

BEC = 35.76

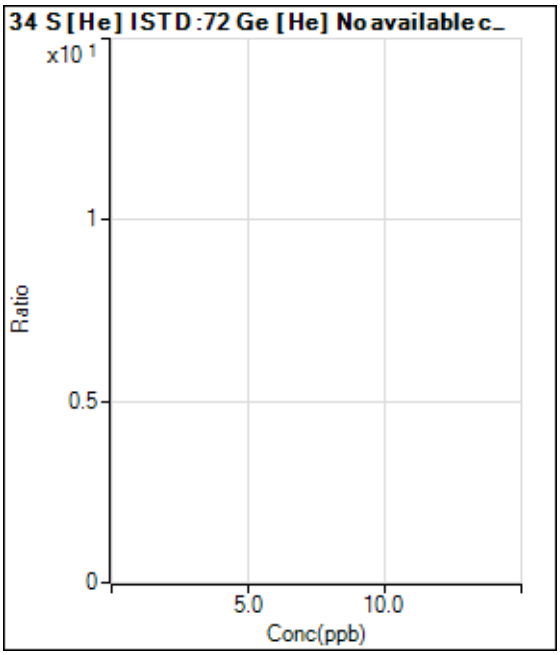
Weight: <None>

Min Conc: <None>

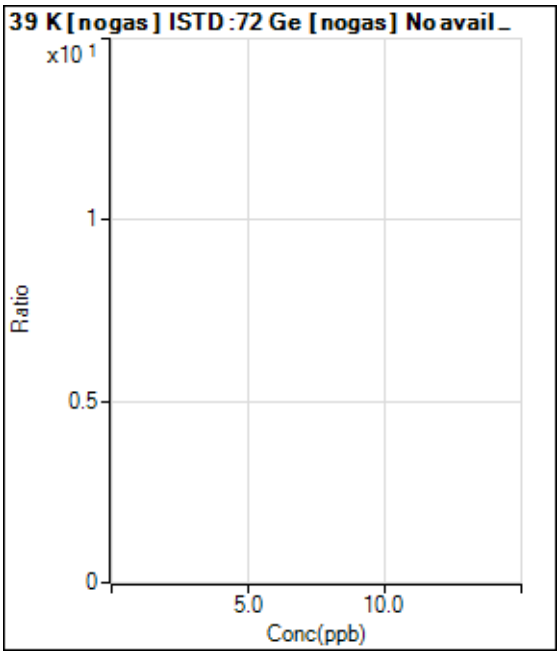


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.00					
6	☐	40000.00					
7	☐	200.000					

Calibration for 111_ICV.d

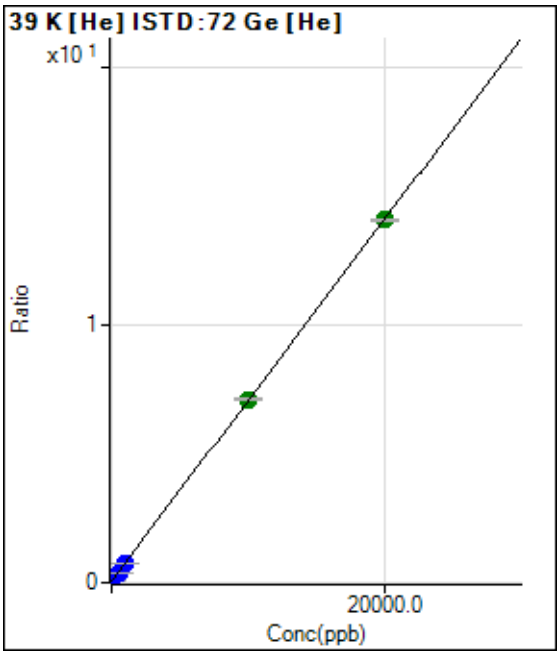


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.00					
6	☐	40000.00					
7	☐	200.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.00					
6	☐	20000.00					
7	☐	100.000					

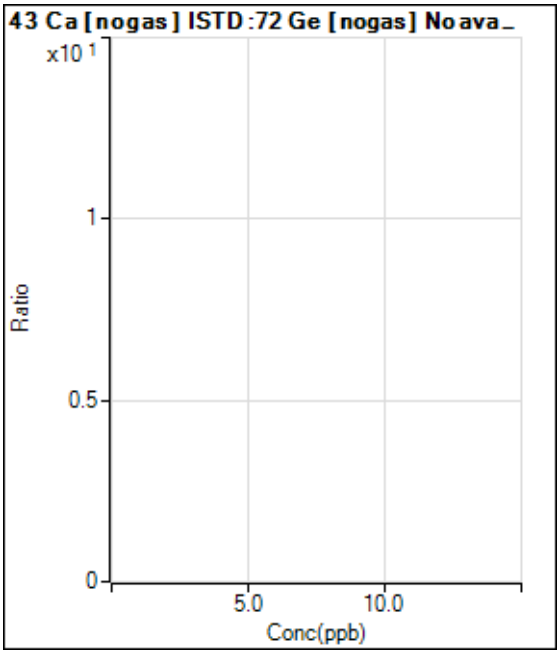
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29980.88	0.0566	P	2.6
2	☐	200.000	199.753	104424.77	0.1967	P	1.8
3	☐	500.000	499.740	218531.27	0.4071	P	1.2
4	☐	1000.000	1030.645	409856.78	0.7795	P	0.1
5	☐	10000.00	10054.93	3613599.21	7.1097	A	0.9
6	☐	20000.00	19971.00	7093750.52	14.0653	A	0.8
7	☐	100.000					

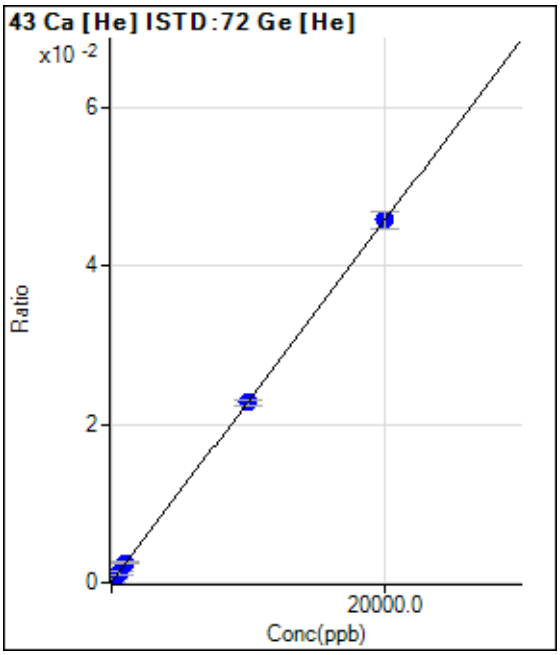
y = 7.0146E-004 * x + 0.0566
R = 1.0000
DL = 6.37
BEC = 80.63

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.00					
6	☐	20000.00					
7	☐	100.000					

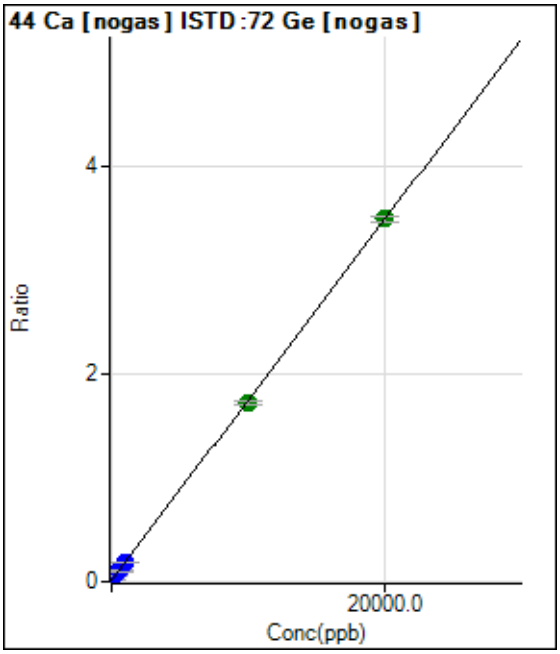
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0001	P	75.4
2	☐	200.000	207.944	286.67	0.0005	P	31.9
3	☐	500.000	525.133	676.69	0.0013	P	28.6
4	☐	1000.000	1071.424	1320.07	0.0025	P	11.3
5	☐	10000.00	9916.517	11547.04	0.0227	P	2.7
6	☐	20000.00	20037.46	23121.29	0.0458	P	4.9
7	☐	100.000					

y = 2.2849E-006 * x + 6.2938E-005
R = 1.0000
DL = 62.32
BEC = 27.54

Weight: <None>
Min Conc: <None>

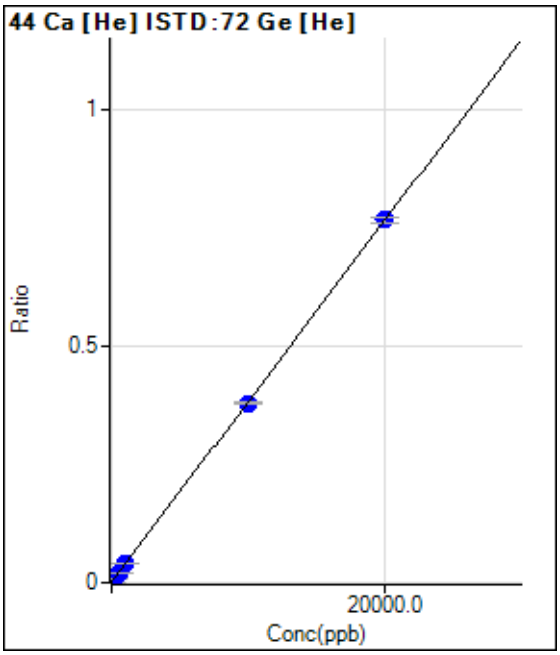


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26255.61	0.0124	P	5.5
2	☐	200.000	208.943	102119.97	0.0487	P	2.6
3	☐	500.000	515.933	217134.11	0.1020	P	0.8
4	☐	1000.000	1043.516	411545.40	0.1936	P	0.9
5	☐	10000.00	9882.849	3624178.38	1.7287	A	2.1
6	☐	20000.00	20055.91	7175694.68	3.4954	A	1.8
7	☐	100.000					

y = 1.7367E-004 * x + 0.0124
R = 1.0000
DL = 11.8
BEC = 71.37

Weight: <None>
Min Conc: <None>

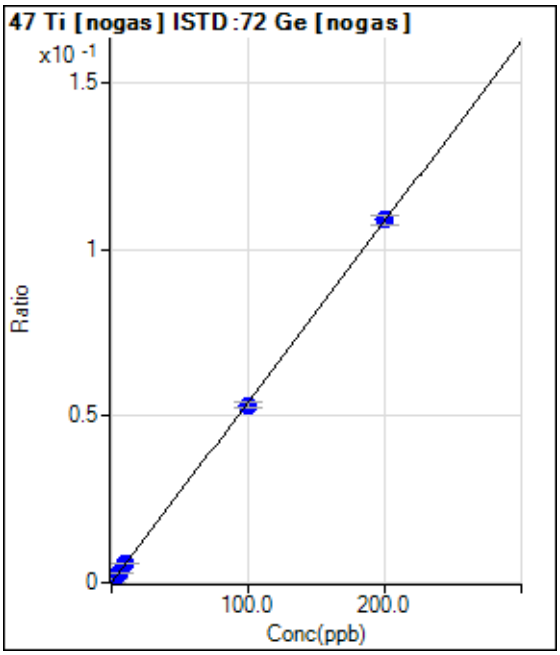
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	446.68	0.0008	P	15.2
2	☐	200.000	198.380	4463.96	0.0084	P	3.8
3	☐	500.000	501.074	10713.22	0.0200	P	6.8
4	☐	1000.000	1018.110	20858.64	0.0397	P	2.5
5	☐	10000.00	9898.246	192297.53	0.3784	P	1.4
6	☐	20000.00	20049.96	386127.00	0.7656	P	1.7
7	☐	100.000					

y = 3.8142E-005 * x + 8.4260E-004
R = 1.0000
DL = 10.04
BEC = 22.09

Weight: <None>
Min Conc: <None>

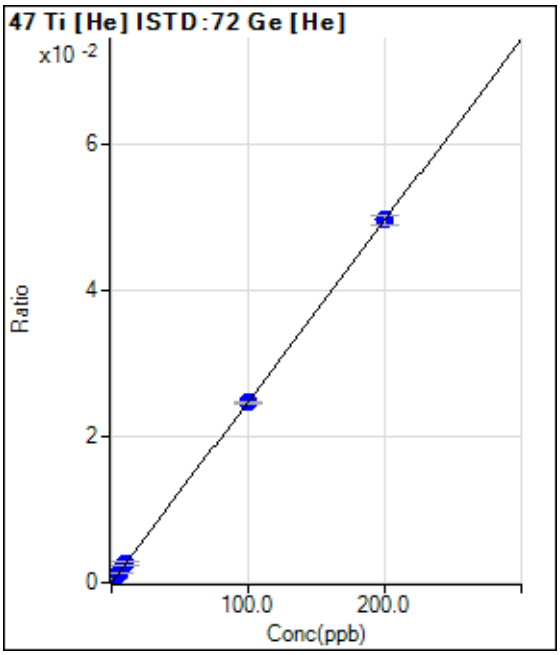


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0000	P	39.1
2	☐	2.000	2.113	2466.87	0.0012	P	9.1
3	☐	5.000	5.125	5981.03	0.0028	P	6.1
4	☐	10.000	10.304	11940.63	0.0056	P	3.6
5	☐	100.000	98.270	111720.09	0.0533	P	3.0
6	☐	200.000	200.845	223558.77	0.1089	P	2.6
7	☐	1.000					

y = 5.4207E-004 * x + 3.1552E-005
R = 0.9999
DL = 0.06822
BEC = 0.05821

Weight: <None>
Min Conc: <None>

Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	2.254	296.68	0.0006	P	15.9
3	☐	5.000	5.019	666.69	0.0012	P	8.3
4	☐	10.000	10.256	1333.40	0.0025	P	19.1
5	☐	100.000	99.338	12491.05	0.0246	P	0.3
6	☐	200.000	200.315	24993.67	0.0496	P	2.8
7	☐	1.000					

y = 2.4740E-004 * x + 0.0000E+000

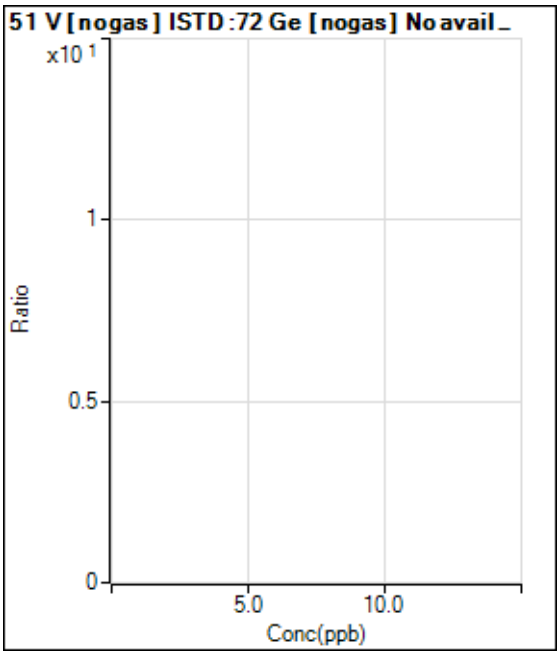
R = 1.0000

DL = 0

BEC = 0

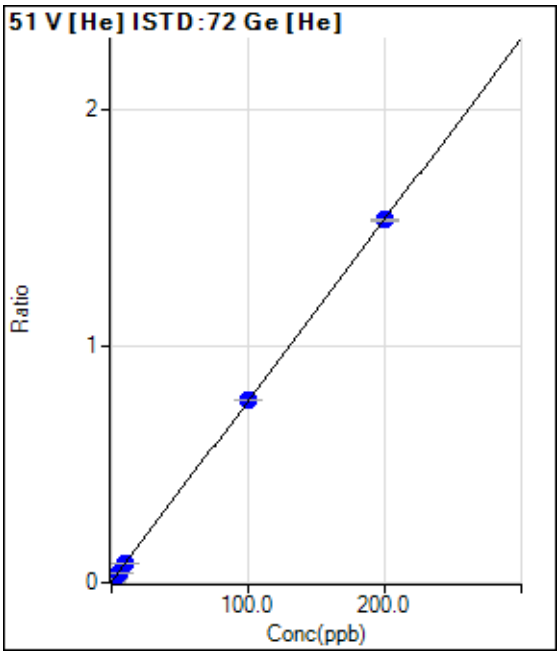
Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

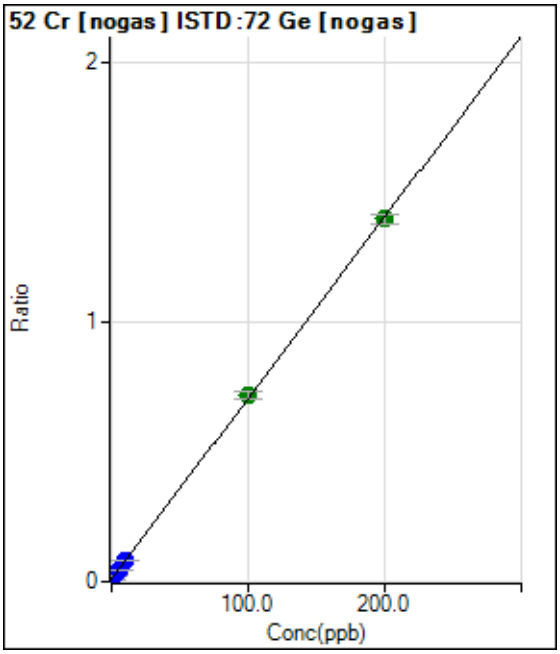
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2069.01	0.0039	P	8.3
2	☐	2.000	2.047	10379.58	0.0196	P	3.5
3	☐	5.000	4.956	22435.74	0.0418	P	2.3
4	☐	10.000	10.246	43239.98	0.0822	P	1.1
5	☐	100.000	100.178	391265.74	0.7699	P	0.5
6	☐	200.000	199.899	772799.22	1.5323	P	0.5
7	☐	1.000					

y = 0.0076 * x + 0.0039
R = 1.0000
DL = 0.1274
BEC = 0.5106

Weight: <None>
Min Conc: <None>

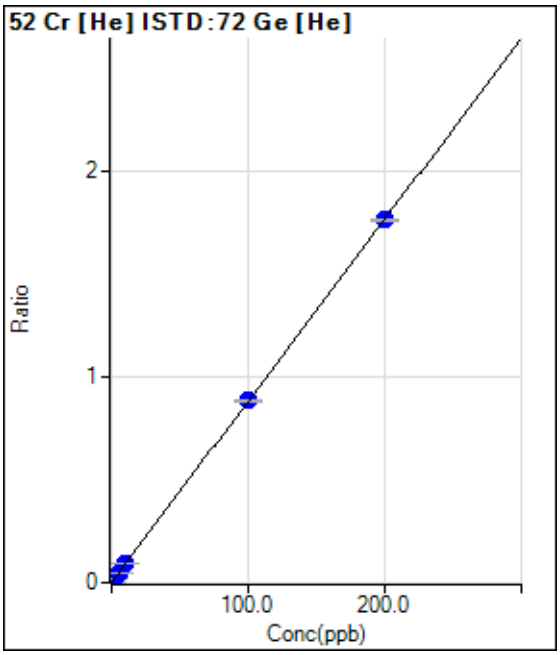


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19236.87	0.0091	P	3.9
2	☐	2.000	2.140	50361.67	0.0240	P	2.1
3	☐	5.000	5.161	95969.93	0.0451	P	2.1
4	☐	10.000	10.399	173478.77	0.0816	P	0.1
5	☐	100.000	101.742	1506934.87	0.7187	A	3.4
6	☐	200.000	199.104	2869463.81	1.3979	A	2.7
7	☐	1.000					

y = 0.0070 * x + 0.0091
R = 0.9999
DL = 0.1535
BEC = 1.302

Weight: <None>
Min Conc: <None>

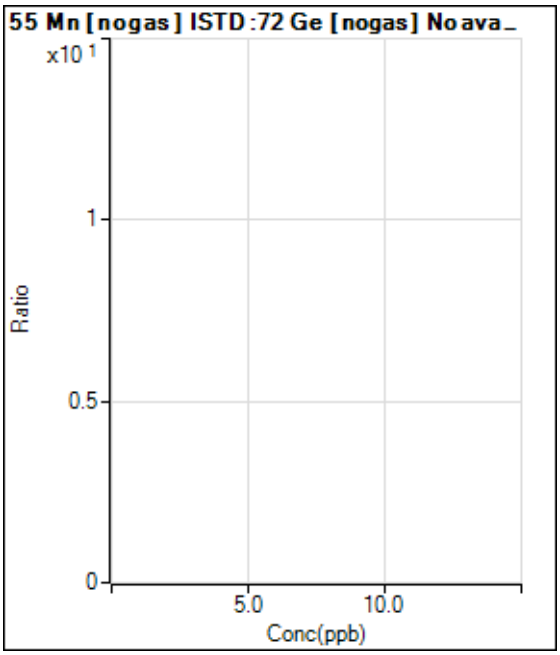
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	636.69	0.0012	P	14.2
2	☐	2.000	2.048	10236.29	0.0193	P	7.1
3	☐	5.000	5.194	25277.47	0.0471	P	1.6
4	☐	10.000	10.348	48690.60	0.0926	P	1.3
5	☐	100.000	100.193	450461.33	0.8862	P	1.3
6	☐	200.000	199.881	891032.74	1.7668	P	0.7
7	☐	1.000					

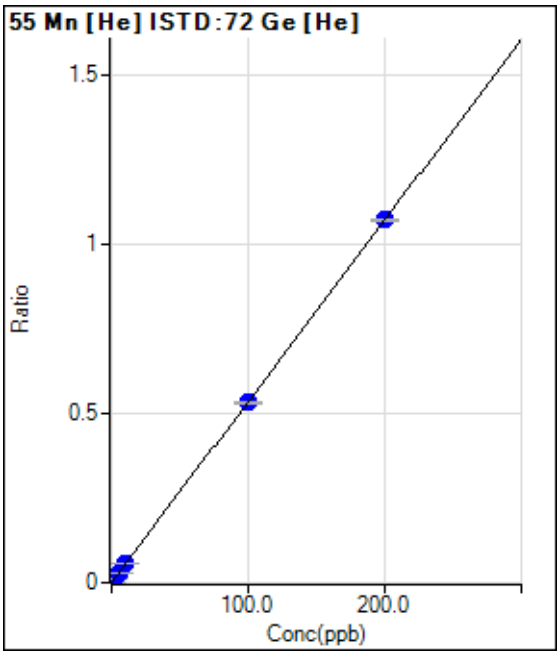
y = 0.0088 * x + 0.0012
R = 1.0000
DL = 0.05802
BEC = 0.136

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

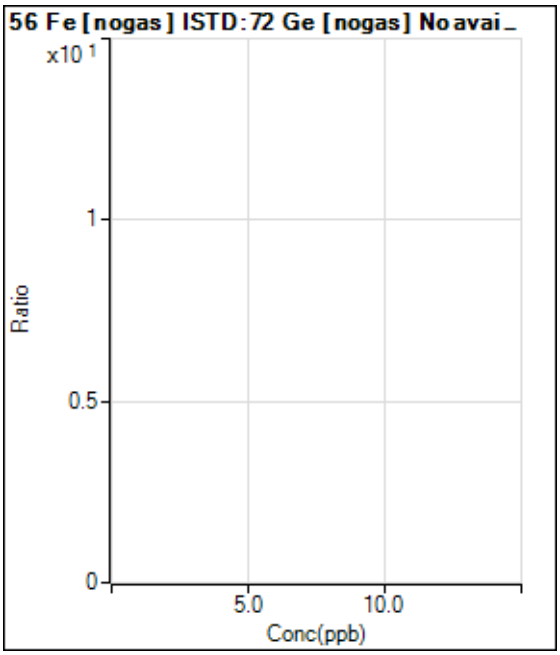
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	103.33	0.0002	P	72.8
2	☐	2.000	2.043	5907.72	0.0111	P	5.7
3	☐	5.000	5.236	15139.68	0.0282	P	2.4
4	☐	10.000	10.491	29597.43	0.0563	P	1.4
5	☐	100.000	99.270	269891.95	0.5310	P	0.4
6	☐	200.000	200.334	540344.59	1.0714	P	0.7
7	☐	1.000					

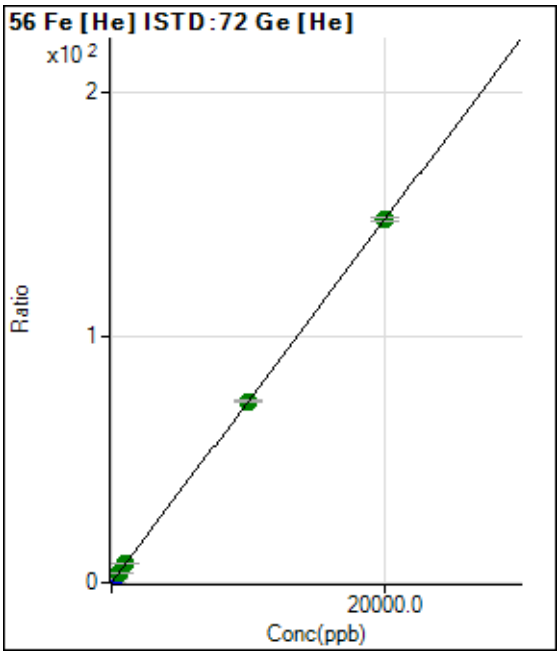
y = 0.0053 * x + 1.9455E-004
R = 1.0000
DL = 0.07947
BEC = 0.03638

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.00					
6	☐	20000.00					
7	☐	100.000					

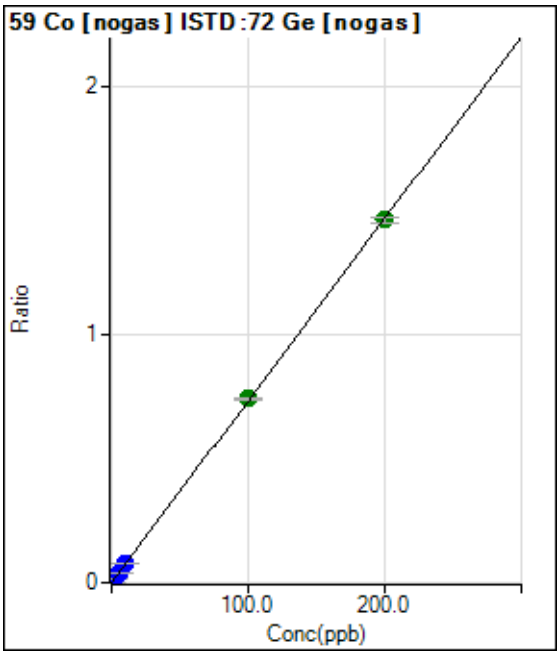
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5690.96	0.0107	P	7.7
2	☐	200.000	201.375	796476.81	1.4999	P	1.0
3	☐	500.000	530.740	2112761.63	3.9356	A	0.9
4	☐	1000.000	1068.773	4161203.69	7.9145	A	0.9
5	☐	10000.00	9985.692	37534568.6	73.8563	A	1.3
6	☐	20000.00	20002.93	74605948.8	147.935	A	1.2
7	☐	100.000					

y = 0.0074 * x + 0.0107
R = 1.0000
DL = 0.3348
BEC = 1.452

Weight: <None>
Min Conc: <None>

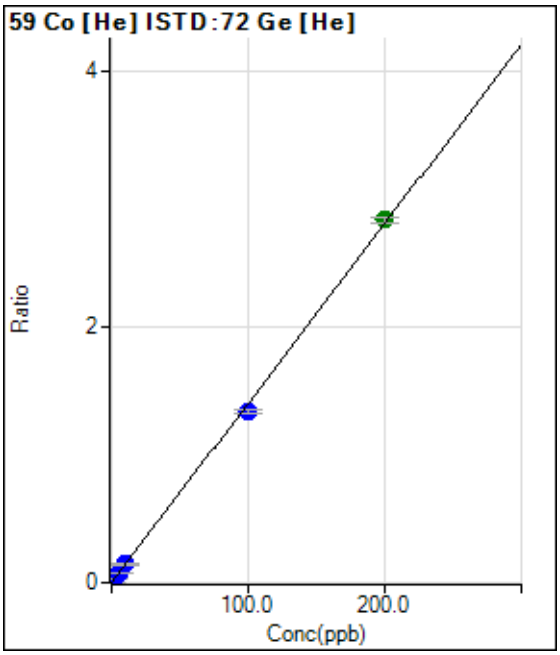


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	293.34	0.0001	P	11.6
2	☐	2.000	2.119	32853.07	0.0157	P	4.2
3	☐	5.000	5.165	80843.61	0.0380	P	0.7
4	☐	10.000	10.502	163824.50	0.0771	P	0.8
5	☐	100.000	100.986	1551534.46	0.7399	A	0.6
6	☐	200.000	199.477	3000041.20	1.4614	A	1.8
7	☐	1.000					

y = 0.0073 * x + 1.3859E-004
R = 1.0000
DL = 0.006609
BEC = 0.01892

Weight: <None>
Min Conc: <None>

Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96.67	0.0002	P	22.1
2	☐	2.000	1.970	14756.12	0.0278	P	4.5
3	☐	5.000	5.014	37825.80	0.0705	P	2.3
4	☐	10.000	10.237	75527.39	0.1437	P	1.6
5	☐	100.000	95.430	679835.33	1.3377	P	1.5
6	☐	200.000	202.273	1429798.47	2.8352	A	1.5
7	☐	1.000					

y = 0.0140 * x + 1.8250E-004

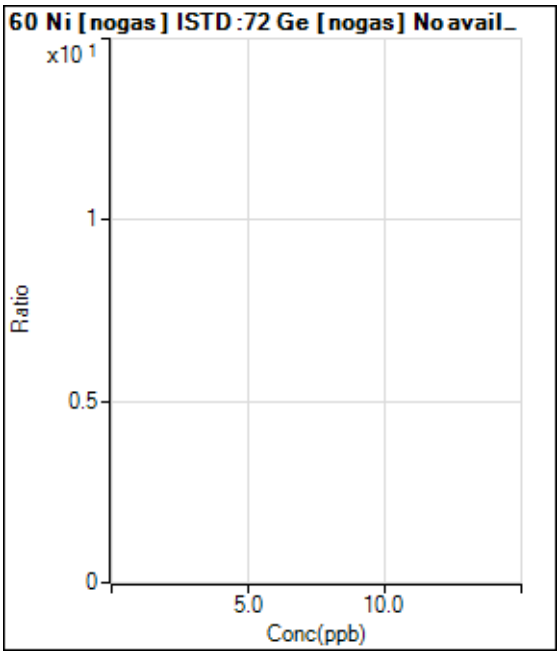
R = 0.9996

DL = 0.008629

BEC = 0.01302

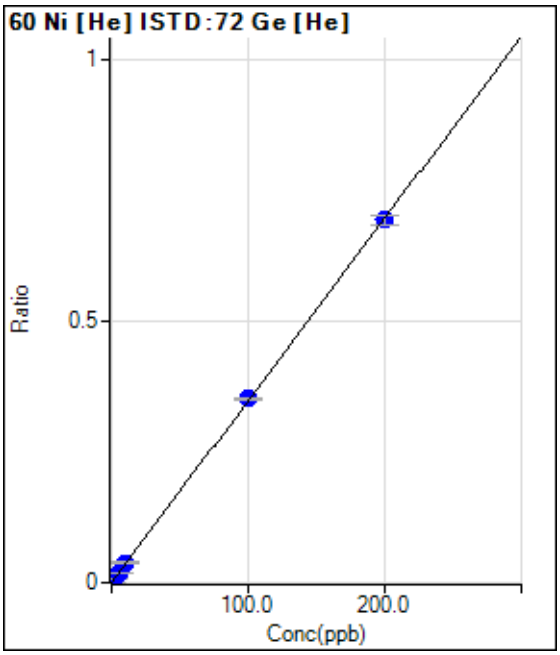
Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

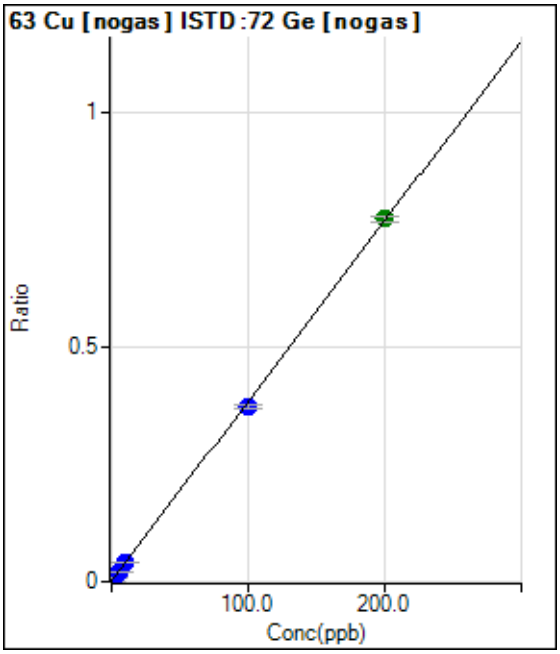
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	53.33	0.0001	P	11.3
2	☐	2.000	2.018	3780.45	0.0071	P	8.1
3	☐	5.000	5.170	9709.33	0.0181	P	8.5
4	☐	10.000	10.950	20091.19	0.0382	P	2.2
5	☐	100.000	101.279	179207.37	0.3526	P	1.2
6	☐	200.000	199.309	349874.88	0.6938	P	2.3
7	☐	1.000					

y = 0.0035 * x + 1.0065E-004
R = 1.0000
DL = 0.009843
BEC = 0.02892

Weight: <None>
Min Conc: <None>

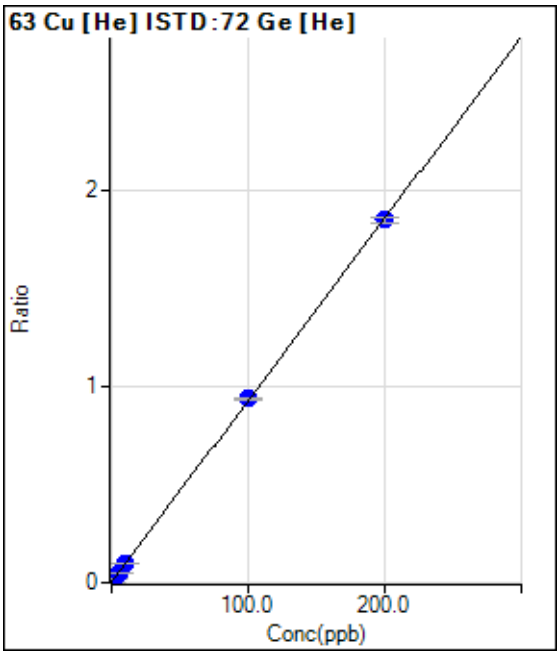


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2593.54	0.0012	P	7.1
2	☐	2.000	2.100	19447.15	0.0093	P	2.8
3	☐	5.000	5.162	44731.31	0.0210	P	3.2
4	☐	10.000	10.629	89198.98	0.0420	P	0.7
5	☐	100.000	97.390	785085.46	0.3745	P	2.2
6	☐	200.000	201.269	1586153.36	0.7727	A	1.9
7	☐	1.000					

y = 0.0038 * x + 0.0012
R = 0.9999
DL = 0.06784
BEC = 0.319

Weight: <None>
Min Conc: <None>

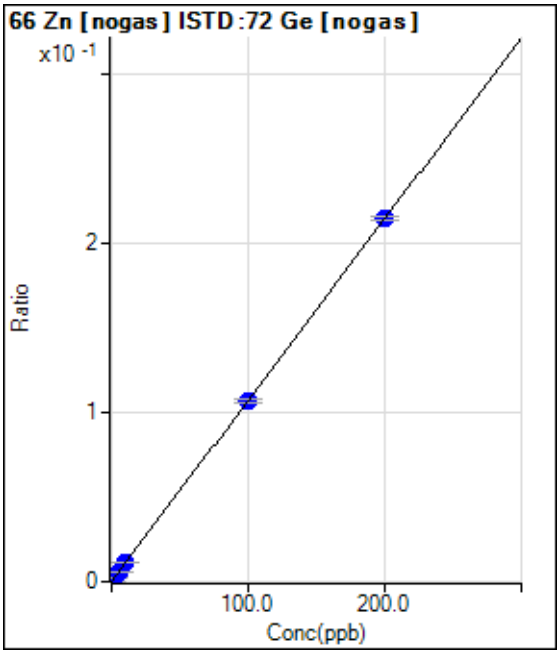
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	863.36	0.0016	P	3.3
2	☐	2.000	2.075	11073.50	0.0209	P	1.2
3	☐	5.000	5.339	27430.63	0.0511	P	2.4
4	☐	10.000	10.673	52845.98	0.1005	P	1.9
5	☐	100.000	101.242	477582.65	0.9397	P	1.2
6	☐	200.000	199.336	932222.82	1.8485	P	1.4
7	☐	1.000					

y = 0.0093 * x + 0.0016
R = 1.0000
DL = 0.01762
BEC = 0.1758

Weight: <None>
Min Conc: <None>

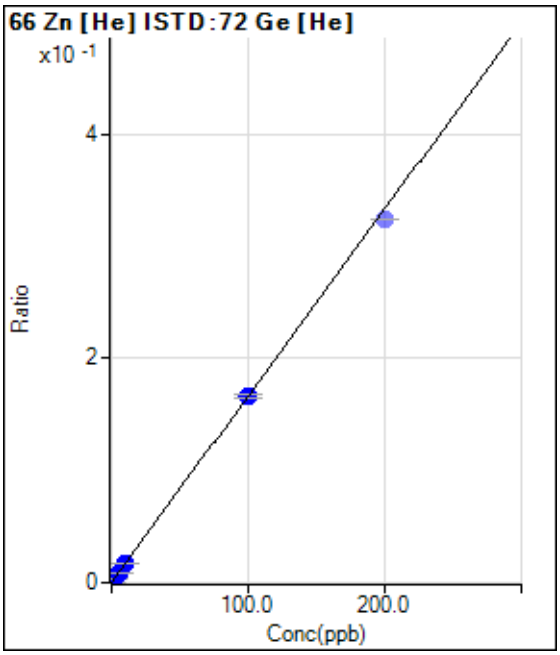


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	300.01	0.0001	P	31.5
2	☐	2.000	2.196	5230.82	0.0025	P	5.7
3	☐	5.000	5.134	12000.78	0.0056	P	4.4
4	☐	10.000	10.483	24149.37	0.0114	P	2.6
5	☐	100.000	99.688	223994.14	0.1068	P	1.2
6	☐	200.000	200.126	440008.97	0.2143	P	1.1
7	☐	1.000					

y = 0.0011 * x + 1.4197E-004
R = 1.0000
DL = 0.1255
BEC = 0.1326

Weight: <None>
Min Conc: <None>

Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	73.33	0.0001	P	43.8
2	☐	2.000	2.186	2003.47	0.0038	P	9.2
3	☐	5.000	5.040	4573.96	0.0085	P	3.0
4	☐	10.000	10.142	8938.96	0.0170	P	1.8
5	☐	100.000	99.980	84550.74	0.1664	P	1.5
6	☑	200.000		163040.60	0.3233	P	0.2
7	☐	1.000					

y = 0.0017 * x + 1.3829E-004

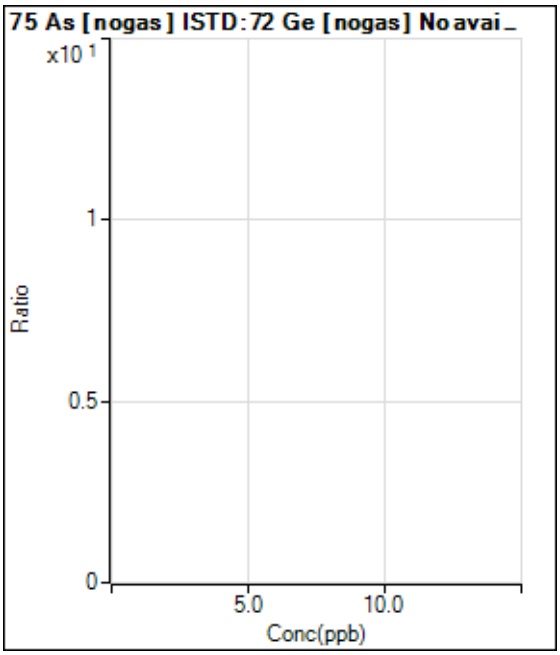
R = 1.0000

DL = 0.1092

BEC = 0.08509

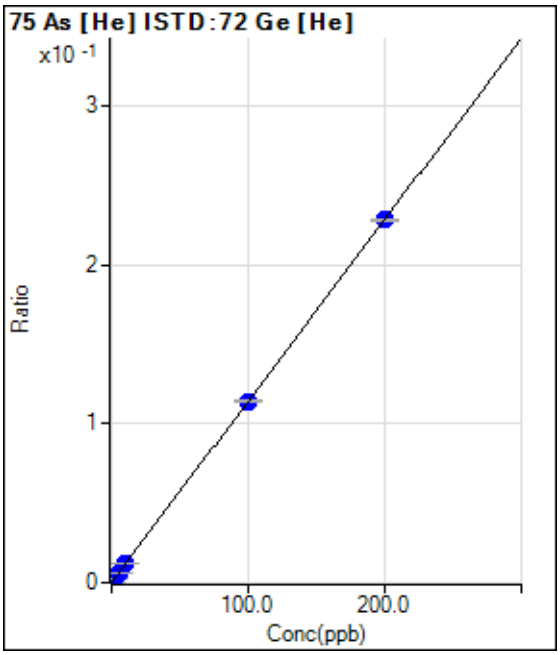
Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

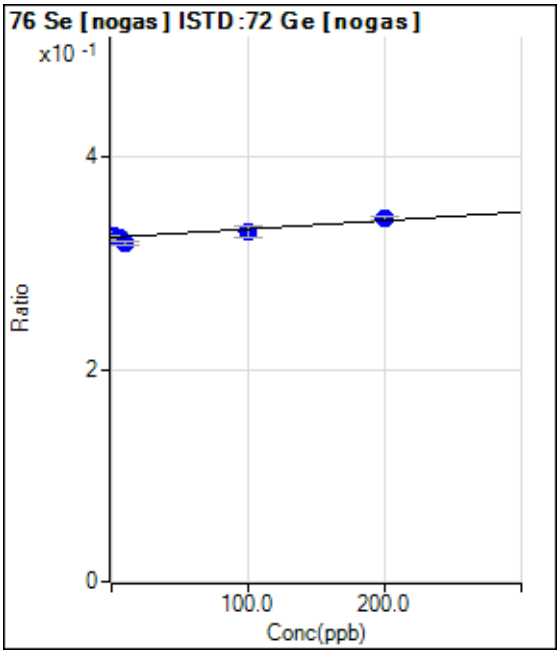
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	62.22	0.0001	P	12.8
2	☐	2.000	2.038	1295.61	0.0024	P	6.0
3	☐	5.000	5.275	3292.54	0.0061	P	4.9
4	☐	10.000	10.445	6324.46	0.0120	P	1.7
5	☐	100.000	99.943	57982.63	0.1141	P	1.3
6	☐	200.000	199.999	115088.41	0.2282	P	0.2
7	☐	1.000					

y = 0.0011 * x + 1.1743E-004
R = 1.0000
DL = 0.03951
BEC = 0.103

Weight: <None>
Min Conc: <None>

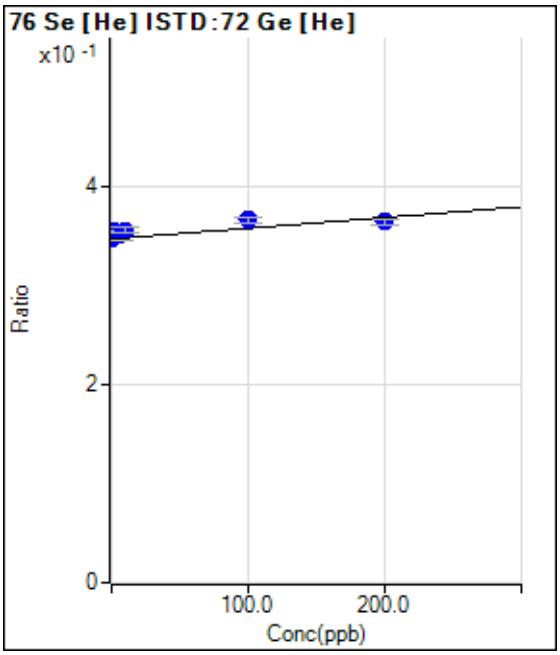


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	687235.72	0.3243	P	1.1
2	☐	2.000	24.042	684419.99	0.3263	P	2.5
3	☐	5.000	-1.176	690291.97	0.3243	P	1.3
4	☐	10.000	-61.721	678898.87	0.3194	P	1.0
5	☐	100.000	69.972	691590.72	0.3299	P	2.9
6	☐	200.000	218.534	701766.55	0.3418	P	1.2
7	☐	1.000					

y = 8.0072E-005 * x + 0.3243
R = 0.9360
DL = 132.8
BEC = 4051

Weight: <None>
Min Conc: <None>

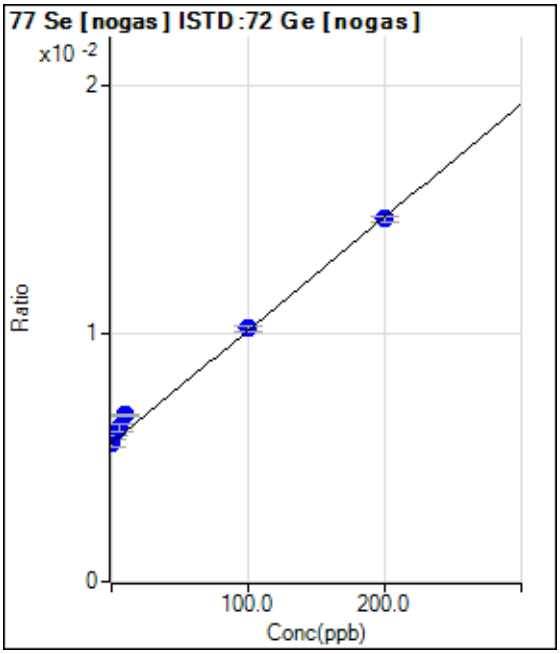
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	183798.85	0.3467	P	0.9
2	☐	2.000	74.337	188364.55	0.3548	P	2.7
3	☐	5.000	31.872	187960.96	0.3502	P	2.4
4	☐	10.000	83.924	187087.86	0.3558	P	1.1
5	☐	100.000	176.907	185963.32	0.3659	P	1.6
6	☐	200.000	156.455	183435.73	0.3637	P	1.2
7	☐	1.000					

y = 1.0847E-004 * x + 0.3467
R = 0.7992
DL = 87.64
BEC = 3197

Weight: <None>
Min Conc: <None>

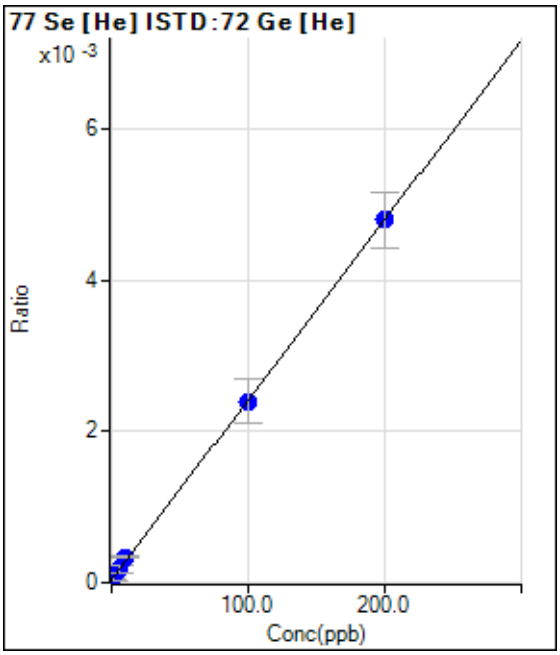


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11824.01	0.0056	P	5.6
2	☐	2.000	8.922	12564.52	0.0060	P	3.4
3	☐	5.000	13.830	13228.34	0.0062	P	4.5
4	☐	10.000	24.924	14282.43	0.0067	P	1.5
5	☐	100.000	101.267	21386.12	0.0102	P	2.2
6	☐	200.000	198.330	30031.67	0.0146	P	1.5
7	☐	1.000					

y = 4.5613E-005 * x + 0.0056
R = 0.9980
DL = 20.58
BEC = 122.4

Weight: <None>
Min Conc: <None>

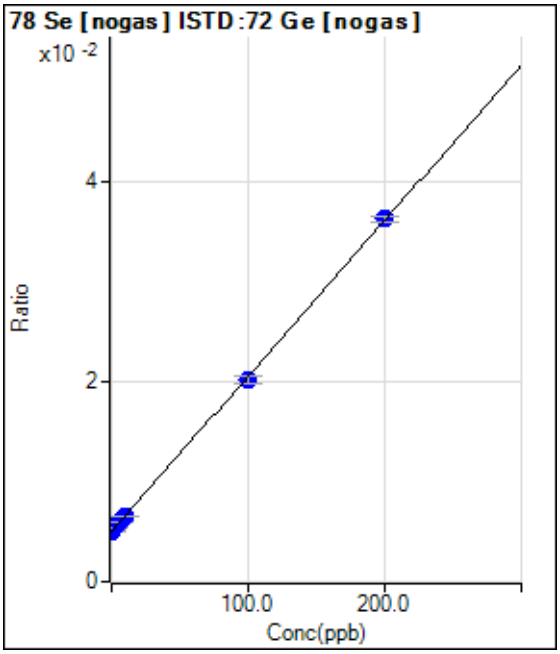
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	49.9
2	☐	2.000	1.365	36.67	0.0001	P	150.8
3	☐	5.000	6.004	96.67	0.0002	P	52.7
4	☐	10.000	12.788	180.00	0.0003	P	10.8
5	☐	100.000	99.347	1220.07	0.0024	P	23.6
6	☐	200.000	200.168	2423.53	0.0048	P	15.2
7	☐	1.000					

y = 2.3819E-005 * x + 3.7691E-005
R = 0.9999
DL = 2.367
BEC = 1.582

Weight: <None>
Min Conc: <None>

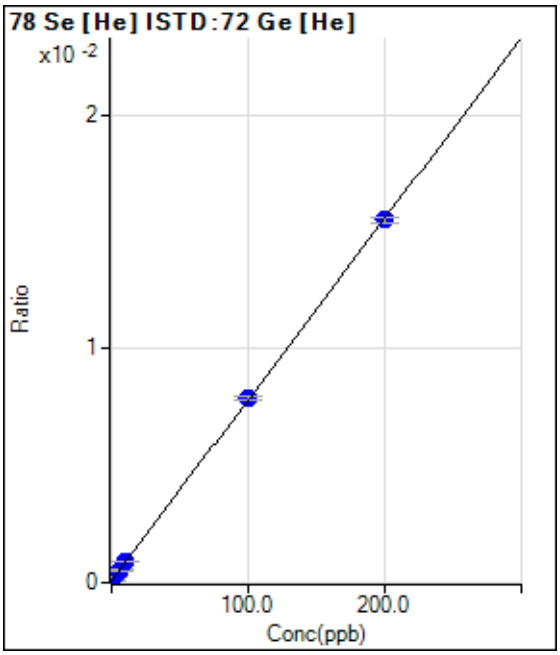


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10619.90	0.0050	P	4.4
2	☐	2.000	2.394	11300.31	0.0054	P	1.4
3	☐	5.000	5.786	12584.49	0.0059	P	1.8
4	☐	10.000	9.991	13952.23	0.0066	P	0.6
5	☐	100.000	97.738	42296.00	0.0202	P	4.4
6	☐	200.000	201.108	74348.34	0.0362	P	1.7
7	☐	1.000					

y = 1.5516E-004 * x + 0.0050
R = 0.9999
DL = 4.228
BEC = 32.31

Weight: <None>
Min Conc: <None>

Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	44.67	0.0001	P	7.0
2	☐	2.000	2.317	140.00	0.0003	P	3.1
3	☐	5.000	5.657	280.00	0.0005	P	13.9
4	☐	10.000	10.964	490.68	0.0009	P	2.6
5	☐	100.000	100.894	4012.45	0.0079	P	1.6
6	☐	200.000	199.485	7831.03	0.0155	P	1.5
7	☐	1.000					

y = 7.7417E-005 * x + 8.4268E-005

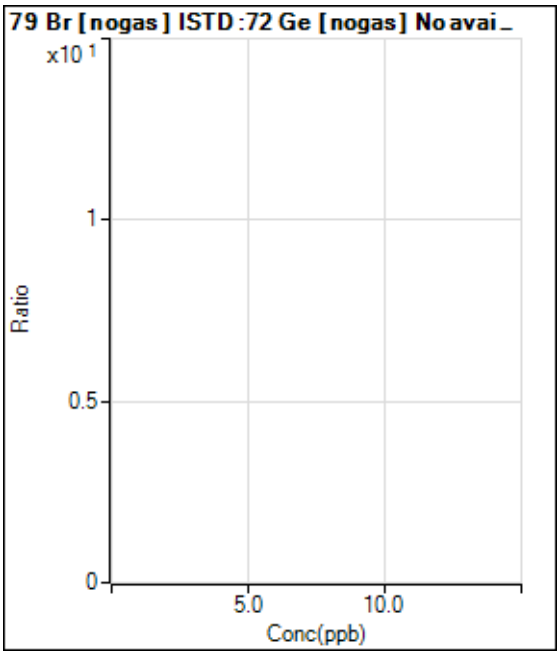
R = 1.0000

DL = 0.2279

BEC = 1.088

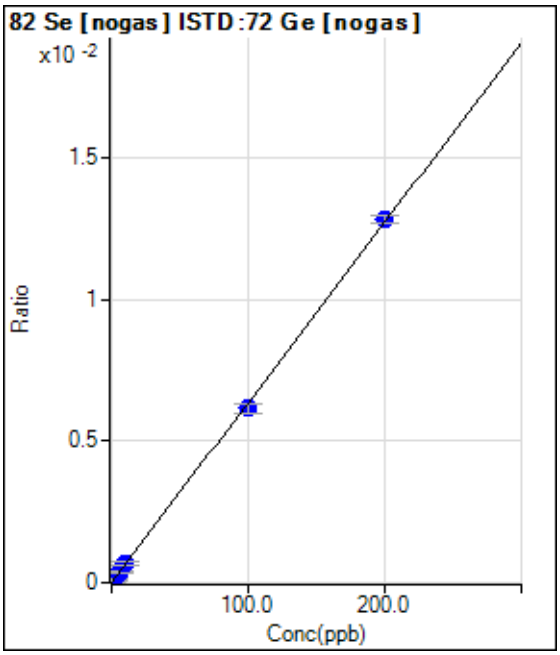
Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

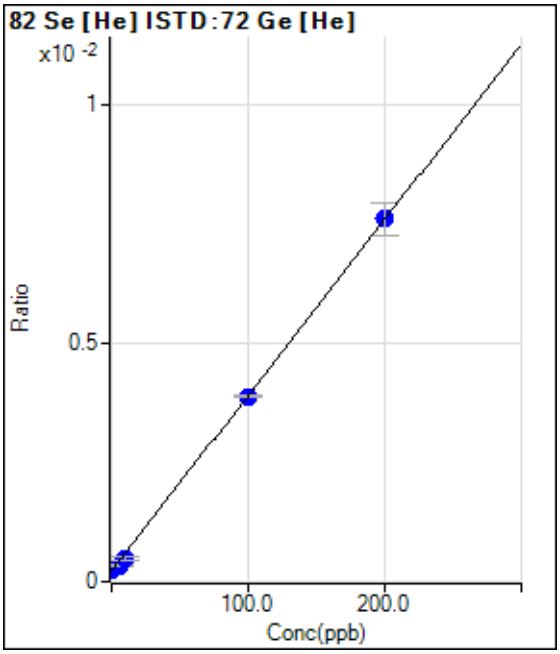
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4.93	0.0000	P	1237.3
2	☐	2.000	1.278	175.87	0.0001	P	68.2
3	☐	5.000	5.774	785.23	0.0004	P	6.5
4	☐	10.000	10.698	1449.07	0.0007	P	20.5
5	☐	100.000	96.757	12883.36	0.0061	P	5.2
6	☐	200.000	201.574	26288.34	0.0128	P	2.1
7	☐	1.000					

y = 6.3522E-005 * x + 2.0032E-006
R = 0.9998
DL = 1.171
BEC = 0.03154

Weight: <None>
Min Conc: <None>

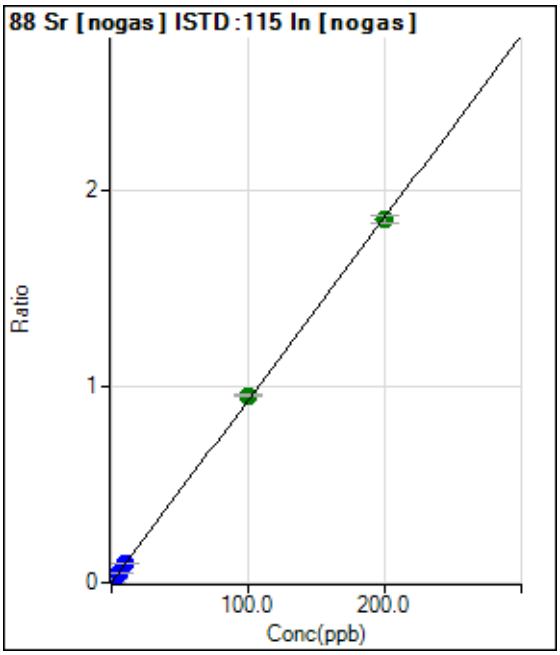


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	120.00	0.0002	P	36.7
2	☐	2.000	1.518	150.00	0.0003	P	18.0
3	☐	5.000	3.113	183.33	0.0003	P	1.7
4	☐	10.000	7.428	263.34	0.0005	P	15.3
5	☐	100.000	99.312	1976.80	0.0039	P	1.0
6	☐	200.000	200.525	3843.79	0.0076	P	9.3
7	☐	1.000					

y = 3.6883E-005 * x + 2.2664E-004
R = 0.9999
DL = 6.763
BEC = 6.145

Weight: <None>
Min Conc: <None>

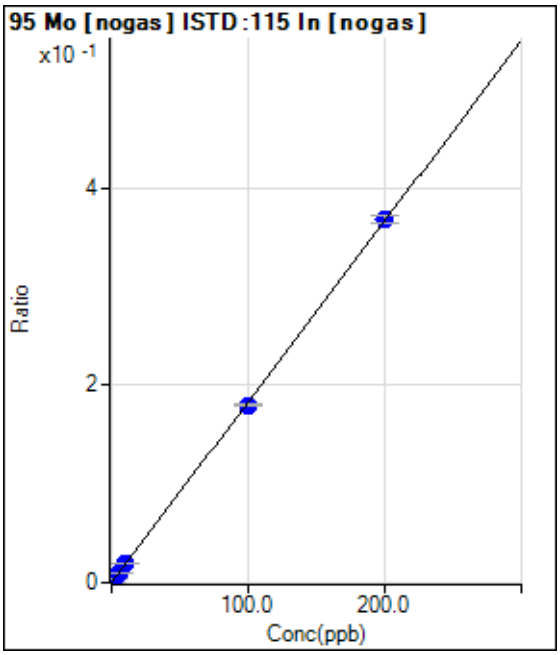
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1760.12	0.0008	P	21.1
2	☐	2.000	2.023	40773.31	0.0196	P	2.6
3	☐	5.000	5.101	100848.26	0.0482	P	1.5
4	☐	10.000	10.522	203790.81	0.0985	P	1.9
5	☐	100.000	102.393	1967774.97	0.9511	A	1.5
6	☐	200.000	198.775	3780051.19	1.8456	A	2.1
7	☐	1.000					

y = 0.0093 * x + 8.4251E-004
R = 0.9999
DL = 0.05745
BEC = 0.09078

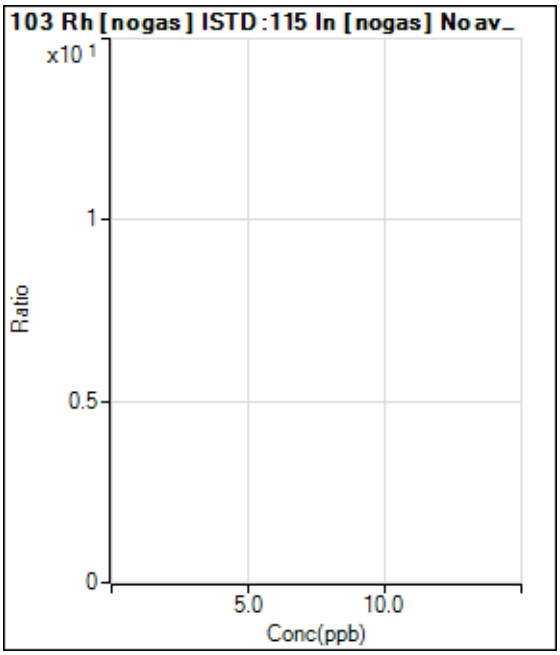
Weight: <None>
Min Conc: <None>



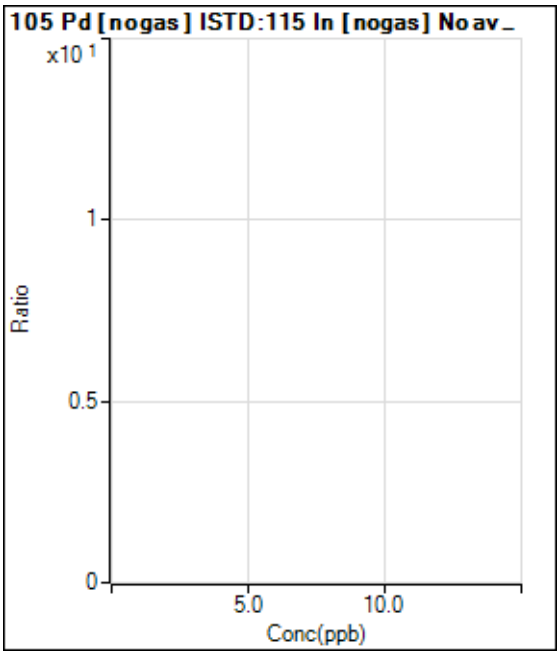
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	110.00	0.0001	P	48.7
2	☐	2.000	1.997	7708.43	0.0037	P	2.1
3	☐	5.000	4.982	19187.26	0.0092	P	0.7
4	☐	10.000	10.625	40325.80	0.0195	P	1.9
5	☐	100.000	98.400	372556.51	0.1801	P	1.7
6	☐	200.000	200.769	752399.44	0.3674	P	2.2
7	☐	1.000					

y = 0.0018 * x + 5.2674E-005
R = 0.9999
DL = 0.04203
BEC = 0.02879

Weight: <None>
Min Conc: <None>

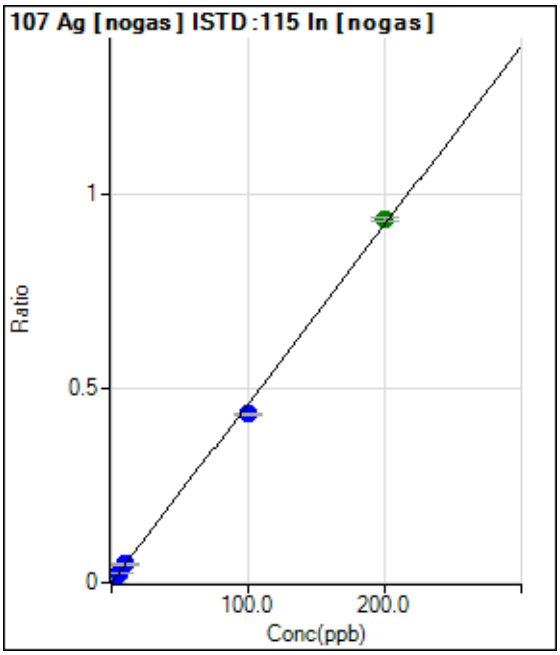


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

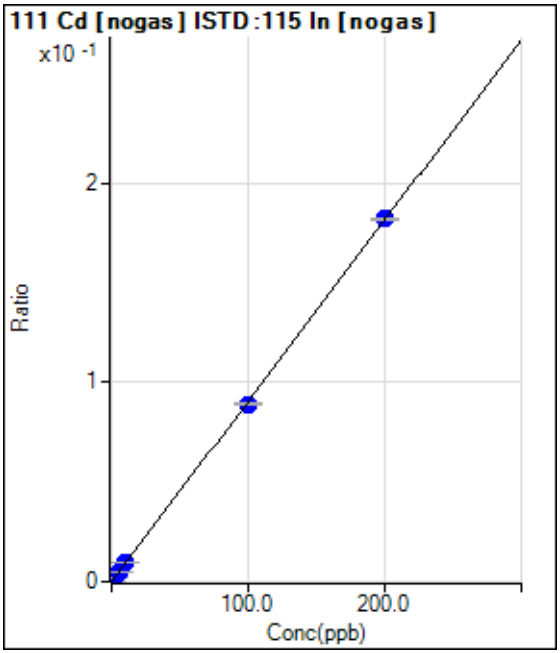
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	61.8
2	☐	2.000	2.003	19247.48	0.0093	P	2.2
3	☐	5.000	5.056	48787.44	0.0233	P	1.9
4	☐	10.000	10.306	98244.56	0.0475	P	1.9
5	☐	100.000	94.251	897985.43	0.4340	P	0.7
6	☐	200.000	202.858	1913363.30	0.9341	A	1.1
7	☐	1.000					

y = 0.0046 * x + 2.7121E-005
R = 0.9994
DL = 0.01092
BEC = 0.00589

Weight: <None>
Min Conc: <None>

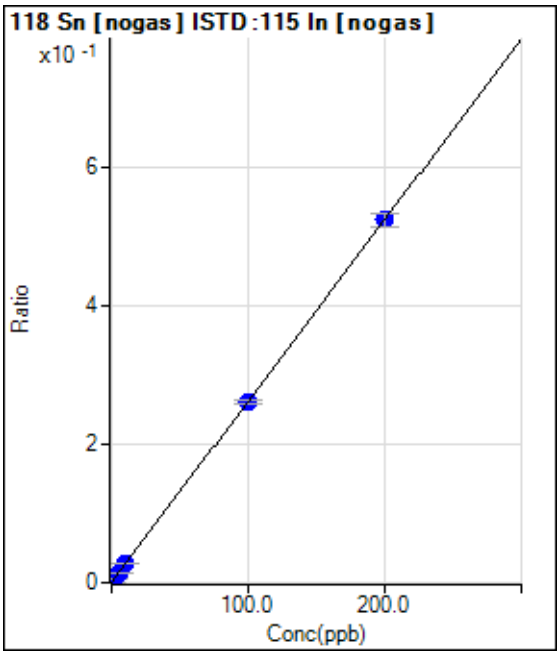


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	2.059	3880.49	0.0019	P	4.1
3	☐	5.000	5.197	9856.21	0.0047	P	6.5
4	☐	10.000	10.395	19487.72	0.0094	P	1.9
5	☐	100.000	98.275	184176.24	0.0890	P	1.0
6	☐	200.000	200.837	372636.61	0.1819	P	0.5
7	☐	1.000					

y = 9.0579E-004 * x + 1.5782E-006
R = 0.9999
DL = 0.009053
BEC = 0.001742

Weight: <None>
Min Conc: <None>

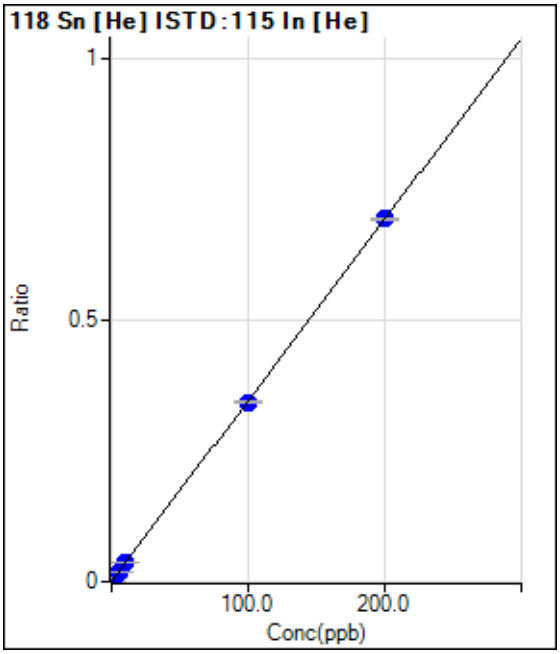
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	856.70	0.0004	P	11.6
2	☐	2.000	2.022	11864.21	0.0057	P	3.1
3	☐	5.000	5.006	28296.38	0.0135	P	2.5
4	☐	10.000	10.598	58263.35	0.0282	P	2.0
5	☐	100.000	99.756	541248.14	0.2616	P	1.4
6	☐	200.000	200.092	1074001.91	0.5244	P	3.4
7	☐	1.000					

y = 0.0026 * x + 4.0962E-004
R = 1.0000
DL = 0.05448
BEC = 0.1564

Weight: <None>
Min Conc: <None>

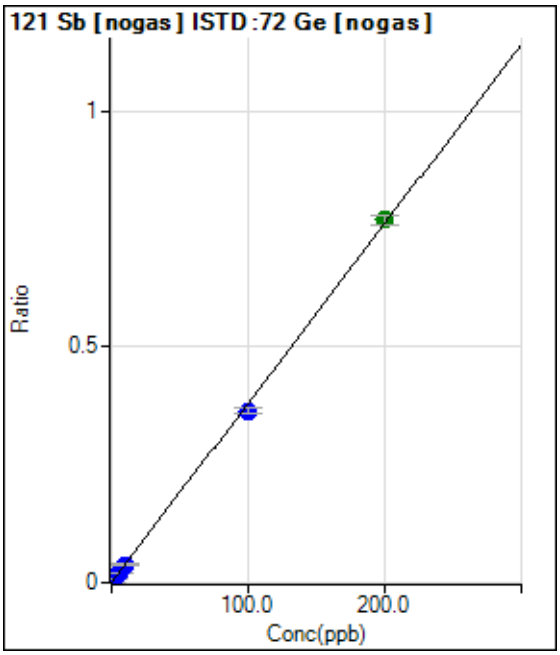


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	400.01	0.0005	P	4.5
2	☐	2.000	2.093	5811.05	0.0078	P	5.1
3	☐	5.000	5.236	14092.52	0.0186	P	3.6
4	☐	10.000	10.336	26763.91	0.0363	P	2.2
5	☐	100.000	99.205	247995.67	0.3434	P	1.8
6	☐	200.000	200.374	500222.21	0.6930	P	0.7
7	☐	1.000					

y = 0.0035 * x + 5.3931E-004
R = 1.0000
DL = 0.02122
BEC = 0.1561

Weight: <None>
Min Conc: <None>

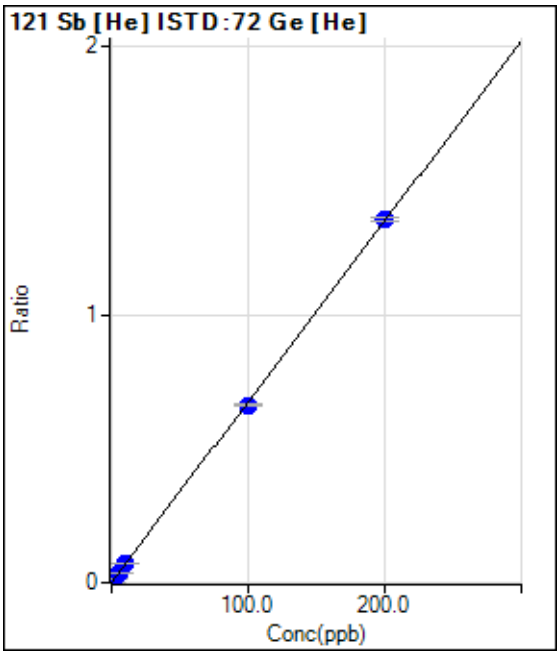
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1156.72	0.0005	P	7.4
2	☐	2.000	1.971	16881.70	0.0080	P	1.5
3	☐	5.000	4.757	39691.86	0.0186	P	2.6
4	☐	10.000	10.024	82222.55	0.0387	P	1.0
5	☐	100.000	95.560	763209.63	0.3641	P	3.1
6	☐	200.000	202.225	1580495.29	0.7700	A	2.8
7	☐	1.000					

y = 0.0038 * x + 5.4528E-004
R = 0.9997
DL = 0.03186
BEC = 0.1433

Weight: <None>
Min Conc: <None>

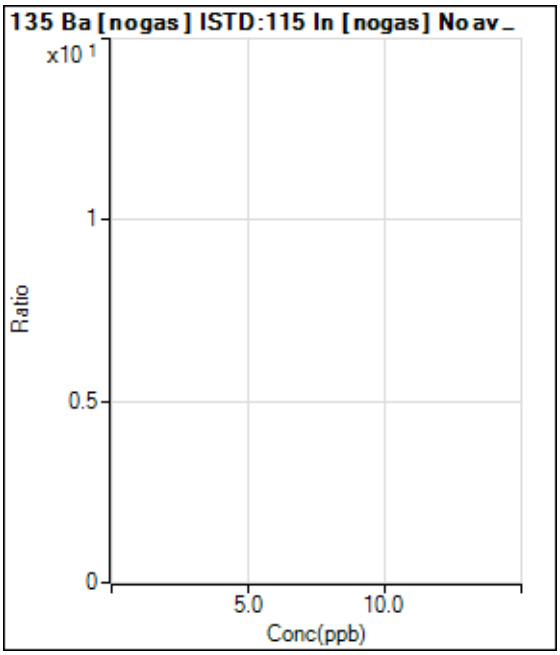


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	556.68	0.0010	P	8.9
2	☐	2.000	1.989	7675.12	0.0144	P	3.0
3	☐	5.000	5.018	18713.54	0.0349	P	1.8
4	☐	10.000	10.350	37219.80	0.0708	P	0.6
5	☐	100.000	98.202	336827.95	0.6628	P	1.4
6	☐	200.000	200.881	683173.53	1.3546	P	1.0
7	☐	1.000					

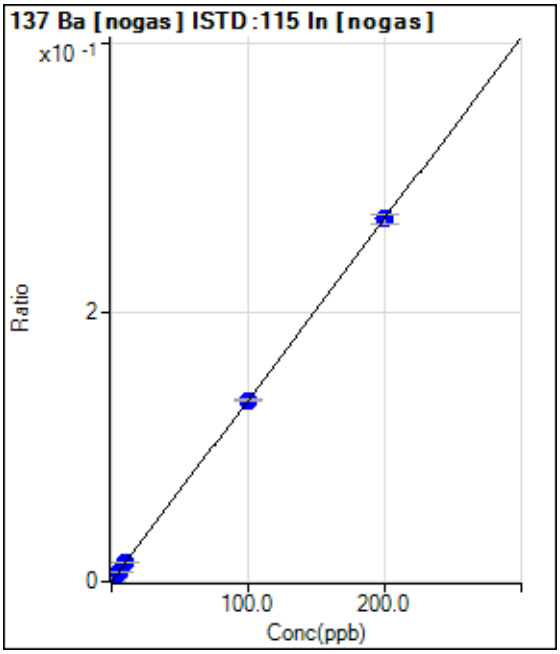
y = 0.0067 * x + 0.0010
R = 0.9999
DL = 0.04139
BEC = 0.1558

Weight: <None>
Min Conc: <None>

Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.67	0.0001	P	27.9
2	☐	2.000	2.112	6177.87	0.0030	P	6.4
3	☐	5.000	4.995	14342.84	0.0069	P	0.3
4	☐	10.000	10.584	29729.27	0.0144	P	4.0
5	☐	100.000	100.073	278804.39	0.1348	P	1.1
6	☐	200.000	199.933	551142.02	0.2691	P	2.8
7	☐	1.000					

y = 0.0013 * x + 1.3250E-004

R = 1.0000

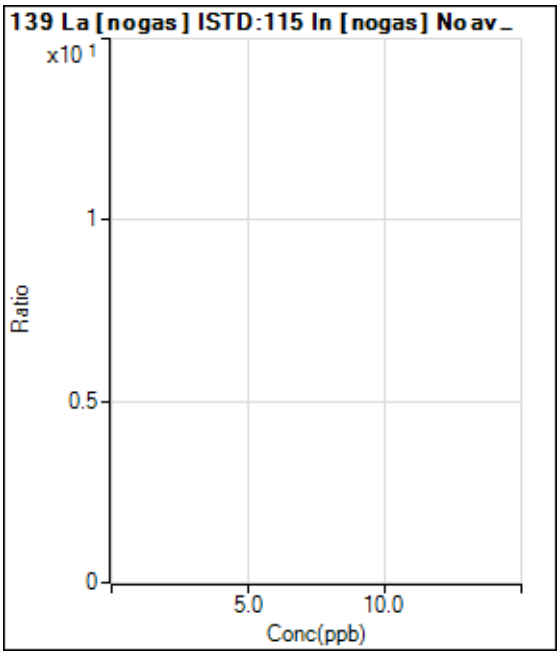
DL = 0.08246

BEC = 0.09849

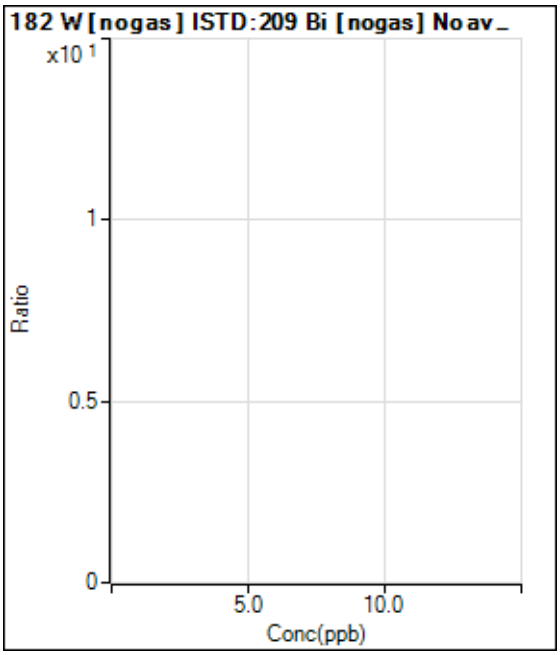
Weight: <None>

Min Conc: <None>

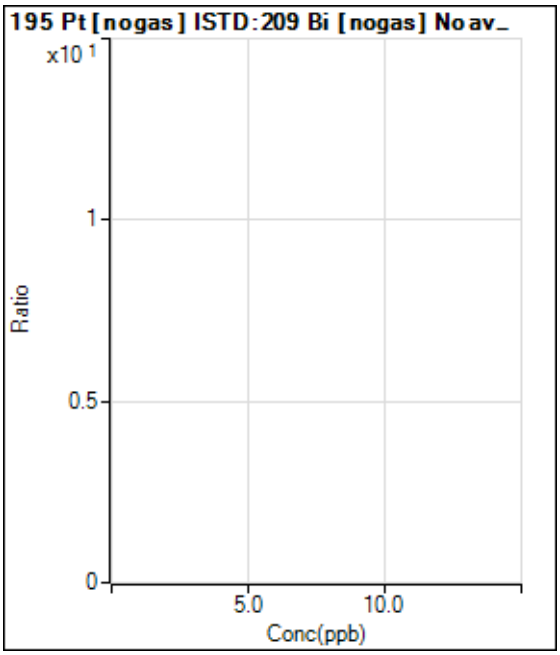
Calibration for 111_ICV.d



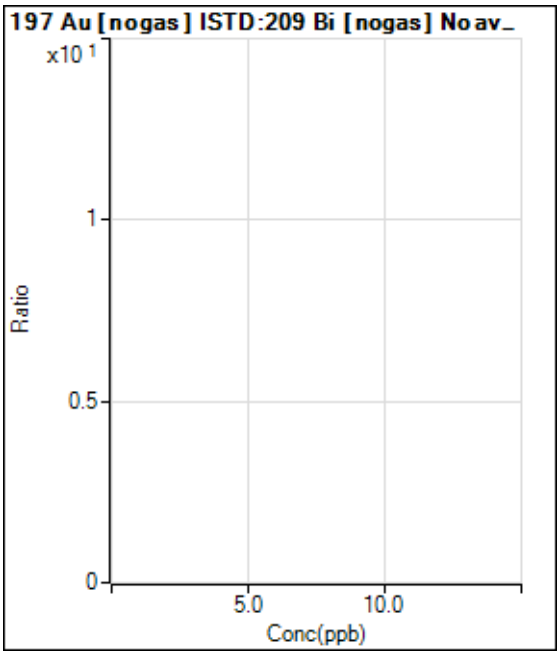
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

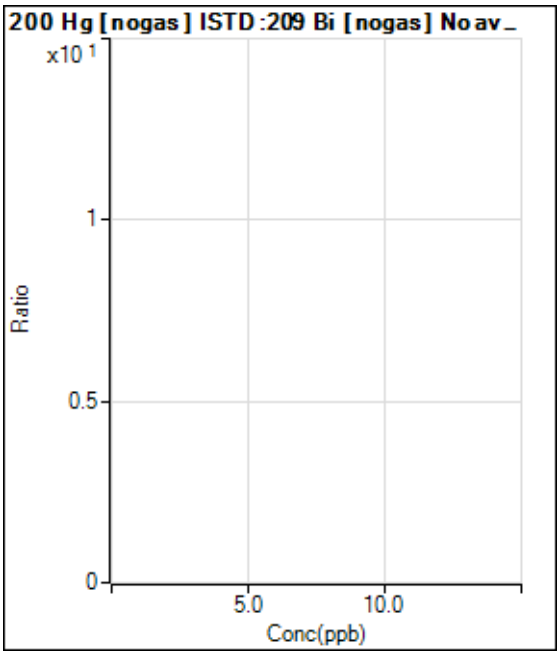


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

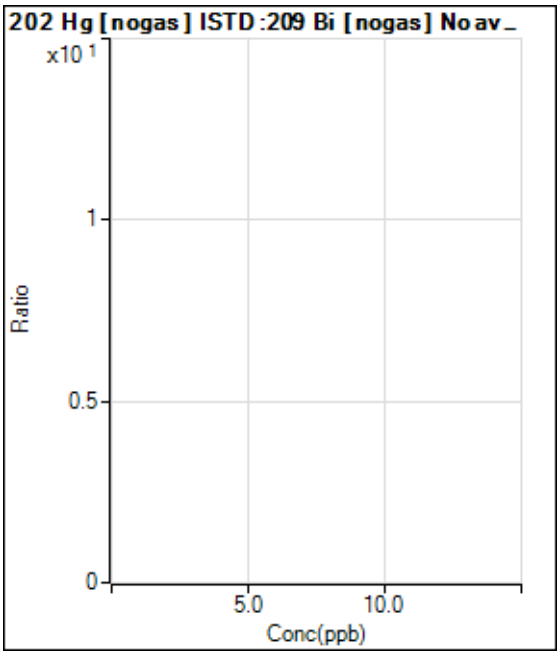


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

Calibration for 111_ICV.d

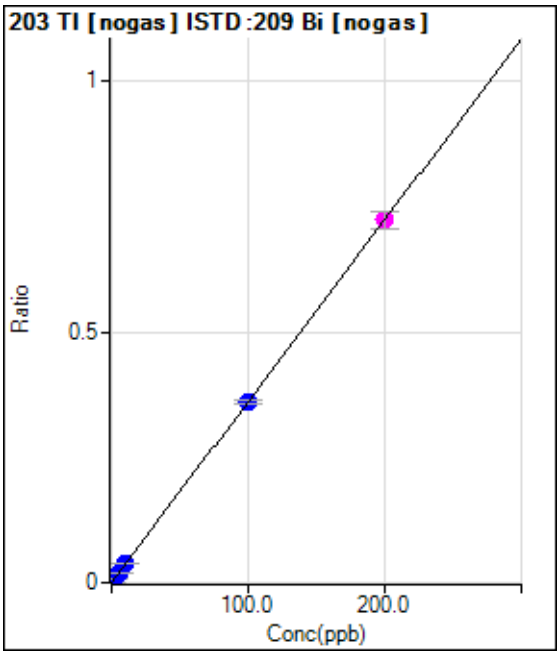


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	2.000					
6	☐	5.000					
7	☐	10.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	5.000					
6	☐	5.000					
7	☐	10.000					

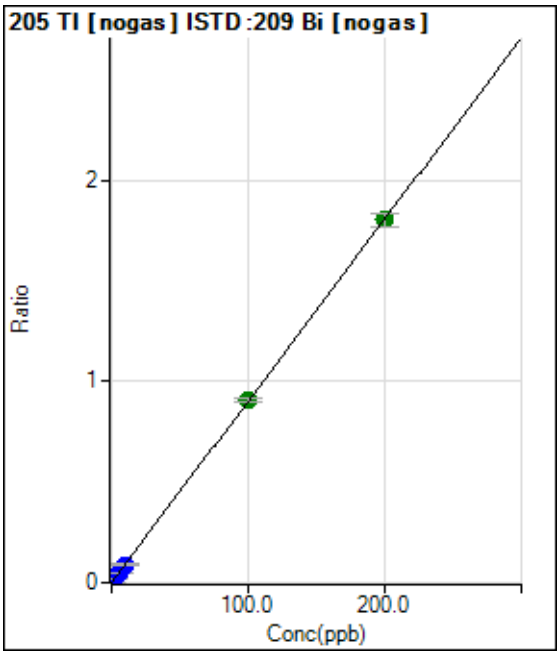
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30.00	0.0000	P	36.0
2	☐	2.000	2.009	12711.78	0.0073	P	3.0
3	☐	5.000	5.174	32582.65	0.0187	P	3.6
4	☐	10.000	10.406	65159.81	0.0377	P	3.5
5	☐	100.000	99.543	609692.86	0.3600	P	2.1
6	☐	200.000	200.204	1236199.02	0.7241	M	5.1
7	☐	1.000					

y = 0.0036 * x + 1.7111E-005
R = 1.0000
DL = 0.005109
BEC = 0.004731

Weight: <None>
Min Conc: <None>

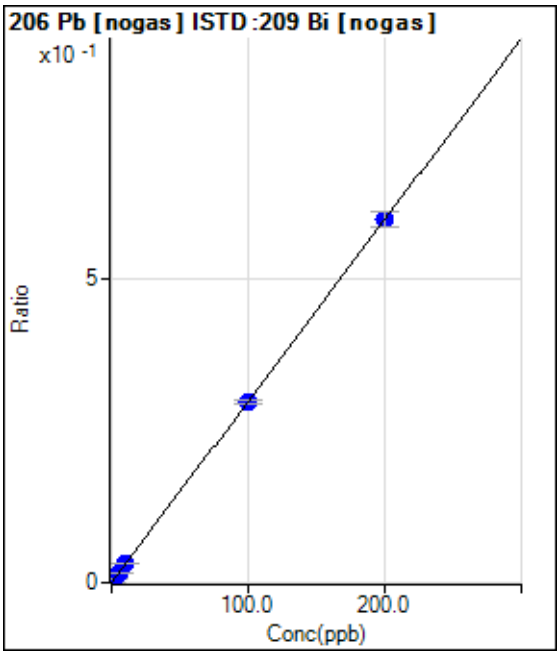


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	86.67	0.0000	P	49.8
2	☐	2.000	1.973	31143.44	0.0178	P	2.7
3	☐	5.000	4.964	77985.94	0.0448	P	2.0
4	☐	10.000	10.004	156267.89	0.0903	P	3.0
5	☐	100.000	100.405	1533830.65	0.9057	A	2.6
6	☐	200.000	199.798	3077611.00	1.8023	A	3.7
7	☐	1.000					

y = 0.0090 * x + 4.9584E-005
R = 1.0000
DL = 0.008205
BEC = 0.005497

Weight: <None>
Min Conc: <None>

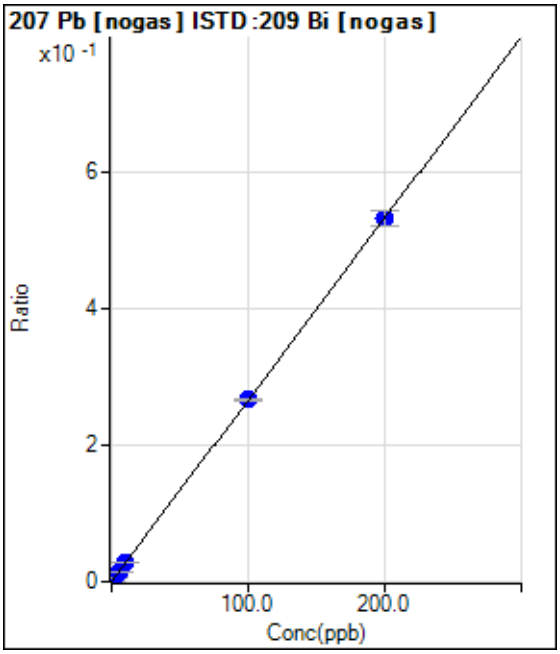
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0001	P	40.4
2	☐	2.000	2.067	10857.13	0.0062	P	5.1
3	☐	5.000	5.214	27149.63	0.0156	P	2.9
4	☐	10.000	10.547	54541.17	0.0315	P	2.1
5	☐	100.000	99.798	504094.09	0.2977	P	1.8
6	☐	200.000	200.068	1018918.32	0.5967	P	4.1
7	☐	1.000					

y = 0.0030 * x + 5.2969E-005
R = 1.0000
DL = 0.02153
BEC = 0.01776

Weight: <None>
Min Conc: <None>

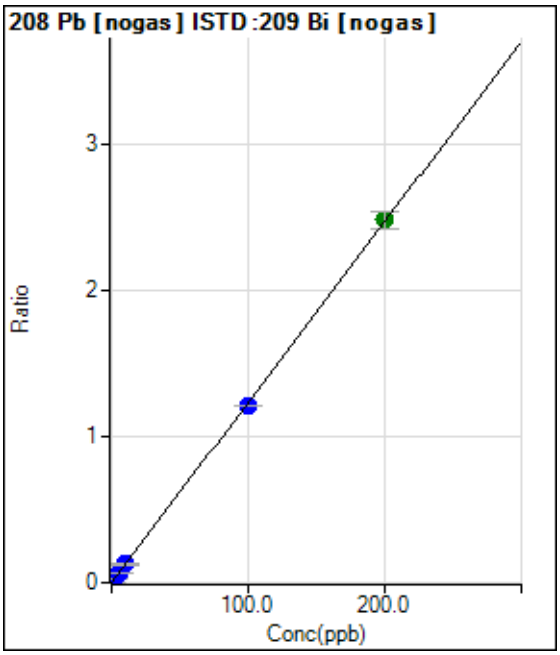


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	73.33	0.0000	P	30.0
2	☐	2.000	1.967	9186.05	0.0053	P	3.5
3	☐	5.000	5.228	24224.95	0.0139	P	2.1
4	☐	10.000	10.384	47813.71	0.0276	P	0.7
5	☐	100.000	100.387	451472.18	0.2666	P	1.3
6	☐	200.000	199.782	905837.23	0.5305	P	4.4
7	☐	1.000					

y = 0.0027 * x + 4.1727E-005
R = 1.0000
DL = 0.01415
BEC = 0.01571

Weight: <None>
Min Conc: <None>

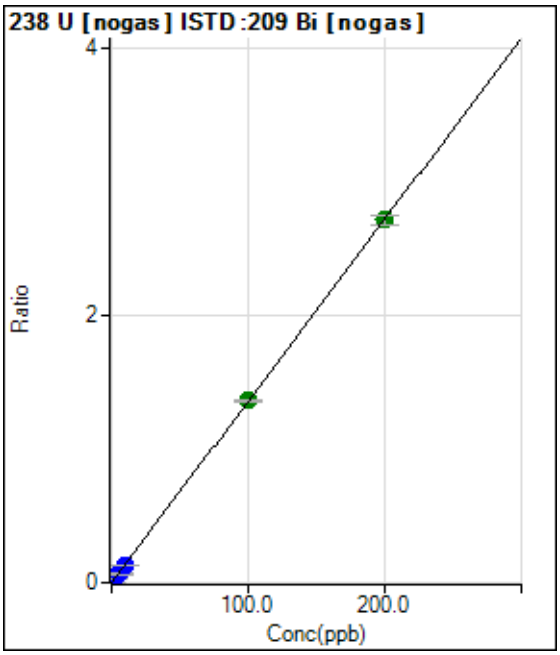
Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	386.67	0.0002	P	24.4
2	☐	2.000	1.983	43186.62	0.0247	P	0.6
3	☐	5.000	5.056	109184.34	0.0628	P	2.8
4	☐	10.000	10.161	217935.81	0.1259	P	1.6
5	☐	100.000	97.778	2048489.85	1.2096	P	0.5
6	☐	200.000	201.102	4247560.67	2.4876	A	4.5
7	☐	1.000					

y = 0.0124 * x + 2.1923E-004
R = 0.9999
DL = 0.01295
BEC = 0.01772

Weight: <None>
Min Conc: <None>

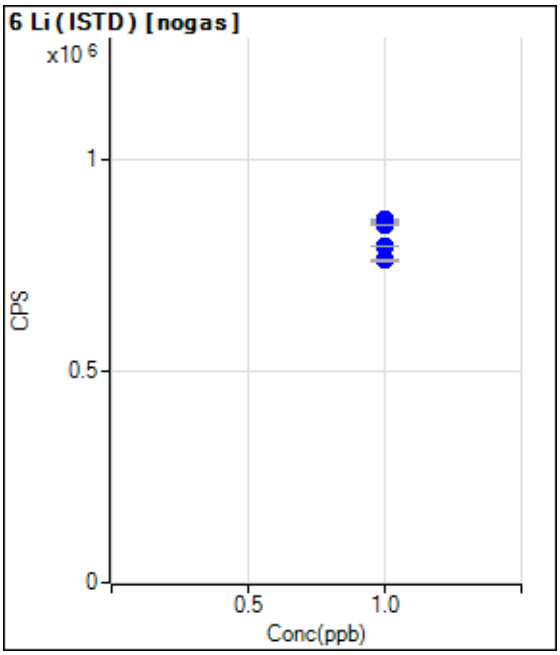


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	40.0
2	☐	2.000	1.912	45368.40	0.0260	P	2.5
3	☐	5.000	4.803	113619.54	0.0653	P	3.5
4	☐	10.000	9.867	232227.31	0.1342	P	2.9
5	☐	100.000	100.267	2308902.26	1.3633	A	1.6
6	☐	200.000	199.879	4641943.47	2.7177	A	2.5
7	☐	1.000					

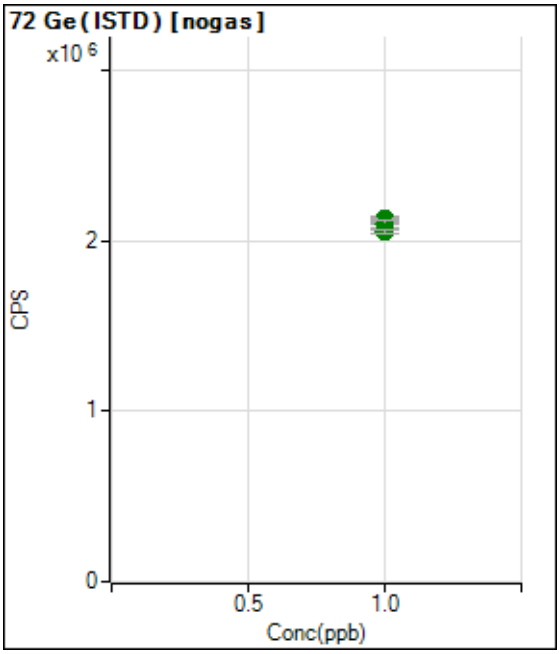
y = 0.0136 * x + 7.5053E-006
R = 1.0000
DL = 0.0006626
BEC = 0.000552

Weight: <None>
Min Conc: <None>

Calibration for 111_ICV.d

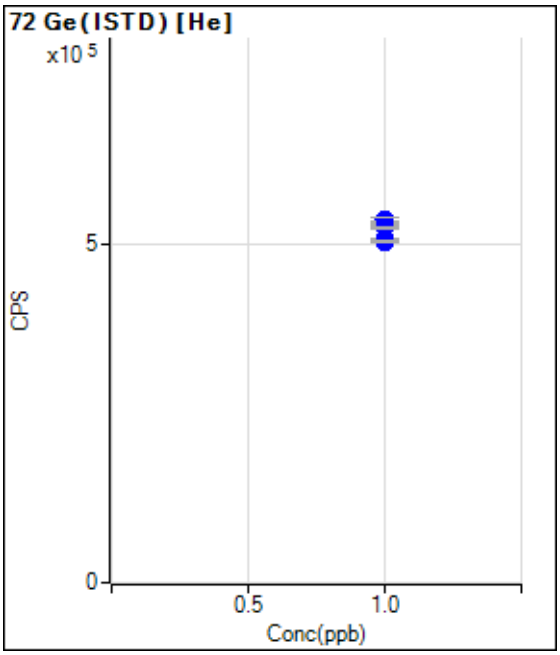


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		856260.51		P	0.4
2	☐	1.000		846747.21		P	0.7
3	☐	1.000		852016.53		P	0.3
4	☐	1.000		843099.03		P	0.3
5	☐	1.000		794159.43		P	0.3
6	☐	1.000		760962.76		P	0.2
7	☐	1.000					

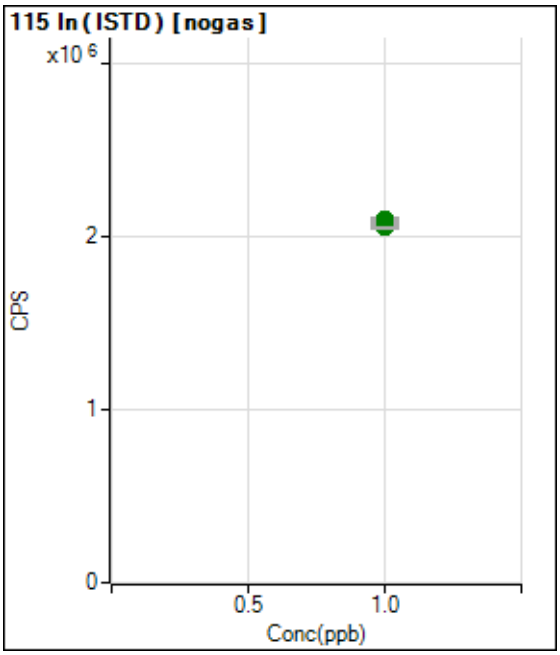


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2119118.09		A	2.1
2	☐	1.000		2098282.83		A	1.6
3	☐	1.000		2128895.70		A	0.3
4	☐	1.000		2125627.78		A	0.7
5	☐	1.000		2096946.90		A	2.2
6	☐	1.000		2053046.74		A	1.0
7	☐	1.000					

Calibration for 111_ICV.d

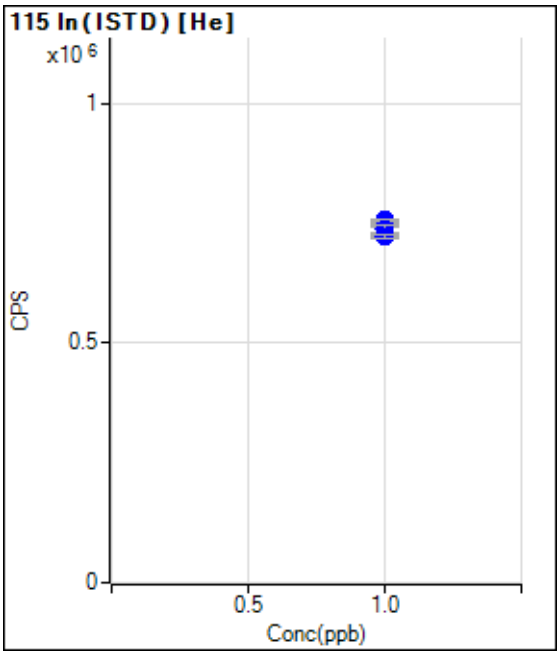


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		530098.02		P	0.5
2	☐	1.000		531059.03		P	1.7
3	☐	1.000		536857.26		P	1.5
4	☐	1.000		525790.19		P	0.7
5	☐	1.000		508251.28		P	1.0
6	☐	1.000		504340.13		P	0.7
7	☐	1.000					

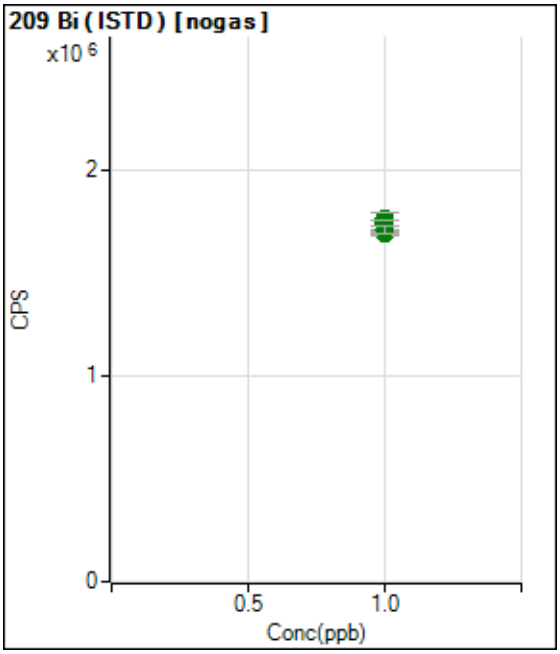


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2092576.10		A	1.2
2	☐	1.000		2079546.27		A	2.4
3	☐	1.000		2093150.17		A	0.3
4	☐	1.000		2069272.98		A	1.5
5	☐	1.000		2068977.76		A	0.9
6	☐	1.000		2048365.19		A	0.9
7	☐	1.000					

Calibration for 111_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		741747.36		P	0.3
2	☐	1.000		747539.13		P	0.6
3	☐	1.000		756308.30		P	0.5
4	☐	1.000		738295.09		P	1.8
5	☐	1.000		722270.25		P	0.5
6	☐	1.000		721830.74		P	0.7
7	☐	1.000					



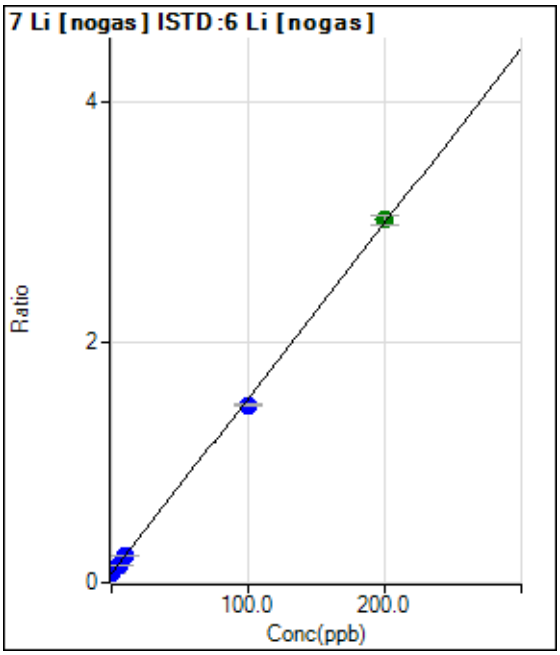
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1763015.91		A	3.6
2	☐	1.000		1745306.43		A	1.4
3	☐	1.000		1740265.75		A	1.8
4	☐	1.000		1731599.40		A	2.7
5	☐	1.000		1693551.38		A	1.1
6	☐	1.000		1708609.25		A	2.5
7	☐	1.000					

Calibration for 026_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\052820A.b\
Analysis File: 052820A.batch.bin
DA Date-Time: 5/28/2020 9:32:13 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	017CALB.d	CAL BLK	5/28/2020 11:47:01 AM
2	018CALS.d	2/10/200	5/28/2020 11:49:26 AM
3	019CALS.d	5/25/500	5/28/2020 11:51:48 AM
4	020CALS.d	10/50/1000	5/28/2020 11:54:11 AM
5	024CALS.d	100/500/10K	5/28/2020 12:04:37 PM
6	022CALS.d	200/1000/20K	5/28/2020 11:58:53 AM
7			

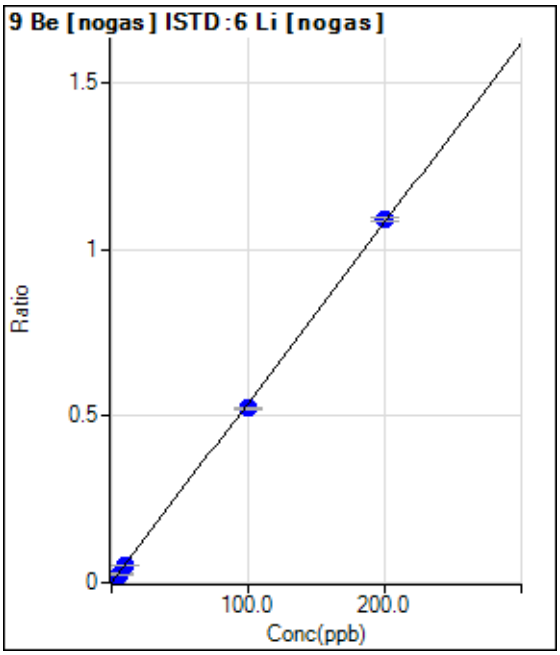
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50006.10	0.0781	P	0.1
2	☐	2.000	1.901	67403.34	0.1057	P	0.9
3	☐	5.000	4.776	93800.74	0.1476	P	0.8
4	☐	10.000	9.674	138433.09	0.2188	P	0.9
5	☐	100.000	96.243	873480.69	1.4787	P	0.4
6	☐	200.000	201.902	1710209.09	3.0164	A	2.6
7	☐	1.000					

y = 0.0146 * x + 0.0781
R = 0.9998
DL = 0.01983
BEC = 5.363

Weight: <None>
Min Conc: <None>

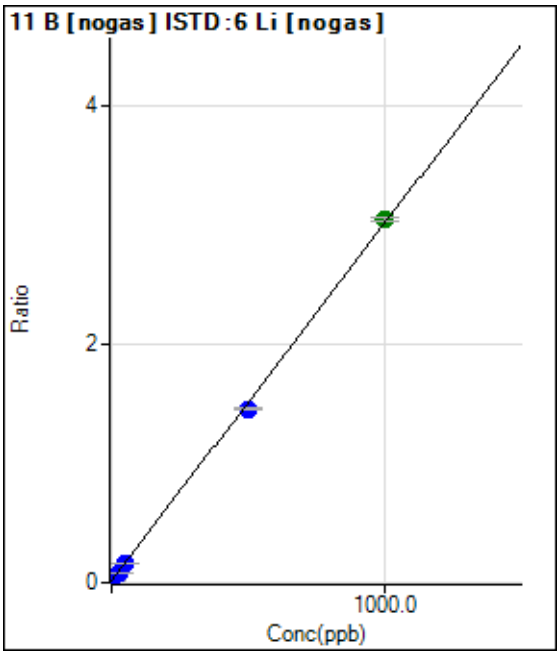


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28.33	0.0000	P	88.6
2	☐	2.000	1.957	6766.22	0.0106	P	1.4
3	☐	5.000	4.746	16323.67	0.0257	P	3.5
4	☐	10.000	9.600	32832.93	0.0519	P	2.2
5	☐	100.000	96.855	309044.80	0.5232	P	0.9
6	☐	200.000	201.599	617444.16	1.0889	P	1.2
7	☐	1.000					

y = 0.0054 * x + 4.4323E-005
R = 0.9998
DL = 0.02182
BEC = 0.008206

Weight: <None>
Min Conc: <None>

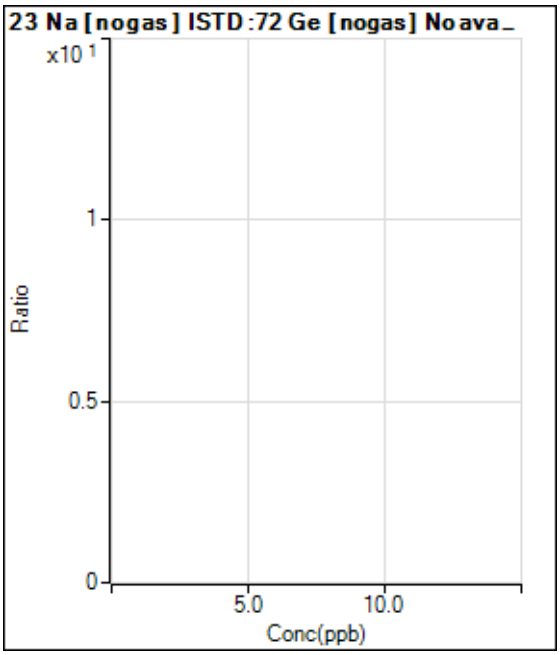
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9999.31	0.0156	P	1.8
2	☐	10.000	8.918	27008.90	0.0424	P	0.7
3	☐	25.000	22.895	53580.80	0.0843	P	2.3
4	☐	50.000	47.399	99818.13	0.1578	P	1.1
5	☐	500.000	479.869	859560.43	1.4551	P	1.4
6	☐	1000.000	1010.259	1727233.20	3.0461	A	1.0
7	☐	5.000					

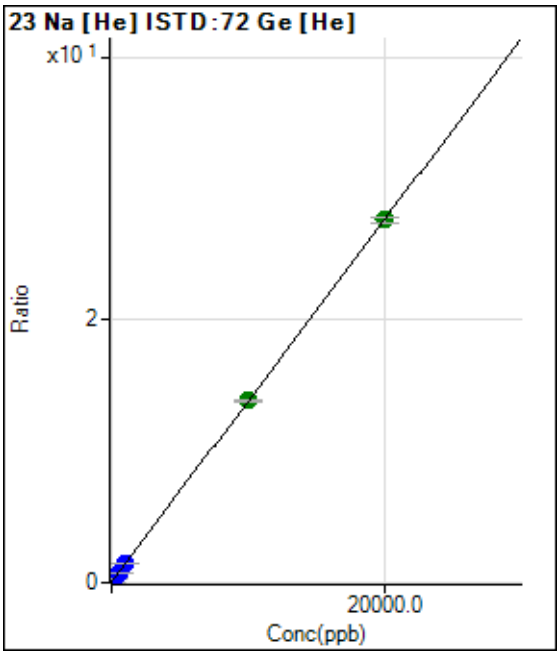
y = 0.0030 * x + 0.0156
R = 0.9997
DL = 0.2773
BEC = 5.204

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.00					
6	☐	20000.00					
7	☐	100.000					

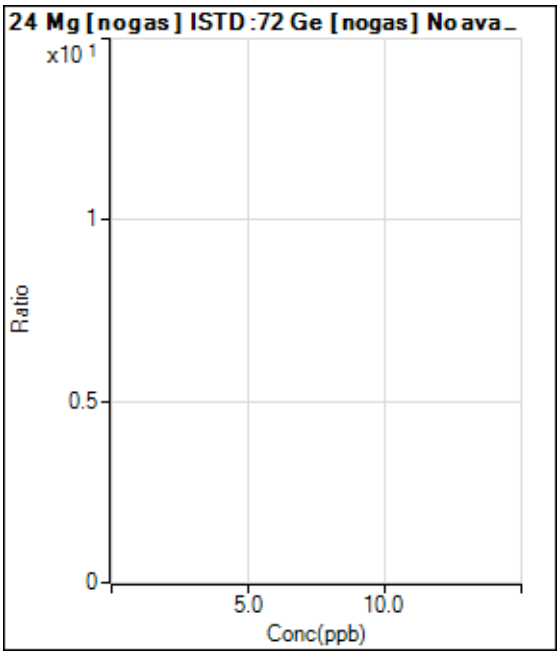
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24853.41	0.0452	P	1.9
2	☐	200.000	206.275	183553.91	0.3297	P	1.5
3	☐	500.000	528.645	425403.52	0.7742	P	1.6
4	☐	1000.000	1059.603	830355.87	1.5064	P	0.3
5	☐	10000.00	10001.46	7521278.85	13.8374	A	1.6
6	☐	20000.00	19995.50	14893731.0	27.6192	A	1.5
7	☐	100.000					

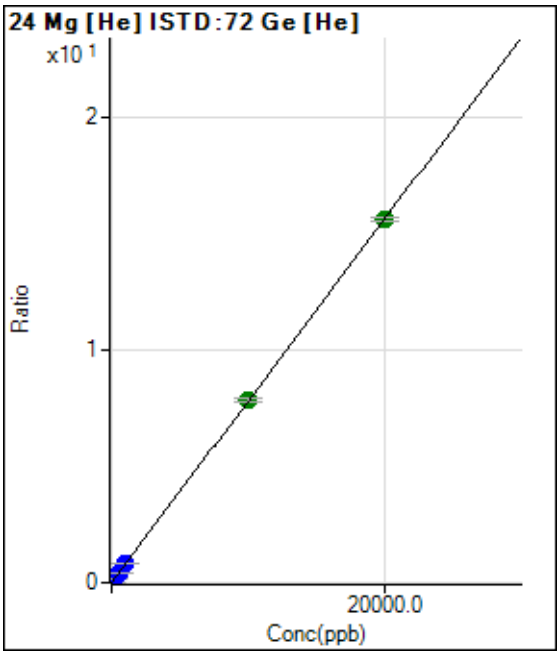
y = 0.0014 * x + 0.0452
R = 1.0000
DL = 1.849
BEC = 32.79

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.00					
6	☐	20000.00					
7	☐	100.000					

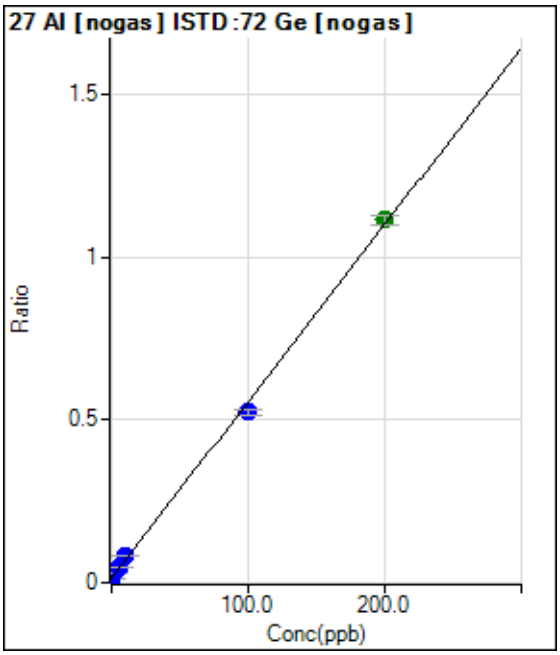
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	256.67	0.0005	P	14.9
2	☐	200.000	209.314	91398.41	0.1642	P	3.1
3	☐	500.000	526.902	226678.60	0.4125	P	0.9
4	☐	1000.000	1060.298	457318.55	0.8297	P	0.7
5	☐	10000.00	10062.68	4277725.04	7.8700	A	1.6
6	☐	20000.00	19964.87	8420195.92	15.6140	A	1.0
7	☐	100.000					

y = 7.8205E-004 * x + 4.6762E-004
R = 1.0000
DL = 0.2666
BEC = 0.5979

Weight: <None>
Min Conc: <None>

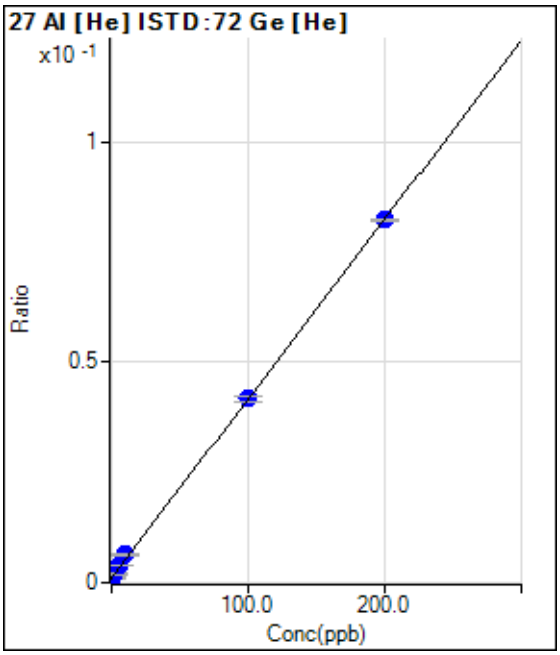


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24926.69	0.0138	P	1.3
2	☐	2.000	2.493	50534.07	0.0273	P	1.4
3	☐	5.000	5.914	84513.96	0.0459	P	1.4
4	☐	10.000	12.844	154462.57	0.0836	P	2.1
5	☐	100.000	94.072	961967.85	0.5252	P	3.8
6	☐	200.000	202.794	2026658.31	1.1162	A	2.5
7	☐	1.000					

y = 0.0054 * x + 0.0138
R = 0.9992
DL = 0.1016
BEC = 2.537

Weight: <None>
Min Conc: <None>

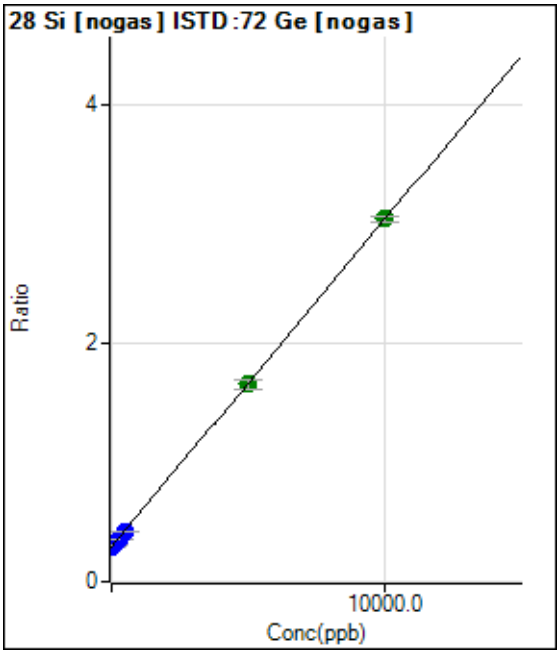
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.02	0.0011	P	9.8
2	☐	2.000	2.118	1066.71	0.0019	P	10.2
3	☐	5.000	6.785	2093.48	0.0038	P	4.9
4	☐	10.000	13.301	3560.39	0.0065	P	5.4
5	☐	100.000	99.954	22640.39	0.0417	P	2.6
6	☐	200.000	199.812	44335.20	0.0822	P	0.8
7	☐	1.000					

y = 4.0615E-004 * x + 0.0011
R = 0.9999
DL = 0.7608
BEC = 2.597

Weight: <None>
Min Conc: <None>

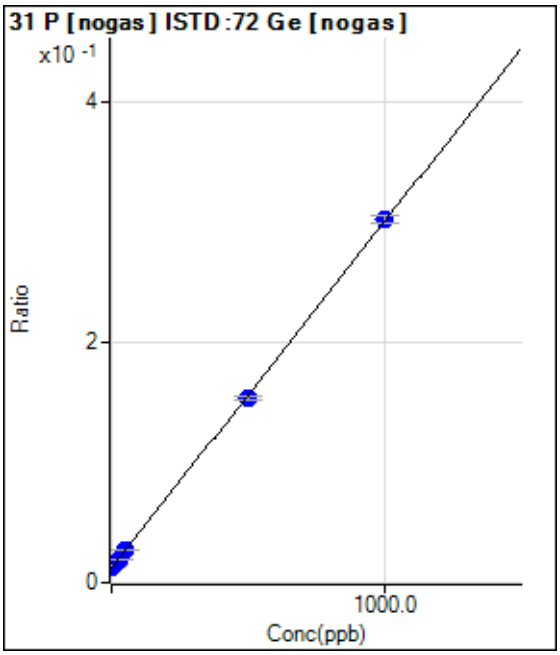


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	531699.76	0.2941	P	0.5
2	☐	100.000	54.425	571125.49	0.3091	P	2.6
3	☐	250.000	214.306	649613.01	0.3531	P	2.5
4	☐	500.000	458.194	775910.09	0.4201	P	3.3
5	☐	5000.000	4974.214	3042596.31	1.6617	A	5.1
6	☐	10000.00	10016.33	5534156.79	3.0478	A	1.7
7	☐	50.000					

y = 2.7492E-004 * x + 0.2941
R = 1.0000
DL = 16.63
BEC = 1070

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22049.94	0.0122	P	2.0
2	☐	10.000	9.826	27780.84	0.0150	P	3.6
3	☐	25.000	26.153	36328.60	0.0197	P	1.0
4	☐	50.000	53.012	50791.78	0.0275	P	3.7
5	☐	500.000	489.845	281445.00	0.1536	P	2.5
6	☐	1000.000	1004.900	548906.92	0.3023	P	2.0
7	☐	5.000					

y = 2.8869E-004 * x + 0.0122

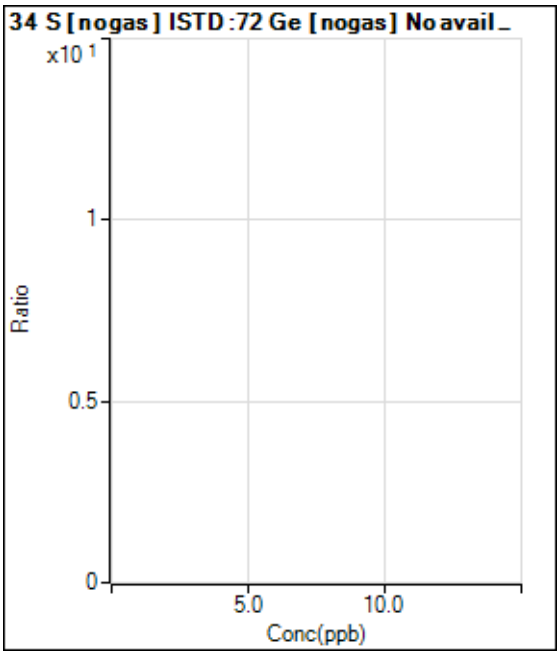
R = 0.9999

DL = 2.552

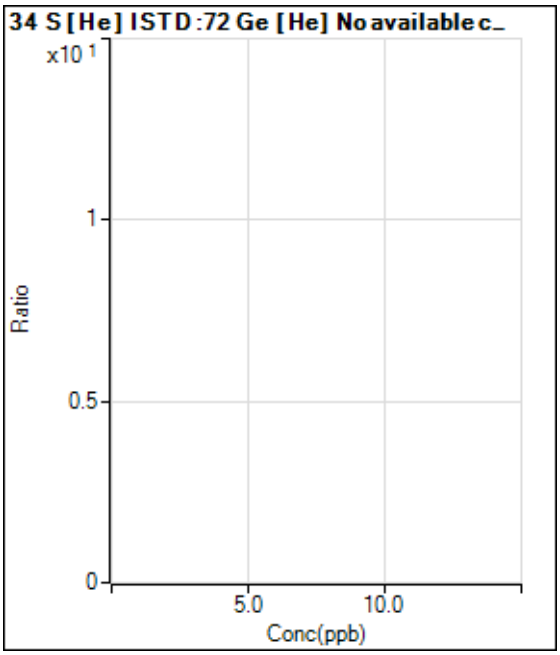
BEC = 42.25

Weight: <None>

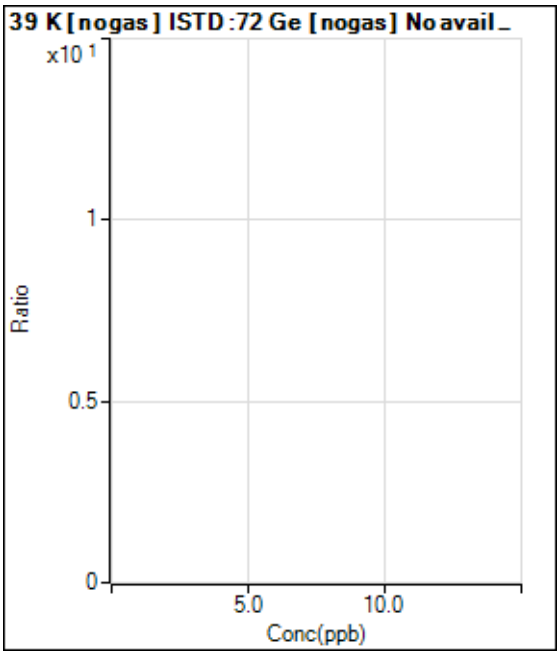
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.00					
6	☐	40000.00					
7	☐	200.000					

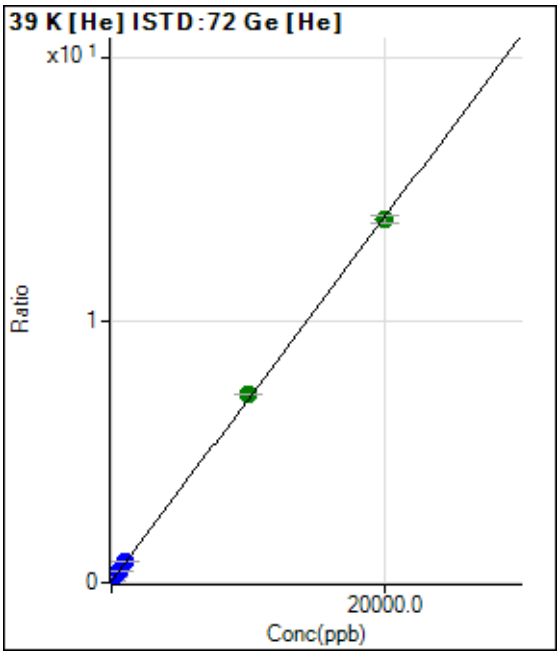


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.00					
6	☐	40000.00					
7	☐	200.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.00					
6	☐	20000.00					
7	☐	100.000					

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	27954.52	0.0509	P	3.8
2	☐	200.000	207.125	108417.15	0.1947	P	1.1
3	☐	500.000	524.240	228018.66	0.4150	P	0.3
4	☐	1000.000	1044.988	428102.16	0.7766	P	0.7
5	☐	10000.00	10276.93	3907430.46	7.1884	A	0.7
6	☐	20000.00	19858.60	7464567.39	13.8430	A	2.1
7	☐	100.000					

y = 6.9452E-004 * x + 0.0509

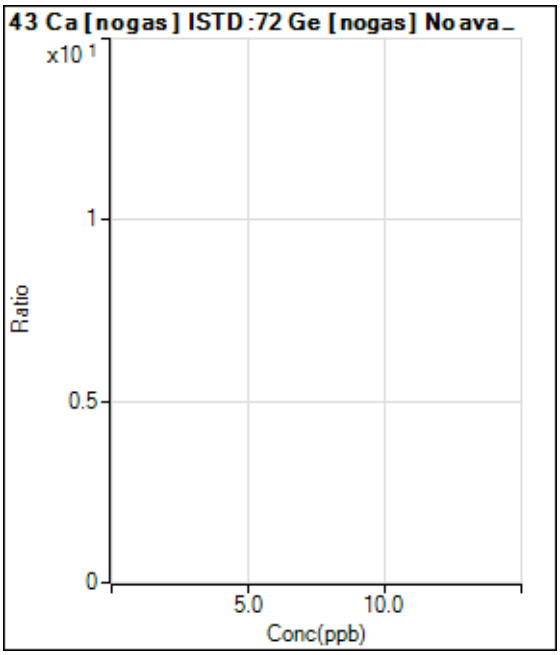
R = 0.9999

DL = 8.309

BEC = 73.24

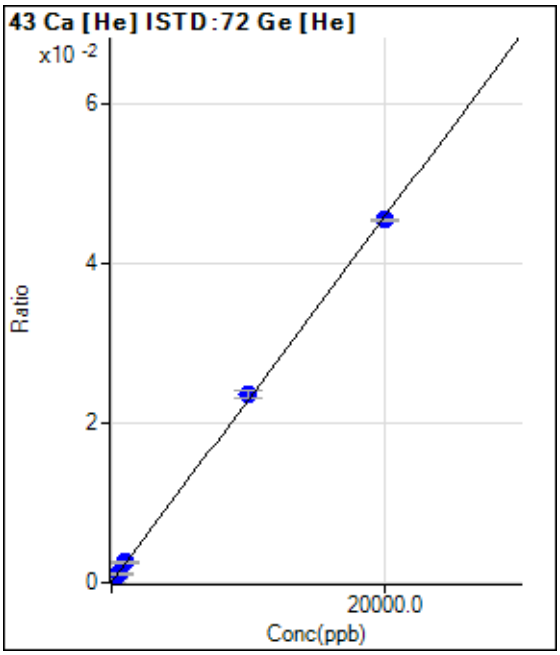
Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.00					
6	☐	20000.00					
7	☐	100.000					

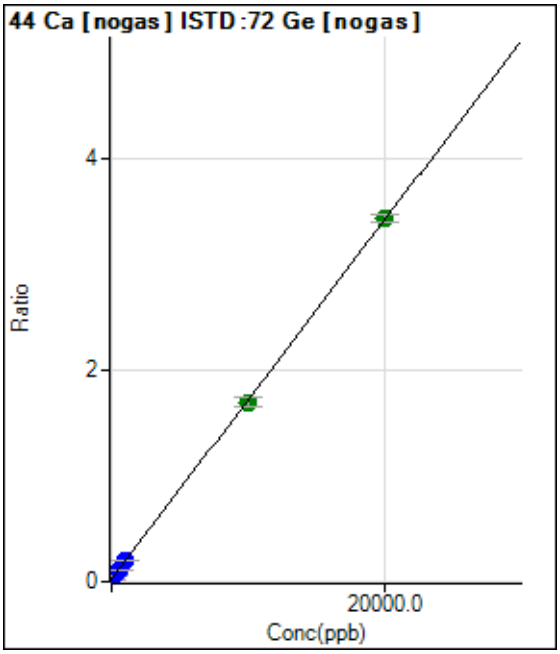
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	114.8
2	☐	200.000	190.493	270.01	0.0005	P	12.6
3	☐	500.000	453.154	596.69	0.0011	P	6.1
4	☐	1000.000	1103.617	1420.08	0.0026	P	7.6
5	☐	10000.00	10285.70	12831.21	0.0236	P	3.7
6	☐	20000.00	19853.23	24553.01	0.0455	P	0.8
7	☐	100.000					

y = 2.2907E-006 * x + 4.8266E-005
R = 0.9998
DL = 72.56
BEC = 21.07

Weight: <None>
Min Conc: <None>

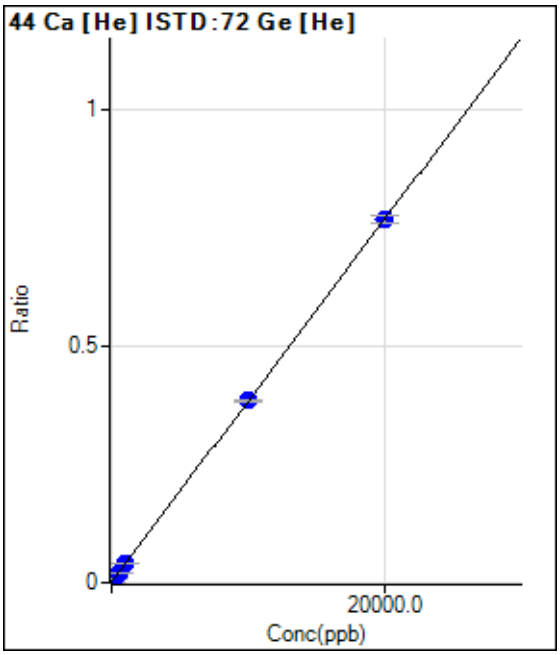


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	42579.95	0.0236	P	4.1
2	☐	200.000	203.467	107369.54	0.0581	P	1.2
3	☐	500.000	519.759	205675.78	0.1118	P	1.1
4	☐	1000.000	1053.076	373836.65	0.2024	P	1.5
5	☐	10000.00	9855.408	3107278.49	1.6968	A	4.9
6	☐	20000.00	20069.11	6230021.78	3.4308	A	2.1
7	☐	100.000					

y = 1.6977E-004 * x + 0.0236
R = 1.0000
DL = 16.98
BEC = 138.8

Weight: <None>
Min Conc: <None>

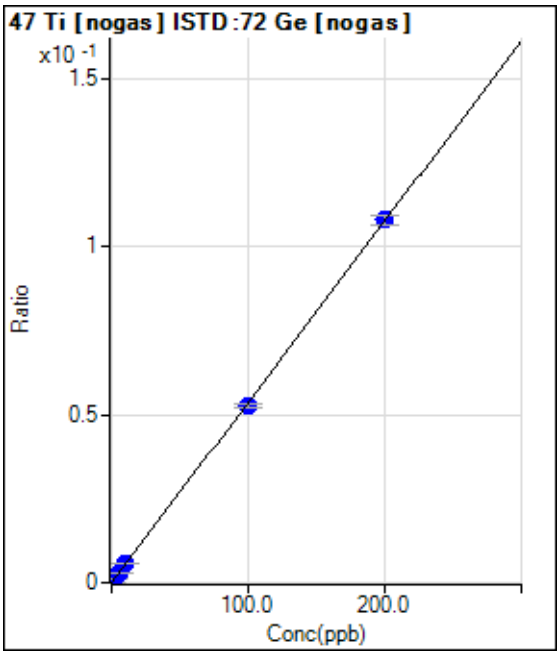
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	373.35	0.0007	P	13.6
2	☐	200.000	200.793	4670.64	0.0084	P	6.0
3	☐	500.000	531.723	11593.75	0.0211	P	0.5
4	☐	1000.000	1065.008	22914.35	0.0416	P	3.6
5	☐	10000.00	10036.06	209873.99	0.3861	P	1.2
6	☐	20000.00	19977.91	414086.54	0.7679	P	2.0
7	☐	100.000					

y = 3.8404E-005 * x + 6.7867E-004
R = 1.0000
DL = 7.214
BEC = 17.67

Weight: <None>
Min Conc: <None>

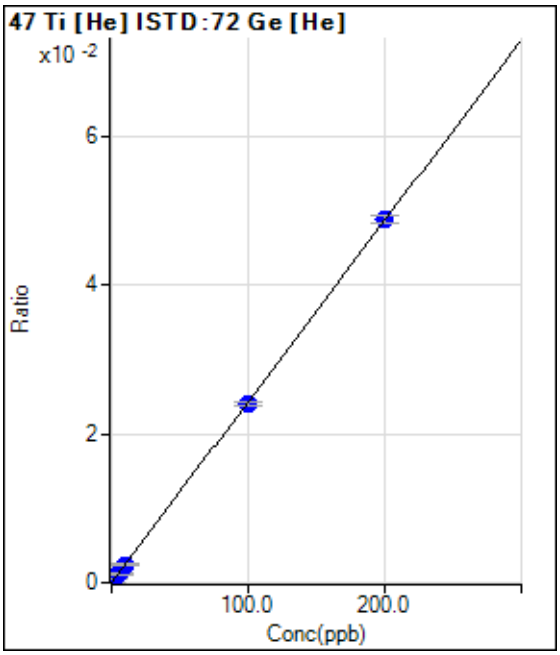


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	73.33	0.0000	P	40.7
2	☐	2.000	2.025	2083.49	0.0011	P	12.3
3	☐	5.000	5.053	5064.10	0.0028	P	2.2
4	☐	10.000	10.462	10449.74	0.0057	P	2.2
5	☐	100.000	98.071	96551.88	0.0527	P	2.0
6	☐	200.000	200.940	195950.52	0.1079	P	2.5
7	☐	1.000					

y = 5.3685E-004 * x + 4.0469E-005
R = 0.9999
DL = 0.09215
BEC = 0.07538

Weight: <None>
Min Conc: <None>

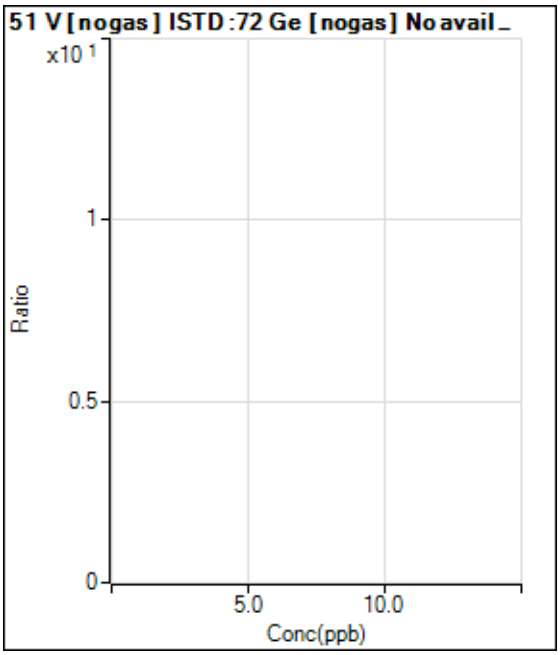
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	2.218	303.34	0.0005	P	11.5
3	☐	5.000	5.046	676.69	0.0012	P	12.1
4	☐	10.000	10.052	1350.07	0.0024	P	14.3
5	☐	100.000	98.864	13051.41	0.0240	P	3.0
6	☐	200.000	200.562	26265.41	0.0487	P	2.2
7	☐	1.000					

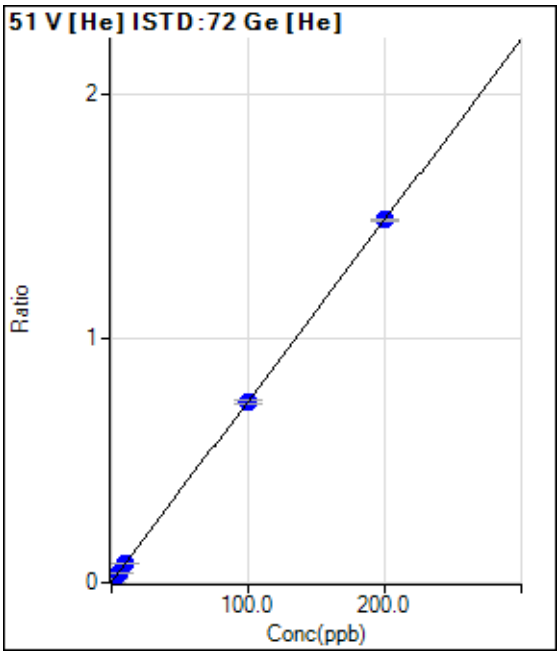
y = 2.4283E-004 * x + 6.1513E-006
R = 1.0000
DL = 0.1316
BEC = 0.02533

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

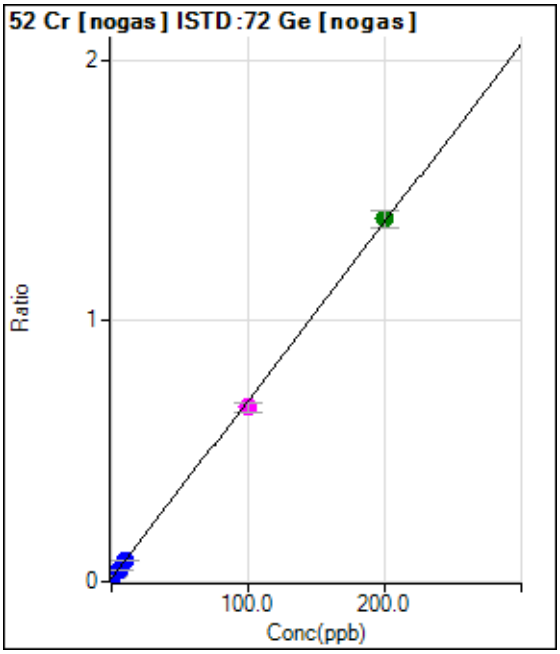
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1511.18	0.0027	P	5.4
2	☐	2.000	1.991	9758.14	0.0175	P	0.5
3	☐	5.000	5.155	22522.50	0.0410	P	3.7
4	☐	10.000	10.310	43683.25	0.0792	P	0.5
5	☐	100.000	99.667	403463.31	0.7423	P	1.3
6	☐	200.000	200.147	802380.35	1.4878	P	0.4
7	☐	1.000					

y = 0.0074 * x + 0.0027
R = 1.0000
DL = 0.06037
BEC = 0.3705

Weight: <None>
Min Conc: <None>

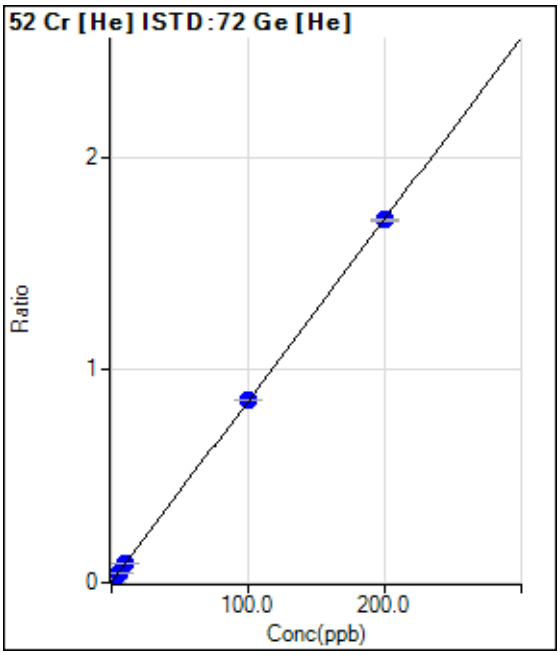


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21492.73	0.0119	P	3.5
2	☐	2.000	2.056	47918.85	0.0259	P	1.3
3	☐	5.000	5.154	86607.66	0.0471	P	0.7
4	☐	10.000	10.431	153505.21	0.0831	P	2.8
5	☐	100.000	96.183	1224163.76	0.6685	M	5.0
6	☐	200.000	201.883	2523874.75	1.3901	A	4.7
7	☐	1.000					

y = 0.0068 * x + 0.0119
R = 0.9997
DL = 0.1841
BEC = 1.742

Weight: <None>
Min Conc: <None>

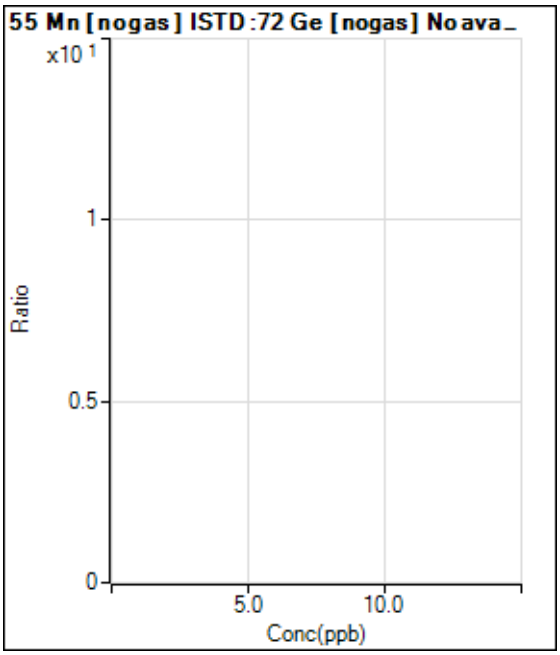
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	856.71	0.0016	P	3.8
2	☐	2.000	2.124	10946.72	0.0197	P	3.3
3	☐	5.000	5.149	24976.98	0.0455	P	1.8
4	☐	10.000	10.620	50762.93	0.0921	P	1.2
5	☐	100.000	100.534	466737.02	0.8586	P	0.3
6	☐	200.000	199.697	918953.27	1.7040	P	0.2
7	☐	1.000					

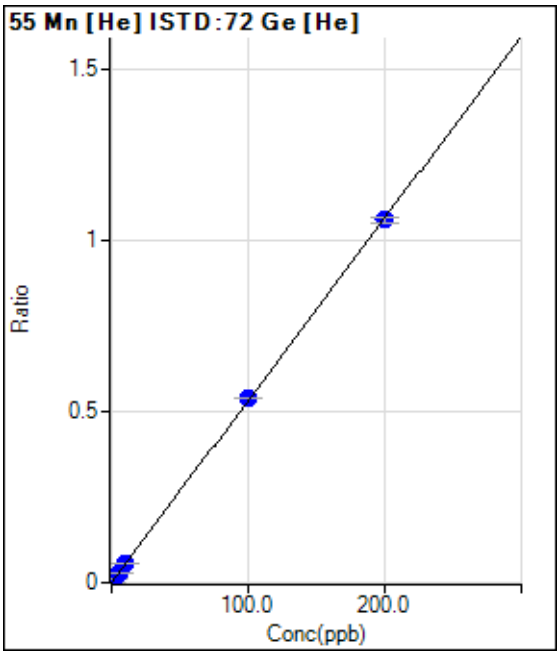
y = 0.0085 * x + 0.0016
R = 1.0000
DL = 0.02072
BEC = 0.1828

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

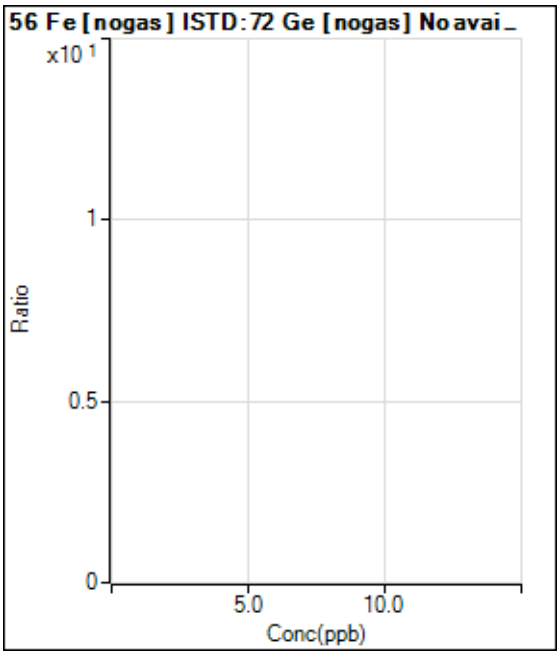
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.33	0.0002	P	20.0
2	☐	2.000	2.074	6264.48	0.0113	P	3.9
3	☐	5.000	5.314	15666.83	0.0285	P	0.9
4	☐	10.000	10.786	31777.53	0.0577	P	1.9
5	☐	100.000	101.464	293899.52	0.5407	P	0.2
6	☐	200.000	199.220	572324.81	1.0614	P	1.9
7	☐	1.000					

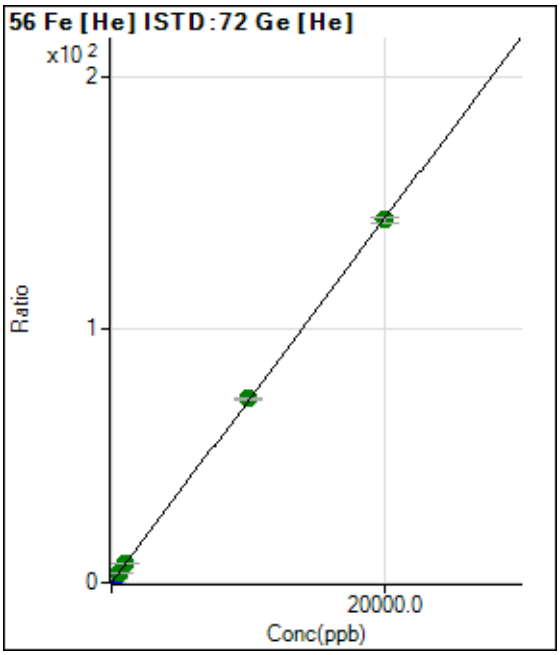
y = 0.0053 * x + 2.0616E-004
R = 1.0000
DL = 0.02326
BEC = 0.0387

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.00					
6	☐	20000.00					
7	☐	100.000					

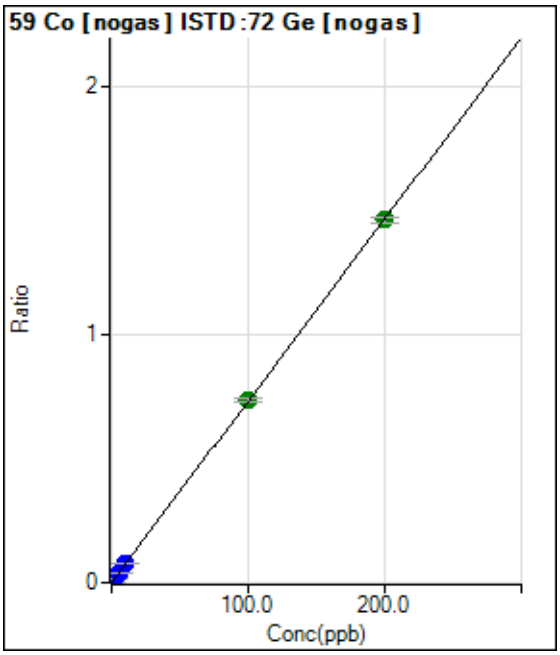
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4890.72	0.0089	P	3.1
2	☐	200.000	202.248	814782.59	1.4634	P	1.3
3	☐	500.000	538.892	2134445.17	3.8845	A	1.2
4	☐	1000.000	1063.145	4218949.83	7.6548	A	1.7
5	☐	10000.00	10105.95	39514244.4	72.6884	A	0.5
6	☐	20000.00	19942.87	77346947.1	143.433	A	1.4
7	☐	100.000					

y = 0.0072 * x + 0.0089
R = 1.0000
DL = 0.1162
BEC = 1.237

Weight: <None>
Min Conc: <None>

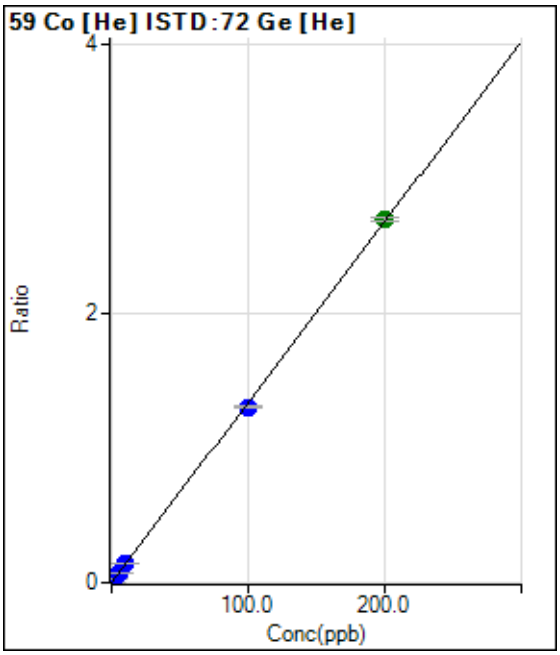


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	290.01	0.0002	P	19.4
2	☐	2.000	2.099	28706.07	0.0155	P	1.5
3	☐	5.000	5.395	73004.48	0.0397	P	2.0
4	☐	10.000	10.584	143557.05	0.0777	P	2.7
5	☐	100.000	100.435	1349044.88	0.7360	A	1.4
6	☐	200.000	199.742	2658016.37	1.4636	A	1.8
7	☐	1.000					

y = 0.0073 * x + 1.6045E-004
R = 1.0000
DL = 0.01273
BEC = 0.0219

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	100.00	0.0002	P	11.2
2	☐	2.000	2.062	15500.05	0.0278	P	5.7
3	☐	5.000	5.036	37217.78	0.0677	P	1.7
4	☐	10.000	10.319	76397.79	0.1386	P	1.0
5	☐	100.000	97.467	710820.51	1.3077	P	0.6
6	☐	200.000	201.249	1456055.81	2.6998	A	1.1
7	☐	1.000					

y = 0.0134 * x + 1.8214E-004

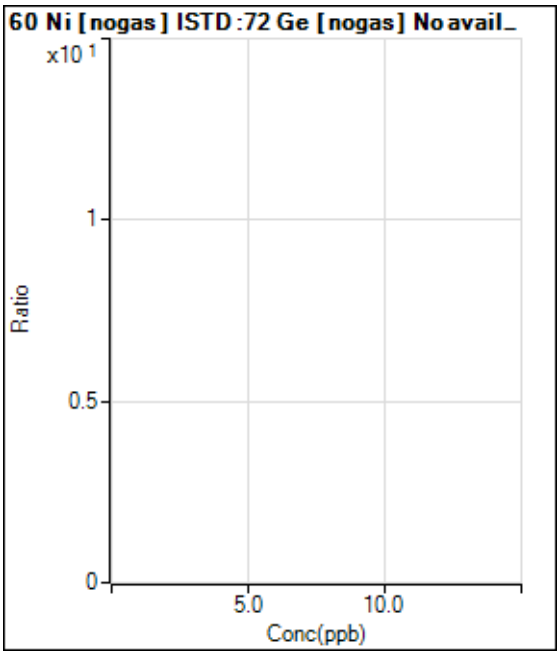
R = 0.9999

DL = 0.004571

BEC = 0.01358

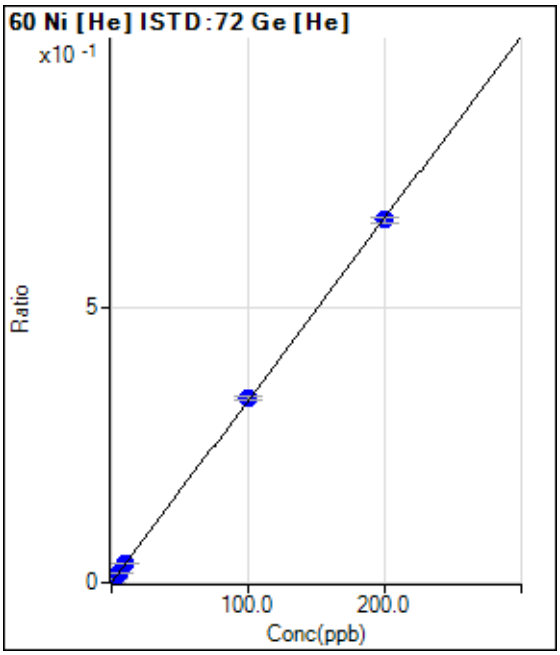
Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

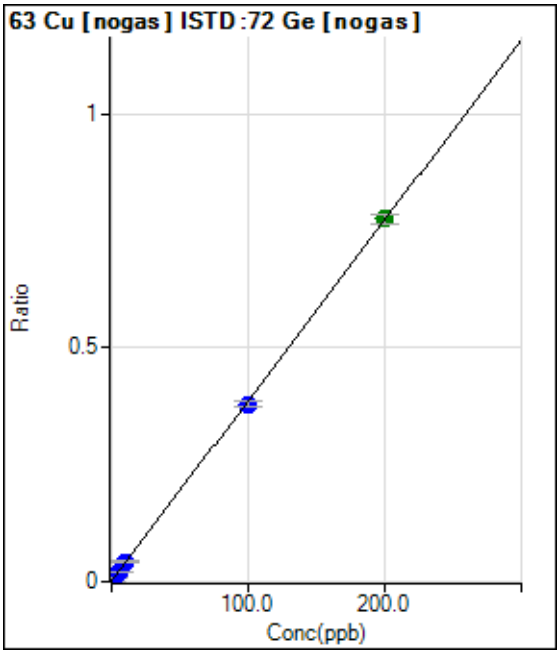
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0001	P	39.6
2	☐	2.000	2.109	3950.49	0.0071	P	4.4
3	☐	5.000	5.412	9909.47	0.0180	P	3.5
4	☐	10.000	10.811	19790.87	0.0359	P	3.0
5	☐	100.000	101.563	182843.05	0.3364	P	2.4
6	☐	200.000	199.167	355661.91	0.6595	P	1.4
7	☐	1.000					

y = 0.0033 * x + 1.1531E-004
R = 1.0000
DL = 0.04142
BEC = 0.03483

Weight: <None>
Min Conc: <None>

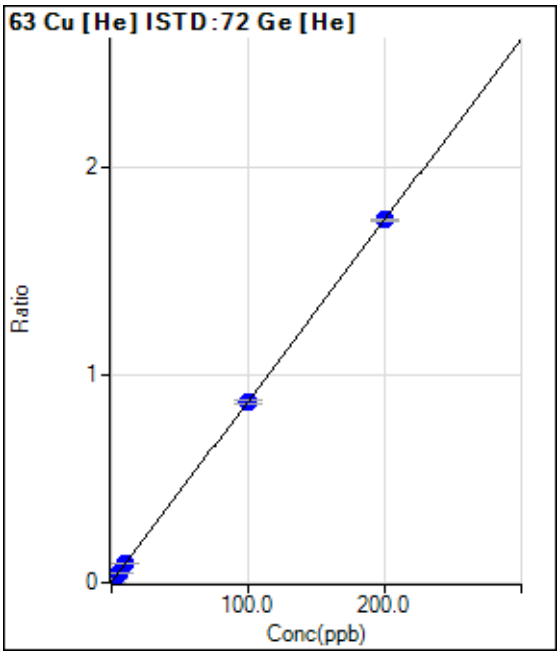


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2353.52	0.0013	P	9.6
2	☐	2.000	2.082	17234.88	0.0093	P	2.4
3	☐	5.000	5.329	40187.37	0.0218	P	0.7
4	☐	10.000	10.753	78979.18	0.0428	P	2.9
5	☐	100.000	98.126	695467.62	0.3796	P	2.7
6	☐	200.000	200.890	1408459.98	0.7758	A	2.8
7	☐	1.000					

y = 0.0039 * x + 0.0013
R = 0.9999
DL = 0.0971
BEC = 0.3376

Weight: <None>
Min Conc: <None>

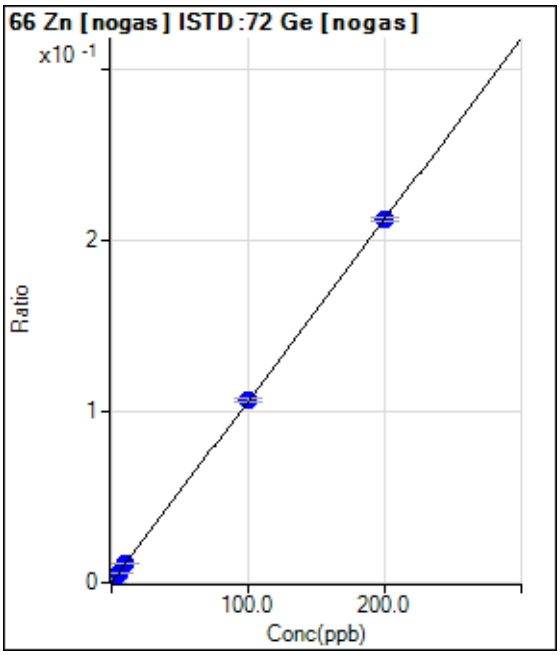
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	960.04	0.0017	P	21.0
2	☐	2.000	2.094	11170.20	0.0201	P	2.6
3	☐	5.000	5.452	27153.62	0.0494	P	1.4
4	☐	10.000	10.770	52869.44	0.0959	P	1.2
5	☐	100.000	99.804	475262.95	0.8744	P	2.5
6	☐	200.000	200.047	944234.02	1.7509	P	0.7
7	☐	1.000					

y = 0.0087 * x + 0.0017
R = 1.0000
DL = 0.1259
BEC = 0.2001

Weight: <None>
Min Conc: <None>

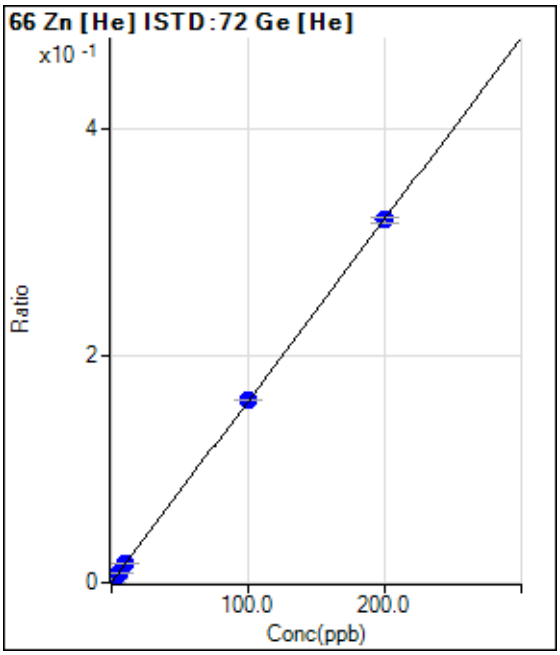


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	236.67	0.0001	P	44.0
2	☐	2.000	2.159	4473.95	0.0024	P	4.3
3	☐	5.000	5.485	10950.11	0.0060	P	5.2
4	☐	10.000	10.704	21232.57	0.0115	P	0.5
5	☐	100.000	100.171	195048.68	0.1064	P	1.9
6	☐	200.000	199.865	385430.19	0.2122	P	0.9
7	☐	1.000					

y = 0.0011 * x + 1.3036E-004
R = 1.0000
DL = 0.162
BEC = 0.1228

Weight: <None>
Min Conc: <None>

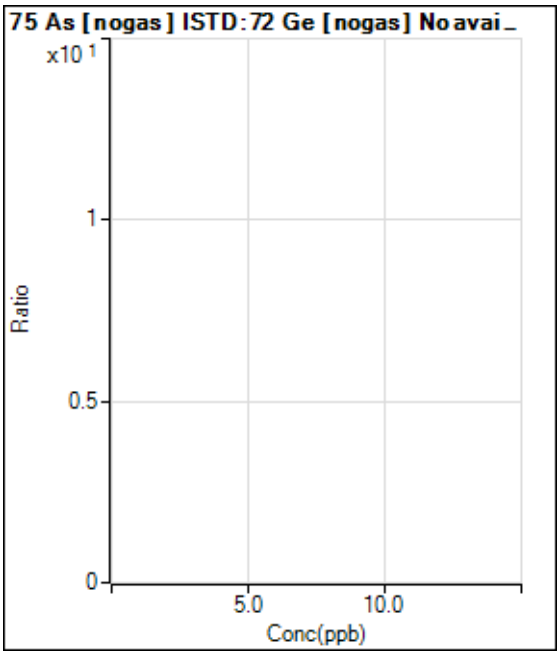
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.33	0.0002	P	40.0
2	☐	2.000	2.196	2066.81	0.0037	P	8.9
3	☐	5.000	5.295	4760.69	0.0087	P	4.8
4	☐	10.000	10.506	9365.81	0.0170	P	2.0
5	☐	100.000	100.509	87407.42	0.1608	P	0.9
6	☐	200.000	199.711	172182.34	0.3193	P	1.4
7	☐	1.000					

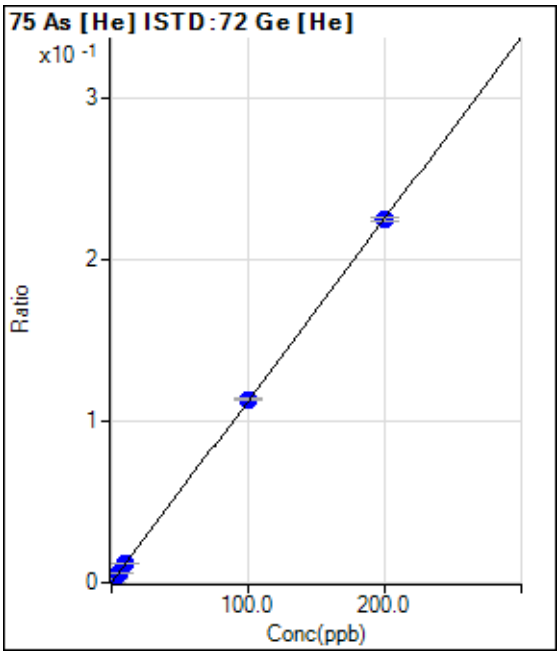
y = 0.0016 * x + 2.0558E-004
R = 1.0000
DL = 0.1542
BEC = 0.1287

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

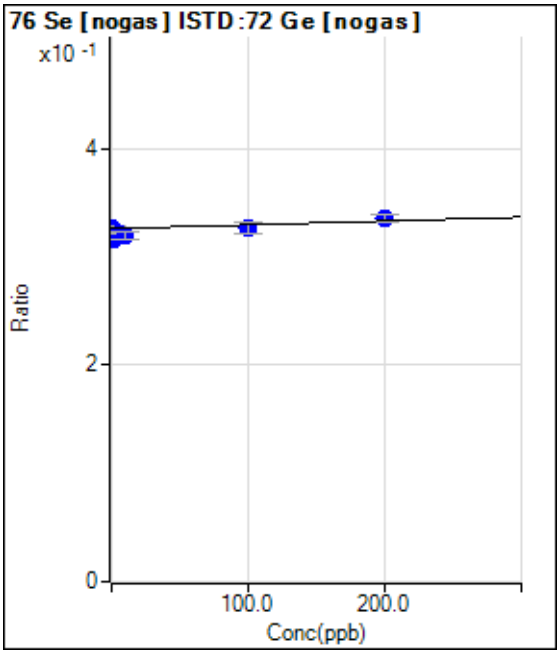
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50.00	0.0001	P	23.8
2	☐	2.000	2.044	1332.28	0.0024	P	4.8
3	☐	5.000	5.162	3244.75	0.0059	P	2.5
4	☐	10.000	10.440	6530.08	0.0119	P	4.3
5	☐	100.000	100.918	61829.59	0.1138	P	2.0
6	☐	200.000	199.514	121228.59	0.2248	P	1.1
7	☐	1.000					

y = 0.0011 * x + 9.1124E-005
R = 1.0000
DL = 0.05786
BEC = 0.08091

Weight: <None>
Min Conc: <None>

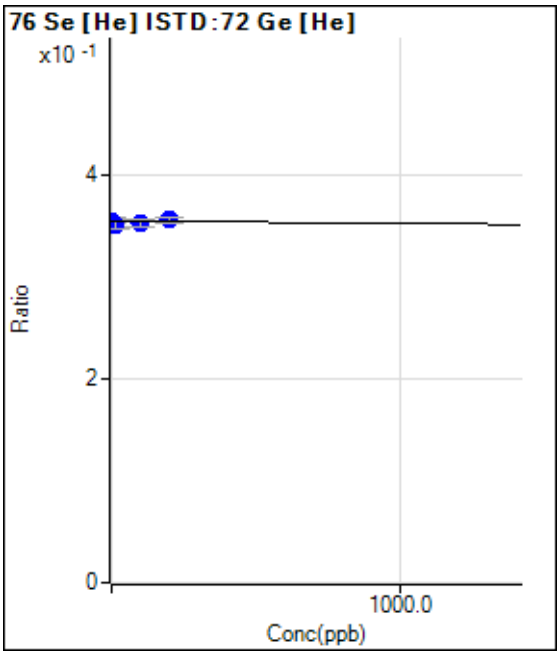


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	589300.14	0.3261	P	1.7
2	☐	2.000	-259.989	585445.36	0.3168	P	0.9
3	☐	5.000	-124.221	591735.68	0.3216	P	0.3
4	☐	10.000	-177.825	590652.14	0.3197	P	2.3
5	☐	100.000	26.165	599010.76	0.3270	P	3.3
6	☐	200.000	252.159	608270.59	0.3350	P	2.0
7	☐	1.000					

y = 3.5480E-005 * x + 0.3261
R = 0.8761
DL = 473.6
BEC = 9190

Weight: <None>
Min Conc: <None>

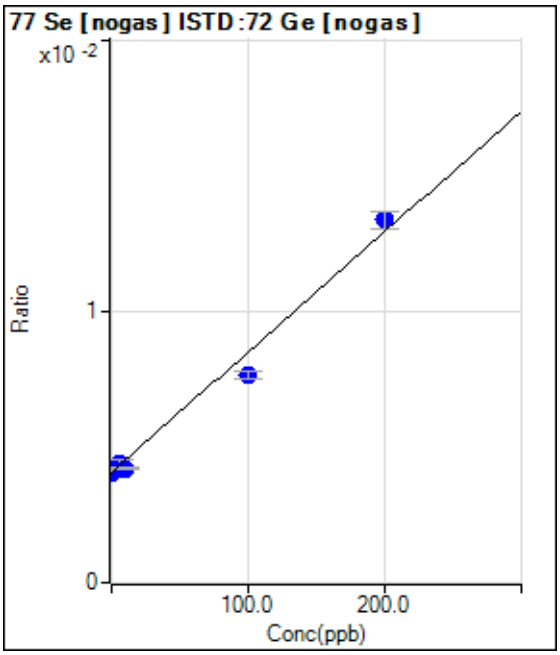
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	195289.01	0.3554	P	1.6
2	☐	2.000	2043.793	195075.21	0.3503	P	1.7
3	☐	5.000	972.689	193962.18	0.3530	P	1.8
4	☐	10.000	1642.191	193626.30	0.3513	P	2.3
5	☐	100.000	937.979	191911.46	0.3531	P	2.2
6	☐	200.000	-345.209	192117.95	0.3563	P	1.9
7	☐	1.000					

y = -2.4914E-006 * x + 0.3554
R = 0.6055
DL = -6982
BEC = -1.427E+05

Weight: <None>
Min Conc: <None>

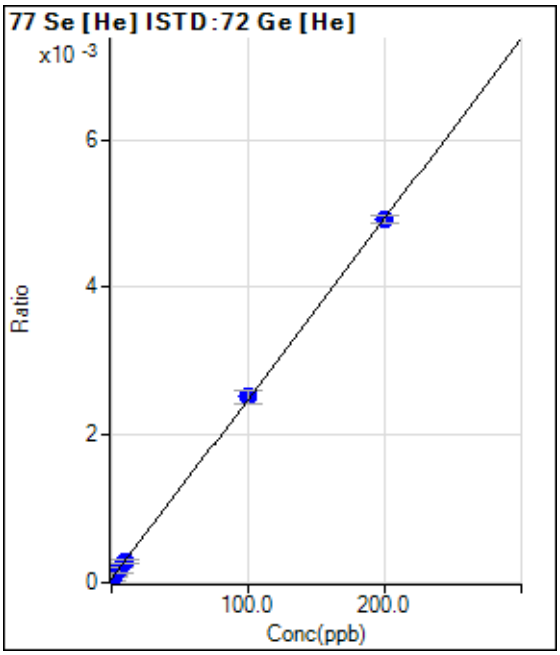


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7364.95	0.0041	P	3.3
2	☐	2.000	3.020	7771.80	0.0042	P	5.7
3	☐	5.000	6.648	8038.57	0.0044	P	6.4
4	☐	10.000	2.523	7735.10	0.0042	P	1.8
5	☐	100.000	81.284	14062.25	0.0077	P	3.6
6	☐	200.000	209.681	24263.14	0.0134	P	4.8
7	☐	1.000					

y = 4.4319E-005 * x + 0.0041
R = 0.9935
DL = 9.133
BEC = 91.9

Weight: <None>
Min Conc: <None>

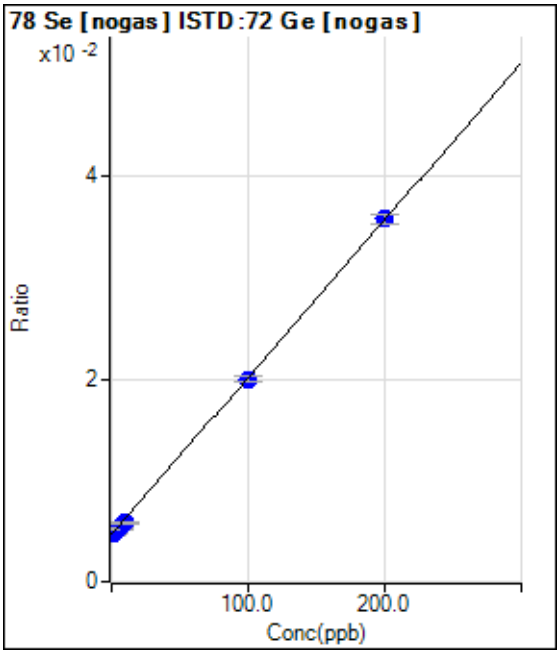
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	77.8
2	☐	2.000	1.457	46.67	0.0001	P	33.2
3	☐	5.000	5.209	96.67	0.0002	P	48.0
4	☐	10.000	9.909	160.00	0.0003	P	12.3
5	☐	100.000	101.289	1370.07	0.0025	P	7.4
6	☐	200.000	199.360	2650.23	0.0049	P	2.0
7	☐	1.000					

y = 2.4410E-005 * x + 4.8375E-005
R = 1.0000
DL = 4.626
BEC = 1.982

Weight: <None>
Min Conc: <None>

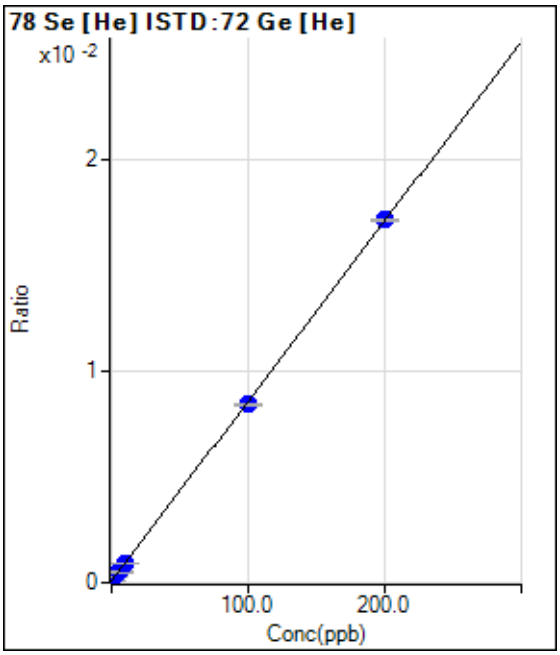


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8428.74	0.0047	P	7.6
2	☐	2.000	0.476	8748.89	0.0047	P	2.2
3	☐	5.000	4.121	9752.75	0.0053	P	3.6
4	☐	10.000	7.341	10713.30	0.0058	P	4.6
5	☐	100.000	98.969	36653.95	0.0200	P	3.7
6	☐	200.000	200.686	64972.82	0.0358	P	2.5
7	☐	1.000					

y = 1.5508E-004 * x + 0.0047
R = 0.9999
DL = 6.876
BEC = 30.06

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	42.67	0.0001	P	21.3
2	☐	2.000	2.124	144.00	0.0003	P	20.9
3	☐	5.000	4.971	275.33	0.0005	P	9.0
4	☐	10.000	9.955	510.01	0.0009	P	3.5
5	☐	100.000	98.367	4595.92	0.0085	P	0.9
6	☐	200.000	200.818	9264.36	0.0172	P	0.5
7	☐	1.000					

y = 8.5158E-005 * x + 7.7675E-005

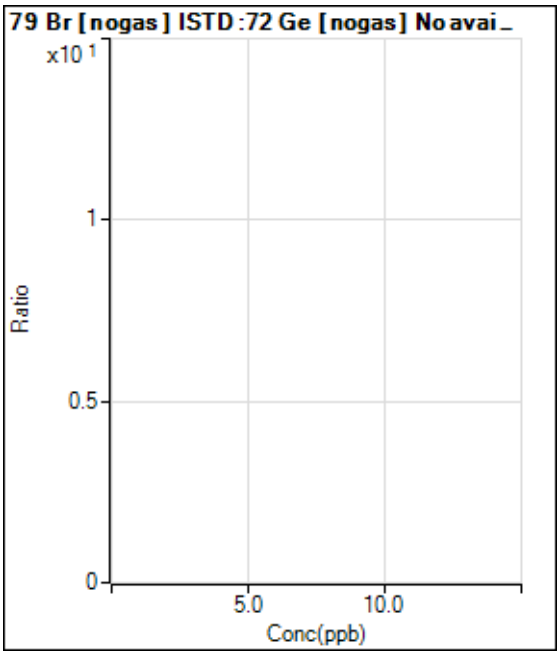
R = 1.0000

DL = 0.5815

BEC = 0.9121

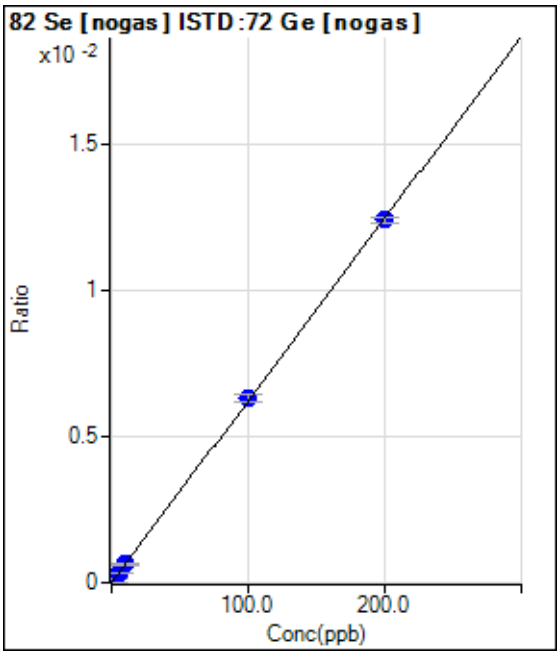
Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

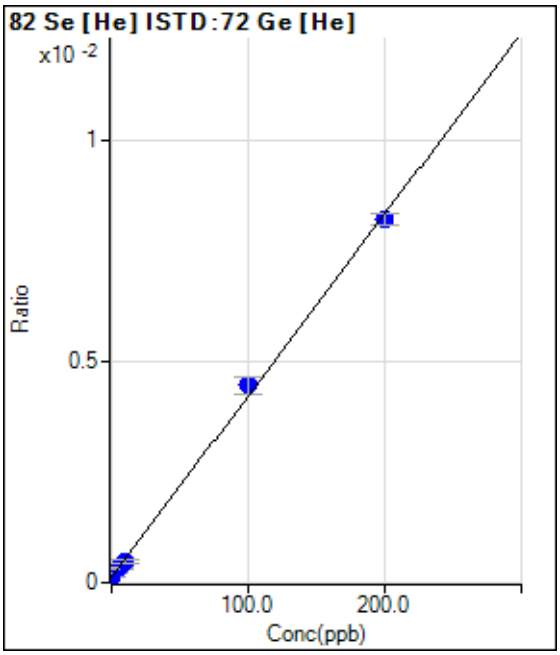
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-0.39	0.0000	P	-21691.
2	☐	2.000	1.182	136.31	0.0001	P	132.4
3	☐	5.000	5.494	629.86	0.0003	P	10.1
4	☐	10.000	10.104	1163.60	0.0006	P	16.1
5	☐	100.000	101.251	11566.45	0.0063	P	4.5
6	☐	200.000	199.365	22567.23	0.0124	P	1.5
7	☐	1.000					

y = 6.2340E-005 * x - 1.8177E-007
R = 1.0000
DL = 1.897
BEC = -0.002916

Weight: <None>
Min Conc: <None>

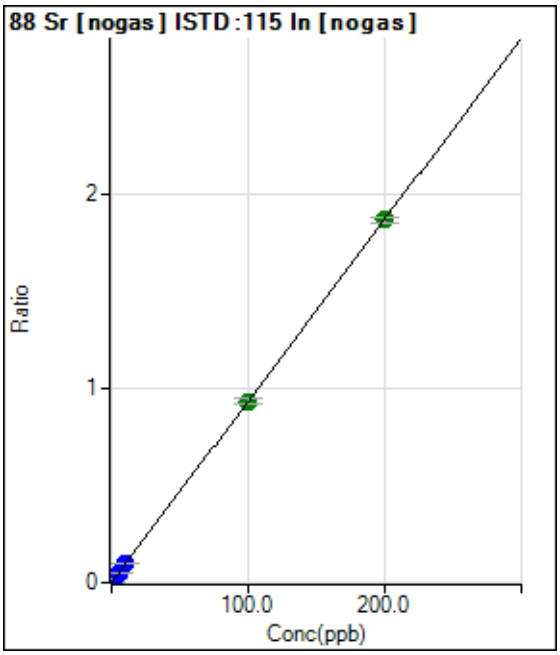


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0001	P	17.0
2	☐	2.000	3.765	153.33	0.0003	P	37.6
3	☐	5.000	5.318	186.67	0.0003	P	7.9
4	☐	10.000	8.960	270.01	0.0005	P	18.4
5	☐	100.000	106.089	2433.54	0.0045	P	8.9
6	☐	200.000	196.982	4427.27	0.0082	P	3.1
7	☐	1.000					

y = 4.1067E-005 * x + 1.2128E-004
R = 0.9993
DL = 1.505
BEC = 2.953

Weight: <None>
Min Conc: <None>

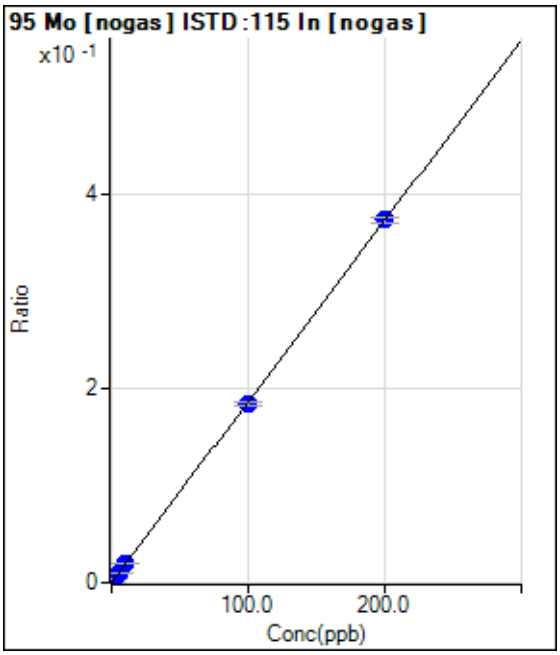
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1300.07	0.0007	P	16.2
2	☐	2.000	2.016	34686.96	0.0195	P	3.0
3	☐	5.000	5.160	85904.01	0.0488	P	0.9
4	☐	10.000	10.452	174794.95	0.0982	P	0.6
5	☐	100.000	100.046	1646725.34	0.9334	A	2.8
6	☐	200.000	199.950	3286794.43	1.8647	A	1.9
7	☐	1.000					

y = 0.0093 * x + 7.1996E-004
R = 1.0000
DL = 0.03764
BEC = 0.07723

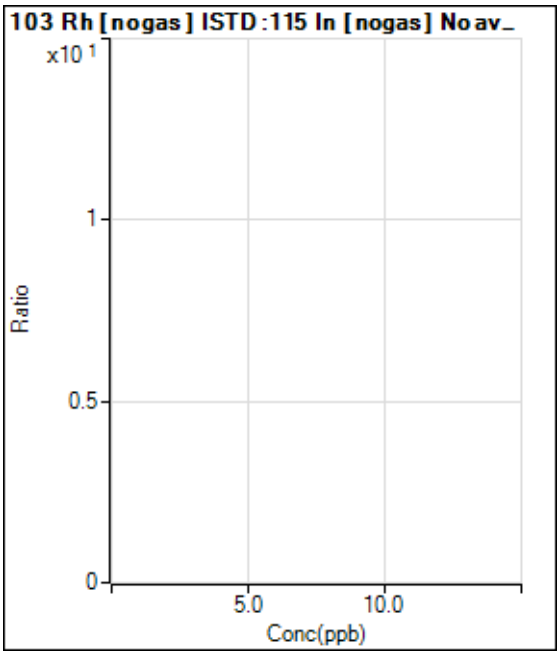
Weight: <None>
Min Conc: <None>



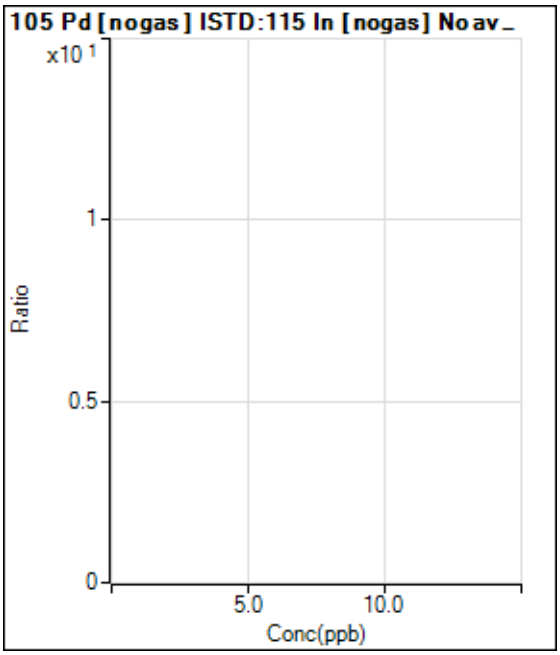
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.00	0.0000	P	18.4
2	☐	2.000	1.974	6614.66	0.0037	P	5.9
3	☐	5.000	5.234	17215.16	0.0098	P	3.2
4	☐	10.000	10.389	34483.51	0.0194	P	3.8
5	☐	100.000	98.764	324044.31	0.1837	P	2.1
6	☐	200.000	200.593	657689.29	0.3731	P	1.4
7	☐	1.000					

y = 0.0019 * x + 4.9842E-005
R = 1.0000
DL = 0.01482
BEC = 0.0268

Weight: <None>
Min Conc: <None>

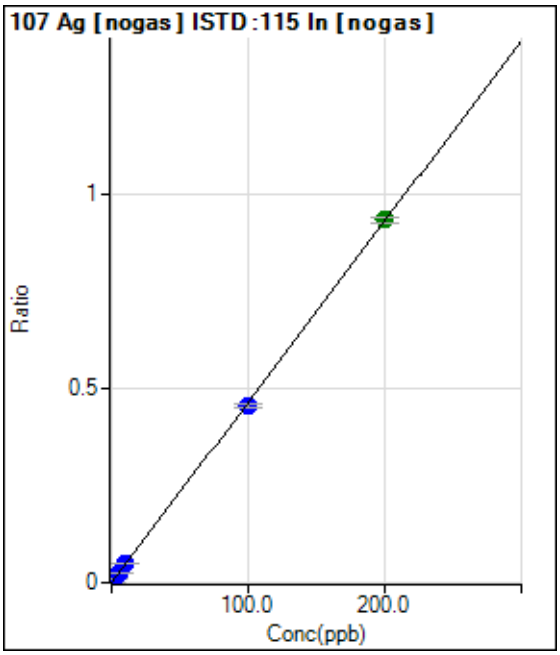


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

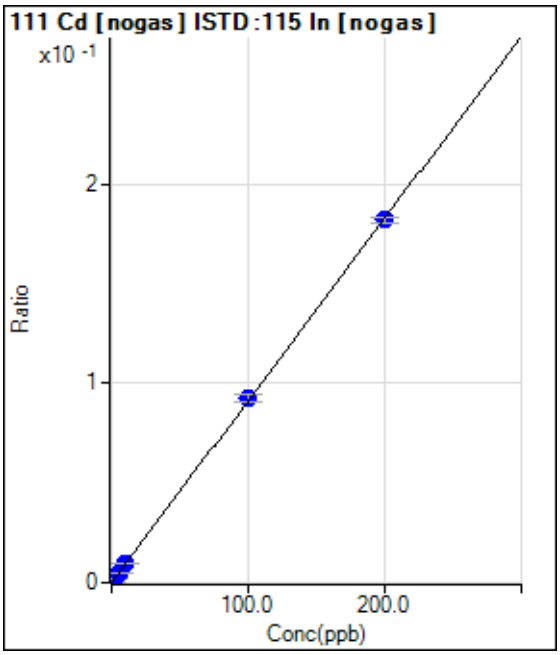
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0000	P	43.0
2	☐	2.000	2.025	16838.17	0.0095	P	0.9
3	☐	5.000	5.168	42444.67	0.0241	P	1.5
4	☐	10.000	10.393	86312.69	0.0485	P	1.6
5	☐	100.000	98.262	807857.59	0.4580	P	2.0
6	☐	200.000	200.845	1650212.21	0.9362	A	1.6
7	☐	1.000					

y = 0.0047 * x + 3.3179E-005
R = 0.9999
DL = 0.009184
BEC = 0.007118

Weight: <None>
Min Conc: <None>

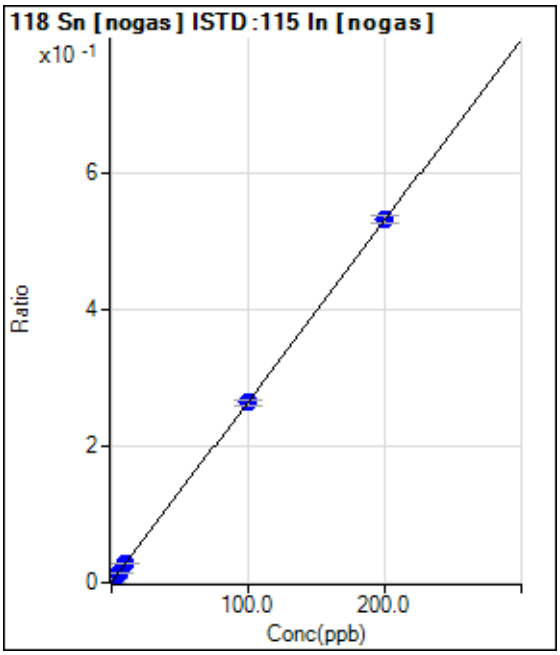


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	2.096	3407.04	0.0019	P	1.9
3	☐	5.000	5.140	8258.72	0.0047	P	4.7
4	☐	10.000	10.897	17715.76	0.0100	P	3.4
5	☐	100.000	101.229	162991.96	0.0924	P	3.9
6	☐	200.000	199.336	320847.95	0.1820	P	1.3
7	☐	1.000					

y = 9.1309E-004 * x + 1.8499E-006
R = 1.0000
DL = 0.01053
BEC = 0.002026

Weight: <None>
Min Conc: <None>

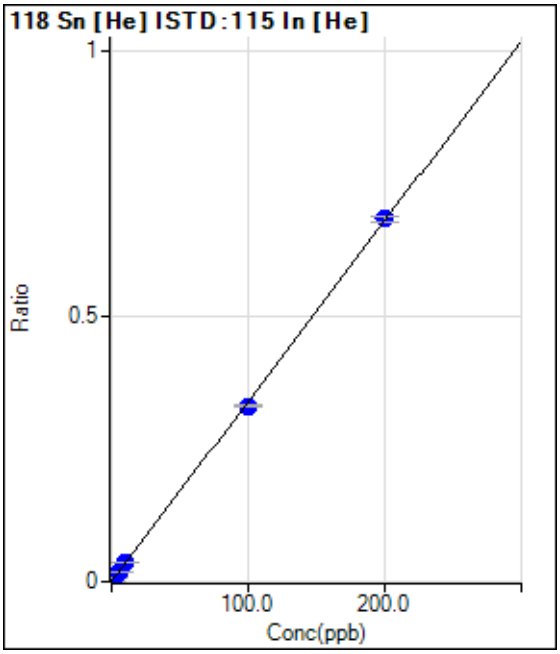
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	766.70	0.0004	P	16.0
2	☐	2.000	2.009	10233.12	0.0058	P	3.1
3	☐	5.000	5.151	24787.95	0.0141	P	1.8
4	☐	10.000	10.375	49760.88	0.0279	P	1.1
5	☐	100.000	99.259	465093.63	0.2637	P	3.0
6	☐	200.000	200.348	937456.68	0.5318	P	2.3
7	☐	1.000					

y = 0.0027 * x + 4.2459E-004
R = 1.0000
DL = 0.07698
BEC = 0.1601

Weight: <None>
Min Conc: <None>

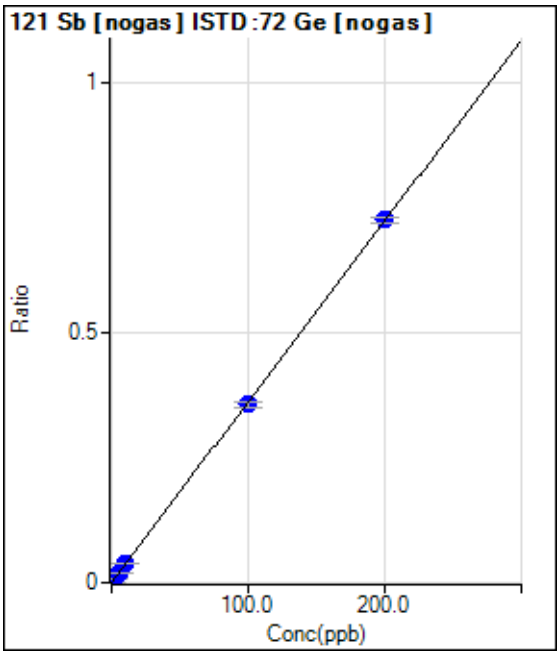


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	500.01	0.0006	P	7.1
2	☐	2.000	2.018	5951.10	0.0075	P	3.5
3	☐	5.000	4.951	13792.20	0.0174	P	4.7
4	☐	10.000	10.245	28139.49	0.0353	P	4.3
5	☐	100.000	97.345	258894.35	0.3303	P	1.4
6	☐	200.000	201.316	521285.21	0.6825	P	1.7
7	☐	1.000					

y = 0.0034 * x + 6.2634E-004
R = 0.9999
DL = 0.03949
BEC = 0.1849

Weight: <None>
Min Conc: <None>

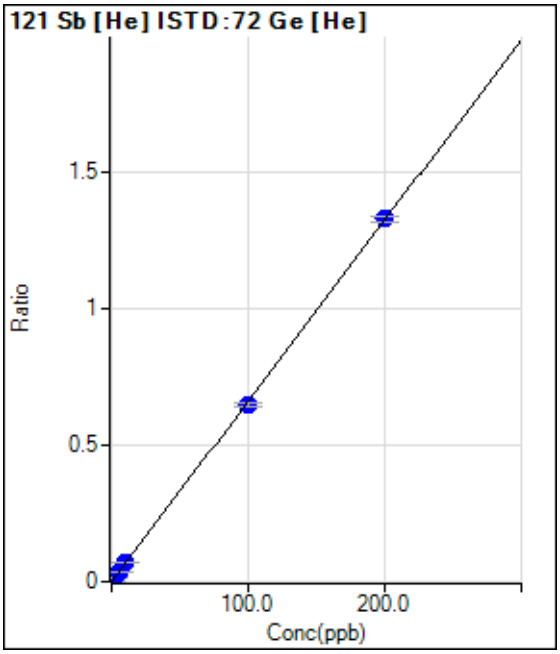
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	383.34	0.0002	P	11.8
2	☐	2.000	2.021	13905.69	0.0075	P	1.2
3	☐	5.000	5.233	35229.00	0.0191	P	2.8
4	☐	10.000	10.359	69624.76	0.0377	P	3.5
5	☐	100.000	98.510	653512.84	0.3567	P	2.8
6	☐	200.000	200.721	1319305.74	0.7266	P	1.9
7	☐	1.000					

y = 0.0036 * x + 2.1185E-004
R = 1.0000
DL = 0.0208
BEC = 0.05854

Weight: <None>
Min Conc: <None>

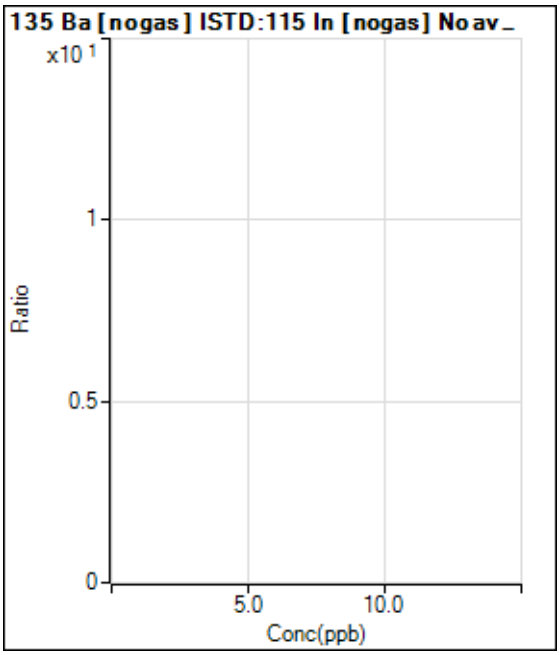


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	216.67	0.0004	P	29.8
2	☐	2.000	2.012	7625.10	0.0137	P	5.2
3	☐	5.000	5.127	18847.07	0.0343	P	1.9
4	☐	10.000	10.412	38165.11	0.0693	P	3.4
5	☐	100.000	98.218	353263.22	0.6499	P	2.5
6	☐	200.000	200.867	716584.62	1.3288	P	1.3
7	☐	1.000					

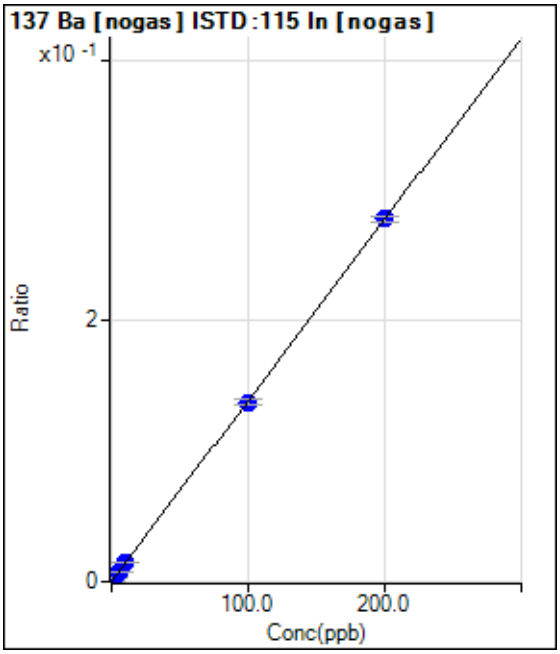
y = 0.0066 * x + 3.9333E-004
R = 0.9999
DL = 0.05314
BEC = 0.05948

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.00	0.0001	P	12.9
2	☐	2.000	2.121	5430.93	0.0031	P	8.1
3	☐	5.000	5.210	12924.99	0.0073	P	3.1
4	☐	10.000	10.637	26493.85	0.0149	P	3.7
5	☐	100.000	99.234	243289.38	0.1379	P	2.5
6	☐	200.000	200.345	490702.86	0.2784	P	1.7
7	☐	1.000					

y = 0.0014 * x + 1.0526E-004

R = 1.0000

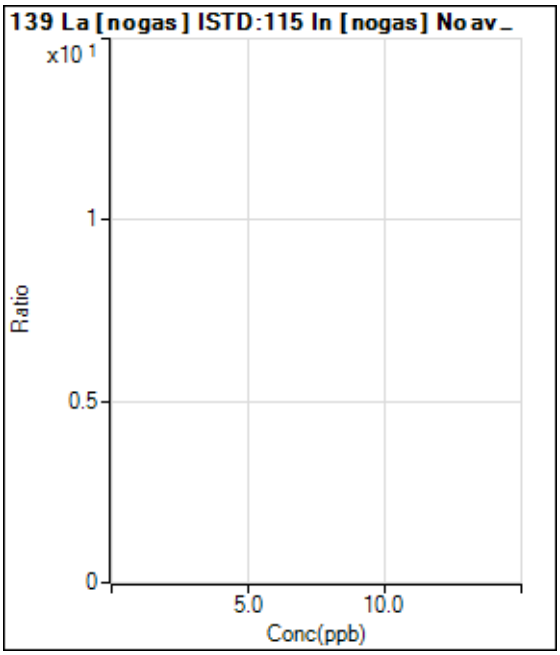
DL = 0.02943

BEC = 0.07578

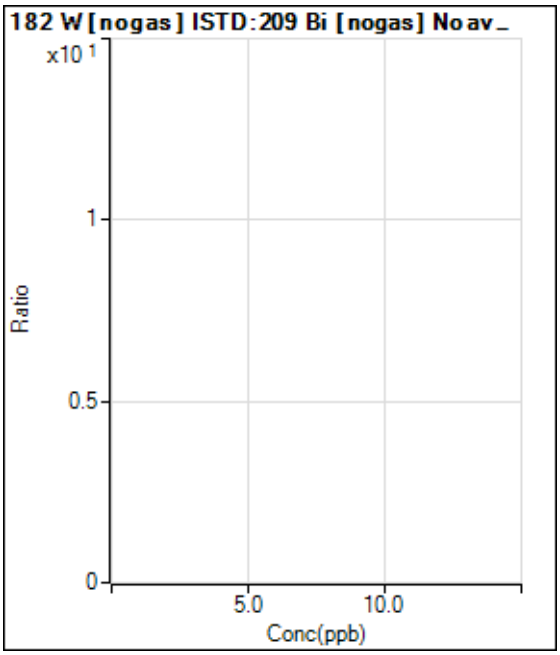
Weight: <None>

Min Conc: <None>

Calibration for 026_ICV.d

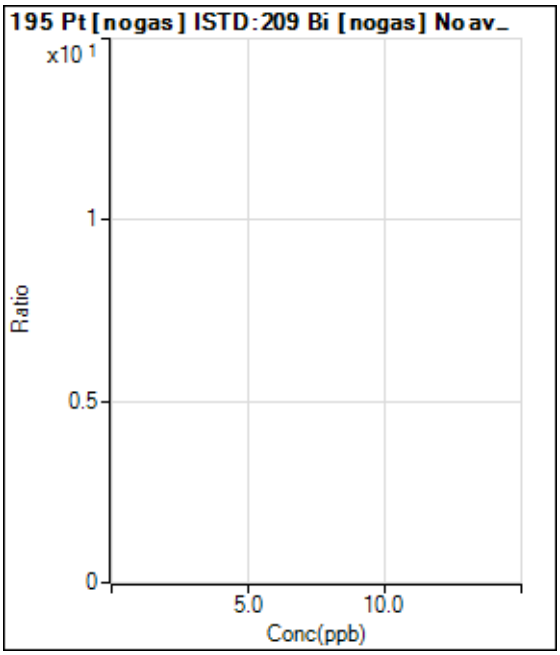


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

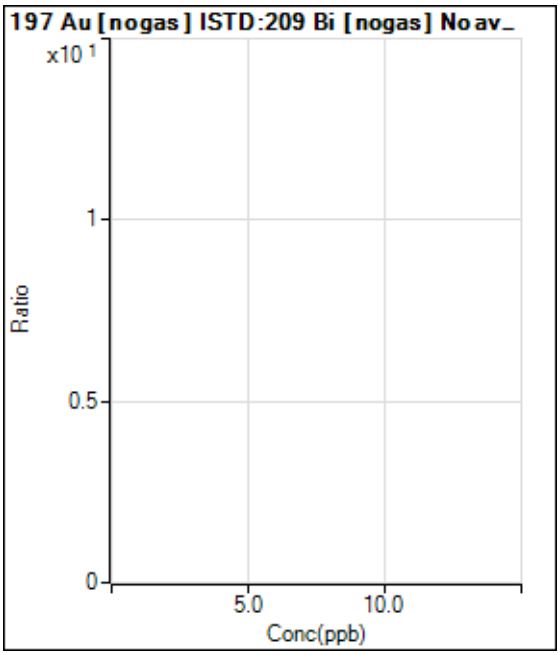


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

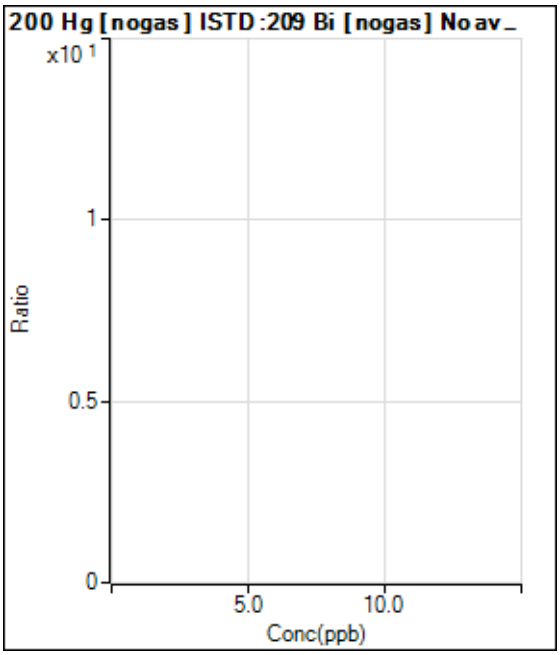
Calibration for 026_ICV.d



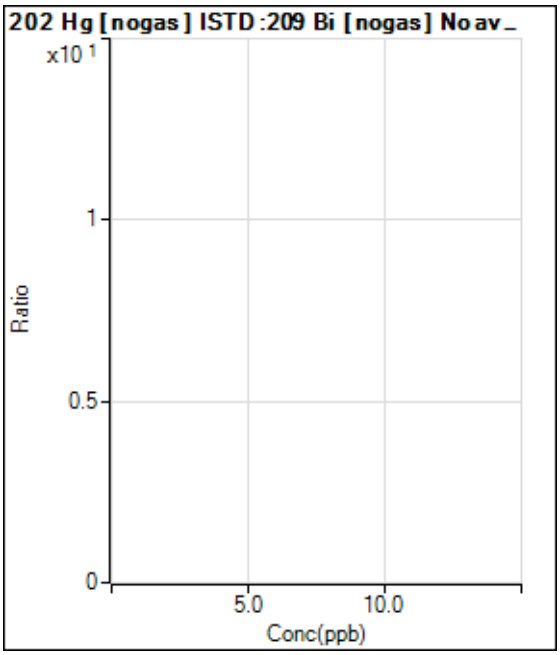
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

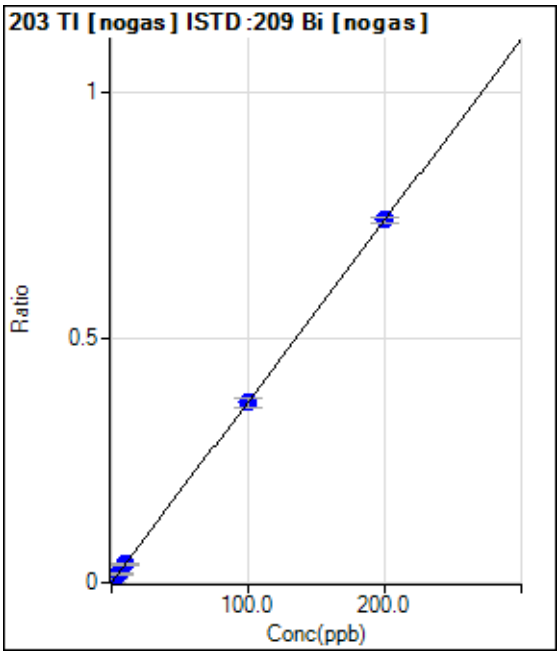


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	2.000					
6	☐	5.000					
7	☐	10.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	5.000					
6	☐	5.000					
7	☐	10.000					

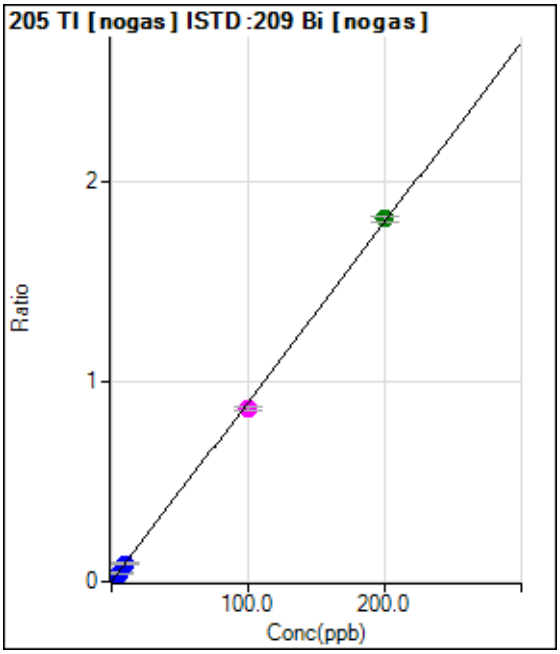
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	53.33	0.0000	P	26.4
2	☐	2.000	1.944	11117.25	0.0072	P	3.5
3	☐	5.000	4.886	28264.54	0.0181	P	6.2
4	☐	10.000	10.214	57848.93	0.0378	P	3.7
5	☐	100.000	99.347	534573.85	0.3676	P	5.1
6	☐	200.000	200.319	1086116.89	0.7411	P	1.5
7	☐	1.000					

y = 0.0037 * x + 3.5885E-005
R = 1.0000
DL = 0.007688
BEC = 0.0097

Weight: <None>
Min Conc: <None>

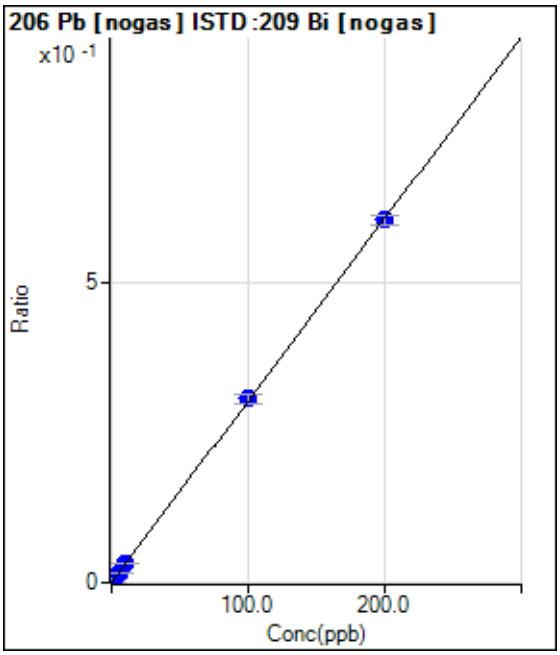


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0001	P	20.1
2	☐	2.000	1.918	26618.62	0.0173	P	4.0
3	☐	5.000	4.782	67137.25	0.0430	P	5.1
4	☐	10.000	10.072	138395.06	0.0905	P	3.6
5	☐	100.000	96.161	1256535.74	0.8632	M	2.3
6	☐	200.000	201.922	2656305.22	1.8124	A	1.6
7	☐	1.000					

y = 0.0090 * x + 8.7738E-005
R = 0.9997
DL = 0.005881
BEC = 0.009775

Weight: <None>
Min Conc: <None>

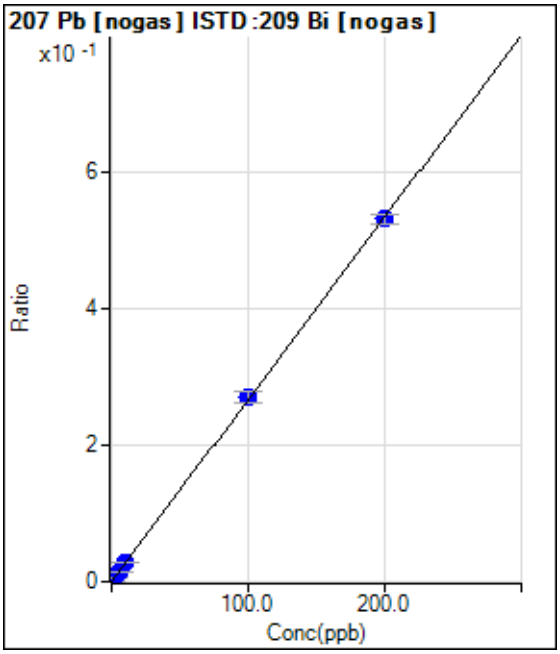
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	110.00	0.0001	P	43.6
2	☐	2.000	2.094	9906.48	0.0064	P	0.7
3	☐	5.000	5.012	23904.34	0.0153	P	4.0
4	☐	10.000	10.379	48365.35	0.0316	P	2.9
5	☐	100.000	101.051	446777.82	0.3072	P	5.1
6	☐	200.000	199.454	888390.19	0.6063	P	2.6
7	☐	1.000					

y = 0.0030 * x + 7.3963E-005
R = 1.0000
DL = 0.03183
BEC = 0.02434

Weight: <None>
Min Conc: <None>

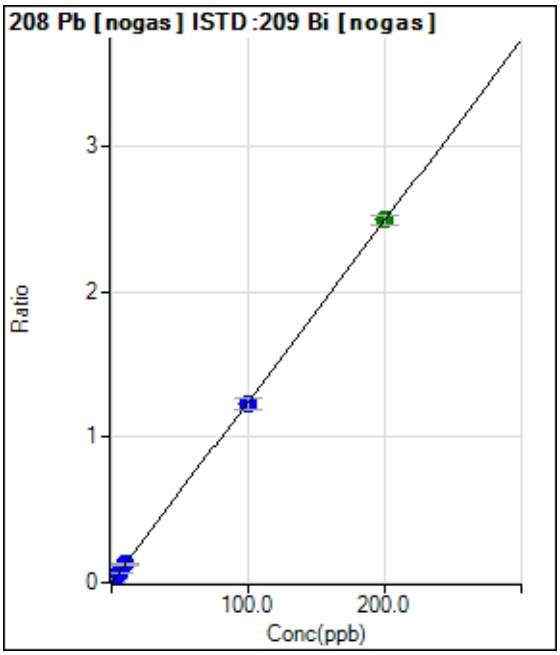


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	100.00	0.0001	P	34.6
2	☐	2.000	2.084	8665.78	0.0056	P	4.6
3	☐	5.000	5.103	21370.85	0.0137	P	5.7
4	☐	10.000	10.498	42983.56	0.0281	P	1.5
5	☐	100.000	101.519	394146.46	0.2711	P	6.0
6	☐	200.000	199.212	779416.13	0.5319	P	2.4
7	☐	1.000					

y = 0.0027 * x + 6.7510E-005
R = 1.0000
DL = 0.02623
BEC = 0.02529

Weight: <None>
Min Conc: <None>

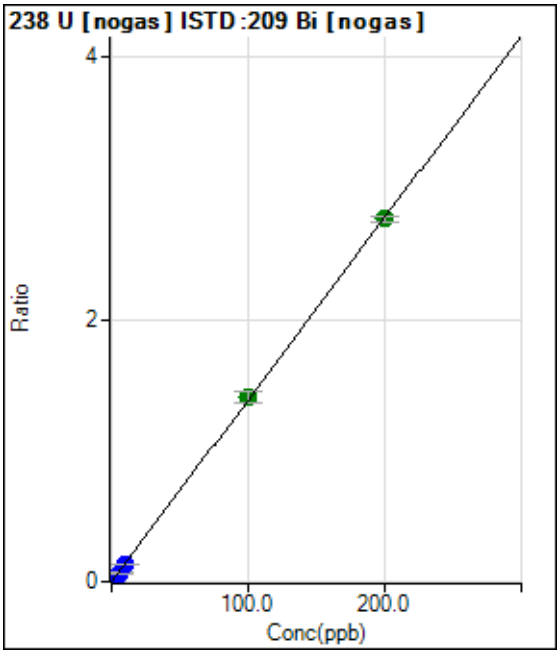
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	416.67	0.0003	P	19.9
2	☐	2.000	2.037	39475.90	0.0257	P	2.5
3	☐	5.000	4.950	96742.87	0.0620	P	3.8
4	☐	10.000	10.167	194187.29	0.1269	P	2.6
5	☐	100.000	98.911	1792078.38	1.2325	P	5.6
6	☐	200.000	200.537	3661024.58	2.4985	A	2.5
7	☐	1.000					

y = 0.0125 * x + 2.8024E-004
R = 1.0000
DL = 0.01344
BEC = 0.0225

Weight: <None>
Min Conc: <None>

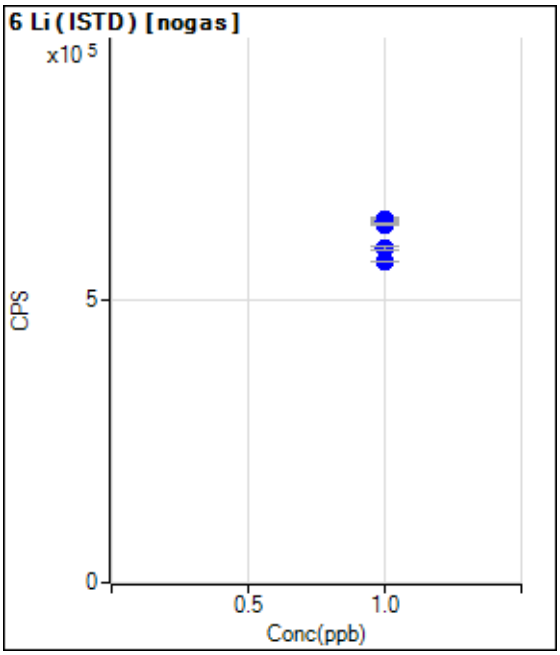


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	173.2
2	☐	2.000	1.930	41206.95	0.0268	P	4.2
3	☐	5.000	4.687	101570.56	0.0651	P	5.0
4	☐	10.000	9.854	209253.97	0.1368	P	1.6
5	☐	100.000	101.171	2041523.04	1.4042	A	6.1
6	☐	200.000	199.430	4056578.69	2.7680	A	1.8
7	☐	1.000					

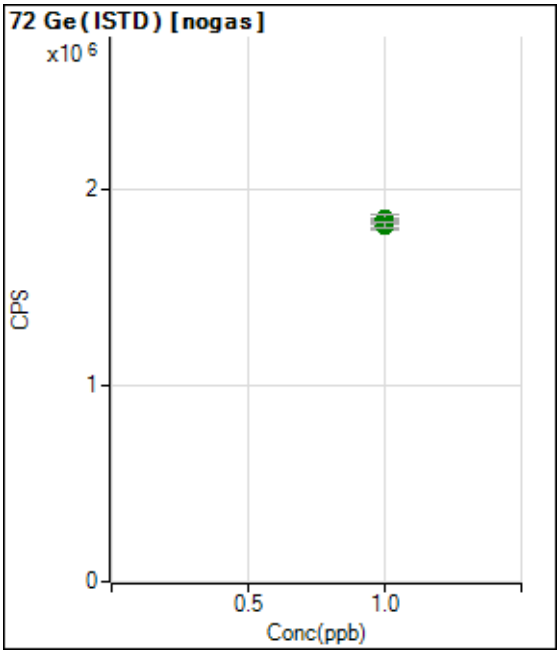
y = 0.0139 * x + 6.7423E-006
R = 1.0000
DL = 0.002524
BEC = 0.0004858

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d

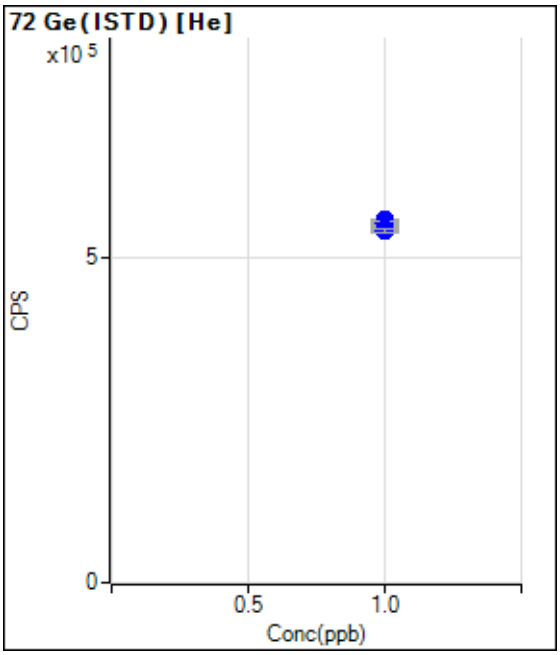


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		640657.57		P	1.0
2	☐	1.000		637613.94		P	0.9
3	☐	1.000		635695.39		P	0.3
4	☐	1.000		632587.43		P	0.6
5	☐	1.000		590713.87		P	0.9
6	☐	1.000		567017.91		P	0.5
7	☐	1.000					

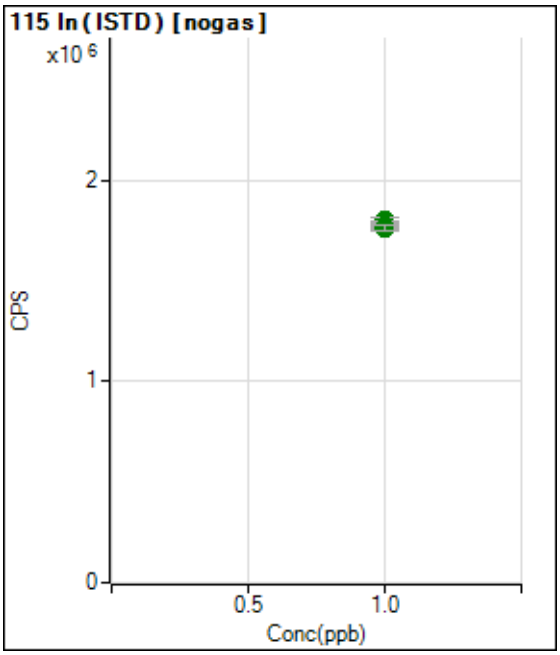


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1807658.25		A	1.5
2	☐	1.000		1847821.43		A	0.6
3	☐	1.000		1839677.06		A	1.0
4	☐	1.000		1847867.57		A	2.3
5	☐	1.000		1833295.13		A	3.6
6	☐	1.000		1816140.23		A	1.8
7	☐	1.000					

Calibration for 026_ICV.d

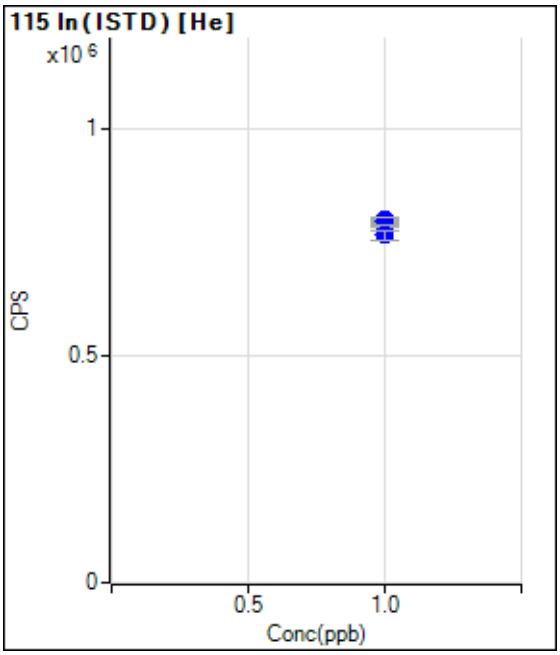


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		549532.09		P	1.2
2	☐	1.000		556809.64		P	0.9
3	☐	1.000		549509.90		P	1.0
4	☐	1.000		551215.92		P	1.0
5	☐	1.000		543603.01		P	1.0
6	☐	1.000		539299.56		P	0.9
7	☐	1.000					

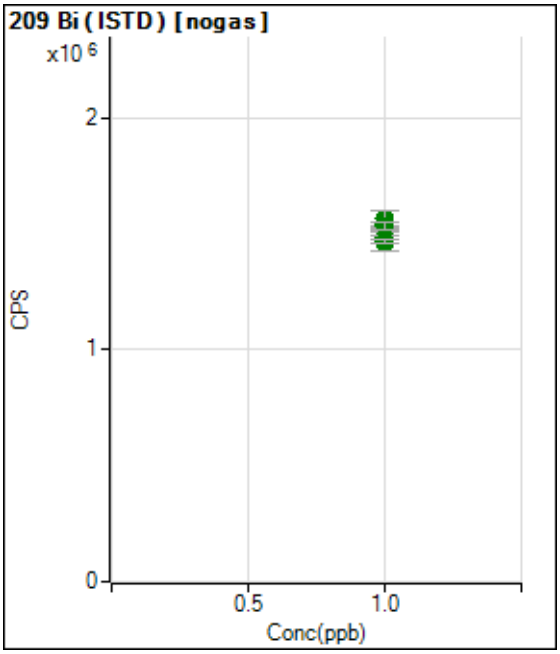


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1803664.50		A	1.2
2	☐	1.000		1778169.42		A	1.4
3	☐	1.000		1759825.71		A	1.6
4	☐	1.000		1780937.85		A	1.9
5	☐	1.000		1764059.29		A	1.5
6	☐	1.000		1762989.33		A	1.7
7	☐	1.000					

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		798400.82		P	0.8
2	☐	1.000		797923.30		P	1.5
3	☐	1.000		793055.67		P	1.4
4	☐	1.000		796196.97		P	1.5
5	☐	1.000		783723.76		P	0.3
6	☐	1.000		763995.30		P	2.6
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1481733.67		A	3.1
2	☐	1.000		1538562.64		A	1.4
3	☐	1.000		1563227.37		A	4.1
4	☐	1.000		1530295.86		A	2.3
5	☐	1.000		1456540.24		A	4.5
6	☐	1.000		1465682.48		A	1.5
7	☐	1.000					

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	017CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T11:47:01-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	28	313.49
B	11	1	nogas	9999	0.01
Al	27	1	nogas	24927	0.00
P	31	1	nogas	22050	0.01
Ca	44	1	nogas	42580	0.01
Ti	47	1	nogas	73	56.81
Cr	52	1	nogas	21493	0.01
Co	59	1	nogas	290	6.62
Cu	63	1	nogas	2354	0.44
Zn	66	1	nogas	237	19.26
Se	77	1	nogas	7365	0.07
Sr	88	1	nogas	1300	1.34
Mo	95	1	nogas	90	21.38
Ag	107	1	nogas	60	73.49
Cd	111	1	nogas	3	5196.15
Sn	118	1	nogas	767	2.22
Sb	121	1	nogas	383	3.43
Ba	137	1	nogas	190	7.33
Tl	205	1	nogas	130	15.66
Pb	208	1	nogas	417	5.32
Li	7	1	nogas	50006	0.00
Si	28	1	nogas	531700	0.00
Na	23	2	He	24853	0.01
Mg	24	2	He	257	5.33
Al	27	2	He	580	1.86
K	39	2	He	27955	0.02
Ca	43	2	He	27	429.62
Ca	44	2	He	373	3.95
V	51	2	He	1511	0.42
Cr	52	2	He	857	0.52
Mn	55	2	He	113	17.98
Fe	56	2	He	4891	0.08
Co	59	2	He	100	10.00
Ni	60	2	He	63	62.74
Cu	63	2	He	960	2.06
Zn	66	2	He	113	35.96
As	75	2	He	50	46.18
Sb	121	2	He	217	14.18

Calibration Blank Report

Se	78	2	He	43	49.54

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	1807658	1.48
In	115	1	nogas	1803665	1.15
Li	6	1	nogas	640658	0.95
Bi	209	1	nogas	1481734	3.10
Ge	72	2	He	549532	1.24
In	115	2	He	798401	0.78

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	018CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T11:49:26-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	6766	0.01
B	11	1	nogas	27009	0.00
Al	27	1	nogas	50534	0.00
P	31	1	nogas	27781	0.01
Ca	44	1	nogas	107370	0.00
Ti	47	1	nogas	2083	0.58
Cr	52	1	nogas	47919	0.00
Co	59	1	nogas	28706	0.00
Cu	63	1	nogas	17235	0.02
Zn	66	1	nogas	4474	0.09
Se	77	1	nogas	7772	0.07
Se	82	1	nogas	136	97.37
Sr	88	1	nogas	34687	0.01
Mo	95	1	nogas	6615	0.08
Ag	107	1	nogas	16838	0.01
Cd	111	1	nogas	3407	0.09
Sn	118	1	nogas	10233	0.04
Sb	121	1	nogas	13906	0.01
Ba	137	1	nogas	5431	0.17
Tl	205	1	nogas	26619	0.02
Pb	208	1	nogas	39476	0.01
Si	28	1	nogas	571125	0.00
Na	23	2	He	183554	0.00
Mg	24	2	He	91398	0.00
Al	27	2	He	1067	1.02
K	39	2	He	108417	0.00
Ca	43	2	He	270	4.95
Ca	44	2	He	4671	0.12
V	51	2	He	9758	0.01
Cr	52	2	He	10947	0.02
Mn	55	2	He	6264	0.05
Fe	56	2	He	814783	0.00
Co	59	2	He	15500	0.04
Ni	60	2	He	3950	0.09
Cu	63	2	He	11170	0.03
Zn	66	2	He	2067	0.39

Calibration Standard Report

As	75	2	He	1332	0.32
Sb	121	2	He	7625	0.06
Se	78	2	He	144	14.56

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1847821	0.62	1807658	102.22	70	120	
In	115	1	nogas	1778169	1.45	1803665	98.59	70	120	
Li	6	1	nogas	637614	0.85	640658	99.52	70	120	
Bi	209	1	nogas	1538563	1.37	1481734	103.84	70	120	
Ge	72	2	He	556810	0.87	549532	101.32	70	120	
In	115	2	He	797923	1.47	798401	99.94	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	019CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T11:51:48-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	16324	0.02
B	11	1	nogas	53581	0.00
Al	27	1	nogas	84514	0.00
P	31	1	nogas	36329	0.00
Ca	44	1	nogas	205676	0.00
Ti	47	1	nogas	5064	0.03
Cr	52	1	nogas	86608	0.00
Co	59	1	nogas	73004	0.00
Cu	63	1	nogas	40187	0.00
Zn	66	1	nogas	10950	0.05
Se	77	1	nogas	8039	0.09
Se	82	1	nogas	630	1.66
Sr	88	1	nogas	85904	0.00
Mo	95	1	nogas	17215	0.01
Ag	107	1	nogas	42445	0.00
Cd	111	1	nogas	8259	0.04
Sn	118	1	nogas	24788	0.01
Sb	121	1	nogas	35229	0.01
Ba	137	1	nogas	12925	0.03
Tl	205	1	nogas	67137	0.00
Pb	208	1	nogas	96743	0.00
Si	28	1	nogas	649613	0.00
Na	23	2	He	425404	0.00
Mg	24	2	He	226679	0.00
Al	27	2	He	2093	0.21
K	39	2	He	228019	0.00
Ca	43	2	He	597	0.86
Ca	44	2	He	11594	0.00
V	51	2	He	22523	0.01
Cr	52	2	He	24977	0.00
Mn	55	2	He	15667	0.00
Fe	56	2	He	2134445	0.00
Co	59	2	He	37218	0.00
Ni	60	2	He	9909	0.03
Cu	63	2	He	27154	0.00
Zn	66	2	He	4761	0.09

Calibration Standard Report

As	75	2	He	3245	0.06
Sb	121	2	He	18847	0.01
Se	78	2	He	275	3.34

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1839677	1.04	1807658	101.77	70	120	
In	115	1	nogas	1759826	1.62	1803665	97.57	70	120	
Li	6	1	nogas	635695	0.26	640658	99.23	70	120	
Bi	209	1	nogas	1563227	4.12	1481734	105.50	70	120	
Ge	72	2	He	549510	1.00	549532	100.00	70	120	
In	115	2	He	793056	1.37	798401	99.33	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	020CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T11:54:11-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	32833	0.01
B	11	1	nogas	99818	0.00
Al	27	1	nogas	154463	0.00
P	31	1	nogas	50792	0.00
Ca	44	1	nogas	373837	0.00
Ti	47	1	nogas	10450	0.00
Cr	52	1	nogas	153505	0.00
Co	59	1	nogas	143557	0.00
Cu	63	1	nogas	78979	0.00
Zn	66	1	nogas	21233	0.01
Se	77	1	nogas	7735	0.05
Se	82	1	nogas	1164	1.42
Sr	88	1	nogas	174795	0.00
Mo	95	1	nogas	34484	0.01
Ag	107	1	nogas	86313	0.00
Cd	111	1	nogas	17716	0.01
Sn	118	1	nogas	49761	0.00
Sb	121	1	nogas	69625	0.00
Ba	137	1	nogas	26494	0.01
Tl	205	1	nogas	138395	0.00
Pb	208	1	nogas	194187	0.00
Si	28	1	nogas	775910	0.00
Na	23	2	He	830356	0.00
Mg	24	2	He	457319	0.00
Al	27	2	He	3560	0.18
K	39	2	He	428102	0.00
Ca	43	2	He	1420	0.55
Ca	44	2	He	22914	0.01
V	51	2	He	43683	0.00
Cr	52	2	He	50763	0.00
Mn	55	2	He	31778	0.00
Fe	56	2	He	4218950	0.00
Co	59	2	He	76398	0.00
Ni	60	2	He	19791	0.01
Cu	63	2	He	52869	0.00
Zn	66	2	He	9366	0.02

Calibration Standard Report

As	75	2	He	6530	0.05
Sb	121	2	He	38165	0.01
Se	78	2	He	510	0.48

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1847868	2.29	1807658	102.22	70	120	
In	115	1	nogas	1780938	1.93	1803665	98.74	70	120	
Li	6	1	nogas	632587	0.64	640658	98.74	70	120	
Bi	209	1	nogas	1530296	2.27	1481734	103.28	70	120	
Ge	72	2	He	551216	1.04	549532	100.31	70	120	
In	115	2	He	796197	1.46	798401	99.72	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	021CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T11:56:33-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	329444	0.00
B	11	1	nogas	905752	0.00
Al	27	1	nogas	1078989	0.00
P	31	1	nogas	306151	0.00
Ca	44	1	nogas	3257938	0.00
Ti	47	1	nogas	102859	0.00
Cr	52	1	nogas	1304489	0.00
Co	59	1	nogas	1419709	0.00
Cu	63	1	nogas	750462	0.00
Zn	66	1	nogas	210476	0.00
Se	77	1	nogas	15490	0.01
Se	82	1	nogas	11884	0.05
Sr	88	1	nogas	1711661	0.00
Mo	95	1	nogas	350335	0.00
Ag	107	1	nogas	850745	0.00
Cd	111	1	nogas	172193	0.00
Sn	118	1	nogas	494622	0.00
Sb	121	1	nogas	698724	0.00
Ba	137	1	nogas	261422	0.00
Tl	205	1	nogas	1289596	0.00
Pb	208	1	nogas	1897375	0.00
Si	28	1	nogas	3168912	0.00
Na	23	2	He	7946790	0.00
Mg	24	2	He	4495944	0.00
Al	27	2	He	23819	0.00
K	39	2	He	4062228	0.00
Ca	43	2	He	12911	0.02
Ca	44	2	He	223408	0.00
V	51	2	He	430061	0.00
Cr	52	2	He	497808	0.00
Mn	55	2	He	307510	0.00
Fe	56	2	He	41426636	0.00
Co	59	2	He	745788	0.00
Ni	60	2	He	193781	0.00
Cu	63	2	He	510885	0.00
Zn	66	2	He	92650	0.00

Calibration Standard Report

As	75	2	He	65664	0.00
Sb	121	2	He	373118	0.00
Se	78	2	He	4809	0.07

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1806430	6.10	1807658	99.93	70	120	
In	115	1	nogas	1711697	5.84	1803665	94.90	70	120	
Li	6	1	nogas	597567	0.80	640658	93.27	70	120	
Bi	209	1	nogas	1422727	11.36	1481734	96.02	70	120	
Ge	72	2	He	549217	0.01	549532	99.94	70	120	
In	115	2	He	771368	3.02	798401	96.61	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	022CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T11:58:53-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	617444	0.00
B	11	1	nogas	1727233	0.00
Al	27	1	nogas	2026658	0.00
P	31	1	nogas	548907	0.00
Ca	44	1	nogas	6230022	0.00
Ti	47	1	nogas	195951	0.00
Cr	52	1	nogas	2523875	0.00
Co	59	1	nogas	2658016	0.00
Cu	63	1	nogas	1408460	0.00
Zn	66	1	nogas	385430	0.00
Se	77	1	nogas	24263	0.01
Se	82	1	nogas	22567	0.00
Sr	88	1	nogas	3286794	0.00
Mo	95	1	nogas	657689	0.00
Ag	107	1	nogas	1650212	0.00
Cd	111	1	nogas	320848	0.00
Sn	118	1	nogas	937457	0.00
Sb	121	1	nogas	1319306	0.00
Ba	137	1	nogas	490703	0.00
Tl	205	1	nogas	2656305	0.00
Pb	208	1	nogas	3661025	0.00
Si	28	1	nogas	5534157	0.00
Na	23	2	He	14893731	0.00
Mg	24	2	He	8420196	0.00
Al	27	2	He	44335	0.00
K	39	2	He	7464567	0.00
Ca	43	2	He	24553	0.01
Ca	44	2	He	414087	0.00
V	51	2	He	802380	0.00
Cr	52	2	He	918953	0.00
Mn	55	2	He	572325	0.00
Fe	56	2	He	77346947	0.00
Co	59	2	He	1456056	0.00
Ni	60	2	He	355662	0.00
Cu	63	2	He	944234	0.00
Zn	66	2	He	172182	0.00

Calibration Standard Report

As	75	2	He	121229	0.00
Sb	121	2	He	716585	0.00
Se	78	2	He	9264	0.00

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1816140	1.84	1807658	100.47	70	120	
In	115	1	nogas	1762989	1.69	1803665	97.74	70	120	
Li	6	1	nogas	567018	0.50	640658	88.51	70	120	
Bi	209	1	nogas	1465682	1.51	1481734	98.92	70	120	
Ge	72	2	He	539300	0.92	549532	98.14	70	120	
In	115	2	He	763995	2.65	798401	95.69	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	024CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T12:04:37-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	309045	0.00
B	11	1	nogas	859560	0.00
Al	27	1	nogas	961968	0.00
P	31	1	nogas	281445	0.00
Ca	44	1	nogas	3107278	0.00
Ti	47	1	nogas	96552	0.00
Cr	52	1	nogas	1224164	0.00
Co	59	1	nogas	1349045	0.00
Cu	63	1	nogas	695468	0.00
Zn	66	1	nogas	195049	0.00
Se	77	1	nogas	14062	0.02
Se	82	1	nogas	11566	0.04
Sr	88	1	nogas	1646725	0.00
Mo	95	1	nogas	324044	0.00
Ag	107	1	nogas	807858	0.00
Cd	111	1	nogas	162992	0.00
Sn	118	1	nogas	465094	0.00
Sb	121	1	nogas	653513	0.00
Ba	137	1	nogas	243289	0.00
Tl	205	1	nogas	1256536	0.00
Pb	208	1	nogas	1792078	0.00
Si	28	1	nogas	3042596	0.00
Na	23	2	He	7521279	0.00
Mg	24	2	He	4277725	0.00
Al	27	2	He	22640	0.01
K	39	2	He	3907430	0.00
Ca	43	2	He	12831	0.02
Ca	44	2	He	209874	0.00
V	51	2	He	403463	0.00
Cr	52	2	He	466737	0.00
Mn	55	2	He	293900	0.00
Fe	56	2	He	39514244	0.00
Co	59	2	He	710821	0.00
Ni	60	2	He	182843	0.00
Cu	63	2	He	475263	0.00
Zn	66	2	He	87407	0.00

Calibration Standard Report

As	75	2	He	61830	0.00
Sb	121	2	He	353263	0.00
Se	78	2	He	4596	0.03

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1833295	3.58	1807658	101.42	70	120	
In	115	1	nogas	1764059	1.55	1803665	97.80	70	120	
Li	6	1	nogas	590714	0.89	640658	92.20	70	120	
Bi	209	1	nogas	1456540	4.53	1481734	98.30	70	120	
Ge	72	2	He	543603	0.96	549532	98.92	70	120	
In	115	2	He	783724	0.34	798401	98.16	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	026_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T12:09:32-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	017CALB.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
Be	9	1	nogas	102.134	1.490	317708	0.51	100	102.1	90	110	
B	11	1	nogas	517.289	1.413	902708	2.09	500	103.5	90	110	
Al	27	1	nogas	98.516	0.353	993965	1.77	100	98.5	90	110	
P	31	1	nogas	526.401	1.271	296992	0.79	500	105.3	90	110	
Ca	44	1	nogas	10617.384	1.679	3303592	0.99	10000	106.2	90	110	
Ti	47	1	nogas	104.296	2.874	101348	0.97	100	104.3	90	110	
Cr	52	1	nogas	99.434	2.781	1249374	1.01	100	99.4	90	110	
Co	59	1	nogas	103.143	3.803	1367001	1.99	100	103.1	90	110	
Cu	63	1	nogas	101.544	1.540	710555	0.58	100	101.5	90	110	
Zn	66	1	nogas	102.642	1.893	197299	1.58	100	102.6	90	110	
Se	77	1	nogas	77.901	2.104	13615	1.29	100	77.9	90	110	ICV Main CR1 Failed
Se	82	1	nogas	101.197	2.498	11414	2.80	100	101.2	90	110	
Sr	88	1	nogas	102.843	2.654	1689638	1.33	100	102.8	90	110	
Mo	95	1	nogas	101.478	2.159	332462	0.35	100	101.5	90	110	
Ag	107	1	nogas	101.123	2.530	830125	0.79	100	101.1	90	110	
Cd	111	1	nogas	102.525	2.378	164869	1.04	100	102.5	90	110	
Sn	118	1	nogas	98.938	1.786	462948	0.49	100	98.9	90	110	
Sb	121	1	nogas	104.820	1.279	686595	0.83	100	104.8	90	110	
Ba	137	1	nogas	99.975	3.336	244713	1.51	100	100.0	90	110	
Tl	205	1	nogas	104.160	2.477	1385870	1.03	100	104.2	90	110	
Pb	208	1	nogas	98.785	2.825	1824433	1.37	100	98.8	90	110	
U	238	1	nogas	95.407	1.667	1963383	2.47	100	95.4	90	110	
Li	7	1	nogas	103.521	0.693	912612	0.66	100	103.5	90	110	
Si	28	1	nogas	7379.687	2.281	4204208	3.89	5000	147.6	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	102.695	4.558	562933	1.32	100	102.7	90	110	
Na	23	2	He	10310.015	0.764	7852793	1.14	10000	103.1	90	110	
Mg	24	2	He	10293.751	1.026	4432932	2.11	10000	102.9	90	110	
Al	27	2	He	97.939	1.586	22480	1.02	100	97.9	90	110	
K	39	2	He	10552.711	1.576	4062863	0.85	10000	105.5	90	110	
Ca	43	2	He	10507.997	2.177	13278	1.81	10000	105.1	90	110	
Ca	44	2	He	10491.448	2.696	222171	1.70	10000	104.9	90	110	
V	51	2	He	100.381	0.889	411590	1.35	100	100.4	90	110	
Cr	52	2	He	100.232	0.932	471336	1.74	100	100.2	90	110	
Mn	55	2	He	101.121	2.240	296636	1.55	100	101.1	90	110	
Fe	56	2	He	10427.173	1.123	41290338	0.67	10000	104.3	90	110	
Co	59	2	He	97.354	2.159	719027	1.13	100	97.4	90	110	
Ni	60	2	He	102.335	1.623	186604	1.33	100	102.3	90	110	
Cu	63	2	He	102.841	0.985	496065	1.57	100	102.8	90	110	
Zn	66	2	He	100.467	1.460	88485	0.44	100	100.5	90	110	
As	75	2	He	103.964	0.647	64518	0.59	100	104.0	90	110	
Sn	118	2	He	98.993	2.141	265789	1.72	100	99.0	90	110	
Sb	121	2	He	104.800	1.892	381766	0.81	100	104.8	90	110	
Se	78	2	He	99.734	1.064	4719	2.02	100	99.7	90	110	
Ti	47	2	He	101.466	2.339	13568	2.11	100	101.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1809402	1.94	1807658	100.10	70	120	
In	115	1	nogas	1761572	1.80	1803665	97.67	70	120	
Li	6	1	nogas	575944	1.32	640658	89.90	70	120	
Bi	209	1	nogas	1483113	3.52	1481734	100.09	70	120	
Ge	72	2	He	550585	1.09	549532	100.19	70	120	

Initial Calibration Verification (ICV) Report

In	115	2	He	791251	0.75	798401	99.10	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	029_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T12:16:37-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.000	-1139.2	27	60.3	1	
B	11	1	nogas	5.193	5.7	19769	2.5	10	
Al	27	1	nogas	-0.785	-3.8	17251	1.0	5	
P	31	1	nogas	-3.554	-35.5	20245	4.4	10	
Ca	44	1	nogas	-28.188	-22.7	33999	3.8	100	
Ti	47	1	nogas	0.021	105.5	93	22.3	2.5	
Cr	52	1	nogas	-0.401	-18.1	16588	4.4	2.5	
Co	59	1	nogas	0.004	82.2	340	13.5	2.5	
Cu	63	1	nogas	-0.024	-122.2	2194	11.3	1	
Zn	66	1	nogas	0.011	216.9	257	16.2	2.5	
Se	77	1	nogas	-25.366	-7.5	5341	1.5	2.5	
Se	82	1	nogas	0.037	1001.8	3	1253.8	1	
Sr	88	1	nogas	-0.023	-33.8	887	13.4	2.5	
Mo	95	1	nogas	0.053	59.4	260	39.0	2.5	
Ag	107	1	nogas	-0.001	-118.0	50	20.0	2.5	
Cd	111	1	nogas	0.008	43.0	17	34.6	1	
Sn	118	1	nogas	0.174	13.1	1553	7.5	5	
Sb	121	1	nogas	0.147	14.9	1350	12.6	2.5	
Ba	137	1	nogas	-0.010	-38.2	160	6.3	2.5	
Tl	205	1	nogas	0.054	44.6	857	38.9	1	
Pb	208	1	nogas	0.008	37.8	563	10.8	2.5	
U	238	1	nogas	0.005	20.5	123	18.7	2.5	
Si	28	1	nogas	-74.271	-11.7	495932	2.2	5	
Na	23	2	He	-0.356	-106.7	24730	0.6	100	
Mg	24	2	He	0.080	75.6	293	9.8	100	
Al	27	2	He	-0.533	-33.9	463	8.7	5	
K	39	2	He	1.266	93.2	28606	0.6	100	
Ca	43	2	He	-13.179	-59.5	10	100.0	100	
Ca	44	2	He	-4.813	-61.8	273	23.8	100	
V	51	2	He	-0.153	-5.8	892	3.5	2.5	
Cr	52	2	He	-0.021	-149.5	763	18.1	2.5	
Mn	55	2	He	-0.007	-284.8	93	64.6	2.5	
Fe	56	2	He	0.428	124.8	6628	32.6	100	
Co	59	2	He	0.004	97.3	127	19.9	2.5	
Ni	60	2	He	-0.007	-76.5	50	20.0	2.5	
Cu	63	2	He	-0.029	-101.8	827	16.7	1	

Initial Calibration Blank (ICB) Report

Zn	66	2	He	-0.015	-304.4	100	40.0	2.5	
As	75	2	He	0.007	576.5	54	43.4	2.5	
Sb	121	2	He	0.162	11.2	810	8.6	2.5	
Se	78	2	He	0.221	27.3	53	4.3	1	
Ti	47	2	He	0.000	-19313.0	3	173.2	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1811819	2.01	1807658	100.23	70	120	
In	115	1	nogas	1753106	1.07	1803665	97.20	70	120	
Li	6	1	nogas	633906	0.49	640658	98.95	70	120	
Bi	209	1	nogas	1491067	1.10	1481734	100.63	70	120	
Ge	72	2	He	552873	0.96	549532	100.61	70	120	
In	115	2	He	806486	0.81	798401	101.01	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	031ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T12:24:58-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	017CALB.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
Be	9	1	nogas	-0.005	-17.8	12	24.7	0	ICSA Main CR1 Failed
B	11	1	nogas	2.655	14.5	14577	4.2	0	ICSA Main CR1 Failed
Al	27	1	nogas	90736.984	1.1	903967213	0.8	0	
P	31	1	nogas	97801.219	1.3	51762801	1.1	0	
Ca	44	1	nogas	101514.514	1.3	31627340	1.4	0	
Ti	47	1	nogas	2089.570	2.0	2055771	1.6	0	
Cr	52	1	nogas	1.054	3.6	34980	1.2	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.356	4.4	5077	3.7	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.920	9.3	8882	6.9	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.382	3.5	2927	3.5	0	ICSA Main CR1 Failed
Se	77	1	nogas	-4.083	-134.2	7132	5.9	0	ICSA Main CR1 Failed
Se	82	1	nogas	-1.003	-103.6	-115	-103.4	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.933	4.2	16021	4.1	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2084.030	1.1	6593406	1.6	0	
Ag	107	1	nogas	0.006	87.0	100	36.1	0	ICSA Main CR1 Failed
Cd	111	1	nogas	1.965	9.4	3060	11.7	0	ICSA Main CR1 Failed
Sn	118	1	nogas	0.120	32.3	1267	15.6	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.082	20.6	930	11.6	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.024	23.3	237	4.9	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.025	30.7	427	19.9	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.032	22.0	930	10.6	0	ICSA Main CR1 Failed
Si	28	1	nogas	158.448	14.0	618873	1.9	0	
Na	23	2	He	103250.020	1.2	75297937	0.4	0	
Mg	24	2	He	102053.279	1.0	42195144	0.5	0	
Al	27	2	He	96179.584	2.2	20652108	1.6	0	
K	39	2	He	104476.080	1.0	38389324	1.0	0	
Ca	43	2	He	97396.579	0.8	117979	0.7	0	
Ca	44	2	He	103551.732	0.2	2103011	1.3	0	
V	51	2	He	-0.088	-5.9	1108	3.3	0	ICSA Main CR1 Failed
Cr	52	2	He	0.918	9.9	4964	9.7	0	ICSA Main CR1 Failed
Mn	55	2	He	0.172	18.5	593	14.7	0	ICSA Main CR1 Failed
Fe	56	2	He	102772.496	1.5	390742461	0.3	0	
Co	59	2	He	0.181	9.6	1380	8.8	0	ICSA Main CR1 Failed
Ni	60	2	He	0.240	29.8	480	25.0	0	ICSA Main CR1 Failed
Cu	63	2	He	0.463	10.0	3067	7.8	0	ICSA Main CR1 Failed
Zn	66	2	He	0.325	6.5	383	4.0	0	ICSA Main CR1 Failed
As	75	2	He	0.072	51.3	91	24.4	0	ICSA Main CR1 Failed
Sb	121	2	He	0.090	31.8	523	18.6	0	ICSA Main CR1 Failed
Se	78	2	He	0.226	148.1	51	30.3	0	ICSA Main CR1 Failed
Ti	47	2	He	2081.278	2.1	267178	0.9	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1832611	0.43	1807658	101.38	70	120	

Interference Check Solution A (ICS-A) Report

In	115	1	nogas	1701358	2.33	1803665	94.33	70	120	
Li	6	1	nogas	618501	1.20	640658	96.54	70	120	
Bi	209	1	nogas	1380317	2.16	1481734	93.16	70	120	
Ge	72	2	He	528735	1.45	549532	96.22	70	120	
In	115	2	He	741863	1.68	798401	92.92	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	034ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T12:34:31-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	017CALB.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
Be	9	1	nogas	102.778	0.750	341448	1.70	100	102.8	80	120	
B	11	1	nogas	501.629	0.897	935080	2.02	100	501.6	80	120	
Al	27	1	nogas	93362.466	2.360	926351080	1.64	100	93362.5	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	113752.065	1.850	35290484	0.88	100	113752.1	80	120	ICSB Main CR1 Failed
Ti	47	1	nogas	2274.243	0.631	2228767	1.39	100	2274.2	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	114.604	1.944	1449671	0.93	100	114.6	80	120	
Co	59	1	nogas	110.411	2.930	1476757	2.50	100	110.4	80	120	
Cu	63	1	nogas	105.819	0.841	747009	0.54	100	105.8	80	120	
Zn	66	1	nogas	112.774	1.670	218680	1.18	100	112.8	80	120	
Se	77	1	nogas	144.989	5.795	19160	2.77	100	145.0	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	112.320	1.540	12781	1.80	100	112.3	80	120	
Sr	88	1	nogas	115.606	0.839	1900089	0.46	100	115.6	80	120	
Mo	95	1	nogas	2241.817	2.097	7345897	1.61	100	2241.8	80	120	ICSB Main CR1 Failed
Ag	107	1	nogas	101.041	2.496	829852	2.19	100	101.0	80	120	
Cd	111	1	nogas	111.345	1.609	179140	1.62	100	111.3	80	120	
Sn	118	1	nogas	109.383	2.968	511870	1.83	100	109.4	80	120	
Sb	121	1	nogas	109.934	2.084	726464	1.45	100	109.9	80	120	
Ba	137	1	nogas	110.170	1.589	269816	1.51	100	110.2	80	120	
Tl	205	1	nogas	109.235	2.043	1428114	2.31	100	109.2	80	120	
Pb	208	1	nogas	105.482	1.599	1914210	1.64	100	105.5	80	120	
U	238	1	nogas	111.879	1.253	2261545	0.88	100	111.9	80	120	
Si	28	1	nogas	5845.689	1.975	3470094	0.85	100	5845.7	80	120	ICSB Main CR1 Failed
Na	23	2	He	117565.195	0.993	85433709	0.95	100	117565.2	80	120	ICSB Main CR1 Failed
Mg	24	2	He	115313.745	1.576	47507693	1.13	100	115313.7	80	120	ICSB Main CR1 Failed
Al	27	2	He	98298.887	0.714	21033374	0.34	100	98298.9	80	120	ICSB Main CR1 Failed
K	39	2	He	117965.396	1.075	43187921	0.83	100	117965.4	80	120	ICSB Main CR1 Failed
Ca	43	2	He	110626.863	1.428	133525	1.28	100	110626.9	80	120	ICSB Main CR1 Failed
Ca	44	2	He	115205.978	1.782	2331351	2.21	100	115206.0	80	120	
V	51	2	He	112.454	1.176	441006	0.66	100	112.5	80	120	
Cr	52	2	He	110.718	1.400	498057	0.98	100	110.7	80	120	
Mn	55	2	He	110.926	1.377	311371	1.01	100	110.9	80	120	
Fe	56	2	He	117068.404	0.783	443553607	0.96	100	117068.4	80	120	ICSB Main CR1 Failed
Co	59	2	He	108.097	0.852	764005	0.45	100	108.1	80	120	
Ni	60	2	He	111.765	1.282	195003	0.69	100	111.8	80	120	
Cu	63	2	He	109.544	1.605	505528	1.66	100	109.5	80	120	
Zn	66	2	He	112.010	2.213	94388	1.95	100	112.0	80	120	
As	75	2	He	113.756	0.111	67546	0.59	100	113.8	80	120	
Sb	121	2	He	111.377	1.592	388235	1.00	100	111.4	80	120	
Se	78	2	He	113.139	2.504	5117	2.53	100	113.1	80	120	
Ti	47	2	He	2220.020	1.122	284002	0.70	100	2220.0	80	120	ICSB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1825363	1.00	1807658	100.98	70	120	
In	115	1	nogas	1762061	1.22	1803665	97.69	70	120	
Li	6	1	nogas	615006	1.17	640658	96.00	70	120	
Bi	209	1	nogas	1456544	1.56	1481734	98.30	70	120	
Ge	72	2	He	526827	0.60	549532	95.87	70	120	
In	115	2	He	744462	1.19	798401	93.24	70	120	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	104CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T15:35:08-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	8	1099.82
B	11	1	nogas	45605	0.00
Al	27	1	nogas	31112	0.01
P	31	1	nogas	22343	0.02
Ca	44	1	nogas	26256	0.02
Ti	47	1	nogas	67	56.62
Cr	52	1	nogas	19237	0.02
Co	59	1	nogas	293	3.55
Cu	63	1	nogas	2594	0.35
Zn	66	1	nogas	300	10.00
Se	77	1	nogas	11824	0.04
Se	82	1	nogas	5	21432.91
Sr	88	1	nogas	1760	1.13
Mo	95	1	nogas	110	43.73
Ag	107	1	nogas	57	109.37
Cd	111	1	nogas	3	5196.15
Sn	118	1	nogas	857	1.29
Sb	121	1	nogas	1157	0.82
Ba	137	1	nogas	277	9.63
Tl	205	1	nogas	87	53.81
Pb	208	1	nogas	387	6.50
Li	7	1	nogas	65328	0.00
Si	28	1	nogas	570647	0.00
Na	23	2	He	42331	0.00
Mg	24	2	He	420	2.04
Al	27	2	He	637	2.29
K	39	2	He	29981	0.01
Ca	43	2	He	33	226.50
Ca	44	2	He	447	3.41
V	51	2	He	2069	0.39
Cr	52	2	He	637	2.16
Mn	55	2	He	103	70.91
Fe	56	2	He	5691	0.13
Co	59	2	He	97	22.28
Ni	60	2	He	53	20.30
Cu	63	2	He	863	0.43
Zn	66	2	He	73	59.77
As	75	2	He	62	19.89

Calibration Blank Report

Sb	121	2	He	557	1.66
Se	78	2	He	45	15.31

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	2119118	2.14
In	115	1	nogas	2092576	1.22
Li	6	1	nogas	856261	0.42
Bi	209	1	nogas	1763016	3.59
Ge	72	2	He	530098	0.54
In	115	2	He	741747	0.26

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	105CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T15:37:33-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	104CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	7343	0.03
B	11	1	nogas	64648	0.00
Al	27	1	nogas	60533	0.00
P	31	1	nogas	28205	0.00
Ca	44	1	nogas	102120	0.00
Ti	47	1	nogas	2467	0.30
Cr	52	1	nogas	50362	0.00
Co	59	1	nogas	32853	0.01
Cu	63	1	nogas	19447	0.01
Zn	66	1	nogas	5231	0.12
Se	77	1	nogas	12565	0.02
Se	82	1	nogas	176	39.48
Sr	88	1	nogas	40773	0.00
Mo	95	1	nogas	7708	0.06
Ag	107	1	nogas	19247	0.02
Cd	111	1	nogas	3880	0.07
Sn	118	1	nogas	11864	0.04
Sb	121	1	nogas	16882	0.02
Ba	137	1	nogas	6178	0.08
Tl	205	1	nogas	31143	0.00
Pb	208	1	nogas	43187	0.00
Si	28	1	nogas	633864	0.00
Na	23	2	He	205208	0.00
Mg	24	2	He	90193	0.00
Al	27	2	He	1040	0.72
K	39	2	He	104425	0.00
Ca	43	2	He	287	11.57
Ca	44	2	He	4464	0.05
V	51	2	He	10380	0.02
Cr	52	2	He	10236	0.06
Mn	55	2	He	5908	0.12
Fe	56	2	He	796477	0.00
Co	59	2	He	14756	0.02
Ni	60	2	He	3780	0.18
Cu	63	2	He	11074	0.02
Zn	66	2	He	2003	0.45

Calibration Standard Report

As	75	2	He	1296	0.33
Sb	121	2	He	7675	0.06
Se	78	2	He	140	2.70

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2098283	1.64	2119118	99.02	70	120	
In	115	1	nogas	2079546	2.43	2092576	99.38	70	120	
Li	6	1	nogas	846747	0.68	856261	98.89	70	120	
Bi	209	1	nogas	1745306	1.38	1763016	99.00	70	120	
Ge	72	2	He	531059	1.66	530098	100.18	70	120	
In	115	2	He	747539	0.61	741747	100.78	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	106CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T15:39:57-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	104CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	18567	0.02
B	11	1	nogas	94927	0.00
Al	27	1	nogas	101567	0.00
P	31	1	nogas	39021	0.01
Ca	44	1	nogas	217134	0.00
Ti	47	1	nogas	5981	0.10
Cr	52	1	nogas	95970	0.00
Co	59	1	nogas	80844	0.00
Cu	63	1	nogas	44731	0.01
Zn	66	1	nogas	12001	0.04
Se	77	1	nogas	13228	0.03
Se	82	1	nogas	785	0.86
Sr	88	1	nogas	100848	0.00
Mo	95	1	nogas	19187	0.00
Ag	107	1	nogas	48787	0.00
Cd	111	1	nogas	9856	0.06
Sn	118	1	nogas	28296	0.01
Sb	121	1	nogas	39692	0.01
Ba	137	1	nogas	14343	0.00
Tl	205	1	nogas	77986	0.00
Pb	208	1	nogas	109184	0.00
Si	28	1	nogas	733725	0.00
Na	23	2	He	451301	0.00
Mg	24	2	He	226181	0.00
Al	27	2	He	1837	0.36
K	39	2	He	218531	0.00
Ca	43	2	He	677	4.10
Ca	44	2	He	10713	0.07
V	51	2	He	22436	0.01
Cr	52	2	He	25277	0.01
Mn	55	2	He	15140	0.03
Fe	56	2	He	2112762	0.00
Co	59	2	He	37826	0.01
Ni	60	2	He	9709	0.08
Cu	63	2	He	27431	0.01
Zn	66	2	He	4574	0.10

Calibration Standard Report

As	75	2	He	3293	0.15
Sb	121	2	He	18714	0.00
Se	78	2	He	280	4.51

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2128896	0.26	2119118	100.46	70	120	
In	115	1	nogas	2093150	0.29	2092576	100.03	70	120	
Li	6	1	nogas	852017	0.31	856261	99.50	70	120	
Bi	209	1	nogas	1740266	1.77	1763016	98.71	70	120	
Ge	72	2	He	536857	1.48	530098	101.28	70	120	
In	115	2	He	756308	0.46	741747	101.96	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	107CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T15:42:23-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	104CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	37981	0.00
B	11	1	nogas	145505	0.00
Al	27	1	nogas	178686	0.00
P	31	1	nogas	55191	0.00
Ca	44	1	nogas	411545	0.00
Ti	47	1	nogas	11941	0.03
Cr	52	1	nogas	173479	0.00
Co	59	1	nogas	163825	0.00
Cu	63	1	nogas	89199	0.00
Zn	66	1	nogas	24149	0.01
Se	77	1	nogas	14282	0.01
Se	82	1	nogas	1449	1.43
Sr	88	1	nogas	203791	0.00
Mo	95	1	nogas	40326	0.00
Ag	107	1	nogas	98245	0.00
Cd	111	1	nogas	19488	0.01
Sn	118	1	nogas	58263	0.00
Sb	121	1	nogas	82223	0.00
Ba	137	1	nogas	29729	0.01
Tl	205	1	nogas	156268	0.00
Pb	208	1	nogas	217936	0.00
Si	28	1	nogas	881002	0.00
Na	23	2	He	861487	0.00
Mg	24	2	He	451014	0.00
Al	27	2	He	3220	0.25
K	39	2	He	409857	0.00
Ca	43	2	He	1320	0.85
Ca	44	2	He	20859	0.01
V	51	2	He	43240	0.00
Cr	52	2	He	48691	0.00
Mn	55	2	He	29597	0.00
Fe	56	2	He	4161204	0.00
Co	59	2	He	75527	0.00
Ni	60	2	He	20091	0.01
Cu	63	2	He	52846	0.00
Zn	66	2	He	8939	0.03

Calibration Standard Report

As	75	2	He	6324	0.03
Sb	121	2	He	37220	0.00
Se	78	2	He	491	0.67

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2125628	0.69	2119118	100.31	70	120	
In	115	1	nogas	2069273	1.49	2092576	98.89	70	120	
Li	6	1	nogas	843099	0.29	856261	98.46	70	120	
Bi	209	1	nogas	1731599	2.66	1763016	98.22	70	120	
Ge	72	2	He	525790	0.70	530098	99.19	70	120	
In	115	2	He	738295	1.83	741747	99.53	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	108CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T15:44:46-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	104CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	351878	0.00
B	11	1	nogas	994184	0.00
Al	27	1	nogas	1127291	0.00
P	31	1	nogas	325762	0.00
Ca	44	1	nogas	3624178	0.00
Ti	47	1	nogas	111720	0.00
Cr	52	1	nogas	1506935	0.00
Co	59	1	nogas	1551534	0.00
Cu	63	1	nogas	785085	0.00
Zn	66	1	nogas	223994	0.00
Se	77	1	nogas	21386	0.00
Se	82	1	nogas	12883	0.03
Sr	88	1	nogas	1967775	0.00
Mo	95	1	nogas	372557	0.00
Ag	107	1	nogas	897985	0.00
Cd	111	1	nogas	184176	0.00
Sn	118	1	nogas	541248	0.00
Sb	121	1	nogas	763210	0.00
Ba	137	1	nogas	278804	0.00
Tl	205	1	nogas	1533831	0.00
Pb	208	1	nogas	2048490	0.00
Si	28	1	nogas	3461071	0.00
Na	23	2	He	7602366	0.00
Mg	24	2	He	4211431	0.00
Al	27	2	He	19574	0.01
K	39	2	He	3613599	0.00
Ca	43	2	He	11547	0.02
Ca	44	2	He	192298	0.00
V	51	2	He	391266	0.00
Cr	52	2	He	450461	0.00
Mn	55	2	He	269892	0.00
Fe	56	2	He	37534569	0.00
Co	59	2	He	679835	0.00
Ni	60	2	He	179207	0.00
Cu	63	2	He	477583	0.00
Zn	66	2	He	84551	0.00

Calibration Standard Report

As	75	2	He	57983	0.00
Sb	121	2	He	336828	0.00
Se	78	2	He	4012	0.03

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2096947	2.17	2119118	98.95	70	120	
In	115	1	nogas	2068978	0.91	2092576	98.87	70	120	
Li	6	1	nogas	794159	0.30	856261	92.75	70	120	
Bi	209	1	nogas	1693551	1.15	1763016	96.06	70	120	
Ge	72	2	He	508251	0.96	530098	95.88	70	120	
In	115	2	He	722270	0.54	741747	97.37	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	109CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T15:47:07-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	104CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	696704	0.00
B	11	1	nogas	2006767	0.00
Al	27	1	nogas	2342382	0.00
P	31	1	nogas	630082	0.00
Ca	44	1	nogas	7175695	0.00
Ti	47	1	nogas	223559	0.00
Cr	52	1	nogas	2869464	0.00
Co	59	1	nogas	3000041	0.00
Cu	63	1	nogas	1586153	0.00
Zn	66	1	nogas	440009	0.00
Se	77	1	nogas	30032	0.00
Se	82	1	nogas	26288	0.00
Sr	88	1	nogas	3780051	0.00
Mo	95	1	nogas	752399	0.00
Ag	107	1	nogas	1913363	0.00
Cd	111	1	nogas	372637	0.00
Sn	118	1	nogas	1074002	0.00
Sb	121	1	nogas	1580495	0.00
Ba	137	1	nogas	551142	0.00
Tl	205	1	nogas	3077611	0.00
Pb	208	1	nogas	4247561	0.00
Si	28	1	nogas	6272031	0.00
Na	23	2	He	14969862	0.00
Mg	24	2	He	8248471	0.00
Al	27	2	He	42007	0.00
K	39	2	He	7093751	0.00
Ca	43	2	He	23121	0.02
Ca	44	2	He	386127	0.00
V	51	2	He	772799	0.00
Cr	52	2	He	891033	0.00
Mn	55	2	He	540345	0.00
Fe	56	2	He	74605949	0.00
Co	59	2	He	1429798	0.00
Ni	60	2	He	349875	0.00
Cu	63	2	He	932223	0.00
Zn	66	2	He	163041	0.00

Calibration Standard Report

As	75	2	He	115088	0.00
Sb	121	2	He	683174	0.00
Se	78	2	He	7831	0.02

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2053047	0.98	2119118	96.88	70	120	
In	115	1	nogas	2048365	0.94	2092576	97.89	70	120	
Li	6	1	nogas	760963	0.22	856261	88.87	70	120	
Bi	209	1	nogas	1708609	2.46	1763016	96.91	70	120	
Ge	72	2	He	504340	0.68	530098	95.14	70	120	
In	115	2	He	721831	0.75	741747	97.31	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	111_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T15:53:16-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	101.045	0.594	358973	0.08	100	101.0	90	110	
B	11	1	nogas	509.595	0.825	1055094	1.24	500	101.9	90	110	
Al	27	1	nogas	97.640	1.567	1159067	0.25	100	97.6	90	110	
P	31	1	nogas	517.344	2.005	339581	0.68	500	103.5	90	110	
Ca	44	1	nogas	10306.303	2.836	3749339	1.53	10000	103.1	90	110	
Ti	47	1	nogas	103.068	2.263	116304	1.32	100	103.1	90	110	
Cr	52	1	nogas	100.766	3.396	1481037	2.12	100	100.8	90	110	
Co	59	1	nogas	101.279	1.236	1543985	0.18	100	101.3	90	110	
Cu	63	1	nogas	99.957	0.489	799770	1.05	100	100.0	90	110	
Zn	66	1	nogas	102.440	0.922	228445	1.72	100	102.4	90	110	
Se	77	1	nogas	54.380	10.745	16775	2.45	100	54.4	90	110	ICV Main CR1 Failed
Se	82	1	nogas	102.830	5.404	13591	4.50	100	102.8	90	110	
Sr	88	1	nogas	104.315	4.951	2021618	3.28	100	104.3	90	110	
Mo	95	1	nogas	101.042	1.347	385980	1.74	100	101.0	90	110	
Ag	107	1	nogas	98.807	0.669	949790	1.36	100	98.8	90	110	
Cd	111	1	nogas	100.588	0.094	190198	1.75	100	100.6	90	110	
Sn	118	1	nogas	101.222	0.974	554143	1.80	100	101.2	90	110	
Sb	121	1	nogas	104.039	1.543	824715	0.56	100	104.0	90	110	
Ba	137	1	nogas	103.186	2.601	289975	0.92	100	103.2	90	110	
Tl	205	1	nogas	106.523	1.428	1632038	0.71	100	106.5	90	110	
Pb	208	1	nogas	98.261	1.999	2064511	1.31	100	98.3	90	110	
U	238	1	nogas	97.949	2.839	2261896	2.36	100	97.9	90	110	
Li	7	1	nogas	105.001	3.525	1195271	2.82	100	105.0	90	110	
Si	28	1	nogas	7102.607	0.556	4671805	1.27	5000	142.1	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	106.559	1.479	654580	0.79	100	106.6	90	110	
Na	23	2	He	10384.138	0.985	8004267	0.56	10000	103.8	90	110	
Mg	24	2	He	10441.387	2.122	4430755	1.55	10000	104.4	90	110	
Al	27	2	He	98.029	3.792	21082	4.90	100	98.0	90	110	
K	39	2	He	10357.812	1.616	3788790	0.49	10000	103.6	90	110	
Ca	43	2	He	9823.275	2.184	11650	3.39	10000	98.2	90	110	
Ca	44	2	He	10160.812	2.730	200973	2.22	10000	101.6	90	110	
V	51	2	He	99.239	0.644	394695	1.51	100	99.2	90	110	
Cr	52	2	He	99.012	0.800	453261	2.05	100	99.0	90	110	
Mn	55	2	He	100.153	1.560	277214	0.81	100	100.2	90	110	
Fe	56	2	He	10345.362	2.032	39591834	1.02	10000	103.5	90	110	
Co	59	2	He	96.136	1.973	697320	1.45	100	96.1	90	110	
Ni	60	2	He	101.487	2.790	182818	2.03	100	101.5	90	110	
Cu	63	2	He	102.661	1.458	493031	0.39	100	102.7	90	110	
Zn	66	2	He	101.007	1.773	85026	2.55	100	101.0	90	110	
As	75	2	He	102.412	0.609	60498	0.74	100	102.4	90	110	
Sn	118	2	He	99.652	0.394	251277	1.12	100	99.7	90	110	
Sb	121	2	He	104.626	1.874	365337	1.16	100	104.6	90	110	
Se	78	2	He	103.830	1.303	4203	0.83	100	103.8	90	110	
Ti	47	2	He	104.100	1.625	13328	2.05	100	104.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2080879	1.36	2119118	98.20	70	120	
In	115	1	nogas	2087484	1.65	2092576	99.76	70	120	
Li	6	1	nogas	781111	0.54	856261	91.22	70	120	
Bi	209	1	nogas	1698532	0.80	1763016	96.34	70	120	
Ge	72	2	He	517513	1.26	530098	97.63	70	120	

Initial Calibration Verification (ICV) Report

In	115	2	He	728498	0.85	741747	98.21	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	115_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T16:03:40-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	104CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.007	105.1	35	79.5	1	
B	11	1	nogas	0.383	217.9	46574	2.6	10	
Al	27	1	nogas	-0.687	-10.5	23495	2.8	5	
P	31	1	nogas	0.344	112.4	23038	2.3	10	
Ca	44	1	nogas	-5.985	-61.0	24563	6.8	100	
Ti	47	1	nogas	0.030	61.5	103	20.1	2.5	
Cr	52	1	nogas	-0.363	-5.1	14156	3.0	2.5	
Co	59	1	nogas	0.001	237.5	320	14.3	2.5	
Cu	63	1	nogas	-0.010	-119.1	2564	2.9	1	
Zn	66	1	nogas	0.004	828.3	317	25.7	2.5	
Se	77	1	nogas	-49.170	-7.9	7225	6.6	2.5	
Se	82	1	nogas	-0.041	-2076.6	-2	-7723.9	1	
Sr	88	1	nogas	-0.020	-53.9	1383	12.7	2.5	
Mo	95	1	nogas	0.042	29.5	273	18.4	2.5	
Ag	107	1	nogas	0.068	8.1	717	8.5	2.5	
Cd	111	1	nogas	0.003	148.0	10	100.0	1	
Sn	118	1	nogas	0.120	13.8	1520	4.0	5	
Sb	121	1	nogas	0.135	7.4	2290	2.3	2.5	
Ba	137	1	nogas	-0.021	-53.5	220	12.0	2.5	
Tl	205	1	nogas	0.017	15.9	360	14.4	1	
Pb	208	1	nogas	0.014	42.0	687	16.0	2.5	
U	238	1	nogas	0.003	67.7	90	57.7	2.5	
Si	28	1	nogas	3.062	721.0	584148	1.6	5	
Na	23	2	He	-5.185	-28.9	37968	1.9	100	
Mg	24	2	He	0.078	185.7	450	13.3	100	
Al	27	2	He	-0.874	-15.6	447	5.2	5	
K	39	2	He	0.053	6642.9	29777	4.3	100	
Ca	43	2	He	-19.289	-42.9	10	100.0	100	
Ca	44	2	He	-10.253	-41.8	237	34.4	100	
V	51	2	He	-0.266	-6.0	984	4.9	2.5	
Cr	52	2	He	0.003	655.4	647	13.9	2.5	
Mn	55	2	He	-0.003	-504.4	93	52.9	2.5	
Fe	56	2	He	0.087	198.9	5981	10.0	100	
Co	59	2	He	0.001	561.1	103	40.3	2.5	
Ni	60	2	He	-0.011	-74.5	33	45.8	2.5	
Cu	63	2	He	0.010	390.1	907	21.1	1	

Initial Calibration Blank (ICB) Report

Zn	66	2	He	0.032	150.8	100	40.0	2.5	
As	75	2	He	-0.025	-49.5	47	14.3	2.5	
Sb	121	2	He	0.113	21.3	953	10.3	2.5	
Se	78	2	He	0.073	76.7	47	6.5	1	
Ti	47	2	He	0.000	#DIV/0!	0	#DIV/0!	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2162221	1.32	2119118	102.03	70	120	
In	115	1	nogas	2102275	2.26	2092576	100.46	70	120	
Li	6	1	nogas	858991	1.42	856261	100.32	70	120	
Bi	209	1	nogas	1754161	2.56	1763016	99.50	70	120	
Ge	72	2	He	526234	1.68	530098	99.27	70	120	
In	115	2	He	735616	0.79	741747	99.17	70	120	

Sample Report

Sample Table

Sample Name	MBLK-153795
Data File Name	116SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T16:06:34-05:00
Sample Type	Sample
Dilution	1
Comment	TW B 153795DOD
ISTD Ref FileName	104CALB.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
Be	9	1	nogas	0.005	0.005	24.87	30	0.02	2000	
B	11	1	nogas	-2.531	-2.531	-42.77	42009	-0.01	2000	
Al	27	1	nogas	6.144	6.144	1.99	107874	0.01	2000	
Ca	44	1	nogas	-3.856	-3.856	-42.18	25912	-0.01	200000	
Ti	47	1	nogas	0.106	0.106	24.53	197	0.05	2000	
Cr	52	1	nogas	-0.336	-0.336	-8.95	14876	0.00	2000	
Co	59	1	nogas	0.002	0.002	402.82	333	0.00	2000	
Cu	63	1	nogas	0.027	0.027	70.18	2930	0.00	2000	
Zn	66	1	nogas	0.503	0.503	2.70	1503	0.03	2000	
Se	77	1	nogas	-45.729	-45.729	-7.68	7728	-0.59	2000	
Se	82	1	nogas	0.406	0.406	253.70	62	0.66	2000	
Sr	88	1	nogas	0.015	0.015	63.34	2157	0.00	2000	
Mo	95	1	nogas	0.000	0.000	862.94	117	0.00	2000	
Ag	107	1	nogas	0.004	0.004	61.68	100	0.00	2000	
Cd	111	1	nogas	0.002	0.002	363.31	7	0.02	2000	
Sn	118	1	nogas	0.117	0.117	21.72	1567	0.01	2000	
Sb	121	1	nogas	0.071	0.071	36.63	1803	0.00	2000	
Ba	137	1	nogas	0.195	0.195	22.64	863	0.02	2000	
Tl	205	1	nogas	0.006	0.006	7.32	193	0.00	2000	
Pb	208	1	nogas	0.017	0.017	33.87	807	0.00	2000	
U	238	1	nogas	0.002	0.002	22.03	67	0.00	2000	
Li	7	1	nogas	0.081	0.081	27.08	69487	0.00	1000	
Si	28	1	nogas	1783.698	1783.698	2.16	1691439	0.11	2000	
Tl	203	1	nogas	0.007	0.007	75.66	80	0.01	2000	
Na	23	2	He	-4.540	-4.540	-18.54	40096	-0.01	200000	
Mg	24	2	He	18.536	18.536	5.56	8769	0.21	200000	
Al	27	2	He	5.208	5.208	21.91	1810	0.29	2000	
K	39	2	He	-1.110	-1.110	-259.98	30582	0.00	200000	
Ca	43	2	He	-3.533	-3.533	-602.83	30	-11.78	200000	
Ca	44	2	He	-5.043	-5.043	-96.82	357	-1.41	200000	
V	51	2	He	-0.264	-0.264	-4.02	1034	-0.03	2000	
Cr	52	2	He	0.061	0.061	11.96	957	0.01	2000	
Mn	55	2	He	0.075	0.075	10.58	327	0.02	2000	
Fe	56	2	He	0.172	0.172	41.97	6585	0.00	200000	
Co	59	2	He	0.002	0.002	228.99	113	0.00	2000	
Ni	60	2	He	0.006	0.006	219.33	67	0.01	2000	

Sample Report

Cu	63	2	He	0.043	0.043	18.18	1110	0.00	2000	
Zn	66	2	He	0.532	0.532	6.15	550	0.10	2000	
As	75	2	He	-0.007	-0.007	-223.31	60	-0.01	2000	
Sb	121	2	He	0.064	0.064	75.26	813	0.01	2000	
Se	78	2	He	0.106	0.106	364.48	51	0.21	2000	
Ti	47	2	He	0.147	0.147	86.61	20	0.74	2000	

Sample Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2209675	0.97	2119118	104.27	70	120	
In	115	1	nogas	2191280	2.01	2092576	104.72	70	120	
Li	6	1	nogas	897648	1.18	856261	104.83	70	120	
Bi	209	1	nogas	1882643	2.49	1763016	106.79	70	120	
Ge	72	2	He	548314	0.59	530098	103.44	70	120	
In	115	2	He	772292	0.53	741747	104.12	70	120	

Sample Report

Sample Table

Sample Name	LCS-153795
Data File Name	117SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T16:08:57-05:00
Sample Type	Sample
Dilution	1
Comment	TW B 153795DOD
ISTD Ref FileName	104CALB.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
Be	9	1	nogas	45.311	45.311	0.73	182967	0.02	2000	
B	11	1	nogas	-3.669	-3.669	-6.49	38994	-0.01	2000	
Al	27	1	nogas	100.498	100.498	2.24	1285442	0.01	2000	
Ca	44	1	nogas	4935.473	4935.473	0.47	1950633	0.25	200000	
Ti	47	1	nogas	48.521	48.521	1.63	59070	0.08	2000	
Cr	52	1	nogas	45.512	45.512	2.14	732442	0.01	2000	
Co	59	1	nogas	46.509	46.509	0.96	764608	0.01	2000	
Cu	63	1	nogas	47.832	47.832	0.17	414028	0.01	2000	
Zn	66	1	nogas	50.094	50.094	0.26	120594	0.04	2000	
Se	77	1	nogas	-1.849	-1.849	-37.35	12334	-0.01	2000	
Se	82	1	nogas	48.559	48.559	1.63	6924	0.70	2000	
Sr	88	1	nogas	0.036	0.036	45.58	2577	0.00	2000	
Mo	95	1	nogas	47.001	47.001	1.22	188296	0.02	2000	
Ag	107	1	nogas	46.569	46.569	2.34	469313	0.01	2000	
Cd	111	1	nogas	48.568	48.568	2.65	96269	0.05	2000	
Sn	118	1	nogas	0.049	0.049	73.96	1177	0.00	2000	
Sb	121	1	nogas	45.381	45.381	1.55	388572	0.01	2000	
Ba	137	1	nogas	47.374	47.374	1.74	139782	0.03	2000	
Tl	205	1	nogas	44.051	44.051	4.14	712376	0.01	2000	
Pb	208	1	nogas	46.047	46.047	2.37	1021836	0.00	2000	
U	238	1	nogas	0.002	0.002	38.82	63	0.00	2000	
Li	7	1	nogas	-0.006	-0.006	-332.08	67662	0.00	1000	
Si	28	1	nogas	1593.262	1593.262	1.68	1598588	0.10	2000	
Tl	203	1	nogas	45.526	45.526	5.77	295059	0.02	2000	
Na	23	2	He	4933.923	4933.923	0.89	3987957	0.12	200000	
Mg	24	2	He	5047.582	5047.582	0.42	2233659	0.23	200000	
Al	27	2	He	100.263	100.263	5.87	22450	0.45	2000	
K	39	2	He	5073.898	5073.898	1.86	1950659	0.26	200000	
Ca	43	2	He	4763.262	4763.262	2.37	5908	80.63	200000	
Ca	44	2	He	4746.128	4746.128	1.86	98116	4.84	200000	
V	51	2	He	47.272	47.272	2.05	197089	0.02	2000	
Cr	52	2	He	47.447	47.447	0.91	226778	0.02	2000	
Mn	55	2	He	47.274	47.274	0.74	136500	0.03	2000	
Fe	56	2	He	4925.168	4925.168	2.20	19654748	0.03	200000	
Co	59	2	He	45.711	45.711	2.39	345716	0.01	2000	
Ni	60	2	He	49.408	49.408	2.72	92819	0.05	2000	
Cu	63	2	He	49.367	49.367	3.21	247601	0.02	2000	
Zn	66	2	He	49.922	49.922	0.44	43849	0.11	2000	

Sample Report

As	75	2	He	48.290	48.290	2.35	29772	0.16	2000	
Sb	121	2	He	46.947	46.947	1.59	171232	0.03	2000	
Se	78	2	He	49.217	49.217	1.65	2101	2.34	2000	
Ti	47	2	He	46.734	46.734	7.05	6234	0.75	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2243335	0.81	2119118	105.86	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	2188612	1.08	2092576	104.59	70	120	
Li	6	1	nogas	887817	0.72	856261	103.69	70	120	
Bi	209	1	nogas	1794478	3.93	1763016	101.78	70	120	
Ge	72	2	He	539578	1.43	530098	101.79	70	120	
In	115	2	He	748609	0.47	741747	100.93	70	120	

Sample Report

Sample Table

Sample Name	HS20050797-01SD
Data File Name	119SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T16:13:38-05:00
Sample Type	Sample
Dilution	5
Comment	TW B 153795DOD
ISTD Ref FileName	104CALB.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
Be	9	1	nogas	0.010	0.050	32.12	47	0.02	2000	
B	11	1	nogas	13.964	69.820	2.00	75149	0.02	2000	
Al	27	1	nogas	2.524	12.621	7.73	60971	0.00	2000	
Ca	44	1	nogas	24610.304	123051.518	1.70	9104885	0.27	200000	
Ti	47	1	nogas	0.622	3.111	14.95	783	0.08	2000	
Cr	52	1	nogas	-0.279	-1.393	-17.06	15156	0.00	2000	
Co	59	1	nogas	0.202	1.009	6.95	3434	0.01	2000	
Cu	63	1	nogas	0.309	1.543	8.64	5111	0.01	2000	
Zn	66	1	nogas	0.948	4.741	5.38	2457	0.04	2000	
Se	77	1	nogas	-47.842	-239.209	-15.32	7218	-0.66	2000	
Se	82	1	nogas	-0.406	-2.030	-276.01	-52	0.79	2000	
Sr	88	1	nogas	181.511	907.556	1.49	3520900	0.01	2000	
Mo	95	1	nogas	2.485	12.426	5.68	9609	0.03	2000	
Ag	107	1	nogas	0.001	0.005	489.29	67	0.00	2000	
Cd	111	1	nogas	0.021	0.106	112.26	43	0.05	2000	
Sn	118	1	nogas	0.073	0.367	8.93	1257	0.01	2000	
Sb	121	1	nogas	0.337	1.683	15.46	3877	0.01	2000	
Ba	137	1	nogas	130.798	653.988	2.03	367868	0.04	2000	
Tl	205	1	nogas	0.031	0.153	22.75	570	0.01	2000	
Pb	208	1	nogas	0.059	0.297	7.57	1670	0.00	2000	
U	238	1	nogas	0.024	0.121	18.27	590	0.00	2000	
Li	7	1	nogas	4.108	20.541	1.90	112693	0.00	1000	
Si	28	1	nogas	46392.005	231960.023	1.55	27985074	0.17	2000	>LDR
Tl	203	1	nogas	0.028	0.139	20.49	207	0.01	2000	
Na	23	2	He	16242.986	81214.931	0.54	12530485	0.13	200000	
Mg	24	2	He	4371.586	21857.931	1.91	1860129	0.24	200000	
Al	27	2	He	2.056	10.278	5.08	1053	0.20	2000	
K	39	2	He	1000.225	5001.124	1.30	393355	0.25	200000	
Ca	43	2	He	24080.239	120401.193	3.98	28579	84.26	200000	
Ca	44	2	He	24410.392	122051.962	1.52	483484	5.05	200000	
V	51	2	He	-0.226	-1.132	-9.63	1127	-0.02	2000	
Cr	52	2	He	0.181	0.906	8.69	1453	0.01	2000	
Mn	55	2	He	1871.173	9355.863	1.83	5190955	0.04	2000	>LDR
Fe	56	2	He	3470.522	17352.610	0.51	13321841	0.03	200000	
Co	59	2	He	0.174	0.869	15.54	1357	0.01	2000	
Ni	60	2	He	1.457	7.287	2.81	2684	0.05	2000	
Cu	63	2	He	0.207	1.034	27.40	1840	0.01	2000	
Zn	66	2	He	0.891	4.453	17.78	823	0.11	2000	

Sample Report

As	75	2	He	1.796	8.982	12.09	1123	0.16	2000	
Sb	121	2	He	0.298	1.491	11.25	1587	0.02	2000	
Se	78	2	He	0.141	0.704	185.11	49	0.29	2000	
Ti	47	2	He	0.103	0.516	86.61	13	0.77	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2124430	1.27	2119118	100.25	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	2089093	0.55	2092576	99.83	70	120	
Li	6	1	nogas	846105	0.52	856261	98.81	70	120	
Bi	209	1	nogas	1750673	1.55	1763016	99.30	70	120	
Ge	72	2	He	518867	1.07	530098	97.88	70	120	
In	115	2	He	735510	1.21	741747	99.16	70	120	

Sample Report

Sample Table

Sample Name	HS20050797-01MS
Data File Name	120SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T16:15:59-05:00
Sample Type	Sample
Dilution	1
Comment	TW B 153795DOD
ISTD Ref FileName	104CALB.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
Be	9	1	nogas	42.998	42.998	1.33	165464	0.03	2000	
B	11	1	nogas	64.044	64.044	1.70	183025	0.03	2000	
Al	27	1	nogas	96.983	96.983	3.02	1162850	0.01	2000	
Ca	44	1	nogas	111844.460	111844.460	3.10	40841365	0.27	200000	
Ti	47	1	nogas	49.897	49.897	1.74	56907	0.09	2000	
Cr	52	1	nogas	44.078	44.078	3.05	665084	0.01	2000	
Co	59	1	nogas	45.028	45.028	3.47	693348	0.01	2000	
Cu	63	1	nogas	45.327	45.327	2.83	367644	0.01	2000	
Zn	66	1	nogas	48.072	48.072	1.45	108432	0.04	2000	
Se	77	1	nogas	-6.040	-6.040	-72.86	11154	-0.05	2000	
Se	82	1	nogas	46.367	46.367	2.00	6194	0.75	2000	
Sr	88	1	nogas	774.870	774.870	2.24	14786786	0.01	2000	
Mo	95	1	nogas	56.134	56.134	3.57	211226	0.03	2000	
Ag	107	1	nogas	43.387	43.387	2.30	410803	0.01	2000	
Cd	111	1	nogas	46.117	46.117	2.05	85885	0.05	2000	
Sn	118	1	nogas	0.076	0.076	26.21	1250	0.01	2000	
Sb	121	1	nogas	45.063	45.063	4.29	361337	0.01	2000	
Ba	137	1	nogas	669.546	669.546	4.32	1852876	0.04	2000	
Tl	205	1	nogas	44.500	44.500	10.26	669763	0.01	2000	
Pb	208	1	nogas	44.653	44.653	7.26	923313	0.00	2000	
U	238	1	nogas	0.087	0.087	12.62	1980	0.00	2000	
Li	7	1	nogas	17.213	17.213	0.90	266237	0.01	1000	
Si	28	1	nogas	202877.888	202877.888	3.10	119145348	0.17	2000	>LDR
Tl	203	1	nogas	46.904	46.904	11.67	282792	0.02	2000	
Na	23	2	He	74783.550	74783.550	2.50	56873152	0.13	200000	
Mg	24	2	He	23142.650	23142.650	1.14	9734089	0.24	200000	
Al	27	2	He	94.610	94.610	4.19	20188	0.47	2000	
K	39	2	He	9188.554	9188.554	1.69	3334706	0.28	200000	
Ca	43	2	He	107918.984	107918.984	1.92	126498	85.31	200000	
Ca	44	2	He	111419.301	111419.301	1.03	2180321	5.11	200000	
V	51	2	He	45.405	45.405	1.90	180052	0.03	2000	
Cr	52	2	He	45.754	45.754	2.61	207874	0.02	2000	
Mn	55	2	He	7971.717	7971.717	2.50	21859726	0.04	2000	>LDR
Fe	56	2	He	19387.268	19387.268	2.83	73527211	0.03	200000	
Co	59	2	He	43.388	43.388	2.27	311961	0.01	2000	
Ni	60	2	He	46.536	46.536	0.95	83143	0.06	2000	
Cu	63	2	He	45.516	45.516	0.63	217161	0.02	2000	
Zn	66	2	He	47.901	47.901	1.18	40004	0.12	2000	

Sample Report

As	75	2	He	54.154	54.154	0.76	31739	0.17	2000	
Sb	121	2	He	45.475	45.475	2.47	157681	0.03	2000	
Se	78	2	He	47.549	47.549	4.19	1931	2.46	2000	
Ti	47	2	He	48.863	48.863	5.54	6201	0.79	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2102049	2.17	2119118	99.19	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	2056267	1.15	2092576	98.26	70	120	
Li	6	1	nogas	846050	0.39	856261	98.81	70	120	
Bi	209	1	nogas	1677982	8.52	1763016	95.18	70	120	
Ge	72	2	He	512986	1.90	530098	96.77	70	120	
In	115	2	He	710526	0.13	741747	95.79	70	120	

Sample Report

Sample Table

Sample Name	HS20050797-01MSD
Data File Name	121SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T16:18:21-05:00
Sample Type	Sample
Dilution	1
Comment	TW B 153795DOD
ISTD Ref FileName	104CALB.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
Be	9	1	nogas	44.823	44.823	0.67	170061	0.03	2000	
B	11	1	nogas	67.446	67.446	1.43	187678	0.04	2000	
Al	27	1	nogas	100.866	100.866	0.73	1173617	0.01	2000	
Ca	44	1	nogas	117053.038	117053.038	1.57	41515029	0.28	200000	
Ti	47	1	nogas	51.683	51.683	2.17	57241	0.09	2000	
Cr	52	1	nogas	47.130	47.130	1.65	689474	0.01	2000	
Co	59	1	nogas	47.396	47.396	0.91	708938	0.01	2000	
Cu	63	1	nogas	47.475	47.475	1.01	373902	0.01	2000	
Zn	66	1	nogas	49.866	49.866	0.85	109223	0.05	2000	
Se	77	1	nogas	2.750	2.750	107.99	11651	0.02	2000	
Se	82	1	nogas	49.953	49.953	6.62	6479	0.77	2000	
Sr	88	1	nogas	814.992	814.992	2.48	15260246	0.01	2000	
Mo	95	1	nogas	59.036	59.036	3.85	217957	0.03	2000	
Ag	107	1	nogas	45.358	45.358	2.77	421379	0.01	2000	
Cd	111	1	nogas	48.183	48.183	1.86	88069	0.05	2000	
Sn	118	1	nogas	0.063	0.063	1.29	1160	0.01	2000	
Sb	121	1	nogas	47.375	47.375	1.62	368998	0.01	2000	
Ba	137	1	nogas	665.698	665.698	1.32	1807203	0.04	2000	
Tl	205	1	nogas	44.889	44.889	4.40	678513	0.01	2000	
Pb	208	1	nogas	45.400	45.400	3.86	941403	0.00	2000	
U	238	1	nogas	0.087	0.087	3.78	1983	0.00	2000	
Li	7	1	nogas	17.853	17.853	1.04	269878	0.01	1000	
Si	28	1	nogas	213672.605	213672.605	0.80	121868462	0.18	2000	>LDR
Tl	203	1	nogas	46.860	46.860	4.83	283966	0.02	2000	
Na	23	2	He	76647.582	76647.582	1.83	57676861	0.13	200000	
Mg	24	2	He	23690.943	23690.943	0.99	9858427	0.24	200000	
Al	27	2	He	97.443	97.443	3.06	20548	0.47	2000	
K	39	2	He	9373.181	9373.181	2.20	3365008	0.28	200000	
Ca	43	2	He	111402.880	111402.880	1.12	129203	86.22	200000	
Ca	44	2	He	115736.990	115736.990	0.98	2240767	5.17	200000	
V	51	2	He	46.433	46.433	0.92	182144	0.03	2000	
Cr	52	2	He	46.467	46.467	1.72	208886	0.02	2000	
Mn	55	2	He	8319.405	8319.405	1.19	22574079	0.04	2000	>LDR
Fe	56	2	He	20176.502	20176.502	1.45	75720077	0.03	200000	
Co	59	2	He	45.125	45.125	1.19	321029	0.01	2000	
Ni	60	2	He	47.498	47.498	1.68	83944	0.06	2000	
Cu	63	2	He	46.466	46.466	1.59	219288	0.02	2000	
Zn	66	2	He	48.918	48.918	1.04	40415	0.12	2000	

Sample Report

As	75	2	He	56.675	56.675	0.64	32858	0.17	2000	
Sb	121	2	He	46.943	46.943	1.84	161043	0.03	2000	
Se	78	2	He	49.249	49.249	2.42	1977	2.49	2000	
Ti	47	2	He	50.275	50.275	2.78	6311	0.80	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2041105	0.70	2119118	96.32	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	2017941	1.91	2092576	96.43	70	120	
Li	6	1	nogas	834166	0.22	856261	97.42	70	120	
Bi	209	1	nogas	1677476	4.11	1763016	95.15	70	120	
Ge	72	2	He	507477	0.70	530098	95.73	70	120	
In	115	2	He	700540	0.24	741747	94.44	70	120	

Sample Report

Sample Table

Sample Name	HS20050797-01PDS
Data File Name	122SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T16:20:39-05:00
Sample Type	Sample
Dilution	1
Comment	TW B 153795DOD
ISTD Ref FileName	104CALB.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
Be	9	1	nogas	92.416	92.416	0.23	350742	0.03	2000	
B	11	1	nogas	70.290	70.290	1.22	193763	0.04	2000	
Al	27	1	nogas	96.892	96.892	1.01	1189203	0.01	2000	
Ca	44	1	nogas	119386.719	119386.719	1.84	44611531	0.27	200000	
Ti	47	1	nogas	100.866	100.866	1.02	117649	0.09	2000	
Cr	52	1	nogas	98.968	98.968	7.32	1503288	0.01	2000	
Co	59	1	nogas	98.523	98.523	2.50	1552161	0.01	2000	
Cu	63	1	nogas	91.251	91.251	1.29	754826	0.01	2000	
Zn	66	1	nogas	107.164	107.164	1.25	246957	0.04	2000	
Se	77	1	nogas	48.645	48.645	16.75	16775	0.29	2000	
Se	82	1	nogas	94.465	94.465	3.46	12908	0.73	2000	
Sr	88	1	nogas	804.417	804.417	5.99	15624675	0.01	2000	
Mo	95	1	nogas	107.425	107.425	5.92	411403	0.03	2000	
Ag	107	1	nogas	94.590	94.590	3.47	912181	0.01	2000	
Cd	111	1	nogas	96.388	96.388	2.04	182899	0.05	2000	
Sn	118	1	nogas	0.025	0.025	6.72	997	0.00	2000	
Sb	121	1	nogas	93.115	93.115	0.79	763087	0.01	2000	
Ba	137	1	nogas	733.683	733.683	4.32	2066888	0.04	2000	
Tl	205	1	nogas	100.946	100.946	3.82	1544695	0.01	2000	
Pb	208	1	nogas	92.959	92.959	3.80	1950307	0.00	2000	
U	238	1	nogas	0.093	0.093	5.27	2167	0.00	2000	
Li	7	1	nogas	18.507	18.507	0.88	277534	0.01	1000	
Si	28	1	nogas	208164.740	208164.740	1.08	125115155	0.17	2000	>LDR
Tl	203	1	nogas	95.720	95.720	6.83	586462	0.02	2000	
Na	23	2	He	84332.156	84332.156	0.80	62989364	0.13	200000	
Mg	24	2	He	29601.915	29601.915	0.97	12226918	0.24	200000	
Al	27	2	He	99.856	99.856	3.84	20882	0.48	2000	
K	39	2	He	14597.851	14597.851	0.58	5186345	0.28	200000	
Ca	43	2	He	120276.938	120276.938	0.51	138465	86.86	200000	
Ca	44	2	He	124952.412	124952.412	0.96	2401116	5.20	200000	
V	51	2	He	98.803	98.803	0.80	382480	0.03	2000	
Cr	52	2	He	97.334	97.334	1.92	433655	0.02	2000	
Mn	55	2	He	8589.811	8589.811	0.89	23135684	0.04	2000	>LDR
Fe	56	2	He	25750.442	25750.442	1.20	95923489	0.03	200000	
Co	59	2	He	92.504	92.504	0.84	653142	0.01	2000	
Ni	60	2	He	97.058	97.058	0.88	170208	0.06	2000	
Cu	63	2	He	96.960	96.960	0.71	453339	0.02	2000	
Zn	66	2	He	111.560	111.560	1.02	91396	0.12	2000	

Sample Report

As	75	2	He	107.658	107.658	0.47	61902	0.17	2000	
Sb	121	2	He	98.428	98.428	0.19	334610	0.03	2000	
Se	78	2	He	103.137	103.137	2.94	4064	2.54	2000	
Ti	47	2	He	102.244	102.244	4.72	12741	0.80	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2150634	1.29	2119118	101.49	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	2095756	3.74	2092576	100.15	70	120	
Li	6	1	nogas	834422	1.19	856261	97.45	70	120	
Bi	209	1	nogas	1698366	5.72	1763016	96.33	70	120	
Ge	72	2	He	503720	0.62	530098	95.02	70	120	
In	115	2	He	693075	1.41	741747	93.44	70	120	

Sample Report

Sample Table

Sample Name	HS20050757-01
Data File Name	124SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T16:25:18-05:00
Sample Type	Sample
Dilution	1
Comment	TW B 153795DOD
ISTD Ref FileName	104CALB.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
Be	9	1	nogas	0.044	0.044	10.64	175	0.02	2000	
B	11	1	nogas	23.347	23.347	1.42	94823	0.02	2000	
Al	27	1	nogas	42.742	42.742	11.85	531052	0.01	2000	
Ca	44	1	nogas	8403.614	8403.614	1.87	3101537	0.27	200000	
Ti	47	1	nogas	2.744	2.744	9.92	3200	0.09	2000	
Cr	52	1	nogas	2.048	2.048	1.98	49239	0.00	2000	
Co	59	1	nogas	1.537	1.537	1.83	24019	0.01	2000	
Cu	63	1	nogas	2.207	2.207	1.26	20405	0.01	2000	
Zn	66	1	nogas	33.926	33.926	1.81	76820	0.04	2000	
Se	77	1	nogas	-39.192	-39.192	-6.72	7999	-0.49	2000	
Se	82	1	nogas	-0.170	-0.170	-577.88	-19	0.91	2000	
Sr	88	1	nogas	194.517	194.517	2.61	3675463	0.01	2000	
Mo	95	1	nogas	1.532	1.532	8.04	5811	0.03	2000	
Ag	107	1	nogas	0.010	0.010	63.38	147	0.01	2000	
Cd	111	1	nogas	0.071	0.071	35.25	133	0.05	2000	
Sn	118	1	nogas	0.001	0.001	1496.25	840	0.00	2000	
Sb	121	1	nogas	0.573	0.573	1.72	5744	0.01	2000	
Ba	137	1	nogas	97.970	97.970	0.99	268493	0.04	2000	
Tl	205	1	nogas	0.016	0.016	16.55	307	0.01	2000	
Pb	208	1	nogas	0.098	0.098	2.60	2253	0.00	2000	
U	238	1	nogas	0.238	0.238	6.56	5098	0.00	2000	
Li	7	1	nogas	18.083	18.083	0.98	274878	0.01	1000	
Si	28	1	nogas	147363.690	147363.690	2.11	86951725	0.17	2000	>LDR
Tl	203	1	nogas	0.024	0.024	22.32	163	0.01	2000	
Na	23	2	He	317000.220	317000.220	1.08	245839023	0.13	200000	>LDR
Mg	24	2	He	11920.416	11920.416	0.68	5115108	0.23	200000	
Al	27	2	He	44.002	44.002	21.01	9924	0.44	2000	
K	39	2	He	1480.986	1480.986	1.60	573197	0.26	200000	
Ca	43	2	He	8502.099	8502.099	3.06	10200	83.36	200000	
Ca	44	2	He	8419.209	8419.209	1.76	168477	5.00	200000	
V	51	2	He	0.036	0.036	129.48	2188	0.00	2000	
Cr	52	2	He	2.615	2.615	4.25	12711	0.02	2000	
Mn	55	2	He	98.712	98.712	1.27	276303	0.04	2000	
Fe	56	2	He	247.538	247.538	1.95	963483	0.03	200000	
Co	59	2	He	1.477	1.477	6.46	10927	0.01	2000	
Ni	60	2	He	3.689	3.689	0.89	6771	0.05	2000	
Cu	63	2	He	1.167	1.167	8.27	6508	0.02	2000	
Zn	66	2	He	34.070	34.070	2.16	29050	0.12	2000	

Sample Report

As	75	2	He	0.722	0.722	8.95	492	0.15	2000	
Sb	121	2	He	0.560	0.560	8.12	2524	0.02	2000	
Se	78	2	He	0.540	0.540	13.52	66	0.82	2000	
Ti	47	2	He	0.514	0.514	61.99	67	0.77	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2107547	1.04	2119118	99.45	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	2035102	0.35	2092576	97.25	70	120	
Li	6	1	nogas	841336	0.39	856261	98.26	70	120	
Bi	209	1	nogas	1574162	6.25	1763016	89.29	70	120	
Ge	72	2	He	523285	1.14	530098	98.71	70	120	
In	115	2	He	713638	2.11	741747	96.21	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	126_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T16:32:05-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	98.219	1.059	343812	1.00	100	98.2	90	110	
B	11	1	nogas	469.078	0.441	960219	1.27	500	93.8	90	110	
Al	27	1	nogas	99.700	2.560	1151593	1.81	100	99.7	90	110	
P	31	1	nogas	502.025	2.890	321415	0.70	500	100.4	90	110	
Ca	44	1	nogas	10379.354	3.094	3675685	1.08	10000	103.8	90	110	
Ti	47	1	nogas	102.917	4.401	113031	2.58	100	102.9	90	110	
Cr	52	1	nogas	105.100	3.150	1503079	1.27	100	105.1	90	110	
Co	59	1	nogas	102.580	0.638	1522765	2.04	100	102.6	90	110	
Cu	63	1	nogas	101.860	1.658	793329	0.34	100	101.9	90	110	
Zn	66	1	nogas	102.451	1.718	222403	0.86	100	102.5	90	110	
Se	77	1	nogas	76.676	5.503	18393	1.37	100	76.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	101.910	3.067	13116	2.42	100	101.9	90	110	
Sr	88	1	nogas	105.699	2.268	1957556	1.40	100	105.7	90	110	
Mo	95	1	nogas	102.657	3.667	374480	1.74	100	102.7	90	110	
Ag	107	1	nogas	99.626	3.352	914524	1.04	100	99.6	90	110	
Cd	111	1	nogas	103.195	1.603	186379	0.89	100	103.2	90	110	
Sn	118	1	nogas	102.838	1.097	537869	2.53	100	102.8	90	110	
Sb	121	1	nogas	99.318	2.256	766496	0.97	100	99.3	90	110	
Ba	137	1	nogas	103.814	3.729	278651	1.69	100	103.8	90	110	
Tl	205	1	nogas	101.865	5.784	1512857	2.88	100	101.9	90	110	
Pb	208	1	nogas	98.854	2.781	2014615	1.13	100	98.9	90	110	
U	238	1	nogas	100.966	0.880	2262309	2.01	100	101.0	90	110	
Li	7	1	nogas	101.508	0.903	1140602	0.31	100	101.5	90	110	
Si	28	1	nogas	5530.379	2.154	3661887	0.94	5000	110.6	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	102.133	5.777	608172	2.88	100	102.1	90	110	
Na	23	2	He	10306.580	1.445	7549697	1.66	10000	103.1	90	110	
Mg	24	2	He	10251.020	1.780	4133840	1.94	10000	102.5	90	110	
Al	27	2	He	100.670	4.107	20548	3.74	100	100.7	90	110	
K	39	2	He	10293.442	1.046	3578252	0.87	10000	102.9	90	110	
Ca	43	2	He	9741.170	4.203	10977	4.47	10000	97.4	90	110	
Ca	44	2	He	10016.344	1.872	188274	1.74	10000	100.2	90	110	
V	51	2	He	101.608	0.648	383935	0.77	100	101.6	90	110	
Cr	52	2	He	103.413	1.490	449766	1.42	100	103.4	90	110	
Mn	55	2	He	102.656	0.233	270015	0.12	100	102.7	90	110	
Fe	56	2	He	10282.659	0.640	37396914	0.45	10000	102.8	90	110	
Co	59	2	He	98.664	1.042	680069	0.92	100	98.7	90	110	
Ni	60	2	He	103.186	1.278	176651	1.45	100	103.2	90	110	
Cu	63	2	He	101.990	1.466	465475	1.66	100	102.0	90	110	
Zn	66	2	He	102.478	0.992	81962	1.17	100	102.5	90	110	
As	75	2	He	101.509	1.170	56980	1.04	100	101.5	90	110	
Sb	121	2	He	99.965	1.426	331747	1.70	100	100.0	90	110	
Se	78	2	He	102.893	0.805	3958	1.01	100	102.9	90	110	
Ti	47	2	He	98.995	4.139	12044	4.41	100	99.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2026054	1.98	2119118	95.61	70	120	
In	115	1	nogas	1994369	2.29	2092576	95.31	70	120	
Li	6	1	nogas	769657	0.98	856261	89.89	70	120	
Bi	209	1	nogas	1648177	2.86	1763016	93.49	70	120	
Ge	72	2	He	491730	0.28	530098	92.76	70	120	
In	115	2	He	692514	1.66	741747	93.36	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	127_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T16:34:23-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	0.025	36.9	102	33.5	1	
B	11	1	nogas	3.252	54.1	50147	7.9	10	
Al	27	1	nogas	-0.905	-9.2	19377	3.6	5	
P	31	1	nogas	-0.824	-126.7	20682	2.0	10	
Ca	44	1	nogas	-6.583	-27.2	22571	1.2	100	
Ti	47	1	nogas	0.067	38.5	137	22.4	2.5	
Cr	52	1	nogas	-0.492	-4.1	11327	3.1	2.5	
Co	59	1	nogas	0.014	27.7	477	11.6	2.5	
Cu	63	1	nogas	0.041	70.0	2770	9.7	2	
Zn	66	1	nogas	0.108	22.1	517	9.9	2.5	
Se	77	1	nogas	-56.455	-9.6	6034	8.1	2.5	
Se	82	1	nogas	0.995	147.8	129	144.4	2	
Sr	88	1	nogas	-0.010	-98.0	1537	11.1	2.5	
Mo	95	1	nogas	0.304	34.3	1240	29.5	2.5	
Ag	107	1	nogas	0.014	45.9	190	32.0	2.5	
Cd	111	1	nogas	0.007	112.7	17	91.7	1	
Sn	118	1	nogas	0.560	13.5	3827	9.0	5	
Sb	121	1	nogas	0.802	12.0	7212	8.7	2.5	
Ba	137	1	nogas	-0.031	-60.7	187	27.5	2.5	
Tl	205	1	nogas	0.410	51.6	6275	52.7	1	
Pb	208	1	nogas	0.039	38.2	1163	27.8	2.5	
U	238	1	nogas	0.029	47.6	680	48.8	2.5	
Si	28	1	nogas	109.274	13.9	601455	1.7	5	CCB Main CR1 Failed
Na	23	2	He	22.101	3.5	55661	0.6	100	
Mg	24	2	He	1.084	25.3	830	12.5	100	
Al	27	2	He	-1.274	-18.2	340	13.5	5	
K	39	2	He	-2.959	-57.9	26926	1.1	100	
Ca	43	2	He	-21.704	-46.6	7	173.2	100	
Ca	44	2	He	-8.115	-42.8	263	24.7	100	
V	51	2	He	-0.304	-11.7	779	15.9	2.5	
Cr	52	2	He	0.032	50.4	733	8.3	2.5	
Mn	55	2	He	0.109	14.1	383	11.8	2.5	
Fe	56	2	He	1.639	2.8	11297	0.4	100	
Co	59	2	He	0.013	24.1	180	11.1	2.5	
Ni	60	2	He	0.010	206.6	67	52.7	2.5	
Cu	63	2	He	0.036	82.9	970	12.9	2	
Zn	66	2	He	0.168	30.6	203	19.9	2.5	
As	75	2	He	0.020	481.8	69	77.2	2.5	
Sb	121	2	He	0.675	3.9	2767	2.1	2.5	

Continuing Calibration Blank (CCB) Report

Se	78	2	He	0.185	94.4	49	12.6	2	
Ti	47	2	He	0.081	100.2	10	100.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2006680	1.72	2119118	94.69	70	120	
In	115	1	nogas	2042151	1.67	2092576	97.59	70	120	
Li	6	1	nogas	814600	0.63	856261	95.13	70	120	
Bi	209	1	nogas	1665113	2.25	1763016	94.45	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	494328	1.25	530098	93.25	70	120	
In	115	2	He	697463	0.91	741747	94.03	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	138_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T17:03:07-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	97.475	0.151	334169	1.38	100	97.5	90	110	
B	11	1	nogas	463.245	1.522	929121	1.54	500	92.6	90	110	
Al	27	1	nogas	98.255	3.109	1119358	0.96	100	98.3	90	110	
P	31	1	nogas	503.829	3.320	317984	0.61	500	100.8	90	110	
Ca	44	1	nogas	10367.274	3.788	3620092	1.88	10000	103.7	90	110	
Ti	47	1	nogas	102.812	4.793	111331	2.44	100	102.8	90	110	
Cr	52	1	nogas	104.737	3.706	1477004	1.68	100	104.7	90	110	
Co	59	1	nogas	105.291	4.630	1540236	2.17	100	105.3	90	110	
Cu	63	1	nogas	100.856	2.691	774500	0.54	100	100.9	90	110	
Zn	66	1	nogas	102.436	2.412	219255	0.55	100	102.4	90	110	
Se	77	1	nogas	48.725	7.215	15590	1.02	100	48.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	94.692	8.164	12010	6.52	100	94.7	90	110	
Sr	88	1	nogas	105.954	1.986	1927012	0.92	100	106.0	90	110	
Mo	95	1	nogas	101.329	1.258	363103	0.43	100	101.3	90	110	
Ag	107	1	nogas	100.967	1.150	910447	0.63	100	101.0	90	110	
Cd	111	1	nogas	103.688	0.611	183916	0.89	100	103.7	90	110	
Sn	118	1	nogas	102.205	1.380	524832	0.14	100	102.2	90	110	
Sb	121	1	nogas	99.201	3.194	754811	0.70	100	99.2	90	110	
Ba	137	1	nogas	104.713	1.029	276106	0.54	100	104.7	90	110	
Tl	205	1	nogas	106.685	3.562	1552226	1.29	100	106.7	90	110	
Pb	208	1	nogas	100.337	3.322	2002176	1.46	100	100.3	90	110	
U	238	1	nogas	101.945	2.387	2236115	0.10	100	101.9	90	110	
Li	7	1	nogas	103.414	1.230	1136863	0.28	100	103.4	90	110	
Si	28	1	nogas	5377.241	5.498	3524387	2.55	5000	107.5	90	110	
Tl	203	1	nogas	106.186	3.182	619480	0.89	100	106.2	90	110	
Na	23	2	He	10339.495	0.623	7239813	1.13	10000	103.4	90	110	
Mg	24	2	He	10355.690	2.009	3991356	0.62	10000	103.6	90	110	
Al	27	2	He	97.532	3.119	19046	2.41	100	97.5	90	110	
K	39	2	He	10351.848	3.112	3438940	1.51	10000	103.5	90	110	
Ca	43	2	He	9883.223	3.053	10643	2.37	10000	98.8	90	110	
Ca	44	2	He	10231.707	1.857	183818	0.56	10000	102.3	90	110	
V	51	2	He	101.672	1.849	367194	0.36	100	101.7	90	110	
Cr	52	2	He	102.950	0.574	428032	1.20	100	103.0	90	110	
Mn	55	2	He	102.358	1.132	257373	1.59	100	102.4	90	110	
Fe	56	2	He	10372.779	1.045	36065909	2.16	10000	103.7	90	110	
Co	59	2	He	99.784	1.422	657541	2.34	100	99.8	90	110	
Ni	60	2	He	105.164	2.237	172074	1.07	100	105.2	90	110	
Cu	63	2	He	104.412	3.474	455356	1.79	100	104.4	90	110	
Zn	66	2	He	103.480	2.456	79100	0.93	100	103.5	90	110	
As	75	2	He	102.593	2.255	55041	0.96	100	102.6	90	110	
Sb	121	2	He	102.385	1.472	324754	0.30	100	102.4	90	110	
Se	78	2	He	100.025	5.322	3678	4.30	100	100.0	90	110	
Ti	47	2	He	99.341	3.725	11554	4.15	100	99.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1998028	2.46	2119118	94.29	70	120	
In	115	1	nogas	1958321	1.46	2092576	93.58	70	120	
Li	6	1	nogas	753760	1.44	856261	88.03	70	120	
Bi	209	1	nogas	1613774	2.31	1763016	91.53	70	120	
Ge	72	2	He	470096	1.74	530098	88.68	70	120	
In	115	2	He	673600	0.60	741747	90.81	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	139_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T17:05:26-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	0.024	27.3	97	25.5	1	
B	11	1	nogas	1.181	135.8	45211	7.7	10	
Al	27	1	nogas	-0.936	-5.7	18950	2.5	5	
P	31	1	nogas	-0.450	-158.4	20812	2.1	10	
Ca	44	1	nogas	-7.895	-14.1	22020	2.4	100	
Ti	47	1	nogas	0.099	52.8	170	32.8	2.5	
Cr	52	1	nogas	-0.551	-5.8	10463	3.8	2.5	
Co	59	1	nogas	0.010	70.2	430	25.6	2.5	
Cu	63	1	nogas	0.061	14.4	2910	3.0	2	
Zn	66	1	nogas	0.153	6.3	610	3.3	2.5	
Se	77	1	nogas	-70.995	-8.1	4684	11.6	2.5	
Se	82	1	nogas	0.774	29.9	102	29.4	2	
Sr	88	1	nogas	0.001	236.1	1707	3.0	2.5	
Mo	95	1	nogas	0.280	40.3	1130	36.8	2.5	
Ag	107	1	nogas	0.011	51.0	153	33.5	2.5	
Cd	111	1	nogas	0.002	164.0	7	86.6	1	
Sn	118	1	nogas	0.498	13.2	3424	10.1	5	
Sb	121	1	nogas	0.645	2.6	5991	1.5	2.5	
Ba	137	1	nogas	0.001	2106.0	267	15.6	2.5	
Tl	205	1	nogas	0.409	57.9	6288	58.1	1	
Pb	208	1	nogas	0.036	27.0	1117	19.0	2.5	
U	238	1	nogas	0.030	40.8	690	41.1	2.5	
Si	28	1	nogas	101.289	11.3	594251	0.5	5	CCB Main CR1 Failed
Na	23	2	He	8.491	3.7	44740	0.8	100	
Mg	24	2	He	1.277	19.3	890	10.7	100	
Al	27	2	He	-1.323	-22.3	323	17.6	5	
K	39	2	He	-1.970	-49.8	26703	1.0	100	
Ca	43	2	He	2.648	987.3	33	86.6	100	
Ca	44	2	He	-4.034	-14.9	333	3.5	100	
V	51	2	He	-0.342	-3.6	623	7.4	2.5	
Cr	52	2	He	0.018	68.0	657	7.8	2.5	
Mn	55	2	He	0.212	15.1	643	13.2	2.5	
Fe	56	2	He	1.432	12.0	10323	5.9	100	
Co	59	2	He	0.011	39.0	163	17.7	2.5	
Ni	60	2	He	0.017	90.5	77	32.8	2.5	
Cu	63	2	He	0.071	62.7	1107	18.3	2	
Zn	66	2	He	0.203	53.2	227	37.5	2.5	
As	75	2	He	-0.004	-73.8	54	3.5	2.5	
Sb	121	2	He	0.574	4.9	2380	3.6	2.5	

Continuing Calibration Blank (CCB) Report

Se	78	2	He	0.211	147.3	49	23.7	2	
Ti	47	2	He	0.056	173.2	7	173.2	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1997410	0.69	2119118	94.26	70	120	
In	115	1	nogas	1998424	0.71	2092576	95.50	70	120	
Li	6	1	nogas	803311	0.48	856261	93.82	70	120	
Bi	209	1	nogas	1676002	0.97	1763016	95.06	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	483987	0.29	530098	91.30	70	120	
In	115	2	He	682271	0.38	741747	91.98	70	120	

Sample Report

Sample Table

Sample Name	HS20050797-01SD
Data File Name	143SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T17:16:06-05:00
Sample Type	Sample
Dilution	500
Comment	TW B 153795DODMn
ISTD Ref FileName	104CALB.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
Be	9	1	nogas	0.005	2.727	27.29	28	0.02	2000	
B	11	1	nogas	-8.712	-4355.910	-5.37	25467	-0.03	2000	
Al	27	1	nogas	1.015	507.657	15.18	41977	0.00	2000	
Ca	44	1	nogas	248.408	124203.828	4.72	114699	0.22	200000	
Ti	47	1	nogas	0.007	3.302	609.38	73	0.01	2000	
Cr	52	1	nogas	-0.479	-239.686	-5.60	11854	0.00	2000	
Co	59	1	nogas	0.004	2.094	239.44	350	0.00	2000	
Cu	63	1	nogas	0.045	22.530	125.76	2887	0.00	2000	
Zn	66	1	nogas	0.323	161.738	31.11	1007	0.03	2000	
Se	77	1	nogas	-60.664	-30331.782	-2.80	5821	-1.04	2000	
Se	82	1	nogas	0.226	112.882	368.98	35	0.64	2000	
Sr	88	1	nogas	1.760	880.093	3.50	35298	0.00	2000	
Mo	95	1	nogas	0.031	15.717	32.33	227	0.01	2000	
Ag	107	1	nogas	-0.001	-0.488	-325.35	47	0.00	2000	
Cd	111	1	nogas	0.000	0.027	5681.82	3	0.00	2000	
Sn	118	1	nogas	0.092	46.042	23.79	1337	0.01	2000	
Sb	121	1	nogas	0.131	65.479	27.84	2153	0.01	2000	
Ba	137	1	nogas	1.227	613.595	6.42	3664	0.03	2000	
Tl	205	1	nogas	0.003	1.389	73.04	127	0.00	2000	
Pb	208	1	nogas	0.009	4.603	46.81	567	0.00	2000	
U	238	1	nogas	0.000	0.012	1012.93	13	0.00	2000	
Li	7	1	nogas	0.017	8.280	188.98	62706	0.00	1000	
Si	28	1	nogas	556.855	278427.670	11.17	876165	0.06	2000	
Tl	203	1	nogas	0.003	1.442	122.01	47	0.01	2000	
Na	23	2	He	167.401	83700.695	1.16	161417	0.10	200000	
Mg	24	2	He	44.395	22197.300	3.31	18309	0.24	200000	
Al	27	2	He	1.051	525.387	41.04	800	0.13	2000	
K	39	2	He	11.097	5548.588	24.42	31670	0.04	200000	
Ca	43	2	He	227.318	113658.800	5.72	287	79.29	200000	
Ca	44	2	He	232.001	116000.369	1.46	4771	4.86	200000	
V	51	2	He	-0.307	-153.740	-3.56	764	-0.04	2000	
Cr	52	2	He	0.021	10.579	174.33	683	0.00	2000	
Mn	55	2	He	18.914	9456.960	2.10	49881	0.04	2000	
Fe	56	2	He	36.012	18006.018	1.83	136379	0.03	200000	
Co	59	2	He	0.008	3.876	20.96	143	0.01	2000	
Ni	60	2	He	1.382	690.902	1.70	2417	0.06	2000	

Sample Report

Cu	63	2	He	0.068	33.819	23.24	1110	0.01	2000	
Zn	66	2	He	0.319	159.532	12.40	323	0.10	2000	
As	75	2	He	0.012	5.947	295.31	64	0.02	2000	
Sb	121	2	He	0.165	82.409	18.32	1063	0.02	2000	
Se	78	2	He	0.154	76.769	171.55	47	0.32	2000	
Ti	47	2	He	0.055	27.391	86.60	7	0.82	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2066846	3.12	2119118	97.53	70	120	
In	115	1	nogas	2055054	0.94	2092576	98.21	70	120	
Li	6	1	nogas	819449	0.97	856261	95.70	70	120	
Bi	209	1	nogas	1701333	1.90	1763016	96.50	70	120	
Ge	72	2	He	492242	0.25	530098	92.86	70	120	
In	115	2	He	698057	1.51	741747	94.11	70	120	

Sample Report

Sample Table

Sample Name	HS20050797-01PDS
Data File Name	144SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T17:18:30-05:00
Sample Type	Sample
Dilution	100
Comment	TW B 153795DODMn
ISTD Ref FileName	104CALB.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
Be	9	1	nogas	92.511	9251.079	0.40	338280	0.03	2000	
B	11	1	nogas	-8.443	-844.334	-2.22	25537	-0.03	2000	
Al	27	1	nogas	96.451	9645.107	0.20	1119219	0.01	2000	
Ca	44	1	nogas	11525.844	1152584.446	0.99	4095252	0.28	200000	
Ti	47	1	nogas	102.694	10269.428	0.51	113249	0.09	2000	
Cr	52	1	nogas	102.185	10218.460	1.34	1467592	0.01	2000	
Co	59	1	nogas	103.300	10329.962	2.44	1538605	0.01	2000	
Cu	63	1	nogas	100.292	10029.205	1.77	784003	0.01	2000	
Zn	66	1	nogas	102.477	10247.702	0.95	223283	0.05	2000	
Se	77	1	nogas	45.710	4570.977	6.08	15590	0.29	2000	
Se	82	1	nogas	98.209	9820.868	4.80	12683	0.77	2000	
Sr	88	1	nogas	8.881	888.142	4.05	166350	0.01	2000	
Mo	95	1	nogas	103.889	10388.881	3.84	379835	0.03	2000	
Ag	107	1	nogas	101.943	10194.276	2.63	938159	0.01	2000	
Cd	111	1	nogas	102.367	10236.669	1.77	185335	0.06	2000	
Sn	118	1	nogas	0.105	10.530	21.86	1370	0.01	2000	
Sb	121	1	nogas	90.245	9024.550	3.09	699102	0.01	2000	
Ba	137	1	nogas	110.085	11008.508	5.90	295999	0.04	2000	
Tl	205	1	nogas	101.373	10137.260	3.34	1535258	0.01	2000	
Pb	208	1	nogas	97.126	9712.557	1.59	2017929	0.00	2000	
U	238	1	nogas	0.001	0.149	13.54	47	0.00	2000	
Li	7	1	nogas	0.198	19.819	45.01	63549	0.00	1000	
Si	28	1	nogas	2599.875	259987.533	1.95	2018272	0.13	2000	>LDR
Tl	203	1	nogas	99.201	9920.110	6.74	601940	0.02	2000	
Na	23	2	He	11203.336	1120333.558	1.94	8096020	0.14	200000	
Mg	24	2	He	10622.529	1062252.875	1.10	4227950	0.25	200000	
Al	27	2	He	95.102	9510.207	0.38	19193	0.50	2000	
K	39	2	He	10533.092	1053309.228	1.64	3613199	0.29	200000	
Ca	43	2	He	10837.925	1083792.494	4.32	12047	89.96	200000	
Ca	44	2	He	11174.081	1117408.067	0.57	207266	5.39	200000	
V	51	2	He	101.013	10101.278	1.58	376719	0.03	2000	
Cr	52	2	He	101.592	10159.172	1.65	436091	0.02	2000	
Mn	55	2	He	190.286	19028.633	2.52	493866	0.04	2000	
Fe	56	2	He	10498.467	1049846.659	2.19	37682589	0.03	200000	
Co	59	2	He	95.914	9591.398	1.07	652533	0.01	2000	
Ni	60	2	He	103.149	10314.945	1.33	174291	0.06	2000	
Cu	63	2	He	103.158	10315.795	1.98	464696	0.02	2000	
Zn	66	2	He	101.125	10112.541	1.85	79836	0.13	2000	
As	75	2	He	99.733	9973.282	1.20	55255	0.18	2000	

Sample Report

Sb	121	2	He	92.561	9256.063	1.93	303193	0.03	2000	
Se	78	2	He	102.385	10238.469	1.55	3888	2.63	2000	
Ti	47	2	He	98.981	9898.081	2.11	11884	0.83	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2033202	1.09	2119118	95.95	70	120	
In	115	1	nogas	1999562	3.45	2092576	95.56	70	120	
Li	6	1	nogas	803981	0.62	856261	93.89	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	1679948	3.08	1763016	95.29	70	120	
Ge	72	2	He	485365	1.00	530098	91.56	70	120	
In	115	2	He	680382	0.99	741747	91.73	70	120	

Sample Report

Sample Table

Sample Name	HS20050757-01
Data File Name	145SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T17:20:50-05:00
Sample Type	Sample
Dilution	10
Comment	TW B 153795DODNa
ISTD Ref FileName	104CALB.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
Be	9	1	nogas	0.030	0.302	13.97	118	0.03	2000	
B	11	1	nogas	-7.320	-73.202	-3.76	27825	-0.03	2000	
Al	27	1	nogas	4.748	47.476	4.32	84740	0.01	2000	
Ca	44	1	nogas	788.908	7889.085	1.91	308280	0.26	200000	
Ti	47	1	nogas	0.345	3.446	24.28	450	0.08	2000	
Cr	52	1	nogas	-0.336	-3.365	-6.98	13892	0.00	2000	
Co	59	1	nogas	0.173	1.728	5.81	2897	0.01	2000	
Cu	63	1	nogas	0.269	2.691	8.98	4651	0.01	2000	
Zn	66	1	nogas	4.026	40.262	5.32	9182	0.04	2000	
Se	77	1	nogas	-65.319	-653.186	-3.98	5371	-1.22	2000	
Se	82	1	nogas	-0.516	-5.155	-304.71	-62	0.83	2000	
Sr	88	1	nogas	19.255	192.550	1.76	359293	0.01	2000	
Mo	95	1	nogas	0.511	5.114	24.56	1973	0.03	2000	
Ag	107	1	nogas	0.017	0.166	41.56	207	0.01	2000	
Cd	111	1	nogas	0.009	0.094	102.75	20	0.05	2000	
Sn	118	1	nogas	0.104	1.035	24.13	1363	0.01	2000	
Sb	121	1	nogas	3.703	37.033	16.06	30237	0.01	2000	
Ba	137	1	nogas	9.912	99.119	2.73	26948	0.04	2000	
Tl	205	1	nogas	0.047	0.475	19.95	803	0.01	2000	
Pb	208	1	nogas	0.052	0.522	21.04	1453	0.00	2000	
U	238	1	nogas	0.019	0.190	7.60	447	0.00	2000	
Li	7	1	nogas	1.734	17.340	1.03	80612	0.00	1000	
Si	28	1	nogas	13941.750	139417.504	2.29	8558161	0.16	2000	>LDR
Tl	203	1	nogas	0.051	0.506	29.68	337	0.02	2000	
Na	23	2	He	32044.027	320440.267	1.57	22942365	0.14	200000	
Mg	24	2	He	1177.284	11772.843	1.45	465982	0.25	200000	
Al	27	2	He	4.664	46.638	26.90	1487	0.31	2000	
K	39	2	He	144.691	1446.913	1.13	76234	0.19	200000	
Ca	43	2	He	936.977	9369.766	18.66	1063	88.11	200000	
Ca	44	2	He	834.636	8346.357	2.44	15764	5.29	200000	
V	51	2	He	-0.310	-3.102	-5.21	739	-0.04	2000	
Cr	52	2	He	0.303	3.029	3.50	1870	0.02	2000	
Mn	55	2	He	10.129	101.286	3.85	26212	0.04	2000	
Fe	56	2	He	27.983	279.835	2.16	104982	0.03	200000	
Co	59	2	He	0.165	1.646	17.12	1200	0.01	2000	
Ni	60	2	He	1.749	17.486	4.68	2984	0.06	2000	
Cu	63	2	He	0.226	2.261	13.22	1797	0.01	2000	
Zn	66	2	He	3.917	39.167	3.86	3137	0.12	2000	

Sample Report

As	75	2	He	0.089	0.889	14.06	106	0.08	2000	
Sb	121	2	He	2.667	26.667	1.98	9173	0.03	2000	
Se	78	2	He	0.339	3.390	98.62	53	0.64	2000	
Ti	47	2	He	0.168	1.676	49.81	20	0.84	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2063689	1.11	2119118	97.38	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	2001468	1.49	2092576	95.65	70	120	
Li	6	1	nogas	803636	0.46	856261	93.85	70	120	
Bi	209	1	nogas	1677984	1.82	1763016	95.18	70	120	
Ge	72	2	He	482336	0.81	530098	90.99	70	120	
In	115	2	He	688410	1.54	741747	92.81	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	150_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T17:32:43-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	98.180	0.265	340247	0.85	100	98.2	90	110	
B	11	1	nogas	462.906	0.644	938663	1.55	500	92.6	90	110	
Al	27	1	nogas	101.181	1.173	1149770	0.26	100	101.2	90	110	
P	31	1	nogas	509.920	1.384	321021	1.21	500	102.0	90	110	
Ca	44	1	nogas	10452.592	1.304	3643790	1.77	10000	104.5	90	110	
Ti	47	1	nogas	103.964	1.223	112407	0.16	100	104.0	90	110	
Cr	52	1	nogas	105.869	2.408	1490084	1.25	100	105.9	90	110	
Co	59	1	nogas	105.869	3.390	1546108	2.33	100	105.9	90	110	
Cu	63	1	nogas	102.257	1.897	783754	1.03	100	102.3	90	110	
Zn	66	1	nogas	103.566	1.862	221243	0.78	100	103.6	90	110	
Se	77	1	nogas	51.108	11.445	15774	2.17	100	51.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	104.409	3.075	13224	2.19	100	104.4	90	110	
Sr	88	1	nogas	105.659	2.216	1941611	0.74	100	105.7	90	110	
Mo	95	1	nogas	102.305	2.868	370340	0.13	100	102.3	90	110	
Ag	107	1	nogas	99.845	2.365	909602	0.85	100	99.8	90	110	
Cd	111	1	nogas	102.555	2.913	183771	1.91	100	102.6	90	110	
Sn	118	1	nogas	103.851	0.638	538942	2.10	100	103.9	90	110	
Sb	121	1	nogas	102.132	2.342	775667	1.31	100	102.1	90	110	
Ba	137	1	nogas	104.618	3.322	278642	0.59	100	104.6	90	110	
Tl	205	1	nogas	104.261	4.328	1548177	1.71	100	104.3	90	110	
Pb	208	1	nogas	99.105	3.595	2018415	1.07	100	99.1	90	110	
U	238	1	nogas	101.472	2.798	2271742	0.37	100	101.5	90	110	
Li	7	1	nogas	103.494	0.491	1150182	0.67	100	103.5	90	110	
Si	28	1	nogas	5520.404	2.083	3598187	0.93	5000	110.4	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	102.372	3.299	609617	1.07	100	102.4	90	110	
Na	23	2	He	10361.076	2.226	7382231	1.30	10000	103.6	90	110	
Mg	24	2	He	10400.100	1.178	4079770	0.60	10000	104.0	90	110	
Al	27	2	He	97.836	1.653	19443	1.16	100	97.8	90	110	
K	39	2	He	10265.171	1.688	3471321	0.80	10000	102.7	90	110	
Ca	43	2	He	10053.177	5.731	11020	6.03	10000	100.5	90	110	
Ca	44	2	He	10038.877	1.641	183558	0.56	10000	100.4	90	110	
V	51	2	He	102.046	1.628	375073	0.58	100	102.0	90	110	
Cr	52	2	He	101.829	1.511	430819	0.19	100	101.8	90	110	
Mn	55	2	He	99.979	1.083	255823	0.60	100	100.0	90	110	
Fe	56	2	He	10265.037	0.799	36318312	0.60	10000	102.7	90	110	
Co	59	2	He	99.782	2.555	668973	1.21	100	99.8	90	110	
Ni	60	2	He	104.427	1.942	173898	0.99	100	104.4	90	110	
Cu	63	2	He	105.085	1.882	466486	0.60	100	105.1	90	110	
Zn	66	2	He	102.380	3.381	79639	2.06	100	102.4	90	110	
As	75	2	He	101.523	0.909	55439	0.73	100	101.5	90	110	
Sb	121	2	He	102.054	1.541	329437	0.83	100	102.1	90	110	
Se	78	2	He	103.840	3.024	3885	1.62	100	103.8	90	110	
Ti	47	2	He	100.439	4.158	11884	3.14	100	100.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1993688	1.18	2119118	94.08	70	120	
In	115	1	nogas	1979099	2.72	2092576	94.58	70	120	
Li	6	1	nogas	761961	0.96	856261	88.99	70	120	
Bi	209	1	nogas	1647346	2.67	1763016	93.44	70	120	
Ge	72	2	He	478399	1.40	530098	90.25	70	120	
In	115	2	He	675725	1.04	741747	91.10	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	151_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T17:35:02-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	0.023	41.6	93	38.0	1	
B	11	1	nogas	-0.945	-180.7	41415	8.3	10	
Al	27	1	nogas	-1.002	-6.5	18699	2.4	5	
P	31	1	nogas	0.467	235.1	21923	1.8	10	
Ca	44	1	nogas	-12.757	-26.6	20869	4.2	100	
Ti	47	1	nogas	0.140	17.3	220	12.0	2.5	
Cr	52	1	nogas	-0.605	-2.8	9966	2.5	2.5	
Co	59	1	nogas	0.012	9.5	463	3.3	2.5	
Cu	63	1	nogas	0.000	5402.1	2510	4.0	2	
Zn	66	1	nogas	0.113	35.4	540	16.5	2.5	
Se	77	1	nogas	-72.417	-6.2	4674	8.4	2.5	
Se	82	1	nogas	0.688	168.0	95	158.9	2	
Sr	88	1	nogas	-0.018	-39.3	1393	8.6	2.5	
Mo	95	1	nogas	0.304	27.1	1260	24.3	2.5	
Ag	107	1	nogas	0.015	25.0	203	18.6	2.5	
Cd	111	1	nogas	0.023	81.3	47	75.3	1	
Sn	118	1	nogas	0.496	18.0	3534	12.7	5	
Sb	121	1	nogas	0.817	8.6	7488	5.9	2.5	
Ba	137	1	nogas	-0.031	-69.5	187	31.4	2.5	
Tl	205	1	nogas	0.447	54.8	6839	56.9	1	
Pb	208	1	nogas	0.042	36.9	1227	28.7	2.5	
U	238	1	nogas	0.033	34.1	760	36.7	2.5	
Si	28	1	nogas	59.515	46.5	586339	1.1	5	CCB Main CR1 Failed
Na	23	2	He	-0.491	-249.3	38456	2.0	100	
Mg	24	2	He	0.732	16.0	677	6.7	100	
Al	27	2	He	-1.297	-24.2	330	18.9	5	
K	39	2	He	-1.368	-35.5	27020	0.5	100	
Ca	43	2	He	-18.571	-83.7	10	173.2	100	
Ca	44	2	He	-12.384	-15.5	180	20.0	100	
V	51	2	He	-0.343	-7.4	622	15.1	2.5	
Cr	52	2	He	-0.010	-162.6	540	12.8	2.5	
Mn	55	2	He	0.086	26.8	317	18.5	2.5	
Fe	56	2	He	1.496	12.2	10593	6.0	100	
Co	59	2	He	0.011	44.6	167	21.1	2.5	
Ni	60	2	He	0.010	141.4	67	37.7	2.5	
Cu	63	2	He	0.022	123.5	890	13.7	2	
Zn	66	2	He	0.172	15.5	203	10.2	2.5	
As	75	2	He	-0.003	-865.7	56	22.7	2.5	
Sb	121	2	He	0.705	11.9	2820	10.1	2.5	

Continuing Calibration Blank (CCB) Report

Se	78	2	He	0.259	166.1	51	31.7	2	
Ti	47	2	He	0.055	86.6	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
Ge	72	1	nogas	2051400	1.56	2119118	96.80	70	120	
In	115	1	nogas	2069735	1.31	2092576	98.91	70	120	
Li	6	1	nogas	814458	0.31	856261	95.12	70	120	
Bi	209	1	nogas	1660263	3.07	1763016	94.17	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	486010	0.37	530098	91.68	70	120	
In	115	2	He	682576	1.57	741747	92.02	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	162_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T18:01:22-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	97.630	0.404	331573	0.80	100	97.6	90	110	
B	11	1	nogas	459.865	0.967	914083	1.46	500	92.0	90	110	
Al	27	1	nogas	99.324	1.245	1127510	0.85	100	99.3	90	110	
P	31	1	nogas	499.011	2.499	314117	2.04	500	99.8	90	110	
Ca	44	1	nogas	10213.621	1.144	3555421	0.76	10000	102.1	90	110	
Ti	47	1	nogas	100.371	0.996	108373	1.70	100	100.4	90	110	
Cr	52	1	nogas	102.630	1.011	1443150	1.67	100	102.6	90	110	
Co	59	1	nogas	103.051	1.470	1503001	1.55	100	103.1	90	110	
Cu	63	1	nogas	100.660	1.334	770453	1.24	100	100.7	90	110	
Zn	66	1	nogas	102.538	0.336	218740	0.53	100	102.5	90	110	
Se	77	1	nogas	38.921	11.640	14646	2.55	100	38.9	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.198	3.631	12296	4.34	100	97.2	90	110	
Sr	88	1	nogas	104.290	3.524	1889162	1.37	100	104.3	90	110	
Mo	95	1	nogas	101.380	4.668	361682	0.76	100	101.4	90	110	
Ag	107	1	nogas	99.910	2.566	897429	1.60	100	99.9	90	110	
Cd	111	1	nogas	103.009	2.518	182003	1.87	100	103.0	90	110	
Sn	118	1	nogas	103.373	1.624	528927	2.59	100	103.4	90	110	
Sb	121	1	nogas	100.396	1.108	761468	1.53	100	100.4	90	110	
Ba	137	1	nogas	105.315	4.426	276478	0.64	100	105.3	90	110	
Tl	205	1	nogas	100.860	1.674	1468926	1.18	100	100.9	90	110	
Pb	208	1	nogas	99.561	2.376	1988343	1.31	100	99.6	90	110	
U	238	1	nogas	102.444	1.044	2249015	1.30	100	102.4	90	110	
Li	7	1	nogas	102.787	3.059	1119757	2.43	100	102.8	90	110	
Si	28	1	nogas	5539.476	0.693	3603621	0.77	5000	110.8	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	101.709	0.879	593932	0.24	100	101.7	90	110	
Na	23	2	He	10304.038	1.817	7253521	1.81	10000	103.0	90	110	
Mg	24	2	He	10348.566	1.605	4010482	1.67	10000	103.5	90	110	
Al	27	2	He	98.651	1.573	19363	1.35	100	98.7	90	110	
K	39	2	He	10073.596	0.387	3365947	0.24	10000	100.7	90	110	
Ca	43	2	He	9505.239	2.667	10293	2.49	10000	95.1	90	110	
Ca	44	2	He	9975.806	1.143	180206	0.90	10000	99.8	90	110	
V	51	2	He	101.446	0.345	368385	0.45	100	101.4	90	110	
Cr	52	2	He	103.320	0.510	431849	0.23	100	103.3	90	110	
Mn	55	2	He	101.249	1.735	255931	1.51	100	101.2	90	110	
Fe	56	2	He	10178.713	1.062	35576018	0.88	10000	101.8	90	110	
Co	59	2	He	98.517	0.365	652591	0.24	100	98.5	90	110	
Ni	60	2	He	103.733	1.036	170665	1.17	100	103.7	90	110	
Cu	63	2	He	102.966	1.155	451588	0.95	100	103.0	90	110	
Zn	66	2	He	101.470	1.228	77992	1.05	100	101.5	90	110	
As	75	2	He	102.340	1.398	55206	1.18	100	102.3	90	110	
Sb	121	2	He	101.391	0.605	323347	0.50	100	101.4	90	110	
Se	78	2	He	99.759	2.809	3690	3.08	100	99.8	90	110	
Ti	47	2	He	97.883	2.334	11444	2.23	100	97.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1990620	0.71	2119118	93.94	70	120	
In	115	1	nogas	1951897	4.09	2092576	93.28	70	120	
Li	6	1	nogas	746706	0.60	856261	87.21	70	120	
Bi	209	1	nogas	1614625	1.08	1763016	91.58	70	120	
Ge	72	2	He	472566	0.31	530098	89.15	70	120	
In	115	2	He	652183	3.29	741747	87.93	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	163_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T18:03:41-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	0.020	25.3	80	22.5	1	
B	11	1	nogas	-0.877	-239.8	40666	10.5	10	
Al	27	1	nogas	-0.939	-3.3	19117	1.3	5	
P	31	1	nogas	-0.205	-506.3	21182	2.5	10	
Ca	44	1	nogas	-9.444	-26.9	21706	2.5	100	
Ti	47	1	nogas	0.094	46.9	167	29.6	2.5	
Cr	52	1	nogas	-0.613	-9.3	9693	6.7	2.5	
Co	59	1	nogas	0.014	32.6	487	12.4	2.5	
Cu	63	1	nogas	0.091	5.5	3177	2.8	2	
Zn	66	1	nogas	0.218	9.4	757	5.0	2.5	
Se	77	1	nogas	-75.610	-3.7	4307	5.3	2.5	
Se	82	1	nogas	-0.567	-56.4	-69	-59.2	2	
Sr	88	1	nogas	0.026	29.5	2194	6.7	2.5	
Mo	95	1	nogas	0.273	51.7	1117	46.7	2.5	
Ag	107	1	nogas	0.016	25.1	200	18.0	2.5	
Cd	111	1	nogas	0.024	53.2	47	49.5	1	
Sn	118	1	nogas	0.500	10.2	3480	7.8	5	
Sb	121	1	nogas	0.740	9.7	6785	7.9	2.5	
Ba	137	1	nogas	0.029	87.6	347	19.6	2.5	
Tl	205	1	nogas	0.425	45.2	6545	47.9	1	
Pb	208	1	nogas	0.045	22.7	1310	20.0	2.5	
U	238	1	nogas	0.030	27.4	700	29.8	2.5	
Si	28	1	nogas	120.881	29.5	611581	1.9	5	CCB Main CR1 Failed
Na	23	2	He	9.211	15.7	45294	1.5	100	
Mg	24	2	He	1.650	12.5	1040	9.2	100	
Al	27	2	He	-1.277	-35.9	333	27.9	5	
K	39	2	He	-2.126	-144.2	26669	2.7	100	
Ca	43	2	He	-9.540	-93.1	20	50.0	100	
Ca	44	2	He	-4.981	-84.1	317	25.3	100	
V	51	2	He	-0.352	-0.7	587	2.3	2.5	
Cr	52	2	He	0.028	106.0	700	16.8	2.5	
Mn	55	2	He	0.289	15.1	843	14.5	2.5	
Fe	56	2	He	2.052	11.5	12548	5.4	100	
Co	59	2	He	0.007	55.9	133	18.9	2.5	
Ni	60	2	He	0.027	81.3	93	37.6	2.5	
Cu	63	2	He	0.081	43.8	1153	12.6	2	
Zn	66	2	He	0.206	36.8	230	27.2	2.5	
As	75	2	He	0.017	171.9	67	26.0	2.5	
Sb	121	2	He	0.626	7.1	2550	5.1	2.5	

Continuing Calibration Blank (CCB) Report

Se	78	2	He	0.245	99.8	50	18.3	2	
Ti	47	2	He	0.028	173.2	3	173.2	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2019253	1.64	2119118	95.29	70	120	
In	115	1	nogas	2025373	0.20	2092576	96.79	70	120	
Li	6	1	nogas	796952	0.42	856261	93.07	70	120	
Bi	209	1	nogas	1669359	3.96	1763016	94.69	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	484483	1.36	530098	91.40	70	120	
In	115	2	He	677640	1.05	741747	91.36	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	174_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T18:31:07-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	98.228	0.474	338339	0.10	100	98.2	90	110	
B	11	1	nogas	466.435	1.727	939731	1.85	500	93.3	90	110	
Al	27	1	nogas	98.810	2.698	1151963	1.22	100	98.8	90	110	
P	31	1	nogas	501.406	2.412	324014	0.75	500	100.3	90	110	
Ca	44	1	nogas	10191.571	1.322	3643704	1.18	10000	101.9	90	110	
Ti	47	1	nogas	100.930	0.621	111927	2.04	100	100.9	90	110	
Cr	52	1	nogas	103.446	1.380	1493906	2.49	100	103.4	90	110	
Co	59	1	nogas	104.779	0.545	1569523	1.09	100	104.8	90	110	
Cu	63	1	nogas	101.729	0.826	799678	1.33	100	101.7	90	110	
Zn	66	1	nogas	104.291	0.732	228487	0.89	100	104.3	90	110	
Se	77	1	nogas	40.686	12.494	15210	3.89	100	40.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	100.928	4.866	13111	4.81	100	100.9	90	110	
Sr	88	1	nogas	108.443	4.555	2014990	1.81	100	108.4	90	110	
Mo	95	1	nogas	103.273	4.404	378044	0.24	100	103.3	90	110	
Ag	107	1	nogas	100.176	3.415	923100	1.75	100	100.2	90	110	
Cd	111	1	nogas	103.661	1.062	187999	3.21	100	103.7	90	110	
Sn	118	1	nogas	105.841	4.003	555316	1.76	100	105.8	90	110	
Sb	121	1	nogas	107.631	3.693	838039	2.14	100	107.6	90	110	
Ba	137	1	nogas	107.067	5.037	288339	0.95	100	107.1	90	110	
Tl	205	1	nogas	102.444	2.936	1544866	0.33	100	102.4	90	110	
Pb	208	1	nogas	98.753	4.115	2042073	2.39	100	98.8	90	110	
U	238	1	nogas	103.496	3.137	2352809	2.39	100	103.5	90	110	
Li	7	1	nogas	101.779	2.304	1125183	2.03	100	101.8	90	110	
Si	28	1	nogas	5401.408	2.051	3622428	1.71	5000	108.0	90	110	
Tl	203	1	nogas	103.171	3.229	623775	0.62	100	103.2	90	110	
Na	23	2	He	10364.062	2.059	7435187	1.54	10000	103.6	90	110	
Mg	24	2	He	10273.417	1.486	4057667	1.17	10000	102.7	90	110	
Al	27	2	He	97.490	3.036	19514	3.79	100	97.5	90	110	
K	39	2	He	10167.563	1.425	3462438	1.69	10000	101.7	90	110	
Ca	43	2	He	9768.276	1.486	10780	0.88	10000	97.7	90	110	
Ca	44	2	He	10019.297	1.790	184449	0.38	10000	100.2	90	110	
V	51	2	He	102.460	0.353	379216	1.41	100	102.5	90	110	
Cr	52	2	He	103.084	0.900	439206	2.31	100	103.1	90	110	
Mn	55	2	He	102.241	0.733	263412	1.18	100	102.2	90	110	
Fe	56	2	He	10225.798	1.918	36423549	0.76	10000	102.3	90	110	
Co	59	2	He	99.388	3.067	670862	1.70	100	99.4	90	110	
Ni	60	2	He	105.492	3.571	176844	2.26	100	105.5	90	110	
Cu	63	2	He	105.009	2.049	469329	0.72	100	105.0	90	110	
Zn	66	2	He	103.571	1.200	81132	0.35	100	103.6	90	110	
As	75	2	He	102.954	1.443	56604	1.30	100	103.0	90	110	
Sb	121	2	He	105.640	2.086	343302	0.73	100	105.6	90	110	
Se	78	2	He	106.408	2.387	4008	1.47	100	106.4	90	110	
Ti	47	2	He	96.973	6.164	11550	5.05	100	97.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2044541	1.59	2119118	96.48	70	120	
In	115	1	nogas	2002798	4.24	2092576	95.71	70	120	
Li	6	1	nogas	757320	0.40	856261	88.45	70	120	
Bi	209	1	nogas	1672541	2.57	1763016	94.87	70	120	
Ge	72	2	He	481672	1.42	530098	90.86	70	120	
In	115	2	He	676394	1.50	741747	91.19	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	175_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T18:33:26-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	0.020	30.6	80	27.2	1	
B	11	1	nogas	-1.962	-94.0	39095	8.8	10	
Al	27	1	nogas	-0.966	-1.8	19323	0.2	5	
P	31	1	nogas	0.438	264.7	22143	2.4	10	
Ca	44	1	nogas	-14.937	-4.1	20321	1.7	100	
Ti	47	1	nogas	0.102	40.7	180	25.5	2.5	
Cr	52	1	nogas	-0.627	-1.9	9759	2.4	2.5	
Co	59	1	nogas	0.017	47.3	550	23.2	2.5	
Cu	63	1	nogas	0.052	37.5	2947	6.0	2	
Zn	66	1	nogas	0.210	43.7	760	26.2	2.5	
Se	77	1	nogas	-78.799	-1.7	4122	2.4	2.5	
Se	82	1	nogas	-0.468	-178.0	-58	-190.6	2	
Sr	88	1	nogas	0.034	37.9	2350	12.3	2.5	
Mo	95	1	nogas	0.320	50.2	1307	47.9	2.5	
Ag	107	1	nogas	0.016	17.0	203	14.2	2.5	
Cd	111	1	nogas	0.020	69.9	40	66.1	1	
Sn	118	1	nogas	0.543	17.5	3734	15.4	5	
Sb	121	1	nogas	1.445	9.7	12531	9.5	2.5	
Ba	137	1	nogas	0.001	3560.5	273	34.0	2.5	
Tl	205	1	nogas	0.425	50.8	6825	53.1	1	
Pb	208	1	nogas	0.043	23.3	1310	19.7	2.5	
U	238	1	nogas	0.029	41.5	707	43.9	2.5	
Si	28	1	nogas	60.184	12.7	593183	0.8	5	CCB Main CR1 Failed
Na	23	2	He	4.181	77.8	42317	3.2	100	
Mg	24	2	He	1.290	11.5	910	5.7	100	
Al	27	2	He	-1.260	-47.0	343	36.9	5	
K	39	2	He	-3.156	-38.3	26743	1.7	100	
Ca	43	2	He	-18.884	-79.4	10	173.2	100	
Ca	44	2	He	-9.682	-25.9	233	21.6	100	
V	51	2	He	-0.360	-6.7	567	13.7	2.5	
Cr	52	2	He	0.030	146.3	723	28.4	2.5	
Mn	55	2	He	0.160	10.5	517	6.2	2.5	
Fe	56	2	He	1.878	11.2	12107	4.0	100	
Co	59	2	He	0.005	83.1	127	24.1	2.5	
Ni	60	2	He	0.029	36.4	100	20.0	2.5	
Cu	63	2	He	0.038	29.3	973	4.2	2	
Zn	66	2	He	0.224	17.1	247	11.7	2.5	
As	75	2	He	-0.010	-240.4	52	25.8	2.5	
Sb	121	2	He	1.290	4.1	4794	4.3	2.5	

Continuing Calibration Blank (CCB) Report

Se	78	2	He	0.206	153.0	49	24.4	2	
Ti	47	2	He	0.083	99.5	10	100.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2073456	0.80	2119118	97.85	70	120	
In	115	1	nogas	2034759	2.24	2092576	97.24	70	120	
Li	6	1	nogas	810444	1.00	856261	94.65	70	120	
Bi	209	1	nogas	1739383	3.28	1763016	98.66	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	492206	2.43	530098	92.85	70	120	
In	115	2	He	698676	0.86	741747	94.19	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	184_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T18:55:07-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	99.555	0.754	347750	0.20	100	99.6	90	110	
B	11	1	nogas	469.836	2.963	959545	2.29	500	94.0	90	110	
Al	27	1	nogas	100.236	1.398	1177776	1.36	100	100.2	90	110	
P	31	1	nogas	510.077	2.192	331899	0.27	500	102.0	90	110	
Ca	44	1	nogas	10451.270	1.402	3765856	0.77	10000	104.5	90	110	
Ti	47	1	nogas	103.916	1.684	116143	0.95	100	103.9	90	110	
Cr	52	1	nogas	104.337	0.906	1518614	1.58	100	104.3	90	110	
Co	59	1	nogas	104.803	0.987	1582515	1.27	100	104.8	90	110	
Cu	63	1	nogas	101.002	2.002	800343	1.98	100	101.0	90	110	
Zn	66	1	nogas	103.639	1.663	228883	1.53	100	103.6	90	110	
Se	77	1	nogas	43.175	8.879	15563	2.30	100	43.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	102.094	3.674	13365	1.95	100	102.1	90	110	
Sr	88	1	nogas	106.200	3.543	1999673	1.36	100	106.2	90	110	
Mo	95	1	nogas	103.101	3.202	382491	1.00	100	103.1	90	110	
Ag	107	1	nogas	100.288	2.827	936276	0.34	100	100.3	90	110	
Cd	111	1	nogas	104.529	1.479	192012	2.05	100	104.5	90	110	
Sn	118	1	nogas	105.331	1.379	560131	1.37	100	105.3	90	110	
Sb	121	1	nogas	100.431	1.433	788571	1.23	100	100.4	90	110	
Ba	137	1	nogas	104.305	3.298	284746	1.67	100	104.3	90	110	
Tl	205	1	nogas	104.367	0.901	1574440	2.16	100	104.4	90	110	
Pb	208	1	nogas	99.998	1.806	2068334	0.99	100	100.0	90	110	
U	238	1	nogas	101.647	1.510	2311102	1.94	100	101.6	90	110	
Li	7	1	nogas	103.902	2.370	1163601	1.75	100	103.9	90	110	
Si	28	1	nogas	5423.315	1.190	3664169	1.04	5000	108.5	90	110	
Tl	203	1	nogas	104.387	2.860	631161	1.22	100	104.4	90	110	
Na	23	2	He	10337.549	1.977	7519217	1.41	10000	103.4	90	110	
Mg	24	2	He	10387.995	0.864	4160061	1.11	10000	103.9	90	110	
Al	27	2	He	99.014	2.534	20081	2.43	100	99.0	90	110	
K	39	2	He	10210.775	0.835	3525182	0.69	10000	102.1	90	110	
Ca	43	2	He	9757.331	3.855	10917	3.40	10000	97.6	90	110	
Ca	44	2	He	9998.703	2.391	186644	2.33	10000	100.0	90	110	
V	51	2	He	101.719	1.557	381674	1.12	100	101.7	90	110	
Cr	52	2	He	102.331	1.436	441965	0.76	100	102.3	90	110	
Mn	55	2	He	101.498	0.649	265143	1.66	100	101.5	90	110	
Fe	56	2	He	10188.702	2.427	36801309	2.77	10000	101.9	90	110	
Co	59	2	He	98.612	2.312	674967	1.86	100	98.6	90	110	
Ni	60	2	He	103.833	2.034	176507	1.00	100	103.8	90	110	
Cu	63	2	He	104.434	1.671	473294	1.57	100	104.4	90	110	
Zn	66	2	He	102.687	1.626	81554	0.49	100	102.7	90	110	
As	75	2	He	100.933	1.904	56264	1.75	100	100.9	90	110	
Sb	121	2	He	102.355	1.781	337285	1.19	100	102.4	90	110	
Se	78	2	He	103.732	2.154	3962	1.50	100	103.7	90	110	
Ti	47	2	He	100.801	1.176	12177	0.05	100	100.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2061100	1.99	2119118	97.26	70	120	
In	115	1	nogas	2028250	2.51	2092576	96.93	70	120	
Li	6	1	nogas	768021	0.62	856261	89.69	70	120	
Bi	209	1	nogas	1672411	2.39	1763016	94.86	70	120	
Ge	72	2	He	488347	1.15	530098	92.12	70	120	
In	115	2	He	677991	0.32	741747	91.40	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	185_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\052
Acq Date Time	2020-05-28T18:57:29-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	104CALB.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
Be	9	1	nogas	0.021	20.1	88	18.2	1	
B	11	1	nogas	-3.378	-45.6	36777	8.1	10	
Al	27	1	nogas	-0.918	-5.9	20011	1.9	5	
P	31	1	nogas	1.340	104.4	22851	2.5	10	
Ca	44	1	nogas	-17.825	-11.6	19410	2.9	100	
Ti	47	1	nogas	0.086	58.2	163	34.8	2.5	
Cr	52	1	nogas	-0.596	-4.9	10273	2.8	2.5	
Co	59	1	nogas	0.017	14.2	557	7.3	2.5	
Cu	63	1	nogas	0.013	275.2	2660	11.0	2	
Zn	66	1	nogas	0.190	43.1	720	24.4	2.5	
Se	77	1	nogas	-75.127	-1.3	4501	1.0	2.5	
Se	82	1	nogas	-0.926	-13.0	-119	-12.5	2	
Sr	88	1	nogas	-0.009	-122.0	1573	11.2	2.5	
Mo	95	1	nogas	0.269	42.5	1123	36.9	2.5	
Ag	107	1	nogas	0.015	55.5	197	38.5	2.5	
Cd	111	1	nogas	0.012	122.0	27	108.3	1	
Sn	118	1	nogas	0.525	20.3	3677	14.0	5	
Sb	121	1	nogas	0.592	13.2	5838	10.1	2.5	
Ba	137	1	nogas	-0.016	-40.1	230	7.5	2.5	
Tl	205	1	nogas	0.417	53.6	6622	53.8	1	
Pb	208	1	nogas	0.042	35.8	1290	25.8	2.5	
U	238	1	nogas	0.034	45.2	820	45.6	2.5	
Si	28	1	nogas	35.542	58.6	582943	1.3	5	CCB Main CR1 Failed
Na	23	2	He	-3.743	-18.8	37030	2.3	100	
Mg	24	2	He	0.853	31.4	743	15.0	100	
Al	27	2	He	-1.420	-7.5	313	6.6	5	
K	39	2	He	-3.348	-30.8	27010	1.6	100	
Ca	43	2	He	-15.900	-83.9	13	114.6	100	
Ca	44	2	He	-7.514	-40.5	277	19.9	100	
V	51	2	He	-0.353	-3.3	601	7.0	2.5	
Cr	52	2	He	0.016	187.9	670	20.2	2.5	
Mn	55	2	He	0.079	16.7	307	11.5	2.5	
Fe	56	2	He	1.603	11.7	11257	6.2	100	
Co	59	2	He	0.014	21.4	187	11.2	2.5	
Ni	60	2	He	0.032	86.5	107	46.2	2.5	
Cu	63	2	He	0.022	195.0	913	21.0	2	
Zn	66	2	He	0.219	20.7	247	15.4	2.5	
As	75	2	He	0.020	201.1	70	33.3	2.5	
Sb	121	2	He	0.501	11.4	2204	7.7	2.5	

Continuing Calibration Blank (CCB) Report

Se	78	2	He	0.206	215.2	50	34.9	2	
Ti	47	2	He	0.081	100.1	10	100.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2087962	1.40	2119118	98.53	70	120	
In	115	1	nogas	2064941	1.95	2092576	98.68	70	120	
Li	6	1	nogas	823787	0.70	856261	96.21	70	120	
Bi	209	1	nogas	1732054	2.34	1763016	98.24	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	498270	0.91	530098	94.00	70	120	
In	115	2	He	689787	1.39	741747	92.99	70	120	

Tune Report

Batch Folder C:\Agilent\ICPMH\1\DATA\052820A.b
Report Comment
Instrument Name G3281A JP11080910

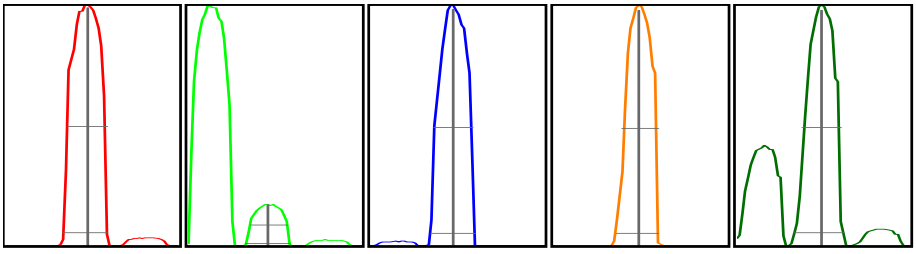
[nogas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		17834				NaN	-	
24		45621				NaN	-	
59		74581				NaN	-	
115		98188				NaN	-	
208		56702				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	0.94	5.00				
24	0.95	5.00				
59	0.76	5.00				
115	0.50	5.00				
208	0.43	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	17593	17775	17841	18046	17915
24	45006	45622	45595	45650	46233
59	74107	74034	74404	75244	75114
115	97341	98228	98575	98374	98422
208	56327	56691	56661	56976	56856

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	2922.88	8.95	8.9 - 9.1		0.64	0.745		
24	7645.56	23.90	23.9 - 24.1		0.63	0.743		
59	12596.42	58.95	58.9 - 59.1		0.63	0.771		
115	17674.73	115.00	114.9 - 115.1		0.58	0.731		
208	9630.90	208.00	207.9 - 208.1		0.62	0.819		

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 168.5 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.45 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	10.0 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-50 V
Omega Bias	-100 V	Cell Exit	-50 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	false	3rd Gas Flow	0 %		

Tune Report

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		429				NaN	-	
24		2932				NaN	-	
59		42973				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	0.91	5.00				
24	0.84	5.00				
59	0.47	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	433	429	425	425	432
24	2970	2939	2907	2919	2923
59	42767	42774	42973	43208	43142

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	73.32	8.95	8.9 - 9.1		0.62	0.742		
24	497.29	23.95	23.9 - 24.1		0.62	0.735		
59	7338.01	58.95	58.9 - 59.1		0.62	0.755		

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 100.6 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.45 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	2.0 V
Extract 2	-200.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-100 V	Cell Exit	-60 V		

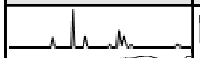
Cell Parameters

OctP Bias	-18.0 V	He Flow	4.3 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

HS20050757 Wet Chem Raw Data (IC)

ALS WO# HS20050757

Sequence: 052620
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume [ul]	Status
	CCV1		Unknown	BA4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	BA5	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050754-01DF10		Unknown	RC1	10.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050754-01MSDF10		Unknown	RC2	10.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050754-01MSDDF10		Unknown	RC3	10.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050757-01DF10		Unknown	RC4	10.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV		Unknown	BA2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	BA3	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV		Unknown	BA2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	BA3	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050757-01		Unknown	GB4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	MBLK052620	9056_W	Unknown	BB1	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	LCS052620		Unknown	BB2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV1		Unknown	BA4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	BA5	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished

Sequence: 052620
Last Update Operator: alshs.nouser

Inject Time
5/27/2020 4:03:33 AM -05:00
5/27/2020 4:21:41 AM -05:00
5/27/2020 5:52:09 AM -05:00
5/27/2020 6:10:18 AM -05:00
5/27/2020 6:28:24 AM -05:00
5/27/2020 6:46:31 AM -05:00
5/27/2020 7:22:44 AM -05:00
5/27/2020 7:40:49 AM -05:00
5/27/2020 3:14:03 PM -05:00
5/27/2020 3:32:09 PM -05:00
5/27/2020 5:57:22 PM -05:00
5/27/2020 6:15:32 PM -05:00
5/27/2020 6:33:37 PM -05:00
5/27/2020 6:51:45 PM -05:00
5/27/2020 7:09:50 PM -05:00

Sequence: 052620
Injection #6: STD6

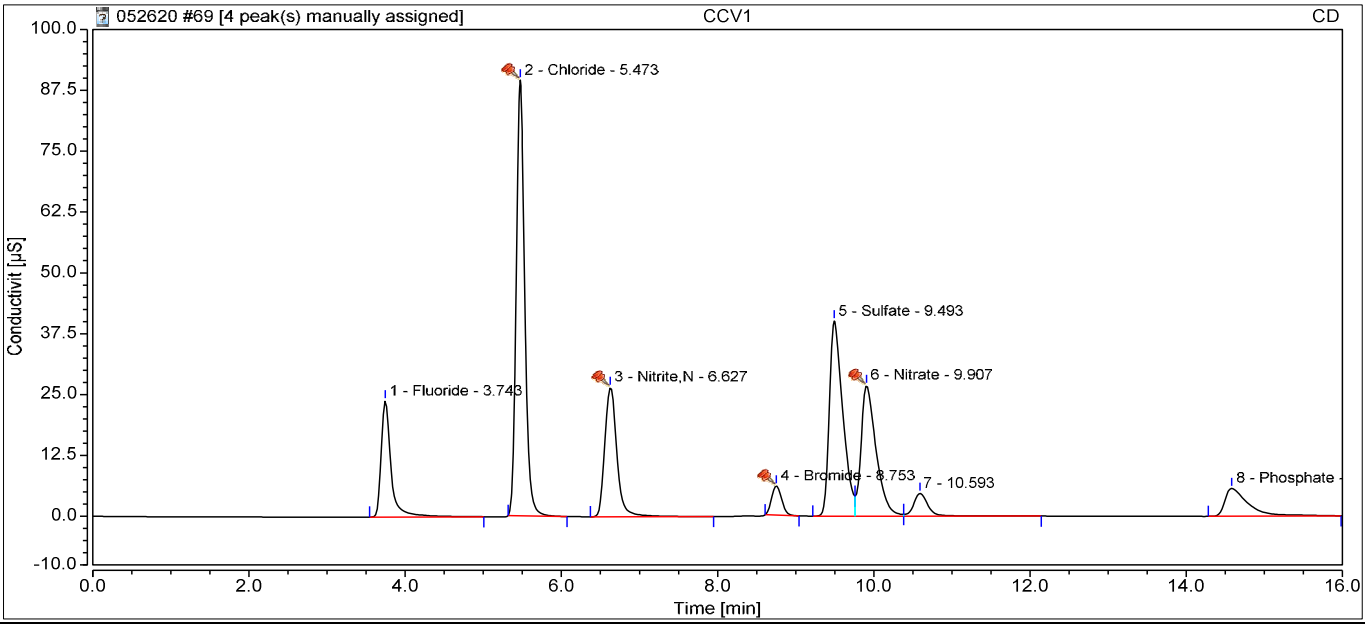
Calibration

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	6	30.0137	0.99594	-0.0159	0.4671	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	6	20.6471	0.99870	-0.0235	0.2186	0.0000
Maximum					**30.0137**	0.99998			
Minimum					2.2020	**0.99594**			

69 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*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:	**05/27/2020 04:03**	*Sample Weight:*	**1.0000**

Run Time:



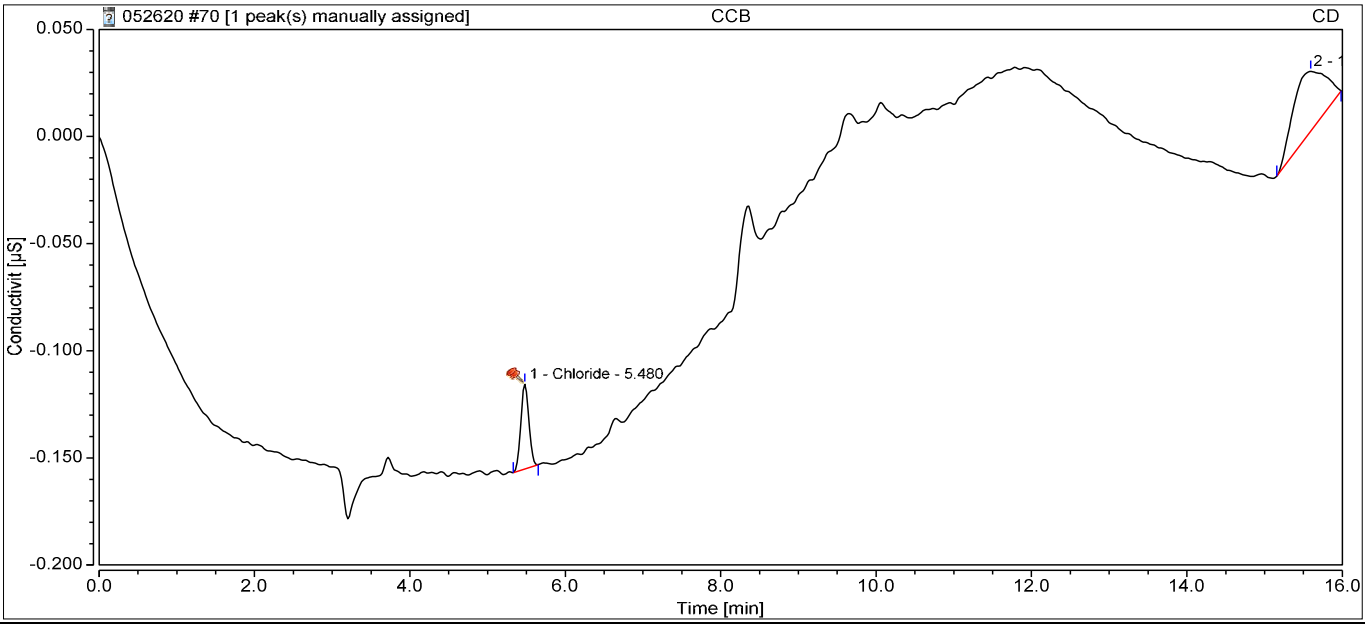
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.493	10.2547	10.2547	1.0000
2	5.47	Chloride	BMB^	11.248	48.5526	48.5526	1.0000
3	6.63	Nitrite,N	BMB^	4.777	10.2602	10.2602	1.0000
4	8.75	Bromide	BMB^	0.883	8.9375	8.9375	1.0000
5	9.49	Sulfate	BM	7.989	47.6753	47.6753	1.0000
6	9.91	Nitrate	M ^	5.997	10.2771	10.2771	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.58	Phosphate	BMB	1.989	9.2035	9.2035	1.0000
Total:			**0.000**	**36.375**		**145.16**	

70 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*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:	**05/27/2020 04:21**	*Sample Weight:*	**1.0000**

Run Time:



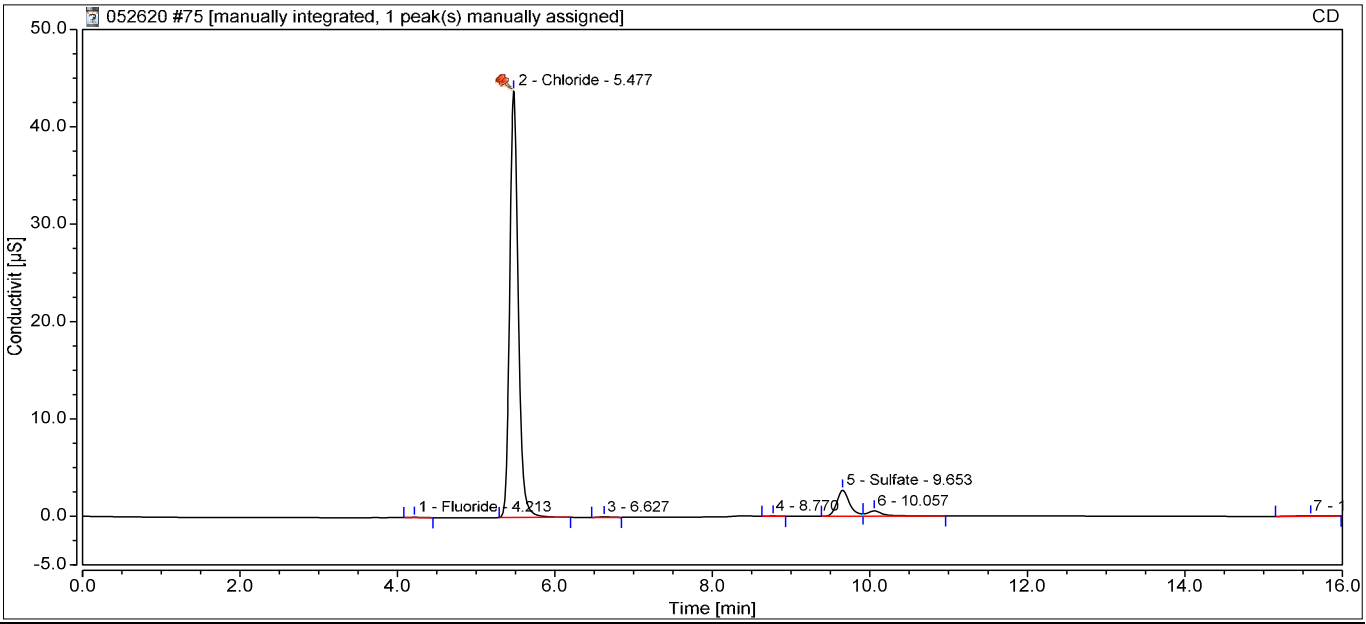
Integration Results

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	5.48	Chloride	BMB^	0.005	0.0816	0.0816	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**		**0.08**	

75 HS20050754-01DF10

Sample Name:	**HS20050754-01DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RC1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/27/2020 05:52**	*Sample Weight:*	**1.0000**

Run Time:



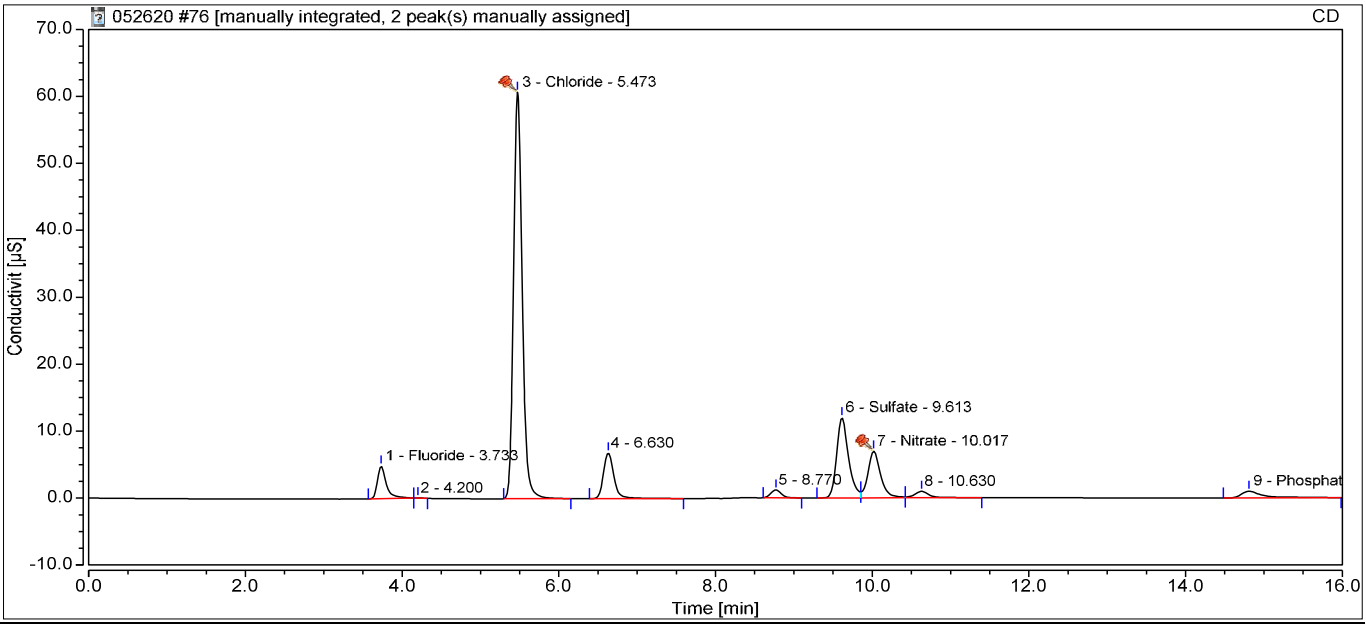
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	4.21	Fluoride	BMB	0.005	0.0383	0.3833	10.0000
2	5.48	Chloride	BMB*^	5.525	23.8806	238.8062	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
5	9.65	Sulfate	BM	0.499	3.0732	30.7317	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**	**6.029**		**269.92**	

76 HS20050754-01MSDF10

Sample Name:	**HS20050754-01MSDF10**	*Injection Volume:*	**5.00**
Vial Number:	**RC2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/27/2020 06:10**	*Sample Weight:*	**1.0000**

Run Time:



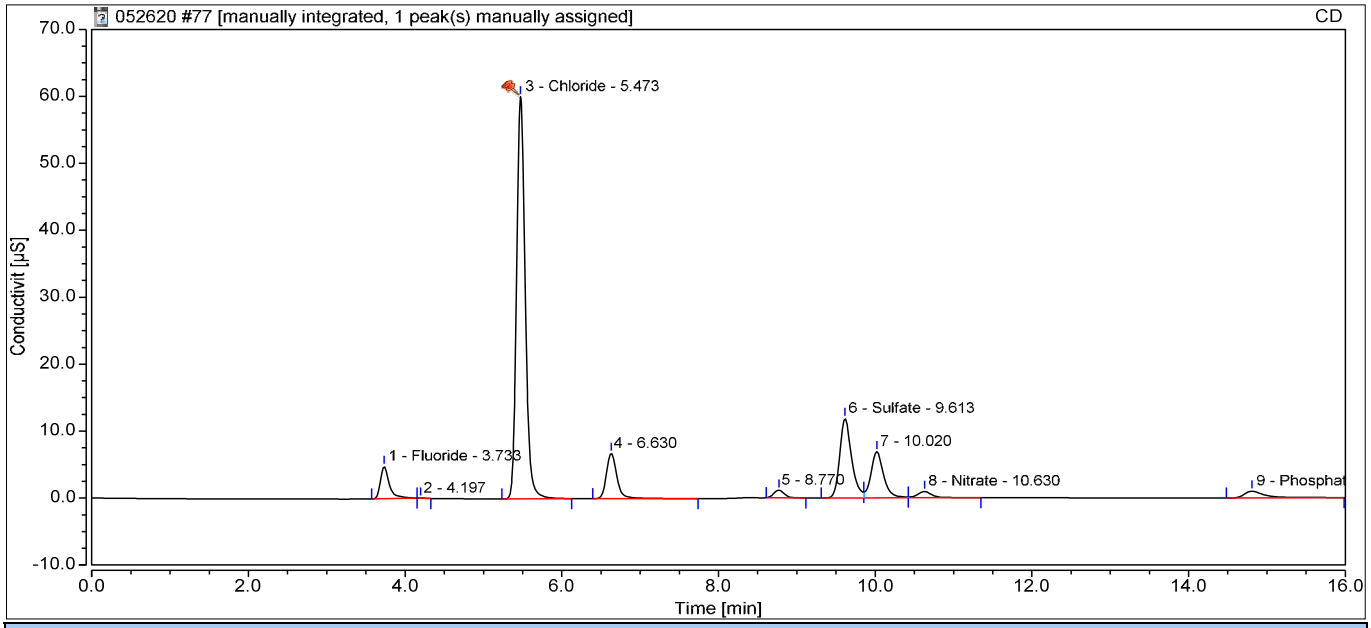
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.637	1.8903	18.9033	10.0000
3	5.47	Chloride	BMB*^	7.674	33.1448	331.4476	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
6	9.61	Sulfate	BM	2.100	12.6052	126.0522	10.0000
7	10.02	Nitrate	M ^	1.310	2.2542	22.5421	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
9	14.81	Phosphate	BMB	0.336	1.6430	16.4300	10.0000
Total:			**0.000**	**12.056**		**515.38**	

77 HS20050754-01MSDDF10

Sample Name:	**HS20050754-01MSDDF10**	*Injection Volume:*	**5.00**
Vial Number:	**RC3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/27/2020 06:28**	*Sample Weight:*	**1.0000**

Run Time:



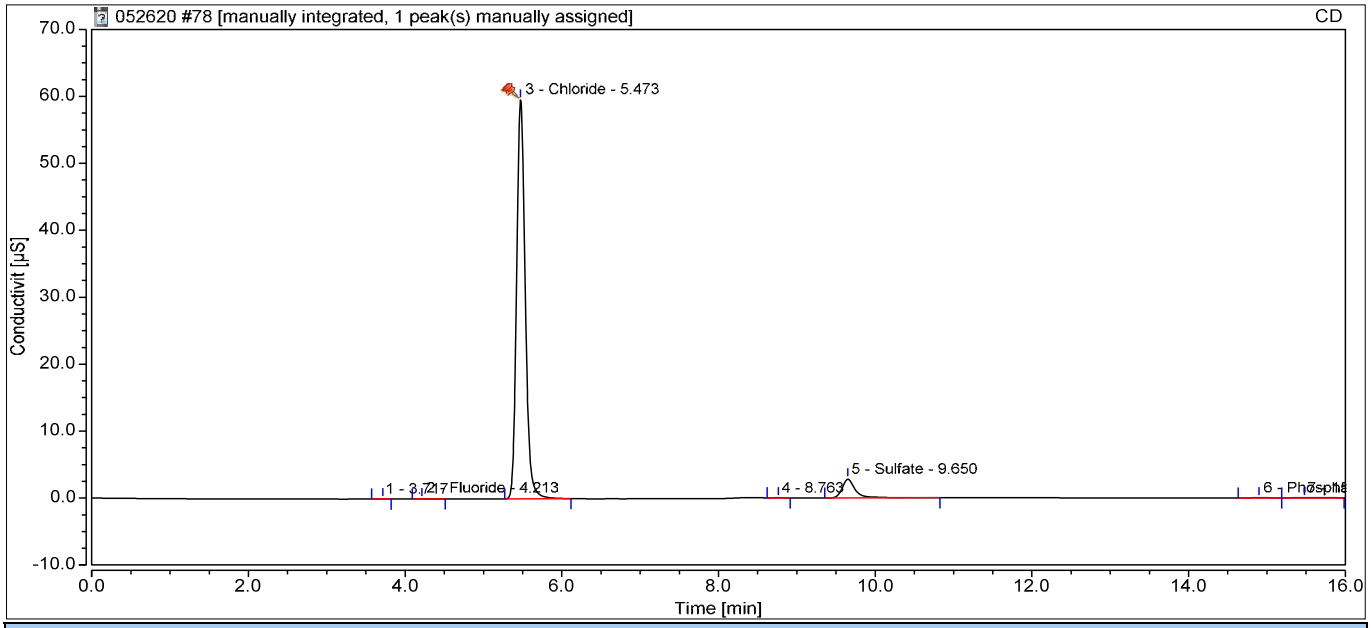
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.629	1.8661	18.6609	10.0000
3	5.47	Chloride	BMB*^	7.598	32.8174	328.1740	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
6	9.61	Sulfate	BM	2.073	12.4459	124.4594	10.0000
8	10.63	Nitrate	MB	0.201	0.3563	3.5626	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
9	14.81	Phosphate	BMB	0.339	1.6561	16.5610	10.0000
Total:			**0.000**	**10.839**		**491.42**	

78 HS20050757-01DF10

Sample Name:	**HS20050757-01DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RC4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/27/2020 06:46**	*Sample Weight:*	**1.0000**

Run Time:



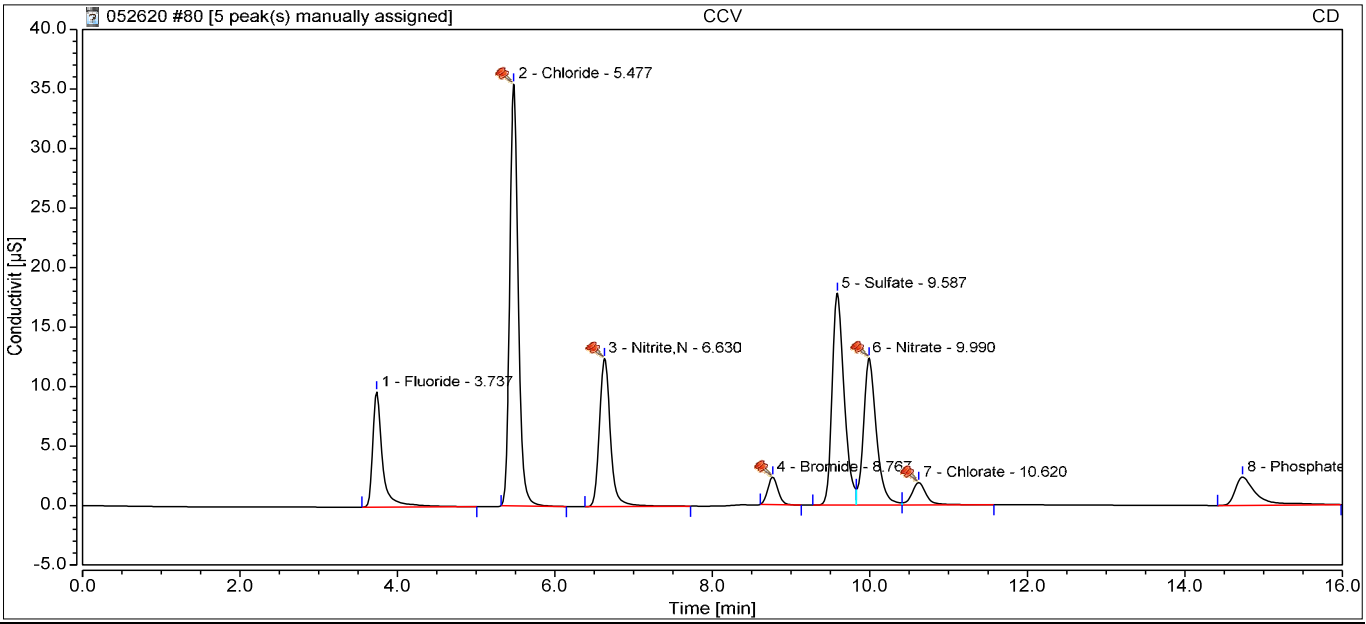
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
2	4.21	Fluoride	BMB	0.003	0.0338	0.3382	10.0000
3	5.47	Chloride	BMB*^	7.541	32.5689	325.6893	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
5	9.65	Sulfate	BMB	0.555	3.4082	34.0823	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
6	14.90	Phosphate	BMB	0.014	0.1699	1.6985	10.0000
Total:			**0.000**	**8.113**		**361.81**	

80 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*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:	**05/27/2020 07:22**	*Sample Weight:*	**1.0000**

Run Time:



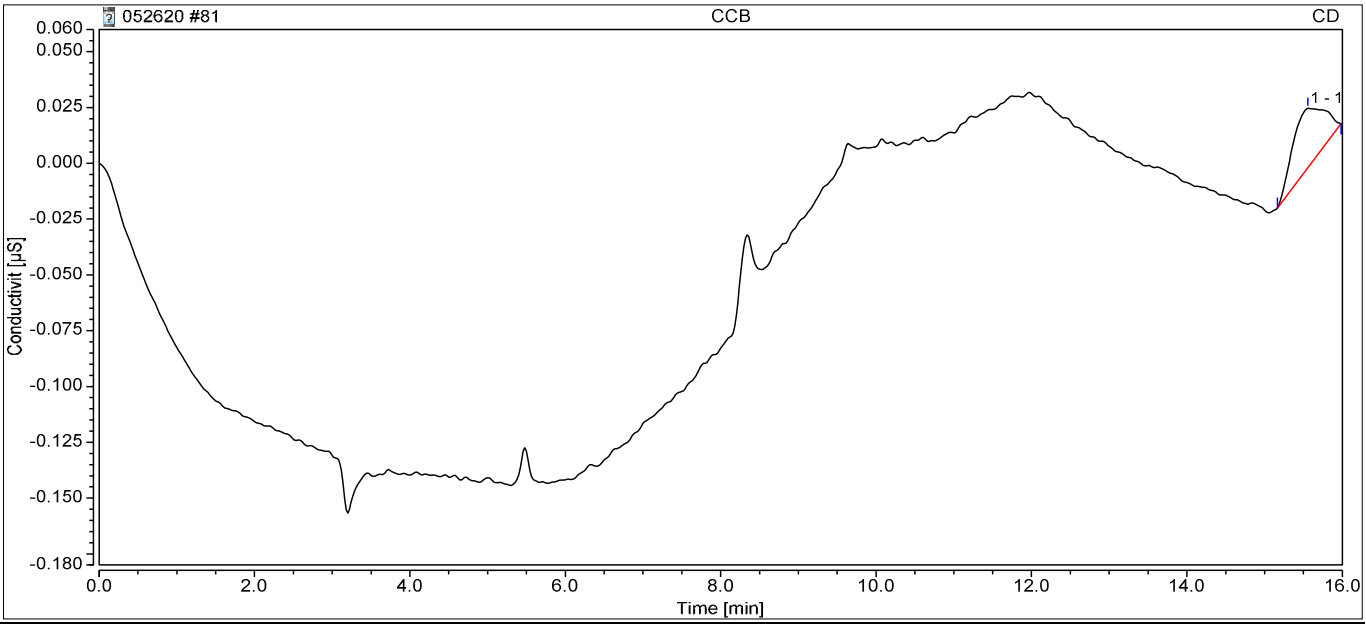
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.403	4.1324	4.1324	1.0000
2	5.48	Chloride	BMB^	4.435	19.1788	19.1788	1.0000
3	6.63	Nitrite,N	BMB^	2.015	4.3480	4.3480	1.0000
4	8.77	Bromide	BMB^	0.346	3.5270	3.5270	1.0000
5	9.59	Sulfate	BM	3.146	18.8382	18.8382	1.0000
6	9.99	Nitrate	M ^	2.360	4.0521	4.0521	1.0000
7	10.62	Chlorate	MB^	0.394	4.1339	4.1339	1.0000
8	14.73	Phosphate	BMB	0.736	3.4742	3.4742	1.0000
Total:			**0.000**	**14.835**		**61.68**	

81 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*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:	**05/27/2020 07:40**	*Sample Weight:*	**1.0000**

Run Time:



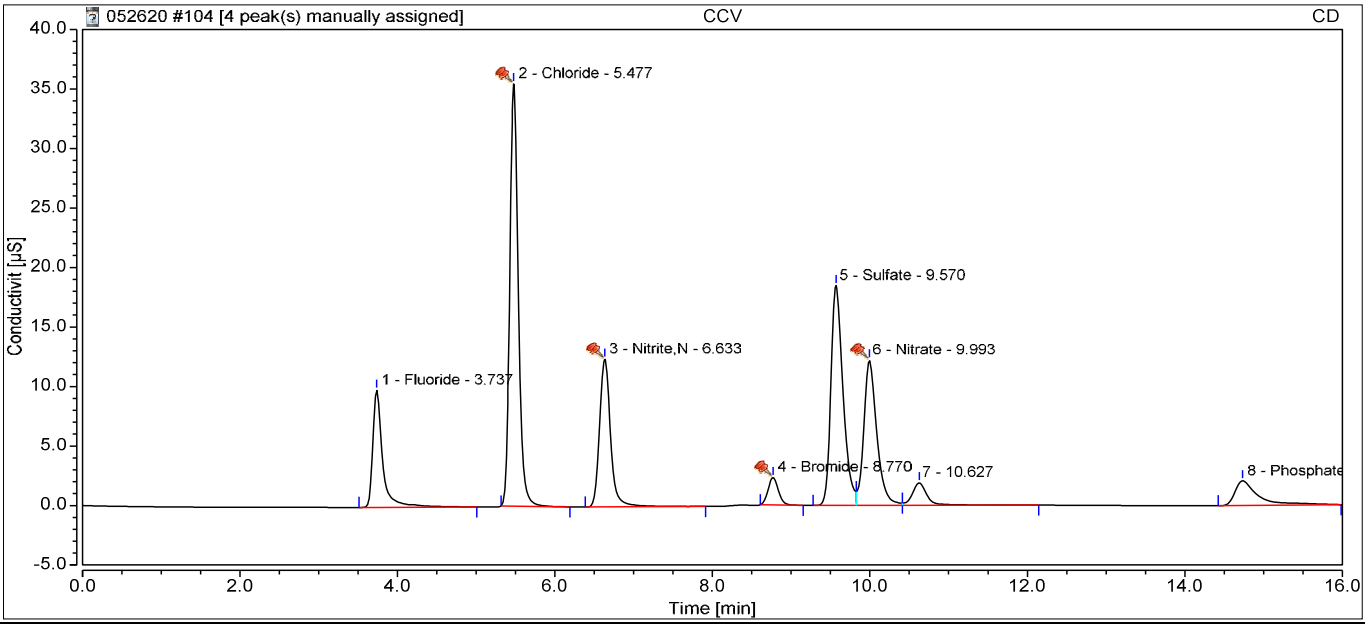
Integration Results

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**	

104 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*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:	**05/27/2020 15:14**	*Sample Weight:*	**1.0000**

Run Time:



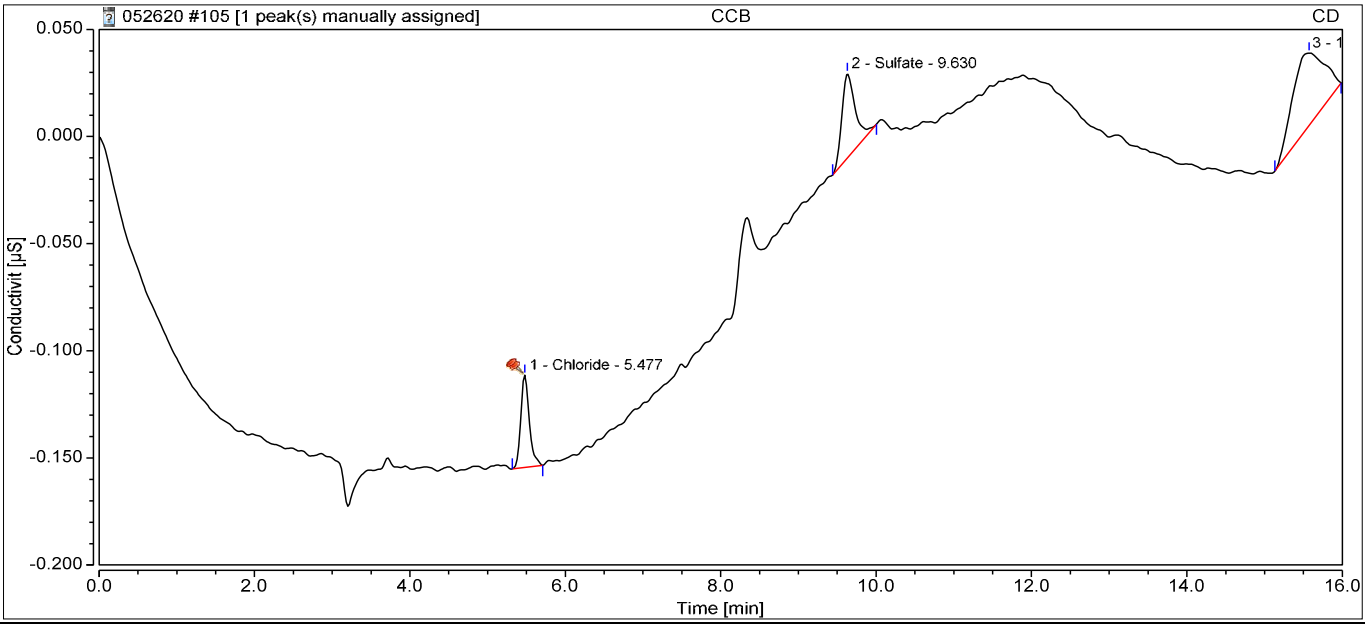
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.424	4.1955	4.1955	1.0000
2	5.48	Chloride	BMB^	4.454	19.2618	19.2618	1.0000
3	6.63	Nitrite,N	BMB^	2.014	4.3456	4.3456	1.0000
4	8.77	Bromide	BMB^	0.349	3.5590	3.5590	1.0000
5	9.57	Sulfate	BM	3.289	19.6889	19.6889	1.0000
6	9.99	Nitrate	M ^	2.352	4.0377	4.0377	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.73	Phosphate	BMB	0.711	3.3602	3.3602	1.0000
Total:			**0.000**	**14.594**		**58.45**	

105 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*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:	**05/27/2020 15:32**	*Sample Weight:*	**1.0000**

Run Time:



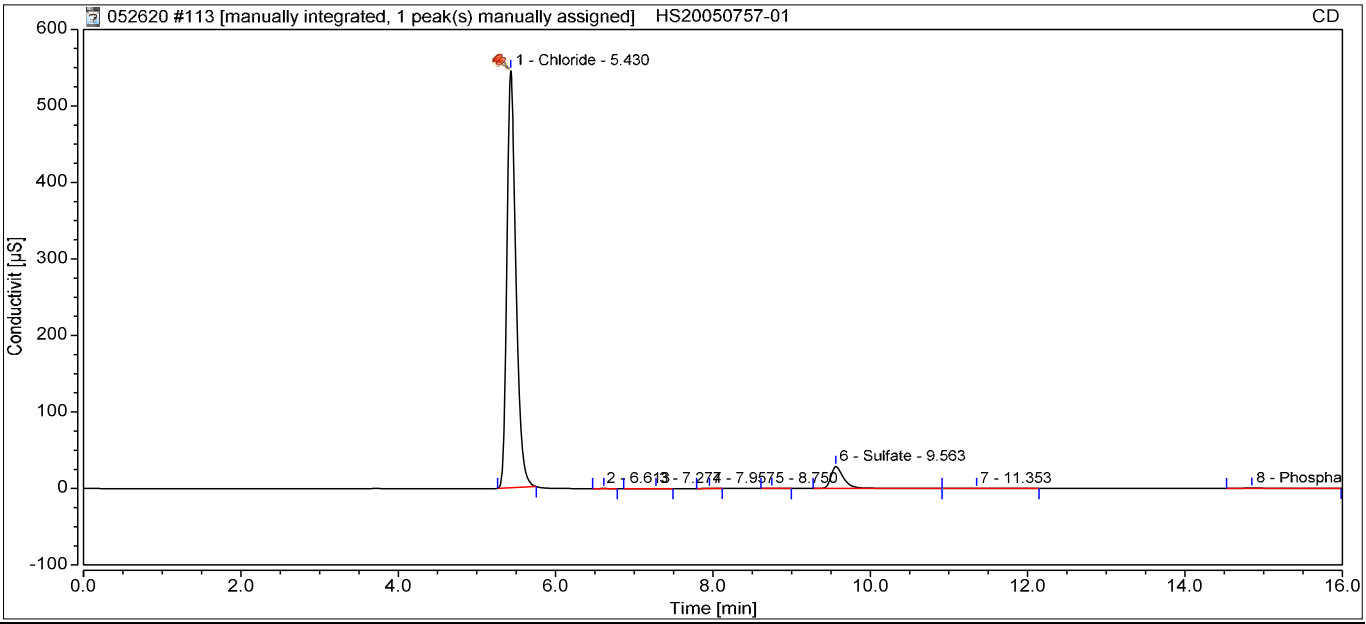
Integration Results

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	5.48	Chloride	BMB^	0.006	0.0848	0.0848	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	9.63	Sulfate	BMB	0.008	0.1474	0.1474	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**		**0.23**	

113 HS20050757-01

Sample Name:	**HS20050757-01**	*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:*	**1.0000**
Recording Time:	**05/27/2020 17:57**	*Sample Weight:*	**1.0000**

Run Time:



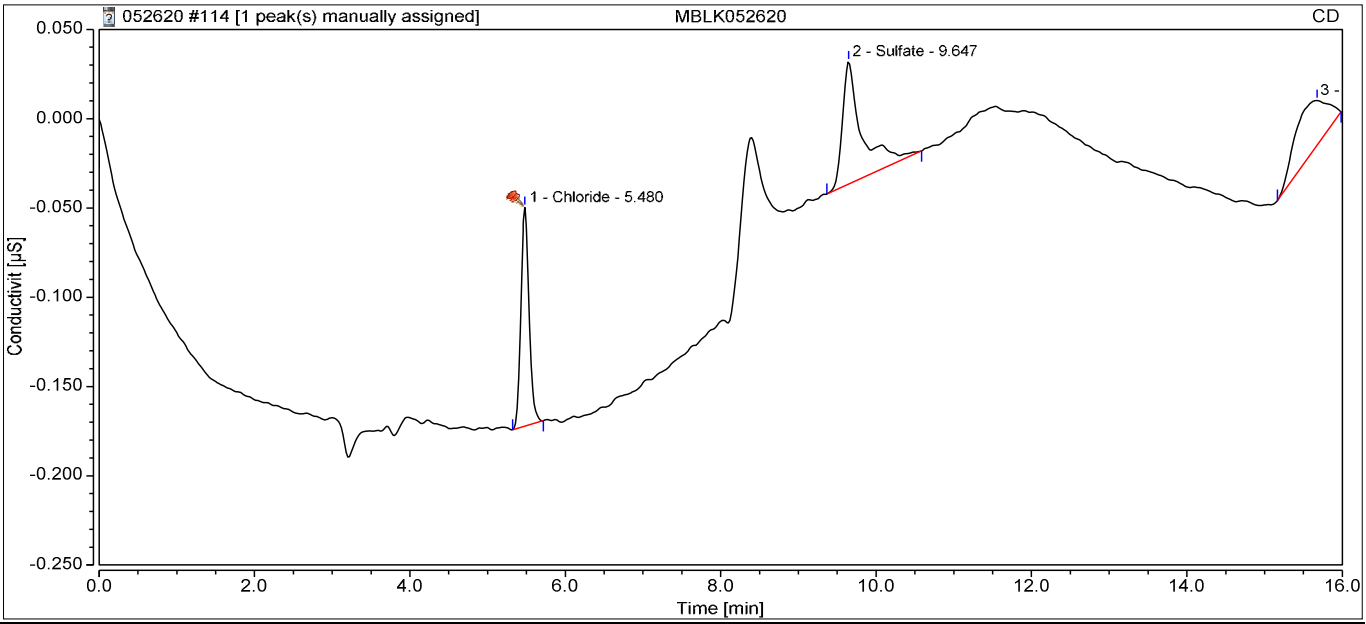
Integration Results

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
1	5.43	Chloride	BMB*^	73.299	316.0491	316.0491	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
6	9.56	Sulfate	BM	5.434	32.4599	32.4599	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
8	14.85	Phosphate	BMB	0.258	1.2895	1.2895	1.0000
Total:			**0.000**	**78.991**		**349.80**	

114 MBLK052620

Sample Name:	**MBLK052620**	*Injection Volume:*	**5.00**
Vial Number:	**BB1**	*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:	**05/27/2020 18:15**	*Sample Weight:*	**1.0000**

Run Time:



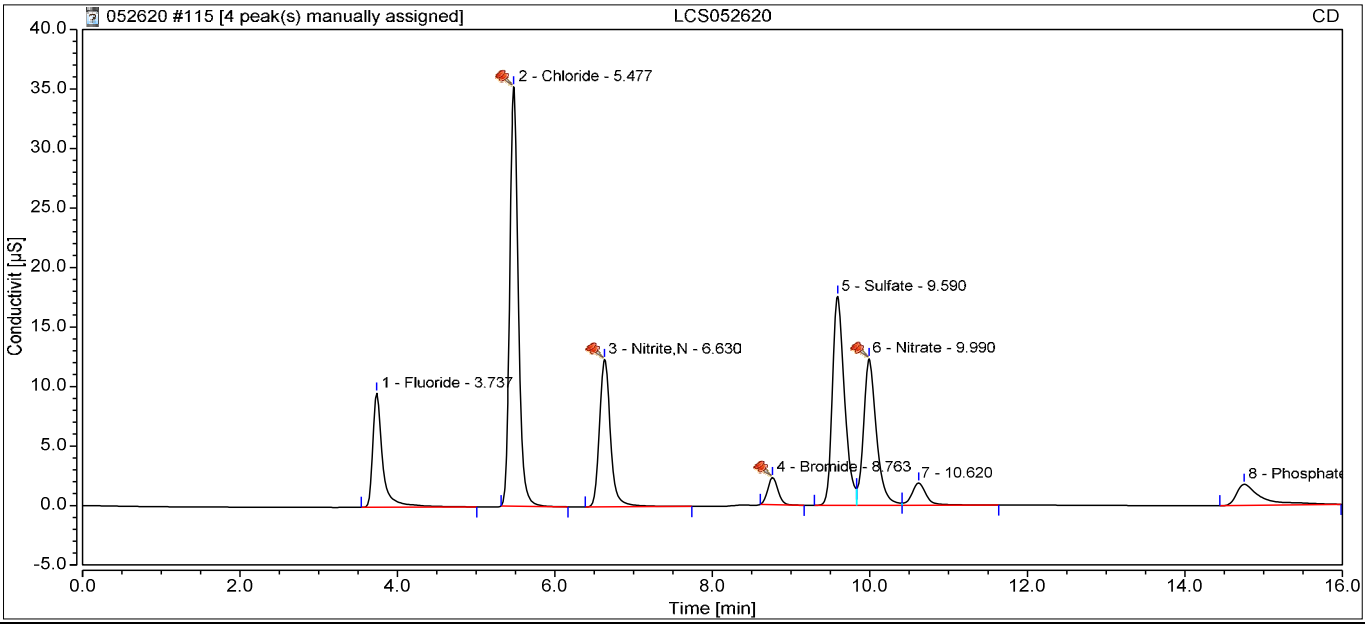
Integration Results

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.	1.0000
1	5.48	Chloride	BMB^	0.015	0.1252	0.1252	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	9.65	Sulfate	BMB	0.020	0.2195	0.2195	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**	**0.035**		**0.34**	

115 LCS052620

Sample Name:	**LCS052620**	*Injection Volume:*	**5.00**
Vial Number:	**BB2**	*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:	**05/27/2020 18:33**	*Sample Weight:*	**1.0000**

Run Time:



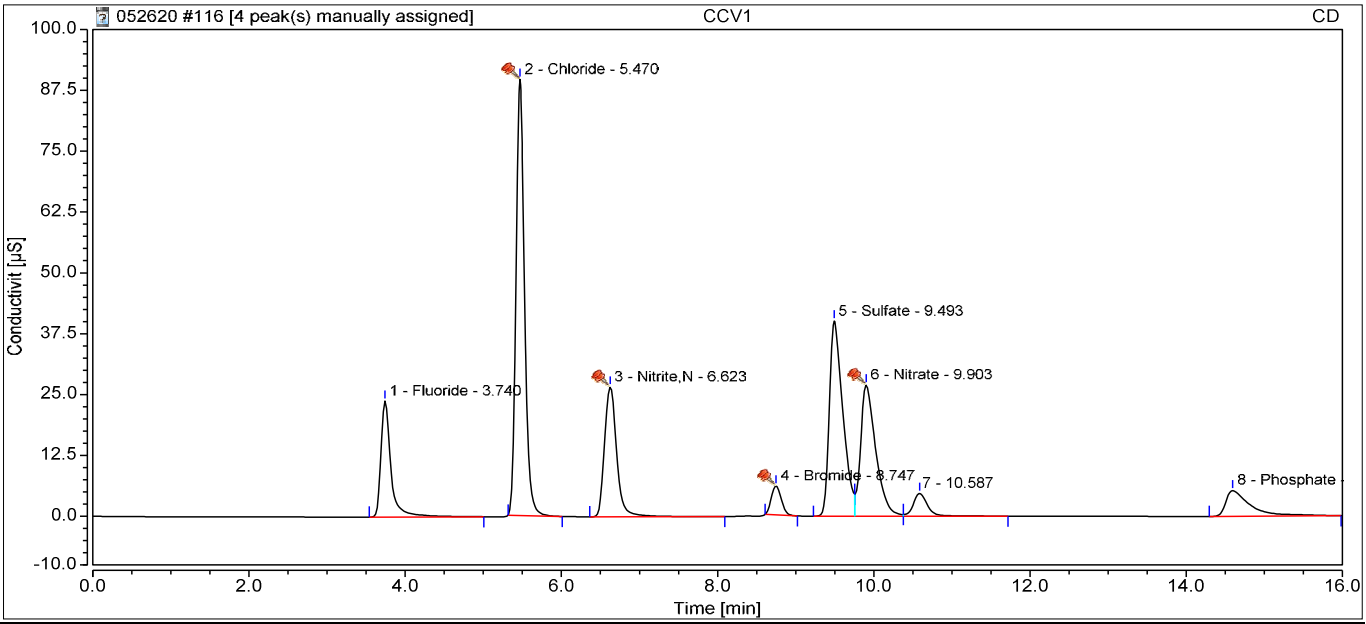
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.395	4.1104	4.1104	1.0000
2	5.48	Chloride	BMB^	4.426	19.1394	19.1394	1.0000
3	6.63	Nitrite,N	BMB^	2.014	4.3452	4.3452	1.0000
4	8.76	Bromide	BMB^	0.345	3.5095	3.5095	1.0000
5	9.59	Sulfate	BM	3.127	18.7247	18.7247	1.0000
6	9.99	Nitrate	M ^	2.355	4.0426	4.0426	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.75	Phosphate	BMB	0.653	3.0941	3.0941	1.0000
Total:			**0.000**	**14.314**		**56.97**	

116 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*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:	**05/27/2020 18:51**	*Sample Weight:*	**1.0000**

Run Time:



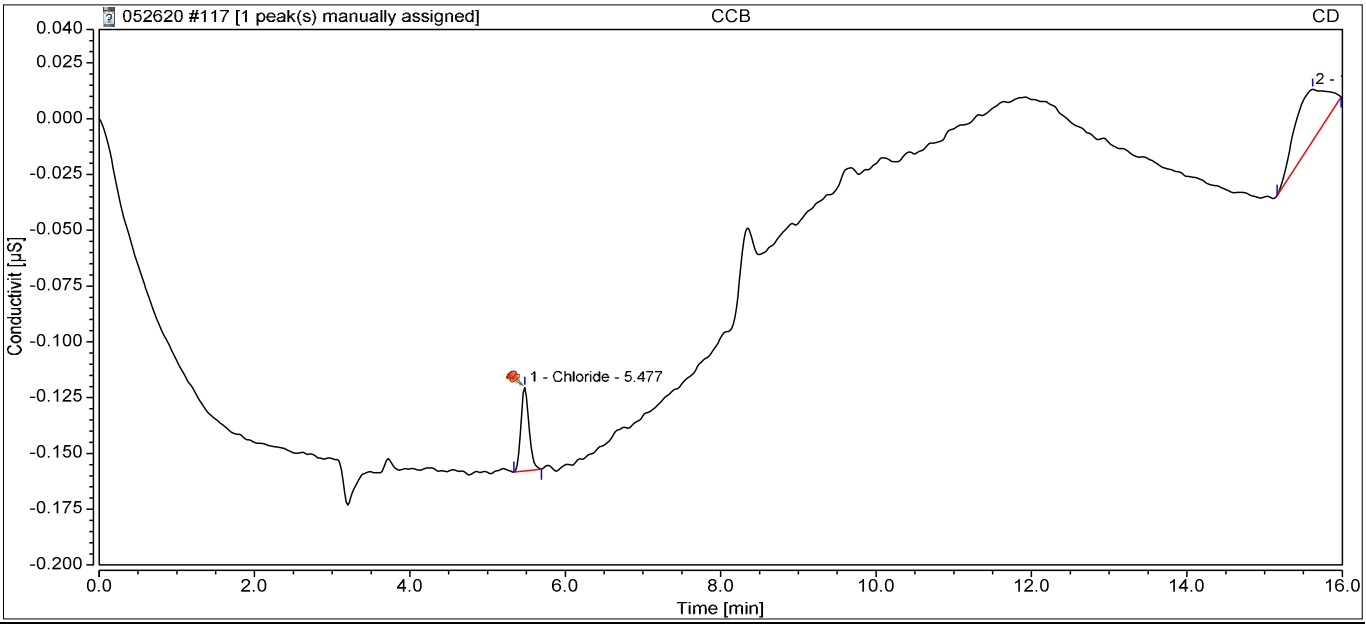
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.524	10.3459	10.3459	1.0000
2	5.47	Chloride	BMB^	11.298	48.7666	48.7666	1.0000
3	6.62	Nitrite,N	BMB^	4.813	10.3377	10.3377	1.0000
4	8.75	Bromide	BMB^	0.873	8.8415	8.8415	1.0000
5	9.49	Sulfate	BM	8.034	47.9461	47.9461	1.0000
6	9.90	Nitrate	M ^	6.057	10.3792	10.3792	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.60	Phosphate	BMB	1.928	8.9250	8.9250	1.0000
Total:			**0.000**	**36.527**		**145.54**	

117 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*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:	**05/27/2020 19:09**	*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	5.48	Chloride	BMB^	0.005	0.0805	0.0805	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**		**0.08**	

HS20050757 Wet Chem Raw Data (COD)

ALS WO# HS20050757

ALS Laboratory Group — **COD Analysis** — **Logbook# 31318**

Method: HACH 8000 / (EPA 410.4) | Date: 5-27-20 | Low COD–420nm | *Analyst:* TH

SOP #: HS-WC025 | Time: 15:00 | (High COD–620nm)

WO # / SX #	Bottle #	Init Sample Vol (mL)	Prep Final Volume (mL)	Dilution Factor	Init Conc. (mg/L)	Final Conc. (mg/L)	Comments
CCV50		2	2	1	52		
MBLK					0		
LCS					100		
HS20050992-01					12		
-01MS					60		
-01MSD					60		
-02					10		
HS20050754-01					19		
HS20050757-01					17		
HS20050805-01				5X	22		HI CI
CCV100		2	2	1	103		
HS20050895-01				1	26		
HS20050899-01				5X	23		HI CI
HS20050792-01				1	6		
-02					15		
-03					17		
-04					30		
-05					23		
-06					24		
-07					18		
CCV50		2	2	1	51		
HS20050848-01					48		
HS20050966-01					16		
HS20050967-01					20		
HS20050968-01					13		
HS20050969-01					30		
HS20050827-01				10X	25		HI CI
CCV100		2	2	1	102		

LCS ID #	CCV1 ID#	CCV2 ID#	Vial Lot#:	Reviewed By:
313.103.801	313.103.802	313.103.803	310.060.1914	
LCS Prep Date:	**Prep Date:**	**Prep Date:**	**MS ID:**	***Pipette ID:***
04-23-20			310.060.0917	WC9.1C1
Digestor ID:	**Digestor *Temp (°C):***	**Date/Time In Digestor:**	**Date/Time Off Digestor:**	**Batch ID:**
DRB 200	150°	5-27-20 12:30	5-27-20 15:-	3C2225

HS20050757 Wet Chem Raw Data (O&G)

ALS WO# HS20050757

ALS Laboratory Group Confidential

052620O&GA

Method: O&G, HEM by EPA 1664A (SOP HS-WC036, Current Revision)

Analyst:	KAH
Review By:	
Batch ID:	
LCS/MS Spike ID:	3100601602
Hexane ID:	300107046-08
Filter Lot:	3100601802
Silica Gel:	

Methanol ID:	3100601405	
1:1 HCl ID:	309116109	
Na2SO4 Cartridge ID:	3100601806	
Thermo HotBlock Setting (°C):		40
pH Paper ID:	300107019-06	
Pipette ID	TDS	

Temp Ranges (°C)
Pan Drying: 105-115
Hex Evap: 68-72
HotBlock: 35-50

	grams	mg	Accept.
Init 2.0 mg wt (1.8mg to 2.2mg required):	0.0020	2.0	Yes
Init 1000 mg wt (995mg to 1005mg required):	0.9999	999.9	Yes
Final 2.0 mg wt (1.8mg to 2.2mg required):	0.0020	2.0	Yes
Final 1000 mg wt (995mg to 1005mg required):	1.0000	1000	Yes

Pan	Temp Deg C	Actual Deg C	Date	Time
Pan 1st In:	105-115	104	05/26/2020	7:40AM
Pan 1st Out:	105-115	104	05/26/2020	9:00AM
Pan 2nd In:	105-115	104	05/26/2020	9:30AM
Pan 2nd Out:	105-115	104	05/26/2020	10:35AM
Pan 3rd In:	105-115			
Pan 3rd Out:	105-115			
Oven ID:	WC Oven 4			
Balance ID:	WC Balance-03			

O&G	Temp Deg C	Actual Deg C	Date	Time
O&G 1st In:	68-72	68	05/26/2020	2:20PM
O&G 1st Out:	68-72	68	05/26/2020	2:30PM
O&G 2nd In:	68-72	68	05/26/2020	2:45PM
O&G 2nd Out:	68-72	68	05/26/2020	2:55PM
O&G 3rd In:	68-72			
O&G 3rd Out:	68-72			
Oven ID:	WC Oven 1A			
Balance ID:	WC Balance-03			

$$\text{O \& G (HEM), mg/L} = \frac{\text{Weight (HEM, mg)}}{\text{Volume (Sample Extracted, L)}}$$

Dish ID	Work Order #	Bottle Number	SGT	Sample Type	pH Check	1st Dry Pan Wt (g)	2nd Dry Pan Wt (g)	3rd Dry Pan Wt (g)	Passes Difference Criteria (Change is <0.0005 g)	Passes % Weight Criteria (Change is <4%)	Pan Weight (g)	Sample Vol (mL)	70 deg C O&G 1st dry Wt (g)	70 deg C O&G 2nd dry Wt (g)	70 deg C O&G 3rd dry Wt (g)	Passes Difference Criteria (Change is <0.0005 g)	Passes % Weight Criteria (Change is <4%)	O&G Weight (g)	O&G (mg/L)
1	WBLKW-052620	1 of 1		MBLK	<2	6.1268	6.1269		Yes	Yes	6.1269	250	6.1269	6.1269		Yes	Yes	0.0000	0.0
2	WLCSW-052620	1 of 1		LCS	<2	6.1822	6.1822		Yes	Yes	6.1822	250	6.1907	6.1911		Yes	Yes	0.0089	35.6
3	WLCSDW-052620	1 of 1		LCSD	<2	6.1330	6.1330		Yes	Yes	6.1330	250	6.1419	6.1418		Yes	Yes	0.0088	35.2
4	HS20050734-01MS	2 of 2		MS	<2	6.1219	6.1219		Yes	Yes	6.1219	230	6.1302	6.1299		Yes	Yes	0.0080	34.8
5	HS20050902-01	1 of 1		Sample	<2	6.0872	6.0871		Yes	Yes	6.0871	230	6.0880	6.0880		Yes	Yes	0.0009	3.9
6	HS20050902-02	1 of 1		Sample	<2	6.0733	6.0732		Yes	Yes	6.0732	230	6.0758	6.0757		Yes	Yes	0.0025	10.9
7	HS20050734-01	1 of 2		Sample	<2	6.1387	6.1385		Yes	Yes	6.1385	230	6.1389	6.1385		Yes	Yes	0.0000	0.0
8	HS20050735-02	1 of 2		Sample	<2	6.0795	6.0792		Yes	Yes	6.0792	230	6.0794	6.0792		Yes	Yes	0.0000	0.0
9	HS20050739-01	1 of 2		Sample	<2	6.0791	6.0789		Yes	Yes	6.0789	230	6.0798	6.0796		Yes	Yes	0.0007	3.0
10	HS20050750-01	1 of 2		Sample	<2	6.0153	6.0151		Yes	Yes	6.0151	230	6.0158	6.0157		Yes	Yes	0.0006	2.6
11	HS20050765-01	1 of 1		Sample	<2	6.0443	6.0441		Yes	Yes	6.0441	230	6.0452	6.0451		Yes	Yes	0.0010	4.3
12	HS20050778-01	1 of 2		Sample	<2	6.1051	6.1051		Yes	Yes	6.1051	230	6.1055	6.1055		Yes	Yes	0.0004	1.7
13	HS20050743-01	1 of 2		Sample	<2	6.0205	6.0203		Yes	Yes	6.0203	230	6.0204	6.0202		Yes	Yes	-0.0001	-0.4
14	HS20050753-01	1 of 2		Sample	<2	6.0906	6.0903		Yes	Yes	6.0903	230	6.0903	6.0903		Yes	Yes	0.0000	0.0
15	HS20050754-01	1 of 1		Sample	<2	6.1348	6.1348		Yes	Yes	6.1348	980	6.1353	6.1352		Yes	Yes	0.0004	0.4
16	HS20050757-01	1 of 1		Sample	<2	6.0438	6.0439		Yes	Yes	6.0439	980	6.0446	6.0445		Yes	Yes	0.0006	0.6
17	HS20050795-01	1 of 2		Sample	<2	6.1092	6.1092		Yes	Yes	6.1092	230	6.1096	6.1096		Yes	Yes	0.0004	1.7
18	HS20050799-01	1 of 2		Sample	<2	6.0910	6.0906		Yes	Yes	6.0906	235	6.0910	6.0910		Yes	Yes	0.0004	1.7
19	HS20050803-02	1 of 2		Sample	<2	6.0500	6.0500		Yes	Yes	6.0500	235	6.0504	6.0503		Yes	Yes	0.0003	1.3
20	HS20050804-02	1 of 2		Sample	<2	6.0709	6.0707		Yes	Yes	6.0707	240	6.0712	6.0711		Yes	Yes	0.0004	1.7
21	HS20050805-02	1 of 2		Sample	<2	6.0414	6.0412		Yes	Yes	6.0412	245	6.0425	6.0423		Yes	Yes	0.0011	4.5
22	HS20050822-01	1 of 2		Sample	<2	6.0381	6.0381		Yes	Yes	6.0381	240	6.0383	6.0382		Yes	Yes	0.0001	0.4
23	HS20050823-01	1 of 2		Sample	<2	6.0103	6.0103		Yes	Yes	6.0103	245	6.0104	6.0104		Yes	Yes	0.0001	0.4
24	HS20050831-01	1 of 2		Sample	<2	5.9916	5.9917		Yes	Yes	5.9917	245	5.9918	5.9916		Yes	Yes	-0.0001	-0.4

O&G	Temp Deg C	Actual Deg C	Date	Time
Silica Gel O&G 1st In:	68-72			
Silica Gel O&G 1st Out:	68-72			
Silica Gel O&G 2nd In:	68-72			
Silica Gel O&G 2nd Out:	68-72			
Silica Gel O&G 3rd In:	68-72			
Silica Gel O&G 3rd Out:	68-72			
Oven ID:				
Balance ID:				

$$\text{O \& G (SGT - HEM), mg/L} = \frac{\text{Weight (SGT - HEM, mg)}}{\text{Volume (Sample Extracted, L)}}$$

Dish ID	Work Order #	Silca Gel O&G 70 deg C 1st dry Wt (g)	Silca Gel O&G 70 deg C 2nd dry Wt (g)	Silca Gel O&G 70 deg C 3rd dry Wt (g)	Silica Gell Passes Difference Criteria	Silica Gell Passes % Weight Criteria	Silca Gel O&G Weight (g)	Silica Gel O&G (mg/L)
1	WBLKW-052620							#VALUE!
2	WLCSW-052620							#VALUE!
3	WLCSDW-052620							#VALUE!
4	HS20050734-01MS							#VALUE!
5	HS20050902-01							#VALUE!
6	HS20050902-02							#VALUE!
7	HS20050734-01							#VALUE!
8	HS20050735-02							#VALUE!
9	HS20050739-01							#VALUE!
10	HS20050750-01							#VALUE!
11	HS20050765-01							#VALUE!
12	HS20050778-01							#VALUE!
13	HS20050743-01							#VALUE!
14	HS20050753-01							#VALUE!
15	HS20050754-01							#VALUE!
16	HS20050757-01							#VALUE!
17	HS20050795-01							#VALUE!
18	HS20050799-01							#VALUE!
19	HS20050803-02							#VALUE!
20	HS20050804-02							#VALUE!
21	HS20050805-02							#VALUE!
22	HS20050822-01							#VALUE!
23	HS20050823-01							#VALUE!
24	HS20050831-01							#VALUE!

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WorkOrder: HS20051122

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

18-Jun-2020

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
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HS20051122

ALS WO# HS20051122

HS20051122 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS20051122

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Houston, TX 77099
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June 16, 2020

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS20051122**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia,

ALS Environmental received 2 sample(s) on May 29, 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: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20051122

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20051122-01	LH18/24-SP650_052820	Water		28-May-2020 14:00	29-May-2020 09:00	☐
HS20051122-02	LH18/24-SP650_052820-BIX	Water		28-May-2020 14:00	29-May-2020 09:00	☐

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20051122

Work Order Comments

• Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. LaboratoryFinal Report attached

The analysis for Perchlorate was subcontracted to ALS Salt Lake City, UT. Final report attached.

WetChemistry by Method E350.3

Batch ID: R362582

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

WetChemistry by Method E365.3

Batch ID: R362404

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

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20051122
Sample ID: LH18/24-SP650_052820
Lab ID:HS20051122-01
Collection Date: 28-May-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: MZD
Nitrogen, Ammonia (As N)	**11**	a	**0.20**	**0.10**	**0.20**	**mg/L**	1	03-Jun-2020 10:00
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: KVL
Phosphorus, Total Orthophosphate (As P)	**0.960**	a	**0.0500**	**0.125**	**0.125**	**mg/L**	5	29-May-2020 15:00
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	09-Jun-2020 10:37

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

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20051122
Sample ID: LH18/24-SP650_052820-BIX
Lab ID:HS20051122-02
Collection Date: 28-May-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: CGG
Subcontract Analysis	See Attached		0	0		NA	1	16-Jun-2020 13:44

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

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20051122

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R362404 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20051122-01	LH18/24-SP650_052820	28 May 2020 14:00			29 May 2020 15:00	5
Batch ID: R362582 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20051122-01	LH18/24-SP650_052820	28 May 2020 14:00			03 Jun 2020 10:00	1
Batch ID: R362863 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20051122-01	LH18/24-SP650_052820	28 May 2020 14:00			09 Jun 2020 10:37	1
Batch ID: R363319 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20051122-02	LH18/24-SP650_052820-BIX	28 May 2020 14:00			16 Jun 2020 13:44	1

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20051122

QC BATCH REPORT

Batch ID: R362404 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

MBLK Sample ID: **MBLK-R362404** Units: **mg/L** Analysis Date: **29-May-2020 15:00**
Client ID: Run ID: **UV-2450_362404** SeqNo: **5601675** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0250	0.0250								U

LCS Sample ID: **LCS-R362404** Units: **mg/L** Analysis Date: **29-May-2020 15:00**
Client ID: Run ID: **UV-2450_362404** SeqNo: **5601674** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.224	0.0250	0.25	0	89.6	85 - 115				

LCSD Sample ID: **LCSD-R362404** Units: **mg/L** Analysis Date: **29-May-2020 15:00**
Client ID: Run ID: **UV-2450_362404** SeqNo: **5601673** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.226	0.0250	0.25	0	90.4	85 - 115	0.224	0.889	20	

MS Sample ID: **HS20051122-01MS** Units: **mg/L** Analysis Date: **29-May-2020 15:00**
Client ID: **LH18/24-SP650_052820** Run ID: **UV-2450_362404** SeqNo: **5601677** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	2.21	0.125	1.25	0.96	100	80 - 120				

MSD Sample ID: **HS20051122-01MSD** Units: **mg/L** Analysis Date: **29-May-2020 15:00**
Client ID: **LH18/24-SP650_052820** Run ID: **UV-2450_362404** SeqNo: **5601676** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	2.2	0.125	1.25	0.96	99.2	80 - 120	2.21	0.454	20	

The following samples were analyzed in this batch: HS20051122-01

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20051122

QC BATCH REPORT

Batch ID: R362582 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-362582** Units: **mg/L** Analysis Date: **03-Jun-2020 10:00**
Client ID: Run ID: **WetChem_HS_362582** SeqNo: **5605255** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	0.10	0.20								U

LCS Sample ID: **LCS-362582** Units: **mg/L** Analysis Date: **03-Jun-2020 10:00**
Client ID: Run ID: **WetChem_HS_362582** SeqNo: **5605256** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	9.749	0.20	10	0	97.5	80 - 120				

MS Sample ID: **HS20060050-01MS** Units: **mg/L** Analysis Date: **03-Jun-2020 10:00**
Client ID: Run ID: **WetChem_HS_362582** SeqNo: **5605259** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.2	0.20	10	0.178	100	80 - 120				

MSD Sample ID: **HS20060050-01MSD** Units: **mg/L** Analysis Date: **03-Jun-2020 10:00**
Client ID: Run ID: **WetChem_HS_362582** SeqNo: **5605260** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.25	0.20	10	0.178	101	80 - 120	10.2	0.509	20	

The following samples were analyzed in this batch: HS20051122-01

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20051122**

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

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20051122

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20051122-01	LH18/24-SP650_052820	Login	5/29/2020 11:59:25 AM	JRM	WET197
HS20051122-01	LH18/24-SP650_052820	Login	5/29/2020 11:59:25 AM	JRM	WET197
HS20051122-01	LH18/24-SP650_052820	Login	5/29/2020 11:59:25 AM	JRM	Sub
HS20051122-02	LH18/24-SP650_052820-BIX	Login	5/29/2020 11:59:25 AM	JRM	Sub

ALS Houston, US Date: 16-Jun-20

Sample Receipt Checklist

Work Order ID: HS20051122 **Date/Time Received:** 29-May-2020 09:00

Client Name: Bhate Environmental **Received by:** Jared R. Makan

Completed By:	/S/ Jared R. Makan	29-May-2020 12:02	**Reviewed by:**	/S/ RJ Modashia	29-May-2020 16:10
	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	☐	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):	1.4°C/1.4°C UC/C				IR11	
Cooler(s)/Kit(s):	44753					
Date/Time sample(s) sent to storage:	05/29/2020 12:02					
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: BHATE
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_052820	Water	05/28/20 / 14:00		3	X	X			H2SO4	
LH18/24-SP650_052820	Water	05/28/20 / 14:00		1			X		NONE	
LH18/24–SP650_052820_BIX	Water	05/28/20 / 14:00		1				X	NONE	

Additional Remarks: **Standard TAT on all parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	05/28/20	14:30									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. HANLAN	5/29/20	09:00							

Remarks:

HS20051122

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

Cooler -44753 Temp 1.4
1121
CF0.0

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

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

44753

CUSTODY SEAL

Date: 5/28/20 Time: 1430
Name: Scott Beesinger
Company: SHATE

Seal Broken By:
Date: 05/29/20

44753 MAY 29 7:30

Must Deliver Next Business !
Time and Tempature Sensi

44753

RT 917

ORIGIN ID:SGRA (303) 597-2450
SCOTT BEESINGER
SHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 02MAR20
ACTWGT: 1.00 LB MAN
CAD: 300130/CAFE3211
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-58-BO 70550-RJ
AMA:

FedEx Express

TRK# 0221 1251 0294 9670

RETURNS MON-SAT
PRIORITY OVERNIGHT

FedEx
TRK# 0221 1251 0294 9670

FRI - 29 MAY 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FTD 783665 28MAY20 CGGA 56BC3/2925/05A7

ALS Environmental
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June 08, 2020

Analytical Report for Service Request No: K2004521

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

RE: HS20051122

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 03, 2020
For your reference, these analyses have been assigned our service request number **K2004521.**

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

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: HS20051122
Sample Matrix: Water

Service Request: K2004521
Date Received: 06/03/2020

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:

One water sample was received for analysis at ALS Environmental on 06/03/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The sample was 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 06/08/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

PC_____

Cooler Receipt and Preservation Form

Client ALS Irvine Service Request K20 ~~K2004684~~ 0268

Received: 6/5/20 Opened: 6/5/20 By: [illegible] Unloaded: 6/5/20 By: [illegible]

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?_____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID NA	Tracking Number NA	Filed
N/A	1.5	1.7	1.2	2.4	IR01		770625131019	

4. Packing material: *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N

   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	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:**	K2004521
Project:	HS20051122	**Date Collected:**	05/28/20
Sample Matrix:	Water	**Date Received:**	06/3/20
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
LH18/24-SP650_052820	K2004521-001	**2.96**	0.50	0.20	0.07	1	06/05/20 14:17	
Method Blank	K2004521-MB	ND U	0.50	0.20	0.07	1	06/05/20 10:59	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2004521
Project	HS20051122	**Date Collected:**	05/28/20
Sample Matrix:	Water	**Date Received:**	06/03/20
		Date Analyzed:	06/05/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	LH18/24-SP650_052820	**Units:**	mg/L
Lab Code:	K2004521-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2004521-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	2.96	2.79	2.87	6	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:**	K2004521
Project:	HS20051122	**Date Analyzed:**	06/05/20
Sample Matrix:	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:	682634

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2004521-LCS	22.9	25.0	91	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2004521
Project: HS20051122

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	682634	KQ2007578-01	06/05/20 02:47	25.0	24.5	98	90-110
CCV2	682634	KQ2007578-02	06/05/20 10:30	25.0	24.9	100	90-110
CCV3	682634	KQ2007578-03	06/05/20 15:13	25.0	24.3	97	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2004521
Project: HS20051122

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	682634	KQ2007578-04	06/05/20 03:02	0.50	0.20	0.07	0.18	J
CCB2	682634	KQ2007578-05	06/05/20 10:44	0.50	0.20	0.07	0.24	J
CCB3	682634	KQ2007578-06	06/05/20 15:28	0.50	0.20	0.07	0.20	J

Raw Data

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General Chemistry

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Work Request # Original ( ) K2004490, 4110, 4521, 4541, 4561, 4414, 4492, 4498, 4483, 4484, 4410, 4411, 4413

Tier: IV IV IV I IV III II II IV III IV IV III

Date Analyzed: 6/4/20

Analyst: BCD

Analysis: DOC/TOC

Run # TOC: 682633, 682634, 682346, 682347 DOC: 682348

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: K2004541-2/2d, 4561-4/4d, 4561-1/4, 4561-8/8d, 4414-1/1d, 4414-5/5d 4498-2/2d, 4483-1/1d, 4483-2/2d, 4484-2/2d, 4412-2/2d, 4484-1/1d report a high %RSD. However, these samples are less than 5x the MRL.
K2004413-1MS reports a high %Recovery due to suspected matrix interference.
K2004561-3/3d reports a high %RSD due to suspected non-homogenous sample.

Final Approved by: [signature] Date: 6/8/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682633 **Method/Testcode:** 9060A/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
K2004490-001	Carbon, Total Organic (TOC)	N/A		Water	12.96 mg/L	10 ml	13.0 mg/L	1		0.50			6/4/20 20:17	N	IV
K2004490-002	Carbon, Total Organic (TOC)	N/A		Water	5.84 mg/L	10 ml	5.84 mg/L	1		0.50			6/4/20 21:13	N	IV
K2004490-003	Carbon, Total Organic (TOC)	N/A		Water	7.99 mg/L	10 ml	7.99 mg/L	1		0.50			6/4/20 22:09	N	IV
K2004490-004	Carbon, Total Organic (TOC)	N/A		Water	7.93 mg/L	10 ml	7.93 mg/L	1		0.50			6/4/20 23:04	N	IV
K2004490-005	Carbon, Total Organic (TOC)	N/A		Water	7.73 mg/L	10 ml	7.73 mg/L	1		0.50			6/5/20 00:00	N	IV
K2004490-006	Carbon, Total Organic (TOC)	N/A		Water	7.49 mg/L	10 ml	7.49 mg/L	1		0.50			6/5/20 00:56	N	IV
K2004490-007	Carbon, Total Organic (TOC)	N/A		Water	12.44 mg/L	10 ml	12.4 mg/L	1		0.50			6/5/20 01:51	N	IV
K2004490-008	Carbon, Total Organic (TOC)	N/A		Water	2.45 mg/L	10 ml	2.45 mg/L	1		0.50			6/5/20 03:16	N	IV
K2004490-009	Carbon, Total Organic (TOC)	N/A		Water	1.85 mg/L	10 ml	1.85 mg/L	1		0.50			6/5/20 04:12	N	IV
K2004490-010	Carbon, Total Organic (TOC)	N/A		Water	5.93 mg/L	10 ml	5.93 mg/L	1		0.50			6/5/20 05:08	N	IV
K2004490-011	Carbon, Total Organic (TOC)	N/A		Water	9.84 mg/L	10 ml	9.84 mg/L	1		0.50			6/5/20 06:03	N	IV
K2004490-012	Carbon, Total Organic (TOC)	N/A		Water	6.57 mg/L	10 ml	6.57 mg/L	1		0.50			6/5/20 08:23	N	IV
KQ2007579-01	Carbon, Total Organic (TOC)	CCV		Water	25.39 mg/L	10 ml	25.4 mg/L	1					6/4/20 17:42	N	IV
KQ2007579-02	Carbon, Total Organic (TOC)	CCV		Water	24.54 mg/L	10 ml	24.5 mg/L	1					6/5/20 02:47	N	IV
KQ2007579-03	Carbon, Total Organic (TOC)	CCV		Water	24.93 mg/L	10 ml	24.9 mg/L	1					6/5/20 10:30	N	IV
KQ2007579-04	Carbon, Total Organic (TOC)	CCB		Water	0.25 mg/L	10 ml	0.50 mg/L U	1		0.50			6/4/20 17:56	N	IV
KQ2007579-05	Carbon, Total Organic (TOC)	CCB		Water	0.18 mg/L	10 ml	0.50 mg/L U	1		0.50			6/5/20 03:02	N	IV
KQ2007579-06	Carbon, Total Organic (TOC)	CCB		Water	0.24 mg/L	10 ml	0.50 mg/L U	1		0.50			6/5/20 10:44	N	IV
KQ2007579-07	Carbon, Total Organic (TOC)	MB		Water	0.05 mg/L	10 ml	0.50 mg/L U	1		0.50			6/4/20 18:11	N	IV
KQ2007579-08	Carbon, Total Organic (TOC)	MB		Water	0.16 mg/L	10 ml	0.50 mg/L U	1		0.50			6/4/20 18:11	N	IV
KQ2007579-09	Carbon, Total Organic (TOC)	MB		Water	0.04 mg/L	10 ml	0.50 mg/L U	1		0.50			6/4/20 18:11	N	IV
KQ2007579-10	Carbon, Total Organic (TOC)	MB		Water	-0.03 mg/L	10 ml	0.50 mg/L U	1		0.50			6/4/20 18:11	N	IV
KQ2007579-11	Carbon, Total Organic (TOC)	LCS		Water	23.51 mg/L	10 ml	23.5 mg/L	1		0.50	94		6/4/20 19:07	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-03 **Analyst:** BDITZLER **Analysis Lot:** 682633 **Method/Testcode:** 9060A/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
KQ2007579-12	Carbon, Total Organic (TOC)	LCS		Water	23.46 mg/L	10 ml	23.5 mg/L	1		0.50	94		6/4/20 19:07	N	IV
KQ2007579-13	Carbon, Total Organic (TOC)	LCS		Water	23.46 mg/L	10 ml	23.5 mg/L	1		0.50	94		6/4/20 19:07	N	IV
KQ2007579-14	Carbon, Total Organic (TOC)	LCS		Water	23.23 mg/L	10 ml	23.2 mg/L	1		0.50	93		6/4/20 19:07	N	IV
KQ2007579-15	Carbon, Total Organic (TOC)	MS	K2004490-012	Water	34.09 mg/L	10 ml	34.1 mg/L	1		0.50	110		6/5/20 09:19	N	IV
KQ2007579-16	Carbon, Total Organic (TOC)	MS	K2004490-012	Water	34.36 mg/L	10 ml	34.4 mg/L	1		0.50	111		6/5/20 09:19	N	IV
KQ2007579-17	Carbon, Total Organic (TOC)	MS	K2004490-012	Water	34.33 mg/L	10 ml	34.3 mg/L	1		0.50	111		6/5/20 09:19	N	IV
KQ2007579-18	Carbon, Total Organic (TOC)	MS	K2004490-012	Water	34.15 mg/L	10 ml	34.2 mg/L	1		0.50	110		6/5/20 09:19	N	IV
KQ2007579-19	Carbon, Total Organic (TOC)	DUP	K2004490-002	Water	5.74 mg/L	10 ml	5.74 mg/L	1		0.50		2	6/4/20 21:13	N	IV
KQ2007579-20	Carbon, Total Organic (TOC)	TRP	K2004490-002	Water	5.65 mg/L	10 ml	5.65 mg/L	1		0.50		2	6/4/20 21:13	N	IV
KQ2007579-21	Carbon, Total Organic (TOC)	QUAD	K2004490-002	Water	5.75 mg/L	10 ml	5.75 mg/L	1		0.50		1	6/4/20 21:13	N	IV
KQ2007579-22	Carbon, Total Organic (TOC)	DUP	K2004490-003	Water	7.85 mg/L	10 ml	7.85 mg/L	1		0.50		2	6/4/20 22:09	N	IV
KQ2007579-23	Carbon, Total Organic (TOC)	TRP	K2004490-003	Water	7.91 mg/L	10 ml	7.91 mg/L	1		0.50		<1	6/4/20 22:09	N	IV
KQ2007579-24	Carbon, Total Organic (TOC)	QUAD	K2004490-003	Water	7.80 mg/L	10 ml	7.80 mg/L	1		0.50		1	6/4/20 22:09	N	IV
KQ2007579-25	Carbon, Total Organic (TOC)	DUP	K2004490-004	Water	7.98 mg/L	10 ml	7.98 mg/L	1		0.50		<1	6/4/20 23:04	N	IV
KQ2007579-26	Carbon, Total Organic (TOC)	TRP	K2004490-004	Water	7.85 mg/L	10 ml	7.85 mg/L	1		0.50		<1	6/4/20 23:04	N	IV
KQ2007579-27	Carbon, Total Organic (TOC)	QUAD	K2004490-004	Water	7.90 mg/L	10 ml	7.90 mg/L	1		0.50		<1	6/4/20 23:04	N	IV
KQ2007579-28	Carbon, Total Organic (TOC)	DUP	K2004490-001	Water	12.78 mg/L	10 ml	12.8 mg/L	1		0.50		1	6/4/20 20:17	N	IV
KQ2007579-29	Carbon, Total Organic (TOC)	TRP	K2004490-001	Water	13.00 mg/L	10 ml	13.0 mg/L	1		0.50		<1	6/4/20 20:17	N	IV
KQ2007579-30	Carbon, Total Organic (TOC)	QUAD	K2004490-001	Water	12.98 mg/L	10 ml	13.0 mg/L	1		0.50		<1	6/4/20 20:17	N	IV
KQ2007579-31	Carbon, Total Organic (TOC)	DUP	K2004490-005	Water	7.75 mg/L	10 ml	7.75 mg/L	1		0.50		<1	6/5/20 00:00	N	IV
KQ2007579-32	Carbon, Total Organic (TOC)	TRP	K2004490-005	Water	7.70 mg/L	10 ml	7.70 mg/L	1		0.50		<1	6/5/20 00:00	N	IV
KQ2007579-33	Carbon, Total Organic (TOC)	QUAD	K2004490-005	Water	7.66 mg/L	10 ml	7.66 mg/L	1		0.50		<1	6/5/20 00:00	N	IV
KQ2007579-34	Carbon, Total Organic (TOC)	DUP	K2004490-006	Water	7.39 mg/L	10 ml	7.39 mg/L	1		0.50		1	6/5/20 00:56	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-03 **Analyst:** BDITZLER **Analysis Lot:** 682633 **Method/Testcode:** 9060A/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
KQ2007579-35	Carbon, Total Organic (TOC)	TRP	K2004490-006	Water	7.41 mg/L	10 ml	7.41 mg/L	1		0.50		<1	6/5/20 00:56	N	IV
KQ2007579-36	Carbon, Total Organic (TOC)	QUAD	K2004490-006	Water	7.32 mg/L	10 ml	7.32 mg/L	1		0.50		<1	6/5/20 00:56	N	IV
KQ2007579-37	Carbon, Total Organic (TOC)	DUP	K2004490-007	Water	12.49 mg/L	10 ml	12.5 mg/L	1		0.50		<1	6/5/20 01:51	N	IV
KQ2007579-38	Carbon, Total Organic (TOC)	TRP	K2004490-007	Water	12.39 mg/L	10 ml	12.4 mg/L	1		0.50		<1	6/5/20 01:51	N	IV
KQ2007579-39	Carbon, Total Organic (TOC)	QUAD	K2004490-007	Water	12.58 mg/L	10 ml	12.6 mg/L	1		0.50		<1	6/5/20 01:51	N	IV
KQ2007579-40	Carbon, Total Organic (TOC)	DUP	K2004490-008	Water	2.47 mg/L	10 ml	2.47 mg/L	1		0.50		<1	6/5/20 03:16	N	IV
KQ2007579-41	Carbon, Total Organic (TOC)	TRP	K2004490-008	Water	2.46 mg/L	10 ml	2.46 mg/L	1		0.50		<1	6/5/20 03:16	N	IV
KQ2007579-42	Carbon, Total Organic (TOC)	QUAD	K2004490-008	Water	2.43 mg/L	10 ml	2.43 mg/L	1		0.50		<1	6/5/20 03:16	N	IV
KQ2007579-43	Carbon, Total Organic (TOC)	DUP	K2004490-009	Water	1.81 mg/L	10 ml	1.81 mg/L	1		0.50		2	6/5/20 04:12	N	IV
KQ2007579-44	Carbon, Total Organic (TOC)	TRP	K2004490-009	Water	1.80 mg/L	10 ml	1.80 mg/L	1		0.50		2	6/5/20 04:12	N	IV
KQ2007579-45	Carbon, Total Organic (TOC)	QUAD	K2004490-009	Water	1.78 mg/L	10 ml	1.78 mg/L	1		0.50		2	6/5/20 04:12	N	IV
KQ2007579-46	Carbon, Total Organic (TOC)	DUP	K2004490-010	Water	5.83 mg/L	10 ml	5.83 mg/L	1		0.50		2	6/5/20 05:08	N	IV
KQ2007579-47	Carbon, Total Organic (TOC)	TRP	K2004490-010	Water	5.87 mg/L	10 ml	5.87 mg/L	1		0.50		<1	6/5/20 05:08	N	IV
KQ2007579-48	Carbon, Total Organic (TOC)	QUAD	K2004490-010	Water	5.79 mg/L	10 ml	5.79 mg/L	1		0.50		<1	6/5/20 05:08	N	IV
KQ2007579-49	Carbon, Total Organic (TOC)	DUP	K2004490-011	Water	9.88 mg/L	10 ml	9.88 mg/L	1		0.50		<1	6/5/20 06:03	N	IV
KQ2007579-50	Carbon, Total Organic (TOC)	TRP	K2004490-011	Water	9.98 mg/L	10 ml	9.98 mg/L	1		0.50		<1	6/5/20 06:03	N	IV
KQ2007579-51	Carbon, Total Organic (TOC)	QUAD	K2004490-011	Water	9.87 mg/L	10 ml	9.87 mg/L	1		0.50		<1	6/5/20 06:03	N	IV
KQ2007579-52	Carbon, Total Organic (TOC)	DUP	K2004490-012	Water	6.38 mg/L	10 ml	6.38 mg/L	1		0.50		3	6/5/20 08:23	N	IV
KQ2007579-53	Carbon, Total Organic (TOC)	TRP	K2004490-012	Water	6.43 mg/L	10 ml	6.43 mg/L	1		0.50		2	6/5/20 08:23	N	IV
KQ2007579-54	Carbon, Total Organic (TOC)	QUAD	K2004490-012	Water	6.32 mg/L	10 ml	6.32 mg/L	1		0.50		2	6/5/20 08:23	N	IV

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Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682634 **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
K2004110-004	Carbon, Total Organic	N/A		Water	15.54 mg/L	10 ml	15.5 mg/L	1	0.07	0.50			6/5/20 06:59	N	IV
K2004521-001	Carbon, Total Organic	N/A		Water	2.96 mg/L	10 ml	2.96 mg/L	1	0.07	0.50			6/5/20 14:17	N	IV
K2004541-002	Carbon, Total Organic	N/A		Drinking Water	0.65 mg/L	10 ml	0.65 mg/L	1	0.07	0.50			6/5/20 14:45	N	I
K2004561-001	Carbon, Total Organic	N/A		Water	2.37 mg/L	10 ml	23.7 mg/L	10	0.7	5.0			6/5/20 07:27	N	IV
K2004561-002	Carbon, Total Organic	N/A		Water	11.03 mg/L	10 ml	11.0 mg/L	1	0.07	0.50			6/5/20 07:55	N	IV
K2004561-003	Carbon, Total Organic	N/A		Water	8.37 mg/L	10 ml	83.7 mg/L	10	0.7	5.0			6/5/20 11:28	N	IV
K2004561-004	Carbon, Total Organic	N/A		Water	2.96 mg/L	10 ml	29.6 mg/L	10	0.7	5.0			6/5/20 11:57	N	IV
K2004561-005	Carbon, Total Organic	N/A		Water	2.19 mg/L	10 ml	21.9 mg/L	10	0.7	5.0			6/5/20 12:25	N	IV
K2004561-006	Carbon, Total Organic	N/A		Water	14.25 mg/L	10 ml	71.2 mg/L	5	0.4	2.5			6/5/20 12:53	N	IV
K2004561-007	Carbon, Total Organic	N/A		Water	18.15 mg/L	10 ml	18.1 mg/L	1	0.07	0.50			6/5/20 13:21	N	IV
K2004561-008	Carbon, Total Organic	N/A		Water	1.71 mg/L	10 ml	17.1 mg/L	10	0.7	5.0			6/5/20 13:49	N	IV
KQ2007578-01	Carbon, Total Organic	CCV		Water	24.54 mg/L	10 ml	24.5 mg/L	1					6/5/20 02:47	N	IV
KQ2007578-02	Carbon, Total Organic	CCV		Water	24.93 mg/L	10 ml	24.9 mg/L	1					6/5/20 10:30	N	IV
KQ2007578-03	Carbon, Total Organic	CCV		Water	24.32 mg/L	10 ml	24.3 mg/L	1					6/5/20 15:13	N	IV
KQ2007578-04	Carbon, Total Organic	CCB		Water	0.18 mg/L	10 ml	0.18 mg/L J	1	0.07	0.50			6/5/20 03:02	N	IV
KQ2007578-05	Carbon, Total Organic	CCB		Water	0.24 mg/L	10 ml	0.24 mg/L J	1	0.07	0.50			6/5/20 10:44	N	IV
KQ2007578-06	Carbon, Total Organic	CCB		Water	0.20 mg/L	10 ml	0.20 mg/L J	1	0.07	0.50			6/5/20 15:28	N	IV
KQ2007578-07	Carbon, Total Organic	MB		Water	-0.06 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/5/20 10:59	N	IV
KQ2007578-08	Carbon, Total Organic	LCS		Water	22.86 mg/L	10 ml	22.9 mg/L	1	0.07	0.50	91		6/5/20 11:14	N	IV
KQ2007578-09	Carbon, Total Organic	MS	K2004110-004	Water	43.84 mg/L	10 ml	43.8 mg/L	1	0.07	0.50	113		6/5/20 10:15	N	IV
KQ2007578-10	Carbon, Total Organic	DUP	K2004110-004	Water	16.30 mg/L	10 ml	16.3 mg/L	1	0.07	0.50		5	6/5/20 06:59	N	IV
KQ2007578-11	Carbon, Total Organic	DUP	K2004521-001	Water	2.79 mg/L	10 ml	2.79 mg/L	1	0.07	0.50		6	6/5/20 14:17	N	IV
KQ2007578-12	Carbon, Total Organic	DUP	K2004541-002	Drinking Water	0.50 mg/L	10 ml	0.50 mg/L	1	0.07	0.50		26*	6/5/20 14:45	N	I
KQ2007578-13	Carbon, Total Organic	DUP	K2004561-002	Water	11.27 mg/L	10 ml	11.3 mg/L	1	0.07	0.50		2	6/5/20 07:55	N	IV
KQ2007578-14	Carbon, Total Organic	DUP	K2004561-003	Water	9.80 mg/L	10 ml	98.0 mg/L	10	0.7	5.0		16*	6/5/20 11:28	N	IV
KQ2007578-15	Carbon, Total Organic	DUP	K2004561-004	Water	2.37 mg/L	10 ml	23.7 mg/L	10	0.7	5.0		22*	6/5/20 11:57	N	IV
KQ2007578-16	Carbon, Total Organic	DUP	K2004561-005	Water	2.09 mg/L	10 ml	20.9 mg/L	10	0.7	5.0		5	6/5/20 12:25	N	IV
KQ2007578-17	Carbon, Total Organic	DUP	K2004561-006	Water	14.73 mg/L	10 ml	73.7 mg/L	5	0.4	2.5		3	6/5/20 12:53	N	IV
KQ2007578-18	Carbon, Total Organic	DUP	K2004561-007	Water	17.78 mg/L	10 ml	17.8 mg/L	1	0.07	0.50		2	6/5/20 13:21	N	IV
KQ2007578-19	Carbon, Total Organic	DUP	K2004561-001	Water	2.06 mg/L	10 ml	20.6 mg/L	10	0.7	5.0		14*	6/5/20 07:27	N	IV
KQ2007578-20	Carbon, Total Organic	DUP	K2004561-008	Water	1.01 mg/L	10 ml	10.1 mg/L	10	0.7	5.0		51*	6/5/20 13:49	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-03 **Analyst:** BDITZLER **Analysis Lot:** 682346 **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
K2004414-001	Carbon, Total Organic	N/A		Ground Water	0.41 mg/L	10 ml	0.41 mg/L J	1	0.07	0.50			6/5/20 19:27	Y	III
K2004414-002	Carbon, Total Organic	N/A		Ground Water	0.50 mg/L	10 ml	0.50 mg/L J	1	0.07	0.50			6/5/20 16:10	N	III
K2004414-003	Carbon, Total Organic	N/A		Ground Water	-0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/5/20 16:39	N	III
K2004414-004	Carbon, Total Organic	N/A		Ground Water	0.63 mg/L	10 ml	0.63 mg/L	1	0.07	0.50			6/5/20 17:07	N	III
K2004414-005	Carbon, Total Organic	N/A		Ground Water	0.23 mg/L	10 ml	0.23 mg/L J	1	0.07	0.50			6/5/20 17:35	N	III
K2004414-006	Carbon, Total Organic	N/A		Ground Water	2.62 mg/L	10 ml	2.62 mg/L	1	0.07	0.50			6/5/20 18:03	N	III
K2004414-007	Carbon, Total Organic	N/A		Ground Water	0.50 mg/L	10 ml	0.50 mg/L	1	0.07	0.50			6/5/20 18:31	N	III
K2004492-009	Carbon, Total Organic	N/A		Water	0.73 mg/L	10 ml	0.73 mg/L	1	0.07	0.50			6/5/20 15:42	N	II
K2004498-001	Carbon, Total Organic	N/A		Ground Water	1.71 mg/L	10 ml	1.71 mg/L	1	0.07	0.50			6/5/20 18:59	N	II
K2004498-002	Carbon, Total Organic	N/A		Ground Water	1.41 mg/L	10 ml	1.41 mg/L	1	0.07	0.50			6/5/20 21:08	N	II
K2004498-003	Carbon, Total Organic	N/A		Ground Water	1.47 mg/L	10 ml	1.47 mg/L	1	0.07	0.50			6/5/20 21:36	N	II
K2004498-004	Carbon, Total Organic	N/A		Ground Water	2.21 mg/L	10 ml	2.21 mg/L	1	0.07	0.50			6/5/20 22:05	N	II
K2004498-005	Carbon, Total Organic	N/A		Ground Water	1.09 mg/L	10 ml	1.09 mg/L	1	0.07	0.50			6/5/20 22:33	N	II
K2004498-006	Carbon, Total Organic	N/A		Ground Water	2.88 mg/L	10 ml	2.88 mg/L	1	0.07	0.50			6/5/20 23:01	N	II
K2004498-007	Carbon, Total Organic	N/A		Ground Water	3.00 mg/L	10 ml	3.00 mg/L	1	0.07	0.50			6/5/20 23:29	N	II
KQ2007451-01	Carbon, Total Organic	MS	K2004414-007	Ground Water	28.76 mg/L	10 ml	28.8 mg/L	1	0.07	0.50	113		6/5/20 19:55	N	III
KQ2007451-02	Carbon, Total Organic	CCV		Water	24.32 mg/L	10 ml	24.3 mg/L	1					6/5/20 15:13	N	II
KQ2007451-03	Carbon, Total Organic	CCV		Water	24.09 mg/L	10 ml	24.1 mg/L	1					6/5/20 20:10	N	II
KQ2007451-04	Carbon, Total Organic	CCV		Water	23.72 mg/L	10 ml	23.7 mg/L	1					6/6/20 00:40	N	II
KQ2007451-05	Carbon, Total Organic	CCB		Water	0.20 mg/L	10 ml	0.20 mg/L J	1	0.07	0.50			6/5/20 15:28	N	II
KQ2007451-06	Carbon, Total Organic	CCB		Water	0.06 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/5/20 20:24	N	II
KQ2007451-07	Carbon, Total Organic	CCB		Water	-0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 00:55	N	II
KQ2007451-08	Carbon, Total Organic	MB		Water	-0.12 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/5/20 20:39	N	II
KQ2007451-09	Carbon, Total Organic	LCS		Water	22.14 mg/L	10 ml	22.1 mg/L	1	0.07	0.50	89		6/5/20 20:54	N	II
KQ2007451-10	Carbon, Total Organic	DUP	K2004414-001	Ground Water	0.36 mg/L	10 ml	0.36 mg/L J	1	0.07	0.50		12*	6/5/20 19:27	N	III
KQ2007451-11	Carbon, Total Organic	DUP	K2004414-002	Ground Water	0.48 mg/L	10 ml	0.48 mg/L J	1	0.07	0.50		3	6/5/20 16:10	N	III
KQ2007451-12	Carbon, Total Organic	DUP	K2004414-003	Ground Water	-0.05 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50		NC	6/5/20 16:39	N	III

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682346 **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
KQ2007451-13	Carbon, Total Organic	DUP	K2004414-004	Ground Water	0.59 mg/L	10 ml	0.59 mg/L	1	0.07	0.50		6	6/5/20 17:07	N	III
KQ2007451-14	Carbon, Total Organic	DUP	K2004414-005	Ground Water	0.19 mg/L	10 ml	0.19 mg/L J	1	0.07	0.50		18*	6/5/20 17:35	N	III
KQ2007451-15	Carbon, Total Organic	DUP	K2004414-006	Ground Water	2.56 mg/L	10 ml	2.56 mg/L	1	0.07	0.50		3	6/5/20 18:03	N	III
KQ2007451-16	Carbon, Total Organic	DUP	K2004414-007	Ground Water	0.45 mg/L	10 ml	0.45 mg/L J	1	0.07	0.50		10	6/5/20 18:31	N	III
KQ2007451-17	Carbon, Total Organic	DUP	K2004492-009	Water	0.68 mg/L	10 ml	0.68 mg/L	1	0.07	0.50		7	6/5/20 15:42	N	II
KQ2007451-18	Carbon, Total Organic	DUP	K2004498-001	Ground Water	1.65 mg/L	10 ml	1.65 mg/L	1	0.07	0.50		3	6/5/20 18:59	N	II
KQ2007451-19	Carbon, Total Organic	DUP	K2004498-006	Ground Water	2.94 mg/L	10 ml	2.94 mg/L	1	0.07	0.50		2	6/5/20 23:01	N	II
KQ2007451-20	Carbon, Total Organic	DUP	K2004498-007	Ground Water	2.88 mg/L	10 ml	2.88 mg/L	1	0.07	0.50		4	6/5/20 23:29	N	II
KQ2007451-21	Carbon, Total Organic	DUP	K2004498-002	Ground Water	1.22 mg/L	10 ml	1.22 mg/L	1	0.07	0.50		15*	6/5/20 21:08	N	II
KQ2007451-22	Carbon, Total Organic	DUP	K2004498-003	Ground Water	1.41 mg/L	10 ml	1.41 mg/L	1	0.07	0.50		4	6/5/20 21:36	N	II
KQ2007451-23	Carbon, Total Organic	DUP	K2004498-004	Ground Water	2.18 mg/L	10 ml	2.18 mg/L	1	0.07	0.50		1	6/5/20 22:05	N	II
KQ2007451-24	Carbon, Total Organic	DUP	K2004498-005	Ground Water	1.02 mg/L	10 ml	1.02 mg/L	1	0.07	0.50		6	6/5/20 22:33	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-03 **Analyst:** BDITZLER **Analysis Lot:** 682347 **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
K2004483-001	Carbon, Total Organic	N/A		Ground Water	0.12 mg/L	10 ml	0.12 mg/L J	1	0.07	0.50			6/5/20 23:57	Y	IV
K2004483-002	Carbon, Total Organic	N/A		Ground Water	0.22 mg/L	10 ml	0.22 mg/L J	1	0.07	0.50			6/6/20 01:09	N	IV
K2004483-003	Carbon, Total Organic	N/A		Ground Water	-0.13 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 01:38	N	IV
K2004484-001	Carbon, Total Organic	N/A		Ground Water	0.28 mg/L	10 ml	0.28 mg/L J	1	0.07	0.50			6/6/20 02:06	N	III
K2004484-002	Carbon, Total Organic	N/A		Ground Water	0.32 mg/L	10 ml	0.32 mg/L J	1	0.07	0.50			6/6/20 02:34	N	III
K2004484-003	Carbon, Total Organic	N/A		Ground Water	2.44 mg/L	10 ml	2.44 mg/L	1	0.07	0.50			6/6/20 03:02	N	III
K2004498-008	Carbon, Total Organic	N/A		Ground Water	24.39 mg/L	10 ml	24.4 mg/L	1	0.07	0.50			6/6/20 03:30	N	II
K2004498-009	Carbon, Total Organic	N/A		Ground Water	4.12 mg/L	10 ml	4.12 mg/L	1	0.07	0.50			6/6/20 03:58	N	II
KQ2007452-01	Carbon, Total Organic	CCV		Water	24.09 mg/L	10 ml	24.1 mg/L	1					6/5/20 20:10	N	IV
KQ2007452-02	Carbon, Total Organic	CCV		Water	23.72 mg/L	10 ml	23.7 mg/L	1					6/6/20 00:40	N	IV
KQ2007452-03	Carbon, Total Organic	CCV		Water	23.33 mg/L	10 ml	23.3 mg/L	1					6/6/20 05:37	N	IV
KQ2007452-04	Carbon, Total Organic	CCB		Water	0.06 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/5/20 20:24	N	IV
KQ2007452-05	Carbon, Total Organic	CCB		Water	-0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 00:55	N	IV
KQ2007452-06	Carbon, Total Organic	CCB		Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 05:52	N	IV
KQ2007452-07	Carbon, Total Organic	MB		Water	-0.23 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 06:06	N	IV
KQ2007452-08	Carbon, Total Organic	LCS		Water	21.27 mg/L	10 ml	21.3 mg/L	1	0.07	0.50	85		6/6/20 06:21	N	IV
KQ2007452-09	Carbon, Total Organic	MS	K2004483-001	Water	28.64 mg/L	10 ml	28.6 mg/L	1	0.07	0.50	114		6/6/20 00:25	N	IV
KQ2007452-10	Carbon, Total Organic	DUP	K2004483-001	Water	0.15 mg/L	10 ml	0.15 mg/L J	1	0.07	0.50		25*	6/5/20 23:57	N	IV
KQ2007452-11	Carbon, Total Organic	DUP	K2004483-002	Water	0.18 mg/L	10 ml	0.18 mg/L J	1	0.07	0.50		20*	6/6/20 01:09	N	IV
KQ2007452-12	Carbon, Total Organic	DUP	K2004483-003	Water	-0.17 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50		NC	6/6/20 01:38	N	IV
KQ2007452-13	Carbon, Total Organic	DUP	K2004484-003	Ground Water	2.35 mg/L	10 ml	2.35 mg/L	1	0.07	0.50		4	6/6/20 03:02	N	III
KQ2007452-14	Carbon, Total Organic	DUP	K2004484-001	Ground Water	0.28 mg/L	10 ml	0.28 mg/L J	1	0.07	0.50		1	6/6/20 02:06	N	III
KQ2007452-15	Carbon, Total Organic	DUP	K2004484-002	Ground Water	0.28 mg/L	10 ml	0.28 mg/L J	1	0.07	0.50		15*	6/6/20 02:34	N	III
KQ2007452-16	Carbon, Total Organic	DUP	K2004498-008	Ground Water	24.81 mg/L	10 ml	24.8 mg/L	1	0.07	0.50		2	6/6/20 03:30	N	II
KQ2007452-17	Carbon, Total Organic	DUP	K2004498-009	Ground Water	3.92 mg/L	10 ml	3.92 mg/L	1	0.07	0.50		5	6/6/20 03:58	N	II

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Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682348 **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
K2004410-001	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.73 mg/L	10 ml	0.73 mg/L	1	0.07	0.50			6/6/20 04:26	N	IV
K2004411-001	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	3.08 mg/L	10 ml	3.08 mg/L	1	0.07	0.50			6/6/20 08:00	N	IV
K2004413-001	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.87 mg/L	10 ml	1.87 mg/L	1	0.07	0.50			6/6/20 04:54	Y	III
K2004413-002	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	2.00 mg/L	10 ml	2.00 mg/L	1	0.07	0.50			6/6/20 06:36	N	III
K2004413-003	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	2.20 mg/L	10 ml	2.20 mg/L	1	0.07	0.50			6/6/20 07:04	N	III
K2004413-004	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.31 mg/L	10 ml	1.31 mg/L	1	0.07	0.50			6/6/20 07:32	N	III
K2004414-001	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.35 mg/L	10 mL	0.35 mg/L J	1	0.07	0.50			6/6/20 09:25:00	Y	III
K2004414-002	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.36 mg/L	10 ml	0.36 mg/L J	1	0.07	0.50			6/6/20 08:28	N	III
K2004414-003	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	-0.19 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 08:56	N	III
K2004414-004	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.94 mg/L	10 ml	0.94 mg/L	1	0.07	0.50			6/6/20 10:37	N	III
K2004414-005	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.85 mg/L	10 ml	0.85 mg/L	1	0.07	0.50			6/6/20 11:05	N	III
K2004414-006	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	2.86 mg/L	10 ml	2.86 mg/L	1	0.07	0.50			6/6/20 11:33	N	III
K2004414-007	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.47 mg/L	10 ml	0.47 mg/L J	1	0.07	0.50			6/6/20 12:01	N	III
K2004484-001	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.46 mg/L	10 ml	0.46 mg/L J	1	0.07	0.50			6/6/20 12:30	N	III
K2004484-002	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	1.08 mg/L	10 ml	1.08 mg/L	1	0.07	0.50			6/6/20 12:58	N	III
K2004484-003	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	2.43 mg/L	10 ml	2.43 mg/L	1	0.07	0.50			6/6/20 13:26	N	III
KQ2007453-01	Carbon, Dissolved Organic (DOC)	CCV		Ground Water	23.72 mg/L	10 ml	23.7 mg/L	1					6/6/20 00:40	N	IV
KQ2007453-02	Carbon, Dissolved Organic (DOC)	CCV		Ground Water	23.33 mg/L	10 ml	23.3 mg/L	1					6/6/20 05:37	N	IV
KQ2007453-03	Carbon, Dissolved Organic (DOC)	CCV		Ground Water	23.02 mg/L	10 ml	23.0 mg/L	1					6/6/20 10:07	N	IV
KQ2007453-04	Carbon, Dissolved Organic (DOC)	CCV		Ground Water	24.19 mg/L	10 ml	24.2 mg/L	1					6/6/20 14:52	N	IV
KQ2007453-05	Carbon, Dissolved Organic (DOC)	CCB		Ground Water	-0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 00:55	N	IV
KQ2007453-06	Carbon, Dissolved Organic (DOC)	CCB		Ground Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 05:52	N	IV
KQ2007453-07	Carbon, Dissolved Organic (DOC)	CCB		Ground Water	-0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 10:22	N	IV

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Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682348 **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
KQ2007453-08	Carbon, Dissolved Organic (DOC)	CCB		Ground Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 15:06	N	IV
KQ2007453-09	Carbon, Dissolved Organic (DOC)	MB		Ground Water	-0.35 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 14:22	N	IV
KQ2007453-10	Carbon, Dissolved Organic (DOC)	LCS		Ground Water	22.46 mg/L	10 ml	22.5 mg/L	1	0.07	0.50	90		6/6/20 14:37	N	IV
KQ2007453-11	Carbon, Dissolved Organic (DOC)	MS	K2004413-001	Surface Water	31.82 mg/L	10 ml	31.8 mg/L	1	0.07	0.50	120*		6/6/20 05:22	N	III
KQ2007453-12	Carbon, Dissolved Organic (DOC)	MS	K2004414-001	Ground Water	28.84 mg/L	10 ml	28.8 mg/L	1	0.07	0.50	114		6/6/20 09:53	N	III
KQ2007453-13	Carbon, Dissolved Organic (DOC)	DUP	K2004410-001	Ground Water	0.67 mg/L	10 ml	0.67 mg/L	1	0.07	0.50		8	6/6/20 04:26	N	IV
KQ2007453-14	Carbon, Dissolved Organic (DOC)	DUP	K2004411-001	Surface Water	3.00 mg/L	10 ml	3.00 mg/L	1	0.07	0.50		3	6/6/20 08:00	N	IV
KQ2007453-15	Carbon, Dissolved Organic (DOC)	DUP	K2004413-001	Surface Water	1.92 mg/L	10 ml	1.92 mg/L	1	0.07	0.50		3	6/6/20 04:54	N	III
KQ2007453-16	Carbon, Dissolved Organic (DOC)	DUP	K2004413-002	Surface Water	1.89 mg/L	10 ml	1.89 mg/L	1	0.07	0.50		5	6/6/20 06:36	N	III
KQ2007453-17	Carbon, Dissolved Organic (DOC)	DUP	K2004413-003	Surface Water	2.20 mg/L	10 ml	2.20 mg/L	1	0.07	0.50		<1	6/6/20 07:04	N	III
KQ2007453-18	Carbon, Dissolved Organic (DOC)	DUP	K2004413-004	Surface Water	1.29 mg/L	10 ml	1.29 mg/L	1	0.07	0.50		1	6/6/20 07:32	N	III
KQ2007453-19	Carbon, Dissolved Organic (DOC)	DUP	K2004414-001	Ground Water	0.35 mg/L	10 mL	0.35 mg/L J	1	0.07	0.50		<1	6/6/20 09:25:00	N	III
KQ2007453-20	Carbon, Dissolved Organic (DOC)	DUP	K2004414-002	Ground Water	0.32 mg/L	10 ml	0.32 mg/L J	1	0.07	0.50		14*	6/6/20 08:28	N	III
KQ2007453-21	Carbon, Dissolved Organic (DOC)	DUP	K2004414-003	Ground Water	-0.22 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50		NC	6/6/20 08:56	N	III
KQ2007453-22	Carbon, Dissolved Organic (DOC)	DUP	K2004414-004	Ground Water	0.90 mg/L	10 ml	0.90 mg/L	1	0.07	0.50		5	6/6/20 10:37	N	III
KQ2007453-23	Carbon, Dissolved Organic (DOC)	DUP	K2004414-005	Ground Water	0.87 mg/L	10 ml	0.87 mg/L	1	0.07	0.50		2	6/6/20 11:05	N	III
KQ2007453-24	Carbon, Dissolved Organic (DOC)	DUP	K2004414-006	Ground Water	2.88 mg/L	10 ml	2.88 mg/L	1	0.07	0.50		<1	6/6/20 11:33	N	III
KQ2007453-25	Carbon, Dissolved Organic (DOC)	DUP	K2004414-007	Ground Water	0.43 mg/L	10 ml	0.43 mg/L J	1	0.07	0.50		9	6/6/20 12:01	N	III
KQ2007453-26	Carbon, Dissolved Organic (DOC)	DUP	K2004484-003	Ground Water	2.44 mg/L	10 ml	2.44 mg/L	1	0.07	0.50		<1	6/6/20 13:26	N	III
KQ2007453-27	Carbon, Dissolved Organic (DOC)	DUP	K2004484-001	Ground Water	0.38 mg/L	10 ml	0.38 mg/L J	1	0.07	0.50		17*	6/6/20 12:30	N	III
KQ2007453-28	Carbon, Dissolved Organic (DOC)	DUP	K2004484-002	Ground Water	1.04 mg/L	10 ml	1.04 mg/L	1	0.07	0.50		4	6/6/20 12:58	N	III

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0.664				OBSERVATIONS	17	ABOVE
0.461	0.461	0.461	0.461	STD Deviation	0.16178	0.4606
0.568	0.568	0.568	0.568	AVERAGE	0.43012	0.568
0.451	0.451	0.451	0.451	UCL	0.59191	0.451
0.384	0.384	0.384	0.384	LCL	0.26834	0.3842
0.592						ABOVE
0.655						ABOVE
0.357	0.357	0.357	0.357	OBSERVATIONS	11	0.3567
0.617				STD Deviation	0.18252	ABOVE
0.476	0.476	0.476	0.476	AVERAGE	0.41268	0.4761
0.292	0.292	0.292	0.292	UCL	0.59520	0.2921
0.391	0.391	0.391	0.391	LCL	0.23016	0.3905
0.382	0.382	0.382	0.382			0.3818
0.180						BELOW
0.394	0.394	0.394	0.394	OBSERVATIONS	11	0.394
0.065				STD Deviation	0.18252	BELOW
0.385	0.385	0.385	0.385	AVERAGE	0.41268	0.3845
				UCL	0.59520	BELOW
				LCL	0.23016	BELOW
						BELOW
						BELOW
				OBSERVATIONS	11	BELOW
				STD Deviation	0.07634	BELOW
				AVERAGE	0.41268	BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW

5/6/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	24.729	0.4127	24.3158	24.31582	24.3	6/5/2020
3	ccb	1	0.617	0.4127	0.2042	0.20422	<0.5	6/5/2020
4	K2004492-009	1	1.143	0.4127	0.7302	0.73022	0.7	6/5/2020
5	K2004492-009	1	1.095	0.4127	0.6826	0.68262	0.7	6/5/2020
6	K2004414-002	1	0.908	0.4127	0.4954	0.49542	<0.5	6/5/2020
7	K2004414-002	1	0.893	0.4127	0.4805	0.48052	<0.5	6/5/2020
8	K2004414-003	1	0.394	0.4127	-0.0189	-0.01888	<0.5	6/5/2020
9	K2004414-003	1	0.365	0.4127	-0.0474	-0.04738	<0.5	6/5/2020
10	K2004414-004	1	1.040	0.4127	0.6271	0.62712	0.63	6/5/2020
11	K2004414-004	1	1.004	0.4127	0.5911	0.59112	0.6	6/5/2020
12	K2004414-005	1	0.641	0.4127	0.2281	0.22812	<0.5	6/5/2020
13	K2004414-005	1	0.603	0.4127	0.1899	0.18992	<0.5	6/5/2020
14	K2004414-006	1	3.038	0.4127	2.6249	2.62492	2.62	6/5/2020
15	K2004414-006	1	2.969	0.4127	2.5567	2.55672	2.6	6/5/2020
16	K2004414-007	1	0.913	0.4127	0.5007	0.50072	0.5	6/5/2020
17	K2004414-007	1	0.868	0.4127	0.4548	0.45482	<0.5	6/5/2020
18	K2004498-001	1	2.125	0.4127	1.7119	1.71192	1.7	6/5/2020
19	K2004498-001	1	2.067	0.4127	1.6542	1.65422	1.7	6/5/2020
20	K2004414-001	1	0.825	0.4127	0.4122	0.41222	<0.5	6/5/2020
21	K2004414-001	1	0.777	0.4127	0.3638	0.36382	<0.5	6/5/2020
22	4414-1ms	1	29.175	0.4127	28.7622	28.76222	28.8	6/5/2020
23	ccv	1	24.508	0.4127	24.0948	24.09482	24.1	6/5/2020
24	ccb	1	0.476	0.4127	0.0634	0.06342	<0.5	6/5/2020
25	mb	1	0.292	0.4127	-0.1206	-0.12058	<0.5	6/5/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

		date	time
Analyzed By:	BW	Date Analyzed	6/6/20
Reviewed By:		Date Reviewed	6/8/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	lcs	1	22.555	0.4127	22.1427	22.14272	22.14	6/5/2020
27	K2004498-002	1	1.820	0.4127	1.4068	1.40682	1.41	6/5/2020
28	K2004498-002	1	1.629	0.4127	1.2164	1.21642	1.2	6/5/2020
29	K2004498-003	1	1.879	0.4127	1.4664	1.46642	1.5	6/5/2020
30	K2004498-003	1	1.828	0.4127	1.4148	1.41482	1.4	6/5/2020
31	K2004498-004	1	2.619	0.4127	2.2065	2.20652	2.2	6/5/2020
32	K2004498-004	1	2.592	0.4127	2.1797	2.17972	2.2	6/5/2020
33	K2004498-005	1	1.498	0.4127	1.0852	1.08522	1.1	6/5/2020
34	K2004498-005	1	1.436	0.4127	1.0235	1.02352	1.0	6/5/2020
35	K2004498-006	1	3.294	0.4127	2.8815	2.88152	2.9	6/5/2020
36	K2004498-006	1	3.356	0.4127	2.9437	2.94372	2.9	6/5/2020
37	K2004498-007	1	3.411	0.4127	2.9986	2.99862	3.0	6/5/2020
38	K2004498-007	1	3.295	0.4127	2.8823	2.88232	2.9	6/5/2020
39	ccv	1	24.131	0.4127	23.7185	23.71852	23.7	6/6/2020
40	ccb	1	0.391	0.4127	-0.0222	-0.02218	<0.5	6/6/2020
41	ccv	1	24.776	0.2169	24.5592	24.55924	24.6	5/14/2020
42	ccb	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
43		1			0.0000	0	<0.5	
44		1			0.0000	0	<0.5	
45		1			0.0000	0	<0.5	
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By:	BP	Date Analyzed	6/16/20
Reviewed By:		Date Reviewed	6/16/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	24.508	0.4127	24.0948	24.09482	24.1	6/5/2020
3	ccb	1	0.476	0.4127	0.0634	0.06342	<0.5	6/5/2020
4	K2004483-001	1	0.528	0.4127	0.1150	0.11502	<0.5	6/5/2020
5	K2004483-001	1	0.560	0.4127	0.1473	0.14732	<0.5	6/5/2020
6	KQ2007452-09	1	29.051	0.4127	28.6379	28.63792	28.64	6/6/2020
7	ccv	1	24.131	0.4127	23.7185	23.71852	23.7	6/6/2020
8	ccb	1	0.391	0.4127	-0.0222	-0.02218	<0.5	6/6/2020
9	K2004483-002	1	0.636	0.4127	0.2229	0.22292	<0.5	6/6/2020
10	K2004483-002	1	0.596	0.4127	0.1832	0.18322	<0.5	6/6/2020
11	K2004483-003	1	0.286	0.4127	-0.1267	-0.12668	<0.5	6/6/2020
12	K2004483-003	1	0.246	0.4127	-0.1667	-0.16668	<0.5	6/6/2020
13	K2004484-001	1	0.697	0.4127	0.2839	0.28392	<0.5	6/6/2020
14	K2004484-001	1	0.693	0.4127	0.2801	0.28012	<0.5	6/6/2020
15	K2004484-002	1	0.734	0.4127	0.3214	0.32142	<0.5	6/6/2020
16	K2004484-002	1	0.691	0.4127	0.2779	0.27792	<0.5	6/6/2020
17	K2004484-003	1	2.855	0.4127	2.4424	2.44242	2.44	6/6/2020
18	K2004484-003	1	2.762	0.4127	2.3488	2.34882	2.3	6/6/2020
19	K2004498-008	1	24.800	0.4127	24.3873	24.38732	24.4	6/6/2020
20	K2004498-008	1	25.221	0.4127	24.8079	24.80792	24.81	6/6/2020
21	K2004498-009	1	4.528	0.4127	4.1150	4.11502	4.12	6/6/2020
22	K2004498-009	1	4.328	0.4127	3.9154	3.91542	3.9	6/6/2020
23	ccv	1	23.743	0.4127	23.3299	23.32992	23.3	6/6/2020
24	ccb	1	0.382	0.4127	-0.0309	-0.03088	<0.5	6/6/2020
25	mb	1	0.180	0.4127	-0.2331	-0.23308	<0.5	6/6/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

	date	time
Analyzed By: BCP	Date Analyzed 6/16/20	
Reviewed By: JF	Date Reviewed 6/18/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	lcs	1	21.678	0.4127	21.2656	21.26562	21.27	6/6/2020
27	K2003842-010.06 doc	1	0.193	0.2169	-0.0235	-0.02346	<0.5	5/14/2020
28	K2003842-010.06 doc	1	0.137	0.2169	-0.0801	-0.08006	<0.5	5/14/2020
29	K2003842-011.06 doc	1	0.662	0.2169	0.4451	0.44514	<0.5	5/14/2020
30	K2003842-011.06 doc	1	0.640	0.2169	0.4229	0.42294	<0.5	5/14/2020
31	ccv	1	25.097	0.2169	24.8796	24.87964	24.9	5/14/2020
32	ccb	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
33	K2003842-012.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
34	K2003842-012.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
35	K2003842-013.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
36	K2003842-013.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
37	K2003842-014.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
38	K2003842-014.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
39	K2003842-015.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
40	K2003842-015.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
41	ccv	1	24.776	0.2169	24.5592	24.55924	24.6	5/14/2020
42	ccb	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
43		1			0.0000	0	<0.5	
44		1			0.0000	0	<0.5	
45		1			0.0000	0	<0.5	
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By:	BVP	Date Analyzed	6/16/20
Reviewed By:	JC	Date Reviewed	6/18/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	24.950	0.4127	24.5371	24.53712	24.5	6/5/2020
3	ccb	1	0.592	0.4127	0.1796	0.17962	<0.5	6/5/2020
4	K2004110-004	1	15.956	0.4127	15.5430	15.54302	15.5	6/5/2020
5	K2004110-004	1	16.715	0.4127	16.3027	16.30272	16.3	6/5/2020
6	K2004561-001	10	2.780	0.4127	2.3673	23.6732	23.67	6/5/2020
7	K2004561-001	10	2.478	0.4127	2.0649	20.6492	20.6	6/5/2020
8	K2004561-002	1	11.446	0.4127	11.0329	11.03292	11	6/5/2020
9	K2004561-002	1	11.683	0.4127	11.2704	11.27042	11.27	6/5/2020
10	KQ2007578-09	1	44.251	0.4127	43.8386	43.83862	43.84	6/5/2020
11	ccv	1	25.340	0.4127	24.9276	24.92762	24.9	6/5/2020
12	ccb	1	0.655	0.4127	0.2421	0.24212	<0.5	6/5/2020
13	mb	1	0.357	0.4127	-0.0560	-0.05598	<0.5	6/5/2020
14	lcs	1	23.276	0.4127	22.8630	22.86302	22.86	6/5/2020
15	K2004561-003	10	8.785	0.4127	8.3724	83.7242	83.7	6/5/2020
16	K2004561-003	10	10.216	0.4127	9.8037	98.0372	98.0	6/5/2020
17	K2004561-004	10	3.377	0.4127	2.9644	29.6442	29.64	6/5/2020
18	K2004561-004	10	2.781	0.4127	2.3687	23.6872	23.7	6/5/2020
19	K2004561-005	10	2.607	0.4127	2.1947	21.9472	21.9	6/5/2020
20	K2004561-005	10	2.508	0.4127	2.0949	20.9492	20.95	6/5/2020
21	K2004561-006	5	14.661	0.4127	14.2483	71.2416	71.24	6/5/2020
22	K2004561-006	5	15.143	0.4127	14.7301	73.6506	73.7	6/5/2020
23	K2004561-007	1	18.558	0.4127	18.1453	18.14532	18.1	6/5/2020
24	K2004561-007	1	18.194	0.4127	17.7815	17.78152	17.78	6/5/2020
25	K2004561-008	10	2.126	0.4127	1.7135	17.1352	17.14	6/5/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

		date time
Analyzed By: BW	Date Analyzed	6/6/20
Reviewed By: JC	Date Reviewed	6/8/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2004561-008	10	1.427	0.4127	1.0143	10.1432	10.14	6/5/2020
27	K2004521-001	1	3.368	0.4127	2.9554	2.95542	2.96	6/5/2020
28	K2004521-001	1	3.204	0.4127	2.7916	2.79162	2.8	6/5/2020
29	K2004541-002	1	1.061	0.4127	0.6485	0.64852	0.6	6/5/2020
30	K2004541-002	1	0.915	0.4127	0.5018	0.50182	0.5	6/5/2020
31	ccv	1	24.729	0.4127	24.3158	24.31582	24.3	6/5/2020
32	ccb	1	0.617	0.4127	0.2042	0.20422	<0.5	6/5/2020
33	K2003842-012.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
34	K2003842-012.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
35	K2003842-013.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
36	K2003842-013.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
37	K2003842-014.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
38	K2003842-014.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
39	K2003842-015.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
40	K2003842-015.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
41	ccv	1	24.776	0.2169	24.5592	24.55924	24.6	5/14/2020
42	ccb	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
43		1			0.0000	0	<0.5	
44		1			0.0000	0	<0.5	
45		1			0.0000	0	<0.5	
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By:	BW	Date Analyzed	6/6/20
Reviewed By:		Date Reviewed	6/8/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	24.131	0.4127	23.7185	23.71852	23.7	6/6/2020
3	ccb	1	0.391	0.4127	-0.0222	-0.02218	<0.5	6/6/2020
4	K2004410-001	1	1.140	0.4127	0.7274	0.72742	0.7	6/6/2020
5	K2004410-001	1	1.086	0.4127	0.6732	0.67322	0.7	6/6/2020
6	K2004413-001	1	2.285	0.4127	1.8724	1.87242	1.87	6/6/2020
7	K2004413-001	1	2.334	0.4127	1.9215	1.92152	1.9	6/6/2020
8	KQ2007453-11	1	32.229	0.4127	31.8158	31.81582	32	6/6/2020
9	ccv	1	23.743	0.4127	23.3299	23.32992	23.33	6/6/2020
10	ccb	1	0.382	0.4127	-0.0309	-0.03088	<0.5	6/6/2020
11	K2004413-002	1	2.409	0.4127	1.9967	1.99672	2.0	6/6/2020
12	K2004413-002	1	2.304	0.4127	1.8909	1.89092	1.89	6/6/2020
13	K2004413-003	1	2.613	0.4127	2.1999	2.19992	2.20	6/6/2020
14	K2004413-003	1	2.612	0.4127	2.1996	2.19962	2.20	6/6/2020
15	K2004413-004	1	1.721	0.4127	1.3086	1.30862	1.3	6/6/2020
16	K2004413-004	1	1.703	0.4127	1.2905	1.29052	1.3	6/6/2020
17	K2004411-001	1	3.495	0.4127	3.0818	3.08182	3.08	6/6/2020
18	K2004411-001	1	3.409	0.4127	2.9967	2.99672	3.0	6/6/2020
19	4414-2	1	0.777	0.4127	0.3643	0.36432	<0.5	6/6/2020
20	4414-2	1	0.730	0.4127	0.3171	0.31712	<0.5	6/6/2020
21	4414-3	1	0.223	0.4127	-0.1901	-0.19008	<0.5	6/6/2020
22	4414-3	1	0.191	0.4127	-0.2221	-0.22208	<0.5	6/6/2020
23	4414-4	1	0.764	0.4127	0.3510	0.35102	<0.5	6/6/2020
24	4414-4	1	0.764	0.4127	0.3514	0.35142	<0.5	6/6/2020
25	4414-4 ms	1	29.256	0.4127	28.8433	28.84332	28.84	6/6/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

		date	time
Analyzed By: BDP	Date Analyzed	6/6/20	
Reviewed By: JC	Date Reviewed	6/8/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	ccv	1	23.430	0.4127	23.0171	23.01712	23.02	6/6/2020
27	ccb	1	0.394	0.4127	-0.0187	-0.01868	<0.5	6/6/2020
28	4414-4	1	1.358	0.4127	0.9449	0.94492	0.9	6/6/2020
29	4414-4	1	1.309	0.4127	0.8965	0.89652	0.9	6/6/2020
30	4414-5	1	1.265	0.4127	0.8520	0.85202	0.9	6/6/2020
31	4414-5	1	1.282	0.4127	0.8694	0.86942	0.9	6/6/2020
32	4414-6	1	3.275	0.4127	2.8624	2.86242	2.9	6/6/2020
33	4414-6	1	3.293	0.4127	2.8807	2.88072	2.9	6/6/2020
34	4414-7	1	0.880	0.4127	0.4677	0.46772	<0.5	6/6/2020
35	4414-7	1	0.842	0.4127	0.4290	0.42902	<0.5	6/6/2020
36	4484-1	1	0.868	0.4127	0.4554	0.45542	<0.5	6/6/2020
37	4484-1	1	0.797	0.4127	0.3840	0.38402	<0.5	6/6/2020
38	4484-2	1	1.490	0.4127	1.0771	1.07712	1.1	6/6/2020
39	4484-2	1	1.451	0.4127	1.0385	1.03852	1.0	6/6/2020
40	4484-3	1	2.842	0.4127	2.4295	2.42952	2.4	6/6/2020
41	4484-3	1	2.850	0.4127	2.4376	2.43762	2.4	6/6/2020
42	mb	1	0.065	0.4127	-0.3477	-0.34768	<0.5	6/6/2020
43	lcs	1	22.870	0.4127	22.4577	22.45772	22.5	6/6/2020
44	ccv	1	24.601	0.4127	24.1887	24.18872	24.2	6/6/2020
45	ccb	1	0.385	0.4127	-0.0282	-0.02818	<0.5	6/6/2020
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By: BW	Date Analyzed 6/6/20
Reviewed By:	Date Reviewed 6/8/20

TOC: 682633, 682634, 682346, 682347,
DOC: 682348

Schedule: 06042020

Version: 4
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/06/04 13:31 - Thursday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use
(Clean)	Clean	Clean		1	True
(Clean)	Clean	Clean		1	True
(Clean)	Clean	Clean		1	True
(Blank)	Blank	Reagent/Acid Blank		1	True
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Cal Standard	[TOC] CAS_salt_010711 CAL [DI Water]	CAS_salt_010711 (CAS_salt_010711)	1	True
A	Cal Standard	[TOC] CAS_salt_010711 CAL [0.500 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
A	Cal Standard	[TOC] CAS_salt_010711 CAL [1.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
A	Cal Standard	[TOC] CAS_salt_010711 CAL [5.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Cal Standard	[TOC] CAS_salt_010711 CAL [10 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Cal Standard	[TOC] CAS_salt_010711 CAL [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Cal Standard	[TOC] CAS_salt_010711 CAL [50 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	4	True
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	4	True
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True
3	Sample	K2004490-001.01	CAS_salt_010711 (CAS_salt_010711)	4	True
4	Sample	K2004490-002.01	CAS_salt_010711 (CAS_salt_010711)	4	True
5	Sample	K2004490-003.01	CAS_salt_010711 (CAS_salt_010711)	4	True
6	Sample	K2004490-004.01	CAS_salt_010711 (CAS_salt_010711)	4	True
7	Sample	K2004490-005.01	CAS_salt_010711 (CAS_salt_010711)	4	True
8	Sample	K2004490-006.01	CAS_salt_010711 (CAS_salt_010711)	4	True
9	Sample	K2004490-007.01	CAS_salt_010711 (CAS_salt_010711)	4	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
10	Sample	K2004490-008.01	CAS_salt_010711 (CAS_salt_010711)	4	True
11	Sample	K2004490-009.01	CAS_salt_010711 (CAS_salt_010711)	4	True
12	Sample	K2004490-010.01	CAS_salt_010711 (CAS_salt_010711)	4	True
13	Sample	K2004490-011.01	CAS_salt_010711 (CAS_salt_010711)	4	True
14	Sample	K2004110-004.02	CAS_salt_010711 (CAS_salt_010711)	2	True
15	Sample	K2004561-001.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
16	Sample	K2004561-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True
17	Sample	K2004490-012.01	CAS_salt_010711 (CAS_salt_010711)	4	True
18	Sample	K2004490-012.01 ms	CAS_salt_010711 (CAS_salt_010711)	4	True
19	Sample	K2004110-004.02 ms	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
21	Sample	K2004561-003.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
22	Sample	K2004561-004.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
23	Sample	K2004561-005.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
24	Sample	K2004561-006.01 5x	CAS_salt_010711 (CAS_salt_010711)	2	True
25	Sample	K2004561-007.01	CAS_salt_010711 (CAS_salt_010711)	2	True
26	Sample	K2004561-008.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
27	Sample	K2004521-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
28	Sample	K2004541-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
29	Sample	K2004492-009.01	CAS_salt_010711 (CAS_salt_010711)	2	True
30	Sample	K2004414-002.07	CAS_salt_010711 (CAS_salt_010711)	2	True
31	Sample	K2004414-003.07	CAS_salt_010711 (CAS_salt_010711)	2	True
32	Sample	K2004414-004.07	CAS_salt_010711 (CAS_salt_010711)	2	True

Schedule: 06042020

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use
33	Sample	K2004414-005.07	CAS_salt_010711 (CAS_salt_010711)	2	True
34	Sample	K2004414-006.07	CAS_salt_010711 (CAS_salt_010711)	2	True
35	Sample	K2004414-007.07	CAS_salt_010711 (CAS_salt_010711)	2	True
36	Sample	K2004498-001.04	CAS_salt_010711 (CAS_salt_010711)	2	True
37	Sample	K2004414-001.07	CAS_salt_010711 (CAS_salt_010711)	2	True
38	Sample	K2004414-001.07 ms	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
40	Sample	K2004498-002.04	CAS_salt_010711 (CAS_salt_010711)	2	True
41	Sample	K2004498-003.04	CAS_salt_010711 (CAS_salt_010711)	2	True
42	Sample	K2004498-004.04	CAS_salt_010711 (CAS_salt_010711)	2	True
43	Sample	K2004498-005.04	CAS_salt_010711 (CAS_salt_010711)	2	True
44	Sample	K2004498-006.04	CAS_salt_010711 (CAS_salt_010711)	2	True
45	Sample	K2004498-007.04	CAS_salt_010711 (CAS_salt_010711)	2	True
46	Sample	K2004483-001.10	CAS_salt_010711 (CAS_salt_010711)	2	True
47	Sample	K2004483-001.10 ms	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
48	Sample	K2004483-002.04	CAS_salt_010711 (CAS_salt_010711)	2	True
49	Sample	K2004483-003.04	CAS_salt_010711 (CAS_salt_010711)	2	True
50	Sample	K2004484-001.07	CAS_salt_010711 (CAS_salt_010711)	2	True
51	Sample	K2004484-002.07	CAS_salt_010711 (CAS_salt_010711)	2	True
52	Sample	K2004484-003.07	CAS_salt_010711 (CAS_salt_010711)	2	True
53	Sample	K2004498-008.04	CAS_salt_010711 (CAS_salt_010711)	2	True
54	Sample	K2004498-009.04	CAS_salt_010711 (CAS_salt_010711)	2	True
55	Sample	K2004410-001.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
56	Sample	K2004413-001.15 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
57	Sample	K2004413-001.15 doc ms	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
58	Sample	MB4	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
59	Sample	K2004413-002.05 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
60	Sample	K2004413-003.05 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
61	Sample	K2004413-004.05 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
62	Sample	K2004411-001.05 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
63	Sample	K2004414-002.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
64	Sample	K2004414-003.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
65	Sample	K2004414-001.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
66	Sample	K2004414-001.02 ms doc	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
67	Sample	K2004414-004.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
68	Sample	K2004414-005.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
69	Sample	K2004414-006.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
70	Sample	K2004414-007.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
71	Sample	K2004484-001.08 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
72	Sample	K2004484-002.08 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
73	Sample	K2004484-003.08 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
74	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True
75	Sample	MB5	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
					False

Fusion Report - 06042020
Thursday, June 04, 2020 02:09 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/06/06 17:16 - Saturday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	06042020	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) (v4)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 4

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/04 14:09

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	11.35	15.07	3.72	49.70	05:21
2	TC Clean	4.16	7.58	3.43	50.28	04:03
3	TC Clean	1.32	4.88	3.56	50.26	03:47
4	TC Clean	1.18	4.85	3.67	50.23	03:46

Sample Type: Clean — From Schedule Version 4

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/04 14:30

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.63	4.03	3.40	49.80	05:15
2	TC Clean	2.98	6.49	3.51	50.39	04:03
3	TC Clean	1.66	5.20	3.54	50.30	03:46
4	TC Clean	1.77	5.19	3.42	50.00	03:43

Sample Type: Clean From Schedule Version 4

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/04 14:52

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.65	4.12	3.48	49.76	05:11
2	TC Clean	3.42	6.88	3.46	50.23	03:59
3	TC Clean	1.74	5.31	3.57	50.20	03:44
4	TC Clean	1.56	5.37	3.80	50.12	03:47

Sample Type: Blank (Creating v1394) From Schedule Version 4

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/06/04 15:14

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.88	4.27	3.39	49.37	05:08
2	TC Clean	3.58	7.03	3.46	50.15	04:00
3	TC Clean	1.95	5.63	3.68	49.91	03:49
4	TC Clean	2.03	5.67	3.64	50.02	03:50
5	Reagent Blank	5.28	8.98	3.70	50.07	05:03
6	Acid Blank	1.09	4.71	3.62	49.69	05:26

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.7155 ppm	0.0000 ppm	0.0000%	2020/06/04 15:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7155	7.1546	8.63	12.27	3.63	50.13	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.6874 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

Sample Type: Calibration Standard: CAS_salt_010711 CAL (Creating calibration From Schedule Version 4

CAS_salt_010711 v37)

	Pos	BAT	Concentration (ppm)	STD Conc	Dil	Sample ID	Result (Abs)	Std. Dev. (Abs)	RSD	Start Time
◆	D	TOC	0.0000	0 ppmC	1:1	[TOC] CAS_salt_010711 CAL [DI Water]	6.8000	0.0000	0%	2020/06/04 16:02
◆	A	TOC	0.5000	5 ppmC	1:10	[TOC] CAS_salt_010711 CAL [0.500 ppm]	7.9000	0.0000	0%	2020/06/04 16:16
◆	A	TOC	1.0000	5 ppmC	1:5	[TOC] CAS_salt_010711 CAL [1.0 ppm]	9.1600	0.0000	0%	2020/06/04 16:31
◆	A	TOC	5.0000	5 ppmC	1:1	[TOC] CAS_salt_010711 CAL [5.0 ppm]	22.9500	0.0000	0%	2020/06/04 16:45
◆	B	TOC	10.0000	50 ppmC	1:5	[TOC] CAS_salt_010711 CAL [10 ppm]	68.0970	0.0000	0%	2020/06/04 16:59
◆	B	TOC	25.0000	50 ppmC	1:2	[TOC] CAS_salt_010711 CAL [25 ppm]	163.0030	0.0000	0%	2020/06/04 17:14
◆	B	TOC	50.0000	50 ppmC	1:1	[TOC] CAS_salt_010711 CAL [50 ppm]	315.2880	0.0000	0%	2020/06/04 17:28

Pos	Base Analysis Type	ID	Rep #	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	DI Water	1	6.80	10.45	3.65	50.09	10:30
A	TOC	0.500 ppm	1	7.90	11.52	3.62	50.12	10:29
A	TOC	1.0 ppm	1	9.16	12.71	3.55	50.02	10:30
A	TOC	5.0 ppm	1	22.95	26.34	3.39	50.07	10:32
B	TOC	10 ppm	1	68.10	71.48	3.38	50.03	10:35
B	TOC	25 ppm	1	163.00	166.47	3.46	50.00	10:30
B	TOC	50 ppm	1	315.29	318.86	3.57	50.04	10:31

Completion State
Success - All Update Conditions met

Method
CAS_salt_010711 (v4)

Success Action
Auto (always)

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)	25.8014 ppm (PASS)	0.0000 ppm	0%	2020/06/04 17:42

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.8014	258.0139	164.61	168.12	3.51	50.01	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.6640 ppm (PASS)	0.0000 ppm	0%	2020/06/04 17:56

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.6640	6.6405	6.90	10.54	3.64	49.98	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample — From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.4660 ppm	0.0760 ppm	16.3200%	2020/06/04 18:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4606	4.6058	6.41	9.86	3.45	50.05	10:28
2	TOC	0.5680	5.6801	7.08	10.77	3.69	50.04	10:30
3	TOC	0.4510	4.5102	6.35	9.77	3.42	50.03	10:30
4	TOC	0.3842	3.8423	5.93	9.50	3.57	50.04	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> LCS — From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	23.8270 ppm (PASS)	0.1273 ppm	0.53%	2020/06/04 19:07

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.9238	239.2379	152.83	156.29	3.46	50.02	10:28

C	TOC	25.0 ppm	2	23.8757	238.7565	152.53	156.14	3.61	49.95	10:24
C	TOC	25.0 ppm	3	23.8688	238.6880	152.48	156.06	3.58	49.99	10:27
C	TOC	25.0 ppm	4	23.6396	236.3960	151.05	154.59	3.55	49.97	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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	0.8965 ppm	0.0000 ppm	0.0000%	2020/06/04 20:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8965	8.9651	9.15	12.67	3.53	49.92	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	3	TOC	K2004490-001.01	13.3428 ppm	0.0985 ppm	0.7400%	2020/06/04 20:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.3704	133.7042	87.41	90.91	3.50	49.87	10:32
2	TOC	13.1975	131.9748	86.32	89.90	3.58	49.84	10:29
3	TOC	13.4147	134.1473	87.68	91.19	3.50	49.83	10:26
4	TOC	13.3884	133.8843	87.52	91.25	3.73	49.81	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	4	TOC	K2004490-002.01	6.1573 ppm	0.0794 ppm	1.2900%	2020/06/04 21:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.2550	62.5499	42.76	46.32	3.56	49.80	10:29
2	TOC	6.1543	61.5426	42.13	45.73	3.60	49.80	10:28
3	TOC	6.0605	60.6054	41.54	45.19	3.65	49.80	10:27
4	TOC	6.1595	61.5952	42.17	45.58	3.41	49.81	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	5	TOC	K2004490-003.01	8.2982 ppm	0.0830 ppm	1.0000%	2020/06/04 22:09

Rep	Base			Adjusted		Baseline	Pressure	Run

#	Analysis Type	ppm	µg	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1	TOC	8.4036	84.0355	56.24	59.61	3.37	49.81	10:30
2	TOC	8.2617	82.6170	55.36	58.84	3.49	49.82	10:30
3	TOC	8.3181	83.1812	55.71	59.17	3.47	49.83	10:26
4	TOC	8.2096	82.0958	55.03	58.47	3.44	49.85	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2004490-004.01	8.3267 ppm	0.0537 ppm	0.6400%	2020/06/04 23:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.3419	83.4187	55.86	59.39	3.54	49.86	10:26
2	TOC	8.3895	83.8953	56.16	59.57	3.42	49.88	10:29
3	TOC	8.2611	82.6106	55.35	58.96	3.61	49.87	10:27
4	TOC	8.3145	83.1445	55.69	59.24	3.55	49.88	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2004490-005.01	8.1206 ppm	0.0376 ppm	0.4600%	2020/06/05 00:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.1377	81.3769	54.58	58.12	3.54	49.89	10:25
2	TOC	8.1589	81.5889	54.71	58.23	3.52	49.91	10:26
3	TOC	8.1146	81.1458	54.43	57.87	3.43	49.91	10:30
4	TOC	8.0711	80.7107	54.16	57.72	3.56	49.93	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2004490-006.01	7.8157 ppm	0.0718 ppm	0.9200%	2020/06/05 00:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.9026	79.0259	53.10	56.55	3.44	49.93	10:26
2	TOC	7.8049	78.0489	52.49	55.94	3.45	49.94	10:29
3	TOC	7.8272	78.2720	52.63	56.06	3.43	49.95	10:28
4	TOC	7.7281	77.2806	52.01	55.38	3.38	49.98	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time

◆	9	TOC	K2004490-007.01	12.8878 ppm	0.0783 ppm	0.6100%	2020/06/05 01:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.8511	128.5113	84.15	87.60	3.45	49.98	10:28
2	TOC	12.9036	129.0357	84.48	87.96	3.48	49.99	10:28
3	TOC	12.8071	128.0714	83.87	87.32	3.44	49.99	10:27
4	TOC	12.9892	129.8916	85.02	88.25	3.24	50.04	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	24.9498 ppm (PASS)	0.0000 ppm	0%	2020/06/05 02:47

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9498	249.4977	159.27	162.64	3.38	50.01	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.5923 ppm (PASS)	0.0000 ppm	0%	2020/06/05 03:02

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.5923	5.9232	6.45	9.85	3.40	50.02	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2004490-008.01	2.8643 ppm	0.0196 ppm	0.6900%	2020/06/05 03:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	2.8635	28.6352	21.49	25.06	3.57	50.03	10:28
2	TOC	2.8862	28.8616	21.63	25.18	3.55	50.03	10:25
3	TOC	2.8688	28.6878	21.52	25.10	3.58	50.03	10:26
4	TOC	2.8387	28.3866	21.33	24.90	3.57	50.04	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2004490-009.01	2.2245 ppm	0.0307 ppm	1.3800%	2020/06/05 04:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2665	22.6645	17.74	21.35	3.61	50.06	10:30
2	TOC	2.2241	22.2406	17.48	21.01	3.53	50.08	10:28
3	TOC	2.2139	22.1385	17.41	20.96	3.55	50.07	10:30
4	TOC	2.1936	21.9361	17.28	20.72	3.44	50.07	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2004490-010.01	6.2711 ppm	0.0582 ppm	0.9300%	2020/06/05 05:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.3431	63.4314	43.32	46.84	3.52	50.09	10:29
2	TOC	6.2465	62.4655	42.71	46.21	3.50	50.10	10:26
3	TOC	6.2875	62.8751	42.97	46.48	3.51	50.10	10:29
4	TOC	6.2070	62.0702	42.46	46.01	3.54	50.11	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2004490-011.01	10.3048 ppm	0.0606 ppm	0.5900%	2020/06/05 06:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.2574	102.5740	67.88	71.43	3.55	50.12	10:29
2	TOC	10.2883	102.8832	68.07	71.74	3.67	50.09	10:28
3	TOC	10.3935	103.9352	68.73	72.27	3.54	50.12	10:28
4	TOC	10.2800	102.8004	68.02	71.52	3.50	50.15	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2004110-004.02	16.3355 ppm	0.5372 ppm	3.2900%	2020/06/05 06:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	15.9557	159.5570	103.63	107.23	3.61	50.13	10:30
2	TOC	16.7154	167.1535	108.39	112.10	3.70	50.14	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2004561-001.01 10x	2.6288 ppm	0.2138 ppm	8.1300%	2020/06/05 07:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7800	27.8000	20.96	24.45	3.49	50.14	10:29
2	TOC	2.4776	24.7764	19.07	22.66	3.59	50.13	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2004561-002.01	11.5644 ppm	0.1679 ppm	1.4500%	2020/06/05 07:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	11.4456	114.4564	75.33	78.71	3.37	50.11	10:30
2	TOC	11.6831	116.8313	76.82	80.34	3.52	50.11	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2004490-012.01	6.8356 ppm	0.1063 ppm	1.5600%	2020/06/05 08:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.9810	69.8101	47.32	50.78	3.46	50.12	10:26
2	TOC	6.7886	67.8863	46.11	49.71	3.60	50.09	10:30
3	TOC	6.8398	68.3979	46.43	49.98	3.54	50.07	10:27
4	TOC	6.7328	67.3284	45.76	49.35	3.58	50.08	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2004490-012.01 ms	34.6474 ppm	0.1306 ppm	0.3800%	2020/06/05 09:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	34.5074	345.0743	220.02	223.50	3.48	50.06	10:27
2	TOC	34.7717	347.7169	221.68	225.41	3.74	50.06	10:30

3	TOC	34.7448	347.4475	221.51	225.02	3.51	50.04	10:26
4	TOC	34.5658	345.6576	220.39	224.04	3.65	50.03	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2004110-004.02 ms	44.2513 ppm	0.0000 ppm	0.0000%	2020/06/05 10:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	44.2513	442.5133	281.15	284.73	3.58	50.03	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	25.3403 ppm (PASS)	0.0000 ppm	0%	2020/06/05 10:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.3403	253.4028	161.72	165.16	3.45	50.00	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.6548 ppm (PASS)	0.0000 ppm	0%	2020/06/05 10:44

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.6548	6.5480	6.84	10.29	3.45	49.99	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 4

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◈	20	TOC	MB2	0.3567 ppm	0.0000 ppm	0.0000%	2020/06/05 10:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3567	3.5666	5.76	9.20	3.44	49.96	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> LCS From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	23.2757 ppm (PASS)	0.0000 ppm	0%	2020/06/05 11:14

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.2757	232.7572	148.76	152.39	3.63	49.96	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	25 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2004561-003.01 10x	9.5008 ppm	1.0121 ppm	10.6500%	2020/06/05 11:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.7851	87.8513	58.64	62.09	3.45	49.93	10:30
2	TOC	10.2164	102.1644	67.62	71.24	3.62	49.92	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	22	TOC	K2004561-004.01 10x	3.0793 ppm	0.4212 ppm	13.6800%	2020/06/05 11:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.3771	33.7707	24.71	28.31	3.60	49.92	10:25
2	TOC	2.7814	27.8144	20.97	24.50	3.53	49.88	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◉	23	TOC	K2004561-005.01 10x	2.5575 ppm	0.0706 ppm	2.7600%	2020/06/05 12:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6074	26.0739	19.88	23.30	3.42	49.90	10:28
2	TOC	2.5076	25.0761	19.25	22.55	3.30	49.89	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	24	TOC	K2004561-006.01 5x	14.9019 ppm	0.3407 ppm	2.2900%	2020/06/05 12:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	14.6610	146.6099	95.50	99.01	3.51	49.87	10:25
2	TOC	15.1428	151.4282	98.53	102.06	3.54	49.86	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	25	TOC	K2004561-007.01	18.3761 ppm	0.2573 ppm	1.4000%	2020/06/05 13:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	18.5580	185.5804	119.95	123.46	3.50	49.85	10:30
2	TOC	18.1942	181.9416	117.67	121.17	3.50	49.84	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	26	TOC	K2004561-008.01 10x	1.7766 ppm	0.4944 ppm	27.8300%	2020/06/05 13:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1262	21.2619	16.86	20.25	3.39	49.83	10:28
2	TOC	1.4270	14.2695	12.47	16.01	3.54	49.80	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	27	TOC	K2004521-001.01	3.2862 ppm	0.1159 ppm	3.5300%	2020/06/05 14:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.3681	33.6815	24.65	28.15	3.50	49.76	10:29
2	TOC	3.2043	32.0430	23.62	27.08	3.46	49.78	10:26

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2004541-002.01	0.9878 ppm	0.1037 ppm	10.5000%	2020/06/05 14:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0612	10.6116	10.18	13.62	3.44	49.84	10:28
2	TOC	0.9145	9.1452	9.26	12.75	3.50	50.03	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	24.7285 ppm (PASS)	0.0000 ppm	0%	2020/06/05 15:13

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7285	247.2854	157.88	161.35	3.47	50.15	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.6169 ppm (PASS)	0.0000 ppm	0%	2020/06/05 15:28

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.6169	6.1687	6.60	10.17	3.56	50.36	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2004492-009.01	1.1191 ppm	0.0337 ppm	3.0100%	2020/06/05 15:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1429	11.4292	10.69	14.22	3.53	50.51	10:27
2	TOC	1.0953	10.9527	10.39	13.92	3.53	50.64	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2004414-002.07	0.9007 ppm	0.0106 ppm	1.1800%	2020/06/05 16:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9081	9.0814	9.22	12.71	3.49	50.71	10:26
2	TOC	0.8932	8.9316	9.12	12.54	3.41	50.75	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2004414-003.07	0.3795 ppm	0.0202 ppm	5.3200%	2020/06/05 16:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3938	3.9380	5.99	9.40	3.41	50.85	10:25
2	TOC	0.3653	3.6527	5.81	9.26	3.44	50.88	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K2004414-004.07	1.0218 ppm	0.0255 ppm	2.4900%	2020/06/05 17:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0398	10.3980	10.05	13.41	3.37	50.89	10:28
2	TOC	1.0038	10.0378	9.82	13.42	3.60	50.95	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	33	TOC	K2004414-005.07	0.6217 ppm	0.0270 ppm	4.3500%	2020/06/05 17:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6408	6.4085	7.54	11.04	3.50	50.96	10:28
2	TOC	0.6026	6.0260	7.30	10.79	3.49	51.01	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC)	CAS_salt_010711	CAS_salt_010711

(v1394) (v4) (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2004414-006.07	3.0035 ppm	0.0482 ppm	1.6100%	2020/06/05 18:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0376	30.3758	22.58	25.94	3.37	50.95	10:28
2	TOC	2.9694	29.6936	22.15	25.76	3.61	50.88	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	35	TOC	K2004414-007.07	0.8905 ppm	0.0325 ppm	3.6500%	2020/06/05 18:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9134	9.1340	9.25	12.52	3.27	50.81	10:29
2	TOC	0.8675	8.6750	8.96	12.33	3.37	50.68	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	36	TOC	K2004498-001.04	2.0957 ppm	0.0408 ppm	1.9500%	2020/06/05 18:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1246	21.2460	16.85	20.22	3.37	50.60	10:28
2	TOC	2.0669	20.6690	16.49	19.57	3.08	50.47	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	37	TOC	K2004414-001.07	0.8007 ppm	0.0343 ppm	4.2800%	2020/06/05 19:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8249	8.2494	8.70	12.02	3.32	50.37	10:28
2	TOC	0.7765	7.7649	8.39	11.93	3.54	50.28	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	38	TOC	K2004414-001.07 ms	29.1749 ppm	0.0000 ppm	0.0000%	2020/06/05 19:55

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	29.1749	291.7492	186.56	190.02	3.45	50.20	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	24.5075 ppm (PASS)	0.0000 ppm	0%	2020/06/05 20:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.5075	245.0747	156.49	160.03	3.54	50.13	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.4761 ppm (PASS)	0.0000 ppm	0%	2020/06/05 20:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.4761	4.7613	5.72	9.06	3.34	50.09	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	39	TOC	MB3	0.2921 ppm	0.0000 ppm	0.0000%	2020/06/05 20:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2921	2.9211	5.35	8.74	3.39	50.06	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> LCS From Schedule Version 4

	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)	22.5554 ppm (PASS)	0.0000 ppm	0%	2020/06/05 20:54

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	22.5554	225.5544	144.24	147.78	3.53	50.03	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	25 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	40	TOC	K2004498-002.04	1.7243 ppm	0.1347 ppm	7.8100%	2020/06/05 21:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8195	18.1953	14.94	18.48	3.54	50.01	10:27
2	TOC	1.6291	16.2906	13.74	17.48	3.73	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	41	TOC	K2004498-003.04	1.8533 ppm	0.0365 ppm	1.9700%	2020/06/05 21:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8791	18.7914	15.31	18.83	3.52	50.05	10:30
2	TOC	1.8275	18.2750	14.99	18.58	3.59	50.02	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	42	TOC	K2004498-004.04	2.6058 ppm	0.0189 ppm	0.7300%	2020/06/05 22:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6192	26.1918	19.95	23.41	3.46	50.03	10:25
2	TOC	2.5924	25.9240	19.79	23.20	3.41	50.07	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◈	43	TOC	K2004498-005.04	1.4670 ppm	0.0436 ppm	2.9700%	2020/06/05 22:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4979	14.9788	12.92	16.44	3.52	50.07	10:26
2	TOC	1.4362	14.3620	12.53	16.02	3.49	50.07	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	44	TOC	K2004498-006.04	3.3253 ppm	0.0440 ppm	1.3200%	2020/06/05 23:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.2942	32.9419	24.19	27.65	3.46	50.07	10:26
2	TOC	3.3564	33.5635	24.58	28.01	3.43	50.02	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	45	TOC	K2004498-007.04	3.3532 ppm	0.0823 ppm	2.4500%	2020/06/05 23:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4113	34.1134	24.92	28.27	3.35	50.08	10:25
2	TOC	3.2950	32.9499	24.19	27.63	3.44	50.10	10:22

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	46	TOC	K2004483-001.10	0.5439 ppm	0.0229 ppm	4.2100%	2020/06/05 23:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5277	5.2768	6.83	10.29	3.46	50.08	10:30
2	TOC	0.5600	5.6004	7.03	10.45	3.41	50.08	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	47	TOC	K2004483-001.10 ms	29.0506 ppm	0.0000 ppm	0.0000%	2020/06/06 00:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	29.0506	290.5060	185.78	189.29	3.50	50.08	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	24.1312 ppm (PASS)	0.0000 ppm	0%	2020/06/06 00:40

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.1312	241.3115	154.13	157.65	3.52	50.10	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.3905 ppm (PASS)	0.0000 ppm	0%	2020/06/06 00:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3905	3.9054	5.18	8.78	3.60	50.10	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample — From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	48	TOC	K2004483-002.04	0.6157 ppm	0.0281 ppm	4.5600%	2020/06/06 01:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6356	6.3559	7.51	11.07	3.57	50.11	10:30
2	TOC	0.5959	5.9590	7.26	10.93	3.67	50.11	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time

◈	49	TOC	K2004483-003.04	0.2660 ppm	0.0283 ppm	10.6300%	2020/06/06 01:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2860	2.8605	5.32	8.87	3.55	50.11	10:27
2	TOC	0.2460	2.4604	5.06	8.65	3.59	50.11	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	50	TOC	K2004484-001.07	0.6947 ppm	0.0027 ppm	0.3900%	2020/06/06 02:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6966	6.9663	7.89	11.52	3.63	50.12	10:32
2	TOC	0.6928	6.9281	7.87	11.38	3.51	50.12	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	51	TOC	K2004484-002.07	0.7123 ppm	0.0308 ppm	4.3200%	2020/06/06 02:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7341	7.3409	8.13	11.83	3.70	50.15	10:30
2	TOC	0.6906	6.9058	7.85	11.37	3.52	50.15	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	52	TOC	K2004484-003.07	2.8083 ppm	0.0662 ppm	2.3600%	2020/06/06 03:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8551	28.5508	21.43	24.90	3.47	50.15	10:29
2	TOC	2.7615	27.6151	20.85	24.46	3.61	50.15	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	53	TOC	K2004498-008.04	25.0103 ppm	0.2974 ppm	1.1900%	2020/06/06 03:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	24.8000	248.0002	159.12	162.63	3.52	50.15	10:29
2	TOC	25.2206	252.2065	161.76	165.22	3.46	50.15	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	54	TOC	K2004498-009.04	4.4279 ppm	0.1411 ppm	3.1900%	2020/06/06 03:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.5277	45.2770	31.93	35.45	3.52	50.16	10:28
2	TOC	4.3281	43.2815	30.68	34.20	3.52	50.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	55	TOC	K2004410-001.02 doc	1.1130 ppm	0.0383 ppm	3.4400%	2020/06/06 04:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1401	11.4005	10.67	14.12	3.45	50.17	10:26
2	TOC	1.0859	10.8586	10.33	13.73	3.39	50.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	56	TOC	K2004413-001.15 doc	2.3096 ppm	0.0347 ppm	1.5000%	2020/06/06 04:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2851	22.8510	17.86	21.35	3.49	50.18	10:27
2	TOC	2.3342	23.3419	18.17	21.62	3.45	50.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	57	TOC	K2004413-001.15 doc ms	32.2285 ppm	0.0000 ppm	0.0000%	2020/06/06 05:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	32.2285	322.2849	205.72	209.22	3.49	50.17	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	23.7426 ppm (PASS)	0.0000 ppm	0%	2020/06/06 05:37

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	23.7426	237.4257	151.69	155.26	3.57	50.18	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.3818 ppm (PASS)	0.0000 ppm	0%	2020/06/06 05:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3818	3.8177	5.13	8.75	3.63	50.17	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	58	TOC	MB4	0.1796 ppm	0.0000 ppm	0.0000%	2020/06/06 06:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1796	1.7958	4.65	8.20	3.55	50.19	10:35

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> LCS From Schedule Version 4

	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)	21.6783 ppm (PASS)	0.0000 ppm	0%	2020/06/06 06:21

Pos	Base Analysis	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time

	Type									
C	TOC	25.0 ppm	1	21.6783	216.7832	138.74	142.41	3.67	50.18	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	25 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	59	TOC	K2004413-002.05 doc	2.3565 ppm	0.0748 ppm	3.1800%	2020/06/06 06:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4094	24.0942	18.64	22.22	3.58	50.18	10:28
2	TOC	2.3036	23.0359	17.97	21.62	3.65	50.19	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	60	TOC	K2004413-003.05 doc	2.6125 ppm	0.0002 ppm	0.0100%	2020/06/06 07:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6126	26.1265	19.91	23.50	3.58	50.20	10:31
2	TOC	2.6123	26.1233	19.91	23.46	3.55	50.18	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	61	TOC	K2004413-004.05 doc	1.7123 ppm	0.0128 ppm	0.7500%	2020/06/06 07:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7213	17.2134	14.32	17.97	3.65	50.19	10:25
2	TOC	1.7032	17.0317	14.21	17.77	3.56	50.19	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	62	TOC	K2004411-001.05 doc	3.4520 ppm	0.0602 ppm	1.7400%	2020/06/06 08:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4945	34.9454	25.45	28.90	3.46	50.19	10:30
2	TOC	3.4094	34.0943	24.91	28.42	3.51	50.19	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	63	TOC	K2004414-002.02 doc	0.7534 ppm	0.0334 ppm	4.4300%	2020/06/06 08:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7770	7.7697	8.40	11.92	3.52	50.20	10:23
2	TOC	0.7298	7.2979	8.10	11.71	3.61	50.18	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	64	TOC	K2004414-003.02 doc	0.2066 ppm	0.0227 ppm	10.9700%	2020/06/06 08:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2226	2.2261	4.92	8.47	3.55	50.18	10:27
2	TOC	0.1906	1.9058	4.72	8.40	3.68	50.16	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	65	TOC	K2004414-001.02 doc	0.7639 ppm	0.0002 ppm	0.0300%	2020/06/06 09:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7637	7.6374	8.31	11.81	3.50	50.16	10:26
2	TOC	0.7641	7.6406	8.32	11.81	3.50	50.14	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	66	TOC	K2004414-001.02 ms doc	29.2560 ppm	0.0000 ppm	0.0000%	2020/06/06 09:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	29.2560	292.5605	187.07	190.67	3.60	50.13	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	23.4298 ppm (PASS)	0.0000 ppm	0%	2020/06/06 10:07

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	23.4298	234.2984	149.73	153.36	3.63	50.16	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.3940 ppm (PASS)	0.0000 ppm	0%	2020/06/06 10:22

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3940	3.9404	5.20	8.66	3.45	50.13	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample

From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	67	TOC	K2004414-004.02 doc	1.3334 ppm	0.0343 ppm	2.5700%	2020/06/06 10:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3576	13.5762	12.04	15.64	3.60	50.12	10:28
2	TOC	1.3092	13.0917	11.74	15.33	3.59	50.10	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	68	TOC	K2004414-005.02 doc	1.2734 ppm	0.0123 ppm	0.9600%	2020/06/06 11:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2647	12.6470	11.46	15.13	3.67	50.10	10:25
2	TOC	1.2821	12.8207	11.57	15.17	3.60	50.04	10:27

Dilution	Blank Contribution	Method	Calibration

1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	69	TOC	K2004414-006.02 doc	3.2842 ppm	0.0130 ppm	0.3900%	2020/06/06 11:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.2751	32.7506	24.07	27.69	3.62	50.00	10:30
2	TOC	3.2934	32.9339	24.18	27.70	3.52	50.02	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	70	TOC	K2004414-007.02 doc	0.8610 ppm	0.0274 ppm	3.1800%	2020/06/06 12:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8804	8.8041	9.04	12.62	3.57	50.02	10:30
2	TOC	0.8417	8.4168	8.80	12.42	3.62	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	71	TOC	K2004484-001.08 doc	0.8324 ppm	0.0505 ppm	6.0700%	2020/06/06 12:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8681	8.6814	8.97	12.45	3.48	50.00	10:29
2	TOC	0.7967	7.9673	8.52	12.13	3.61	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	72	TOC	K2004484-002.08 doc	1.4705 ppm	0.0273 ppm	1.8500%	2020/06/06 12:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4898	14.8975	12.87	16.28	3.41	50.01	10:31
2	TOC	1.4512	14.5118	12.63	16.05	3.42	50.01	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	73	TOC	K2004484-003.08 doc	2.8462 ppm	0.0057 ppm	0.2000%	2020/06/06 13:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8422	28.4216	21.35	24.83	3.47	50.00	10:28
2	TOC	2.8503	28.5029	21.40	24.90	3.50	49.99	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	74	TOC	RB	0.1789 ppm	0.0137 ppm	7.6800%	2020/06/06 13:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1887	1.8866	4.70	8.16	3.46	49.99	10:30
2	TOC	0.1692	1.6922	4.58	8.02	3.43	49.97	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	75	TOC	MB5	0.0650 ppm	0.0000 ppm	0.0000%	2020/06/06 14:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0650	0.6498	3.93	7.57	3.64	50.02	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> LCS From Schedule Version 4

	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)	22.8704 ppm (PASS)	0.0000 ppm	0%	2020/06/06 14:37

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	22.8704	228.7039	146.22	149.68	3.46	50.00	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	25 ppmC

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)	24.6014 ppm	0.0000 ppm	0%	2020/06/06 14:52

							(PASS)				

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.6014	246.0135	157.08	160.75	3.67	50.01	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.3845 ppm (PASS)	0.0000 ppm	0%	2020/06/06 15:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3845	3.8448	5.14	8.69	3.55	50.02	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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
v1393	1.4957	1.2330	0.0000	0.0000	0.0000	2020/06/02 20:16	Fusion1 (Fusion1)
v1394	1.7607	1.0900	0.0000	0.0000	0.0000	2020/06/04 15:47	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version:	v36	Calibration curve formula:	TOC: y = 6.913x + 3.706
Ver Creation:	2020/05/26 19:14	r^2 value:	TOC: r^2 = 0.99884
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	5.2860	0.0000		2020/05/26 17:47
0.500 ppm	7.7280	0.5000		2020/05/26 18:02
1.0 ppm	9.7320	1.0000		2020/05/26 18:16
5.0 ppm	30.7290	5.0000		2020/05/26 18:30
10 ppm	75.9880	10.0000		2020/05/26 18:45
25 ppm	182.4960	25.0000		2020/05/26 18:59
50 ppm	346.4790	50.0000		2020/05/26 19:13

Name: CAS_salt_010711 (TOC)

Version:	v37	Calibration curve formula:	TOC: y = 6.274x + 2.733
Ver Creation:	2020/06/04 17:42	r^2 value:	TOC: r^2 = 0.99796
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	6.8000	0.0000		2020/06/04 16:15
0.500 ppm	7.9000	0.5000		2020/06/04 16:30
1.0 ppm	9.1600	1.0000		2020/06/04 16:44
5.0 ppm	22.9500	5.0000		2020/06/04 16:58
10 ppm	68.0970	10.0000		2020/06/04 17:12
25 ppm	163.0030	25.0000		2020/06/04 17:26
50 ppm	315.2880	50.0000		2020/06/04 17:40

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

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

SystemFlow	500 ml/min	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	2020/06/06 15:22

ALS Environmental

StarLIMS Run:	682633, 682634, 682346, 682347, 682348
Analysis:	DOC/TOC
Method:	SM 5310 C, 9060A, 415.1, 9060

CCV: 11-GEN-05-82C 50 ppm LCS: 11-GEN-05-79J 25.0 ppm

ICAL Date: 6/4/2020

ICAL ID: 19-GEN-21-H

ICS ID: 19-GEN-8-4-G

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-08-21-G

21 % H3PO4: 19-GEN-08-21-F

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: RKP	Date Analyzed: 6/6/20
Reviewed By: JC	Date Reviewed: 6/8/20

June 16, 2020 Service Request No:E2000473

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

Laboratory Results for: HS20051122

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 29, 2020
For your reference, these analyses have been assigned our service request number **E2000473.**

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
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ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000473
Project:	HS20051122	**Date Received:**	05/29/20
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

One sample was received for analysis at ALS Environmental in Houston on 05/29/20.

The sample as received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000215: 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:**E2000473
Project: HS20051122

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000473-001	LH18/24-SP650_052820_BIX	5/28/2020	1400

Service Request Summary

Folder #: **E2000473**
Client Name: ALS Environmental - US
Project Name: HS20051122
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: 05/29/20
Internal Due Date: 6/12/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20051122
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000473-001	LH18/24-SP650_052820_BIX	Water	05/28/20 1400	**IV**

Service Request Summary

Folder #: **E2000473**
Client Name: ALS Environmental - US
Project Name: HS20051122
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: 05/29/20
Internal Due Date: 6/12/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20051122
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7B
Pressure Gas:

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.
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.
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.
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.

Data Qualifiers

Lab Standard

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
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611	6/30/2020
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	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
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	6/30/2020
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	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

ALS

Chain of Custody

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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: 13985**

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:	HS20051122
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20051122-02**	**LH18/24-SP650_052820-BIX**	**Water**	**28 May 2020 14:00**
	SUB_Perch-6850			08 Jun 2020

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

QC Level: DOD IV (DoD Data Package)

E2000473 5
ALS Laboratory Group
HS20051122

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 5/29/20 1336

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS - H

Thermometer ID GMU4

Date/Time Received: 5/24/20 Initials: CH

Date/Time Logged in: 5/29/20 Initials CH

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?
-		5/24/20	1436	CH	2.5/2.9	☒
						☐
						☐
						☐

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: E2000473 ALS Laboratory Group HS20051122 5

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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
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Preparation Information Benchsheet

Prep Run#: 359389 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 6/1/20 16:00

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000473-001	LH18/24-SP650_052820_BIX	.01	6850/ClO4 DOD			Water	10mL	
2	EQ2000215-01	MB		6850/ClO4 DOD			Liquid	10mL	
3	EQ2000215-02	LCS		6850/ClO4 DOD			Liquid	10mL	
4	EQ2000215-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
5	EQ2000215-04	ICS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 202037 Logbook Ref: Sodium Perchlorate Expires On: 05/22/2021

EQ2000215-02 100.00µL EQ2000215-03 100.00µL

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

E2000473-001 1.00µL EQ2000215-01 1.00µL EQ2000215-02 1.00µL EQ2000215-03 1.00µL

Preparation Steps

Step: Preparation
Started: 6/1/20 16:00
Finished: 6/1/20 16:45
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 6/5/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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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:**	E2000473
Project:	HS20051122	**Date Collected:**	5/28/20 1400
Sample Matrix:	Water	**Date Received:**	5/29/20
Sample Name:	LH18/24-SP650_052820_BIX	**Units:**	µg/L
Lab Code:	E2000473-001	**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	6/ 1/20	6/15/20 15:28	359389	683759	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000215-01	**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			1	6/ 1/20	6/15/20 15:04	359389	683759	

Accuracy & Precision

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

QA/QC Report

Client: ALS Environmental - US
Project: HS20051122
Sample Matrix: Water

Service Request: E2000473
Date Analyzed: 6/15/20

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: 359389

	Lab Control Sample EQ2000215-02			Duplicate Lab Control Sample EQ2000215-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.115	0.100	115	0.106	0.100	106	84 - 119	8	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:**	E2000473
Project:	HS20051122	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000215-02	**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	**0.115**		0.100			1	6/ 1/20	6/15/20 15:56	359389	683759	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000215-03	**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	**0.106**		0.100			1	6/ 1/20	6/15/20 15:20	359389	683759	

Initial Calibration

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

20200602

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

Initial Calibration - Detailed Report

Calibration ID: EC2000007 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000007-01	PERCHLORATE1	20200602_009	06/02/2020 15:37
02	EC2000007-02	PERCHLORATE2	20200602_010	06/02/2020 15:45
03	EC2000007-03	PERCHLORATE3	20200602_011	06/02/2020 15:53
04	EC2000007-04	PERCHLORATE4	20200602_012	06/02/2020 16:05
05	EC2000007-05	PERCHLORATE5	20200602_013	06/02/2020 16:13
06	EC2000007-06	PERCHLORATE6	20200602_014	06/02/2020 16:21
07	EC2000007-07	PERCHLORATE7	20200602_015	06/02/2020 16:29
08	EC2000007-08	PERCHLORATE8	20200602_016	06/02/2020 16:37
09	EC2000007-09	PERCHLORATE9	20200602_017	06/02/2020 16:44
10	EC2000007-10	PERCHLORATE10	20200602_018	06/02/2020 16:52

Analyte **Curve Fit** **Weighting**

Perchlorate **Average RF** **RSD = 11.36** **Average RF = 0.1279**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1628	02	0.5000	0.122	03	0.7000	0.1165	04	1.0000	0.1408
05	2.0000	0.1172	06	5.0000	0.1212	07	10.0000	0.135	08	20.0000	0.1233
09	30.0000	0.12	10	50.0000	0.1202						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.127	27.3	02	0.5000	0.477	-4.6	03	0.7000	0.638	-8.9
04	1.0000	1.10	10.1	05	2.0000	1.83	-8.4	06	5.0000	4.74	-5.2
07	10.0000	10.6	5.5	08	20.0000	19.3	-3.6	09	30.0000	28.1	-6.2
10	50.0000	47.0	-6.0								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000007	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200602_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000007-11	T	Average RF	10	10.859	ng/mL	8.6	<= 15

ALS Group Houston

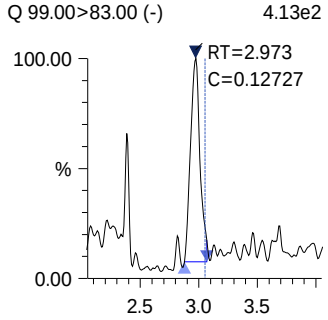
PERCHLORATE1

Date acquired: 6/2/2020 3:37:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_009.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	PERCHLORATE1	6/2/2020 3:37:49 PM	2231	0.12727	20200602_009	2.973	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/2/2020 3:37:49 PM	137060	1.00000	20200602_009	2.954	25.0000	1.0000	4

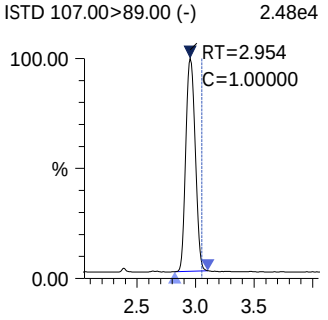
Perchlorate

Conc 0.12727
Area 2231



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 137060



ALS Group Houston

PERCHLORATE2

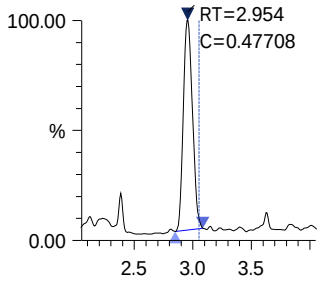
Date acquired: 6/2/2020 3:45:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_010.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	6/2/2020 3:45:42 PM	8464	0.47708	20200602_010	2.954	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/2/2020 3:45:42 PM	138722	1.00000	20200602_010	2.949	25.0000	1.0000	5

Perchlorate

Conc 0.47708
Area 8464

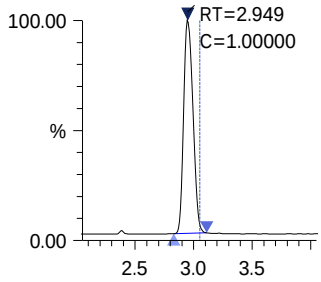
Q 99.00>83.00 (-) 1.56e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 138722

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

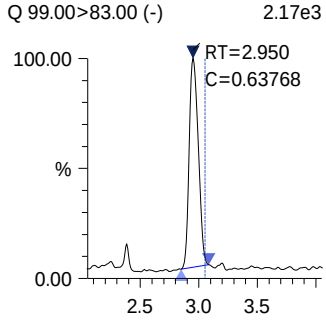
PERCHLORATE3

Date acquired: 6/2/2020 3:53:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_011.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	PERCHLORATE3	6/2/2020 3:53:36 PM	11656	0.63768	20200602_011	2.950	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/2/2020 3:53:36 PM	142915	1.00000	20200602_011	2.954	25.0000	1.0000	6

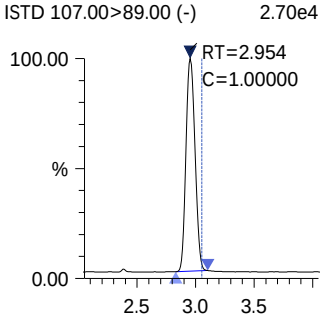
Perchlorate

Conc 0.63768
Area 11656



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 142915



ALS Group Houston

PERCHLORATE4

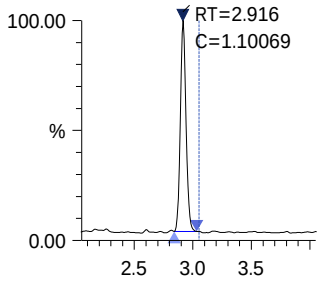
Date acquired: 6/2/2020 4:05:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_012.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	6/2/2020 4:05:28 PM	18119	1.10069	20200602_012	2.916	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/2/2020 4:05:28 PM	128706	1.00000	20200602_012	2.914	25.0000	1.0000	7

Perchlorate

Conc 1.10069
Area 18119

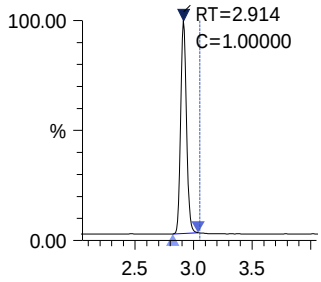
Q 99.00>83.00 (-) 5.42e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128706

ISTD 107.00>89.00 (-) 3.72e4



ALS Group Houston

PERCHLORATE5

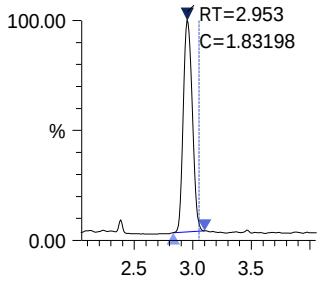
Date acquired: 6/2/2020 4:13:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_013.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	6/2/2020 4:13:21 PM	33971	1.83198	20200602_013	2.953	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/2/2020 4:13:21 PM	144982	1.00000	20200602_013	2.953	25.0000	1.0000	8

Perchlorate

Conc 1.83198
Area 33971

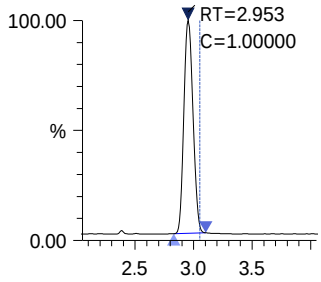
Q 99.00>83.00 (-) 6.29e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 144982

ISTD 107.00>89.00 (-) 2.71e4



ALS Group Houston

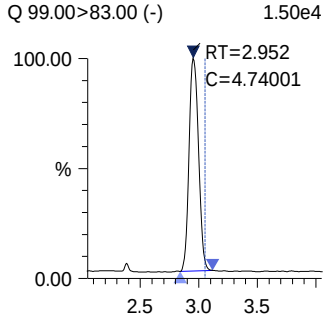
PERCHLORATE6

Date acquired: 6/2/2020 4:21:16 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_014.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	PERCHLORATE6	6/2/2020 4:21:16 PM	85178	4.74001	20200602_014	2.952	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/2/2020 4:21:16 PM	140500	1.00000	20200602_014	2.948	25.0000	1.0000	9

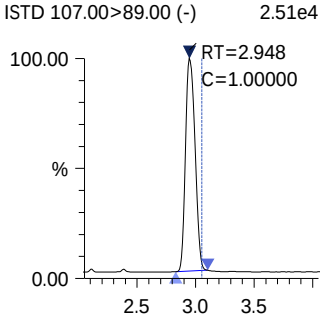
Perchlorate

Conc 4.74001
Area 85178



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 140500



ALS Group Houston

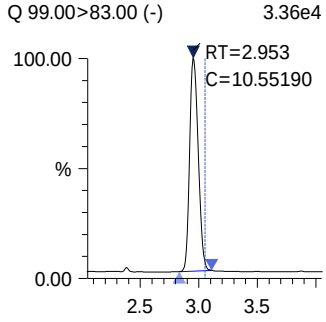
PERCHLORATE7

Date acquired: 6/2/2020 4:29:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_015.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	PERCHLORATE7	6/2/2020 4:29:10 PM	173998	10.55190	20200602_015	2.953	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 4:29:10 PM	128928	1.00000	20200602_015	2.951	25.0000	1.0000	10

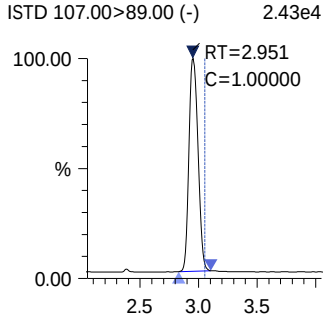
Perchlorate

Conc 10.55190
Area 173998



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 128928



ALS Group Houston

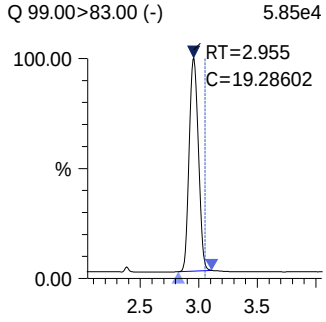
PERCHLORATE8

Date acquired: 6/2/2020 4:37:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	PERCHLORATE8	6/2/2020 4:37:02 PM	324944	19.28602	20200602_016	2.955	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/2/2020 4:37:02 PM	131734	1.00000	20200602_016	2.953	25.0000	1.0000	11

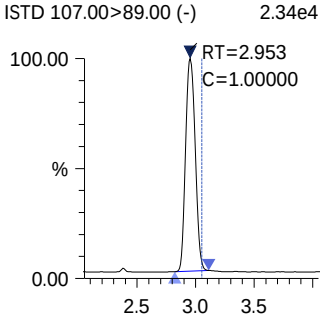
Perchlorate

Conc 19.28602
Area 324944



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 131734



ALS Group Houston

PERCHLORATE9

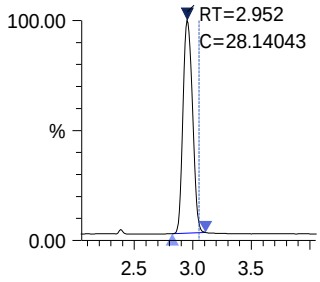
Date acquired: 6/2/2020 4:44:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_017.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	6/2/2020 4:44:57 PM	469066	28.14043	20200602_017	2.952	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/2/2020 4:44:57 PM	130327	1.00000	20200602_017	2.953	25.0000	1.0000	12

Perchlorate

Conc 28.14043
Area 469066

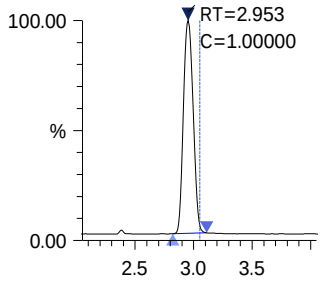
Q 99.00>83.00 (-) 8.16e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130327

ISTD 107.00>89.00 (-) 2.28e4



ALS Group Houston

PERCHLORATE10

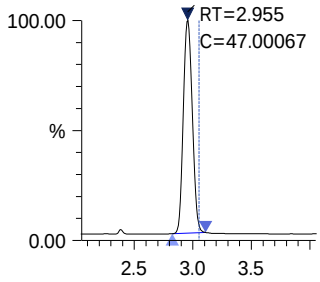
Date acquired: 6/2/2020 4:52:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_018.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	6/2/2020 4:52:49 PM	737362	47.00067	20200602_018	2.955	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	6/2/2020 4:52:49 PM	122661	1.00000	20200602_018	2.952	25.0000	1.0000	13

Perchlorate

Conc 47.00067
Area 737362

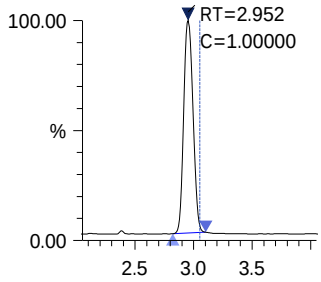
Q 99.00>83.00 (-) 1.36e5



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 122661

ISTD 107.00>89.00 (-) 2.25e4



ALS Group Houston

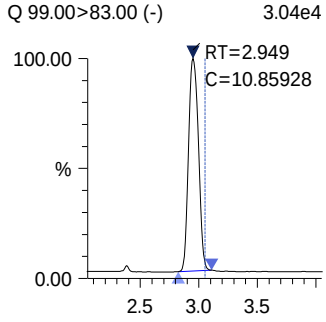
PERCHLORATEICV

Date acquired: 6/2/2020 5:00:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	6/2/2020 5:00:42 PM	180334	10.85928	20200602_019	2.949	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/2/2020 5:00:42 PM	129839	1.00000	20200602_019	2.948	25.0000	1.0000	14

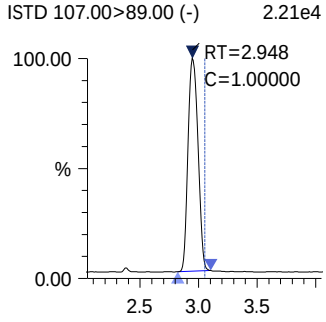
Perchlorate

Conc 10.85928
Area 180334



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 129839



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

20200615

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments
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	null		20200615_002	Perchlorate6850b.lcm	1x	☒	
	null		20200615_003	Perchlorate6850b.lcm	1x	☒	
	IB		20200615_004	Perchlorate6850b.lcm	1x	☒	
	IB		20200615_005	Perchlorate6850b.lcm	1x	☒	
	LODV		20200615_006	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-02		20200615_007	Perchlorate6850b.lcm	1x	☒	do not use
	ICAL 1		20200615_008	Perchlorate6850b.lcm	1x	☒	do not use
	LODV		20200615_009	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200615_012	Perchlorate6850b.lcm	1x	☒	do not use
	LODV		20200615_013	Perchlorate6850b.lcm	1x	☒	do not use
	LODV		20200615_014	Perchlorate6850b.lcm	1x	☒	do not use
	IB		20200615_015	Perchlorate6850b.lcm	1x	☒	
	IB		20200615_016	Perchlorate6850b.lcm	1x	☒	
	IB		20200615_017	Perchlorate6850b.lcm	1x	☒	
	LODV		20200615_018	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200615_019	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200615_020	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200615_021	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-02		20200615_022	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200615_023	Perchlorate6850b.lcm	1x	☒	
	E2000473-001		20200615_024	Perchlorate6850b.lcm	1x	☒	
	ICS		20200615_025	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200615_026	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000215-02		20200615_027	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-01		20200615_028	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-02		20200615_029	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-03		20200615_030	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-04		20200615_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-05		20200615_032	Perchlorate6850b.lcm	1x	☒	
	E2000491-001		20200615_033	Perchlorate6850b.lcm	1x	☒	
	E2000491-002		20200615_034	Perchlorate6850b.lcm	1x	☒	
	E2000491-003		20200615_035	Perchlorate6850b.lcm	1x	☒	
	E2000491-004		20200615_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200615_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000491-005		20200615_038	Perchlorate6850b.lcm	1x	☒	reanalyze @ 2X
	E2000491-006		20200615_039	Perchlorate6850b.lcm	1x	☒	reanalyze
	E2000491-007		20200615_040	Perchlorate6850b.lcm	1x	☒	
	E2000491-008		20200615_041	Perchlorate6850b.lcm	1x	☒	
	E2000491-009		20200615_042	Perchlorate6850b.lcm	1x	☒	
	E2000492-001		20200615_043	Perchlorate6850b.lcm	1x	☒	reanalyze @ 10X
	E2000492-002		20200615_044	Perchlorate6850b.lcm	1x	☒	
	E2000492-003		20200615_045	Perchlorate6850b.lcm	1x	☒	
	E2000492-004		20200615_046	Perchlorate6850b.lcm	1x	☒	
	E2000492-005		20200615_047	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200615_048	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000492-006		20200615_049	Perchlorate6850b.lcm	1x	☒	reanalyze @ 50X
	E2000492-007		20200615_050	Perchlorate6850b.lcm	1x	☒	reanalyze
	E2000492-008		20200615_051	Perchlorate6850b.lcm	1x	☒	reanalyze
	E2000492-009		20200615_052	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200615_053	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200615\20200615_019	**Calibration ID:**	EC2000007
		Analysis Lot:	683759
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.7	0.1279	0.1362	6.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200615\20200615_026	**Calibration ID:**	EC2000007
		Analysis Lot:	683759
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.9	0.1279	0.1392	8.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200615\20200615_037	**Calibration ID:**	EC2000007
		Analysis Lot:	683759
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279	0.1382	8.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20 14:48

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200615\20200615_019	**Lab Code:**	EQ2000235-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683759
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000235-01	122,177	3.04
Method Blank	EQ2000215-01	134,384	3.04
Duplicate Lab Control Sample	EQ2000215-03	141,142	3.05
LH18/24-SP650_052820_BIX	E2000473-001	153,170	3.02

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:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20 15:44

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200615\20200615_026	**Lab Code:**	EQ2000235-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683759
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000235-02	116,446	3.04
Lab Control Sample	EQ2000215-02	142,124	2.99

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:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20 17:15

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200615\20200615_037	**Lab Code:**	EQ2000235-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683759
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000235-03	123,220	3.04

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

ALS Group Houston

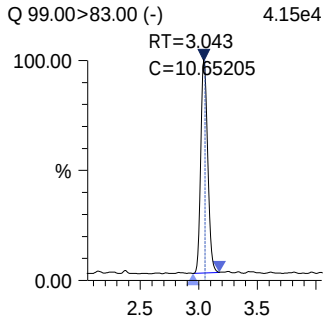
PERCHLORATE7

Date acquired: 6/15/2020 2:48:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_019.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	6/15/2020 2:48:30 PM	166454	10.65205	20200615_019	3.043	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/15/2020 2:48:30 PM	122177	1.00000	20200615_019	3.041	25.0000	1.0000	4

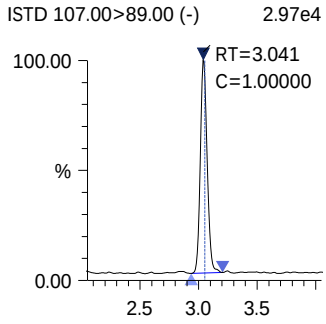
Perchlorate

Conc 10.65205
Area 166454



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 122177



ALS Group Houston

EQ2000215-01

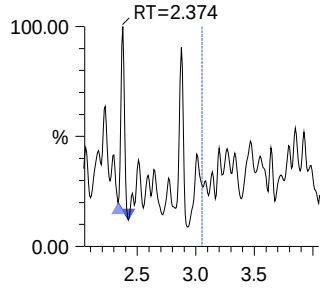
Date acquired: 6/15/2020 3:04:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_021.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000215-01	6/15/2020 3:04:51 PM	----	----	20200615_021	----	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	EQ2000215-01	6/15/2020 3:04:51 PM	134384	1.00000	20200615_021	3.041	25.0000	1.0000	5

Perchlorate

Conc ----
Area ----

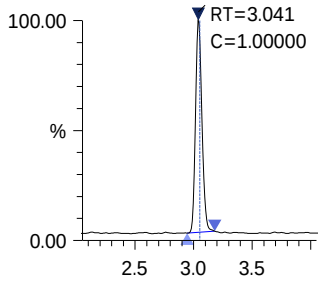
Q 99.00>83.00 (-) 6.79e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 134384

ISTD 107.00>89.00 (-) 3.49e4



ALS Group Houston

EQ2000215-03

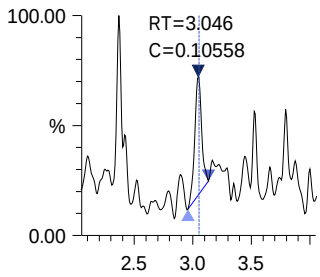
Date acquired: 6/15/2020 3:20:39 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_023.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000215-03	6/15/2020 3:20:39 PM	1906	0.10558	20200615_023	3.046	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	EQ2000215-03	6/15/2020 3:20:39 PM	141142	1.00000	20200615_023	3.045	25.0000	1.0000	7

Perchlorate

Conc 0.10558
Area 1906

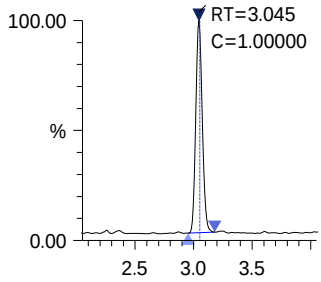
Q 99.00>83.00 (-) 8.50e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 141142

ISTD 107.00>89.00 (-) 3.62e4



ALS Group Houston

E2000473-001

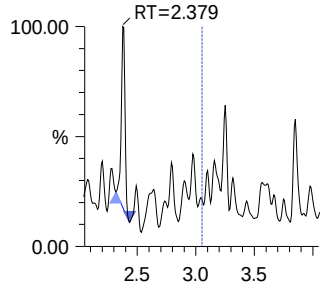
Date acquired: 6/15/2020 3:28:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_024.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	E2000473-001	6/15/2020 3:28:35 PM	----	----	20200615_024	----	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	E2000473-001	6/15/2020 3:28:35 PM	153170	1.00000	20200615_024	3.020	25.0000	1.0000	8

Perchlorate

Conc ----
Area ----

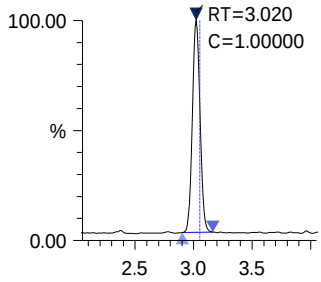
Q 99.00>83.00 (-) 1.28e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 153170

ISTD 107.00>89.00 (-) 3.34e4



ALS Group Houston

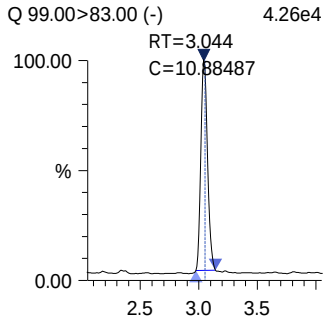
PERCHLORATE7

Date acquired: 6/15/2020 3:44:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_026.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	6/15/2020 3:44:28 PM	162113	10.88487	20200615_026	3.044	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/15/2020 3:44:28 PM	116446	1.00000	20200615_026	3.042	25.0000	1.0000	4

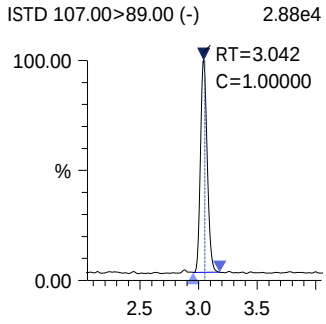
Perchlorate

Conc 10.88487
Area 162113



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 116446



ALS Group Houston

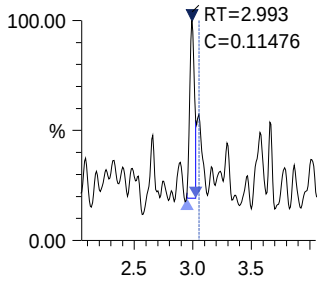
EQ2000215-02

Date acquired: 6/15/2020 3:56:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_027.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	EQ2000215-02	6/15/2020 3:56:10 PM	2086	0.11476	20200615_027	2.993	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	EQ2000215-02	6/15/2020 3:56:10 PM	142124	1.00000	20200615_027	2.993	25.0000	1.0000	6

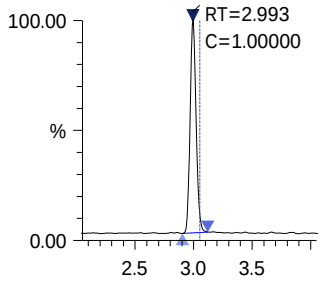
Perchlorate

Conc 0.11476
Area 2086
Q 99.00>83.00 (-) 9.07e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 142124
ISTD 107.00>89.00 (-) 4.01e4



ALS Group Houston

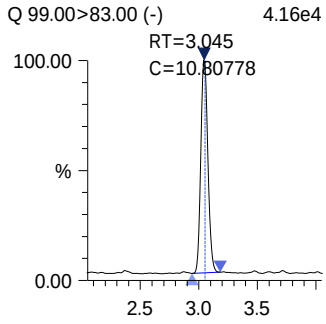
PERCHLORATE7

Date acquired: 6/15/2020 5:15:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_037.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	6/15/2020 5:15:20 PM	170329	10.80778	20200615_037	3.045	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/15/2020 5:15:20 PM	123220	1.00000	20200615_037	3.043	25.0000	1.0000	4

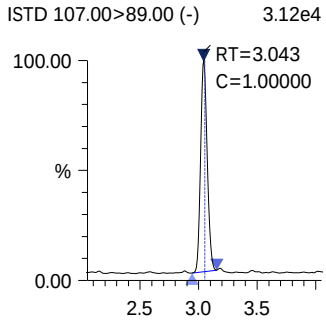
Perchlorate

Conc 10.80778
Area 170329



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 123220



HS20051122 WC NIT_AMN_W_ISE

ALS WO# HS20051122

NIT-AMN-ISE-W-350.3

ALS Laboratory Group

Logbook **31220**

Ion Selective Electrode Logbook

Analyst: MD				Date: 6/3/20 10:00 AM	
Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F					
Probe Calibration Date: 6/3/20		Cal Std ID: 313106006		Probe ID: X01-11806	
Std Level		mV	Conc., mg/L:	Sodium Thiosulfate ID:	
STD 1 (mg/L):	0.2	128.9	0.200	Std Level	mV / Conc., mg/L:
STD 2 (mg/L):	1	89.1	0.998	STD 4 (mg/L): 10	31.9 / 10.022
STD 3 (mg/L):	5	40.9	5.010	STD 5 (mg/L): 50	-9.1 / 50.084
LSC / MS Spike ID:		3100601709		ICAL Date & Slope:	
ICV Cal STD ID:		313106005		97.2 % / -57.4 mV	
DPD Reagent ID:		3100601821			

WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Chlorine Check (+/-)	Comments
ICV		50 ml	50 ml		9.910			
CCB					0.012			
MBLK					0.013			
LCS					9.749			
HS2005127-01					28.464		-ve	
1122-01					11.007		-ve	
71-01					33.184		+ve	Rechecked
50-01					0.178		+ve	↓
50-01 MS					10.198			
50-01 MSD					10.250			
CCV					10.101			
CCB					0.012			

Batch ID:		Reported By	Reviewed By:
362581	362582	MD	KL

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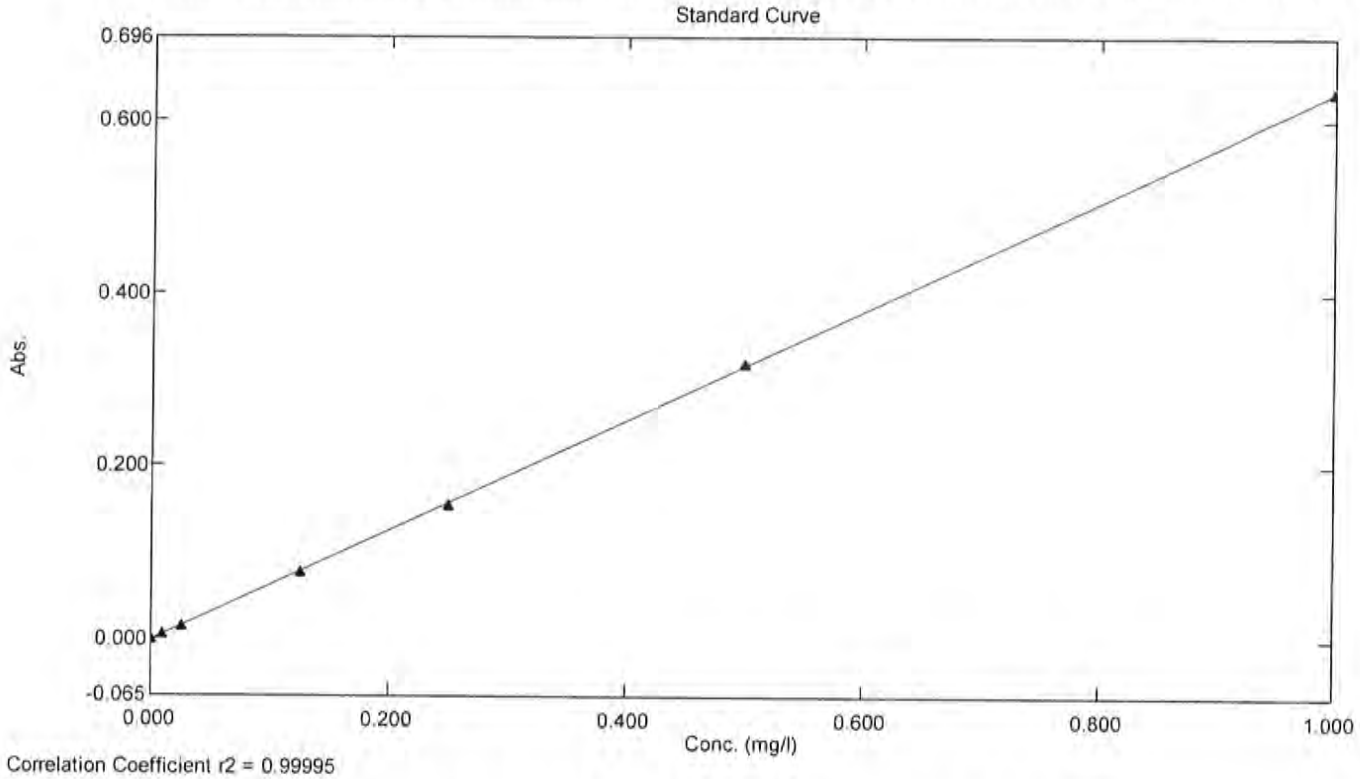
HS20051122 WC P_ORTHO

ALS WO# HS20051122

Standard Table Report

06/18/2020 02:46:28 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\05292020_PORTHO.pho..



Correlation Coefficient r2 = 0.99995

Standard Table

	Sample ID	Type	Ex	Conc	WL880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	-0.001	1.000	
2	STD2	Standard		0.010	0.006	1.000	
3	STD3	Standard		0.025	0.013	1.000	
4	STD4	Standard		0.125	0.077	1.000	
5	STD5	Standard		0.250	0.155	1.000	
6	STD6	Standard		0.500	0.319	1.000	
7	STD7	Standard		1.000	0.633	1.000	
8							

Sample Table Report

06/18/2020 02:46:31 PM

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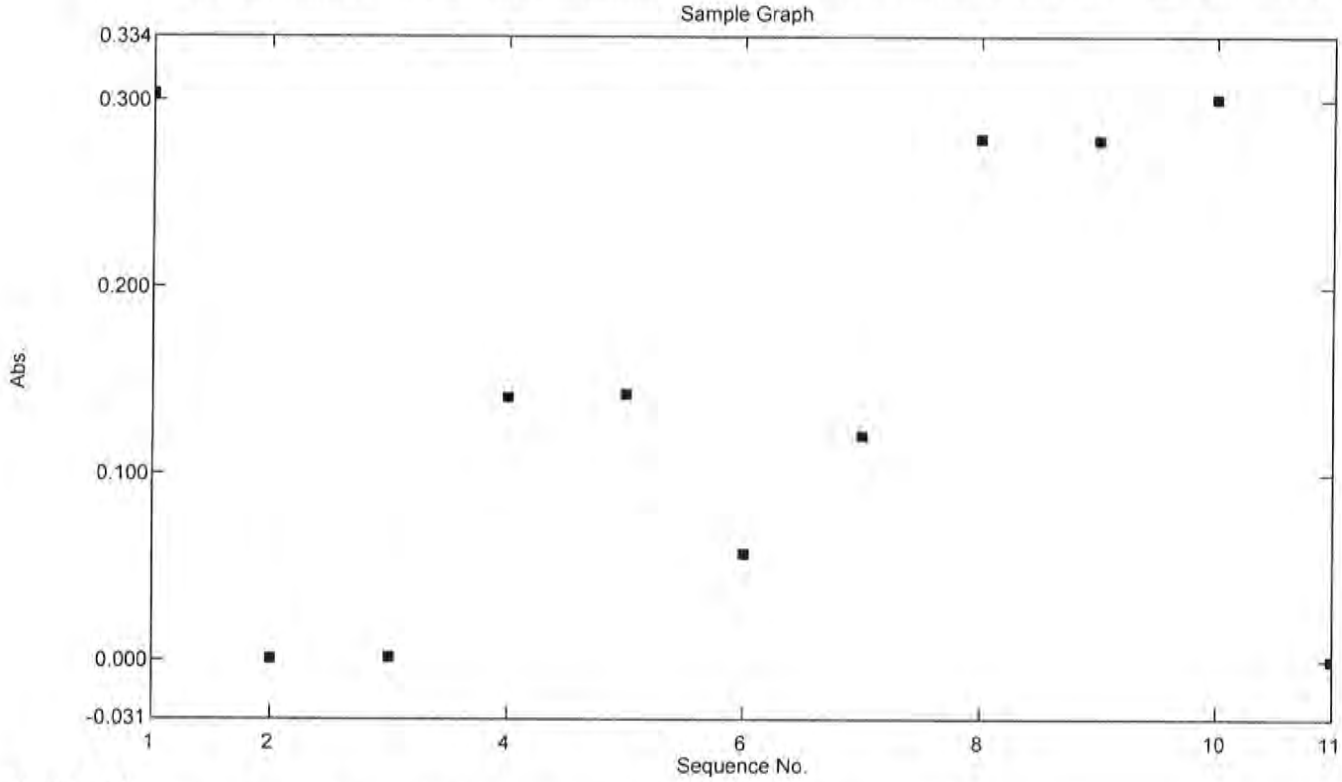

Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.480	0.303	313105406 WC-14
2	CCB	Unknown		0.003	0.000	313106206 UV-11
3	MBLK	Unknown		0.005	0.002	
4	LCS	Unknown		0.224	0.141	313105405 WC-14
5	LCSD	Unknown		0.226	0.142	
6	20051122.01	Unknown		0.092	0.057	DF-10X,3:05PM
7	HS20051122.01	Unknown		0.192	0.120	DF-5X,3:11PM
8	HS20051122.01M	Unknown		0.442	0.279	DF-5X,3:11PM
9	HS20051122.01M SD	Unknown		0.440	0.278	DF-5X,3:12PM
10	CCV2	Unknown		0.476	0.301	
11	CCB2	Unknown		0.002	-0.001	
12						

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WorkOrder: HS20051138

Longhorn GW Treatment Plant Bi Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

06-Jul-2020

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- HS20051138 8260 Raw Data
- HS20051138 WC Raw Data

HS20051138 Longhorn GW Treatment Plant Bi Weekly Samples Final

ALS WO# HS20051138

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June 08, 2020

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS20051138**

Laboratory Results for: **Longhorn GW Treatment Plant Bi Weekly Samples**

Dear Marcia,

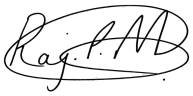
ALS Environmental received 2 sample(s) on May 29, 2020 for the analysis presented in the following report.

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: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20051138

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20051138-01	LH18/24-SP650_052820	Water		28-May-2020 14:00	29-May-2020 09:00	☐
HS20051138-02	Trip Blank	Water		28-May-2020 00:00	29-May-2020 09:00	☐

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20051138

GCMS Volatiles by Method SW8260

Batch ID: R362585

Sample ID: CCV-END

- Closing CCV failed %D limits for 1,2_Dibromo_3_Chloropropane and Hexachlorobutadiene. Amount recoveries are OK.

Sample ID: LH18/24-SP650_052820 (HS20051138-01MSD)

- MS/MSD RPD was above the RPD limit for Naphthalene. The individual recoveries met acceptance criteria.

WetChemistry by Method SW9056

Batch ID: R362800

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

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20051138
Sample ID: LH18/24-SP650_052820 Lab ID:HS20051138-01
Collection Date: 28-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,2-Dichloroethane	**0.82**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	02-Jun-2020 18:57
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	02-Jun-2020 18:57
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	02-Jun-2020 18:57
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	02-Jun-2020 18:57
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	02-Jun-2020 18:57
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	02-Jun-2020 18:57
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57

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

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20051138
Sample ID: LH18/24-SP650_052820 Lab ID:HS20051138-01
Collection Date: 28-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
cis-1,2-Dichloroethene	**15**		**0.20**	**0.50**	**1.0**	**UG/L**	1	02-Jun-2020 18:57
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	02-Jun-2020 18:57
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	02-Jun-2020 18:57
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Trichloroethene	**2.7**		**0.20**	**0.50**	**1.0**	**UG/L**	1	02-Jun-2020 18:57
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Surr: 1,2-Dichloroethane-d4	*88.3*			**0**	*81-118*	*%REC*	*1*	*02-Jun-2020 18:57*
Surr: 4-Bromofluorobenzene	*97.4*			**0**	*85-114*	*%REC*	*1*	*02-Jun-2020 18:57*
Surr: Dibromofluoromethane	*91.6*			**0**	*80-119*	*%REC*	*1*	*02-Jun-2020 18:57*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*02-Jun-2020 18:57*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: JHD
Chloride	**313**		**2.00**	**5.00**	**5.00**	**mg/L**	10	06-Jun-2020 19:54
Sulfate	**31.5**		**0.200**	**0.500**	**0.500**	**mg/L**	1	06-Jun-2020 19:35

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

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20051138
Sample ID: Trip Blank Lab ID:HS20051138-02
Collection Date: 28-May-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	02-Jun-2020 18:33
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	02-Jun-2020 18:33
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	02-Jun-2020 18:33
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	02-Jun-2020 18:33
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	02-Jun-2020 18:33
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33

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

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20051138
Sample ID: Trip Blank Lab ID:HS20051138-02
Collection Date: 28-May-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	02-Jun-2020 18:33
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	02-Jun-2020 18:33
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Surr: 1,2-Dichloroethane-d4	*85.5*			**0**	*81-118*	*%REC*	*1*	*02-Jun-2020 18:33*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*02-Jun-2020 18:33*
Surr: Dibromofluoromethane	*89.3*			**0**	*80-119*	*%REC*	*1*	*02-Jun-2020 18:33*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*02-Jun-2020 18:33*

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

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R362585 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20051138-01	LH18/24-SP650_052820	28 May 2020 14:00			02 Jun 2020 18:57	1
HS20051138-02	Trip Blank	28 May 2020 00:00			02 Jun 2020 18:33	1
Batch ID: R362800 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS20051138-01	LH18/24-SP650_052820	28 May 2020 14:00			06 Jun 2020 19:54	10
HS20051138-01	LH18/24-SP650_052820	28 May 2020 14:00			06 Jun 2020 19:35	1

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200602** Units: **UG/L** Analysis Date: **02-Jun-2020 18:09**
Client ID: Run ID: **VOA6_362585** SeqNo: **5605350** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200602** Units: **UG/L** Analysis Date: **02-Jun-2020 18:09**
Client ID: Run ID: **VOA6_362585** SeqNo: **5605350** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.93*	*1.0*	*50*	*0*	*87.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.99*	*1.0*	*50*	*0*	*98.0*	*85 - 114*				
Surr: Dibromofluoromethane	*45.06*	*1.0*	*50*	*0*	*90.1*	*80 - 119*				
Surr: Toluene-d8	*54.17*	*1.0*	*50*	*0*	*108*	*89 - 112*				

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200602** Units: **UG/L** Analysis Date: **02-Jun-2020 16:57**
Client ID: Run ID: **VOA6_362585** SeqNo: **5605349** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.42	1.0	20	0	102	78 - 124				
1,1,1-Trichloroethane	19.31	1.0	20	0	96.6	74 - 131				
1,1,2,2-Tetrachloroethane	19.39	1.0	20	0	97.0	71 - 121				
1,1,2-Trichloroethane	20.18	1.0	20	0	101	80 - 119				
1,1-Dichloroethane	19.18	1.0	20	0	95.9	77 - 125				
1,1-Dichloroethene	18.7	1.0	20	0	93.5	71 - 131				
1,1-Dichloropropene	18.72	1.0	20	0	93.6	78 - 125				
1,2,3-Trichlorobenzene	22.73	1.0	20	0	114	69 - 129				
1,2,3-Trichloropropane	19.91	1.0	20	0	99.5	73 - 122				
1,2,4-Trichlorobenzene	21.96	1.0	20	0	110	69 - 130				
1,2,4-Trimethylbenzene	19.41	1.0	20	0	97.1	76 - 124				
1,2-Dibromo-3-chloropropane	21.78	1.0	20	0	109	62 - 128				
1,2-Dibromoethane	20.01	1.0	20	0	100	77 - 121				
1,2-Dichlorobenzene	19.87	1.0	20	0	99.4	80 - 119				
1,2-Dichloroethane	20.13	1.0	20	0	101	73 - 128				
1,2-Dichloropropane	20.73	1.0	20	0	104	78 - 122				
1,3,5-Trimethylbenzene	19.17	1.0	20	0	95.9	75 - 124				
1,3-Dichlorobenzene	19.17	1.0	20	0	95.9	80 - 119				
1,3-Dichloropropane	20.01	1.0	20	0	100	80 - 119				
1,4-Dichlorobenzene	19.21	1.0	20	0	96.1	79 - 118				
2,2-Dichloropropane	19.41	1.0	20	0	97.0	60 - 139				
2-Butanone	40.9	2.0	40	0	102	56 - 143				
2-Chlorotoluene	18.81	1.0	20	0	94.0	79 - 122				
2-Hexanone	43.35	2.0	40	0	108	57 - 139				
4-Chlorotoluene	19.11	1.0	20	0	95.6	78 - 122				
4-Isopropyltoluene	19.08	1.0	20	0	95.4	77 - 127				
4-Methyl-2-pentanone	41.42	2.0	40	0	104	67 - 130				
Acetone	48.18	2.0	40	0	120	39 - 160				
Benzene	19.77	1.0	20	0	98.8	79 - 120				
Bromobenzene	19.26	1.0	20	0	96.3	80 - 120				
Bromochloromethane	18.42	1.0	20	0	92.1	78 - 123				
Bromodichloromethane	20.18	1.0	20	0	101	79 - 125				
Bromoform	20.12	1.0	20	0	101	66 - 130				
Bromomethane	21.4	1.0	20	0	107	53 - 141				

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200602** Units: **UG/L** Analysis Date: **02-Jun-2020 16:57**
Client ID: Run ID: **VOA6_362585** SeqNo: **5605349** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	38.82	2.0	40	0	97.1	64 - 133				
Carbon tetrachloride	17.92	1.0	20	0	89.6	72 - 136				
Chlorobenzene	19.4	1.0	20	0	97.0	82 - 118				
Chloroethane	19.48	1.0	20	0	97.4	60 - 138				
Chloroform	19.87	1.0	20	0	99.3	79 - 124				
Chloromethane	19.43	1.0	20	0	97.1	50 - 139				
cis-1,2-Dichloroethene	19.42	1.0	20	0	97.1	78 - 123				
cis-1,3-Dichloropropene	20.27	1.0	20	0	101	75 - 124				
Dibromochloromethane	19.75	1.0	20	0	98.7	74 - 126				
Dibromomethane	19.6	1.0	20	0	98.0	79 - 123				
Dichlorodifluoromethane	18.37	1.0	20	0	91.9	32 - 152				
Ethylbenzene	20	1.0	20	0	100	79 - 121				
Hexachlorobutadiene	23.48	1.0	20	0	117	66 - 134				
Isopropylbenzene	19.14	1.0	20	0	95.7	72 - 131				
m,p-Xylene	39.44	2.0	40	0	98.6	80 - 121				
Methylene chloride	19.82	2.0	20	0	99.1	74 - 124				
Naphthalene	21.8	1.0	20	0	109	61 - 128				
n-Butylbenzene	19.43	1.0	20	0	97.1	75 - 128				
n-Propylbenzene	19.03	1.0	20	0	95.2	76 - 126				
o-Xylene	19.99	1.0	20	0	100.0	78 - 122				
sec-Butylbenzene	18.24	1.0	20	0	91.2	77 - 126				
Styrene	19.7	1.0	20	0	98.5	78 - 123				
tert-Butylbenzene	18.33	1.0	20	0	91.7	78 - 124				
Tetrachloroethene	19.33	1.0	20	0	96.7	74 - 129				
Toluene	19.84	1.0	20	0	99.2	80 - 121				
trans-1,2-Dichloroethene	19.87	1.0	20	0	99.3	75 - 124				
trans-1,3-Dichloropropene	20.62	1.0	20	0	103	73 - 127				
Trichloroethene	19.48	1.0	20	0	97.4	79 - 123				
Trichlorofluoromethane	18.51	1.0	20	0	92.6	65 - 141				
Vinyl chloride	17.6	1.0	20	0	88.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.89*	*1.0*	*50*	*0*	*102*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.55*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*49.67*	*1.0*	*50*	*0*	*99.3*	*80 - 119*				
Surr: Toluene-d8	*48.42*	*1.0*	*50*	*0*	*96.8*	*89 - 112*				

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20051138-01MS** Units: **UG/L** Analysis Date: **02-Jun-2020 20:58**
Client ID: **LH18/24-SP650_052820** Run ID: **VOA6_362585** SeqNo: **5605357** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.38	1.0	20	0	107	78 - 124				
1,1,1-Trichloroethane	19.2	1.0	20	0	96.0	74 - 131				
1,1,2,2-Tetrachloroethane	21.43	1.0	20	0	107	71 - 121				
1,1,2-Trichloroethane	21.54	1.0	20	0	108	80 - 119				
1,1-Dichloroethane	18.39	1.0	20	0	91.9	77 - 125				
1,1-Dichloroethene	18.84	1.0	20	0	94.2	71 - 131				
1,1-Dichloropropene	20.6	1.0	20	0	103	78 - 125				
1,2,3-Trichlorobenzene	17.79	1.0	20	0	88.9	69 - 129				
1,2,3-Trichloropropane	20.64	1.0	20	0	103	73 - 122				
1,2,4-Trichlorobenzene	17.8	1.0	20	0	89.0	69 - 130				
1,2,4-Trimethylbenzene	23.09	1.0	20	0	115	76 - 124				
1,2-Dibromo-3-chloropropane	19.36	1.0	20	0	96.8	62 - 128				
1,2-Dibromoethane	21.08	1.0	20	0	105	77 - 121				
1,2-Dichlorobenzene	21.22	1.0	20	0	106	80 - 119				
1,2-Dichloroethane	20.18	1.0	20	0.825	96.8	73 - 128				
1,2-Dichloropropane	20.24	1.0	20	0	101	78 - 122				
1,3,5-Trimethylbenzene	23.09	1.0	20	0	115	75 - 124				
1,3-Dichlorobenzene	21.48	1.0	20	0	107	80 - 119				
1,3-Dichloropropane	20.69	1.0	20	0	103	80 - 119				
1,4-Dichlorobenzene	21.17	1.0	20	0	106	79 - 118				
2,2-Dichloropropane	18.1	1.0	20	0	90.5	60 - 139				
2-Butanone	32.99	2.0	40	0	82.5	56 - 143				
2-Chlorotoluene	22.12	1.0	20	0	111	79 - 122				
2-Hexanone	40.91	2.0	40	0	102	57 - 139				
4-Chlorotoluene	22.06	1.0	20	0	110	78 - 122				
4-Isopropyltoluene	23.89	1.0	20	0	119	77 - 127				
4-Methyl-2-pentanone	41.91	2.0	40	0	105	67 - 130				
Acetone	27.38	2.0	40	0	68.5	39 - 160				
Benzene	20.12	1.0	20	0	101	79 - 120				
Bromobenzene	22.04	1.0	20	0	110	80 - 120				
Bromochloromethane	18.07	1.0	20	0	90.4	78 - 123				
Bromodichloromethane	19.92	1.0	20	0	99.6	79 - 125				
Bromoform	20.98	1.0	20	0	105	66 - 130				
Bromomethane	19.27	1.0	20	0	96.4	53 - 141				

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20051138-01MS** Units: **UG/L** Analysis Date: **02-Jun-2020 20:58**
Client ID: **LH18/24-SP650_052820** Run ID: **VOA6_362585** SeqNo: **5605357** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	38.56	2.0	40	0	96.4	64 - 133				
Carbon tetrachloride	20.11	1.0	20	0	101	72 - 136				
Chlorobenzene	20.93	1.0	20	0	105	82 - 118				
Chloroethane	17.89	1.0	20	0	89.4	60 - 138				
Chloroform	18.7	1.0	20	0	93.5	79 - 124				
Chloromethane	15.94	1.0	20	0	79.7	50 - 139				
cis-1,2-Dichloroethene	32.77	1.0	20	14.55	91.1	78 - 123				
cis-1,3-Dichloropropene	19.61	1.0	20	0	98.1	75 - 124				
Dibromochloromethane	20.57	1.0	20	0	103	74 - 126				
Dibromomethane	19.39	1.0	20	0	96.9	79 - 123				
Dichlorodifluoromethane	13.33	1.0	20	0	66.7	32 - 152				
Ethylbenzene	22.4	1.0	20	0	112	79 - 121				
Hexachlorobutadiene	19.59	1.0	20	0	97.9	66 - 134				
Isopropylbenzene	22.34	1.0	20	0	112	72 - 131				
m,p-Xylene	43.5	2.0	40	0	109	80 - 121				
Methylene chloride	18.27	2.0	20	0	91.4	74 - 124				
Naphthalene	16.73	1.0	20	0	83.7	61 - 128				
n-Butylbenzene	23.79	1.0	20	0	119	75 - 128				
n-Propylbenzene	23.53	1.0	20	0	118	76 - 126				
o-Xylene	22.15	1.0	20	0	111	78 - 122				
sec-Butylbenzene	23.63	1.0	20	0	118	77 - 126				
Styrene	20.96	1.0	20	0	105	78 - 123				
tert-Butylbenzene	23.34	1.0	20	0	117	78 - 124				
Tetrachloroethene	22.9	1.0	20	0	114	74 - 129				
Toluene	22.01	1.0	20	0	110	80 - 121				
trans-1,2-Dichloroethene	19.05	1.0	20	0	95.3	75 - 124				
trans-1,3-Dichloropropene	19.51	1.0	20	0	97.6	73 - 127				
Trichloroethene	22.86	1.0	20	2.674	101	79 - 123				
Trichlorofluoromethane	19.6	1.0	20	0	98.0	65 - 141				
Vinyl chloride	16.18	1.0	20	0	80.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.99*	*1.0*	*50*	*0*	*88.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.43*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*45.84*	*1.0*	*50*	*0*	*91.7*	*80 - 119*				
Surr: Toluene-d8	*53.41*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20051138-01MSD** Units: **UG/L** Analysis Date: **02-Jun-2020 21:22**
Client ID: **LH18/24-SP650_052820** Run ID: **VOA6_362585** SeqNo: **5605358** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.95	1.0	20	0	105	78 - 124	21.38	2	20	
1,1,1-Trichloroethane	18.61	1.0	20	0	93.1	74 - 131	19.2	3.12	20	
1,1,2,2-Tetrachloroethane	19.69	1.0	20	0	98.5	71 - 121	21.43	8.44	20	
1,1,2-Trichloroethane	20.76	1.0	20	0	104	80 - 119	21.54	3.73	20	
1,1-Dichloroethane	17.42	1.0	20	0	87.1	77 - 125	18.39	5.42	20	
1,1-Dichloroethene	18.1	1.0	20	0	90.5	71 - 131	18.84	4.02	20	
1,1-Dichloropropene	19.92	1.0	20	0	99.6	78 - 125	20.6	3.4	20	
1,2,3-Trichlorobenzene	20.57	1.0	20	0	103	69 - 129	17.79	14.5	20	
1,2,3-Trichloropropane	20.03	1.0	20	0	100	73 - 122	20.64	3	20	
1,2,4-Trichlorobenzene	20.33	1.0	20	0	102	69 - 130	17.8	13.3	20	
1,2,4-Trimethylbenzene	21.7	1.0	20	0	109	76 - 124	23.09	6.2	20	
1,2-Dibromo-3-chloropropane	18.14	1.0	20	0	90.7	62 - 128	19.36	6.49	20	
1,2-Dibromoethane	20.48	1.0	20	0	102	77 - 121	21.08	2.88	20	
1,2-Dichlorobenzene	20.17	1.0	20	0	101	80 - 119	21.22	5.07	20	
1,2-Dichloroethane	19.92	1.0	20	0.825	95.5	73 - 128	20.18	1.26	20	
1,2-Dichloropropane	19.73	1.0	20	0	98.6	78 - 122	20.24	2.57	20	
1,3,5-Trimethylbenzene	21.8	1.0	20	0	109	75 - 124	23.09	5.77	20	
1,3-Dichlorobenzene	20.53	1.0	20	0	103	80 - 119	21.48	4.53	20	
1,3-Dichloropropane	19.75	1.0	20	0	98.8	80 - 119	20.69	4.63	20	
1,4-Dichlorobenzene	19.53	1.0	20	0	97.7	79 - 118	21.17	8.06	20	
2,2-Dichloropropane	16.8	1.0	20	0	84.0	60 - 139	18.1	7.46	20	
2-Butanone	31.34	2.0	40	0	78.4	56 - 143	32.99	5.11	20	
2-Chlorotoluene	20.68	1.0	20	0	103	79 - 122	22.12	6.72	20	
2-Hexanone	39.65	2.0	40	0	99.1	57 - 139	40.91	3.14	20	
4-Chlorotoluene	20.45	1.0	20	0	102	78 - 122	22.06	7.56	20	
4-Isopropyltoluene	22.82	1.0	20	0	114	77 - 127	23.89	4.57	20	
4-Methyl-2-pentanone	39.9	2.0	40	0	99.8	67 - 130	41.91	4.92	20	
Acetone	26.08	2.0	40	0	65.2	39 - 160	27.38	4.86	20	
Benzene	19.41	1.0	20	0	97.0	79 - 120	20.12	3.62	20	
Bromobenzene	20.91	1.0	20	0	105	80 - 120	22.04	5.29	20	
Bromochloromethane	16.92	1.0	20	0	84.6	78 - 123	18.07	6.6	20	
Bromodichloromethane	19.26	1.0	20	0	96.3	79 - 125	19.92	3.34	20	
Bromoform	19.88	1.0	20	0	99.4	66 - 130	20.98	5.37	20	
Bromomethane	16.95	1.0	20	0	84.8	53 - 141	19.27	12.8	20	

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20051138-01MSD** Units: **UG/L** Analysis Date: **02-Jun-2020 21:22**
Client ID: **LH18/24-SP650_052820** Run ID: **VOA6_362585** SeqNo: **5605358** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	36.75	2.0	40	0	91.9	64 - 133	38.56	4.81	20	
Carbon tetrachloride	19.71	1.0	20	0	98.5	72 - 136	20.11	2.02	20	
Chlorobenzene	20.14	1.0	20	0	101	82 - 118	20.93	3.84	20	
Chloroethane	16.94	1.0	20	0	84.7	60 - 138	17.89	5.41	20	
Chloroform	17.82	1.0	20	0	89.1	79 - 124	18.7	4.82	20	
Chloromethane	15.24	1.0	20	0	76.2	50 - 139	15.94	4.46	20	
cis-1,2-Dichloroethene	31.54	1.0	20	14.55	84.9	78 - 123	32.77	3.84	20	
cis-1,3-Dichloropropene	19.22	1.0	20	0	96.1	75 - 124	19.61	2.05	20	
Dibromochloromethane	19.73	1.0	20	0	98.7	74 - 126	20.57	4.15	20	
Dibromomethane	19.06	1.0	20	0	95.3	79 - 123	19.39	1.7	20	
Dichlorodifluoromethane	12.62	1.0	20	0	63.1	32 - 152	13.33	5.49	20	
Ethylbenzene	20.99	1.0	20	0	105	79 - 121	22.4	6.49	20	
Hexachlorobutadiene	22.04	1.0	20	0	110	66 - 134	19.59	11.8	20	
Isopropylbenzene	21.39	1.0	20	0	107	72 - 131	22.34	4.37	20	
m,p-Xylene	41.82	2.0	40	0	105	80 - 121	43.5	3.94	20	
Methylene chloride	17.42	2.0	20	0	87.1	74 - 124	18.27	4.76	20	
Naphthalene	20.93	1.0	20	0	105	61 - 128	16.73	22.3	20	R
n-Butylbenzene	23.07	1.0	20	0	115	75 - 128	23.79	3.11	20	
n-Propylbenzene	22.23	1.0	20	0	111	76 - 126	23.53	5.69	20	
o-Xylene	20.75	1.0	20	0	104	78 - 122	22.15	6.52	20	
sec-Butylbenzene	22.56	1.0	20	0	113	77 - 126	23.63	4.61	20	
Styrene	20.3	1.0	20	0	101	78 - 123	20.96	3.18	20	
tert-Butylbenzene	22.29	1.0	20	0	111	78 - 124	23.34	4.58	20	
Tetrachloroethene	22.28	1.0	20	0	111	74 - 129	22.9	2.74	20	
Toluene	20.84	1.0	20	0	104	80 - 121	22.01	5.46	20	
trans-1,2-Dichloroethene	18.21	1.0	20	0	91.0	75 - 124	19.05	4.54	20	
trans-1,3-Dichloropropene	19.13	1.0	20	0	95.7	73 - 127	19.51	1.98	20	
Trichloroethene	22.36	1.0	20	2.674	98.4	79 - 123	22.86	2.24	20	
Trichlorofluoromethane	18.86	1.0	20	0	94.3	65 - 141	19.6	3.86	20	
Vinyl chloride	15.26	1.0	20	0	76.3	58 - 137	16.18	5.84	20	
Surr: 1,2-Dichloroethane-d4	*43.22*	*1.0*	*50*	*0*	*86.4*	*81 - 118*	*43.99*	*1.76*	*20*	
Surr: 4-Bromofluorobenzene	*50.45*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.43*	*0.0372*	*20*	
Surr: Dibromofluoromethane	*44.66*	*1.0*	*50*	*0*	*89.3*	*80 - 119*	*45.84*	*2.61*	*20*	
Surr: Toluene-d8	*52.93*	*1.0*	*50*	*0*	*106*	*89 - 112*	*53.41*	*0.891*	*20*	

ALS Houston, US Date: 08-Jun-20

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder:	HS20051138

QC BATCH REPORT

Batch ID:	**R362585 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20051138-01 HS20051138-02

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362800 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **WBLKW1-060620** Units: **mg/L** Analysis Date: **06-Jun-2020 20:12**
Client ID: Run ID: **ICS-Integrion_362800** SeqNo: **5609641** PrepDate: DF: **1**

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

LCS Sample ID: **WLCSW1-060620** Units: **mg/L** Analysis Date: **06-Jun-2020 20:30**
Client ID: Run ID: **ICS-Integrion_362800** SeqNo: **5609642** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.4	0.500	20	0	102	80 - 120				
Sulfate	20.24	0.500	20	0	101	80 - 120				

MS Sample ID: **HS20060163-01MS** Units: **mg/L** Analysis Date: **06-Jun-2020 18:41**
Client ID: Run ID: **ICS-Integrion_362800** SeqNo: **5609637** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	411.5	5.00	100	324.7	86.8	80 - 120				
Sulfate	192.4	5.00	100	93.55	98.9	80 - 120				

MSD Sample ID: **HS20060163-01MSD** Units: **mg/L** Analysis Date: **06-Jun-2020 18:59**
Client ID: Run ID: **ICS-Integrion_362800** SeqNo: **5609638** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	409.4	5.00	100	324.7	84.7	80 - 120	411.5	0.509	20	
Sulfate	190.9	5.00	100	93.55	97.4	80 - 120	192.4	0.788	20	

The following samples were analyzed in this batch: HS20051138-01

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: **HS20051138**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20051138

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20051138-01	LH18/24-SP650_052820	Login	5/29/2020 2:56:29 PM	PMG	WET326
HS20051138-01	LH18/24-SP650_052820	Login	5/29/2020 2:56:29 PM	PMG	VOA199
HS20051138-02	Trip Blank	Login	5/29/2020 2:56:29 PM	PMG	VOA199

ALS Houston, US Date: 08-Jun-20

Sample Receipt Checklist

Work Order ID: HS20051138 **Date/Time Received:** 29-May-2020 09:00

Client Name: Bhate Environmental **Received by:** Jared R. Makan

Completed By:	/S/ Paresh M. Giga	29-May-2020 14:57	**Reviewed by:**	/S/ Corey Grandits	01-Jun-2020 11:24
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **FedEx**

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 ☐	COC IDs:None
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):	1.4C U/C	IR11	
Cooler(s)/Kit(s):	44753		
Date/Time sample(s) sent to storage:	5/29/2020 15:05		
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 ATTN: R.J. Modashia

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

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT BI-WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O Number

HS20051138
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Bi Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC	Analyses: CHLORIDE, SULFATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_052820	Water	05/28/20 / 14:00		3	3		HCL	
LH18/24-SP650_052820	Water	05/28/20 / 14:00		1		1	NONE	
Trip Blank	Water	05/28/20		2	2		HCL	

Additional Remarks: **Standard TAT**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	05/28/20	14:30									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Mason	5/29/20	09:00							

Remarks

Cooler -44753 Temp 1.4
1211
CF 0.0

(Word) S:\U-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

44753

CUSTODY SEAL

Date: 5/28/20 Time: 1430
Name: Scott Beesinger
Company: BHATE

Seal Broken By:
Date: 05/29/20

44753 MAY 29 2020

Must Deliver Next Business
Time and Tempature Sensi

44753

RT 917

ORIGIN ID:SGRA (303) 592-2450
SCOTT BEESINGER
BHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 02MAR20
ACTWGT: 1.00 LB MAN
CAD: 3003130/CAFE3211
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-58-BQ 70550-RJ
RMA:

FedEx Express

TRK# 0221 1251 0294 9670

RETURNS MON-SAT
PRIORITY OVERNIGHT

FedEx
TRK# 0221 1251 0294 9670

FRI - 29 MAY 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

HS20051138 8260 Raw Data

ALS WO# HS20051138

MSVOA06 -Logbook

Batch: 40702 **Analyst:** Presenta Cabascango

Date: 06-02-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	06-02-2020 10:34 am	1.00	50 mL	50 mL	X060201.D	Liquid	Y	NA
	Auto find/ purged									
2	VSTD000.25	ICAL1	06-02-2020 10:58 am	1.00	50 mL	50 mL	X060202.D	Liquid	Y	NA
	0.10 uL cal std/100 mL DI									
3	VSTD000.5	ICAL2	06-02-2020 11:22 am	1.00	50 mL	50 mL	X060203.D	Liquid	Y	NA
	0.10 uL cal std/50 mL DI									
4	VSTD001	ICAL3	06-02-2020 12:10 pm	1.00	50 mL	50 mL	X060204.D	Liquid	Y	NA
	0.20 uL cal std/50 mL DI									
5	VSTD002	ICAL4	06-02-2020 12:34 pm	1.00	50 mL	50 mL	X060205.D	Liquid	Y	NA
	0.40 uL cal std/50 mL DI									
6	VSTD005	ICAL5	06-02-2020 12:58 pm	1.00	50 mL	50 mL	X060206.D	Liquid	Y	NA
	1.0 uL cal std/50 mL DI									
7	VSTD020	ICAL6	06-02-2020 01:21 pm	1.00	50 mL	50 mL	X060207.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
8	VSTD050	ICAL7	06-02-2020 01:45 pm	1.00	50 mL	50 mL	X060208.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
9	VSTD100	ICAL8	06-02-2020 02:09 pm	1.00	50 mL	50 mL	X060209.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
10	VSTD150	ICAL9	06-02-2020 02:33 pm	1.00	50 mL	50 mL	X060210.D	Liquid	Y	NA
	30 uL cal std/50 mL DI									
11	VSTD200	ICAL	06-02-2020 02:57 pm	1.00	50 mL	50 mL	X060211.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLANK	SAMP	06-02-2020 03:21 pm	1.00	50 mL	50 mL	X060212.D	Liquid	Y	NA
	clean up blank									
13	CCV	ICV	06-02-2020 03:45 pm	1.00	50 mL	50 mL	X060213.D	Liquid	Y	NA
	10 uL icv std/50 mL DI									
14	BLANK	SAMP	06-02-2020 04:09 pm	1.00	50 mL	50 mL	X060214.D	Liquid	Y	NA
15	BLANK	SAMP	06-02-2020 04:33 pm	1.00	50 mL	50 mL	X060215.D	Liquid	Y	NA
16	VLCSW-200602	LCS	06-02-2020 04:57 pm	1.00	50 mL	50 mL	X060216.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
17	BLANK	SAMP	06-02-2020 05:21 pm	1.00	50 mL	50 mL	X060217.D	Liquid	Y	NA
18	BLANK	SAMP	06-02-2020 05:45 pm	1.00	50 mL	50 mL	X060218.D	Liquid	Y	NA
19	VBLKW-200602	MBLK	06-02-2020 06:09 pm	1.00	50 mL	50 mL	X060219.D	Liquid	Y	NA
20	HS20051138-02	SAMP	06-02-2020 06:33 pm	1.00	50 mL	50 mL	X060220.D	Liquid	Y	<2
21	HS20051138-01	SAMP	06-02-2020 06:57 pm	1.00	50 mL	50 mL	X060221.D	Liquid	Y	<2
22	HS20050984-01	SAMP	06-02-2020 07:21 pm	1000.0	50 µL	50 mL	X060222.D	Liquid	Y	<2
23	HS20060015-03	SAMP	06-02-2020 07:45 pm	50.00	1 mL	50 mL	X060223.D	Liquid	Y	NA
	neat samples									
24	HS20060015-01	SAMP	06-02-2020 08:09 pm	100.0(	500 µL	50 mL	X060224.D	Liquid	Y	NA
25	HS20060015-02	SAMP	06-02-2020 08:34 pm	100.0(	500 µL	50 mL	X060225.D	Liquid	Y	NA
26	HS20051138-01MS	MS	06-02-2020 08:58 pm	1.00	50 mL	50 mL	X060226.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
27	HS20051138-01MSD	MSD	06-02-2020 09:22 pm	1.00	50 mL	50 mL	X060227.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
28	CCV-END	CCV	06-02-2020 09:46 pm	1.00	50 mL	50 mL	X060228.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
29	BLANK	SAMP	06-02-2020 10:10 pm	1.00	50 mL	50 mL	X060240.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-30-06
IS ID	31106-30-06
CAL STD ID	31106-32-01/02
BFB ID	31106-30-06
pH Paper	634-64-11

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20051138

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	ICV	98	99	96	101	0
02	VLCSW-200602	102	99	97	101	0
03	VBLKW-200602	88	90	108	98	0
04	HS20051138-02	85	89	106	100	0
05	HS20051138-01	88	92	108	97	0
06	HS20051138-01	88	92	107	101	0
07	HS20051138-01	86	89	106	101	0
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(0-130)
SMC2	= Dibromofluoromethane	(0-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER	= 4-Bromofluorobenzene	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
SOIL VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20051138

Matrix Spike - Sample No.: ICV Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
cis-1,3-Dichloropropene	50.00	48.97	98	80-120
trans-1,3-Dichloroprope	50.00	49.06	98	80-120
1,3-Dichlorobenzene	50.00	46.99	94	80-120
2,2-Dichloropropane	50.00	48.56	97	80-120
1,1-Dichloropropene	50.00	45.76	92	80-120
Dibromomethane	50.00	47.60	95	80-120
1,2-Dibromoethane	50.00	47.95	96	80-120
trans-1,2-Dichloroethen	50.00	48.94	98	80-120
1,1,1,2-Tetrachloroetha	50.00	48.54	97	80-120
1,1,1-Trichloroethane	50.00	47.82	96	80-120
1,1,2,2-Tetrachloroetha	50.00	46.12	92	80-120
1,1,2-Trichloroethane	50.00	47.36	95	80-120
1,1-Dichloroethane	50.00	46.92	94	80-120
1,1-Dichloroethene	50.00	47.35	95	80-120
Trichloroethene	50.00	47.98	96	80-120
1,2,3-Trichlorobenzene	50.00	59.95	120	80-120
Trichlorofluoromethane	50.00	48.15	96	80-120
1,2,4-Trichlorobenzene	50.00	50.14	100	80-120
1,2,4-Trimethylbenzene	50.00	47.33	95	80-120
Tetrachloroethene	50.00	47.04	94	80-120
1,2-Dichlorobenzene	50.00	47.34	95	80-120
1,2-Dichloroethane	50.00	47.49	95	80-120
1,2-Dichloropropane	50.00	49.00	98	80-120
1,3,5-Trimethylbenzene	50.00	46.04	92	80-120
1,3-Dichloropropane	50.00	46.04	92	80-120
1,4-Dichlorobenzene	50.00	45.44	91	80-120
Toluene	50.00	46.89	94	80-120
2-Butanone	100.00	104.16	104	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 3
SOIL VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20051138

Matrix Spike - Sample No.: ICV Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
2-Chlorotoluene	50.00	44.35	89	80-120
2-Hexanone	100.00	101.35	101	80-120
4-Chlorotoluene	50.00	45.49	91	80-120
tert-Butylbenzene	50.00	45.15	90	80-120
4-Methyl-2-Pentanone	100.00	96.32	96	80-120
Acetone	100.00	119.27	119	80-120
Benzene	50.00	47.62	95	80-120
Bromobenzene	50.00	45.94	92	80-120
Bromochloromethane	50.00	46.52	93	80-120
Bromodichloromethane	50.00	48.43	97	80-120
Bromoform	50.00	49.82	100	80-120
Bromomethane	50.00	51.21	102	80-120
Carbon Disulfide	100.00	98.88	99	80-120
Carbon Tetrachloride	50.00	44.91	90	80-120
Chlorobenzene	50.00	46.87	94	80-120
Chloroethane	50.00	48.12	96	80-120
Chloroform	50.00	47.20	94	80-120
Chloromethane	50.00	49.19	98	80-120
cis-1,2-Dichloroethene	50.00	47.65	95	80-120
Dibromochloromethane	50.00	47.33	95	80-120
Dichlorodifluoromethane	50.00	48.97	98	80-120
Ethylbenzene	50.00	47.78	96	80-120
Hexachlorobutadiene	50.00	53.92	108	80-120
Isopropylbenzene	50.00	46.50	93	80-120
m,p-Xylenes	100.00	94.83	95	80-120
Methylene Chloride	50.00	49.19	98	80-120
n-Butylbenzene	50.00	49.38	99	80-120
n-Propylbenzene	50.00	46.30	93	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM 3
SOIL VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20051138

Matrix Spike - Sample No.: ICV Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Naphthalene	50.00	53.55	107	80-120
o-Xylene	50.00	48.23	96	80-120
sec-Butylbenzene	50.00	46.29	92	80-120
Styrene	50.00	48.17	96	80-120
Vinyl Chloride	50.00	45.17	90	80-120
1,2,3-Trichloropropane	50.00	46.26	92	80-120
p-Isopropyltoluene	50.00	47.61	95	80-120
1,2-Dibromo-3-Chloropro	50.00	48.92	98	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 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-200602

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20051138

Lab File ID: X060219 Lab Sample ID: VBLKW-200602

Date Analyzed: 06/02/20 Time Analyzed: 1809

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	ICV	ICV	X060213	1545
02	VLCSW-200602	VLCSW-200602	X060216	1657
03	HS20051138-0	HS20051138-02	X060220	1833
04	HS20051138-0	HS20051138-01	X060221	1857
05	HS20051138-0	HS20051138-01M	X060226	2058
06	HS20051138-0	HS20051138-01M	X060227	2122
07				
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20051138

Lab File ID: X060201 BFB Injection Date: 06/02/20

Instrument ID: VOA6 BFB Injection Time: 1034

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	31.4
75	30.0 - 60.0% of mass 95	52.6
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	0.6 (1.0)1
174	Greater than 50.0% of mass 95	65.3
175	5.0 - 9.0% of mass 174	4.9 (7.6)1
176	95.0 - 101.0% of mass 174	62.8 (96.2)1
177	5.0 - 9.0% of mass 176	4.4 (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	X060202	06/02/20	1058
02	VSTD000.5	VSTD000.5	X060203	06/02/20	1122
03	VSTD001	VSTD001	X060204	06/02/20	1210
04	VSTD002	VSTD002	X060205	06/02/20	1234
05	VSTD005	VSTD005	X060206	06/02/20	1258
06	VSTD020	VSTD020	X060207	06/02/20	1321
07	VSTD050	VSTD050	X060208	06/02/20	1345
08	VSTD100	VSTD100	X060209	06/02/20	1409
09	VSTD150	VSTD150	X060210	06/02/20	1433
10	VSTD200	VSTD200	X060211	06/02/20	1457
11	ICV	ICV	X060213	06/02/20	1545
12	VLCSW-200602	VLCSW-200602	X060216	06/02/20	1657
13	VBLKW-200602	VBLKW-200602	X060219	06/02/20	1809
14	HS20051138-0	HS20051138-02	X060220	06/02/20	1833
15	HS20051138-0	HS20051138-01	X060221	06/02/20	1857
16	HS20051138-0	HS20051138-01M	X060226	06/02/20	2058
17	HS20051138-0	HS20051138-01M	X060227	06/02/20	2122
18	CCV-END	CCV-END	X060228	06/02/20	2146
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20051138

Instrument ID: VOA6 Calibration Date(s): 06/02/20 06/02/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1058 1457

LAB FILE ID: RF0.25: X060202 RF0.5: X060203 RF1: X060204
RF2: X060205 RF5: X060206 RF20: X060207

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
cis-1,3-Dichloropropene		0.532	0.664	0.590	0.598	0.610
trans-1,3-Dichloropropene		0.500	0.532	0.528	0.537	0.559
1,3-Dichlorobenzene		1.787	1.647	1.542	1.448	1.521
2,2-Dichloropropane		1.117	1.189	0.997	0.991	0.949
1,1-Dichloropropene		0.504	0.483	0.472	0.456	0.447
Dibromomethane		0.232	0.294	0.239	0.252	0.253
1,2-Dibromoethane		0.396	0.369	0.380	0.382	0.393
trans-1,2-Dichloroethene		0.549	0.658	0.559	0.585	0.586
1,1,1,2-Tetrachloroethane		0.341	0.366	0.349	0.349	0.367
1,1,1-Trichloroethane		0.876	0.970	0.974	0.977	0.948
1,1,2,2-Tetrachloroethane		0.943	1.102	1.027	1.029	0.992
1,1,2-Trichloroethane		0.304	0.340	0.317	0.331	0.327
1,1-Dichloroethane		1.650	1.772	1.444	1.521	1.543
1,1-Dichloroethene		0.544	0.556	0.498	0.479	0.481
Trichloroethene		0.346	0.344	0.328	0.315	0.331
1,2,3-Trichlorobenzene		63	140	341	803	4004
Trichlorofluoromethane		0.831	0.980	0.882	0.868	0.889
1,2,4-Trichlorobenzene		265	458	683	1808	8997
1,2,4-Trimethylbenzene		2.925	3.135	2.862	2.736	2.903
Tetrachloroethene		0.241	0.291	0.264	0.250	0.259
1,2-Dichlorobenzene		1.450	1.401	1.294	1.240	1.341
1,2-Dichloroethane		0.637	0.744	0.620	0.676	0.686
1,2-Dichloropropane		0.438	0.504	0.446	0.451	0.484
1,3,5-Trimethylbenzene		3.108	3.007	2.816	2.688	2.840
1,3-Dichloropropane		0.675	0.779	0.640	0.685	0.668
1,4-Dichlorobenzene		1.971	1.754	1.517	1.457	1.518
Toluene		1.546	1.681	1.597	1.557	1.558
2-Butanone		0.614	0.618	0.476	0.506	0.573
2-Chlorotoluene		2.998	3.014	2.666	2.547	2.567
2-Hexanone		0.429	0.503	0.465	0.502	0.535
4-Chlorotoluene		3.544	3.371	2.972	2.954	2.974
tert-Butylbenzene		2.604	2.446	2.142	2.030	2.134
4-Methyl-2-Pentanone		0.700	0.743	0.713	0.752	0.767
Acetone		6053	7782	17803	29949	97902
Benzene		1.432	1.484	1.404	1.407	1.428
Bromobenzene		1.010	1.058	0.985	0.958	0.957
Bromochloromethane		0.380	0.433	0.312	0.355	0.349
Bromodichloromethane		0.478	0.525	0.513	0.512	0.514
Bromoform		0.213	0.252	0.236	0.244	0.263
Bromomethane		1841	2890	5832	14311	47538
Carbon Disulfide		1.592	1.756	1.547	1.617	1.586
Carbon Tetrachloride		0.523	0.534	0.365	0.412	0.407
Chlorobenzene		1.053	1.081	0.934	0.983	0.969
Chloroethane		0.480	0.641	0.522	0.518	0.528

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005113

Instrument ID: VOA6 Calibration Date(s): 06/02/20 06/02/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1058 1457

LAB FILE ID: RF0.25: X060202 RF0.5: X060203 RF1: X060204
RF2: X060205 RF5: X060206 RF20: X060207

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Chloroform		1.173	1.392	1.219	1.244	1.232
Chloromethane		1.107	1.368	1.230	1.207	1.191
cis-1,2-Dichloroethene		0.640	0.807	0.712	0.726	0.727
Dibromochloromethane		0.386	0.444	0.393	0.391	0.389
Dichlorodifluoromethane		0.499	0.611	0.542	0.552	0.552
Ethylbenzene		0.483	0.533	0.505	0.502	0.500
Hexachlorobutadiene		272	459	812	1277	6003
Isopropylbenzene		1.617	1.581	1.492	1.364	1.439
m,p-Xylenes		0.649	0.655	0.592	0.568	0.594
Methylene Chloride		2950	4893	8194	18494	70232
n-Butylbenzene		2.718	2.332	2.042	1.959	2.250
n-Propylbenzene		4.275	4.241	4.033	3.882	4.093
Naphthalene		489	938	1568	3430	16228
o-Xylene		0.605	0.632	0.590	0.584	0.598
sec-Butylbenzene		3.616	3.281	3.083	2.882	2.969
Styrene		1.143	1.101	1.019	1.034	1.083
Vinyl Chloride		1.357	1.130	0.987	0.942	0.943
1,2,3-Trichloropropane		0.772	0.988	0.975	1.025	0.944
p-Isopropyltoluene		2.881	2.628	2.467	2.367	2.545
1,2-Dibromo-3-Chloropropane		49	194	216	975	3937
1,2-Dichloroethane-d4		2576	5718	9006	24513	91293
Dibromofluoromethane		1607	3464	6437	17413	60981
Toluene-d8		1.390	1.422	1.285	1.351	1.297
4-Bromofluorobenzene		2952	5656	9213	21510	81314

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005113

Instrument ID: VOA6 Calibration Date(s): 06/02/20 06/02/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1058 1457

LAB FILE ID: RF50: X060208 RF100: X060209 RF150: X060210
RF200: X060211

COMPOUND	RF50	RF100	RF150	RF200
cis-1,3-Dichloropropene	0.626	0.608	0.640	0.618
trans-1,3-Dichloropropene	0.577	0.562	0.591	0.569
1,3-Dichlorobenzene	1.519	1.485	1.591	1.541
2,2-Dichloropropane	0.966	0.910	0.974	0.926
1,1-Dichloropropene	0.466	0.454	0.495	0.470
Dibromomethane	0.258	0.250	0.259	0.249
1,2-Dibromoethane	0.391	0.380	0.388	0.372
trans-1,2-Dichloroethene	0.600	0.563	0.599	0.575
1,1,1,2-Tetrachloroethane	0.366	0.356	0.373	0.364
1,1,1-Trichloroethane	0.973	0.944	1.020	0.986
1,1,2,2-Tetrachloroethane	0.993	0.941	0.999	0.966
1,1,2-Trichloroethane	0.321	0.306	0.315	0.302
1,1-Dichloroethane	1.530	1.451	1.531	1.475
1,1-Dichloroethene	0.507	0.496	0.539	0.510
Trichloroethene	0.347	0.334	0.359	0.344
1,2,3-Trichlorobenzene	10729	20684	36196	46791
Trichlorofluoromethane	0.972	0.948	1.033	0.977
1,2,4-Trichlorobenzene	22734	44957	75487	98724
1,2,4-Trimethylbenzene	2.982	2.873	3.086	2.970
Tetrachloroethene	0.264	0.264	0.283	0.270
1,2-Dichlorobenzene	1.337	1.282	1.346	1.309
1,2-Dichloroethane	0.677	0.646	0.664	0.633
1,2-Dichloropropane	0.488	0.470	0.495	0.469
1,3,5-Trimethylbenzene	2.903	2.822	3.042	2.922
1,3-Dichloropropane	0.676	0.635	0.659	0.633
1,4-Dichlorobenzene	1.530	1.472	1.558	1.519
Toluene	1.555	1.495	1.571	1.516
2-Butanone	0.553	0.534	0.548	0.537
2-Chlorotoluene	2.569	2.467	2.633	2.579
2-Hexanone	0.526	0.518	0.531	0.516
4-Chlorotoluene	3.011	2.912	3.099	3.002
tert-Butylbenzene	2.253	2.189	2.375	2.282
4-Methyl-2-Pentanone	0.768	0.749	0.764	0.745
Acetone	208678	380505	535084	691876
Benzene	1.460	1.389	1.471	1.412
Bromobenzene	0.963	0.919	0.993	0.960
Bromochloromethane	0.344	0.329	0.342	0.322
Bromodichloromethane	0.531	0.514	0.537	0.518
Bromoform	0.259	0.258	0.266	0.259
Bromomethane	108118	203862	316905	401260
Carbon Disulfide	1.691	1.612	1.753	1.691
Carbon Tetrachloride	0.443	0.438	0.483	0.463
Chlorobenzene	0.974	0.938	0.987	0.952
Chloroethane	0.544	0.507	0.539	0.516

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005113

Instrument ID: VOA6 Calibration Date(s): 06/02/20 06/02/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1058 1457

LAB FILE ID: RF50: X060208 RF100: X060209 RF150: X060210
RF200: X060211

COMPOUND	RF50	RF100	RF150	RF200
Chloroform	1.227	1.160	1.212	1.175
Chloromethane	1.174	1.180	1.311	1.300
cis-1,2-Dichloroethene	0.710	0.675	0.710	0.686
Dibromochloromethane	0.400	0.390	0.401	0.389
Dichlorodifluoromethane	0.623	0.615	0.693	0.672
Ethylbenzene	0.506	0.500	0.528	0.507
Hexachlorobutadiene	17167	33315	54291	72849
Isopropylbenzene	1.488	1.468	1.574	1.506
m,p-Xylenes	0.610	0.598	0.632	0.607
Methylene Chloride	166214	304409	458611	602460
n-Butylbenzene	2.474	2.433	2.628	2.520
n-Propylbenzene	4.200	4.124	4.476	4.315
Naphthalene	39390	79452	136164	179740
o-Xylene	0.607	0.594	0.620	0.602
sec-Butylbenzene	3.280	3.196	3.500	3.357
Styrene	1.096	1.046	1.096	1.060
Vinyl Chloride	1.004	0.980	1.074	1.041
1,2,3-Trichloropropane	0.932	0.888	0.915	0.856
p-Isopropyltoluene	2.726	2.663	2.912	2.780
1,2-Dibromo-3-Chloropropane	9084	18276	27849	36884
1,2-Dichloroethane-d4	213560	422784	617702	795626
Dibromofluoromethane	144483	285402	417964	549750
Toluene-d8	1.262	1.273	1.283	1.227
4-Bromofluorobenzene	195210	388425	568076	746966

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005113

Instrument ID: VOA6 Calibration Date(s): 06/02/20 06/02/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1058 1457

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
cis-1,3-Dichloropropene	AVRG		0.60974400		6.016	15.000
trans-1,3-Dichloropropene	AVRG		0.55074917		5.153	15.000
1,3-Dichlorobenzene	AVRG		1.56450744		6.462	15.000
2,2-Dichloropropane	AVRG		1.00203284		9.165	15.000
1,1-Dichloropropene	AVRG		0.47193864		4.063	15.000
Dibromomethane	AVRG		0.25398511		6.803	15.000
1,2-Dibromoethane	AVRG		0.38350390		2.437	15.000
trans-1,2-Dichloroethene	AVRG		0.58604691		5.508	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.35883072		2.983	15.000
1,1,1-Trichloroethane	AVRG		0.96319476		4.071	15.000
1,1,2,2-Tetrachloroethane	AVRG		0.99915846		5.002	15.000
1,1,2-Trichloroethane	AVRG		0.31812544		4.090	15.000
1,1-Dichloroethane	AVRG		1.54633090		6.758	15.000
1,1-Dichloroethene	AVRG		0.51236256		5.426	15.000
Trichloroethene	AVRG		0.33864584		3.832	15.000
1,2,3-Trichlorobenzene	2ORDR	2.14e-002	16.2148045	-8.3915690	0.9960141	0.9900000
Trichlorofluoromethane	AVRG		0.93136463		7.091	15.000
1,2,4-Trichlorobenzene	LINR	4.557e-002	6.69151779		0.9963264	0.9900000
1,2,4-Trimethylbenzene	AVRG		2.94129062		4.092	15.000
Tetrachloroethene	AVRG		0.26526896		5.778	15.000
1,2-Dichlorobenzene	AVRG		1.33335108		4.722	15.000
1,2-Dichloroethane	AVRG		0.66480309		5.632	15.000
1,2-Dichloropropane	AVRG		0.47160671		4.882	15.000
1,3,5-Trimethylbenzene	AVRG		2.90532371		4.503	15.000
1,3-Dichloropropane	AVRG		0.67230165		6.606	15.000
1,4-Dichlorobenzene	AVRG		1.58851819		10.539	15.000
Toluene	AVRG		1.56409299		3.380	15.000
2-Butanone	AVRG		0.55107978		8.376	15.000
2-Chlorotoluene	AVRG		2.67117095		7.402	15.000
2-Hexanone	AVRG		0.50278078		6.903	15.000
4-Chlorotoluene	AVRG		3.09308496		7.013	15.000
tert-Butylbenzene	AVRG		2.27278576		7.810	15.000
4-Methyl-2-Pentanone	AVRG		0.74442653		3.179	15.000
Acetone	LINR	-0.1562882	2.62916947		0.9976284	0.9900000
Benzene	AVRG		1.43197192		2.304	15.000
Bromobenzene	AVRG		0.97821128		4.050	15.000
Bromochloromethane	AVRG		0.35196817		10.338	15.000
Bromodichloromethane	AVRG		0.51586139		3.214	15.000
Bromoform	AVRG		0.25002563		6.748	15.000
Bromomethane	LINR	-2.07e-002	2.24344294		0.9977292	0.9900000
Carbon Disulfide	AVRG		1.64943042		4.597	15.000
Carbon Tetrachloride	AVRG		0.45209783		12.176	15.000
Chlorobenzene	AVRG		0.98580966		5.067	15.000
Chloroethane	AVRG		0.53296124		8.392	15.000

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005113

Instrument ID: VOA6 Calibration Date(s): 06/02/20 06/02/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1058 1457

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Chloroform	AVRG		1.22610163		5.612	15.000
Chloromethane	AVRG		1.22980766		6.634	15.000
cis-1,2-Dichloroethene	AVRG		0.71041989		6.442	15.000
Dibromochloromethane	AVRG		0.39835729		4.493	15.000
Dichlorodifluoromethane	AVRG		0.59534561		10.749	15.000
Ethylbenzene	AVRG		0.50723840		2.979	15.000
Hexachlorobutadiene	LINR	4.214e-002	9.15038949		0.9973586	0.9900000
Isopropylbenzene	AVRG		1.50319859		5.200	15.000
m,p-Xylenes	AVRG		0.61175815		4.633	15.000
Methylene Chloride	LINR	-2.19e-002	1.51332935		0.9991482	0.9900000
n-Butylbenzene	AVRG		2.37296829		10.716	15.000
n-Propylbenzene	AVRG		4.18194079		4.143	15.000
Naphthalene	2ORDR	1.111e-002	4.34048887	-0.6549165	0.9971688	0.9900000
o-Xylene	AVRG		0.60362751		2.447	15.000
sec-Butylbenzene	AVRG		3.24040706		7.346	15.000
Styrene	AVRG		1.07546579		3.619	15.000
Vinyl Chloride	AVRG		1.05108067		12.370	15.000
1,2,3-Trichloropropane	AVRG		0.92168512		8.256	15.000
p-Isopropyltoluene	AVRG		2.66330773		6.872	15.000
1,2-Dibromo-3-Chloropropane	LINR	1.133e-002	17.9898018		0.9993132	0.9900000
1,2-Dichloroethane-d4	LINR	-1.84e-002	1.13092579		0.9986804	0.9900000
Dibromofluoromethane	LINR	-1.25e-002	1.65126742		0.9994580	0.9900000
Toluene-d8	AVRG		1.31003761		4.876	15.000
4-Bromofluorobenzene	LINR	-1.49e-002	2.05515489		0.9993649	0.9900000

FORM VI VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20051138

Instrument ID: VOA6 Calibration Date: 06/02/20 Time: 2146

Lab File ID: X060228 Init. Calib. Date(s): 06/02/20 06/02/20

Init. Calib. Times: 1058 1457

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
cis-1,3-Dichloropropene	0.6100000	0.5867598	0.5867598	0.2	3.81	50.00	AVRG
trans-1,3-Dichloropropene	0.5500000	0.5329599	0.5329599	0.1	3.10	50.00	AVRG
1,3-Dichlorobenzene	1.5640000	1.5092908	1.5092908	0.6	3.50	50.00	AVRG
2,2-Dichloropropane	1.0020000	0.8775646	0.8775646	0.1	12.42	50.00	AVRG
1,1-Dichloropropene	0.4720000	0.4445096	0.4445096	0.1	5.82	50.00	AVRG
Dibromomethane	0.2540000	0.2486236	0.2486236	0.1	2.12	50.00	AVRG
1,2-Dibromoethane	0.3830000	0.3738558	0.3738558	0.1	2.39	50.00	AVRG
trans-1,2-Dichloroethene	0.5860000	0.5814730	0.5814730	0.1	0.77	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3590000	0.3583316	0.3583316	0.1	0.19	50.00	AVRG
1,1,1-Trichloroethane	0.9630000	0.9561393	0.9561393	0.1	0.71	50.00	AVRG
1,1,2,2-Tetrachloroethane	0.9990000	0.9496363	0.9496363	0.3	4.94	50.00	AVRG
1,1,2-Trichloroethane	0.3180000	0.3044474	0.3044474	0.1	4.26	50.00	AVRG
1,1-Dichloroethane	1.5460000	1.4954910	1.4954910	0.2	3.27	50.00	AVRG
1,1-Dichloroethene	0.5120000	0.5000450	0.5000450	0.1	2.33	50.00	AVRG
Trichloroethene	0.3390000	0.3289753	0.3289753	0.2	2.96	50.00	AVRG
1,2,3-Trichlorobenzene	45.535247	50.000000	5.65e-002	0.01	8.93	50.00	2RDR
Trichlorofluoromethane	0.9310000	0.9071420	0.9071420	0.1	2.56	50.00	AVRG
1,2,4-Trichlorobenzene	42.265268	50.000000	0.1195152	0.1	15.47	50.00	LINR
1,2,4-Trimethylbenzene	2.9410000	2.9687396	2.9687396	0.1	-0.94	50.00	AVRG
Tetrachloroethene	0.2650000	0.2551096	0.2551096	0.2	3.73	50.00	AVRG
1,2-Dichlorobenzene	1.3330000	1.2792266	1.2792266	0.4	4.03	50.00	AVRG
1,2-Dichloroethane	0.6650000	0.6281443	0.6281443	0.1	5.54	50.00	AVRG
1,2-Dichloropropane	0.4720000	0.4674153	0.4674153	0.1	0.97	50.00	AVRG
1,3,5-Trimethylbenzene	2.9050000	2.8999460	2.8999460	0.1	0.17	50.00	AVRG
1,3-Dichloropropane	0.6720000	0.6401918	0.6401918	0.1	4.73	50.00	AVRG
1,4-Dichlorobenzene	1.5880000	1.4917769	1.4917769	0.4	6.06	50.00	AVRG
Toluene	1.5640000	1.5104348	1.5104348	0.4	3.42	50.00	AVRG
2-Butanone	0.5510000	0.5026433	0.5026433	0.1	8.78	50.00	AVRG
2-Chlorotoluene	2.6710000	2.5836230	2.5836230	0.1	3.27	50.00	AVRG
2-Hexanone	0.5030000	0.4877258	0.4877258	0.1	3.04	50.00	AVRG
4-Chlorotoluene	3.0930000	2.9943521	2.9943521	0.1	3.19	50.00	AVRG
tert-Butylbenzene	2.2730000	2.2567504	2.2567504	0.1	0.71	50.00	AVRG
4-Methyl-2-Pentanone	0.7440000	0.7122222	0.7122222	0.1	4.27	50.00	AVRG
Acetone	93.737416	100.00000	0.3862506	0.1	6.26	50.00	LINR
Benzene	1.4320000	1.3779309	1.3779309	0.5	3.78	50.00	AVRG
Bromobenzene	0.9780000	0.9669439	0.9669439	0.1	1.13	50.00	AVRG
Bromochloromethane	0.3520000	0.3391426	0.3391426	0.1	3.65	50.00	AVRG
Bromodichloromethane	0.5160000	0.5061901	0.5061901	0.2	1.90	50.00	AVRG
Bromoform	0.2500000	0.2475391	0.2475391	0.1	0.98	50.00	AVRG
Bromomethane	50.941745	50.000000	0.4633602	0.1	-1.88	50.00	LINR
Carbon Disulfide	1.6490000	1.6340989	1.6340989	0.1	0.90	50.00	AVRG
Carbon Tetrachloride	0.4520000	0.4185698	0.4185698	0.1	7.40	50.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005113

Instrument ID: VOA6 Calibration Date: 06/02/20 Time: 2146

Lab File ID: X060228 Init. Calib. Date(s): 06/02/20 06/02/20

Init. Calib. Times: 1058 1457

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	
Chlorobenzene	0.9860000	0.9435179	0.9435179	0.5	4.31	50.00	AVRG	
Chloroethane	0.5330000	0.5227250	0.5227250	0.1	1.93	50.00	AVRG	
Chloroform	1.2260000	1.1879094	1.1879094	0.2	3.11	50.00	AVRG	
Chloromethane	1.2300000	1.1877252	1.1877252	0.1	3.44	50.00	AVRG	
cis-1,2-Dichloroethene	0.7100000	0.6943120	0.6943120	0.1	2.21	50.00	AVRG	
Dibromochloromethane	0.3980000	0.3762939	0.3762939	0.1	5.45	50.00	AVRG	
Dichlorodifluoromethane	0.5950000	0.5941068	0.5941068	0.1	0.15	50.00	AVRG	
Ethylbenzene	0.5070000	0.4913665	0.4913665	0.1	3.08	50.00	AVRG	
Hexachlorobutadiene	44.375592	50.000000	9.24e-002	0.1	11.25	50.00	LINR	<-
Isopropylbenzene	1.5030000	1.4430637	1.4430637	0.1	3.99	50.00	AVRG	
m,p-Xylenes	0.6120000	0.5955247	0.5955247	0.1	2.69	50.00	AVRG	
Methylene Chloride	51.018548	50.000000	0.6887170	0.1	-2.04	50.00	LINR	
n-Butylbenzene	2.3730000	2.3917169	2.3917169	0.5	-0.79	50.00	AVRG	
n-Propylbenzene	4.1820000	4.2452849	4.2452849	0.1	-1.51	50.00	AVRG	
Naphthalene	43.121443	50.000000	0.2023101	0.2	13.76	50.00	2RDR	
o-Xylene	0.6040000	0.5967044	0.5967044	0.3	1.21	50.00	AVRG	
sec-Butylbenzene	3.2400000	3.2669724	3.2669724	0.1	-0.83	50.00	AVRG	
Styrene	1.0750000	1.0445301	1.0445301	0.3	2.83	50.00	AVRG	
Vinyl Chloride	1.0510000	0.9678906	0.9678906	0.1	7.91	50.00	AVRG	
1,2,3-Trichloropropane	0.9220000	0.8882196	0.8882196	0.1	3.66	50.00	AVRG	
p-Isopropyltoluene	2.6630000	2.7077001	2.7077001	0.1	-1.68	50.00	AVRG	
1,2-Dibromo-3-Chloropropane	43.707174	50.000000	4.8e-002	0.05	12.58	50.00	LINR	<-
1,2-Dichloroethane-d4	50.649406	50.000000	0.9119788	0.1	-1.30	50.00	LINR	
Dibromofluoromethane	50.926217	50.000000	0.6243654	0.1	-1.85	50.00	LINR	
Toluene-d8	1.3100000	1.2680105	1.2680105	0.1	3.20	50.00	AVRG	
4-Bromofluorobenzene	50.292857	50.000000	0.4966892	0.1	-0.58	50.00	LINR	

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20051138

Lab File ID (Standard): X060208 Date Analyzed: 06/02/20

Instrument ID: VOA6 Time Analyzed: 1345

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1(CBZ) AREA #	IS1(CBZ) RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(DCB) AREA #	IS3(DCB) RT #
	12 HOUR STD	391664	7.67	419955	4.97	170314	9.67
	UPPER LIMIT	783328	8.17	839910	5.47	340628	10.17
	LOWER LIMIT	195832	7.17	209978	4.47	85157	9.17
	CLIENT SAMPLE NO.						
01	VLCSW-200602	406976	7.67	446224	4.97	179577	9.67
02	VBLKW-200602	444706	7.67	524655	4.97	179376	9.67
03	HS20051138-02	462593	7.67	537457	4.97	194482	9.67
04	HS20051138-01	441100	7.67	518930	4.97	174291	9.67
05	HS20051138-01	423867	7.67	496325	4.97	175379	9.67
06	HS20051138-01	430014	7.67	496295	4.97	181121	9.66
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20051138

Lab File ID (Standard): X060208 Date Analyzed: 06/02/20

Instrument ID: VOA6 Time Analyzed: 1345

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	234603	4.19				
	UPPER LIMIT	469206	4.69				
	LOWER LIMIT	117302	3.69				
	CLIENT SAMPLE NO.						
01	VLCSW-200602	250496	4.18				
02	VBLKW-200602	317915	4.18				
03	HS20051138-02	322998	4.18				
04	HS20051138-01	313714	4.18				
05	HS20051138-01	299275	4.18				
06	HS20051138-01	299842	4.18				
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\X200602.b\X060201.D

Date : 02-JUN-2020 10:34

Client ID: BFB

Instrument: voa6.i

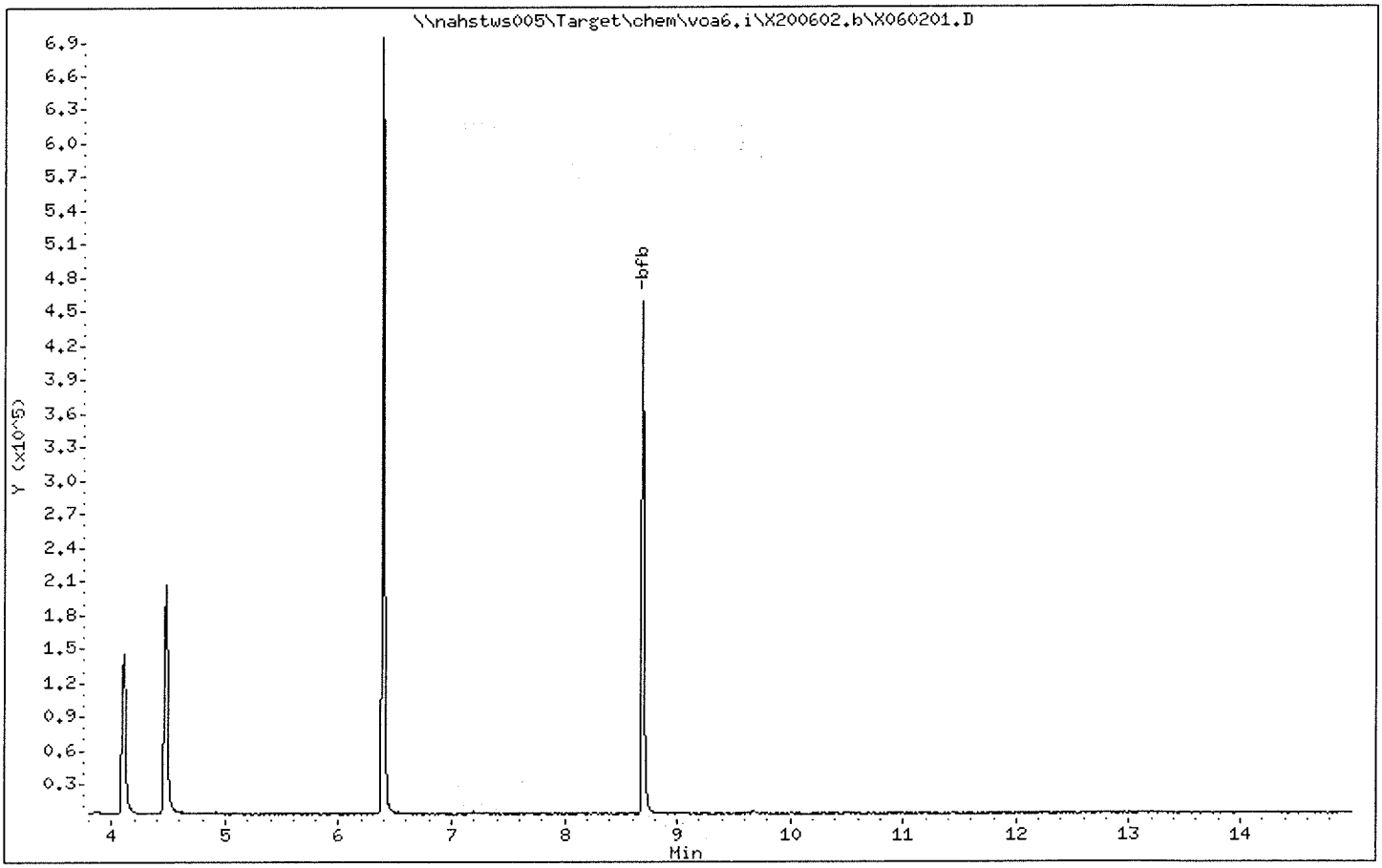
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060201.D

Date : 02-JUN-2020 10:34

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

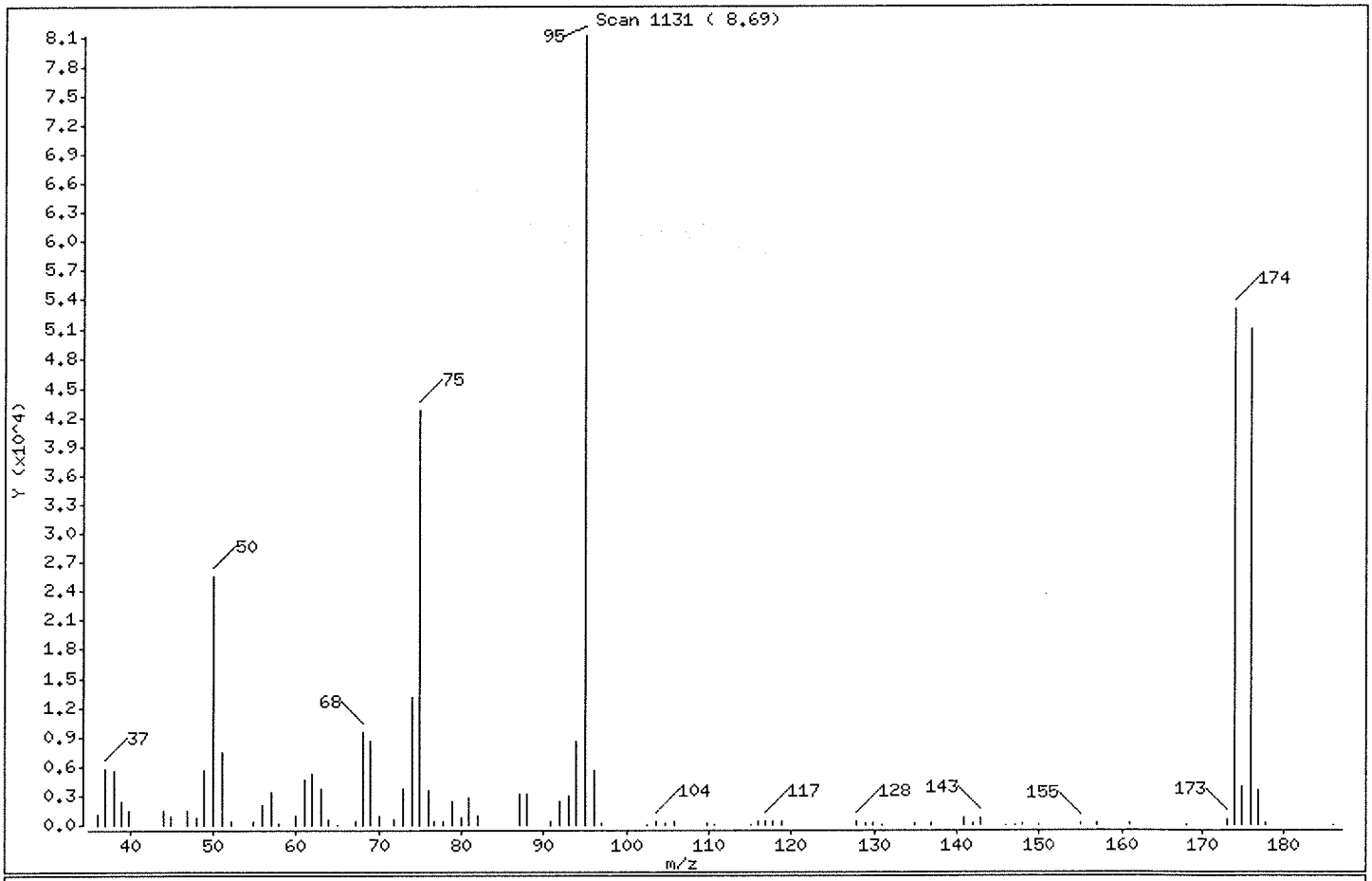
Volume Injected (uL): 2.0

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	31.41
75	30.00 - 60.00% of mass 95	52.59
96	5.00 - 9.00% of mass 95	6.83
173	Less than 2.00% of mass 174	0.62 (0.96)
174	Greater than 50.00% of mass 95	65.27
175	5.00 - 9.00% of mass 174	4.93 (7.56)
176	95.00 - 101.00% of mass 174	62.81 (96.24)
177	5.00 - 9.00% of mass 176	4.41 (7.02)

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060201.D

Date : 02-JUN-2020 10:34

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: X060201.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 82

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1204	64.00	494	93.00	2906	136.90	226
37.00	5795	64.90	84	94.00	8649	140.90	749
38.00	5623	67.10	299	95.00	81128	141.90	202
39.00	2483	68.00	9453	96.00	5544	142.90	801
39.90	1554	69.00	8549	96.90	171	145.90	74
44.00	1476	70.00	887	102.60	58	147.00	56
44.90	895	71.90	567	103.70	405	147.90	197
46.90	1541	73.00	3811	104.70	144	149.90	77
48.00	726	74.00	13073	105.80	305	155.00	144
49.00	5609	75.00	42664	109.80	115	156.90	133
50.00	25480	76.00	3481	110.70	59	160.90	117
51.00	7458	76.80	436	115.10	71	168.00	54
52.10	455	77.90	294	116.00	321	173.00	507
54.90	327	78.90	2436	116.90	449	173.90	52952
56.00	1989	79.90	799	117.80	402	174.90	4001
57.00	3275	80.90	2785	118.90	369	175.90	50960
57.90	140	81.90	848	127.80	305	176.90	3575
60.00	882	87.00	3172	129.00	95	177.80	95
61.00	4747	88.00	3157	129.80	219	186.00	83
62.00	5275	90.90	330	131.00	84		
63.00	3699	92.00	2427	135.00	190		

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060202.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 02-JUN-2020 10:58
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 10:58 Cal File: X060202.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

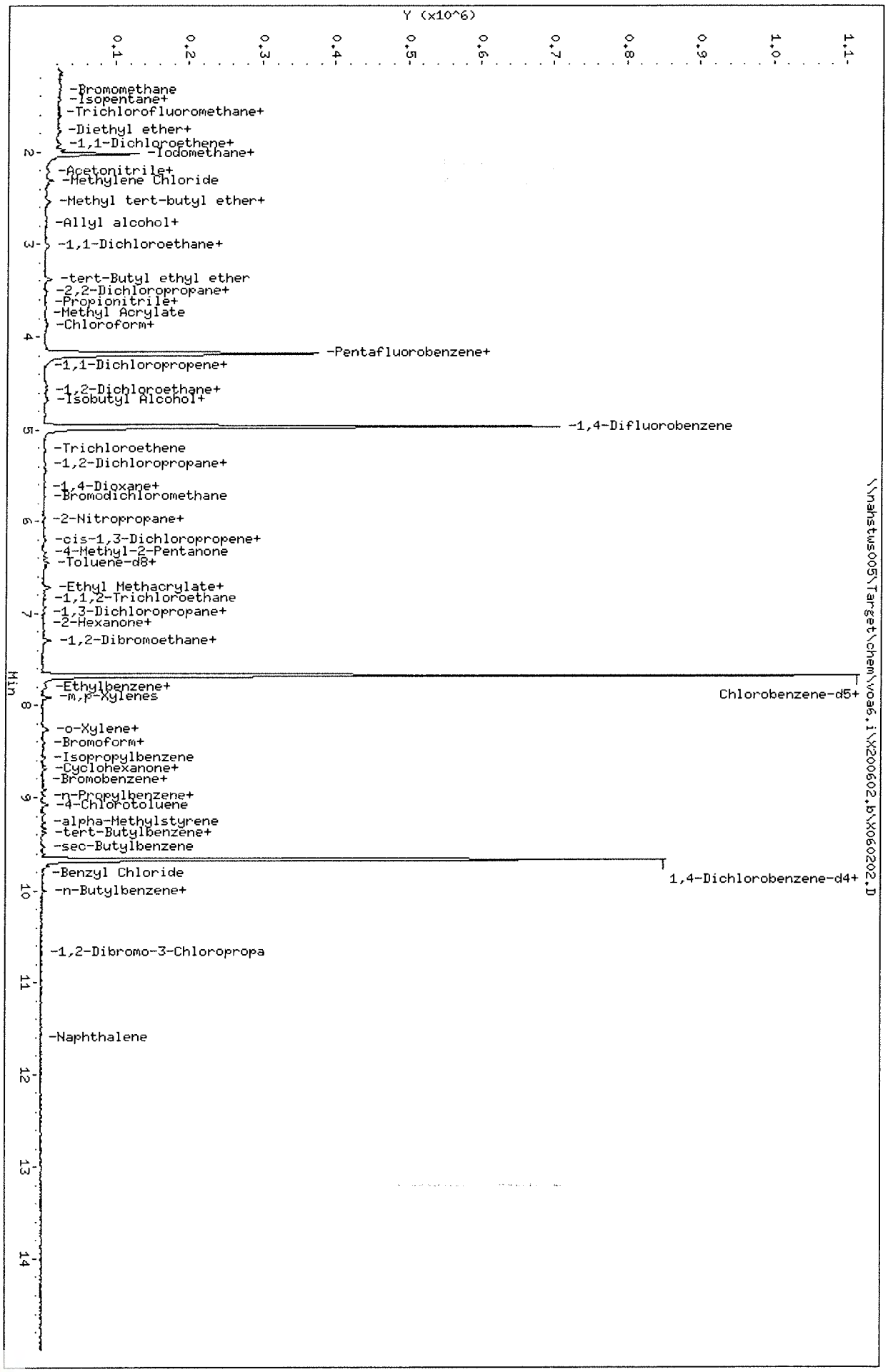
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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	4.182	(1.000)	280532	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	498111	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	441520	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	179367	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	826	0.25000	(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.070)	1505	0.25000	(Ta)
$ 48 Toluene-d8	98	6.396	6.388	(0.834)	3214	0.25000	0.27(Ta)
$ 69 4-Bromofluorobenzene	95	8.702	8.695	(1.134)	1961	0.25000	(aM)
60 1,1,1,2-Tetrachloroethane	131	7.785	7.778	(1.015)	841	0.25000	0.26(aM)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	1436	0.25000	0.26(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	993	0.25000	0.27(aM)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	758	0.25000	0.26(a)
22 1,1-Dichloroethane	63	2.929	2.921	(0.699)	2709	0.25000	0.31(Ta)
11 1,1-Dichloroethene	96	1.919	1.911	(0.458)	817	0.25000	0.28(a)
32 1,1-Dichloropropene	75	4.304	4.282	(0.866)	1213	0.25000	0.25(a)
71 1,2,3-Trichloropropane	75	8.874	8.867	(0.918)	1066	0.25000	0.32(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	2654	0.25000	0.25(a)
89 1,2-Dibromo-3-Chloropropane	155	10.672	10.658	(1.104)	42	0.25000	0.77(aM)
57 1,2-Dibromoethane	107	7.269	7.262	(0.948)	787	0.25000	0.23(a)
88 1,2-Dichlorobenzene	146	10.006	9.999	(1.035)	1378	0.25000	0.28(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	1760	0.25000	0.26(a)
42 1,2-Dichloropropane	63	5.450	5.443	(1.097)	943	0.25000	0.20(aM)
75 1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	2581	0.25000	0.24(a)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
83	1,3-Dichlorobenzene	146	9.619	9.612	(0.995)	1249	0.25000	0.22(a)
54	1,3-Dichloropropane	76	6.990	6.983	(0.911)	1765	0.25000	0.29(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	1625	0.25000	0.28(a)
26	2,2-Dichloropropane	77	3.530	3.516	(0.843)	1397	0.25000	0.24(aM)
24	2-Butanone	43	3.623	3.580	(0.865)	2127	0.50000	0.68(aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	2911	0.25000	0.30(a)
52	2-Hexanone	43	7.105	7.090	(0.926)	2439	0.50000	0.54(a)
77	4-Chlorotoluene	91	9.082	9.075	(0.939)	3023	0.25000	0.27(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	2331	0.25000	0.24(a)
45	4-Methyl-2-Pentanone	43	6.338	6.331	(0.826)	3938	0.50000	0.59(a)
10	Acetone	43	1.969	1.976	(0.470)	3073	0.50000	(aM)
37	Benzene	78	4.519	4.519	(0.909)	4283	0.25000	0.30(a)
74	Bromobenzene	156	8.817	8.809	(0.912)	795	0.25000	0.22(a)
29	Bromochloromethane	128	3.803	3.803	(0.908)	477	0.25000	0.24(aM)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	1068	0.25000	0.20(aM)
66	Bromoform	173	8.423	8.416	(1.098)	357	0.25000	0.16(aM)
6	Bromomethane	94	1.338	1.331	(0.320)	981	0.25000	(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.494)	4695	0.50000	0.50(a)
34	Carbon Tetrachloride	117	4.261	4.268	(0.857)	1366	0.25000	0.30(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	2267	0.25000	0.26(a)
7	Chloroethane	64	1.403	1.396	(0.335)	1023	0.25000	0.34(aM)
28	Chloroform	83	3.924	3.910	(0.937)	1694	0.25000	0.24(a)
3	Chloromethane	50	1.081	1.081	(0.258)	1823	0.25000	0.26(aM)
27	cis-1,2-Dichloroethene	96	3.545	3.530	(0.846)	1066	0.25000	0.26(aM)
46	cis-1,3-Dichloropropene	75	6.166	6.159	(1.241)	1521	0.25000	0.25(aM)
55	Dibromochloromethane	129	7.184	7.183	(0.937)	872	0.25000	0.24(a)
44	Dibromomethane	93	5.565	5.557	(1.120)	564	0.25000	0.22(aM)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	833	0.25000	0.24(aM)
61	Ethylbenzene	106	7.807	7.807	(1.018)	1219	0.25000	0.27(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	3182	0.25000	0.23(a)
62	m,p-Xylenes	106	7.914	7.907	(1.032)	2709	0.50000	0.50(a)
17	Methylene Chloride	84	2.305	2.305	(0.550)	2245	0.25000	(a)
87	n-Butylbenzene	91	10.006	9.999	(1.035)	1884	0.25000	0.22(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	3424	0.25000	0.22(a)
92	Naphthalene	128	11.603	11.546	(1.200)	172	0.25000	0.76(aM)
63	o-Xylene	106	8.244	8.244	(1.075)	1377	0.25000	0.25(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	2873	0.25000	0.24(a)
64	Styrene	104	8.272	8.265	(1.078)	2203	0.25000	0.23(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	2170	0.25000	0.26(a)
56	Tetrachloroethene	164	6.940	6.933	(0.905)	576	0.25000	0.24(aM)
50	Toluene	91	6.453	6.453	(0.841)	3752	0.25000	0.27(a)
20	trans-1,2-Dichloroethene	96	2.549	2.527	(0.608)	737	0.25000	0.22(Ta)
51	trans-1,3-Dichloropropene	75	6.696	6.682	(1.347)	1434	0.25000	0.26(aM)
38	Trichloroethene	130	5.207	5.206	(1.048)	959	0.25000	0.28(a)
8	Trichlorofluoromethane	101	1.568	1.560	(0.374)	1110	0.25000	0.21(a)
5	Vinyl Chloride	62	1.145	1.138	(0.273)	2265	0.25000	0.38(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.



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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\X200602.b\X060203.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 02-JUN-2020 11:22
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 11:22 Cal File: X060203A.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	4.182	(1.000)	260016	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	471106	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	426951	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	179026	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.103	(0.983)	1607	0.50000	(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.072)	2576	0.50000	(Ta)
$ 48 Toluene-d8	98	6.396	6.388	(0.834)	5934	0.50000	0.53(Ta)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2952	0.50000	(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1456	0.50000	0.47(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	2278	0.50000	0.45(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1688	0.50000	0.47(aM)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1297	0.50000	0.47(a)
22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	4290	0.50000	0.53(Ta)
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	1415	0.50000	0.53(aM)
32 1,1-Dichloropropene	75	4.290	4.282	(0.863)	2376	0.50000	0.53(a)
93 1,2,3-Trichlorobenzene	180	11.761	11.746	(1.216)	63	0.50000	1.35(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	1383	0.50000	0.41(aM)
90 1,2,4-Trichlorobenzene	180	11.367	11.338	(1.176)	265	0.50000	2.77(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	5236	0.50000	0.49(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.103)	49	0.50000	0.81(aM)
57 1,2-Dibromoethane	107	7.269	7.262	(0.948)	1690	0.50000	0.51(a)
88 1,2-Dichlorobenzene	146	10.006	9.999	(1.035)	2595	0.50000	0.54(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	3003	0.50000	0.47(a)

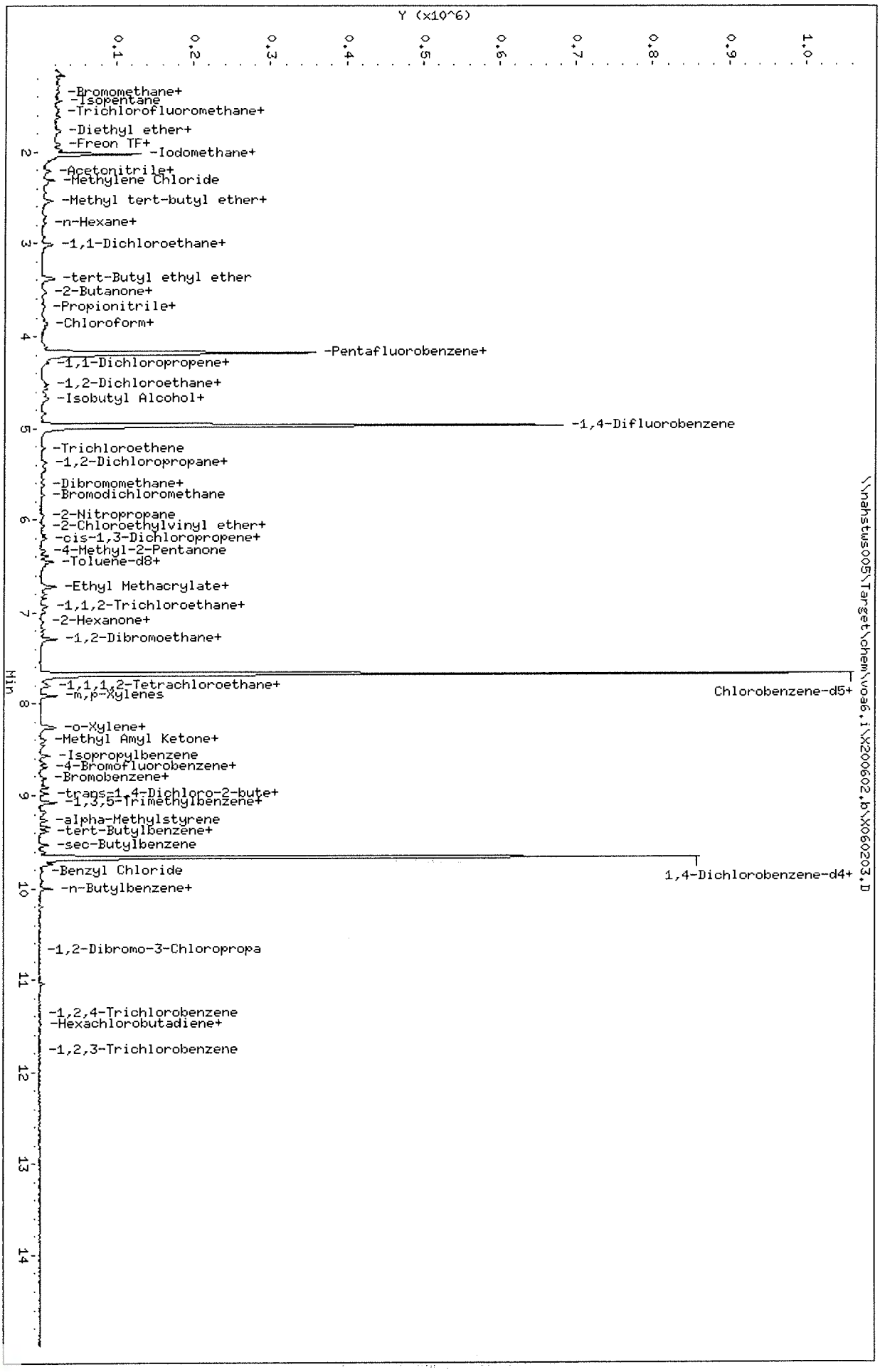
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.450	5.443	(1.097)	2062	0.50000	0.46(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	5565	0.50000	0.53(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	3199	0.50000	0.57(a)
54	1,3-Dichloropropane	76	6.990	6.983	(0.911)	2884	0.50000	0.50(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	3529	0.50000	0.62(a)
26	2,2-Dichloropropane	77	3.523	3.516	(0.842)	2905	0.50000	0.55(aM)
24	2-Butanone	43	3.602	3.580	(0.861)	3193	1.00000	1.11(a)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	5367	0.50000	0.56(a)
52	2-Hexanone	43	7.098	7.090	(0.925)	3665	1.00000	0.85(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	6344	0.50000	0.57(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	5158	0.50000	0.54(a)
45	4-Methyl-2-Pentanone	43	6.338	6.331	(0.826)	5979	1.00000	0.94(a)
10	Acetone	43	1.976	1.976	(0.473)	6053	1.00000	(aM)
37	Benzene	78	4.519	4.519	(0.909)	6748	0.50000	0.50(a)
74	Bromobenzene	156	8.817	8.809	(0.912)	1809	0.50000	0.51(a)
29	Bromochloromethane	128	3.795	3.803	(0.908)	988	0.50000	0.53(a)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	2252	0.50000	0.46(aM)
66	Bromoform	173	8.416	8.416	(1.097)	908	0.50000	0.42(aM)
6	Bromomethane	94	1.346	1.331	(0.322)	1841	0.50000	(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	8278	1.00000	0.96(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	2462	0.50000	0.57(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	4495	0.50000	0.53(a)
7	Chloroethane	64	1.403	1.396	(0.336)	1249	0.50000	0.45(a)
28	Chloroform	83	3.910	3.910	(0.935)	3051	0.50000	0.47(a)
3	Chloromethane	50	1.081	1.081	(0.258)	2879	0.50000	0.45(a)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	1663	0.50000	0.45(a)
46	cis-1,3-Dichloropropene	75	6.166	6.159	(1.241)	2508	0.50000	0.43(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	1649	0.50000	0.48(a)
44	Dibromomethane	93	5.565	5.557	(1.120)	1094	0.50000	0.45(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1297	0.50000	0.41(aM)
61	Ethylbenzene	106	7.807	7.807	(1.018)	2062	0.50000	0.47(a)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	272	0.50000	2.80(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	6903	0.50000	0.53(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	5540	1.00000	1.06(a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	2950	0.50000	(a)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	4866	0.50000	0.57(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	7653	0.50000	0.51(a)
92	Naphthalene	128	11.582	11.546	(1.198)	489	0.50000	1.14(aM)
63	o-Xylene	106	8.251	8.244	(1.076)	2583	0.50000	0.50(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	6473	0.50000	0.55(a)
64	Styrene	104	8.265	8.265	(1.078)	4881	0.50000	0.53(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	4661	0.50000	0.57(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	1030	0.50000	0.45(a)
50	Toluene	91	6.453	6.453	(0.841)	6601	0.50000	0.49(a)
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	1428	0.50000	0.46(a)
51	trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	2357	0.50000	0.45(a)
38	Trichloroethene	130	5.221	5.206	(1.050)	1631	0.50000	0.51(a)
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	2162	0.50000	0.44(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	3529	0.50000	0.64(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.



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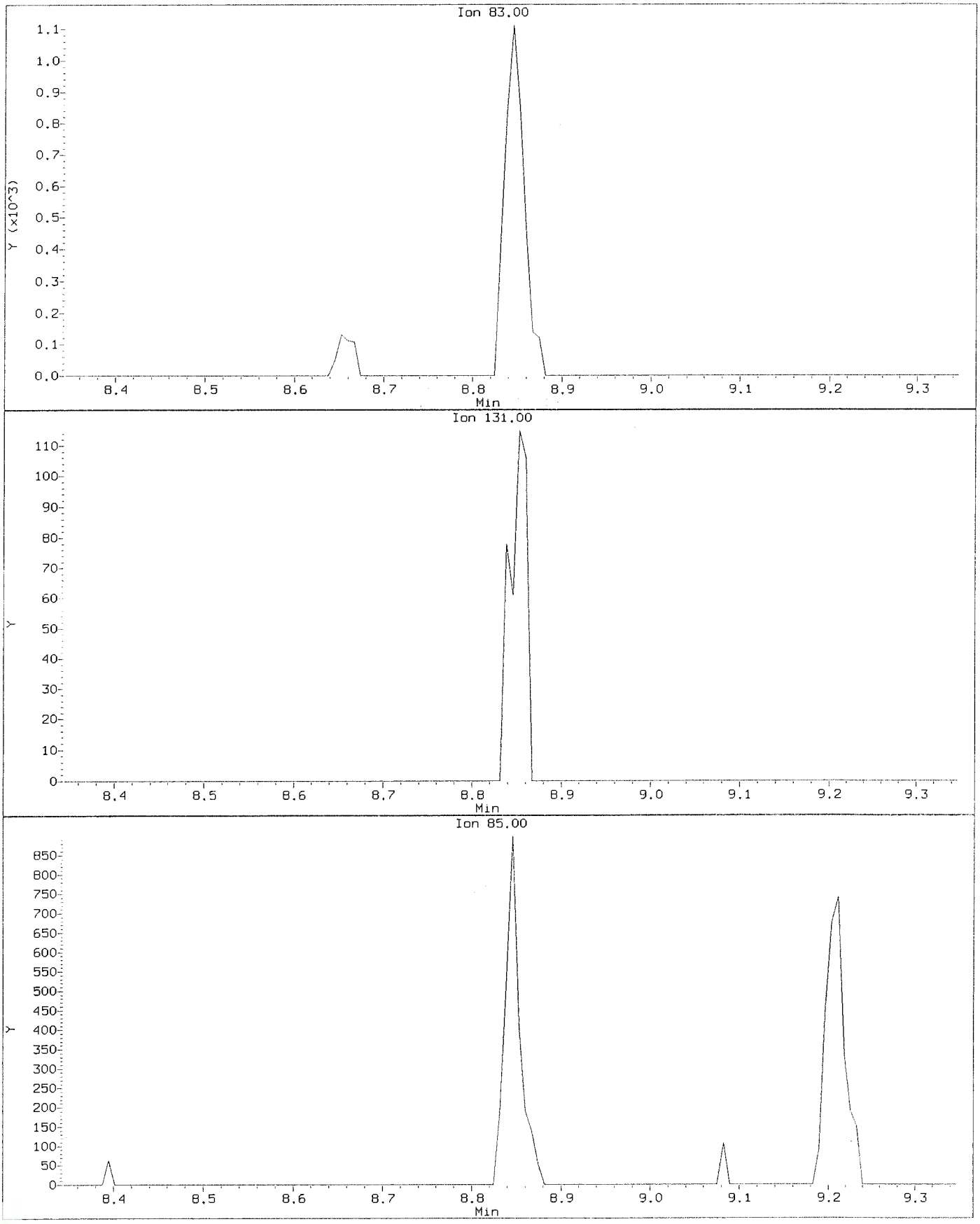
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060203.D
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



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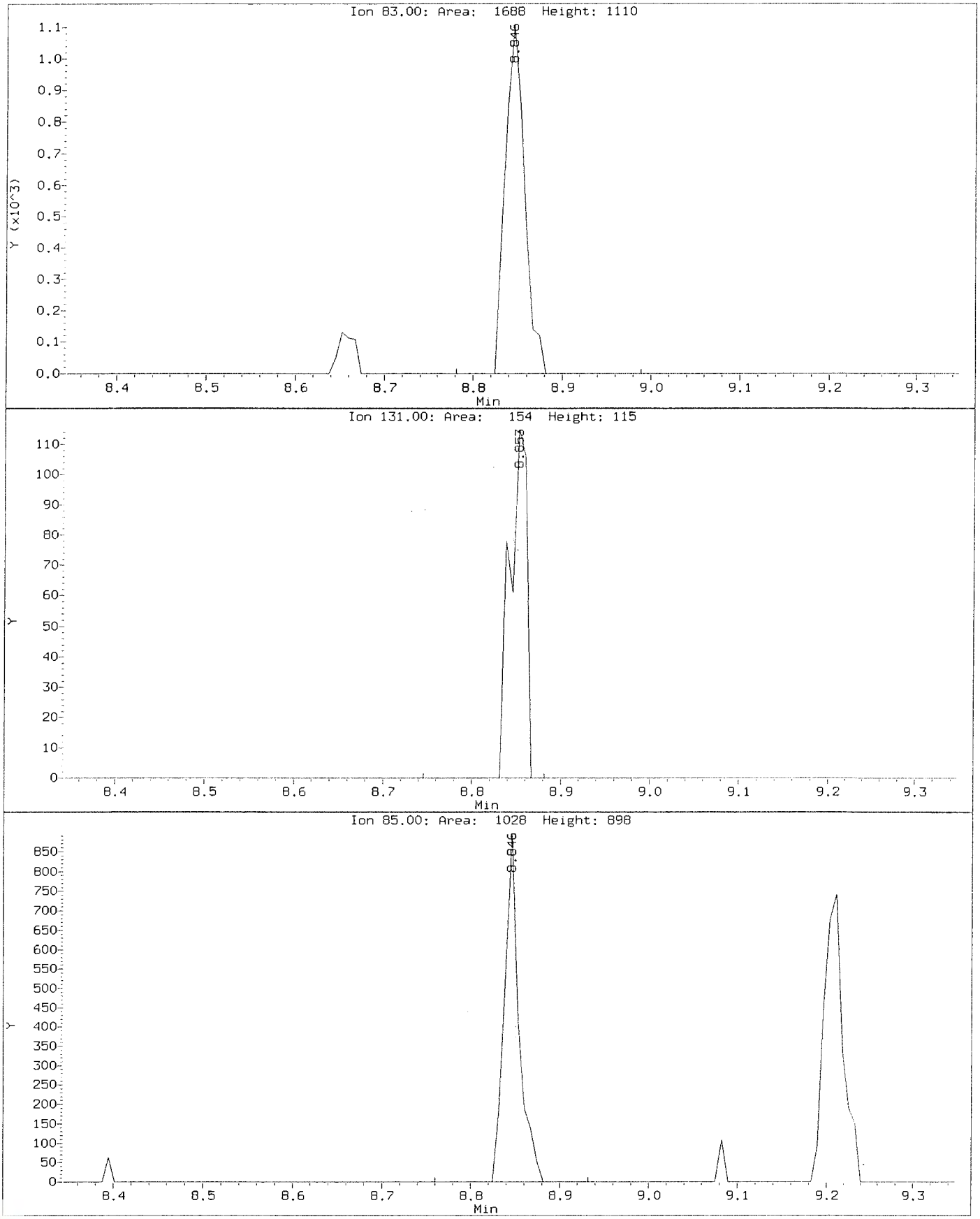
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



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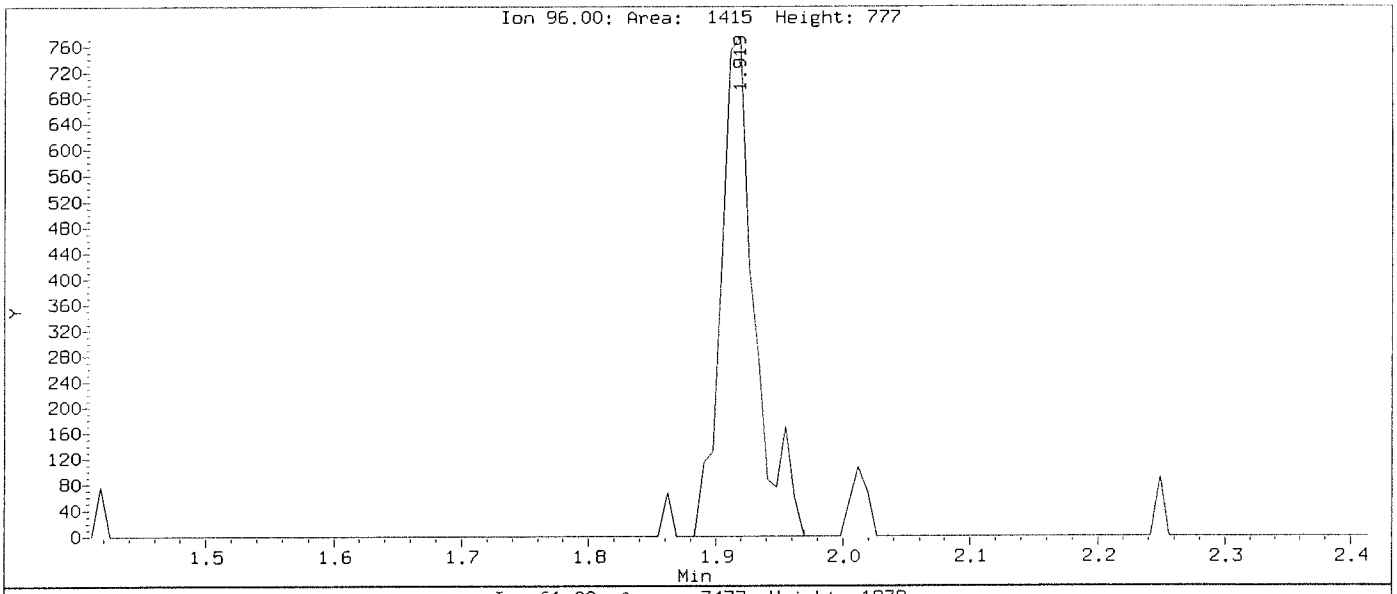
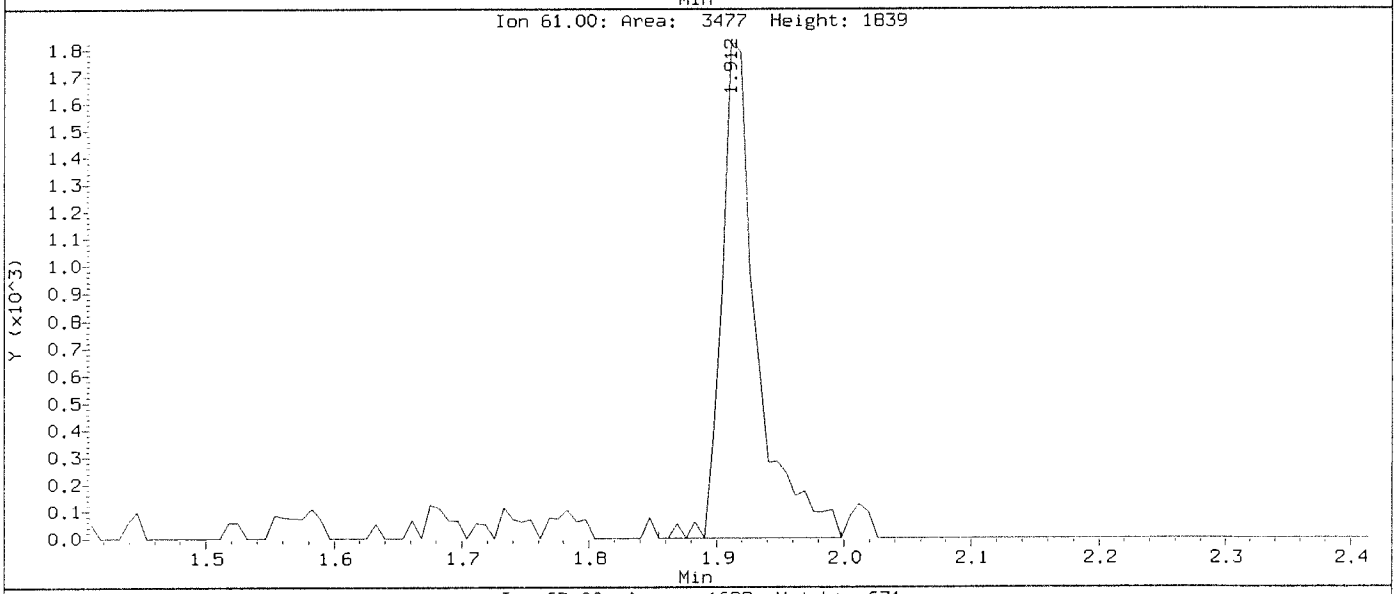
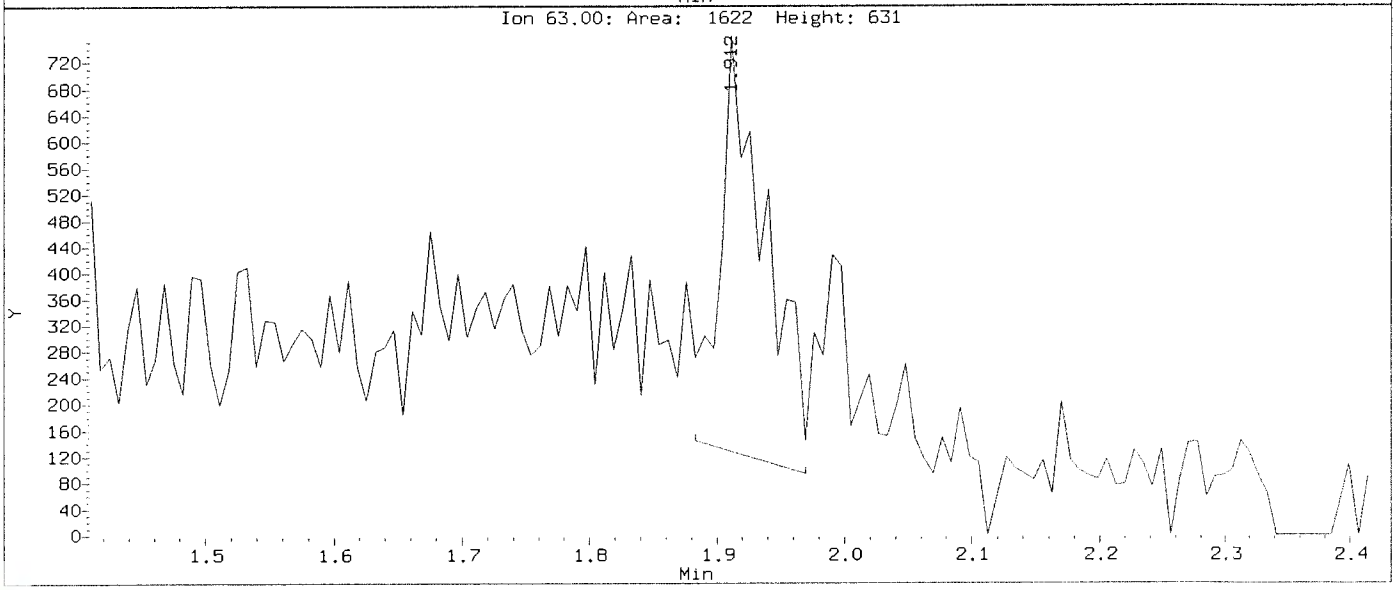
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4







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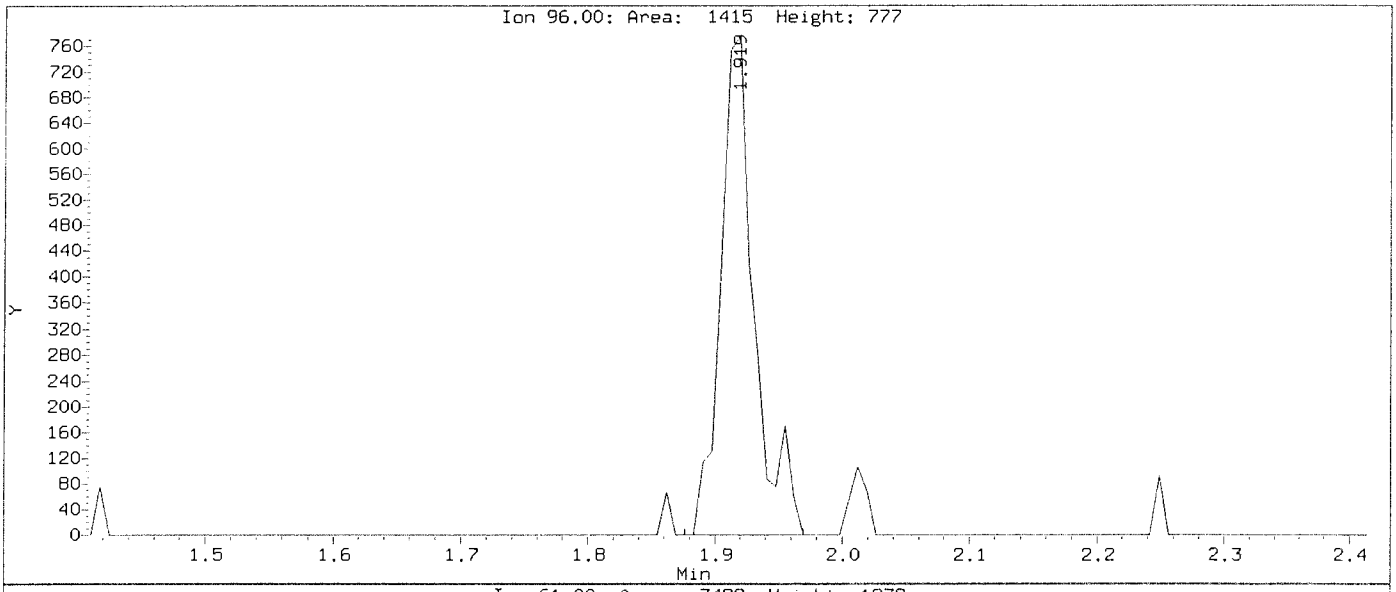
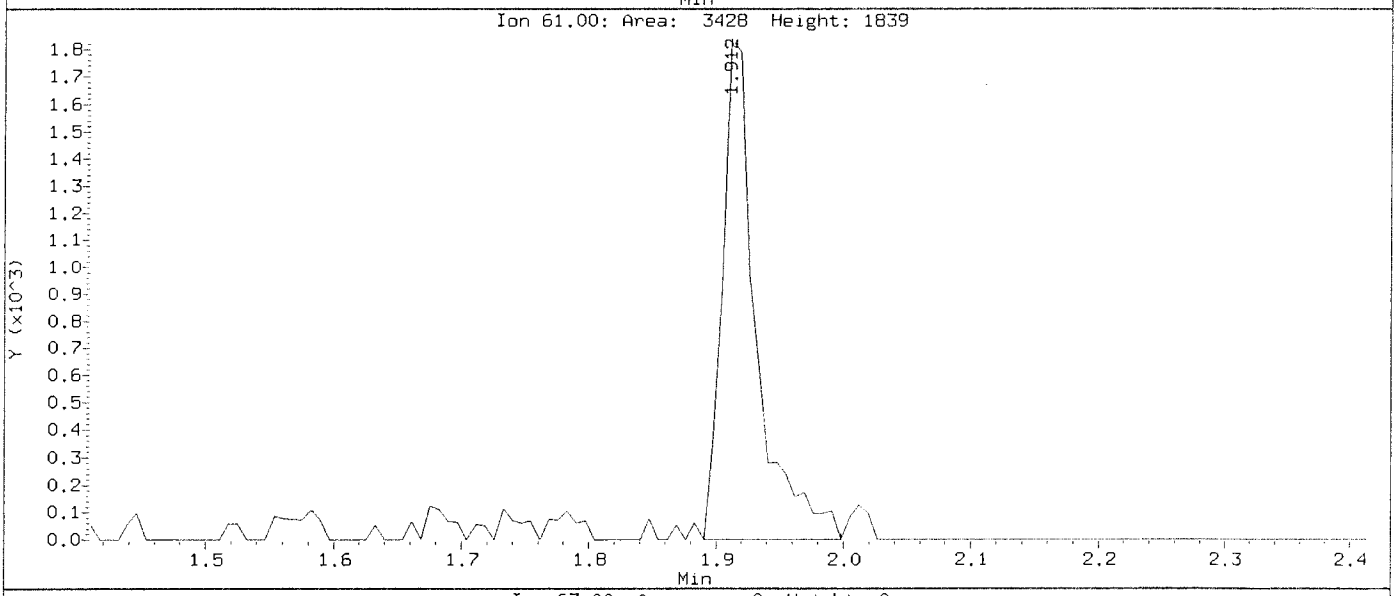
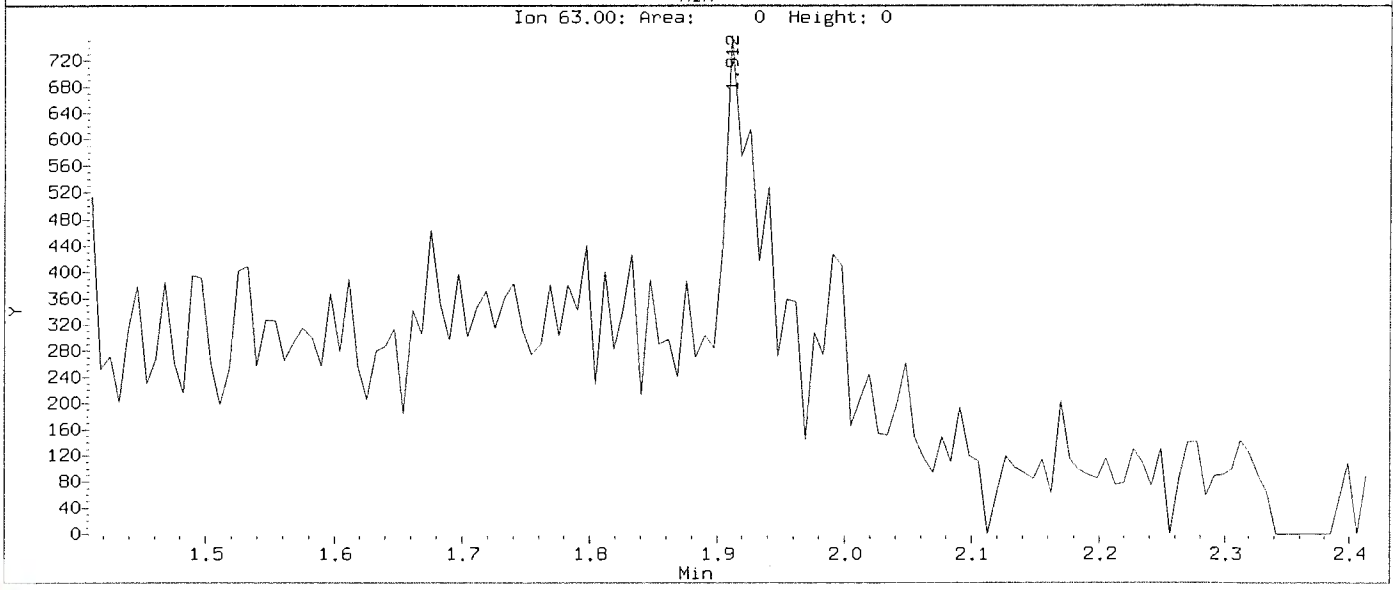
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4







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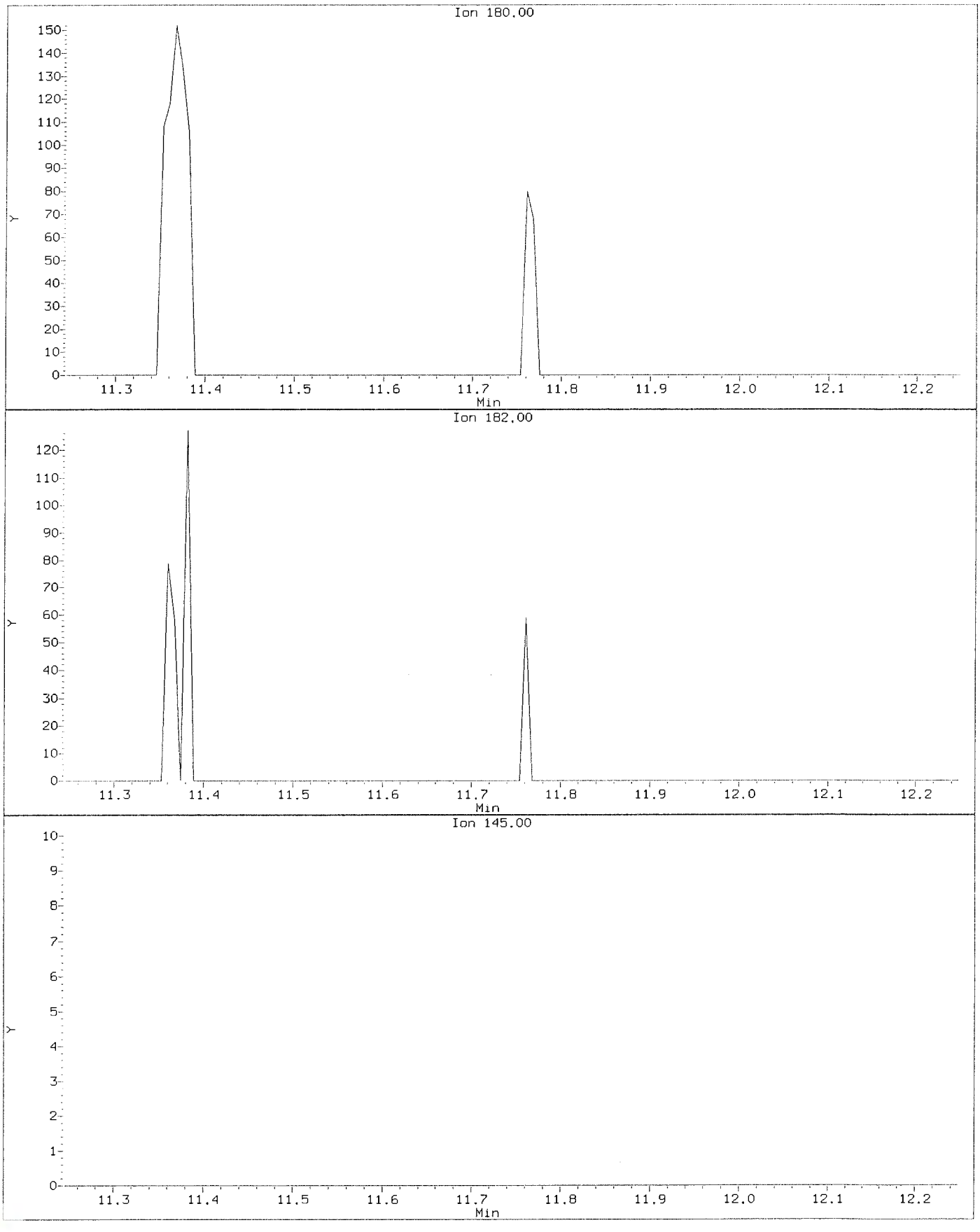
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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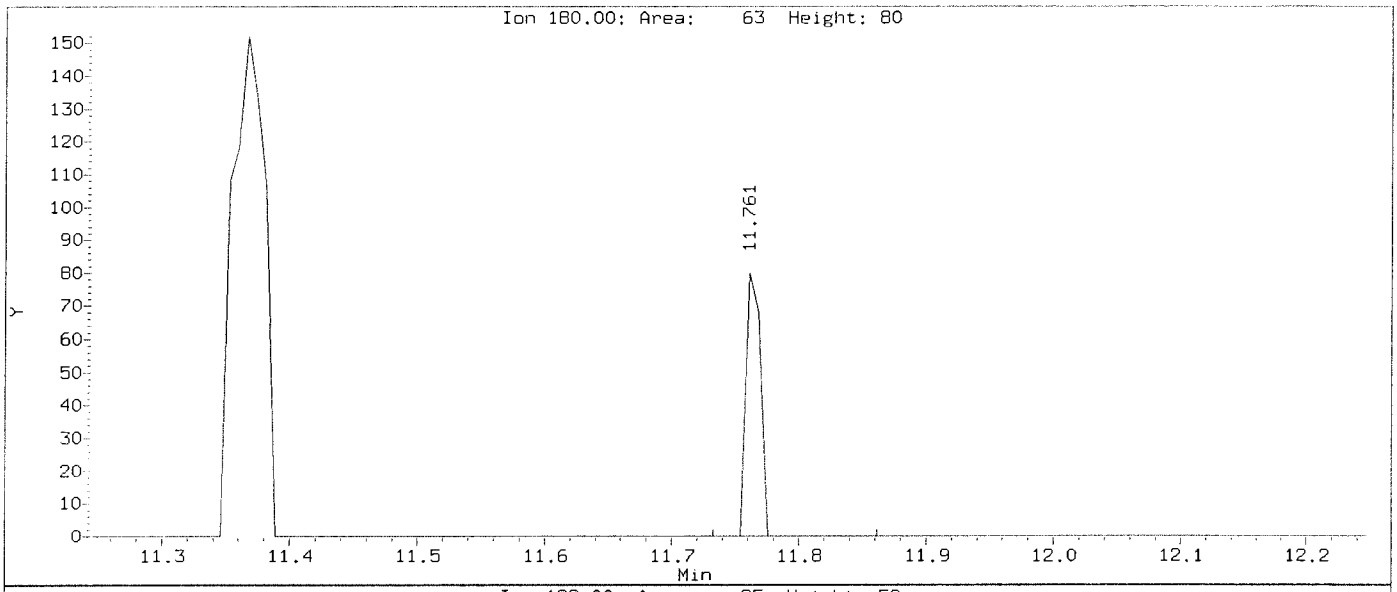
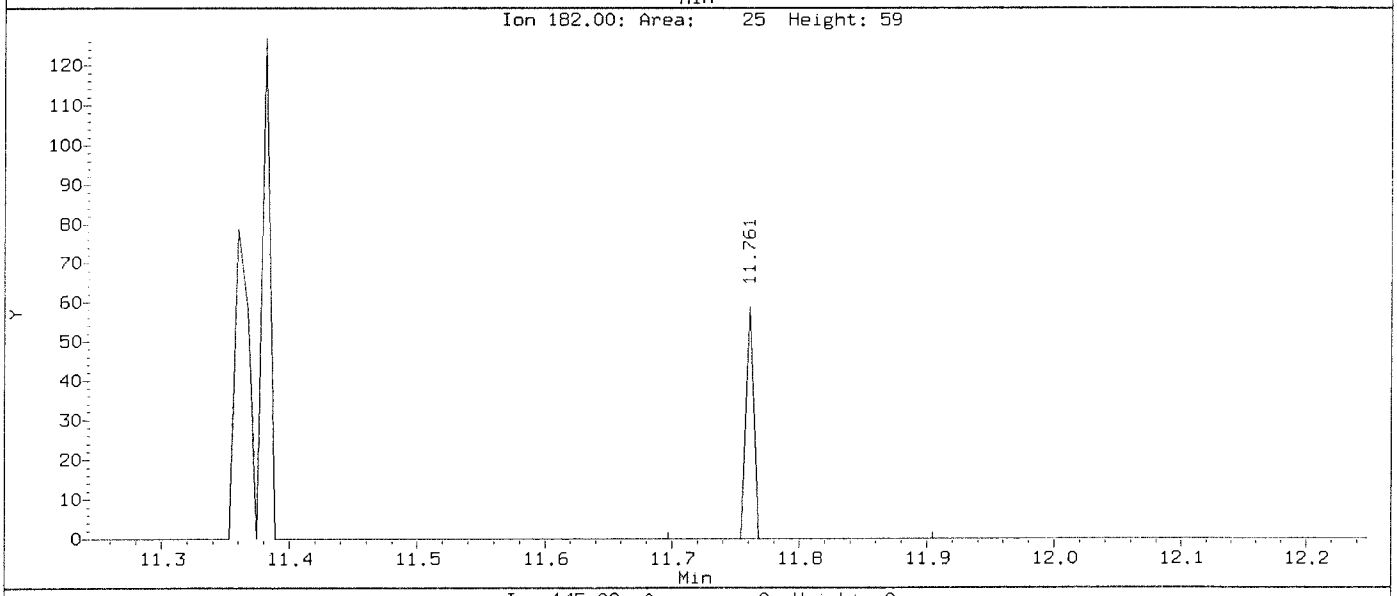
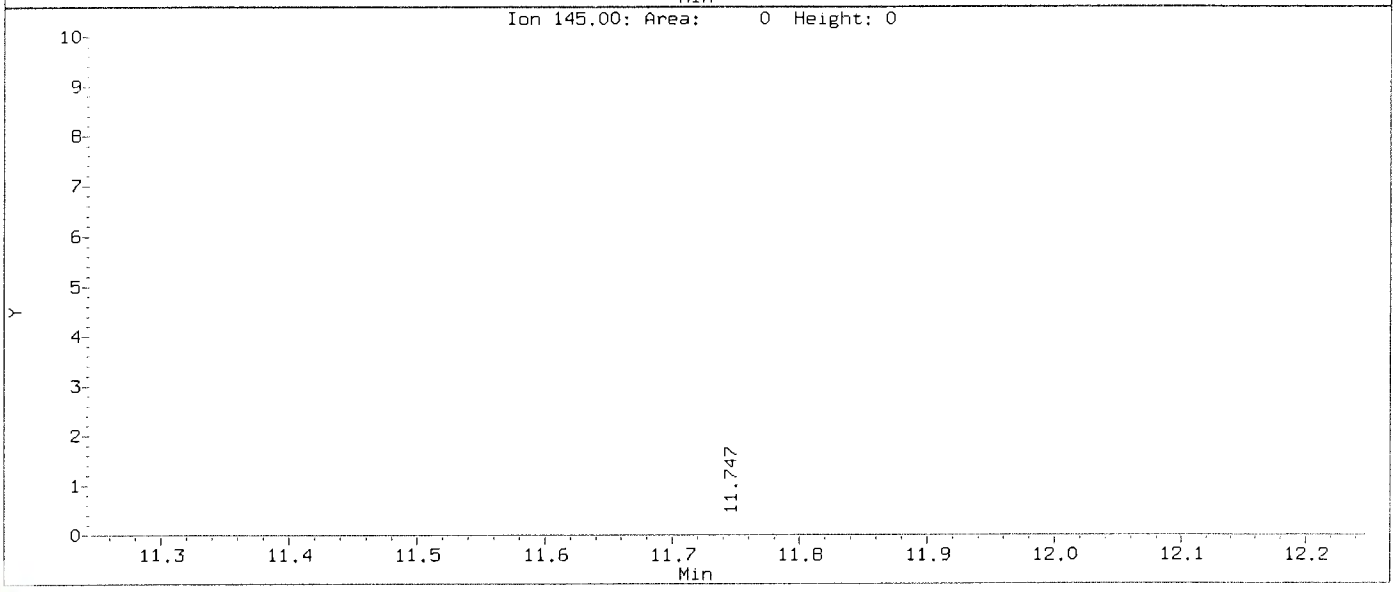
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6







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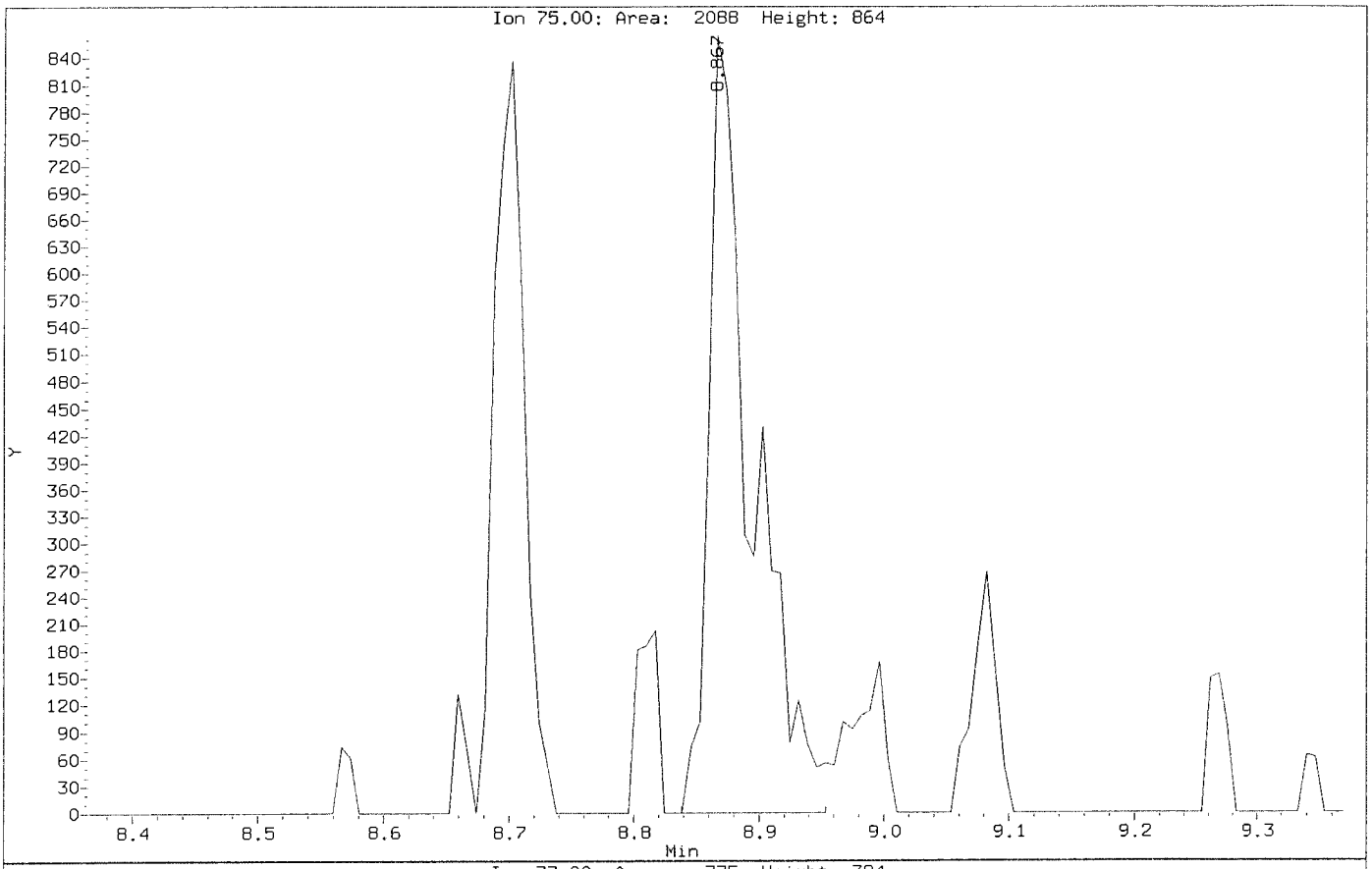
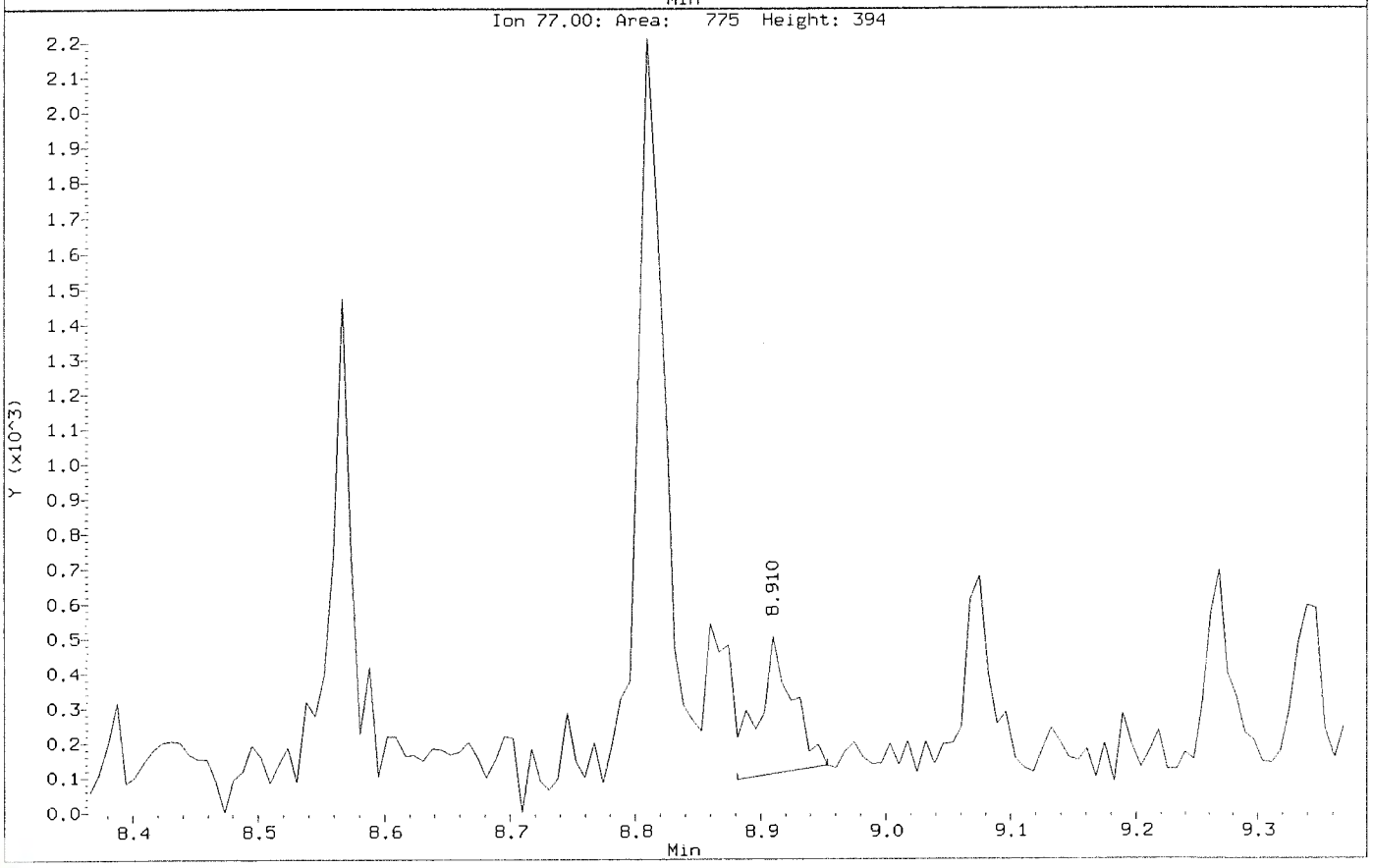
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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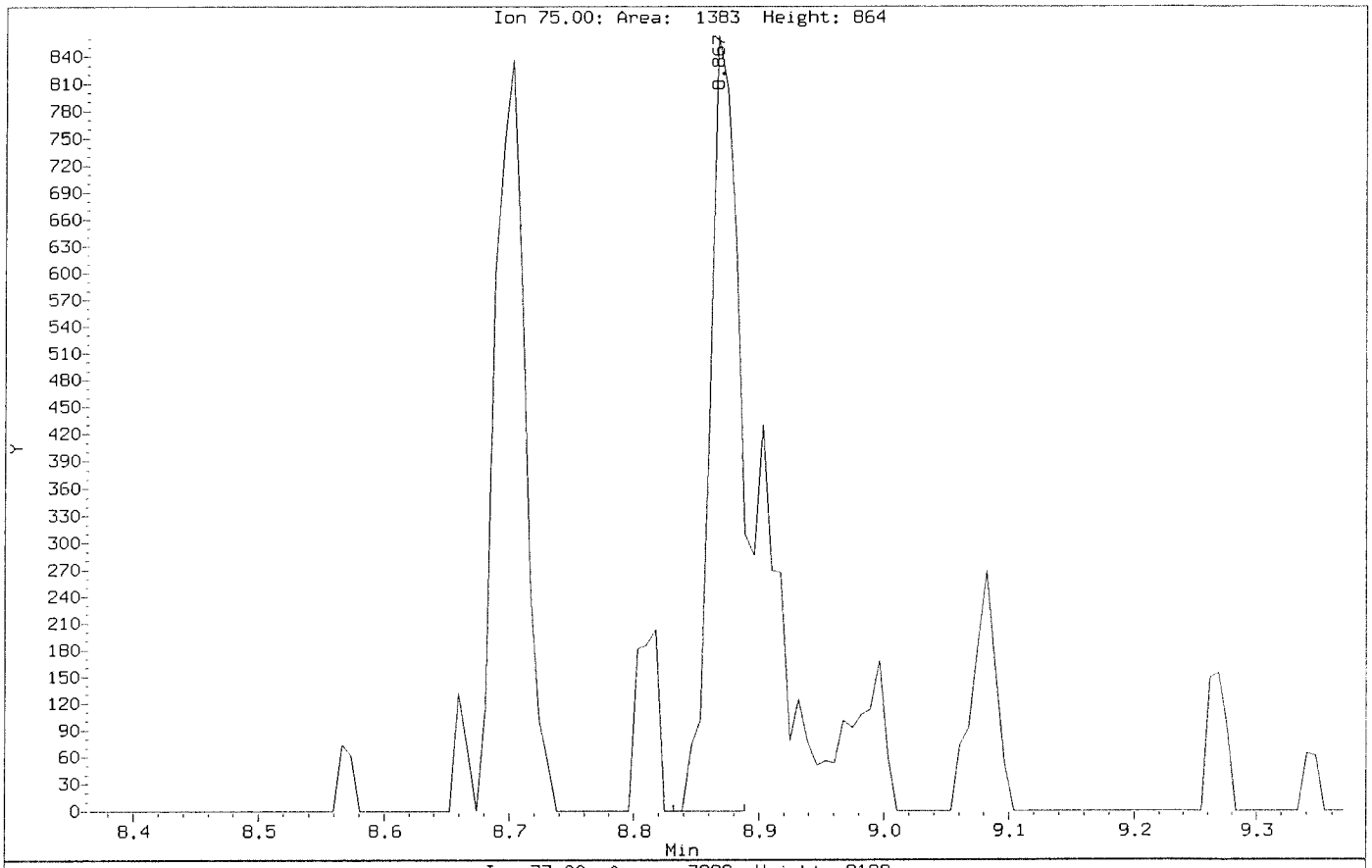
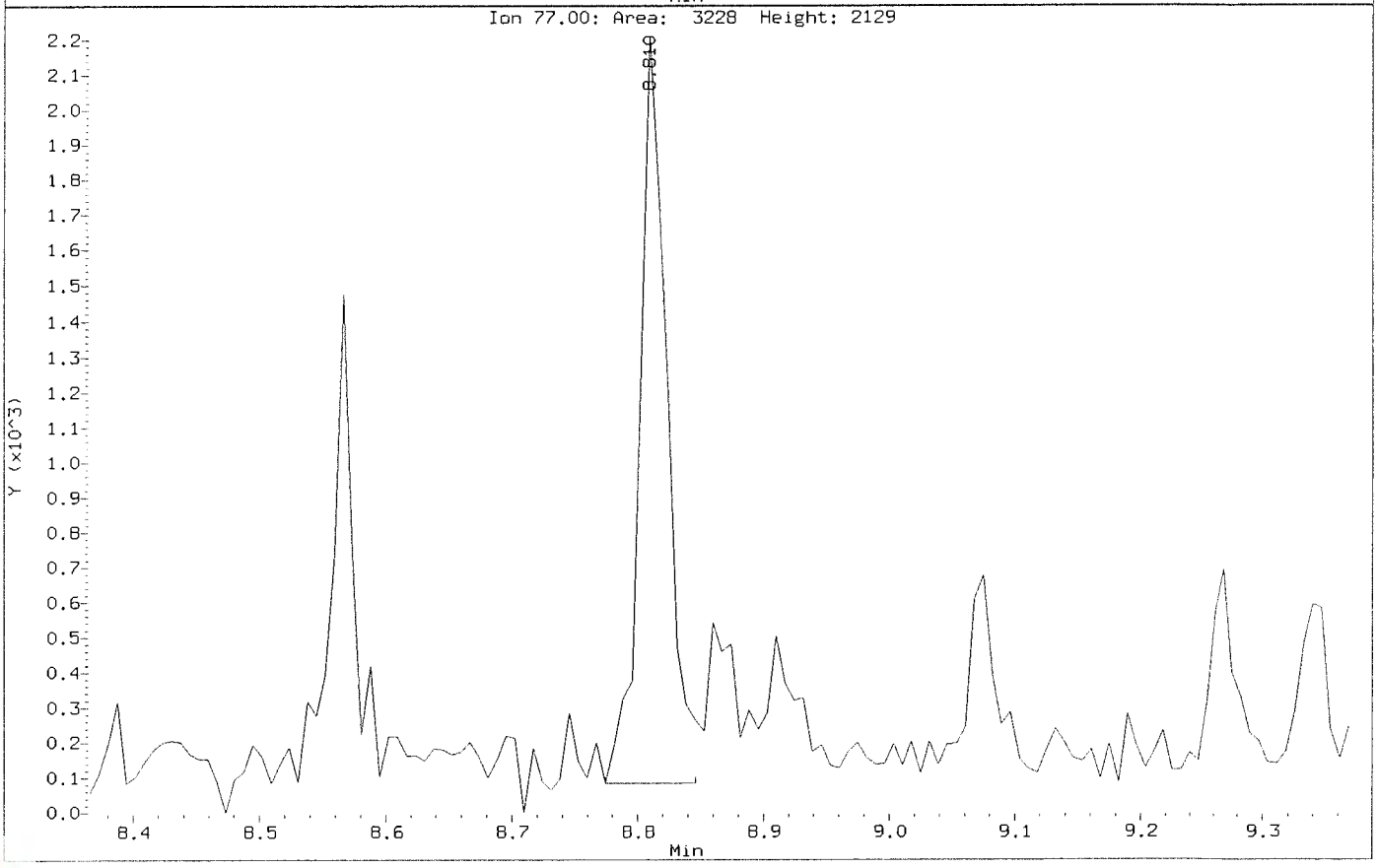
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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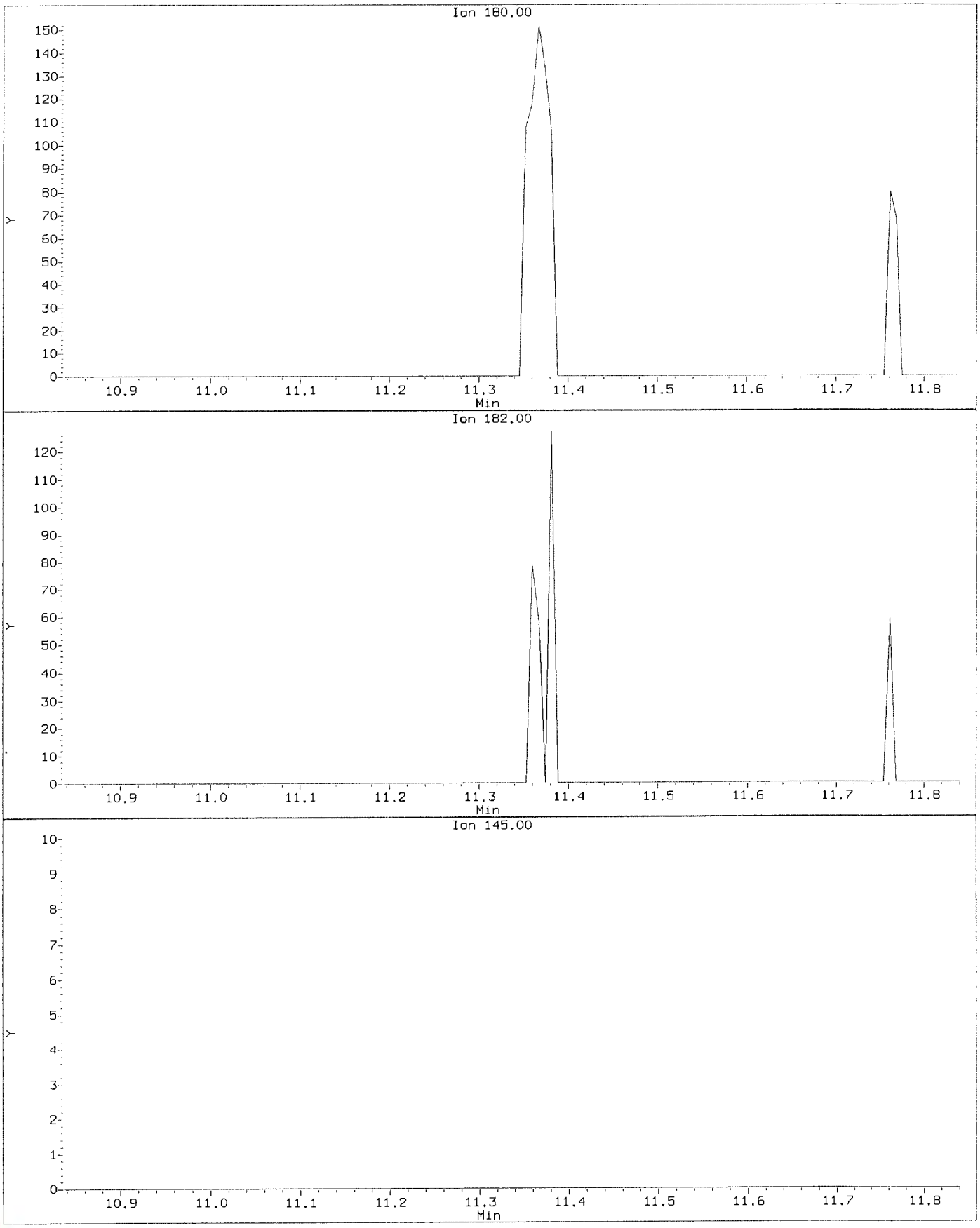
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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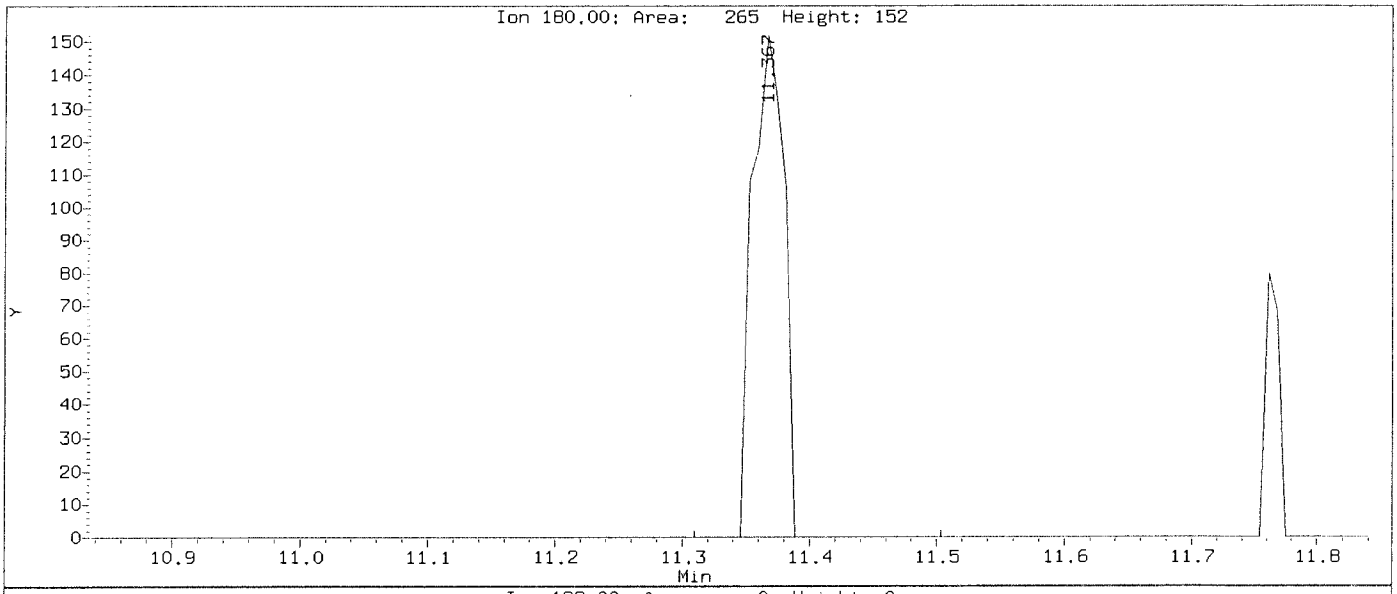
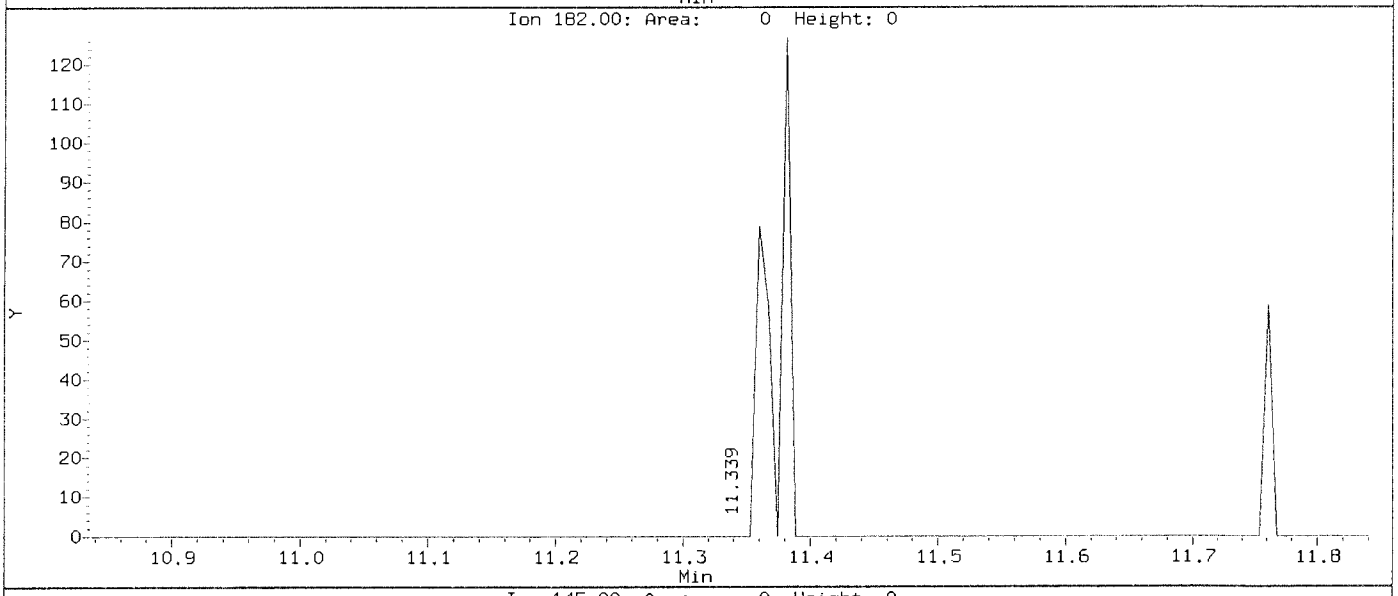
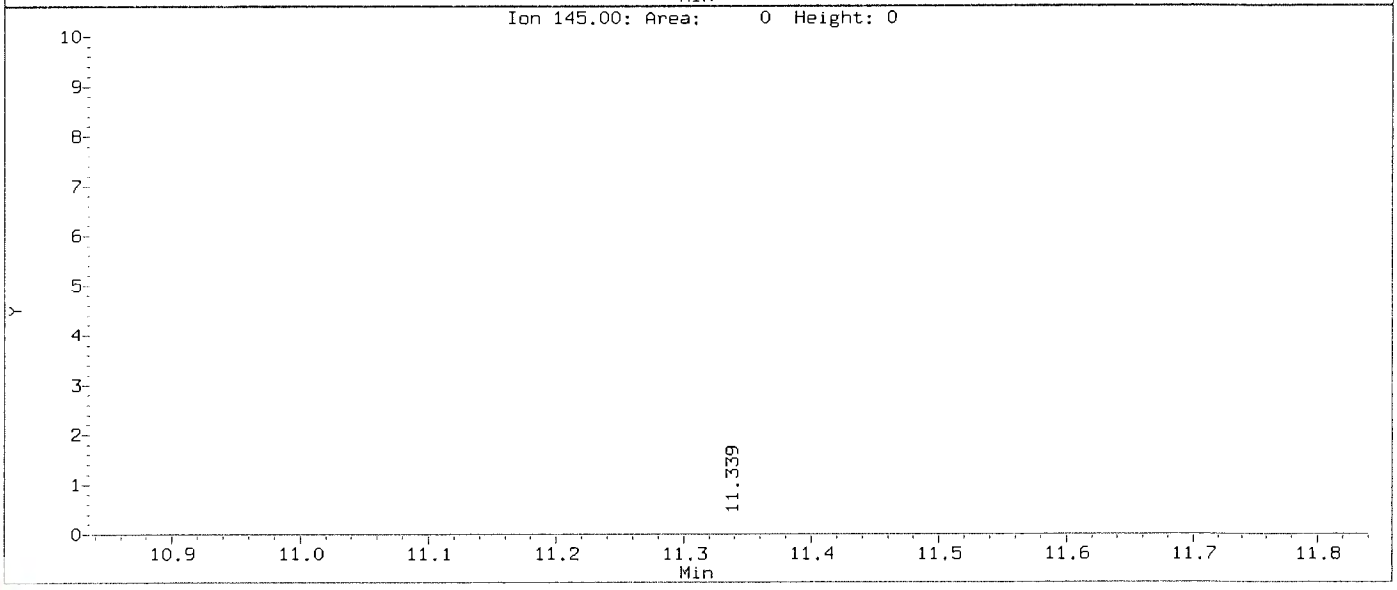
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1







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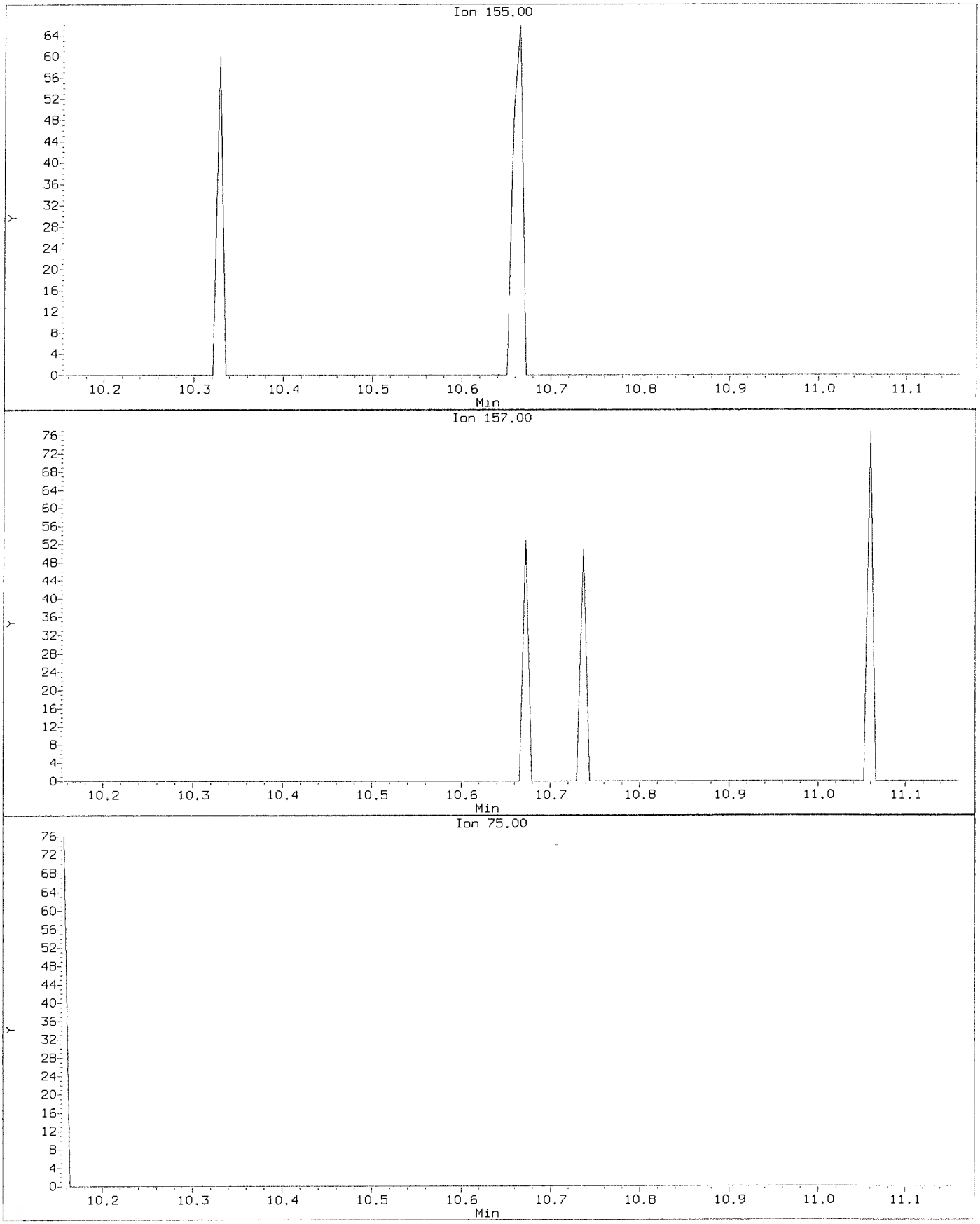
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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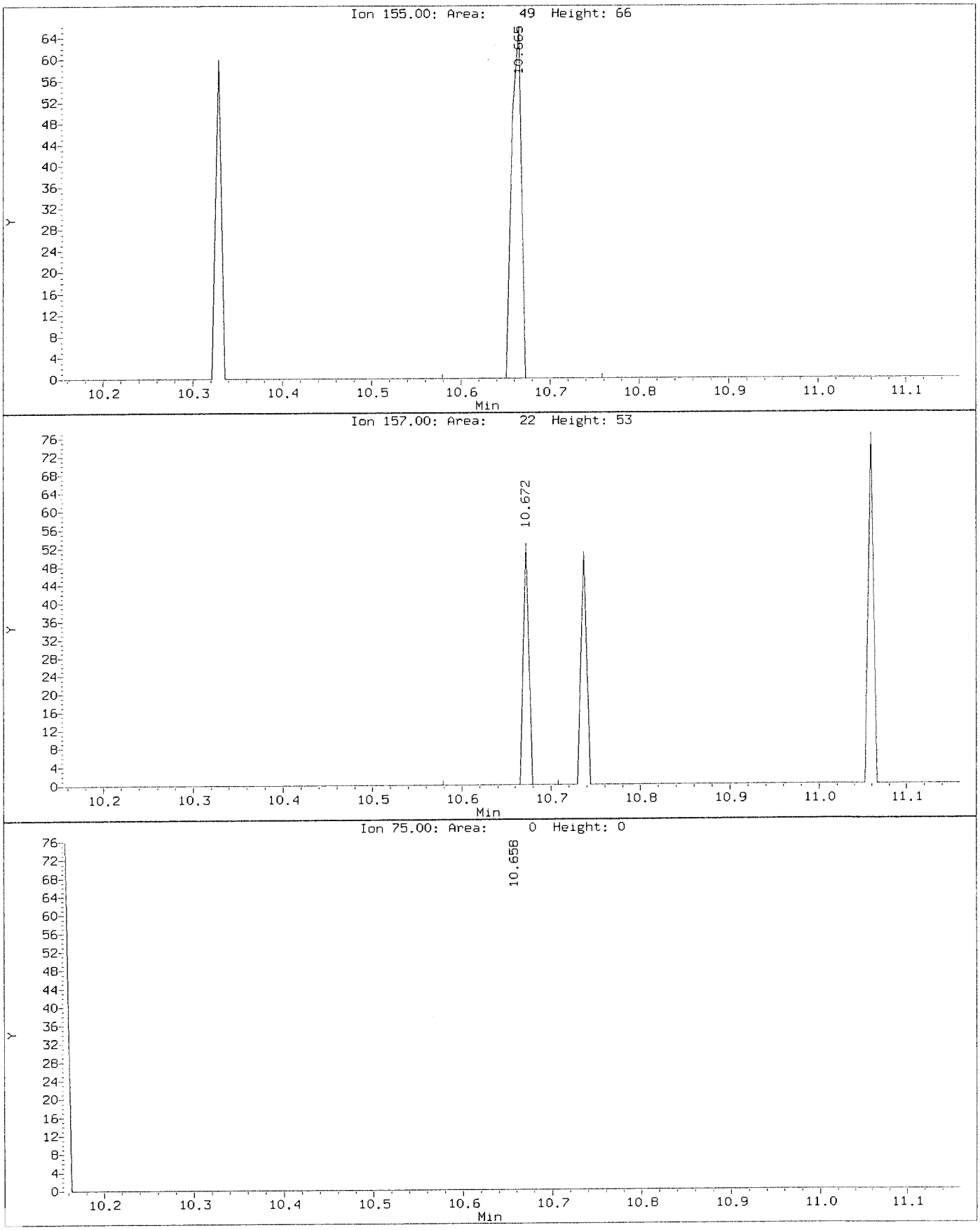
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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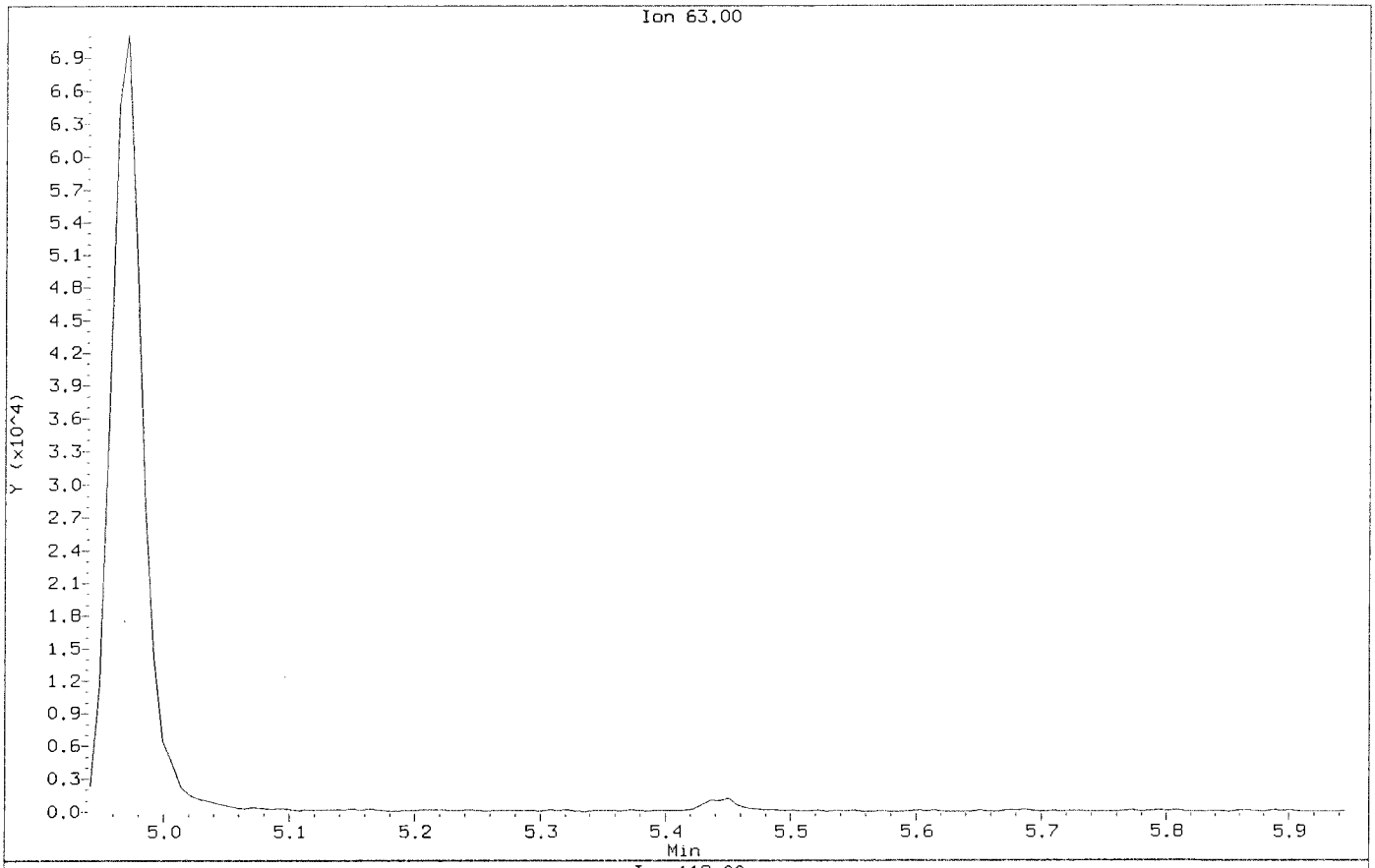
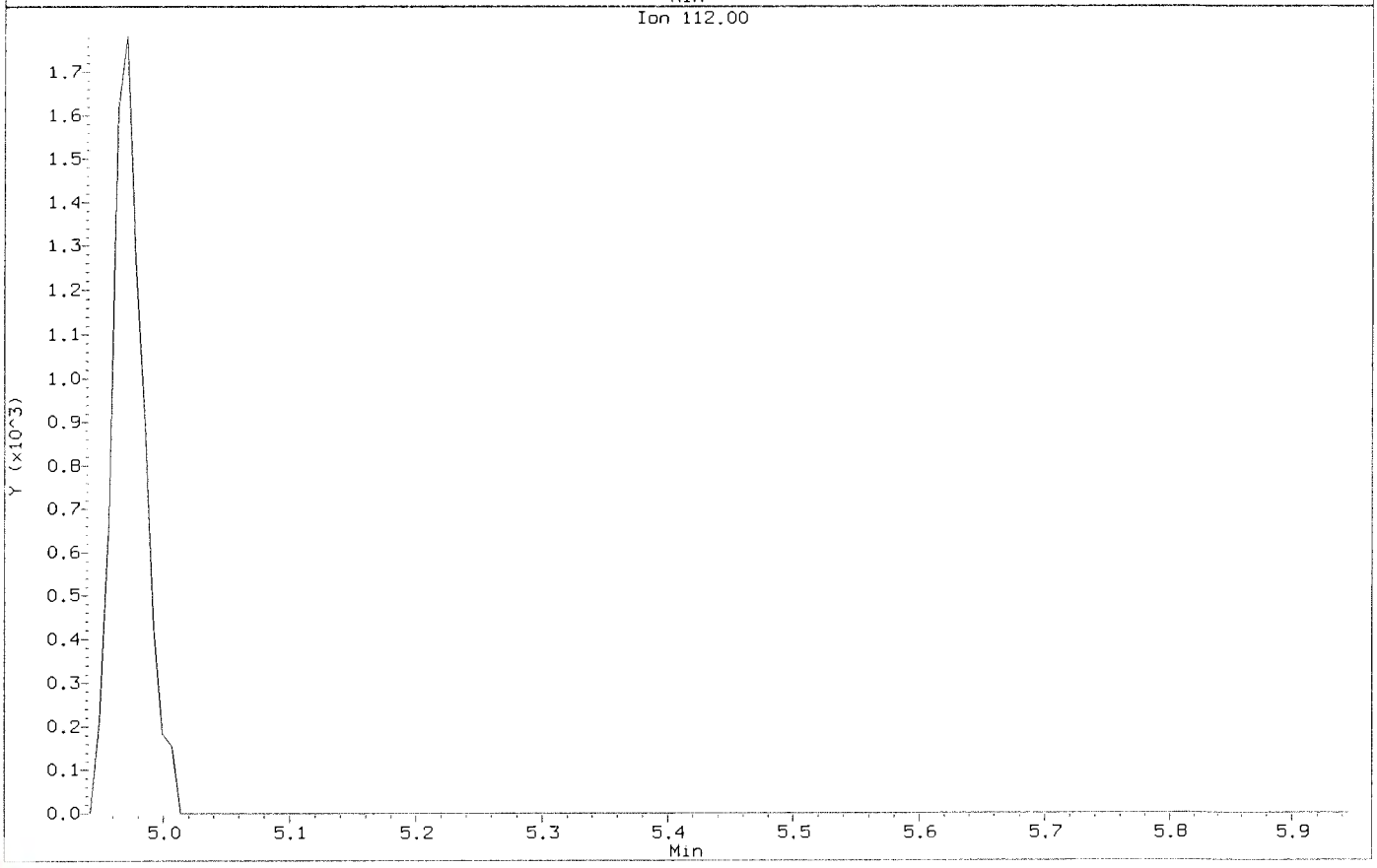
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

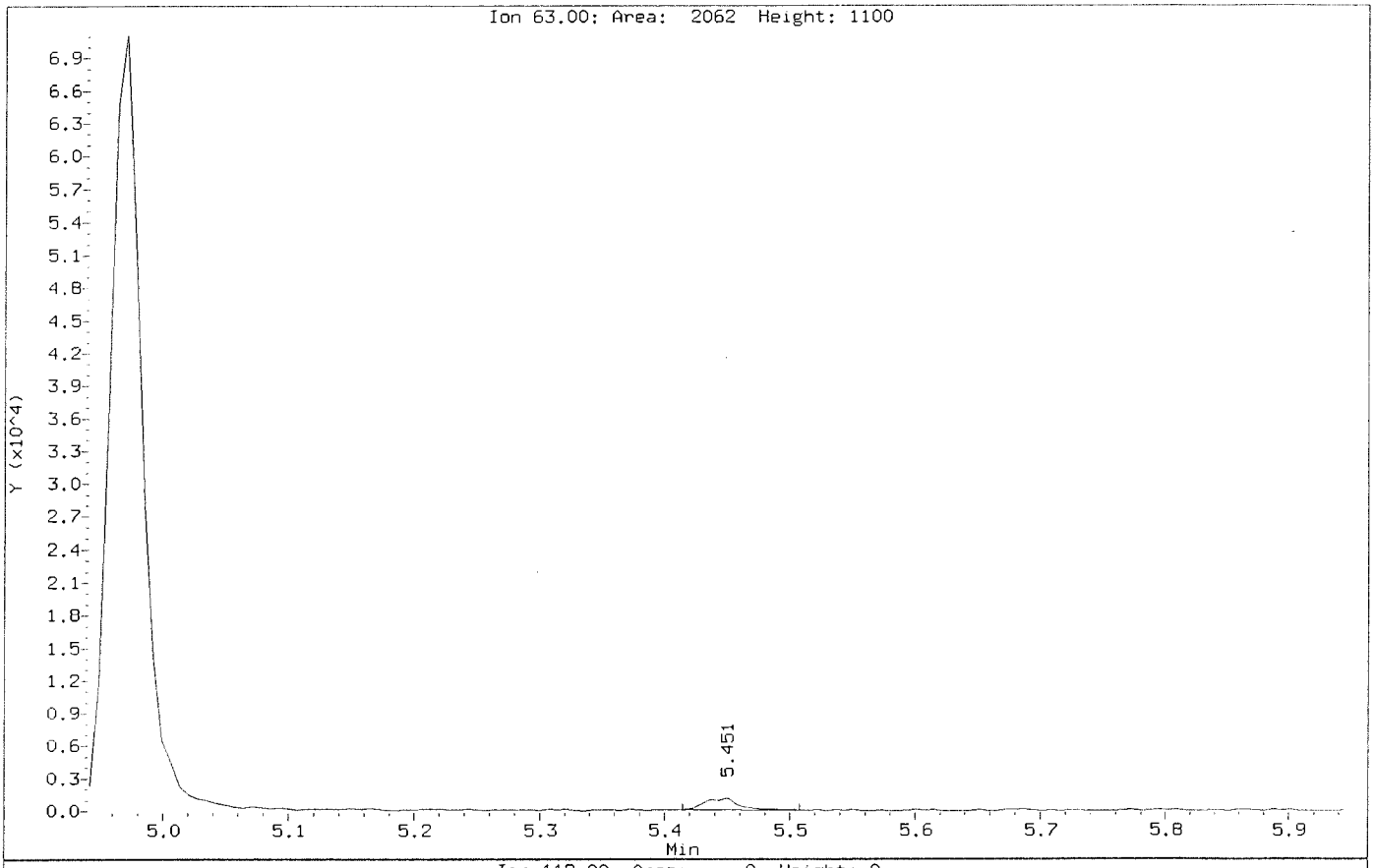
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

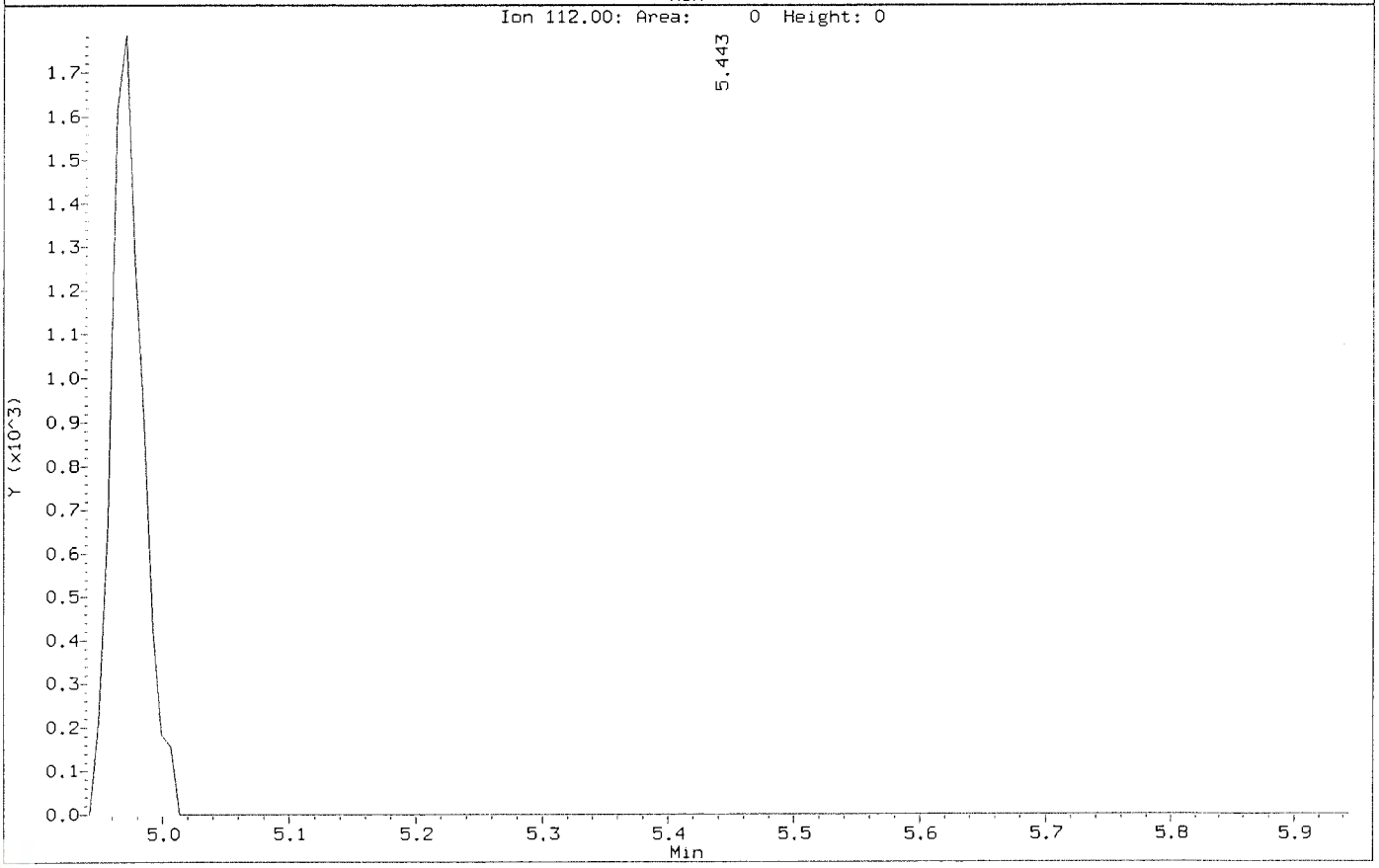




Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060203.D
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

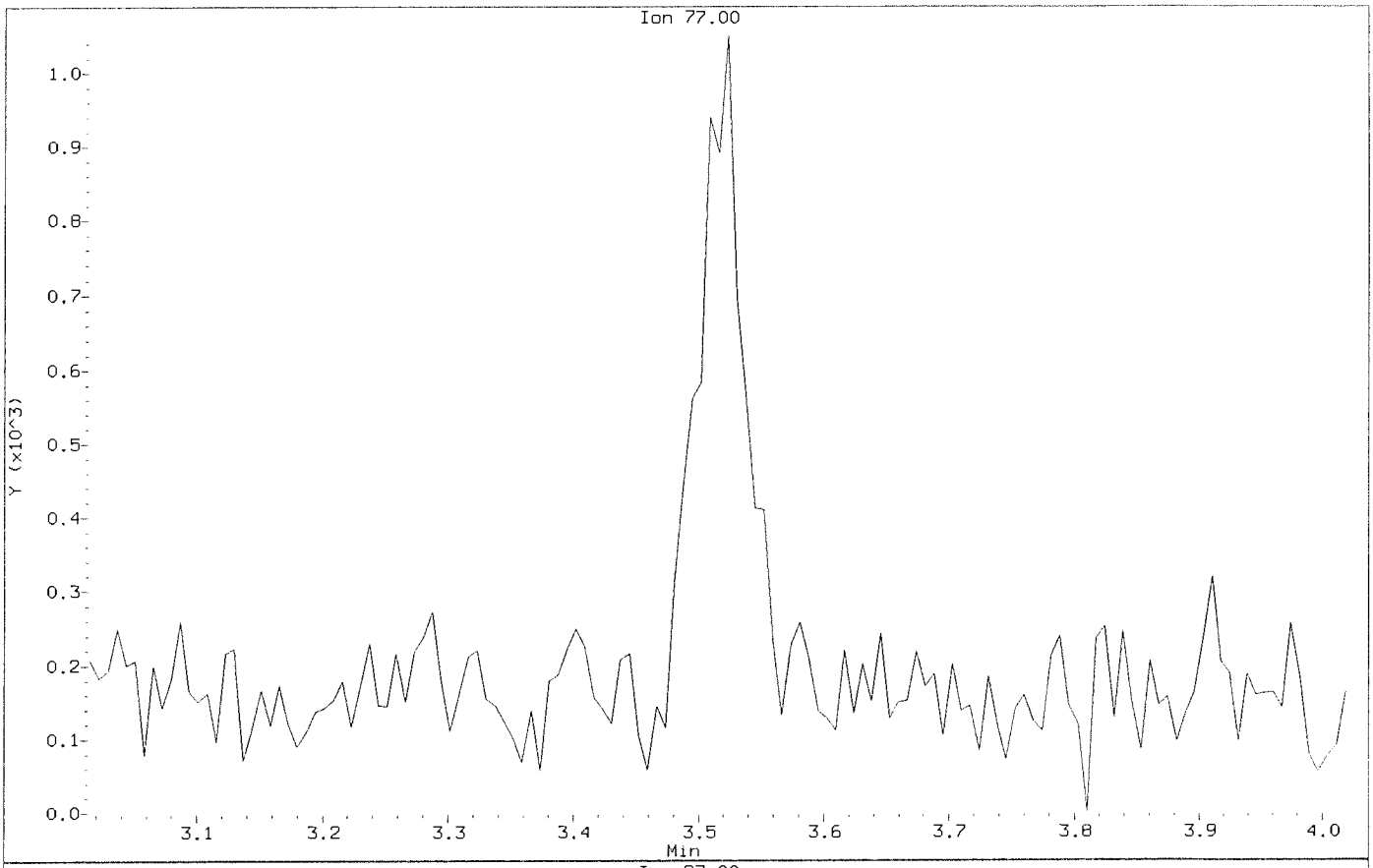
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

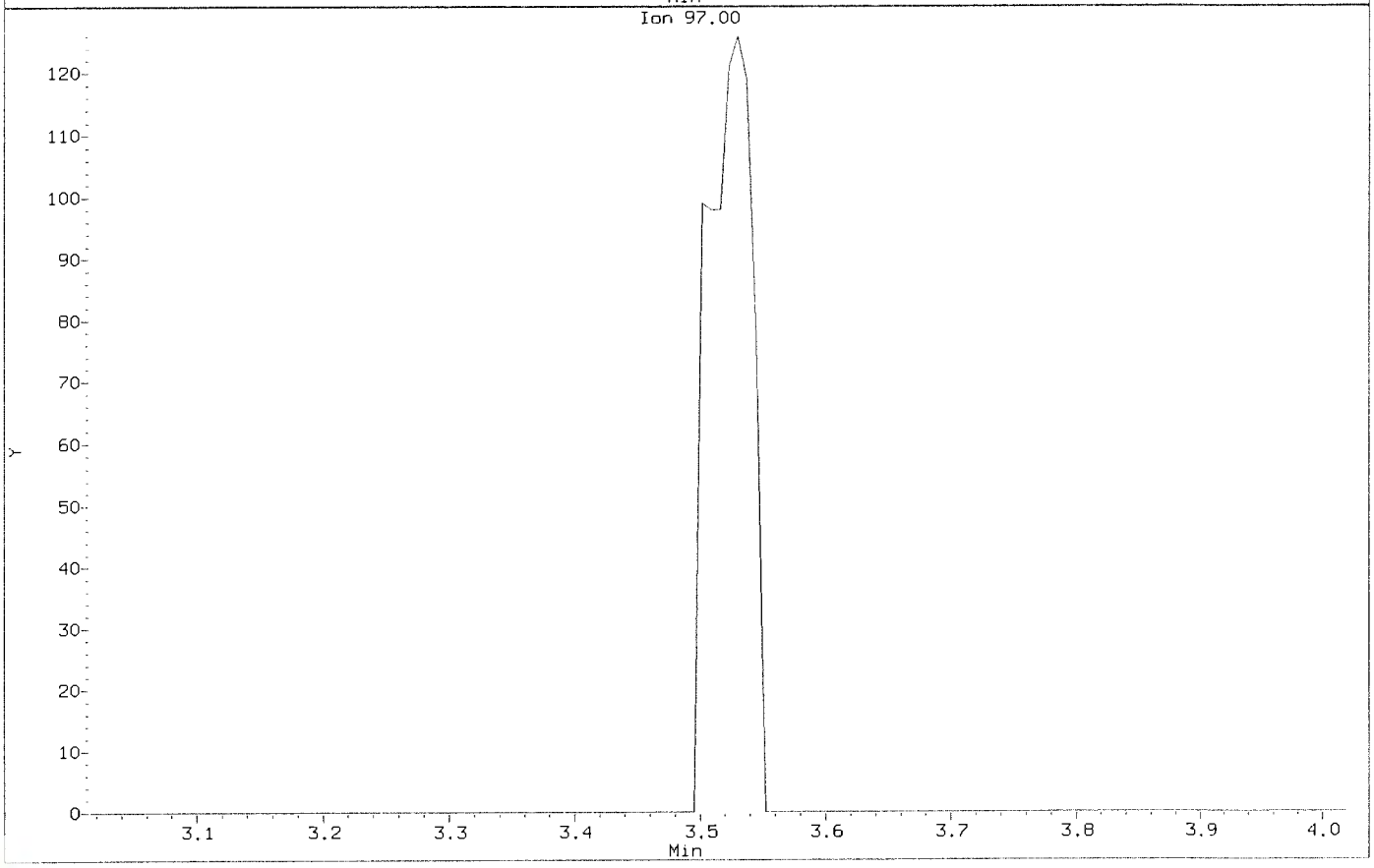




Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060203.D
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 2,2-Dichloropropane
CAS Number: 594-20-7





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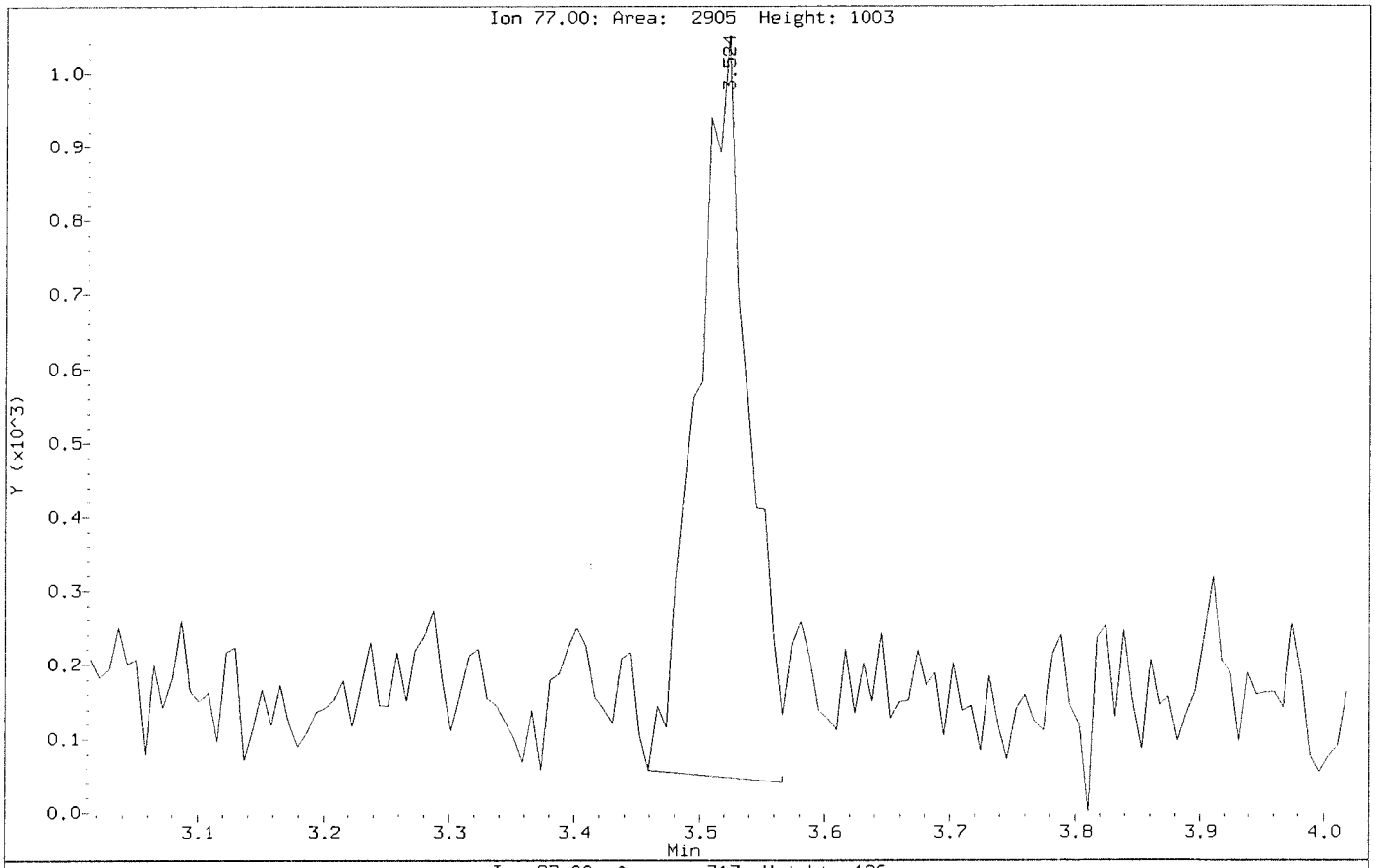
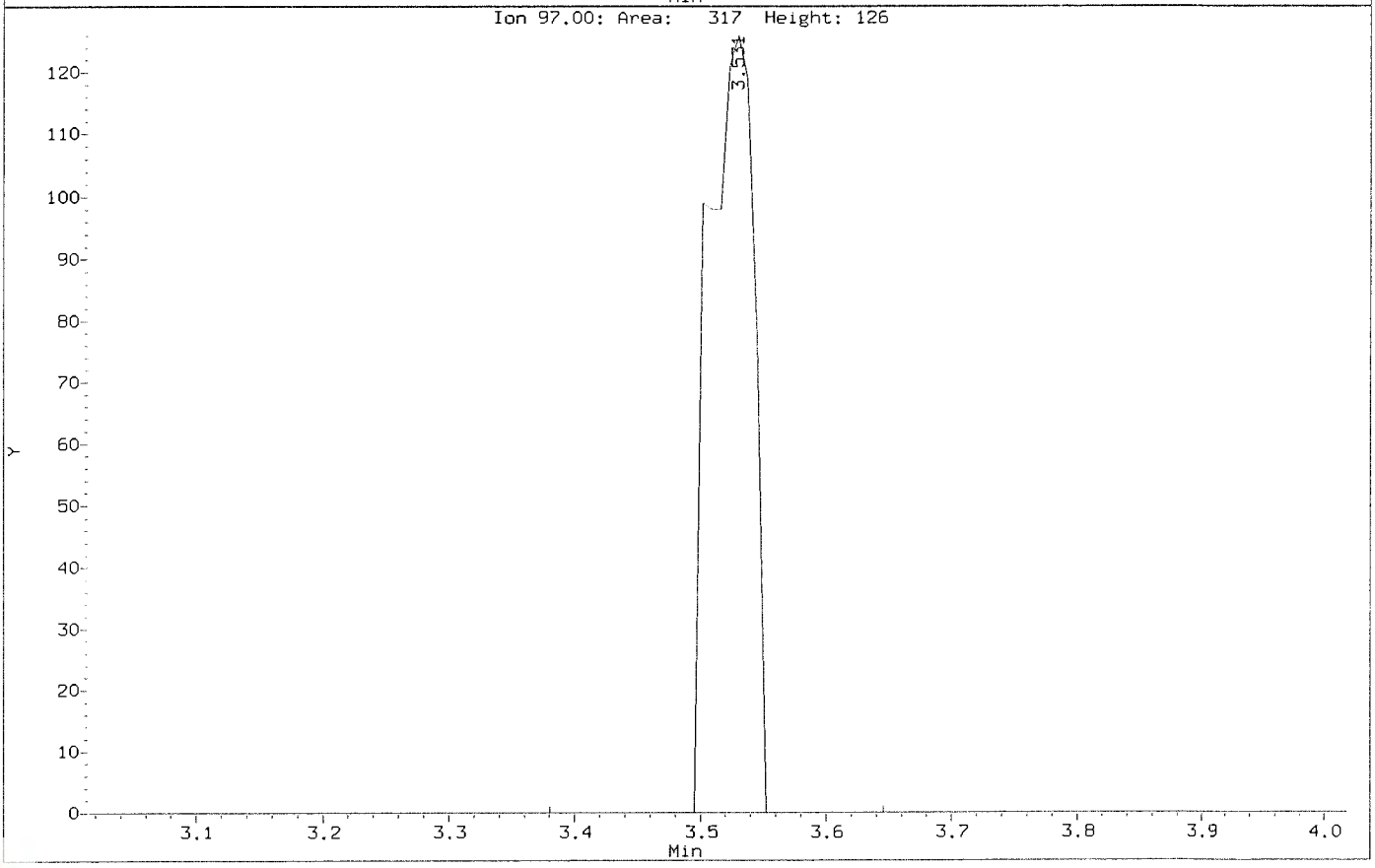
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

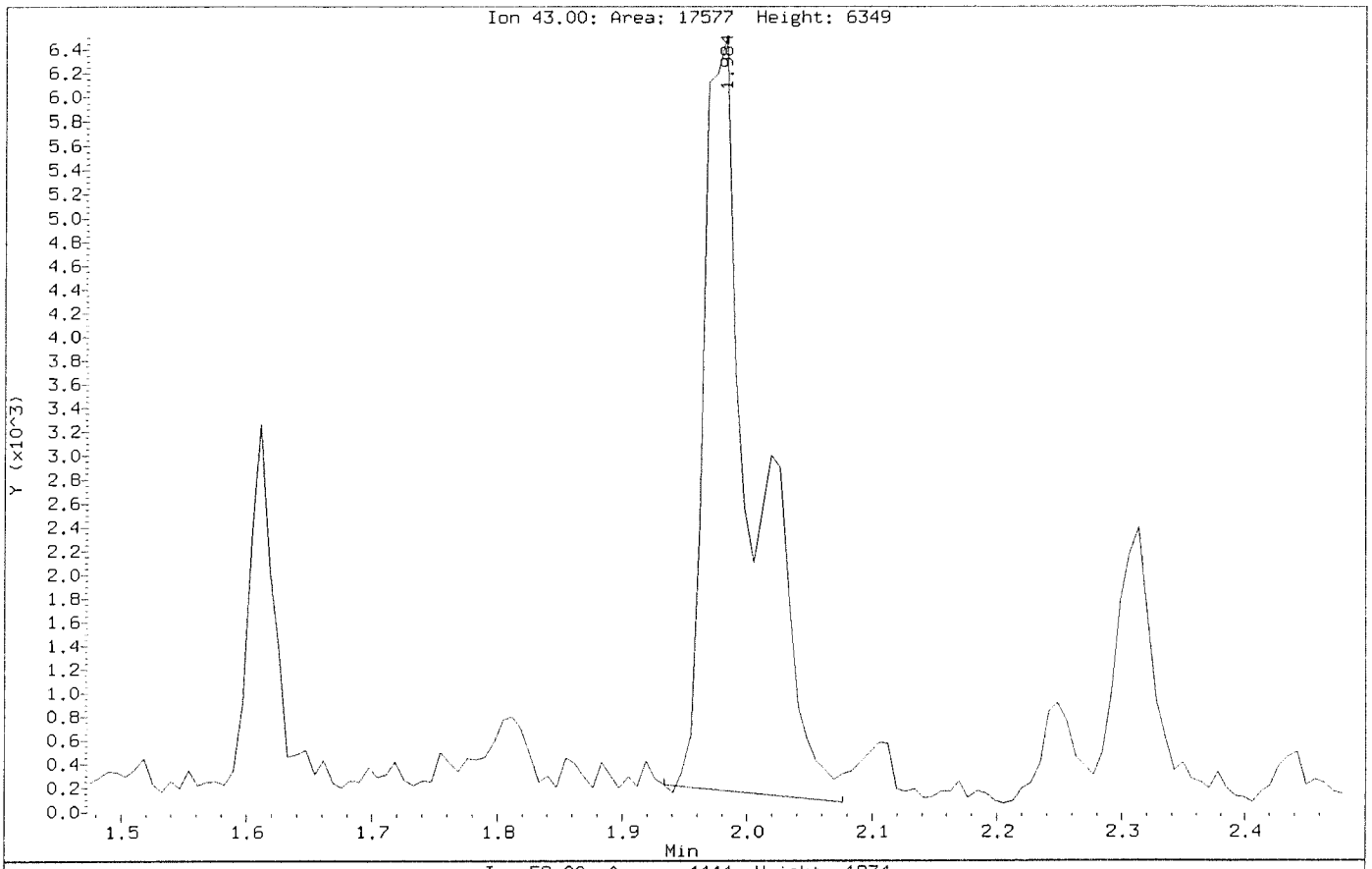
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

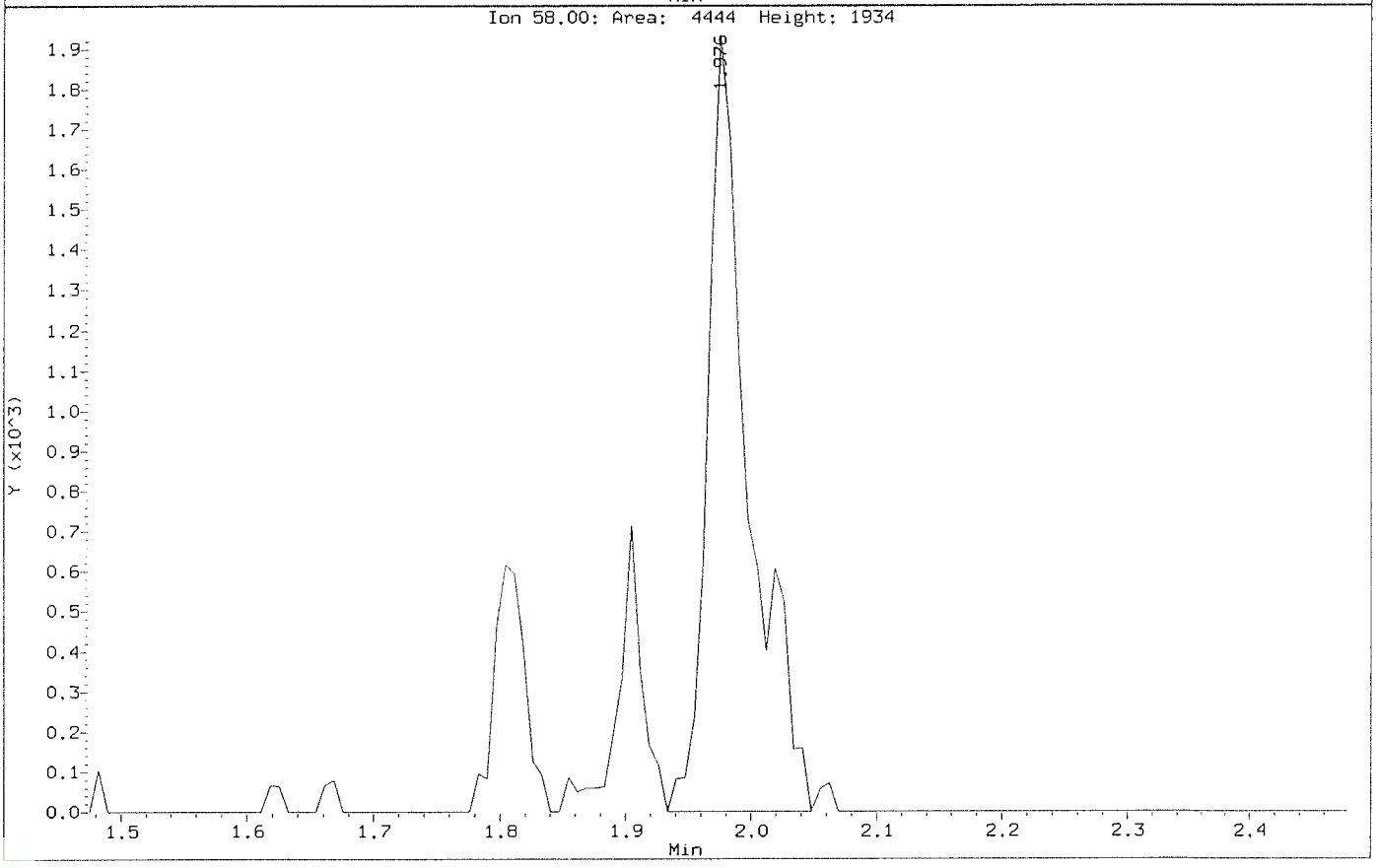




Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060203.D
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Acetone
CAS Number: 67-64-1





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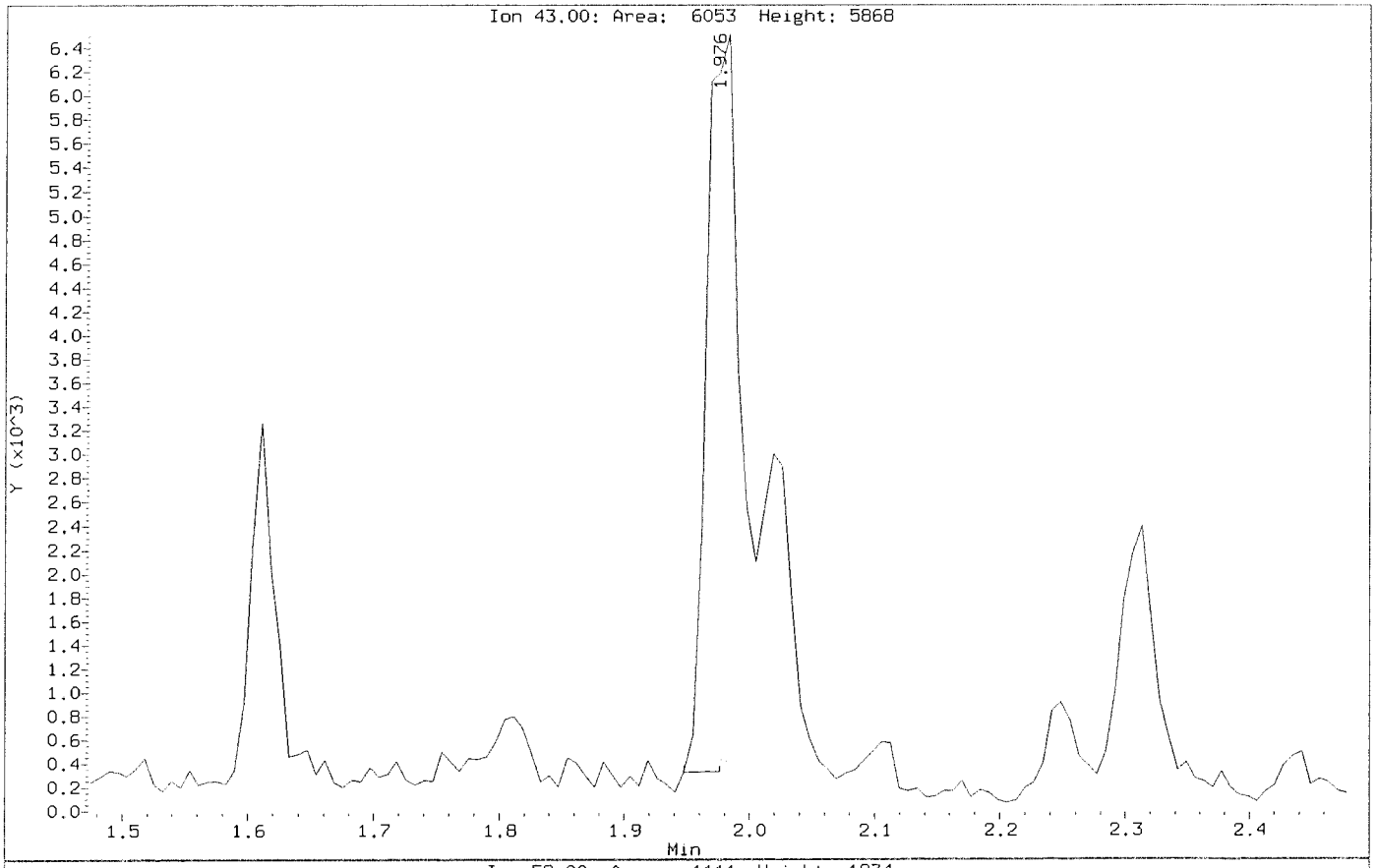
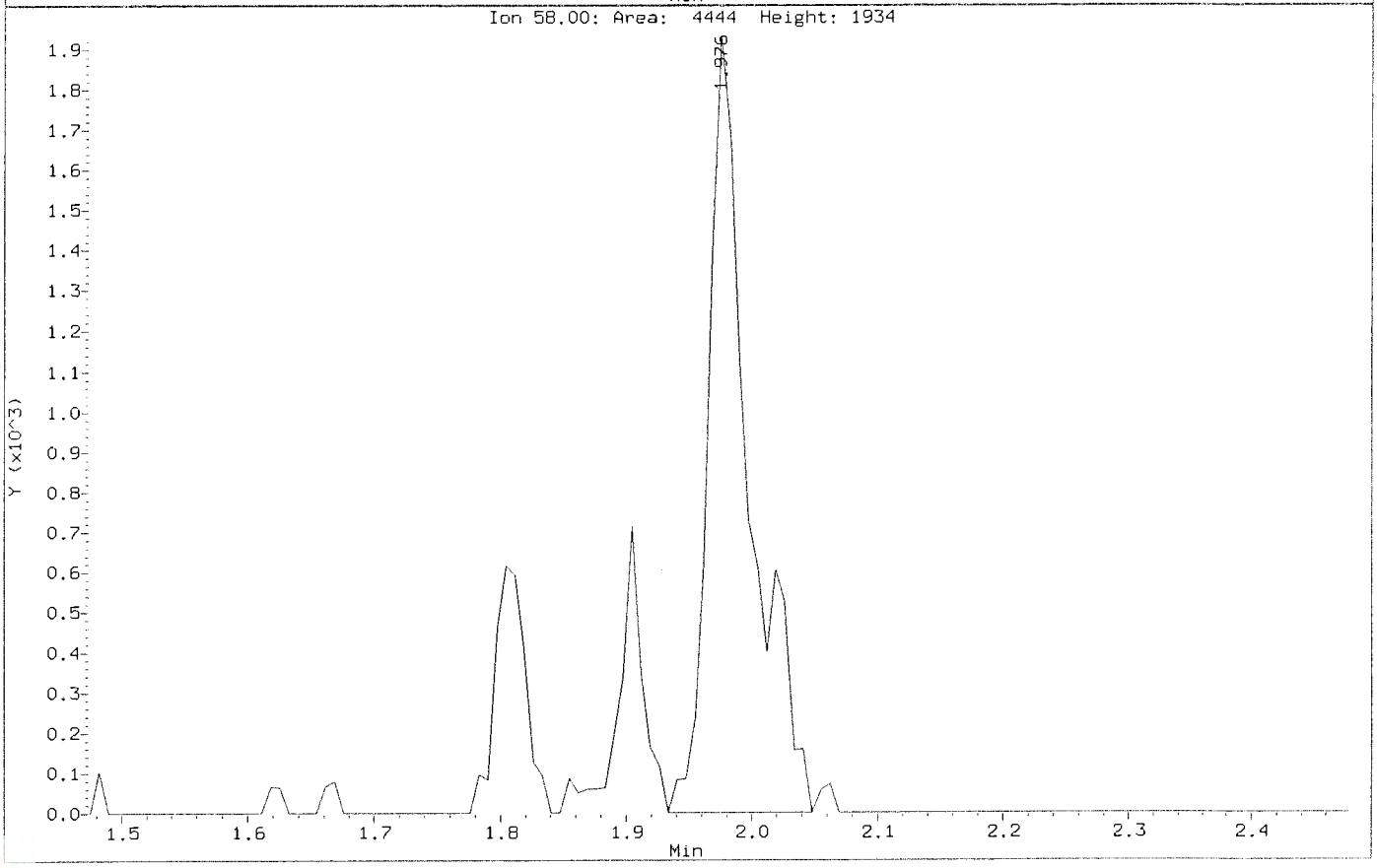
Client Sample ID: VSTD000.5

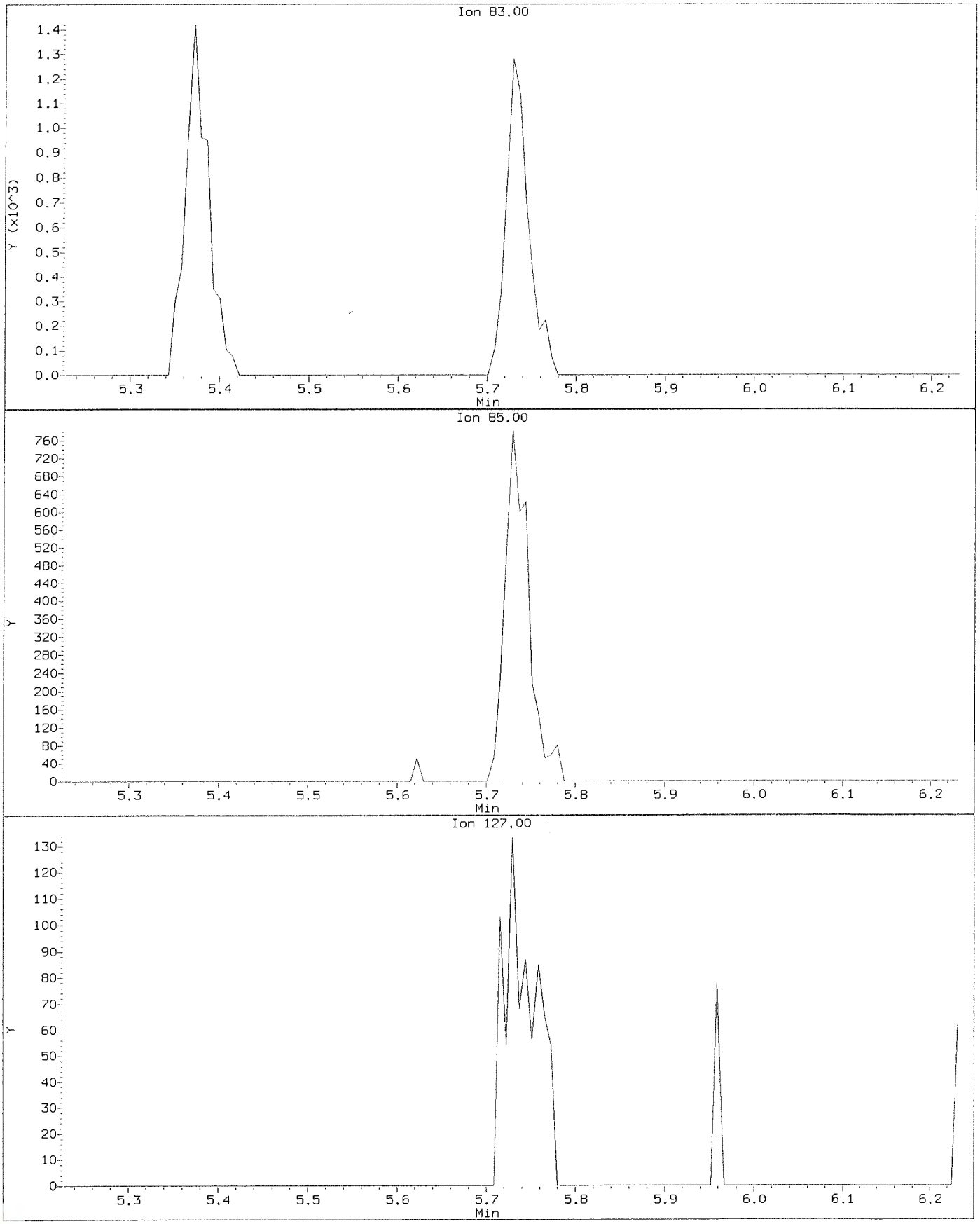
Compound: Acetone
CAS Number: 67-64-1





Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060203.D
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



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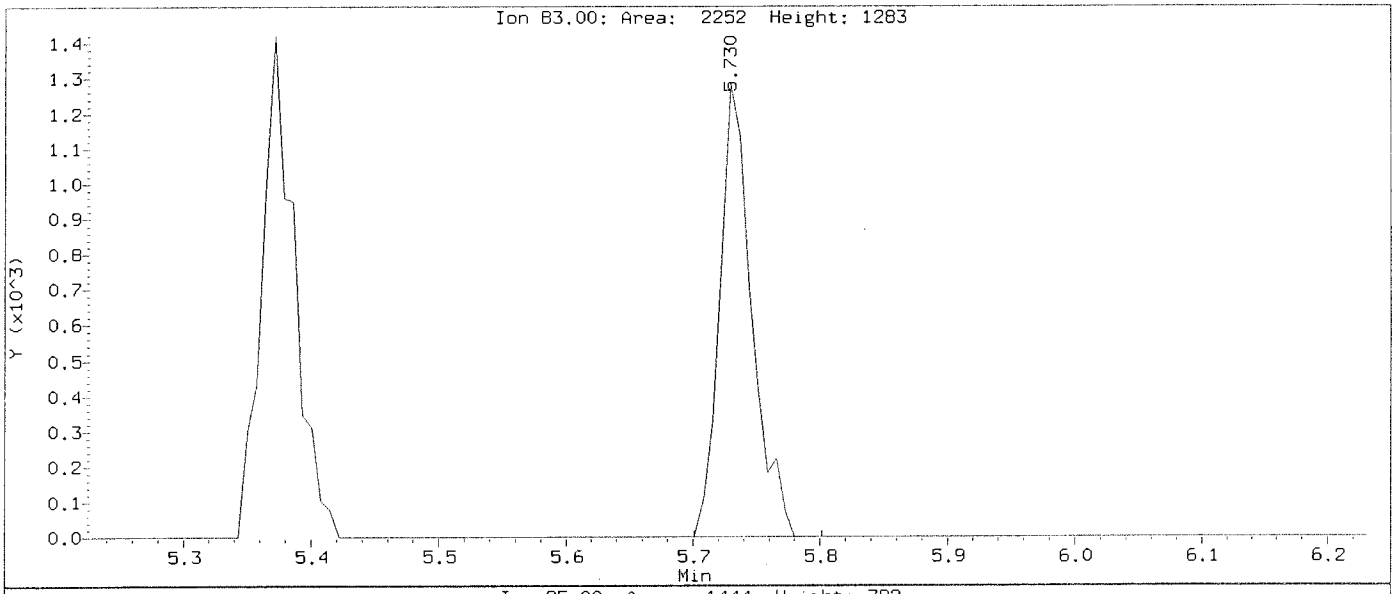
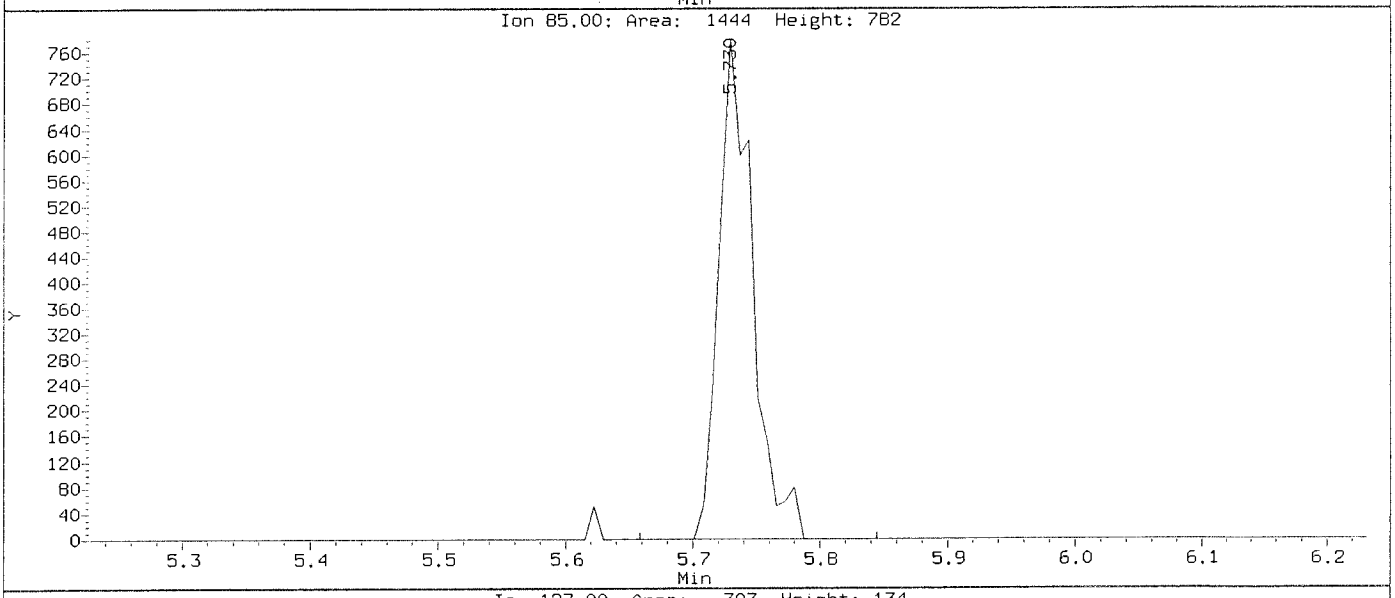
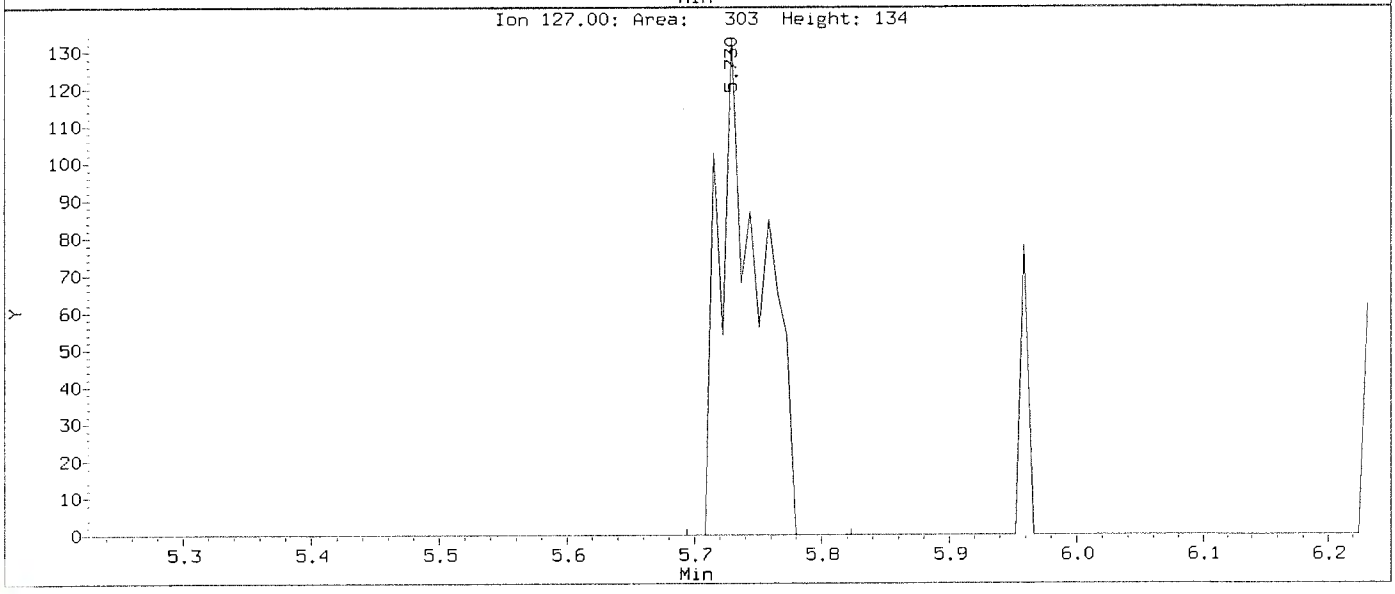
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4







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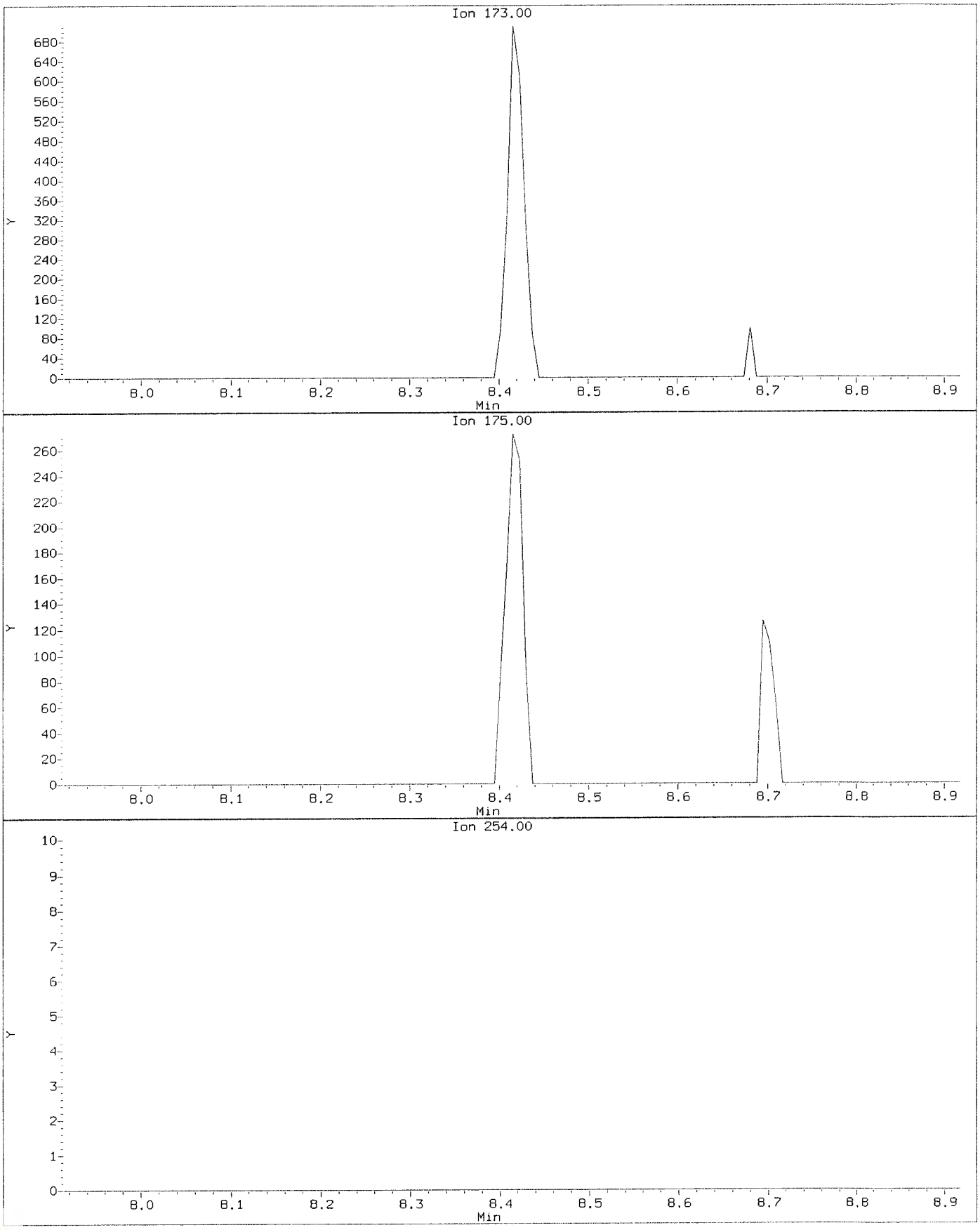
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



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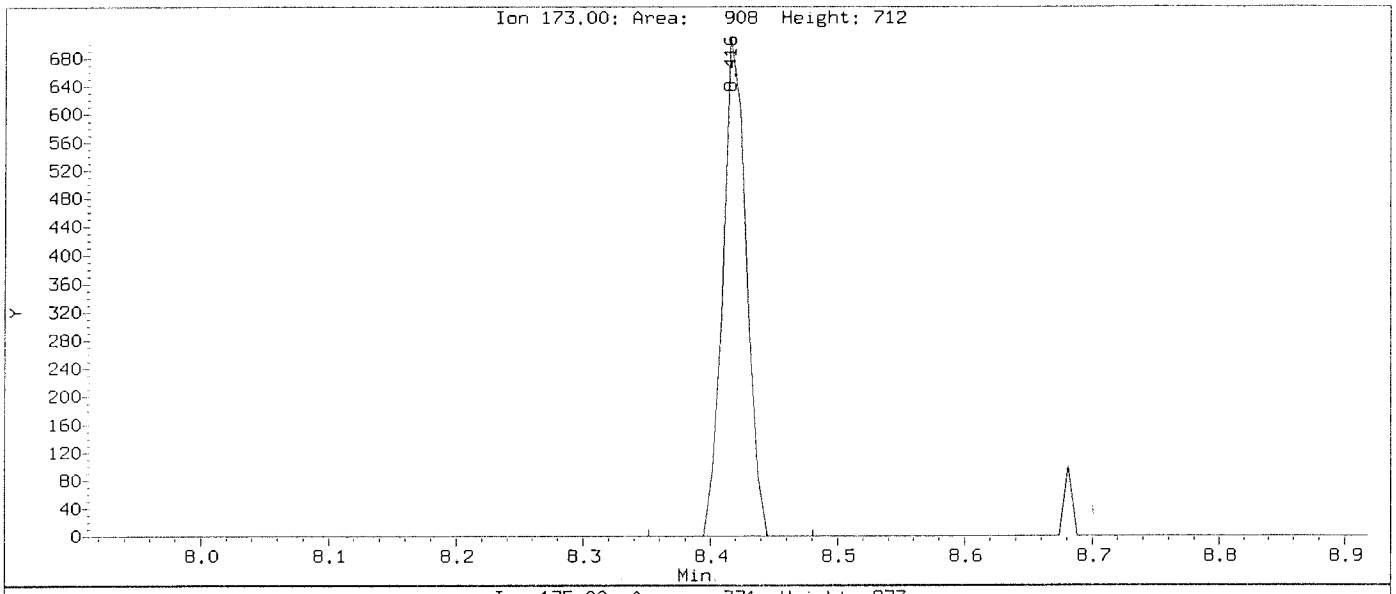
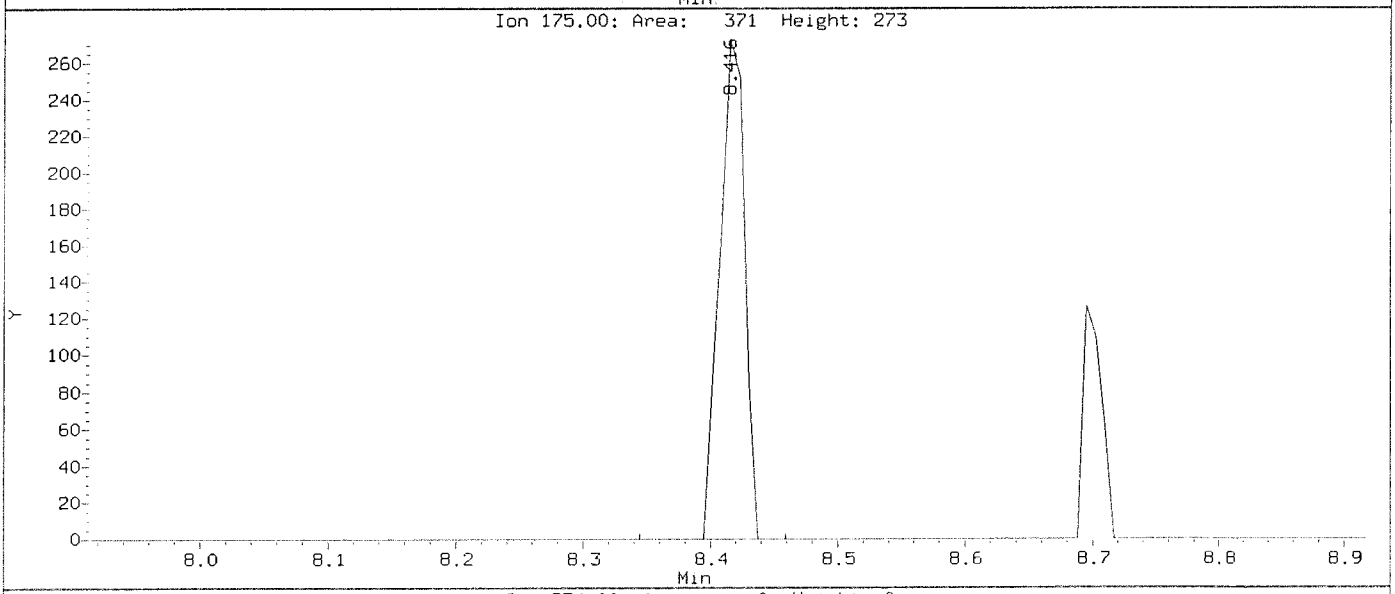
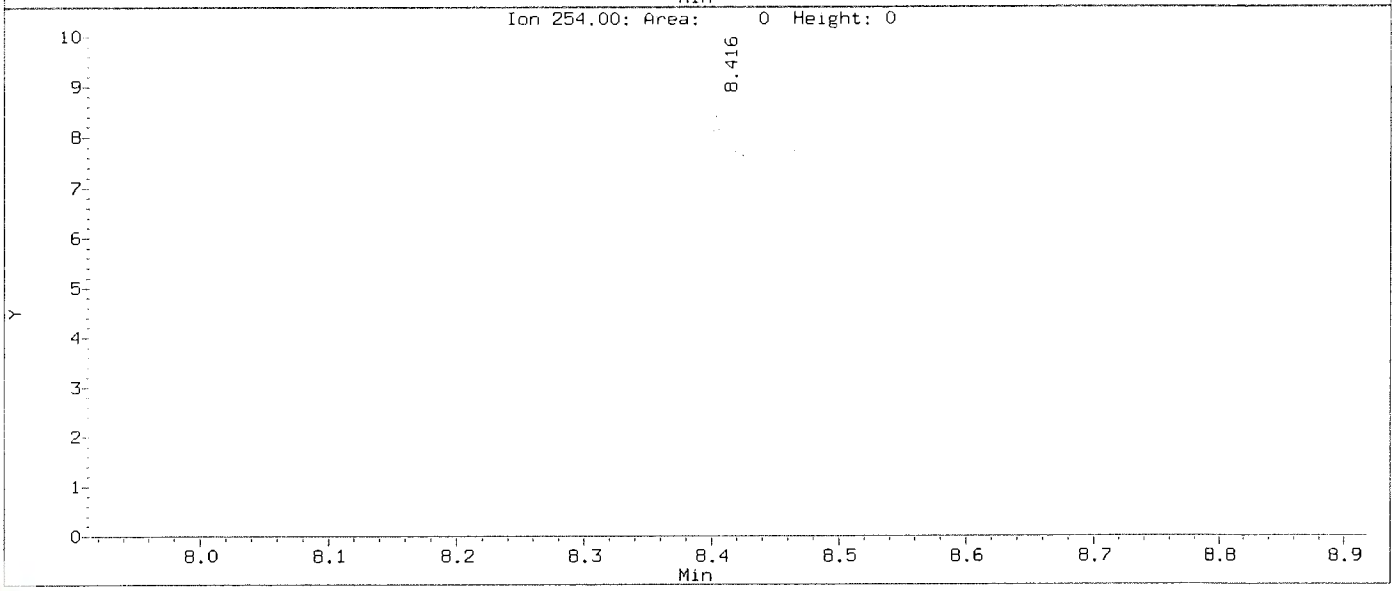
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2







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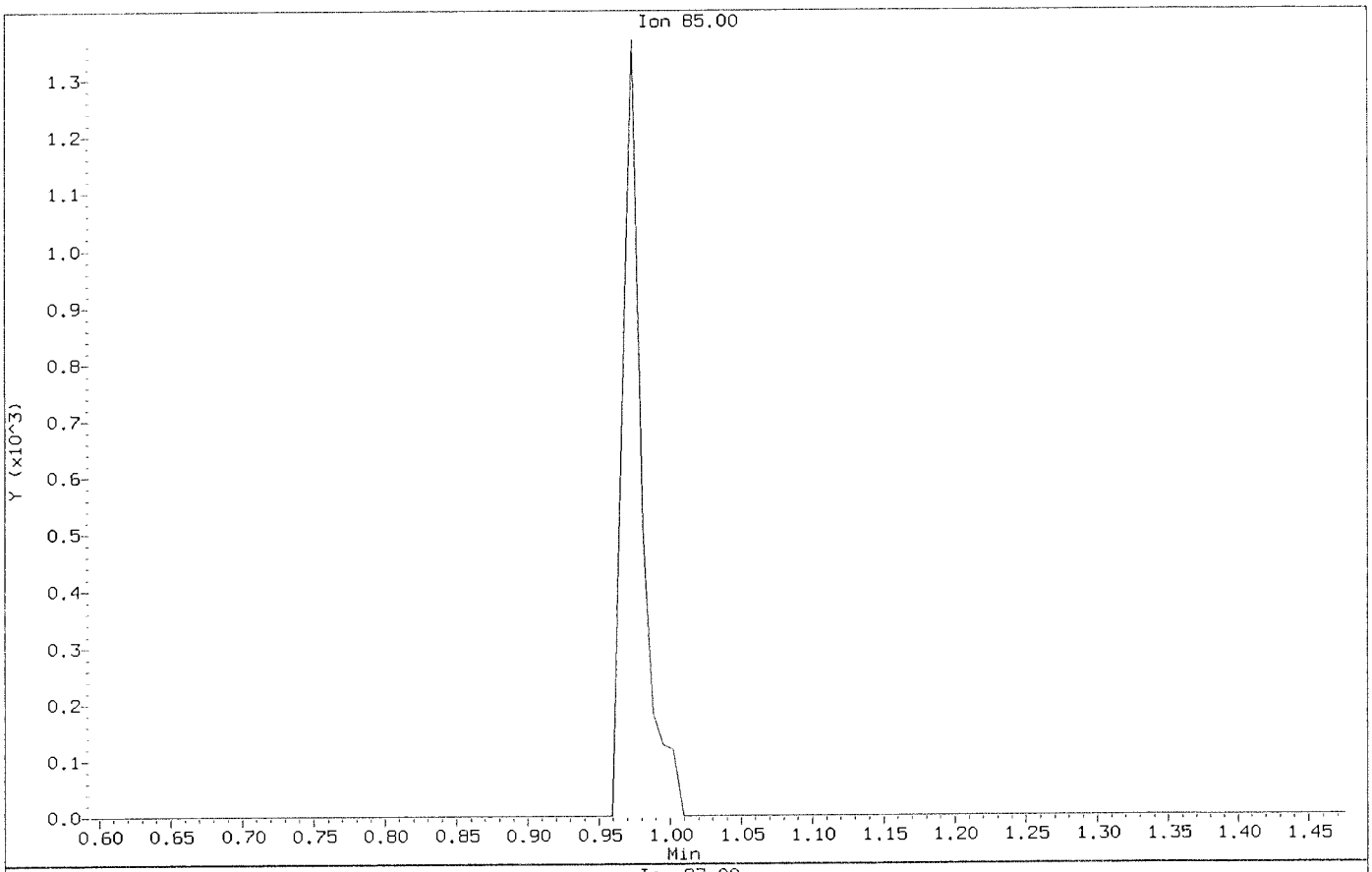
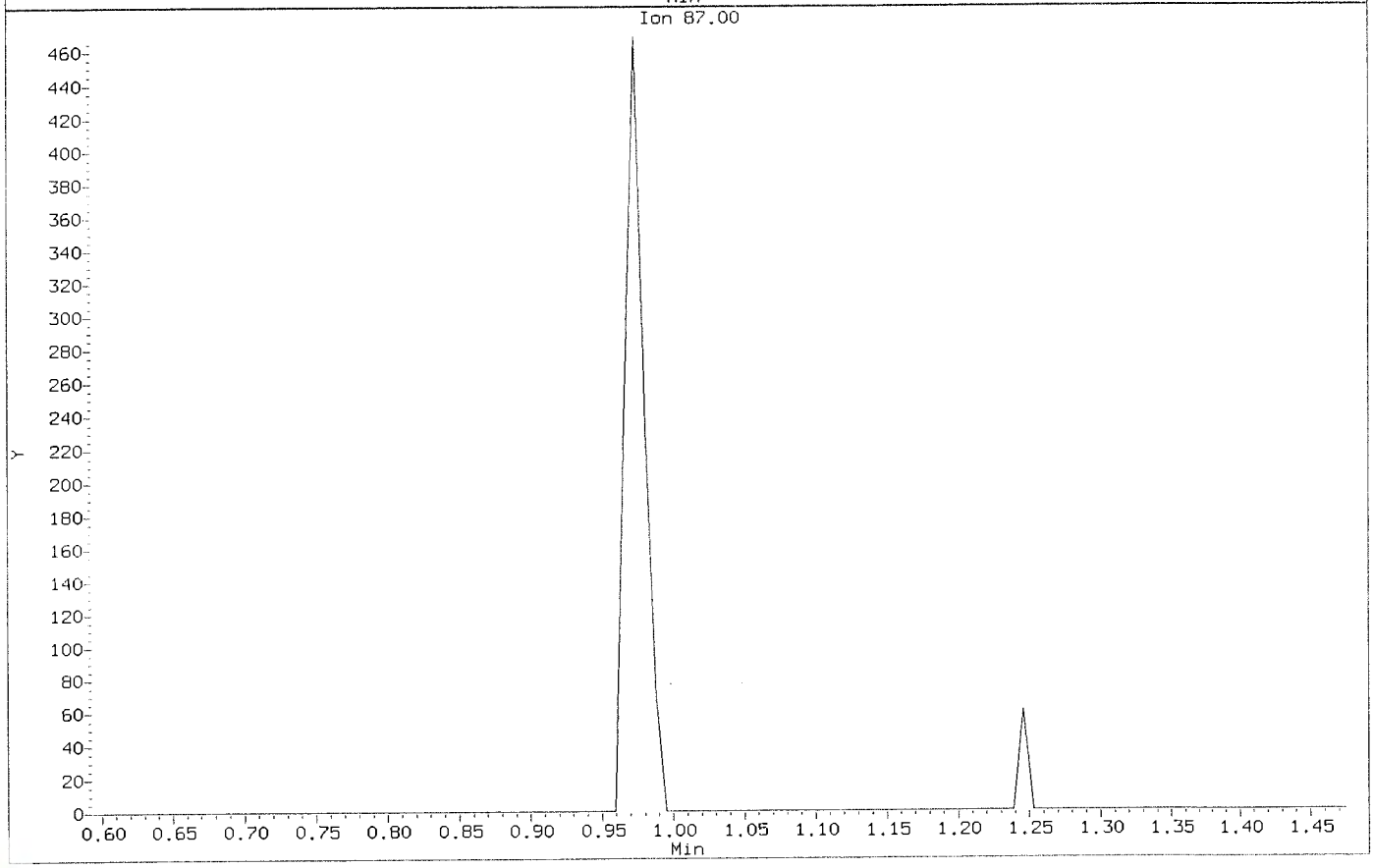
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

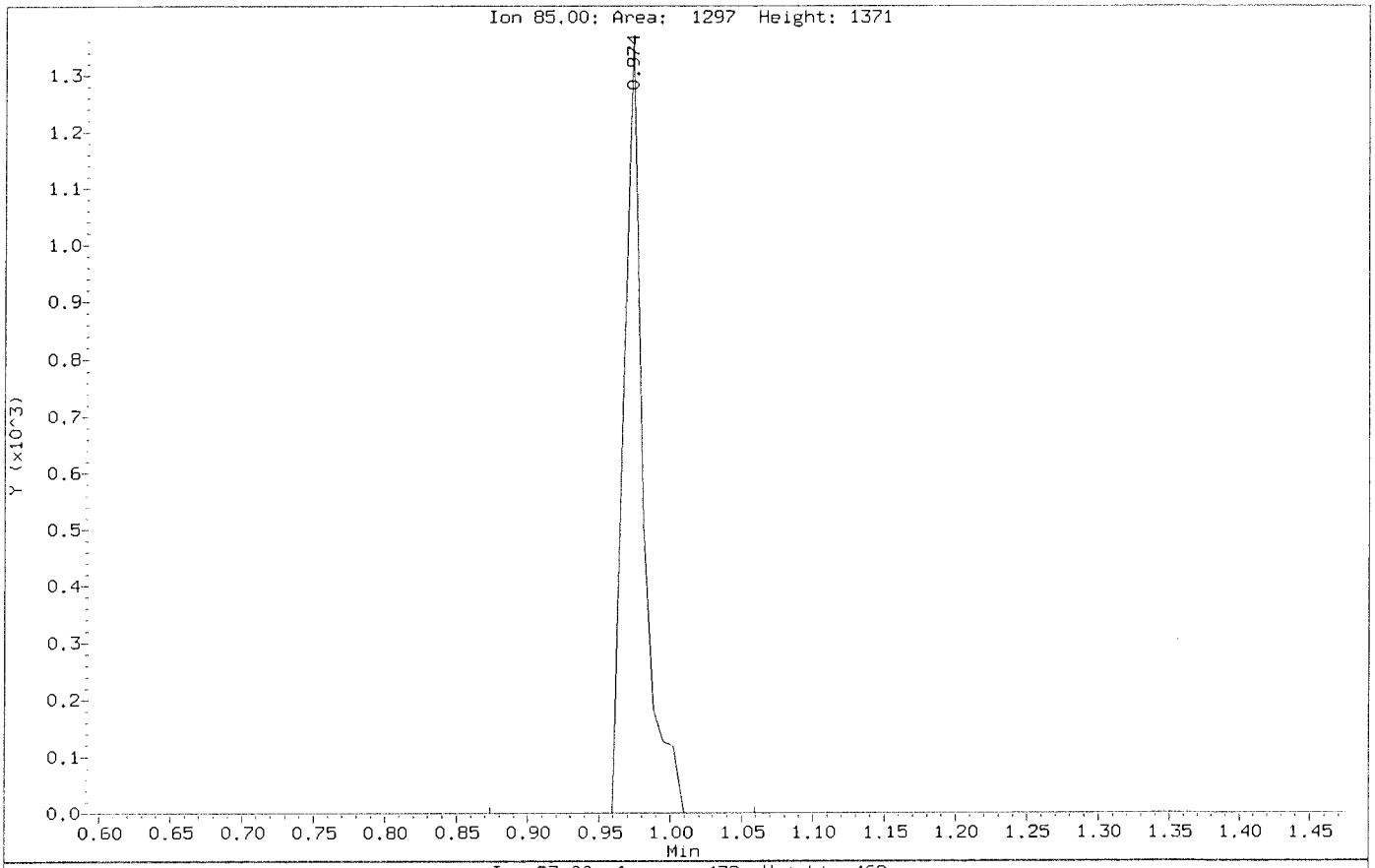
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8

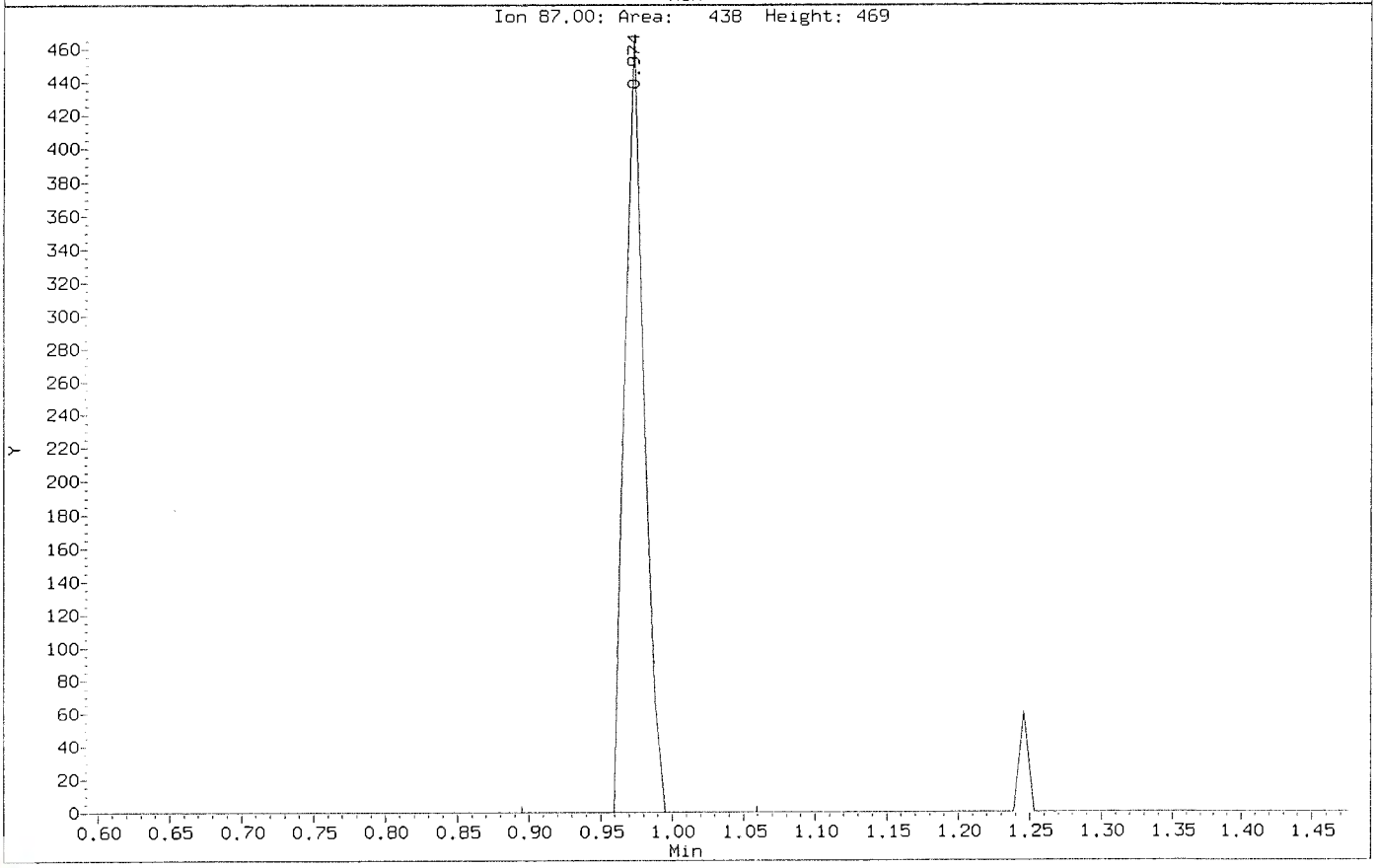




Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060203.D
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





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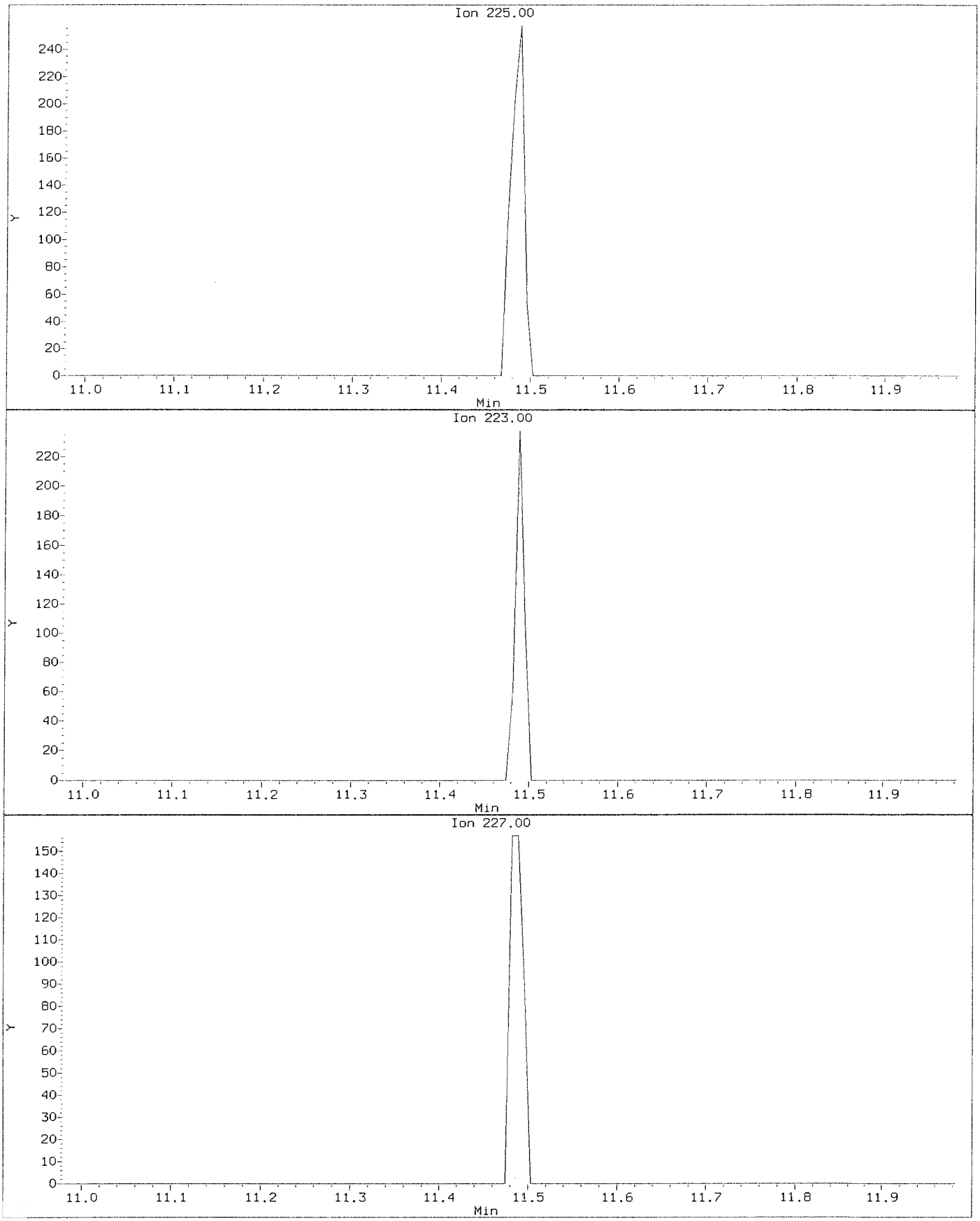
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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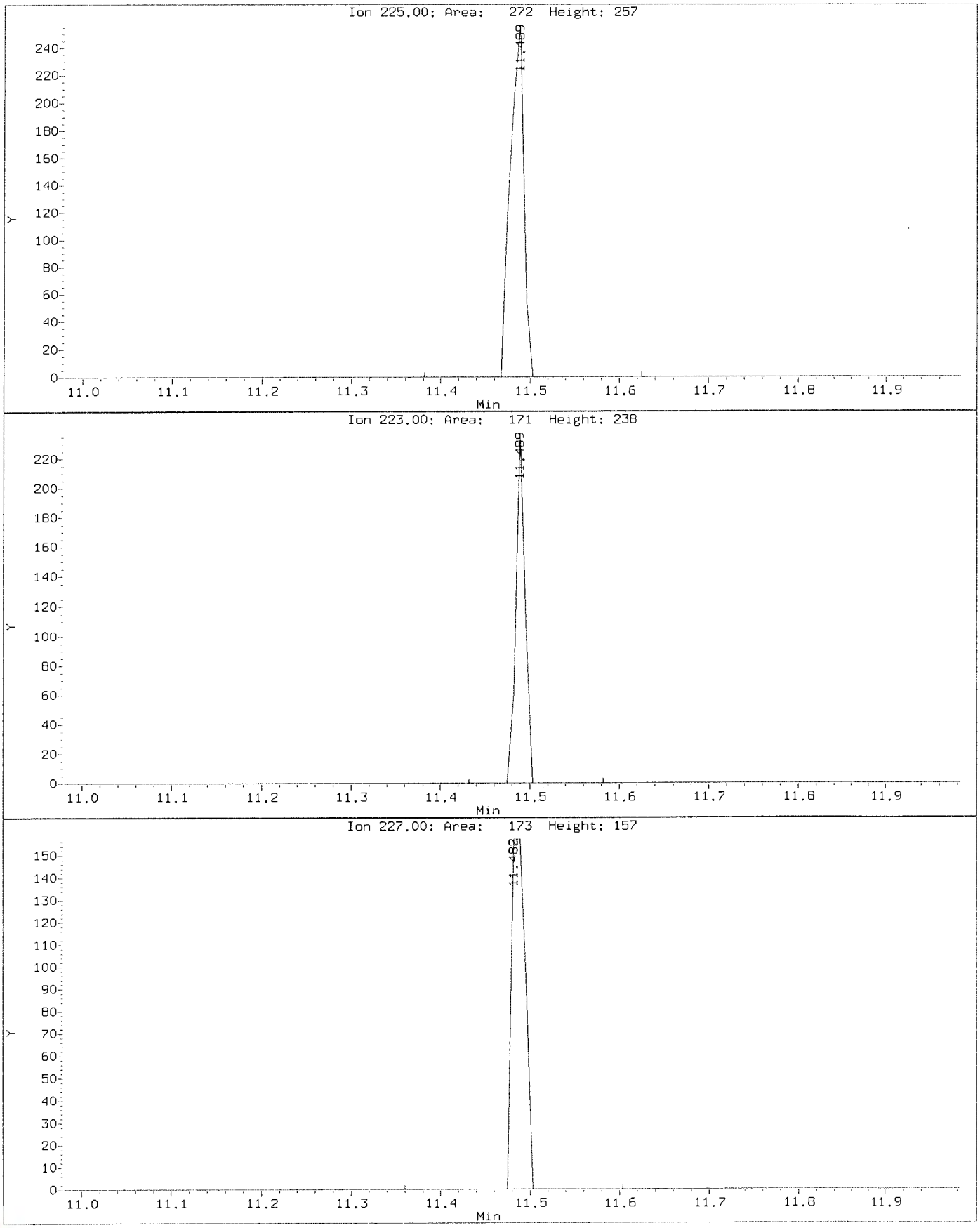
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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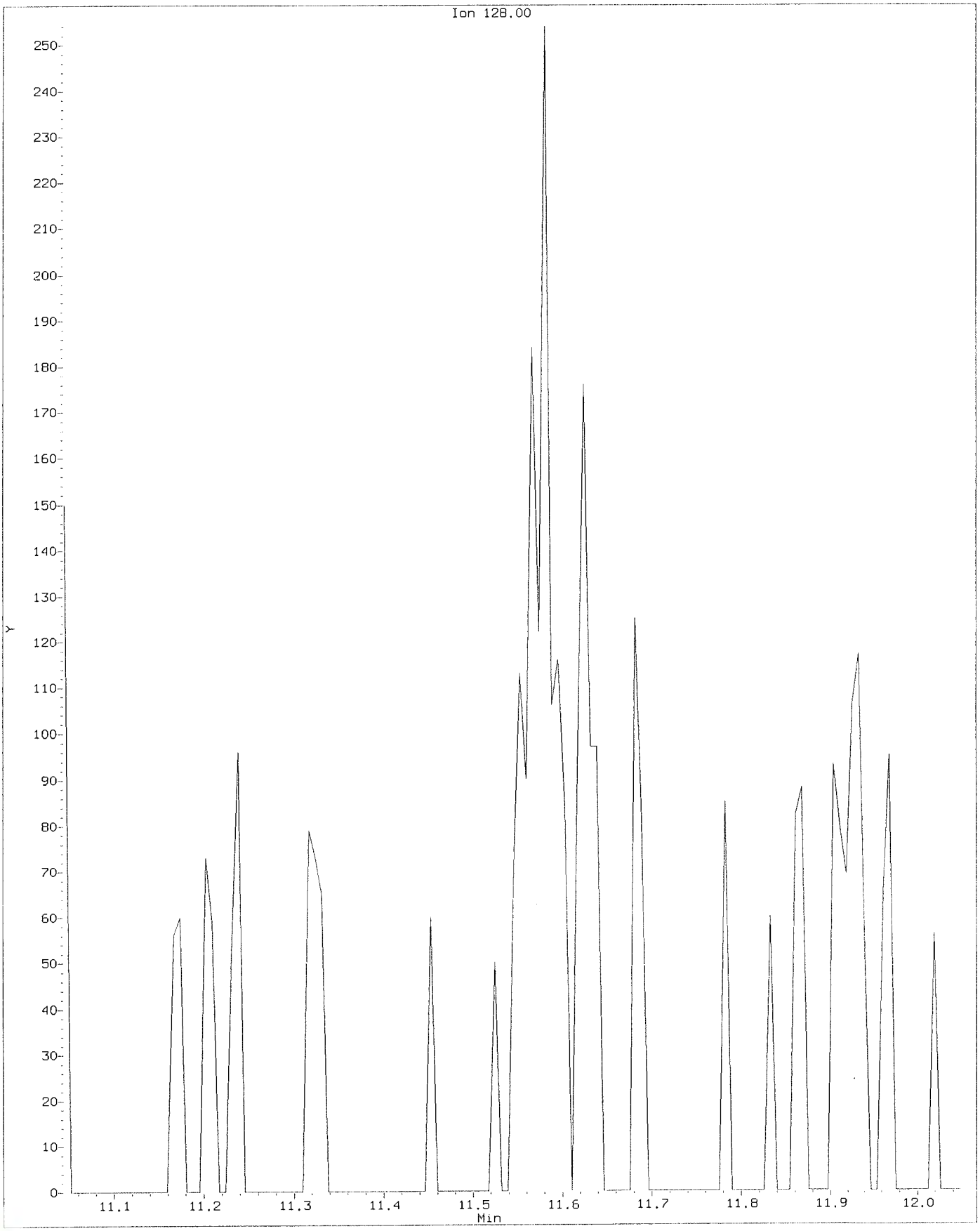
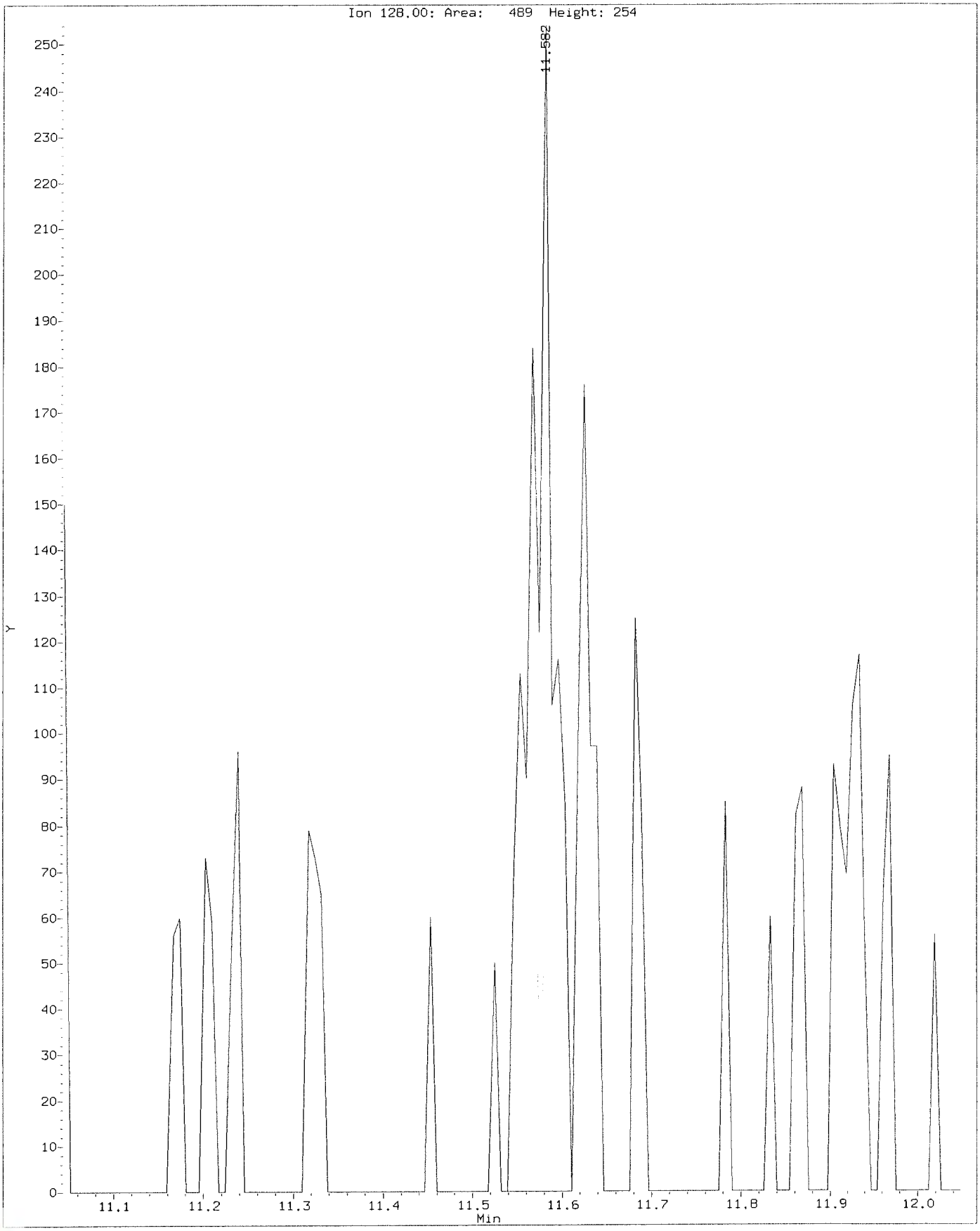
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060203.D
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Naphthalene
CAS Number: 91-20-3



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060204.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 02-JUN-2020 12:10
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 12:10 Cal File: X060204.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	4.182	(1.000)	251741	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	470373	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	429677	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	178224	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	3464	1.00000	0.51(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.072)	5718	1.00000	0.36(a)
$ 48 Toluene-d8	98	6.396	6.388	(0.834)	12217	1.00000	1.08(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	5656	1.00000	0.60(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	3141	1.00000	1.01(a)
31 1,1,1-Trichloroethane	97	4.096	4.089	(0.979)	4883	1.00000	1.00(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	3929	1.00000	1.10(aM)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	2920	1.00000	1.06(a)
22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	8920	1.00000	1.14(a)
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	2797	1.00000	1.08(a)
32 1,1-Dichloropropene	75	4.297	4.282	(0.865)	4546	1.00000	1.02(a)
93 1,2,3-Trichlorobenzene	180	11.753	11.746	(1.216)	140	1.00000	1.70(aM)
71 1,2,3-Trichloropropane	75	8.874	8.867	(0.918)	3523	1.00000	1.07(aM)
90 1,2,4-Trichlorobenzene	180	11.352	11.338	(1.174)	458	1.00000	3.13(aM)
79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	11174	1.00000	1.06(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	194	1.00000	1.54(aM)
57 1,2-Dibromoethane	107	7.269	7.262	(0.948)	3173	1.00000	0.96(a)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	4994	1.00000	1.05(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	7002	1.00000	1.11(a)

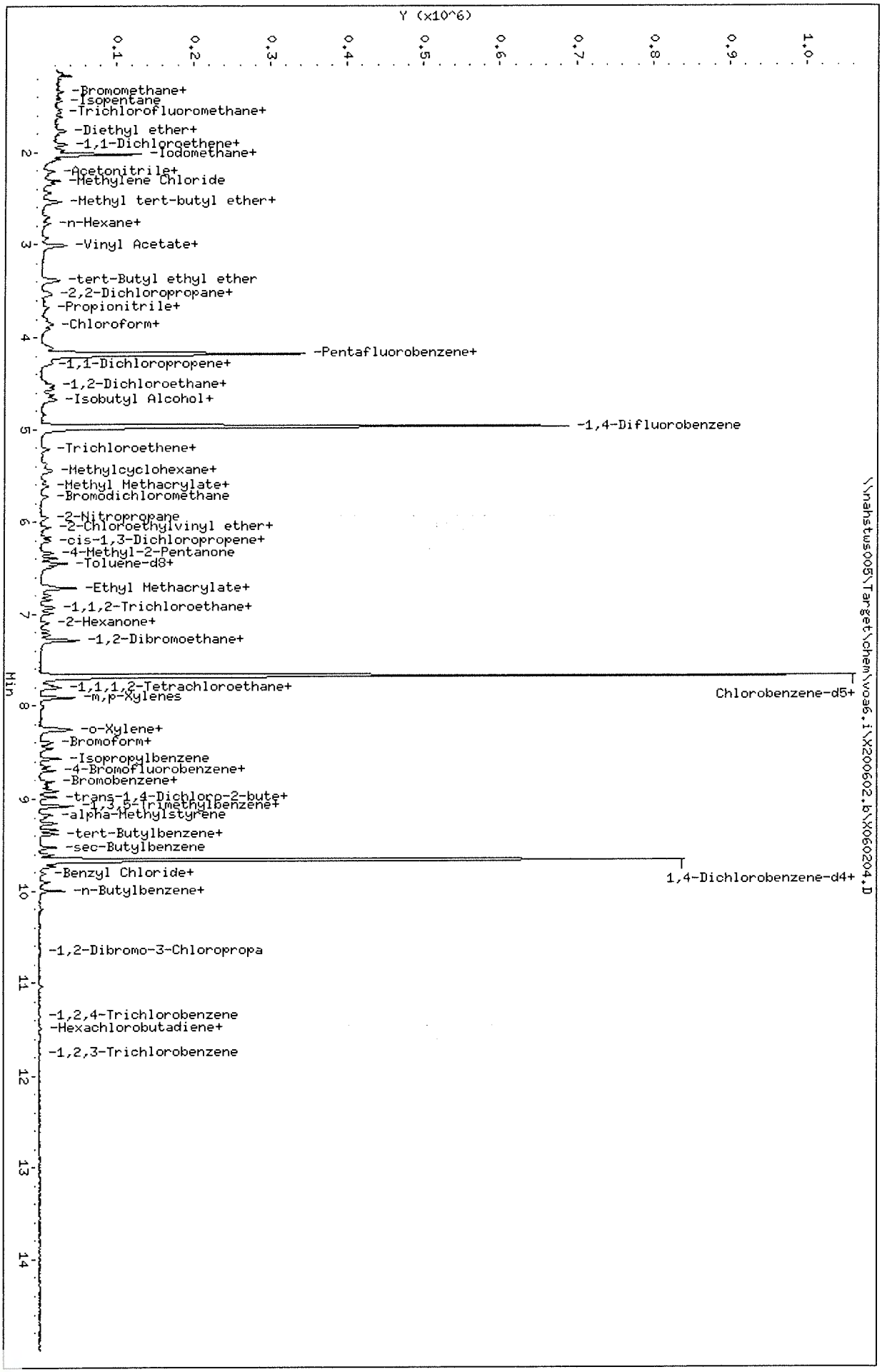
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	4737	1.00000	1.06(aM)
75	1,3,5-Trimethylbenzene	105	9.074	9.075	(0.939)	10719	1.00000	1.03(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	5870	1.00000	1.05(a)
54	1,3-Dichloropropane	76	6.990	6.983	(0.911)	6697	1.00000	1.15(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	6254	1.00000	1.10(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	5985	1.00000	1.18(a)
24	2-Butanone	43	3.602	3.580	(0.861)	6220	2.00000	2.24(a)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	10744	1.00000	1.12(a)
52	2-Hexanone	43	7.097	7.090	(0.925)	8649	2.00000	2.00(a)
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	12015	1.00000	1.08(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	9367	1.00000	0.98(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	12766	2.00000	1.99(a)
10	Acetone	43	1.976	1.976	(0.473)	7782	2.00000	(aM)
37	Benzene	78	4.519	4.519	(0.909)	13958	1.00000	1.03(a)
74	Bromobenzene	156	8.809	8.809	(0.911)	3771	1.00000	1.08(a)
29	Bromochloromethane	128	3.795	3.803	(0.908)	2182	1.00000	1.23(a)
39	Bromodichloromethane	83	5.737	5.729	(1.154)	4940	1.00000	1.01(aM)
66	Bromoform	173	8.415	8.416	(1.097)	2167	1.00000	1.00(Ta)
6	Bromomethane	94	1.338	1.331	(0.320)	2890	1.00000	0.25(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	17687	2.00000	2.12(a)
34	Carbon Tetrachloride	117	4.275	4.268	(0.860)	5027	1.00000	1.18(aM)
59	Chlorobenzene	112	7.699	7.699	(1.004)	9288	1.00000	1.09(a)
7	Chloroethane	64	1.403	1.396	(0.336)	3229	1.00000	1.20(a)
28	Chloroform	83	3.917	3.910	(0.937)	7009	1.00000	1.13(a)
3	Chloromethane	50	1.081	1.081	(0.258)	6888	1.00000	1.11(a)
27	cis-1,2-Dichloroethene	96	3.537	3.530	(0.846)	4063	1.00000	1.13(a)
46	cis-1,3-Dichloropropene	75	6.166	6.159	(1.241)	6252	1.00000	1.08(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	3816	1.00000	1.11(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	2766	1.00000	1.15(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	3076	1.00000	1.02(a)
61	Ethylbenzene	106	7.807	7.807	(1.018)	4584	1.00000	1.05(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	459	1.00000	3.28(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	13587	1.00000	1.05(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	11251	2.00000	2.14(a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	4893	1.00000	0.37(a)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	8314	1.00000	0.98(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	15117	1.00000	1.01(a)
92	Naphthalene	128	11.567	11.546	(1.196)	938	1.00000	1.69(aM)
63	o-Xylene	106	8.244	8.244	(1.075)	5427	1.00000	1.04(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	11694	1.00000	1.01(a)
64	Styrene	104	8.265	8.265	(1.078)	9462	1.00000	1.02(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	8717	1.00000	1.07(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	2503	1.00000	1.09(a)
50	Toluene	91	6.453	6.453	(0.841)	14446	1.00000	1.07(a)
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	3314	1.00000	1.12(a)
51	trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	5009	1.00000	0.96(a)
38	Trichloroethene	130	5.206	5.206	(1.048)	3234	1.00000	1.01(a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	4937	1.00000	1.05(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	5687	1.00000	1.07(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.



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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

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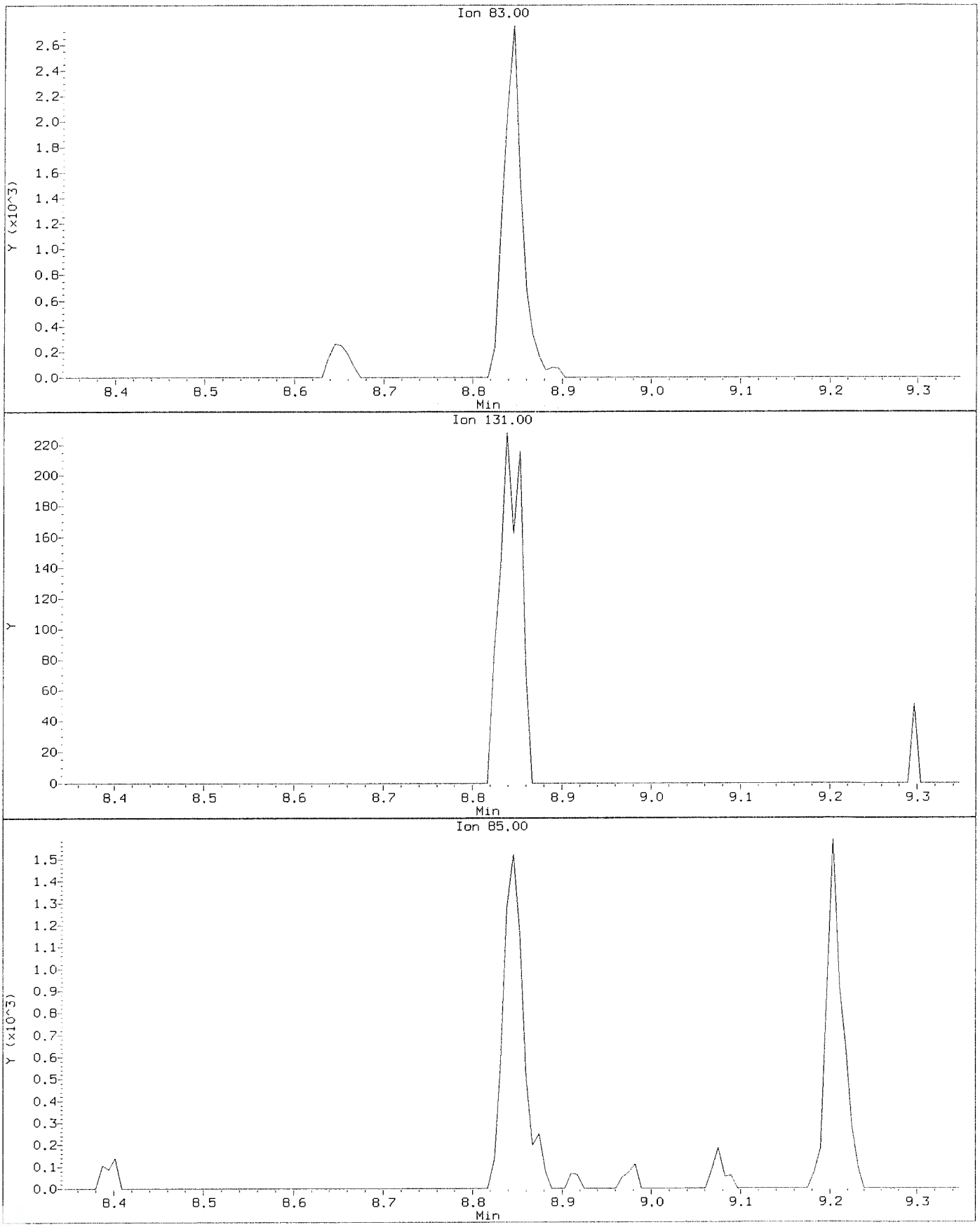
Injection Date: 02-JUN-2020 12:10
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



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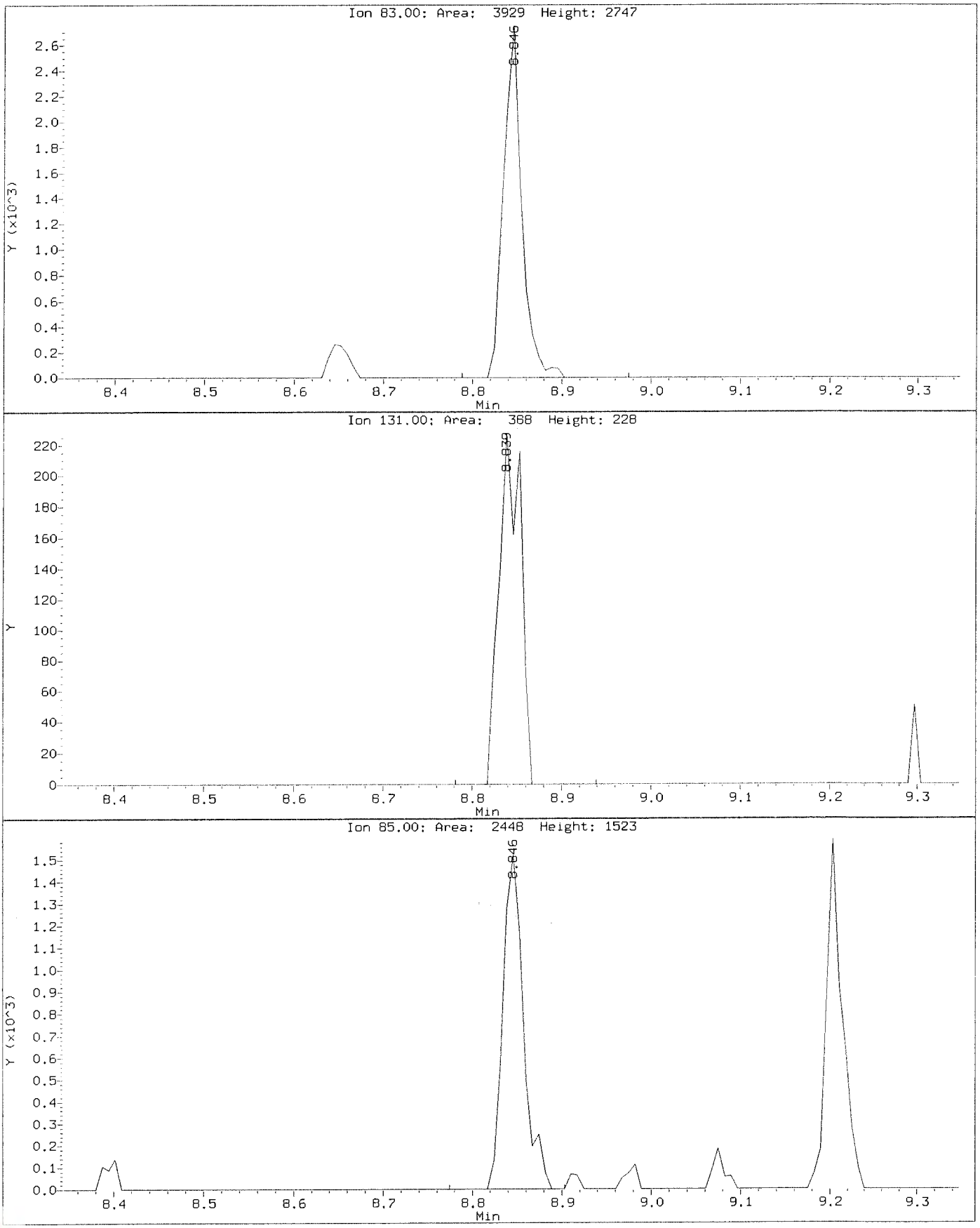
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



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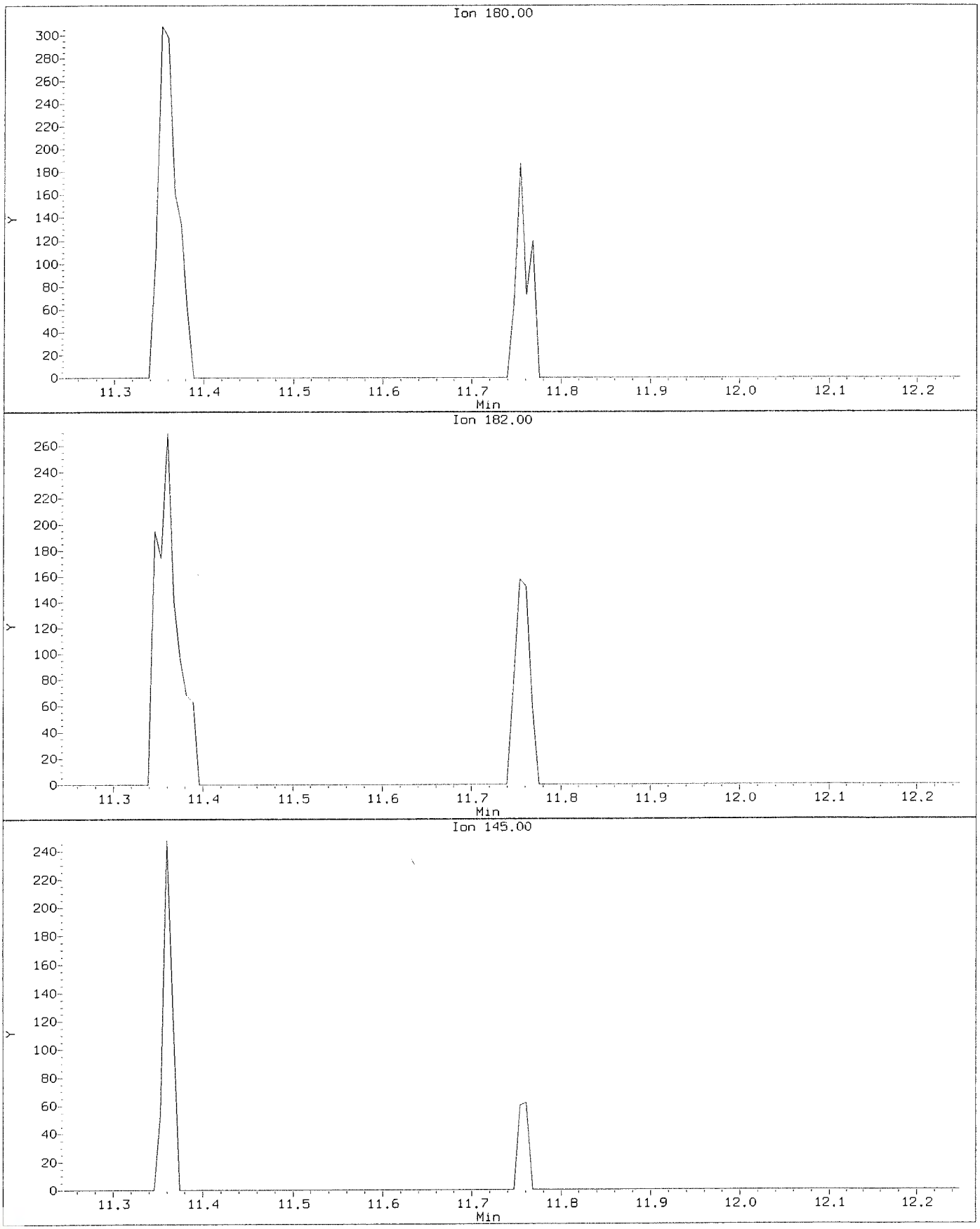
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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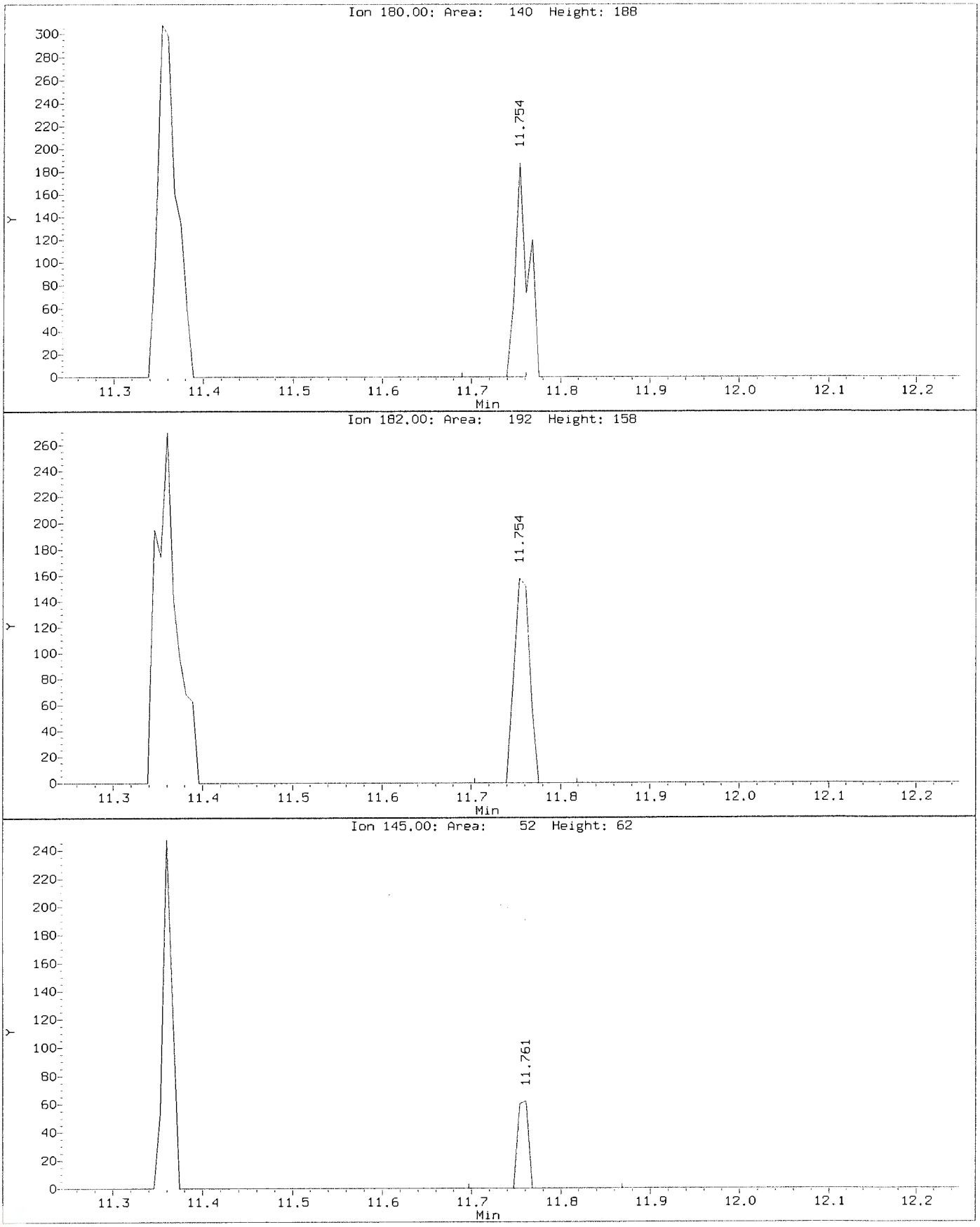
Client Sample ID: VSTD001

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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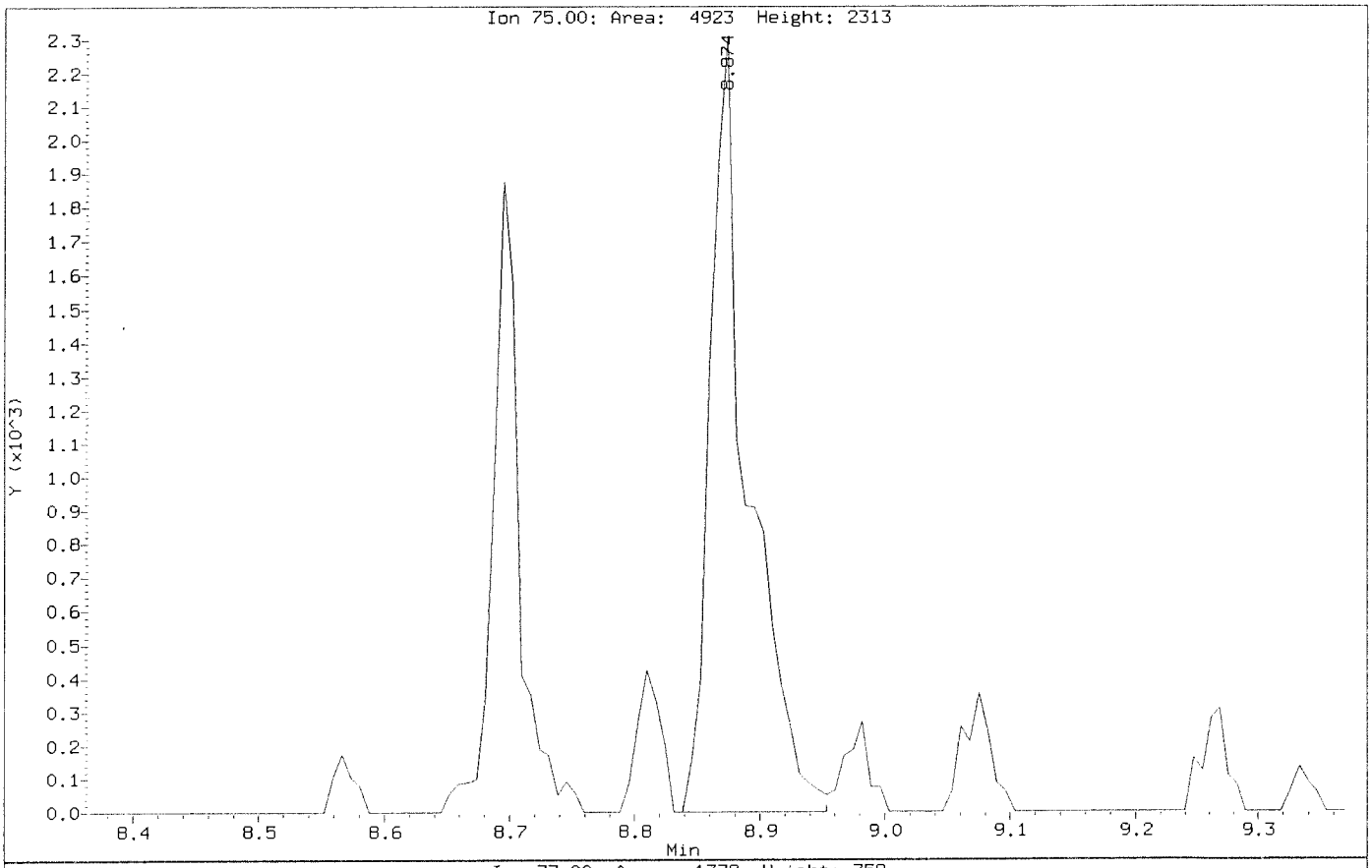
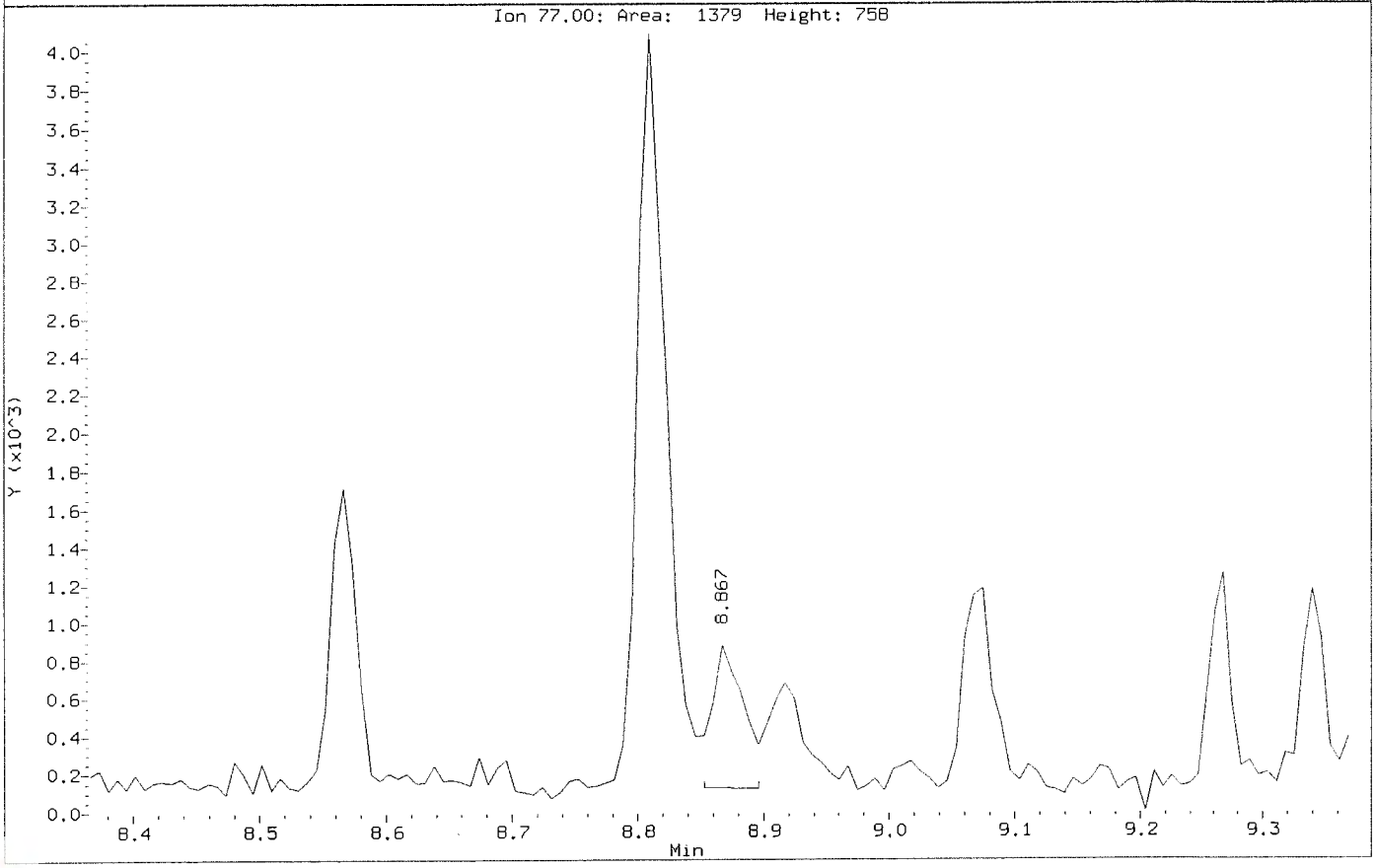
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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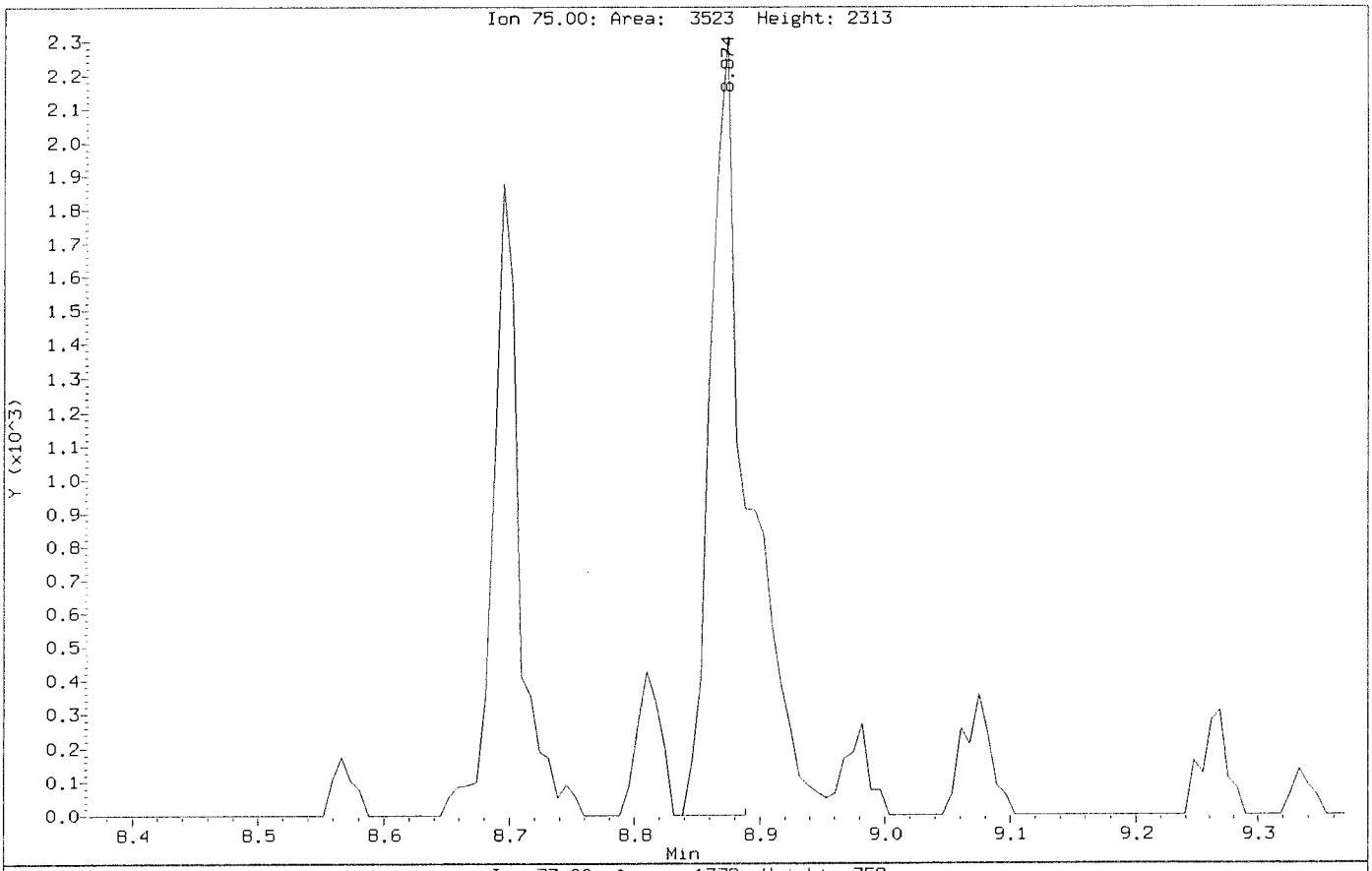
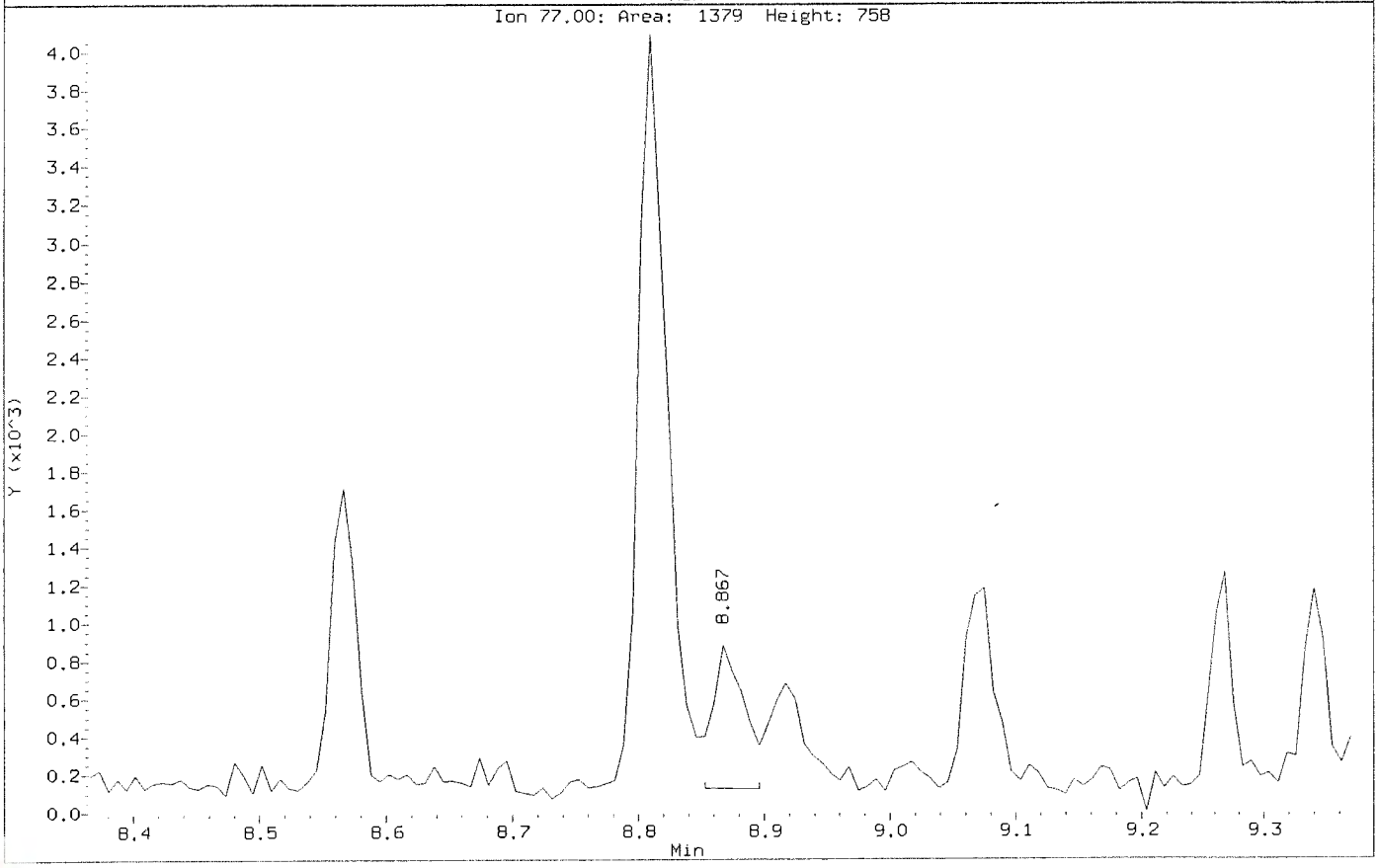
Client Sample ID: VSTD001

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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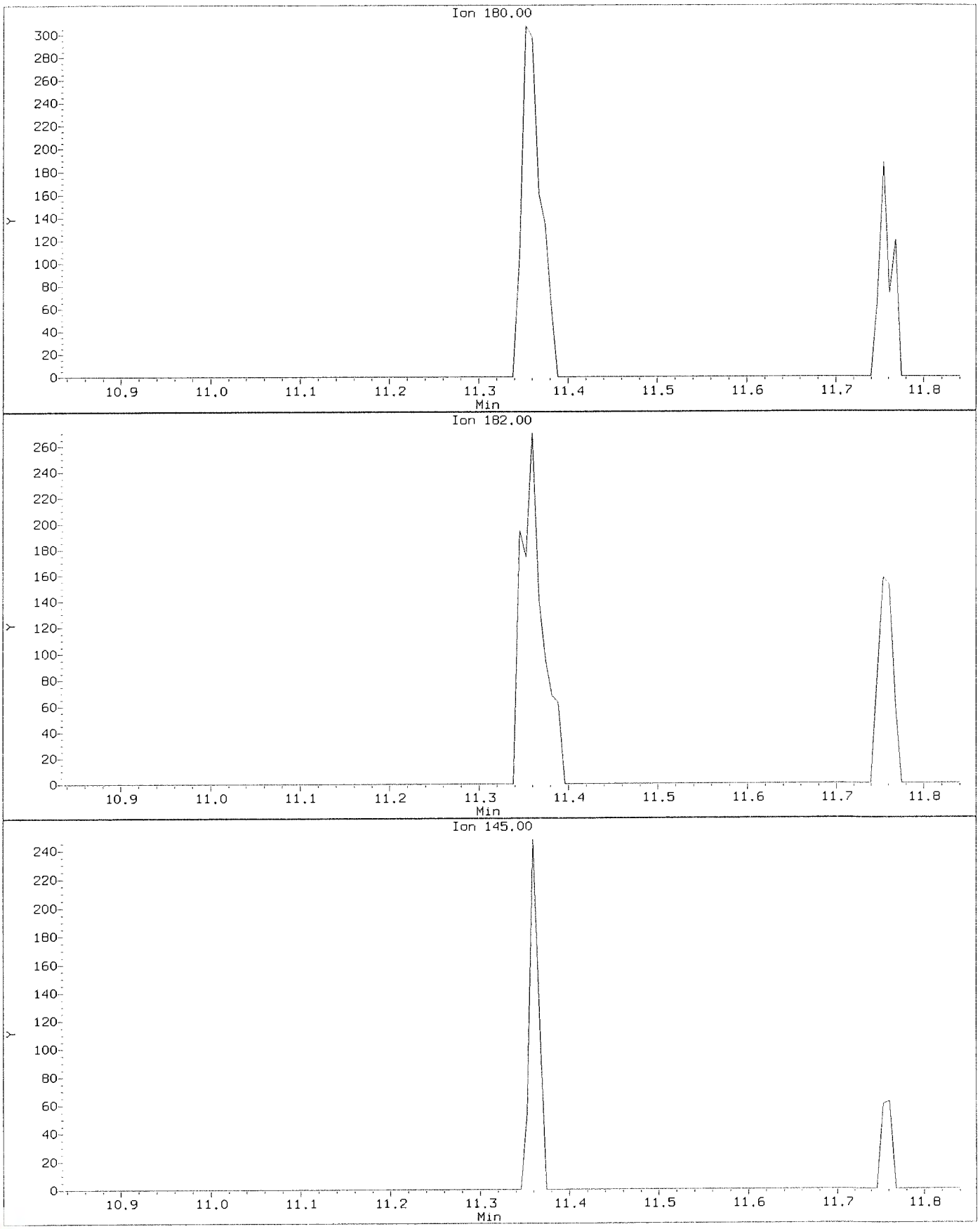
Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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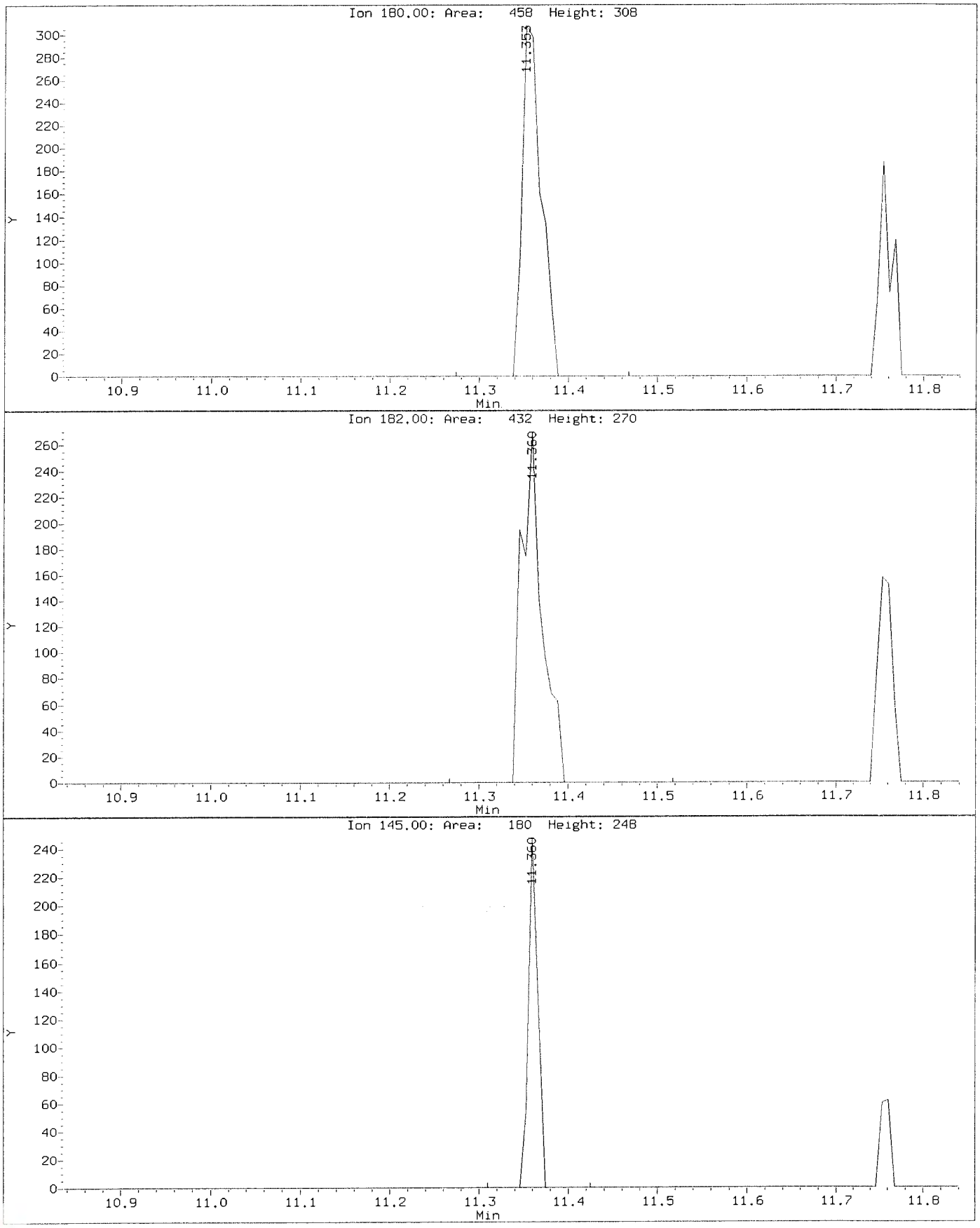
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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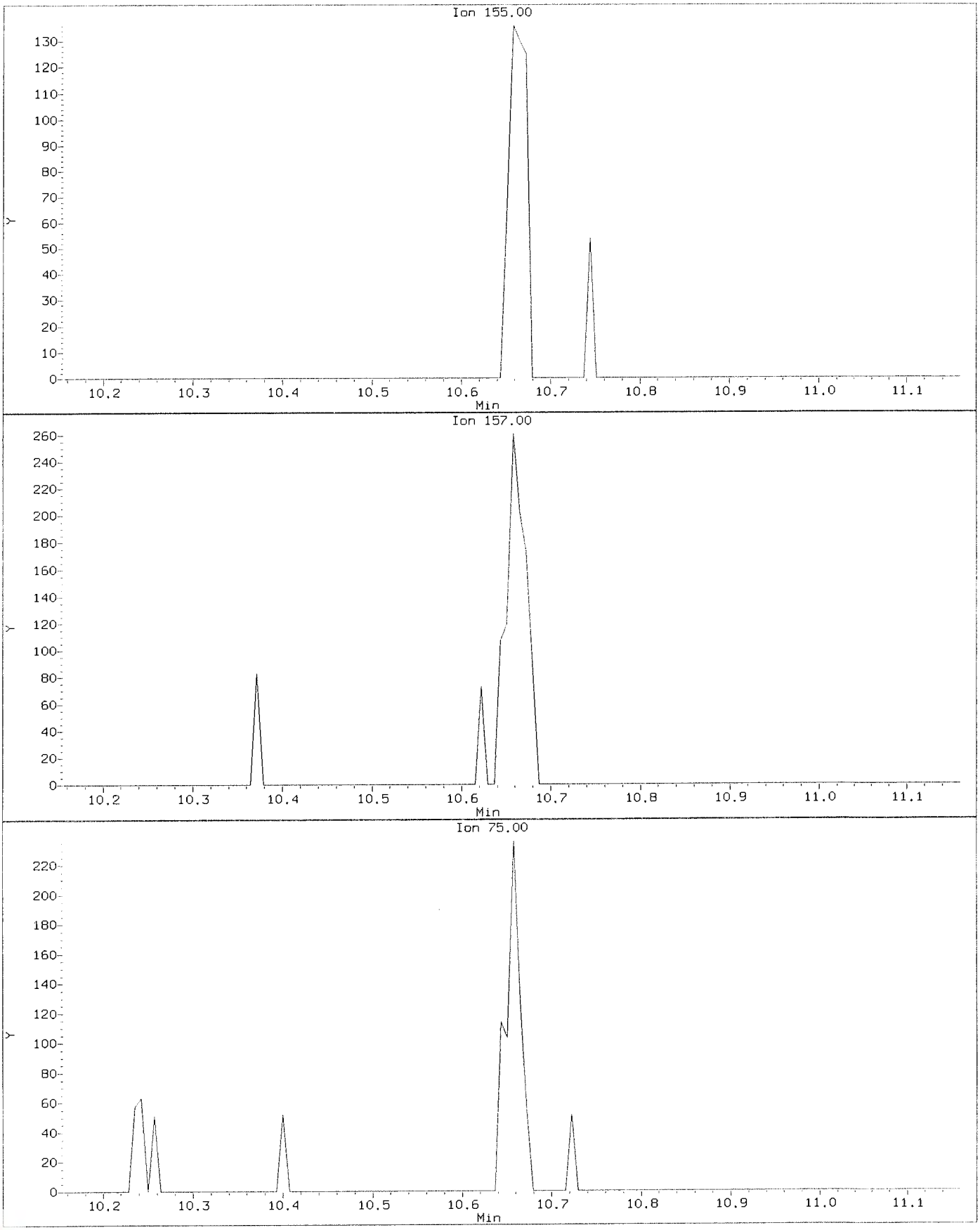
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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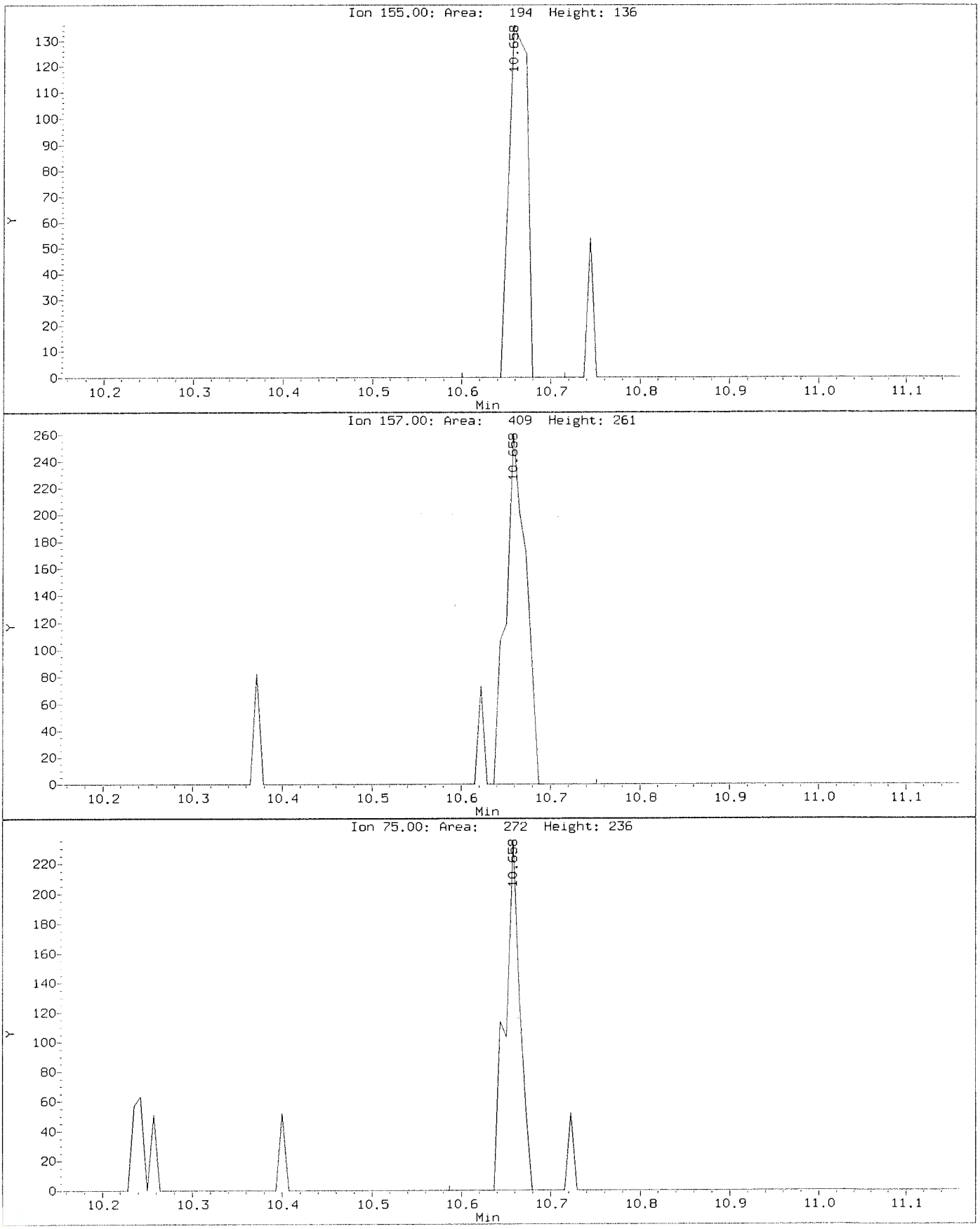
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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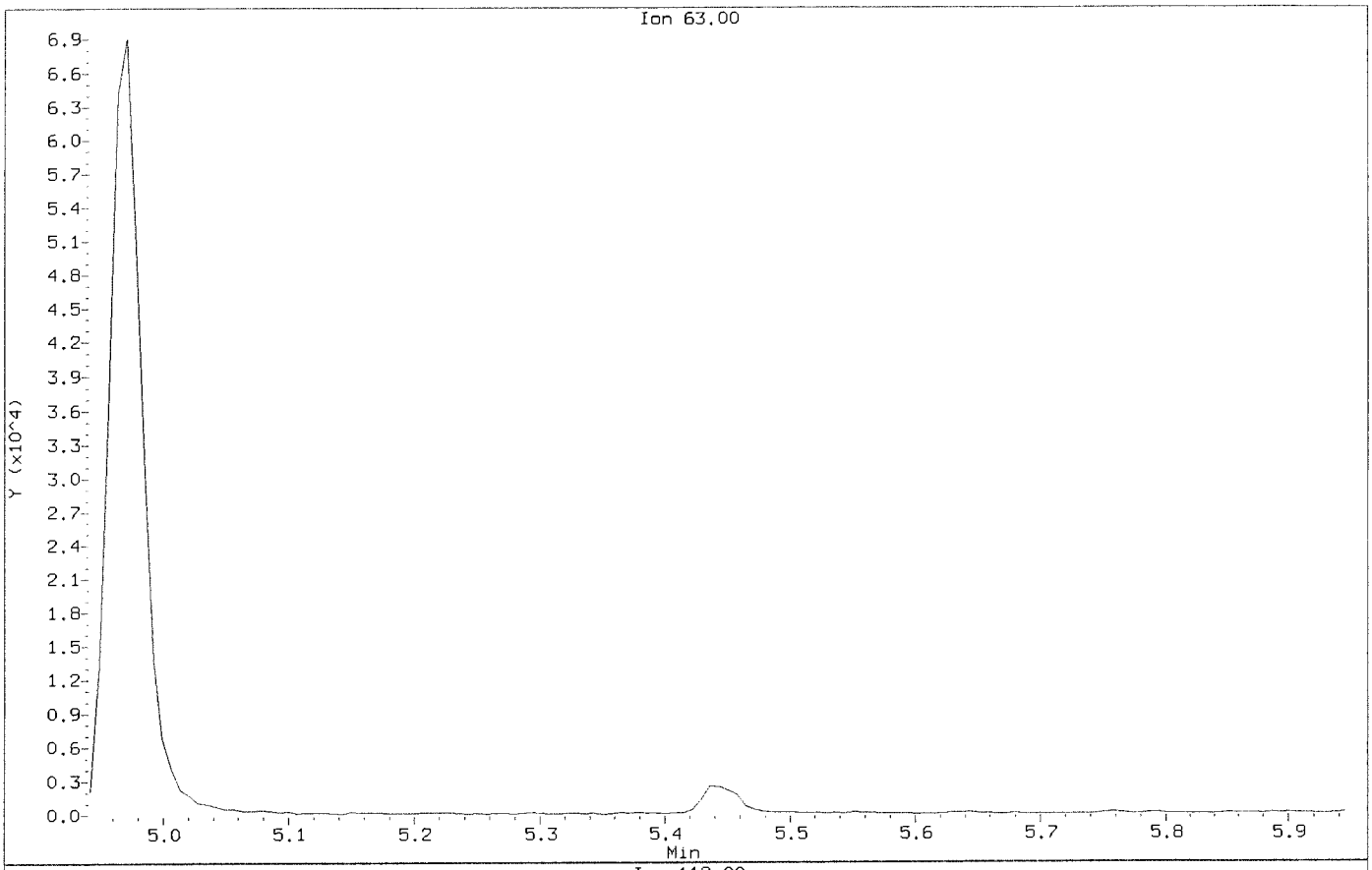
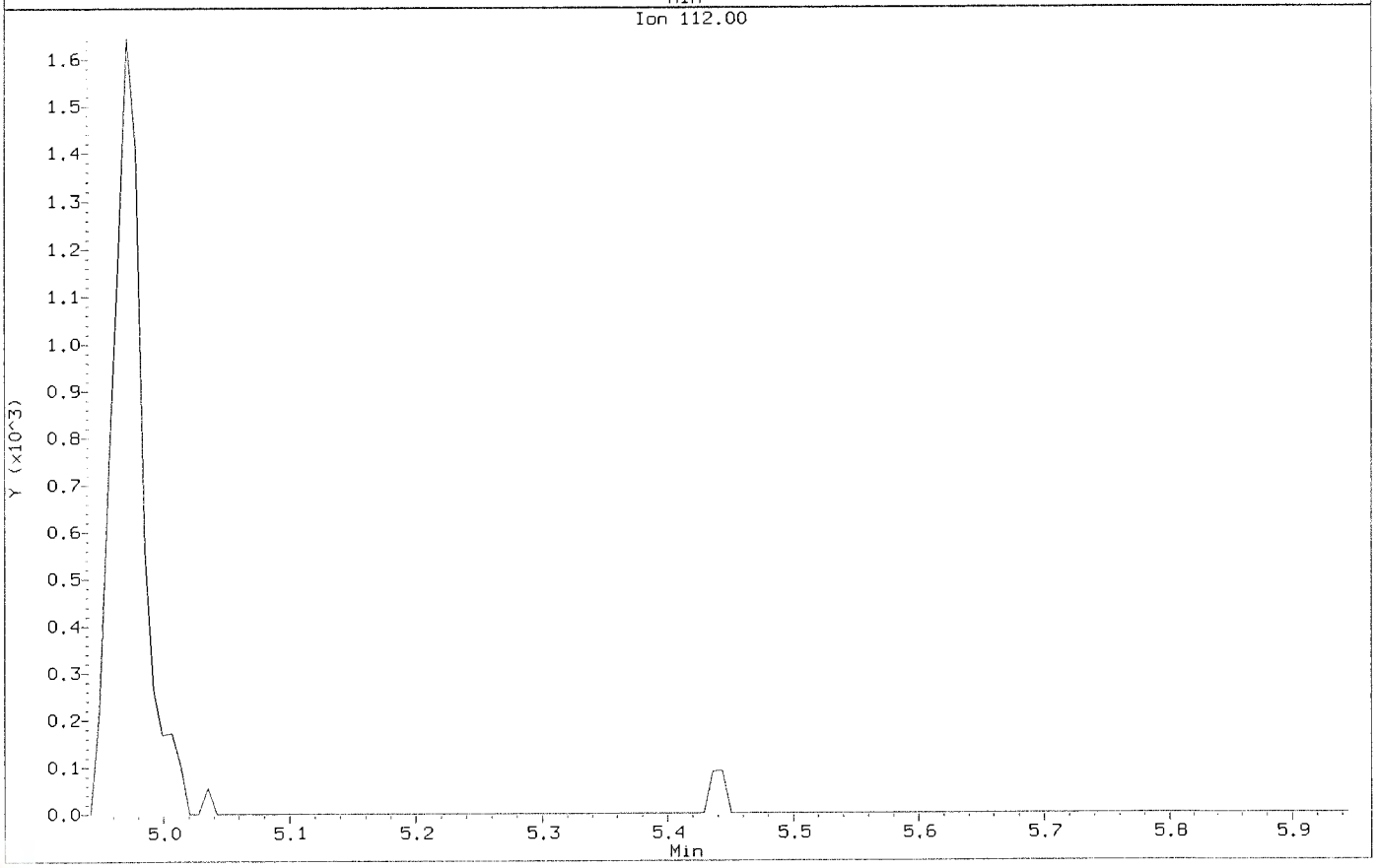
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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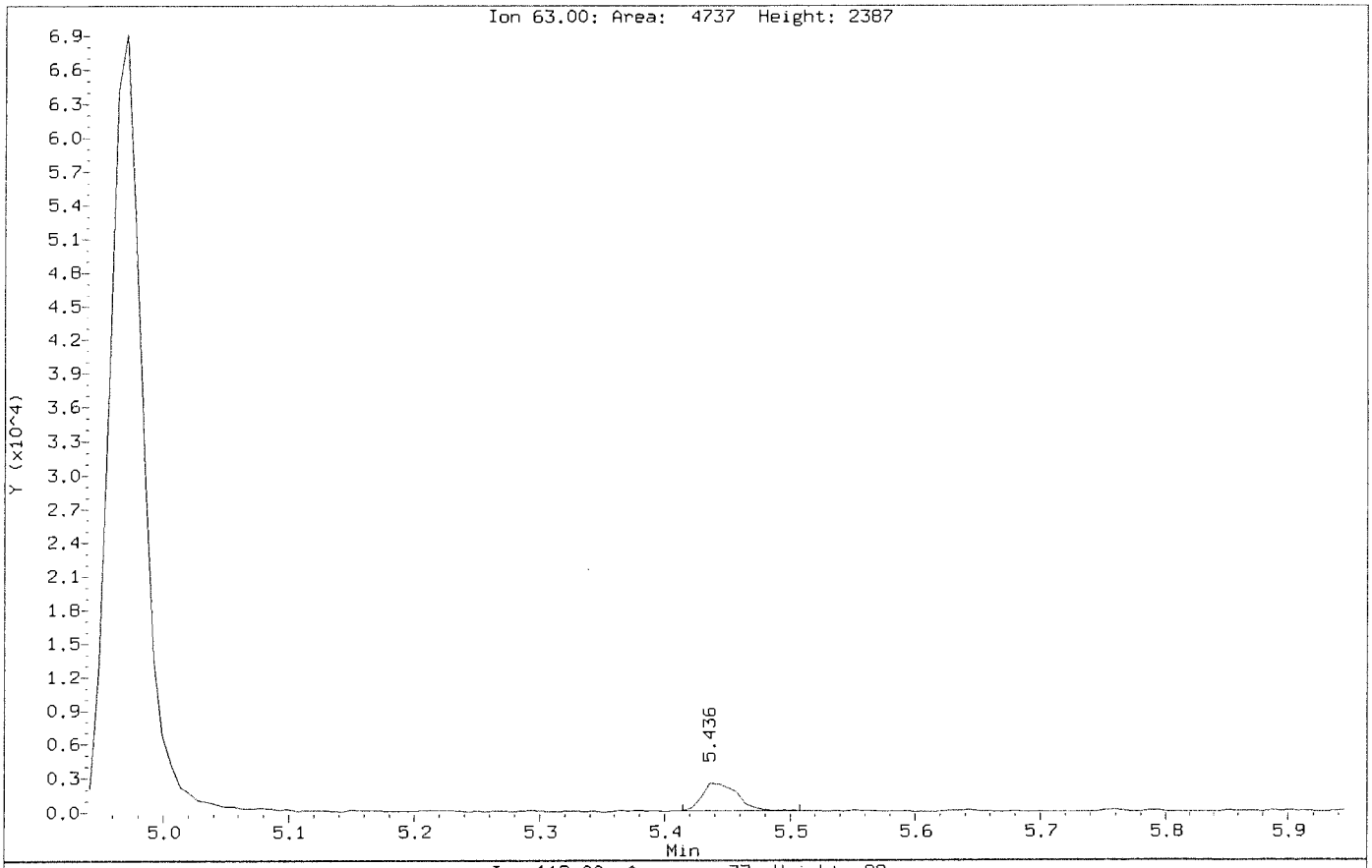
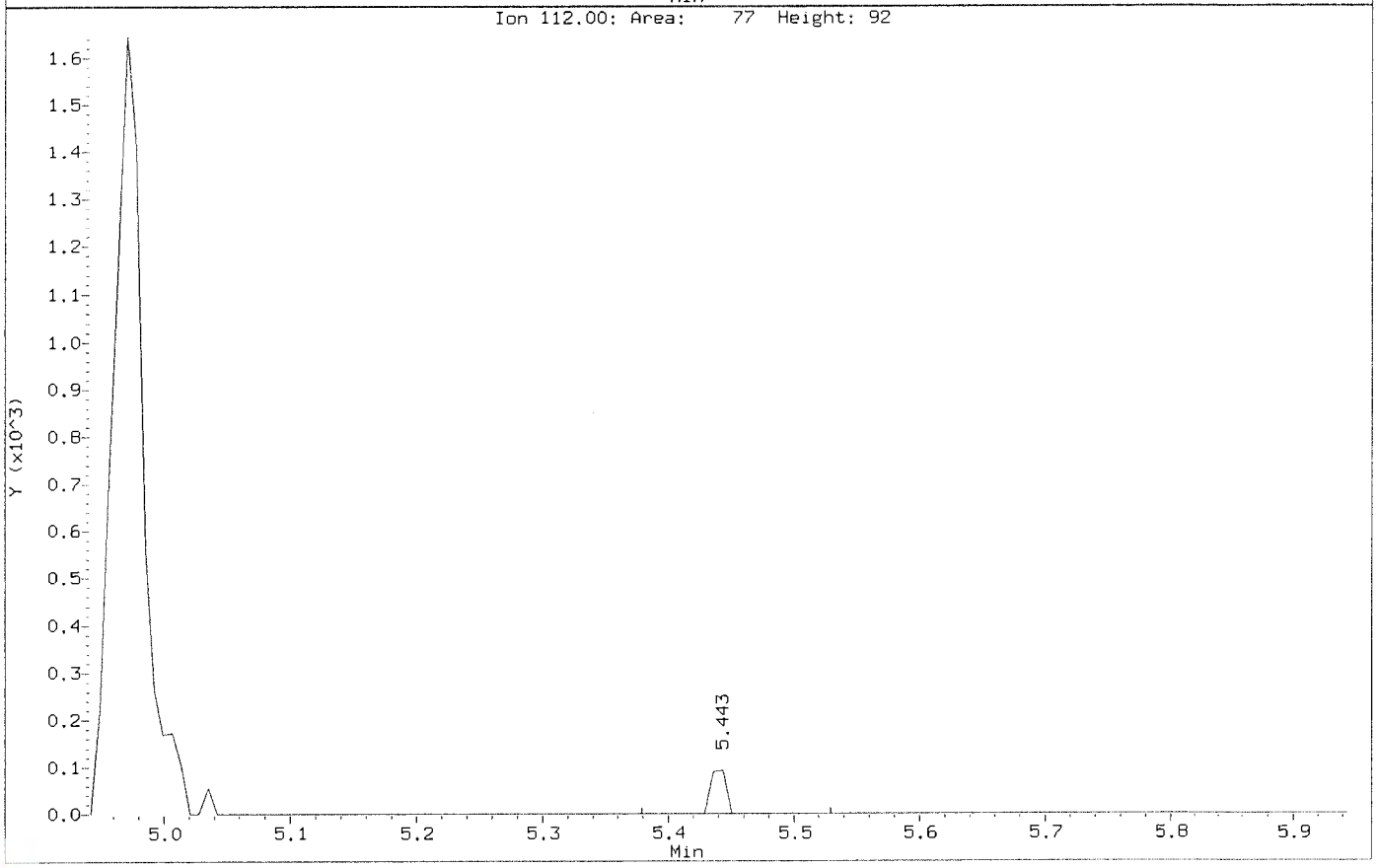
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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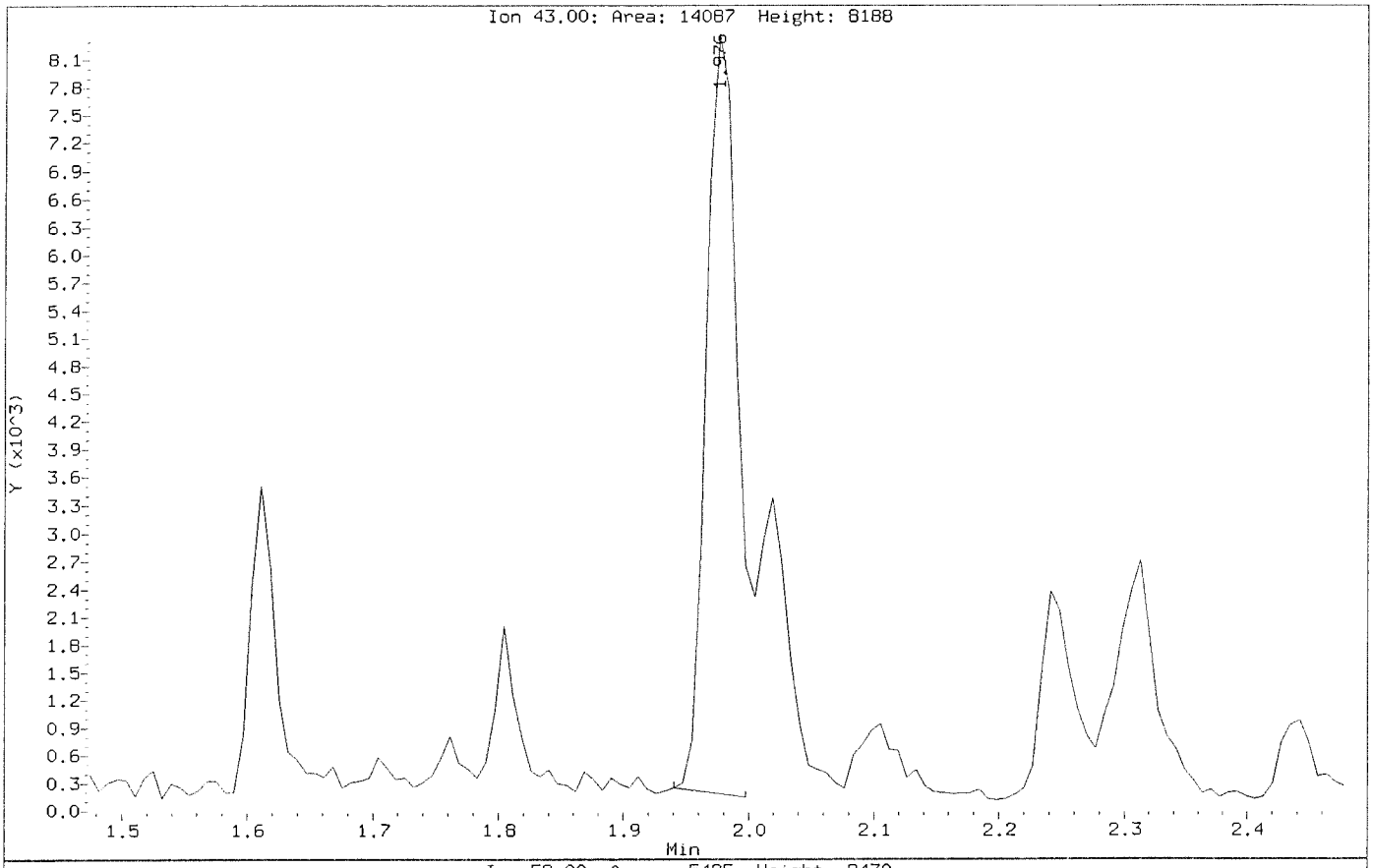
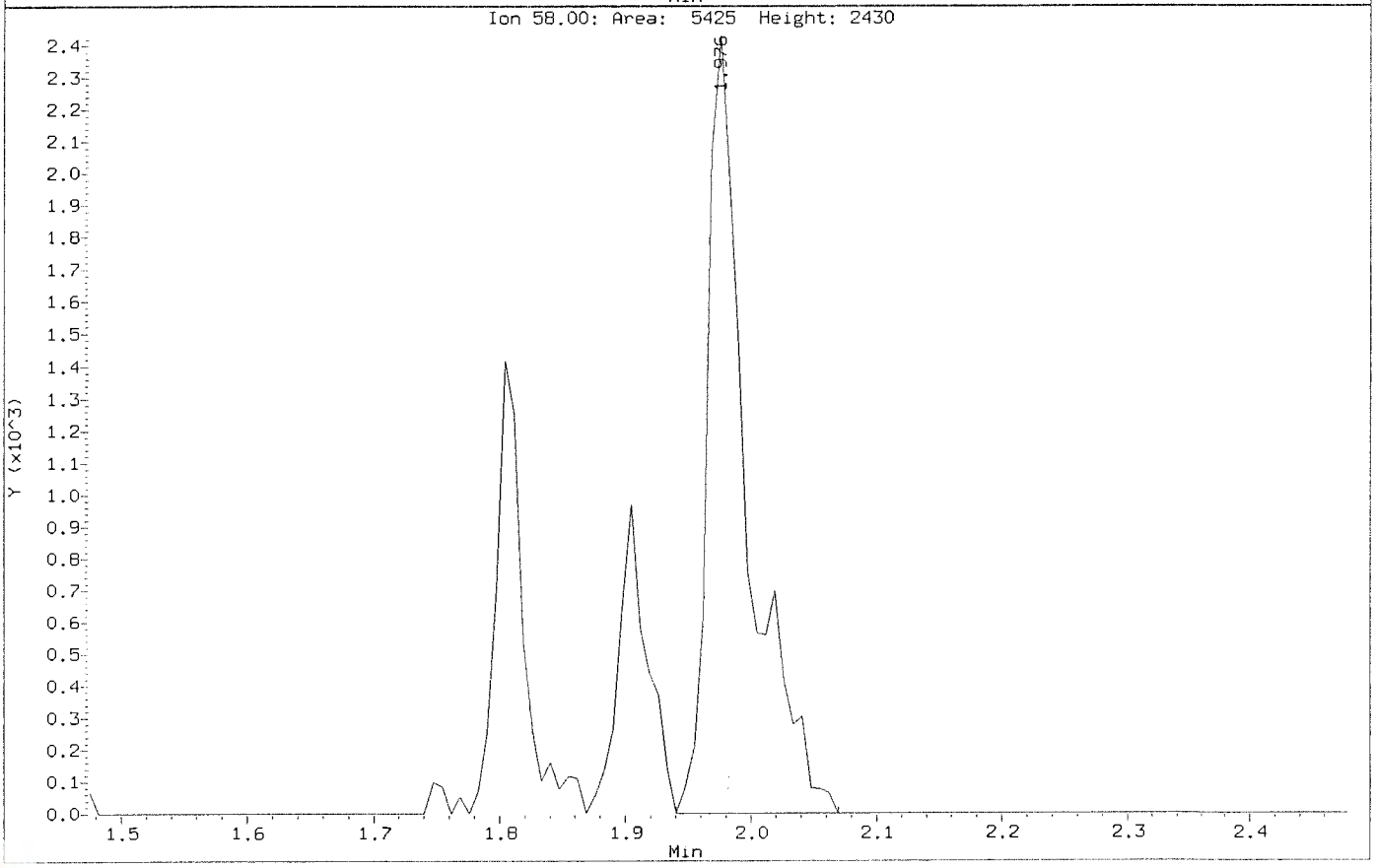
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Acetone
CAS Number: 67-64-1





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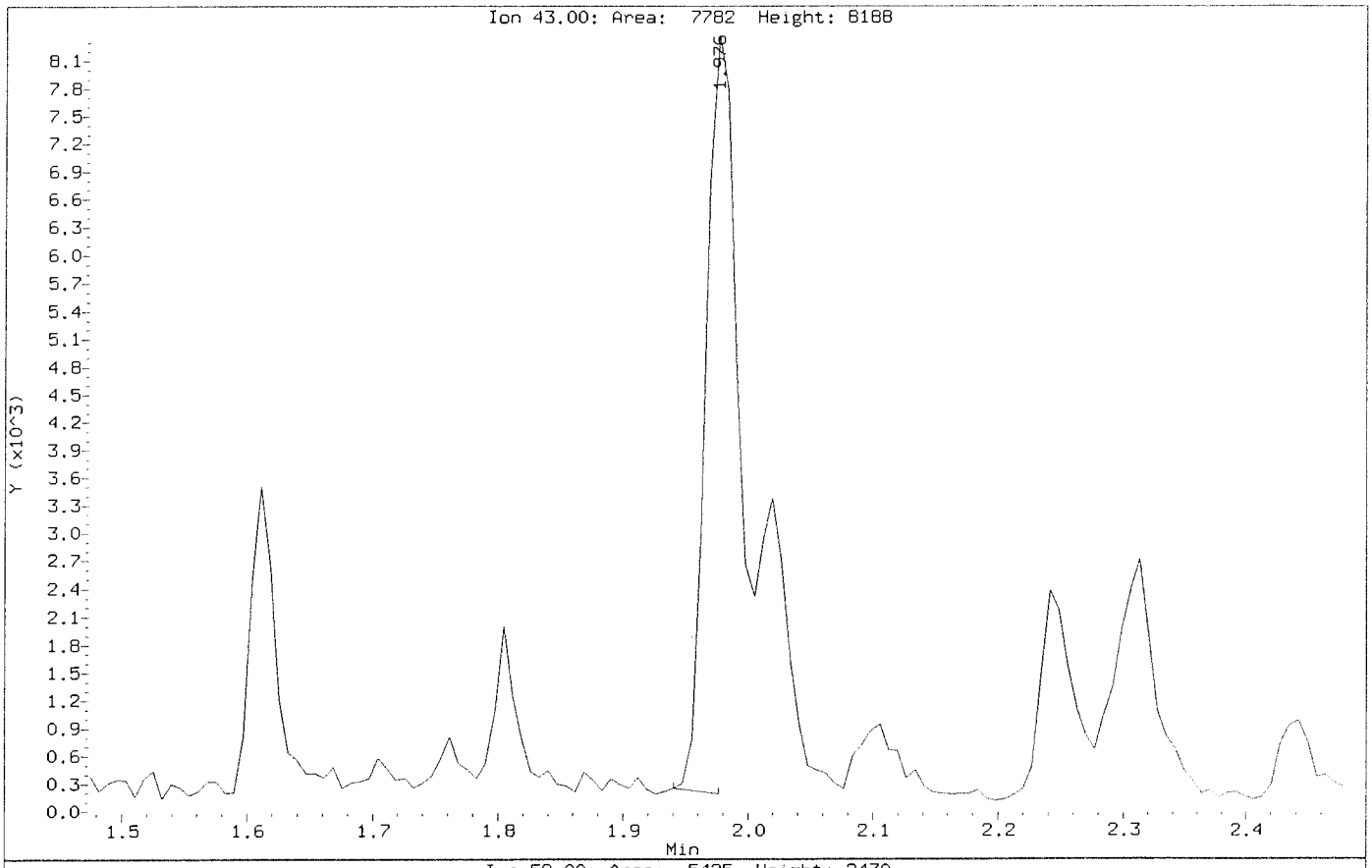
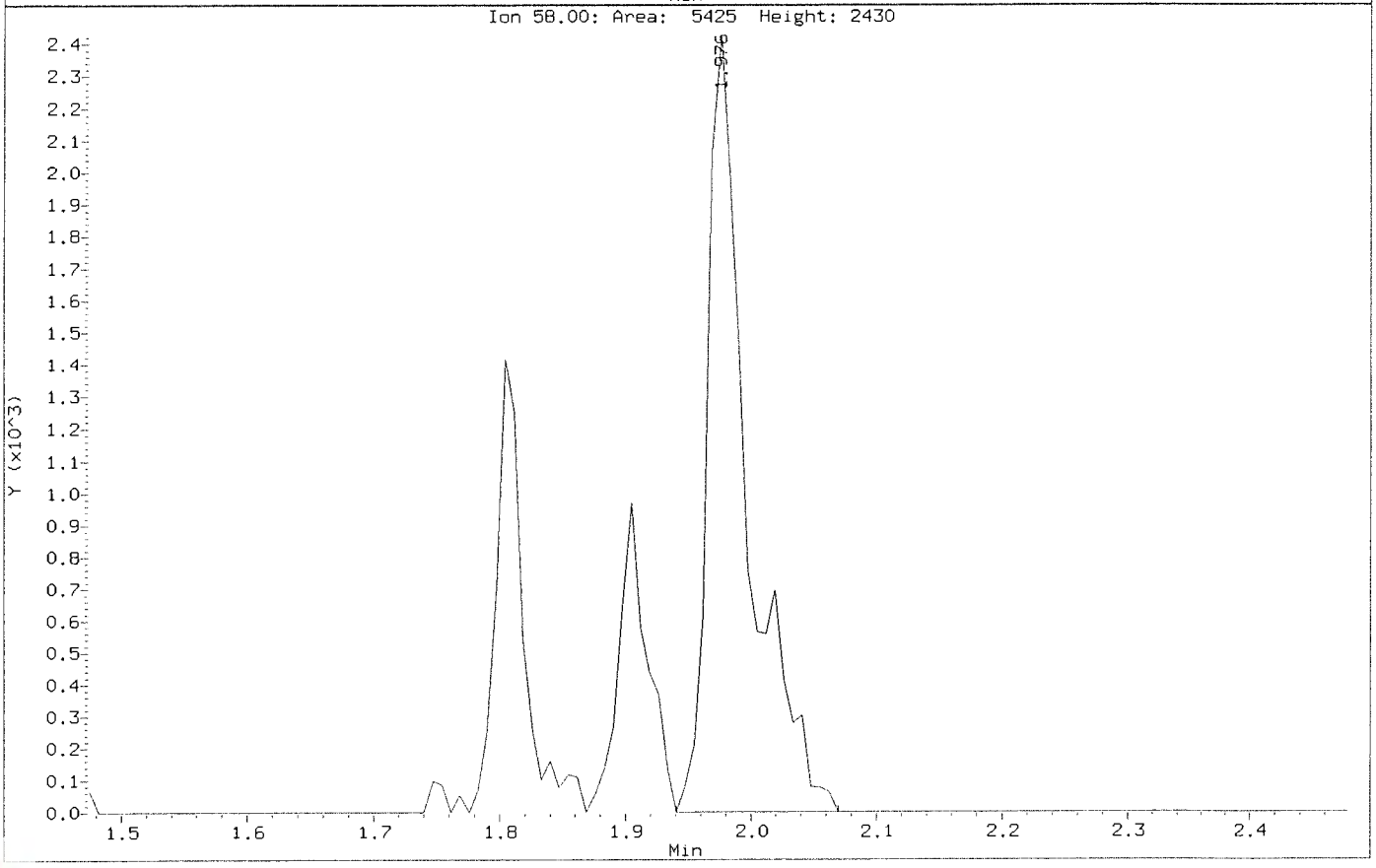
Client Sample ID: VSTD001

Compound: Acetone
CAS Number: 67-64-1





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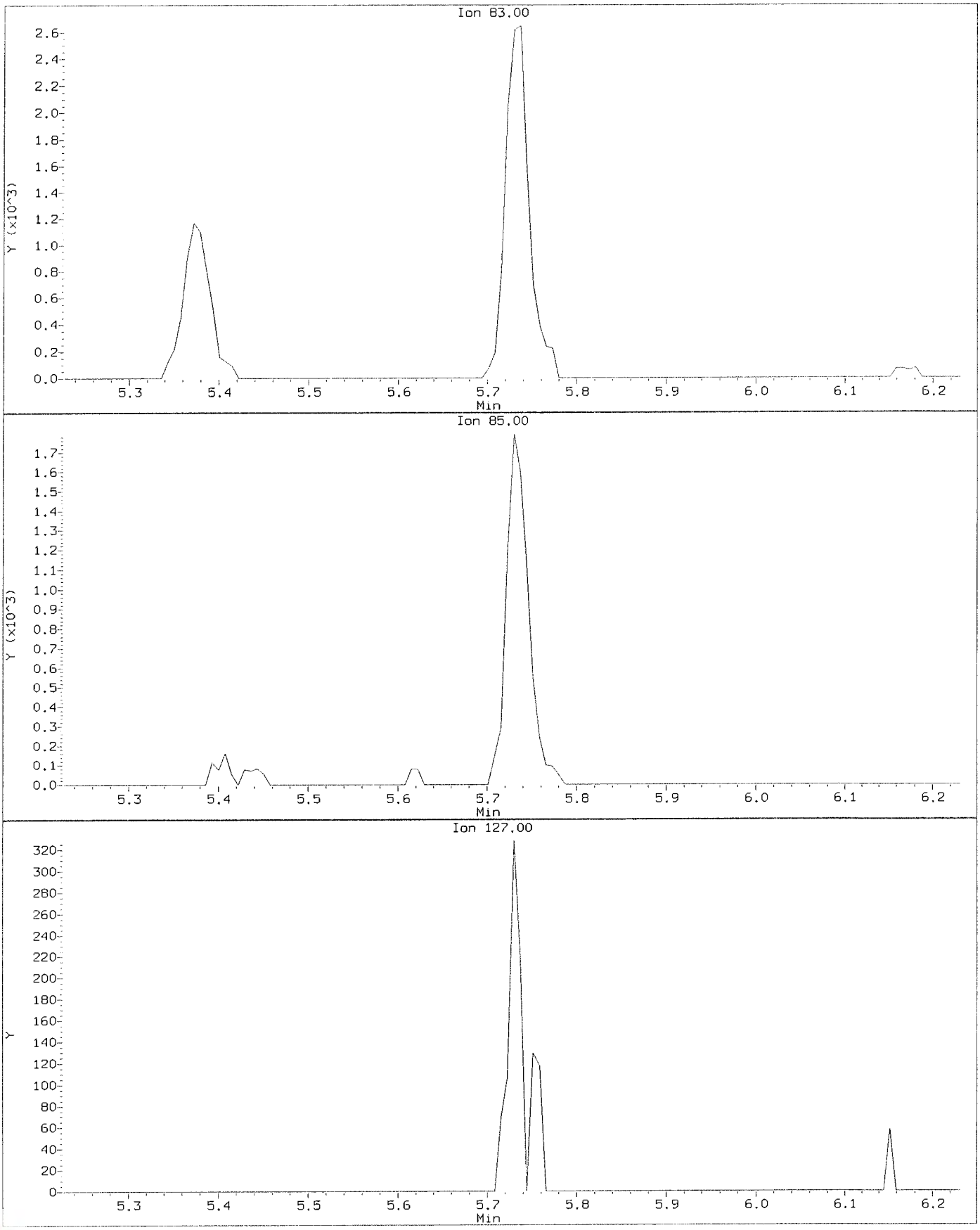
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4



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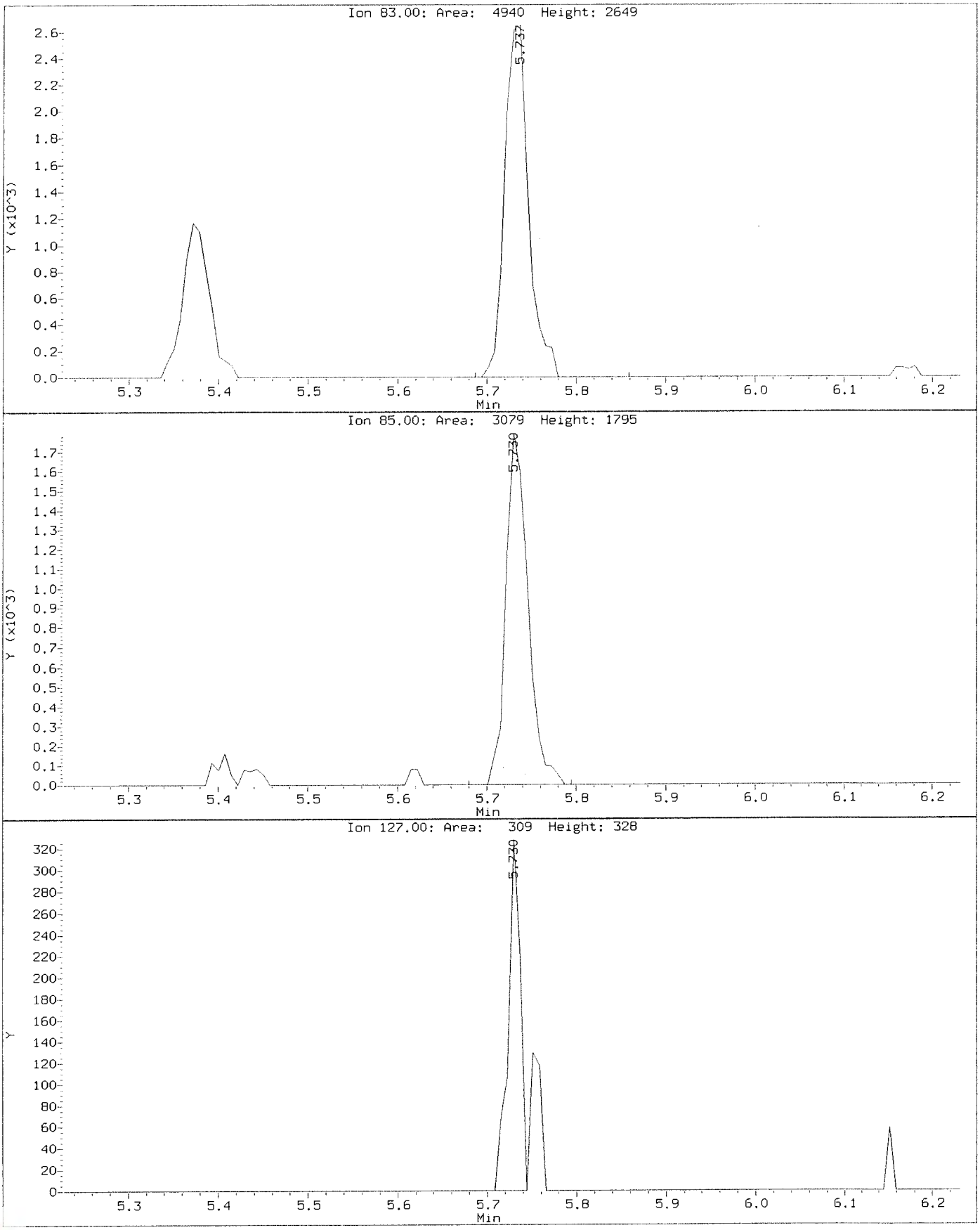
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4



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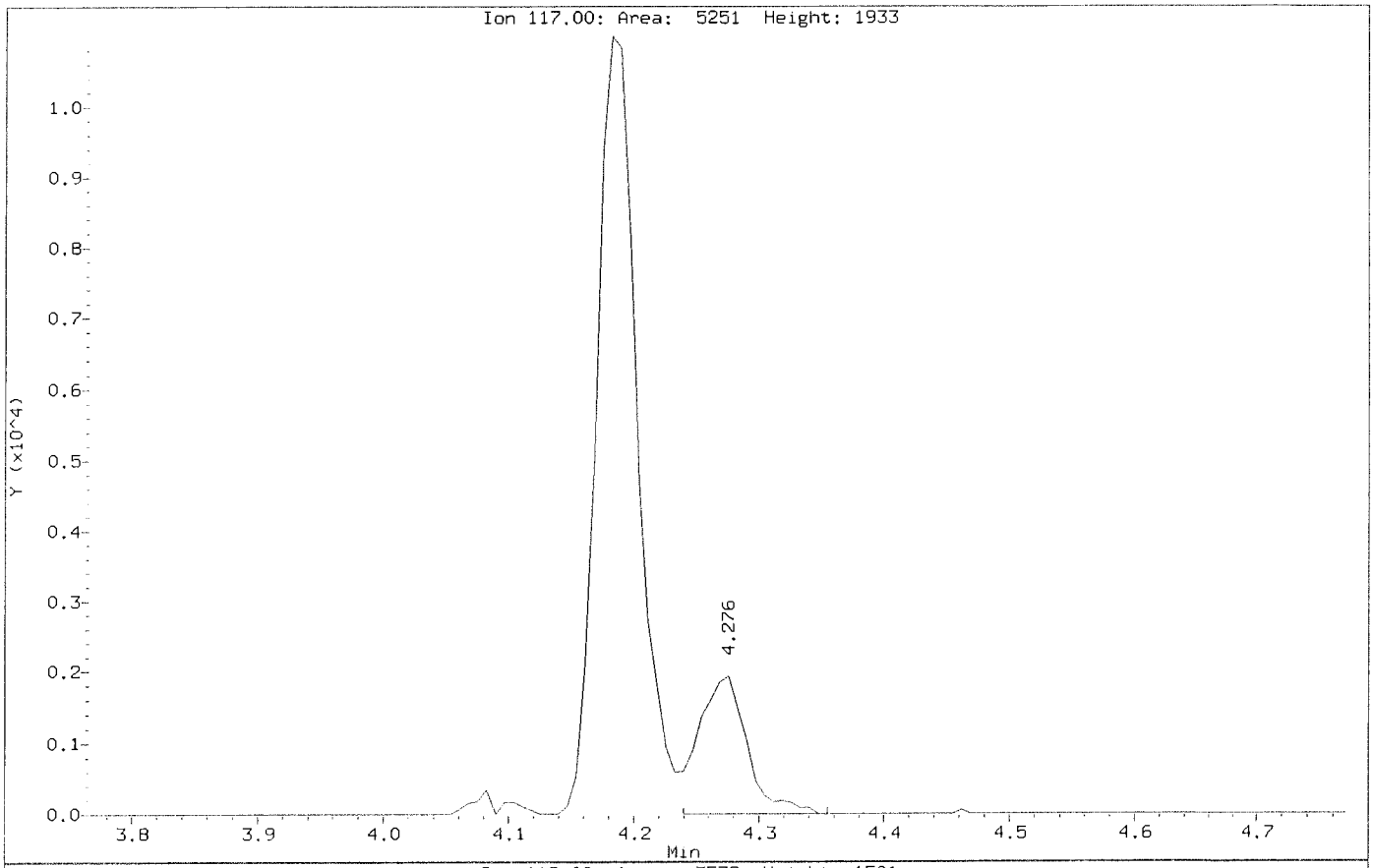
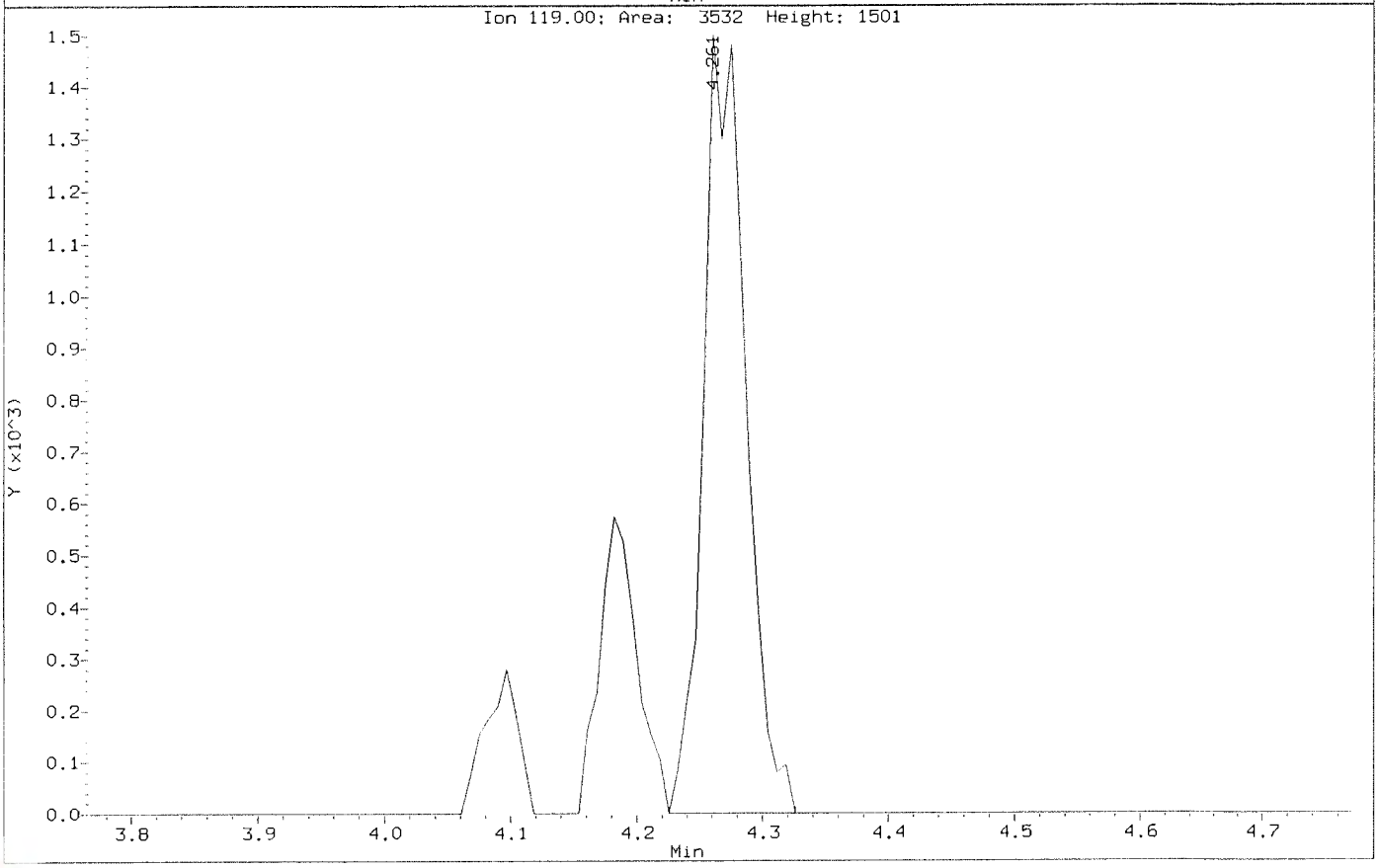
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Carbon Tetrachloride
CAS Number: 56-23-5





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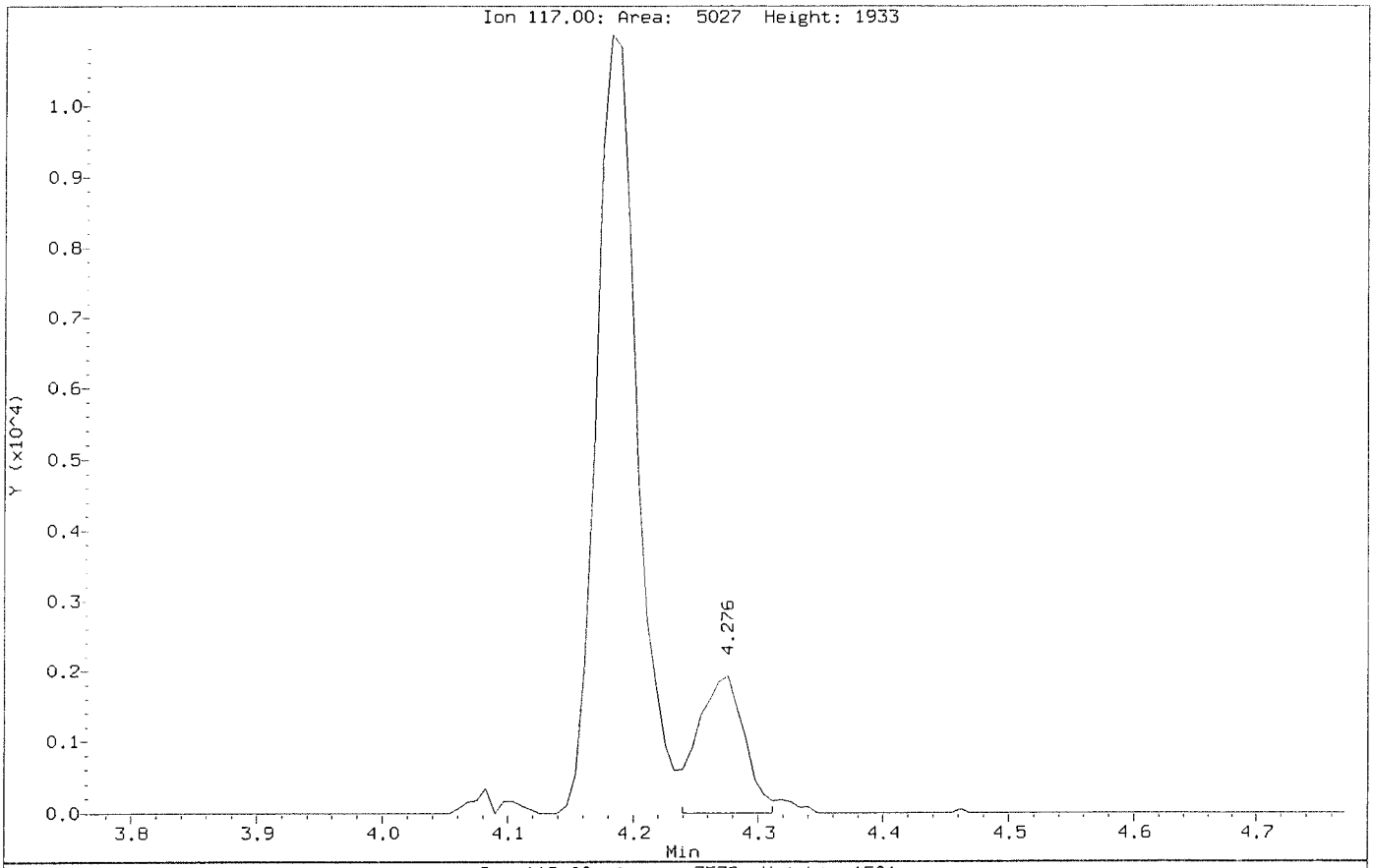
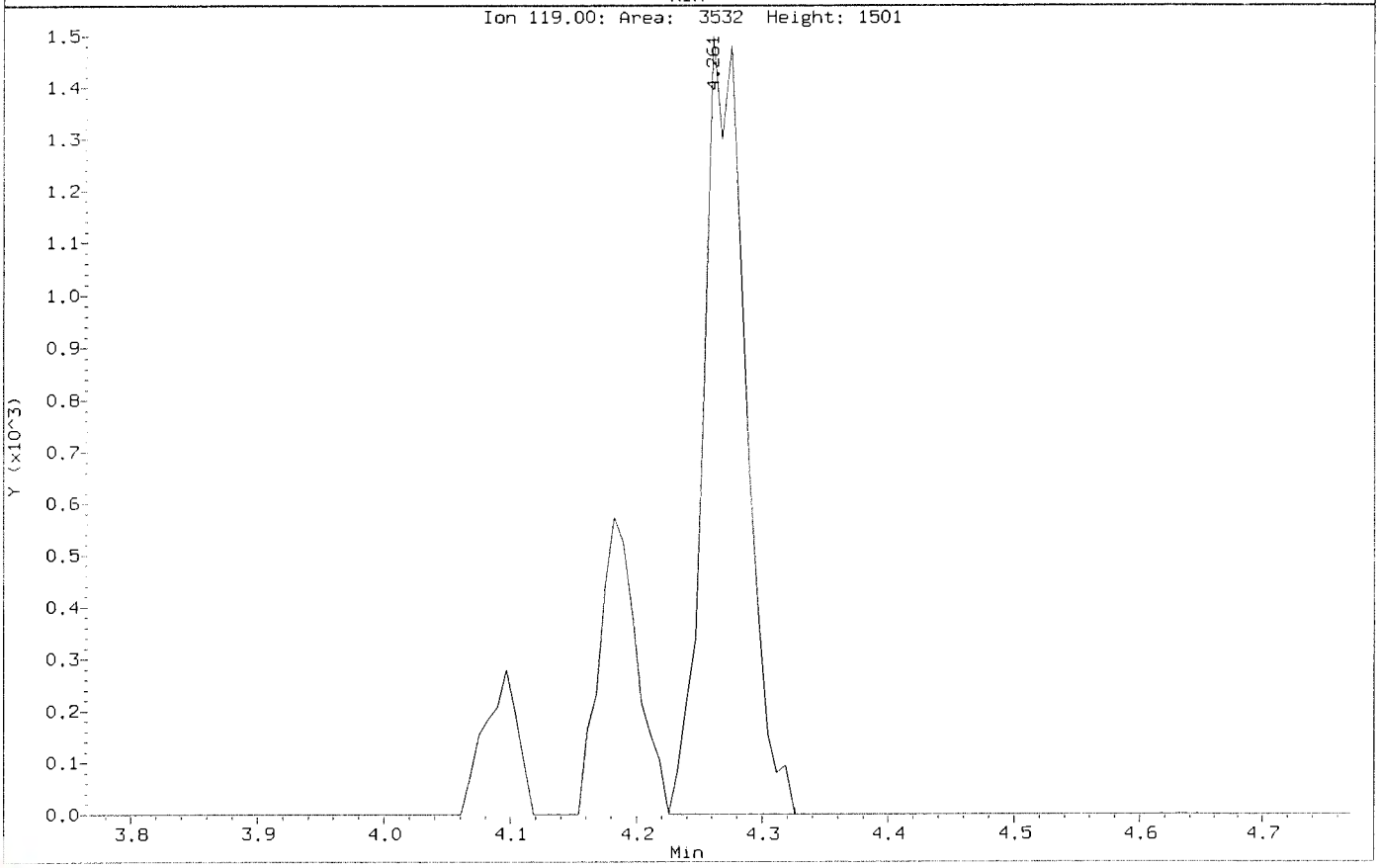
Compound: Carbon Tetrachloride
CAS Number: 56-23-5





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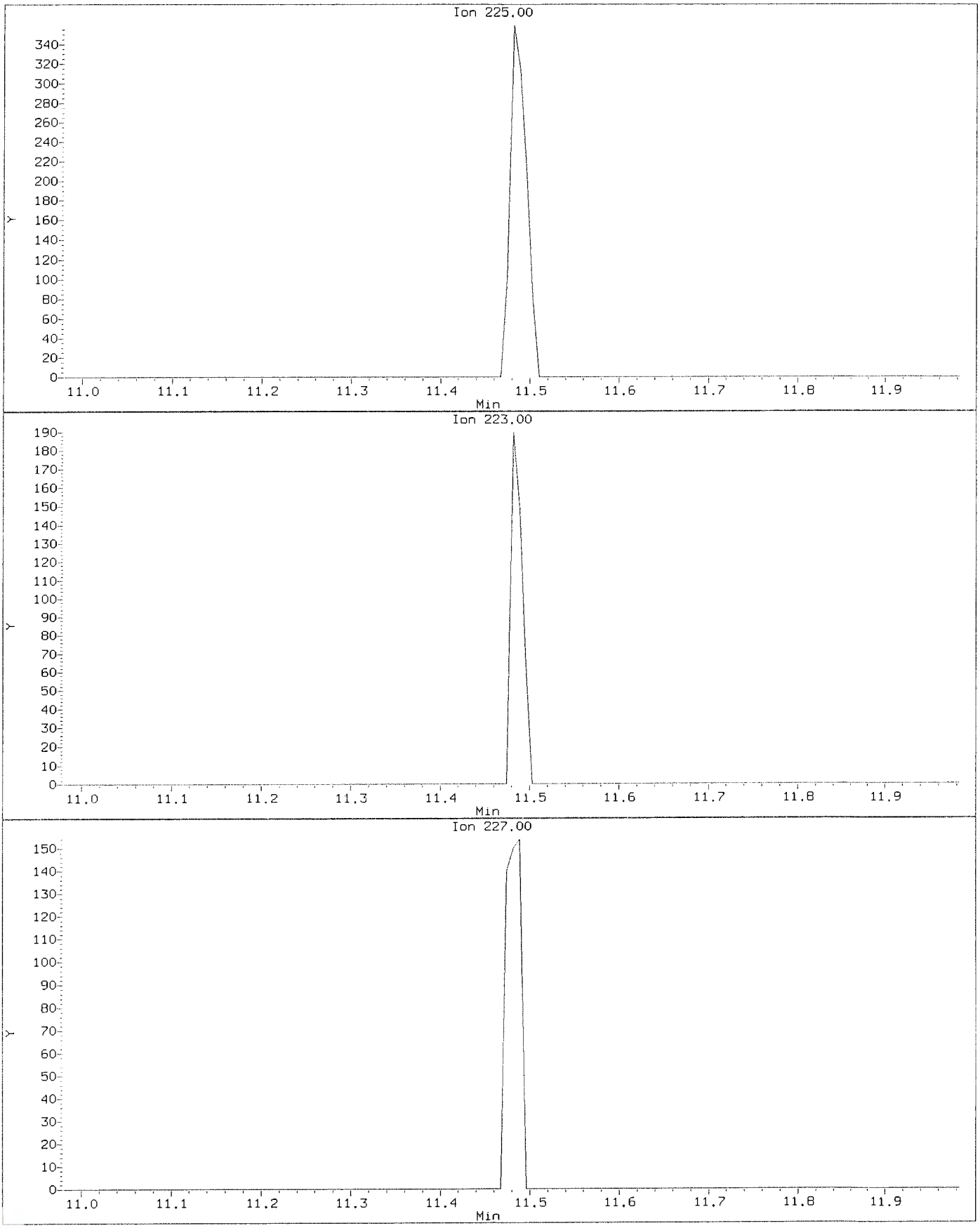
Injection Date: 02-JUN-2020 12:10
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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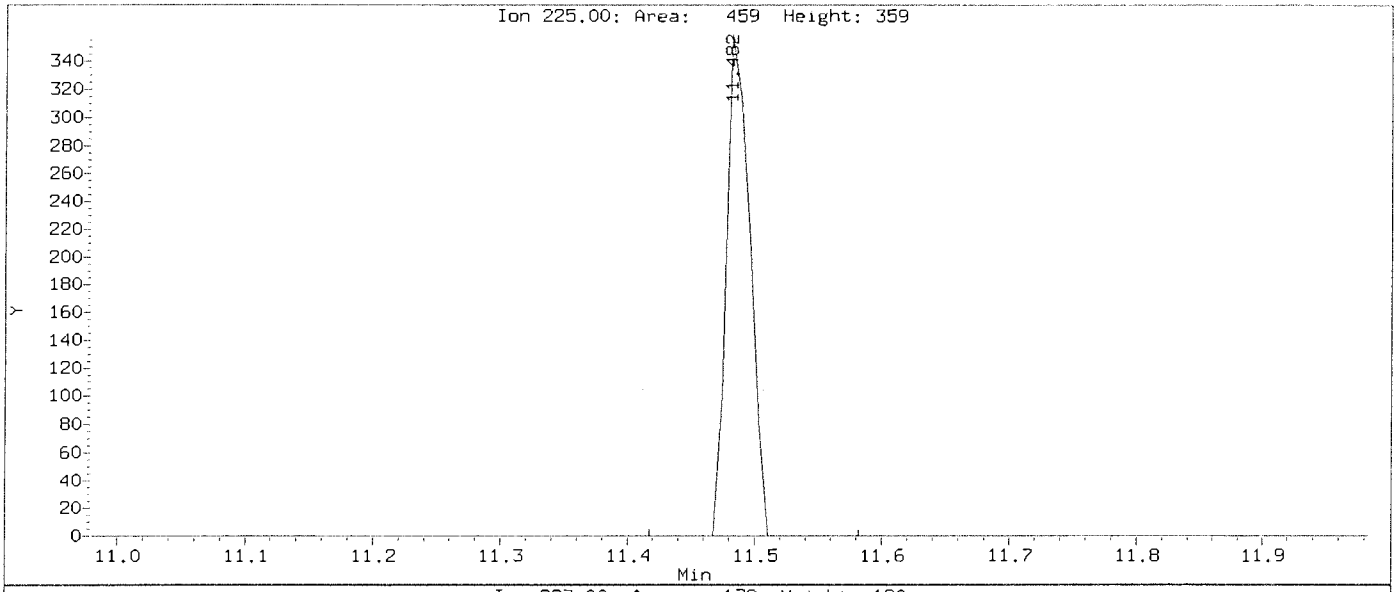
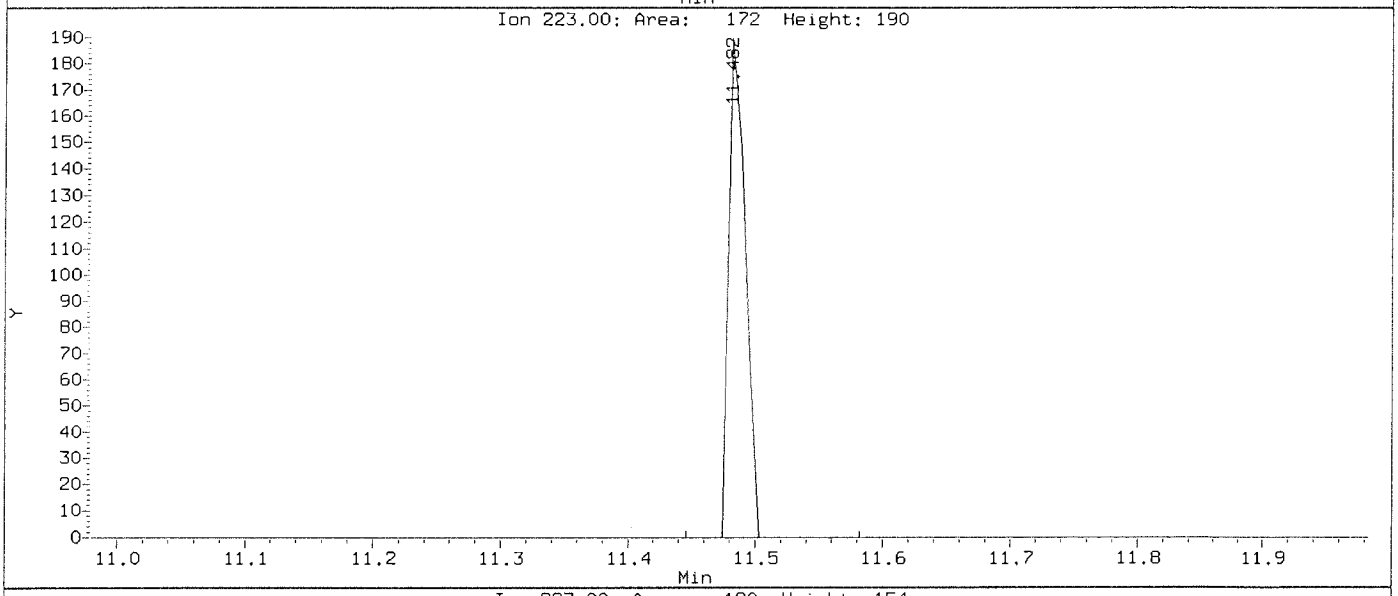
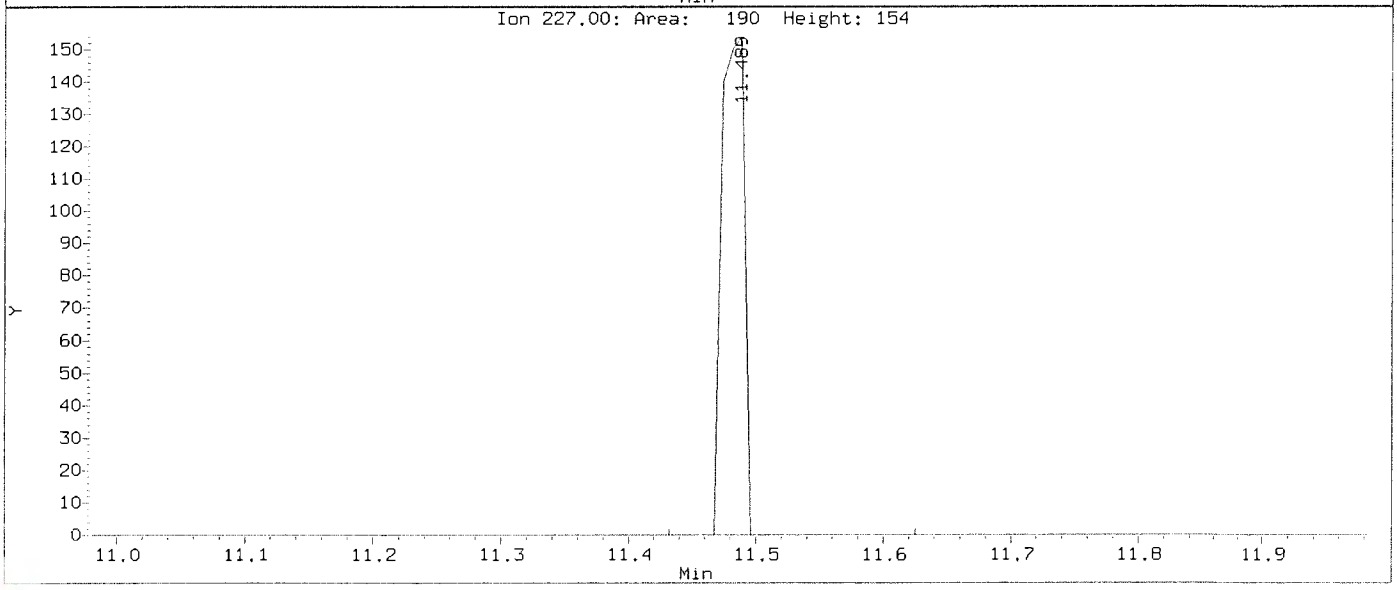
Injection Date: 02-JUN-2020 12:10
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Hexachlorobutadiene
CAS Number: 87-68-3







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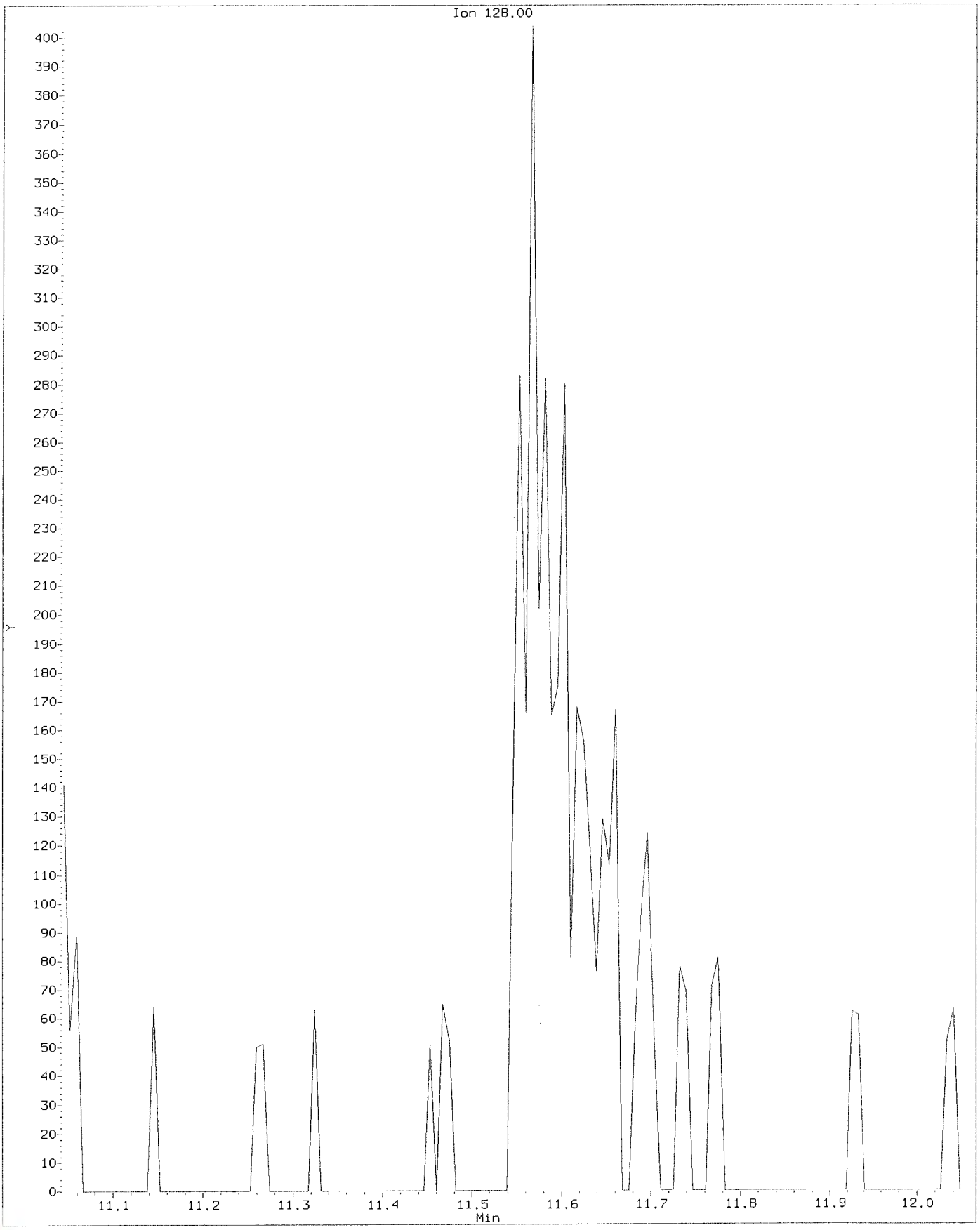
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Naphthalene
CAS Number: 91-20-3



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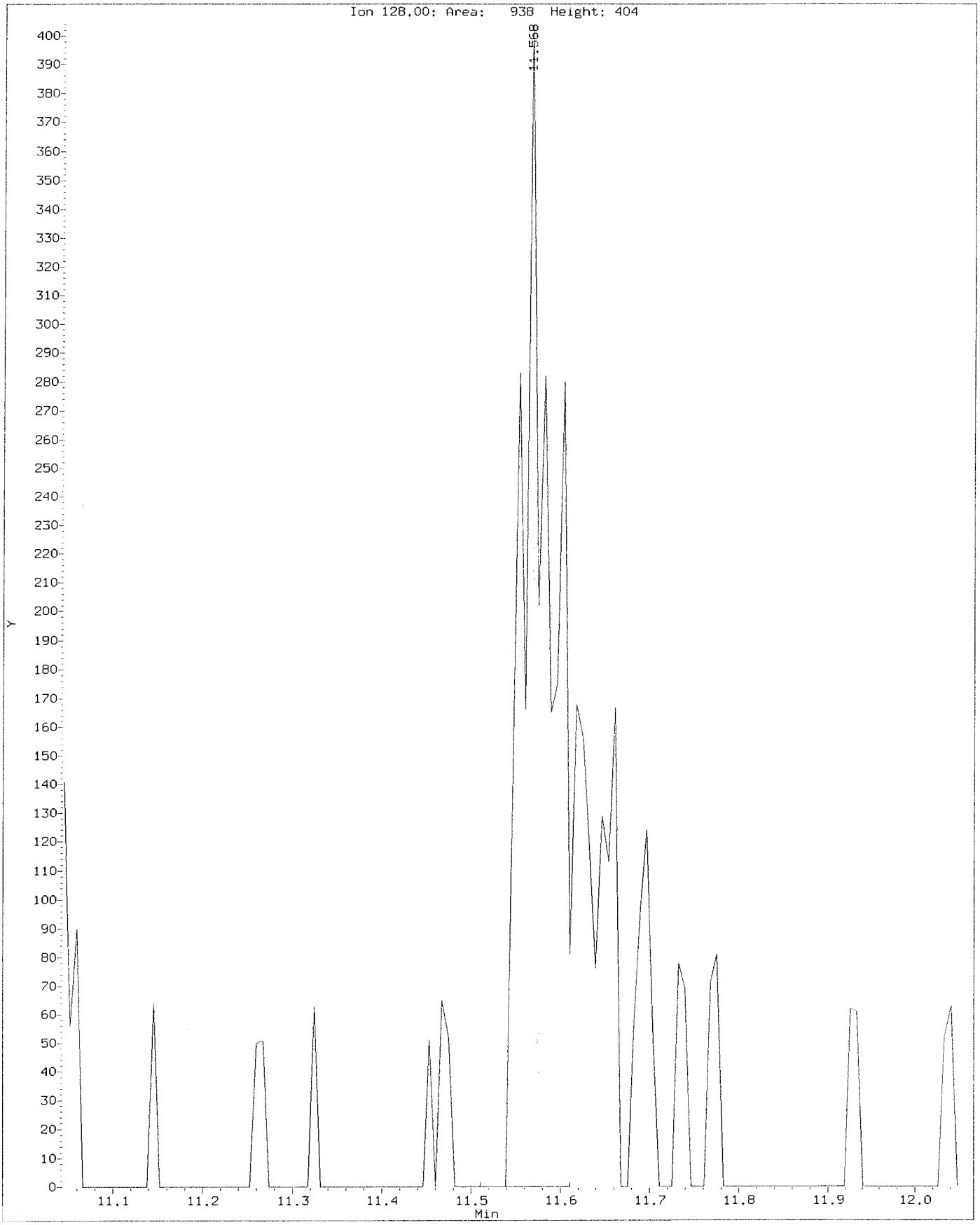
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Naphthalene
CAS Number: 91-20-3



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060205.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 02-JUN-2020 12:34
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 12:34 Cal File: X060205.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	(1.000)	255939	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	472385	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	427060	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	182039	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.103	(0.981)	6437	2.00000	1.45(a)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	9006	2.00000	1.07(a)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	21953	2.00000	1.96(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	9213	2.00000	1.47(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	5958	2.00000	1.94(a)
31 1,1,1-Trichloroethane	97	4.096	4.089	(0.978)	9976	2.00000	2.02(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	7476	2.00000	2.05(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	5413	2.00000	1.99(a)
22 1,1-Dichloroethane	63	2.929	2.921	(0.699)	14782	2.00000	1.86(a)
11 1,1-Dichloroethene	96	1.919	1.911	(0.458)	5104	2.00000	1.94(a)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	8910	2.00000	1.99(a)
93 1,2,3-Trichlorobenzene	180	11.761	11.746	(1.216)	341	2.00000	2.58(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	7097	2.00000	2.11(aM)
90 1,2,4-Trichlorobenzene	180	11.352	11.338	(1.174)	683	2.00000	3.53(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	20840	2.00000	1.94(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.103)	216	2.00000	1.63(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	6490	2.00000	1.98(a)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	9425	2.00000	1.94(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	11711	2.00000	1.86(a)

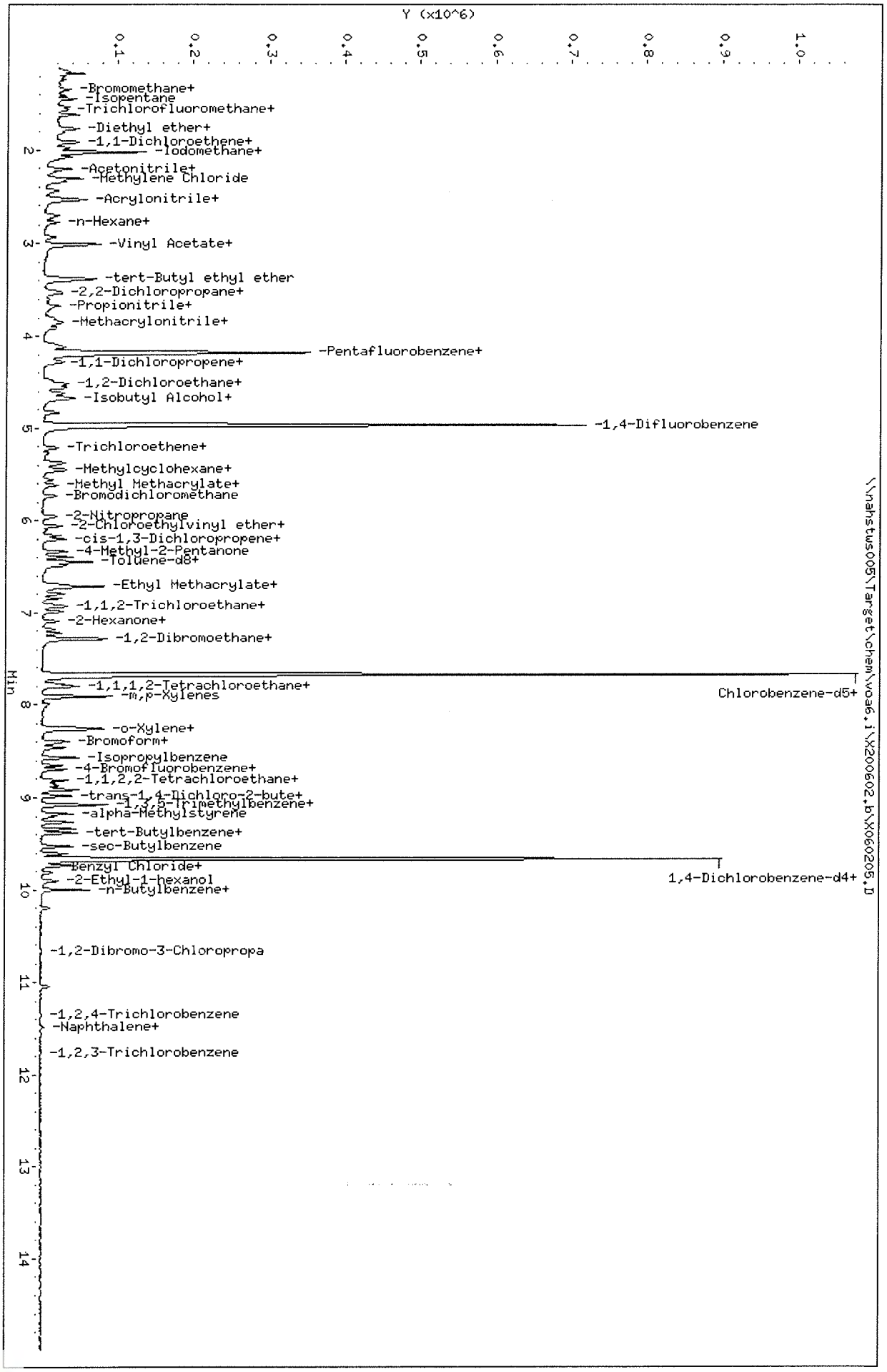
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	8432	2.00000	1.89(aM)
75	1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	20504	2.00000	1.93(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	11231	2.00000	1.97(a)
54	1,3-Dichloropropane	76	6.990	6.983	(0.911)	10934	2.00000	1.90(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	11049	2.00000	1.91(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	10205	2.00000	1.98(a)
24	2-Butanone	43	3.595	3.580	(0.858)	9740	4.00000	3.45(a)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	19414	2.00000	1.99(a)
52	2-Hexanone	43	7.098	7.090	(0.925)	15879	4.00000	3.69(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	21639	2.00000	1.92(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	17967	2.00000	1.85(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	24346	4.00000	3.82(a)
10	Acetone	43	1.976	1.976	(0.472)	17803	4.00000	1.32(aM)
37	Benzene	78	4.519	4.519	(0.909)	26523	2.00000	1.96(a)
74	Bromobenzene	156	8.810	8.809	(0.911)	7173	2.00000	2.01(a)
29	Bromochloromethane	128	3.810	3.803	(0.909)	3198	2.00000	1.77(a)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	9697	2.00000	1.98(a)
66	Bromoform	173	8.416	8.416	(1.097)	4038	2.00000	1.89(Ta)
6	Bromomethane	94	1.338	1.331	(0.320)	5832	2.00000	1.52(a)
19	Carbon Disulfide	76	2.069	2.069	(0.494)	31675	4.00000	3.75(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	6903	2.00000	1.61(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	15959	2.00000	1.89(a)
7	Chloroethane	64	1.403	1.396	(0.335)	5341	2.00000	1.95(a)
28	Chloroform	83	3.917	3.910	(0.935)	12483	2.00000	1.98(a)
3	Chloromethane	50	1.081	1.081	(0.258)	12594	2.00000	2.00(a)
27	cis-1,2-Dichloroethene	96	3.538	3.530	(0.844)	7294	2.00000	2.00(a)
46	cis-1,3-Dichloropropene	75	6.166	6.159	(1.241)	11157	2.00000	1.93(a)
55	Dibromochloromethane	129	7.184	7.183	(0.937)	6717	2.00000	1.97(a)
44	Dibromomethane	93	5.558	5.557	(1.118)	4518	2.00000	1.88(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	5549	2.00000	1.82(a)
61	Ethylbenzene	106	7.800	7.807	(1.017)	8628	2.00000	1.99(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	812	2.00000	4.14(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	25487	2.00000	1.98(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	20232	4.00000	3.87(a)
17	Methylene Chloride	84	2.305	2.305	(0.550)	8194	2.00000	1.32(a)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	14872	2.00000	1.72(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	29364	2.00000	1.92(a)
92	Naphthalene	128	11.567	11.546	(1.196)	1568	2.00000	2.42(a)
63	o-Xylene	106	8.244	8.244	(1.075)	10079	2.00000	1.95(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	22450	2.00000	1.90(a)
64	Styrene	104	8.265	8.265	(1.078)	17415	2.00000	1.89(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	15597	2.00000	1.88(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	4502	2.00000	1.98(a)
50	Toluene	91	6.453	6.453	(0.841)	27277	2.00000	2.04(a)
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.605)	5720	2.00000	1.90(a)
51	trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	9985	2.00000	1.91(a)
38	Trichloroethene	130	5.214	5.206	(1.049)	6196	2.00000	1.93(a)
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	9034	2.00000	1.89(a)
5	Vinyl Chloride	62	1.145	1.138	(0.273)	10107	2.00000	1.87(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.



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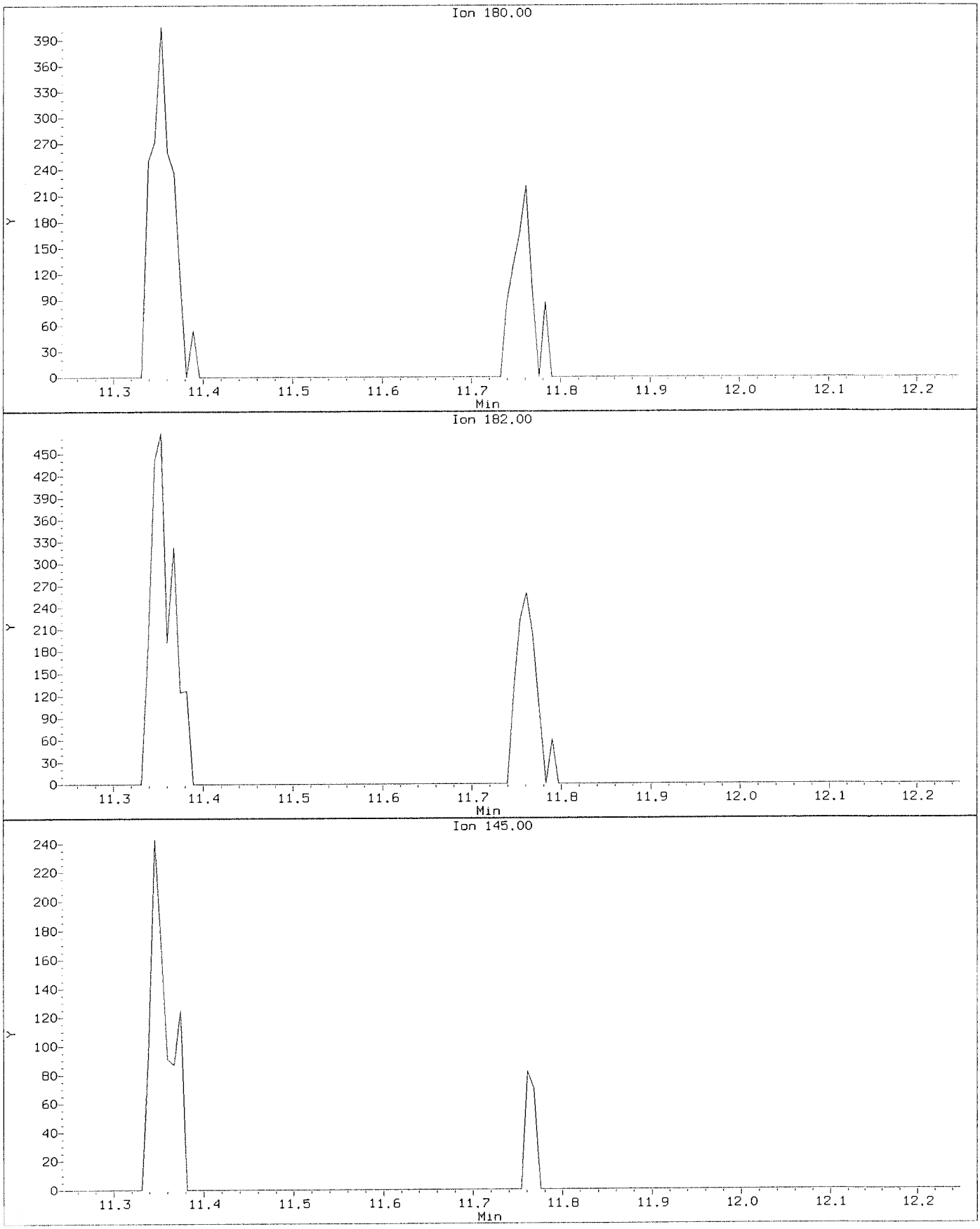
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060205.D
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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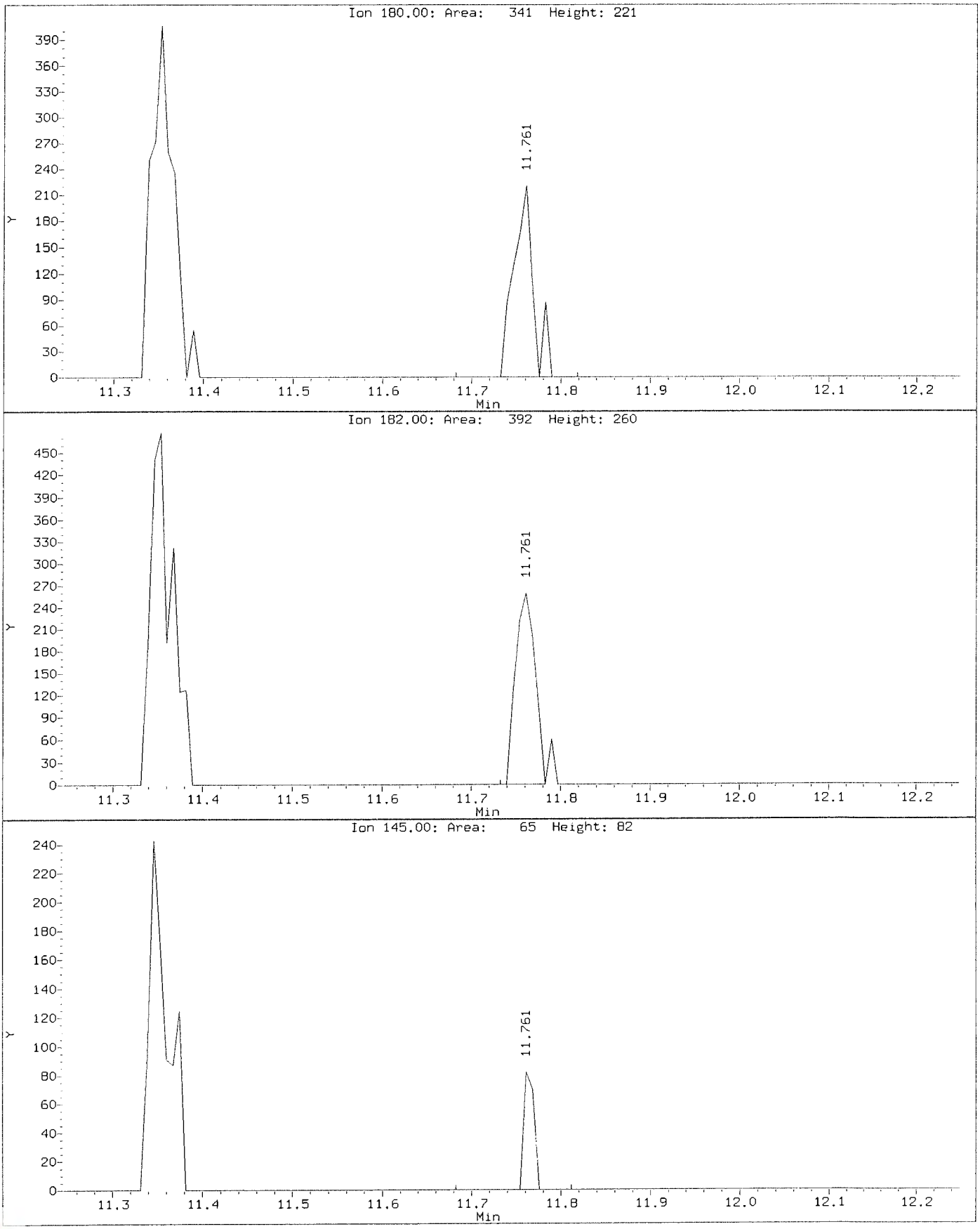
Client Sample ID: VSTD002

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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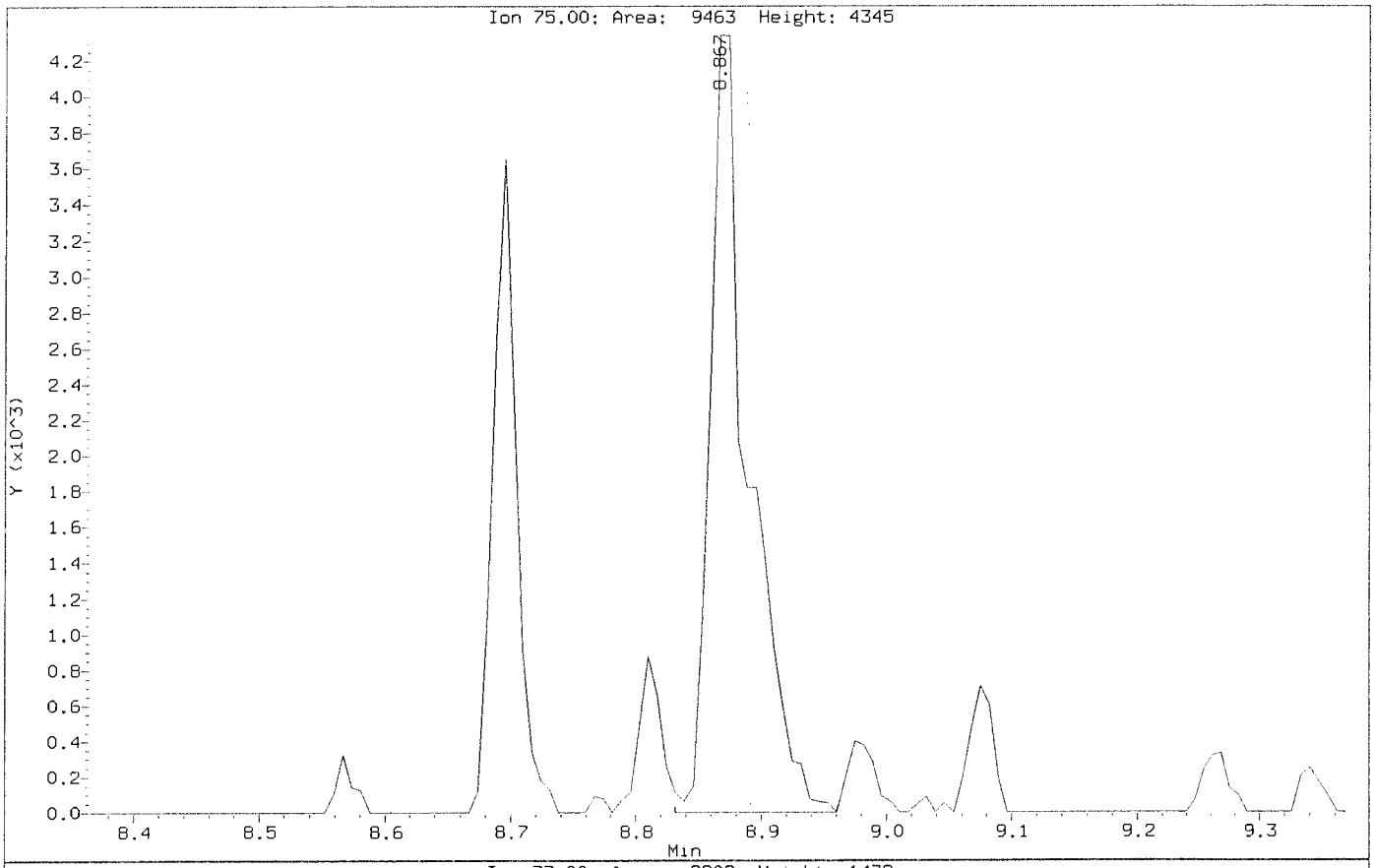
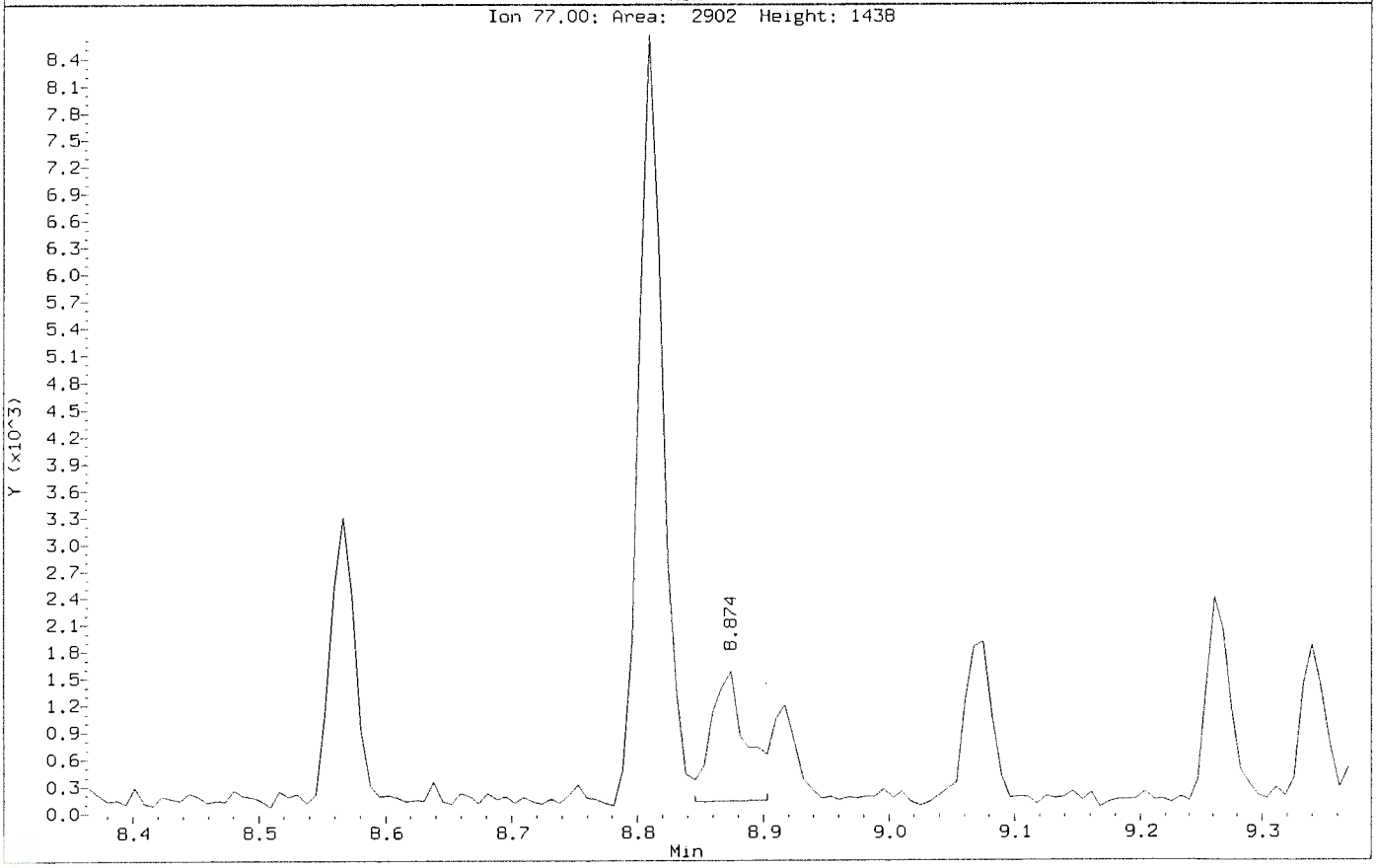
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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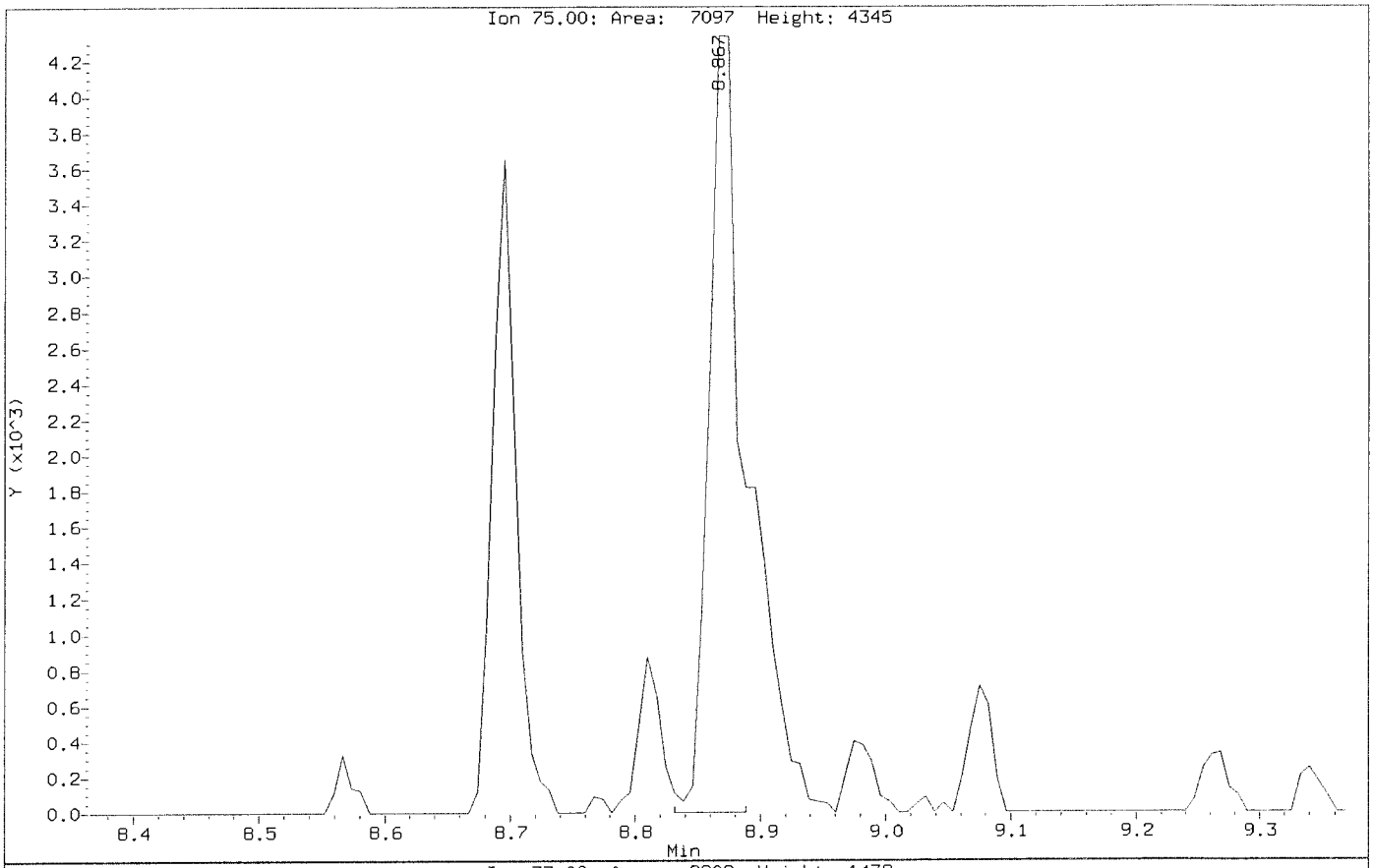
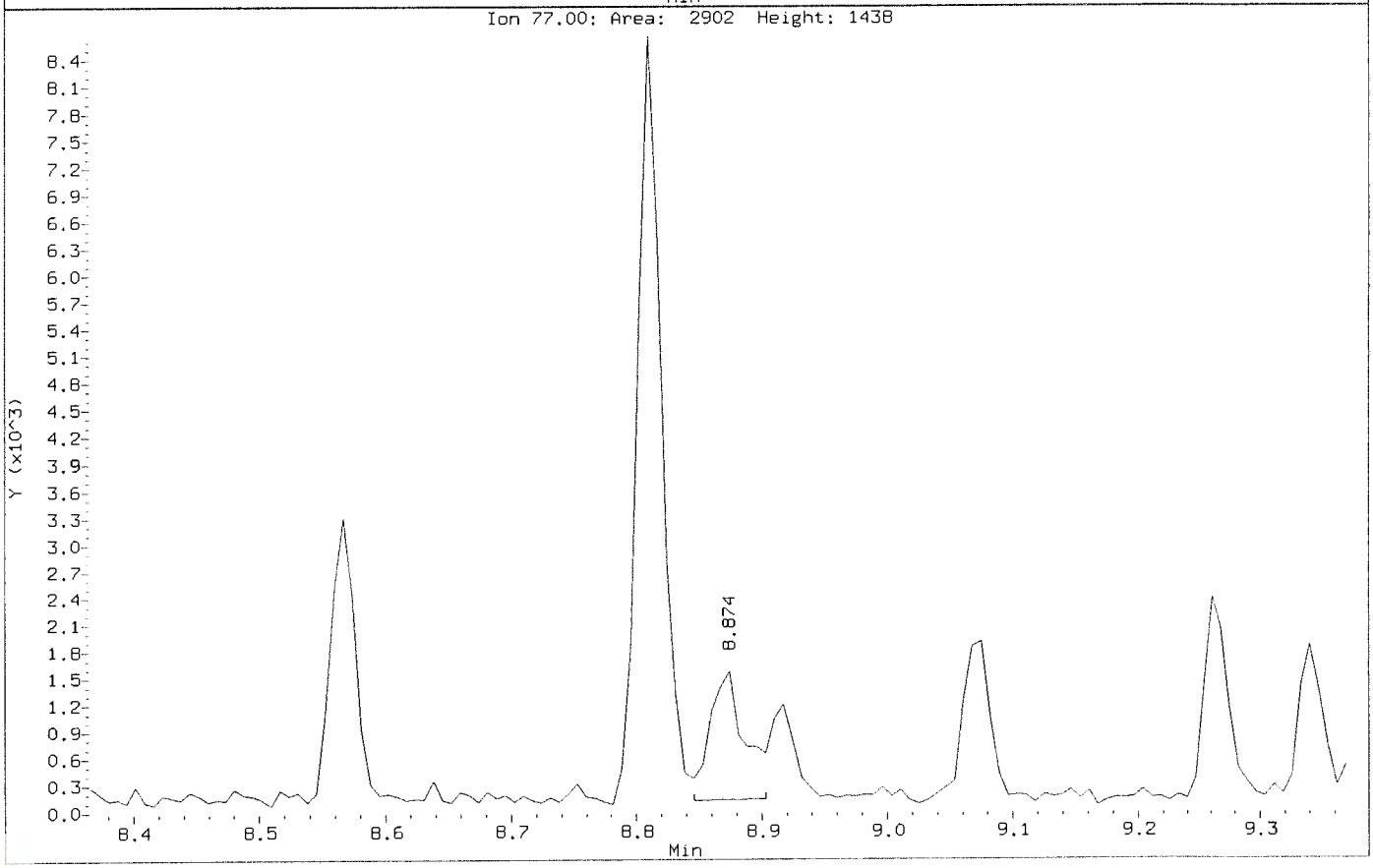
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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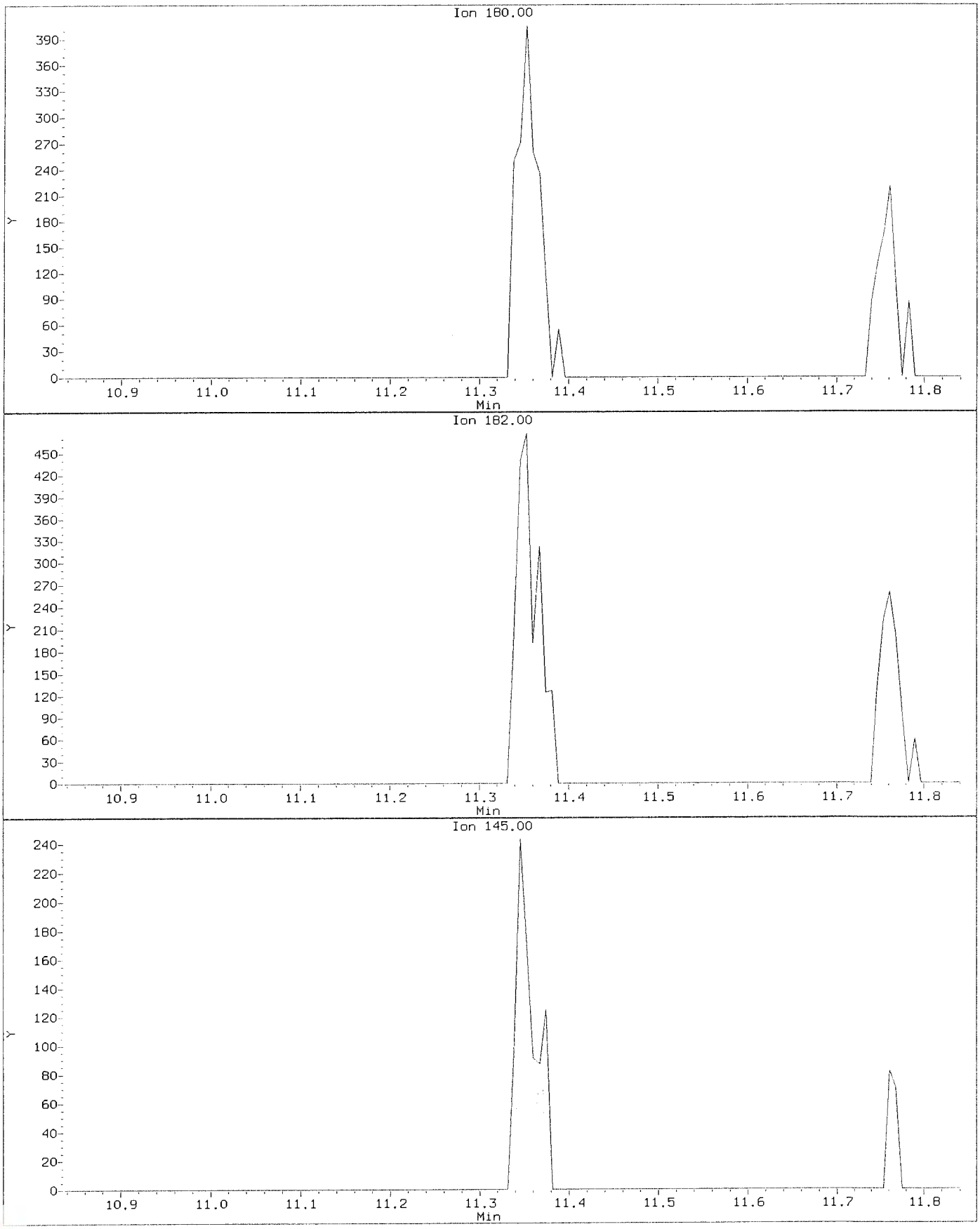
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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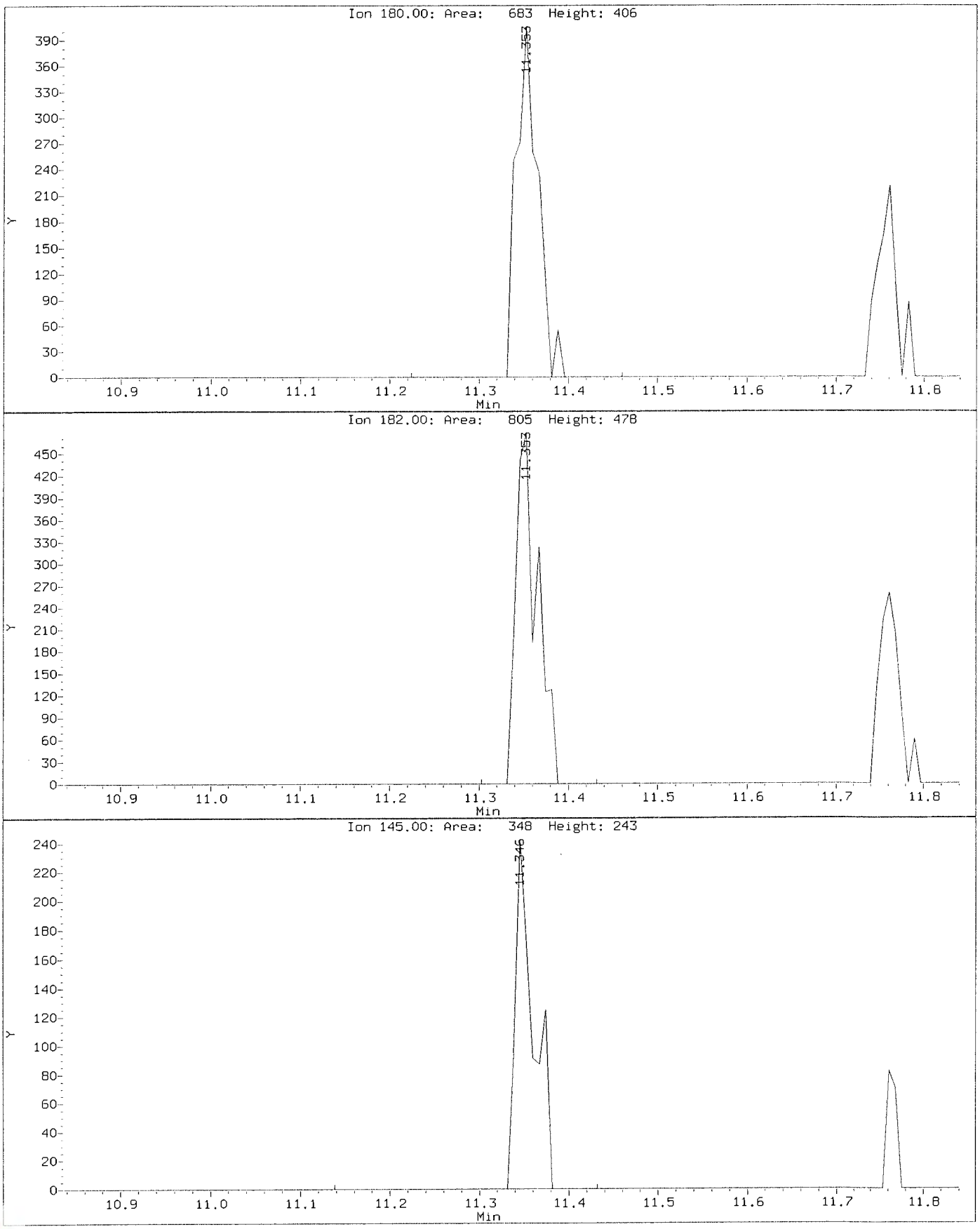
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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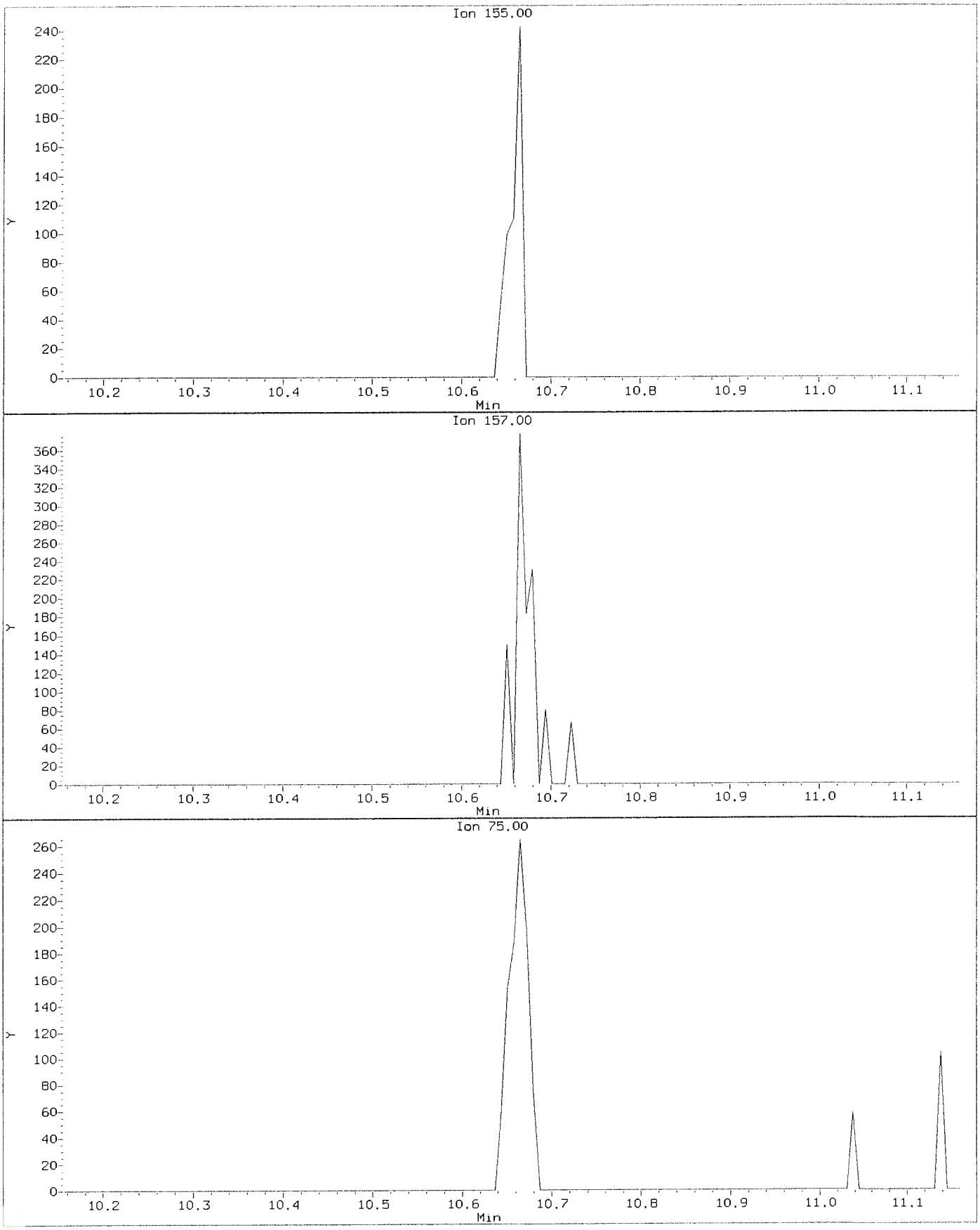
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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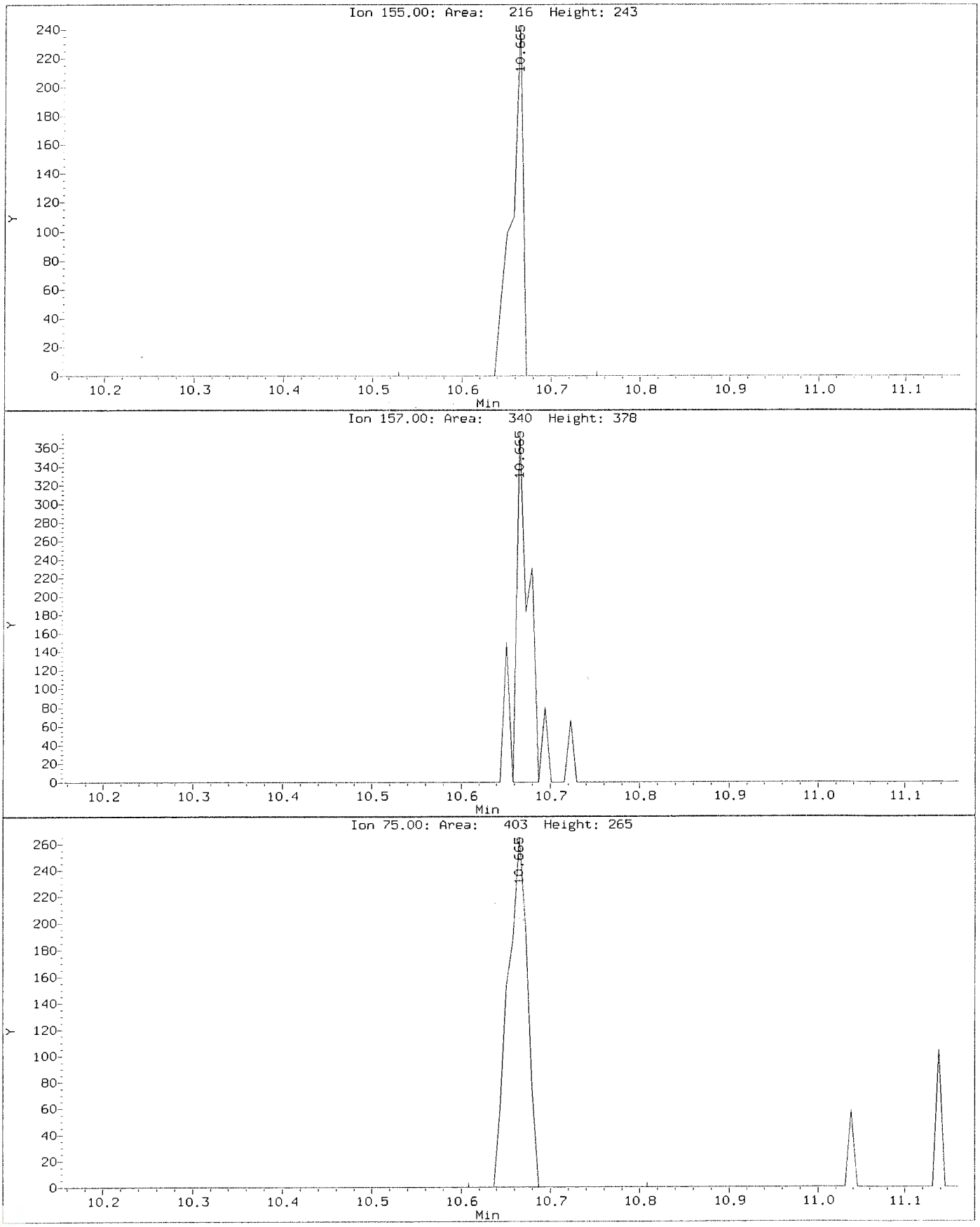
Client Sample ID: VSTD002

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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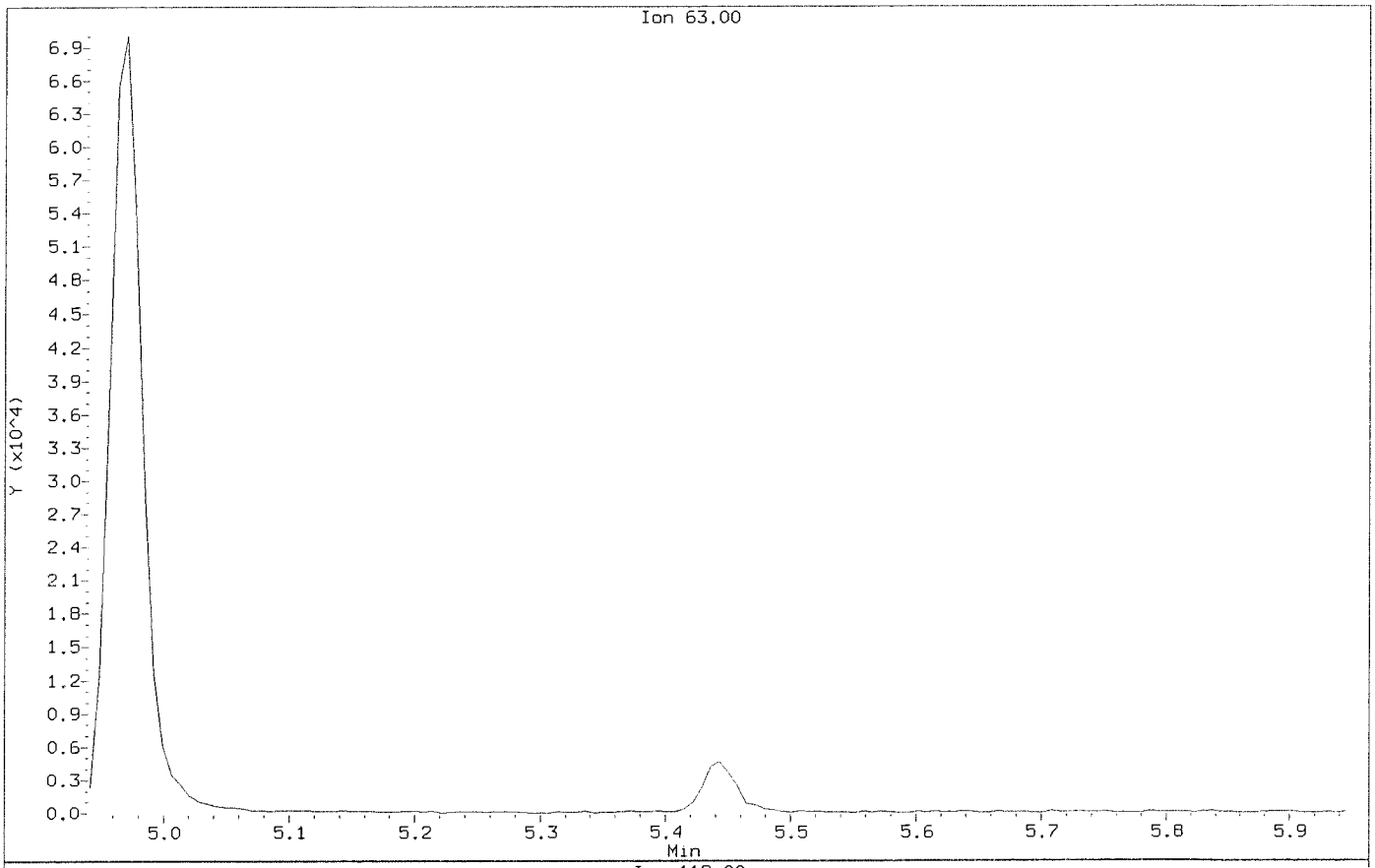
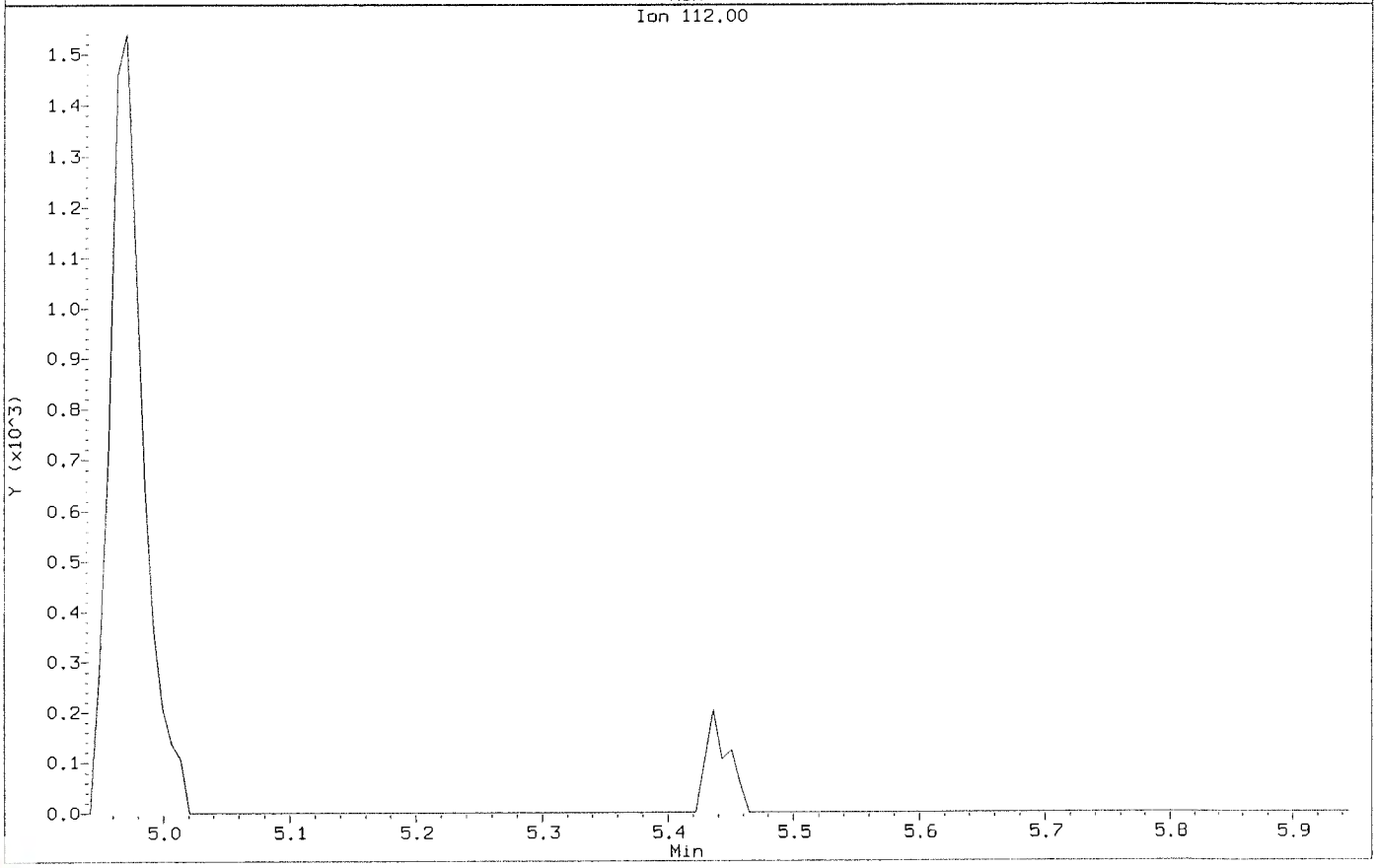
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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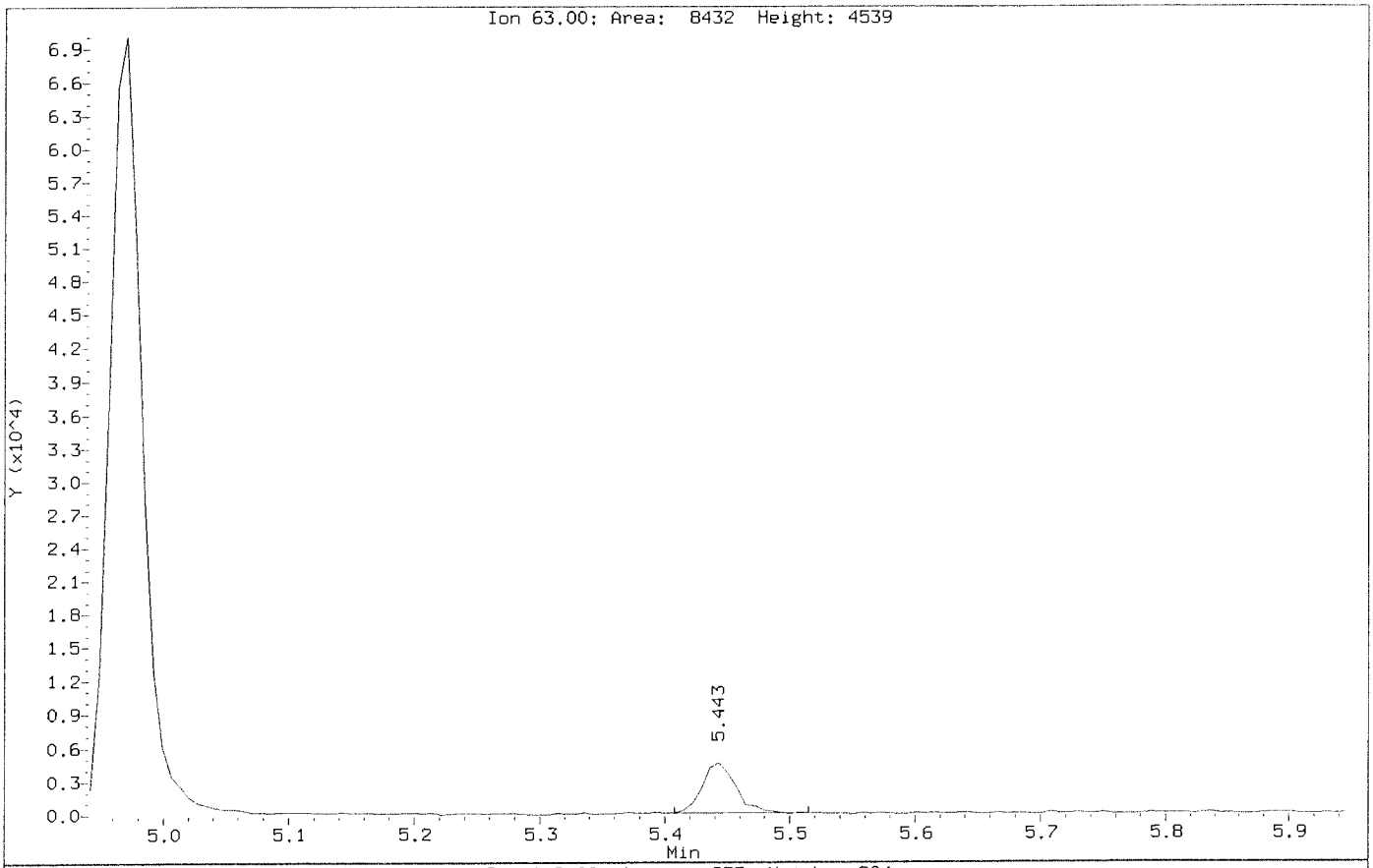
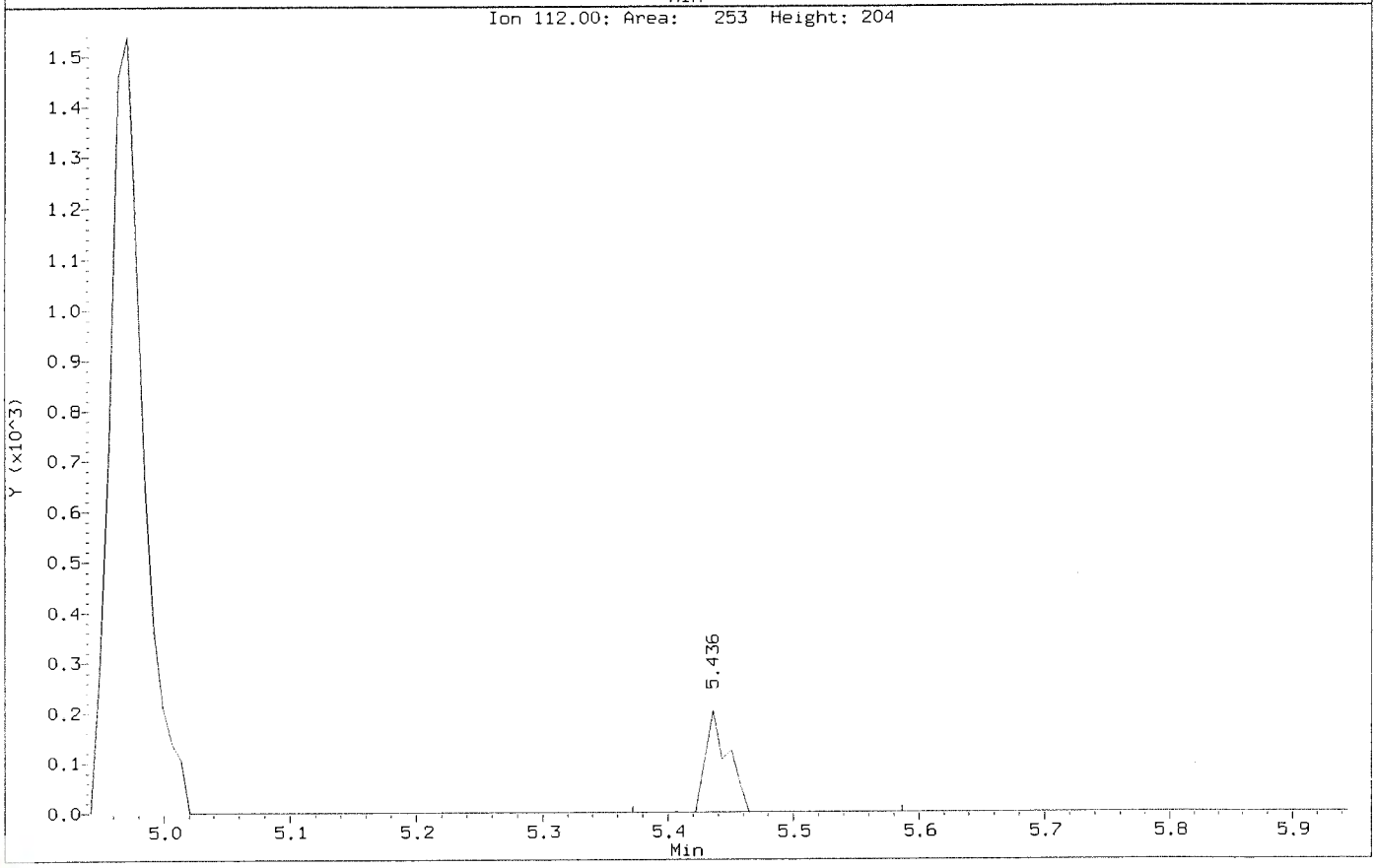
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1.2-Dichloropropane
CAS Number: 78-87-5





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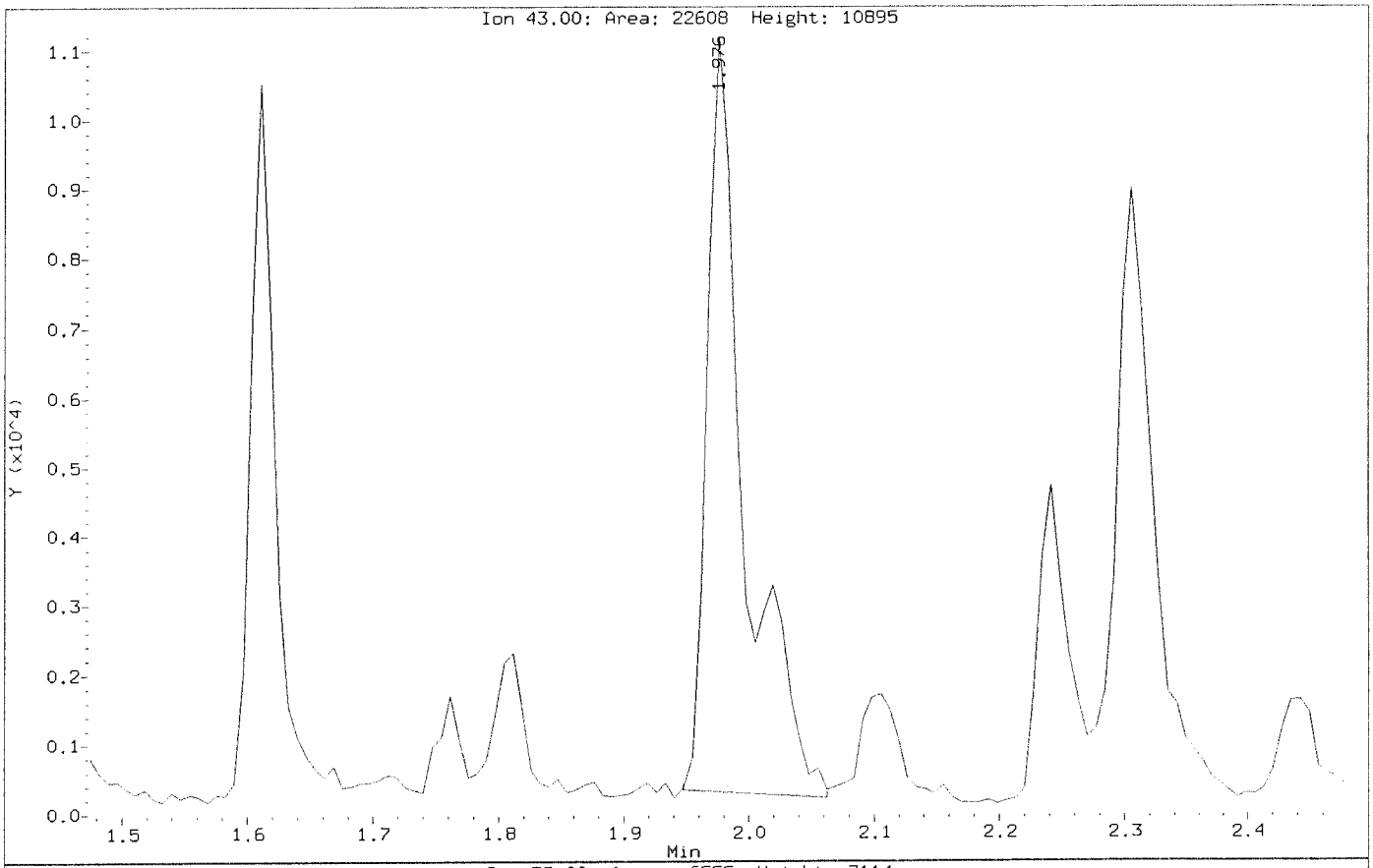
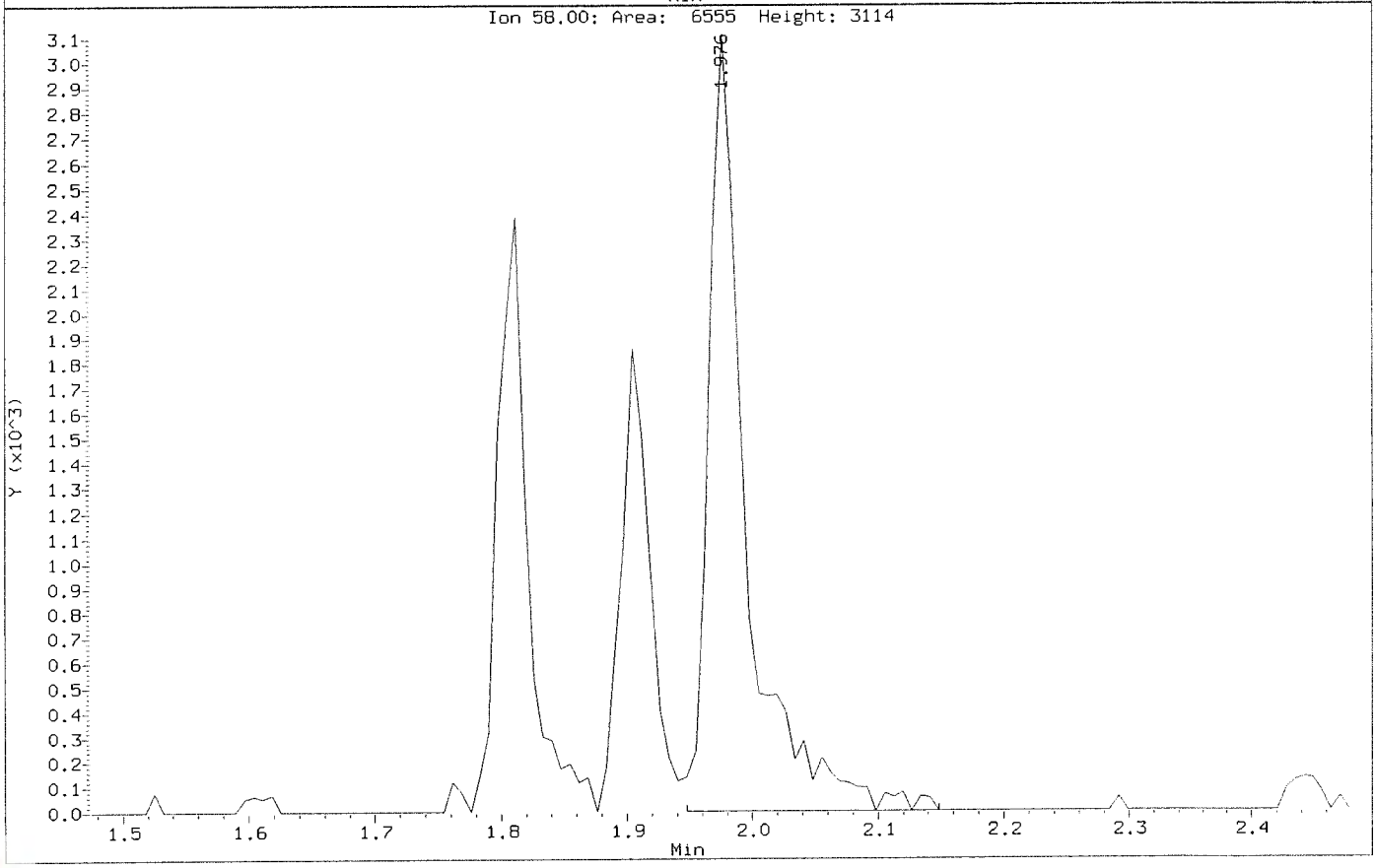
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

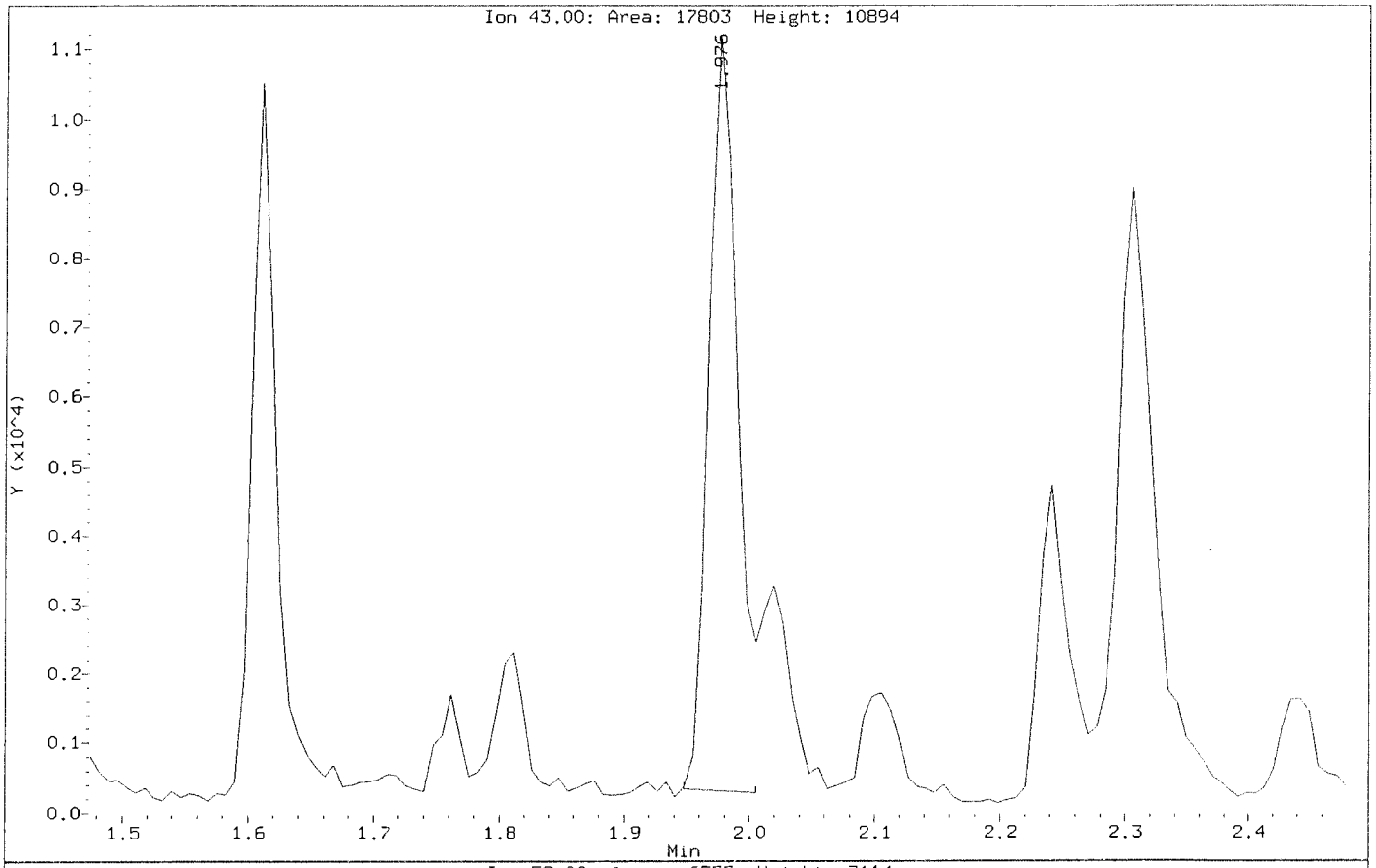
Compound: Acetone
CAS Number: 67-64-1

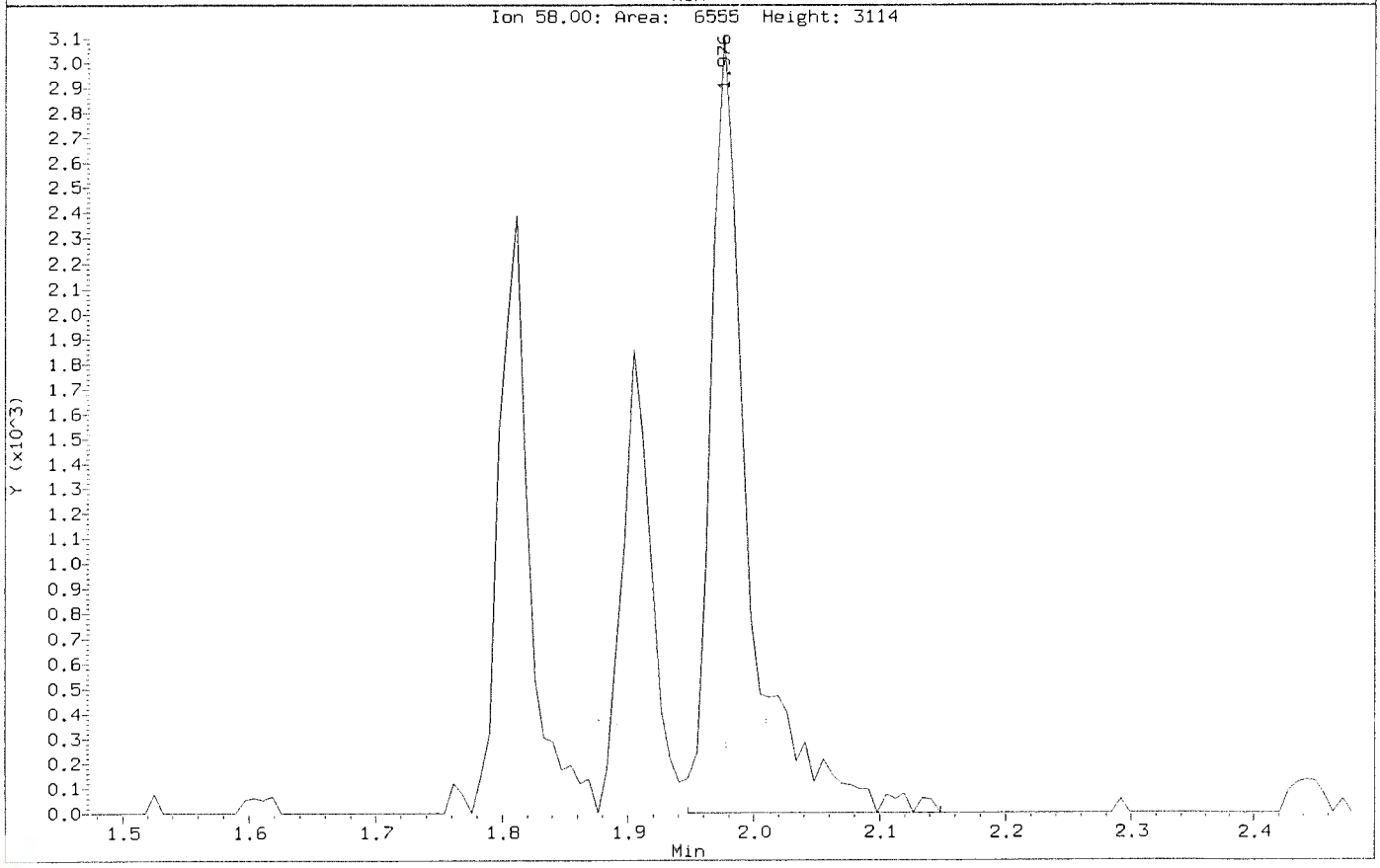




Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060205.D
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Acetone
CAS Number: 67-64-1





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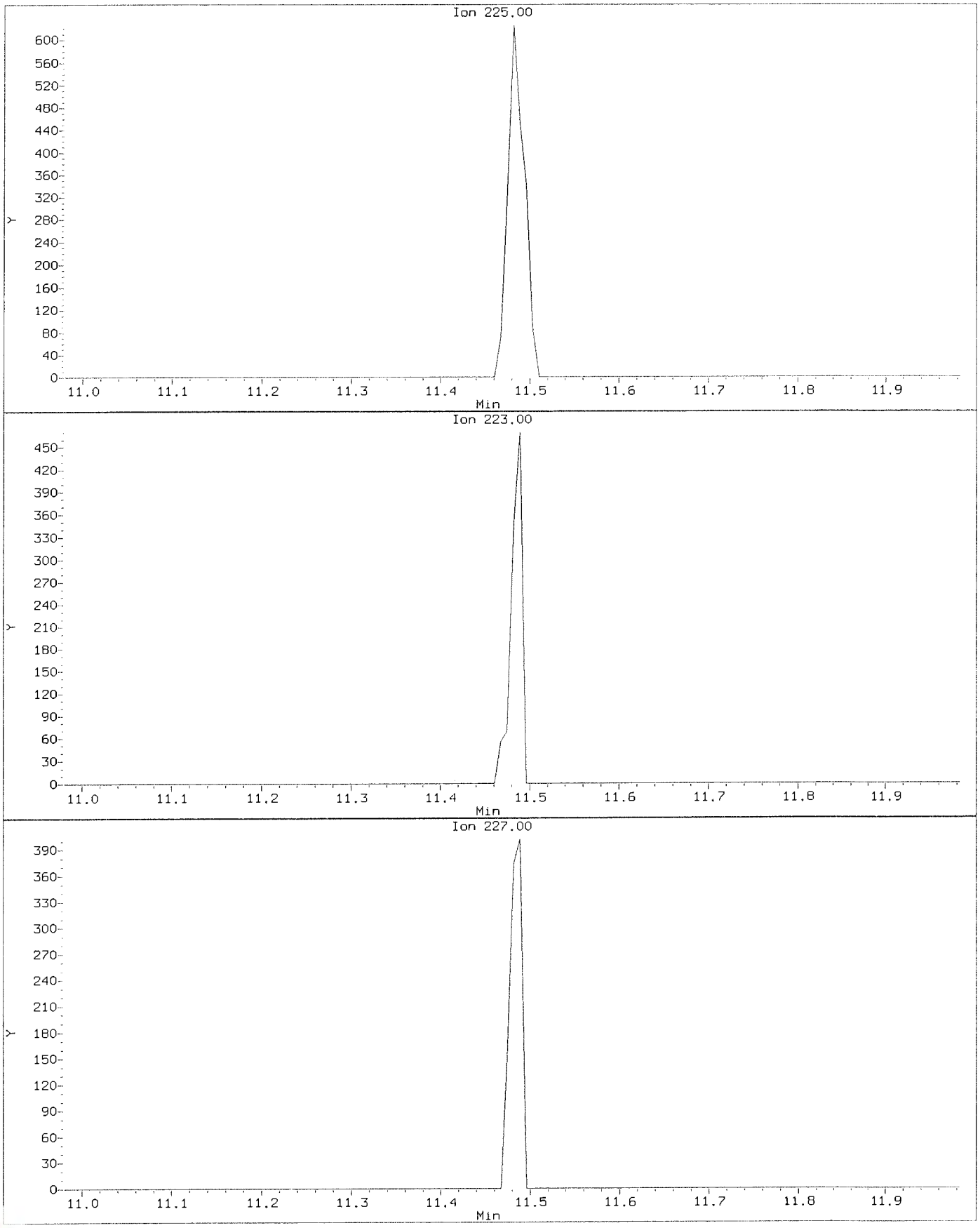
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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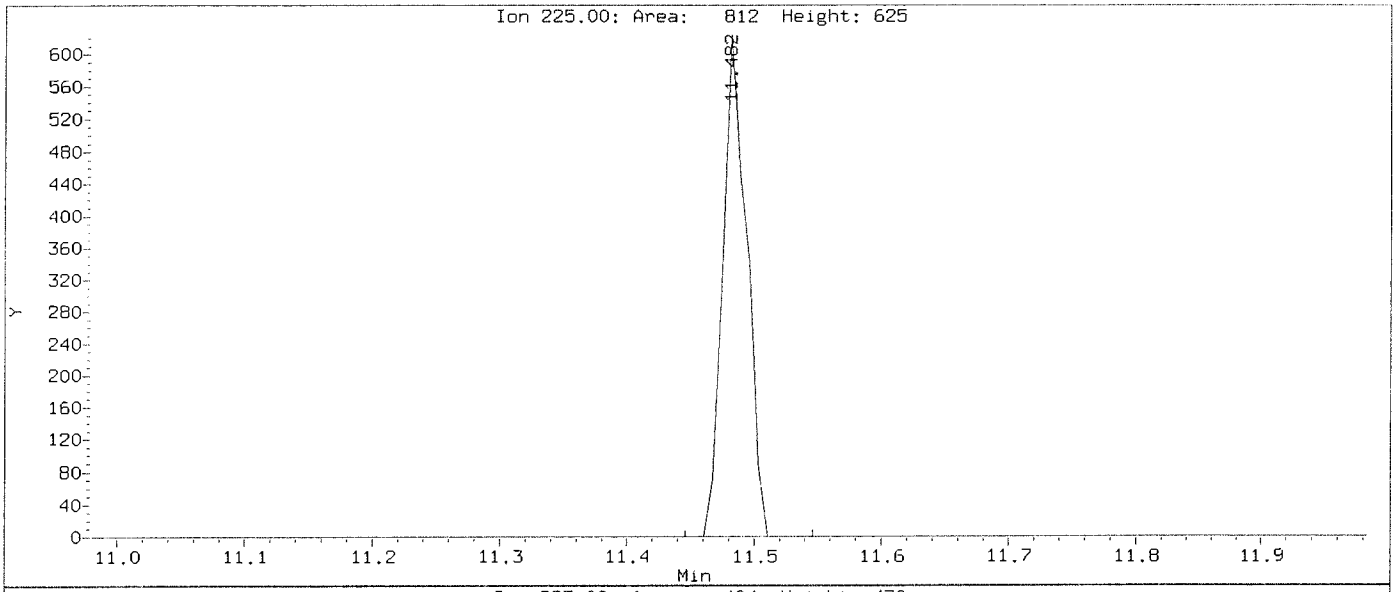
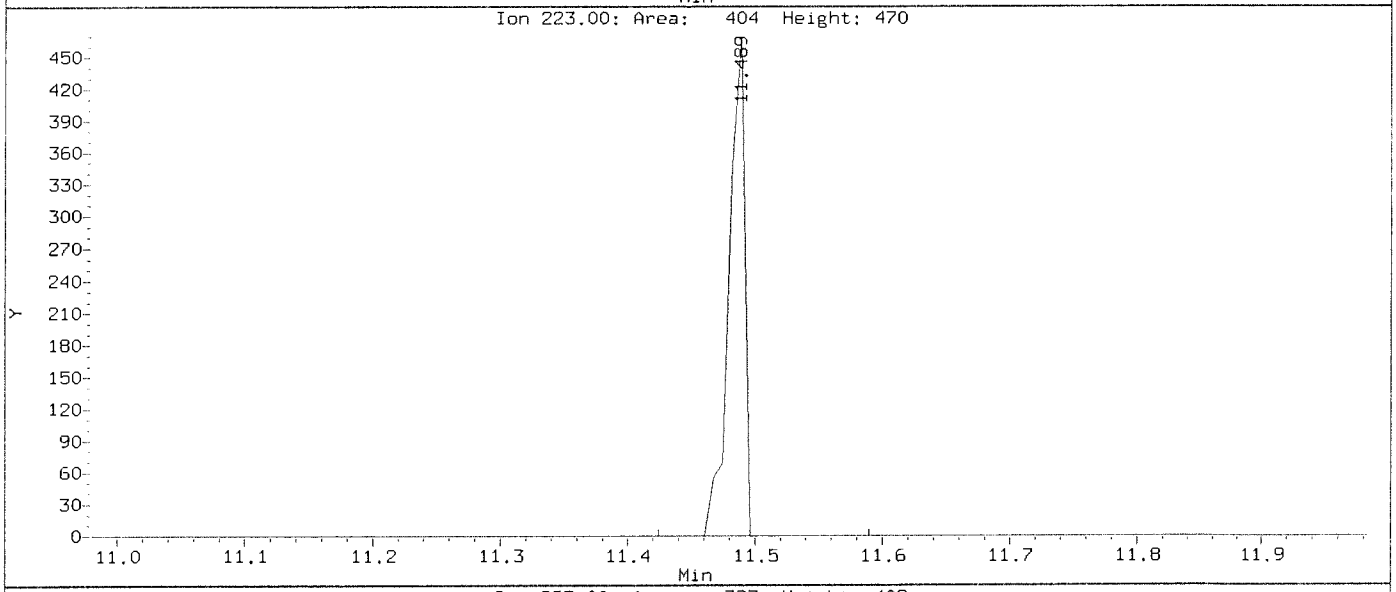
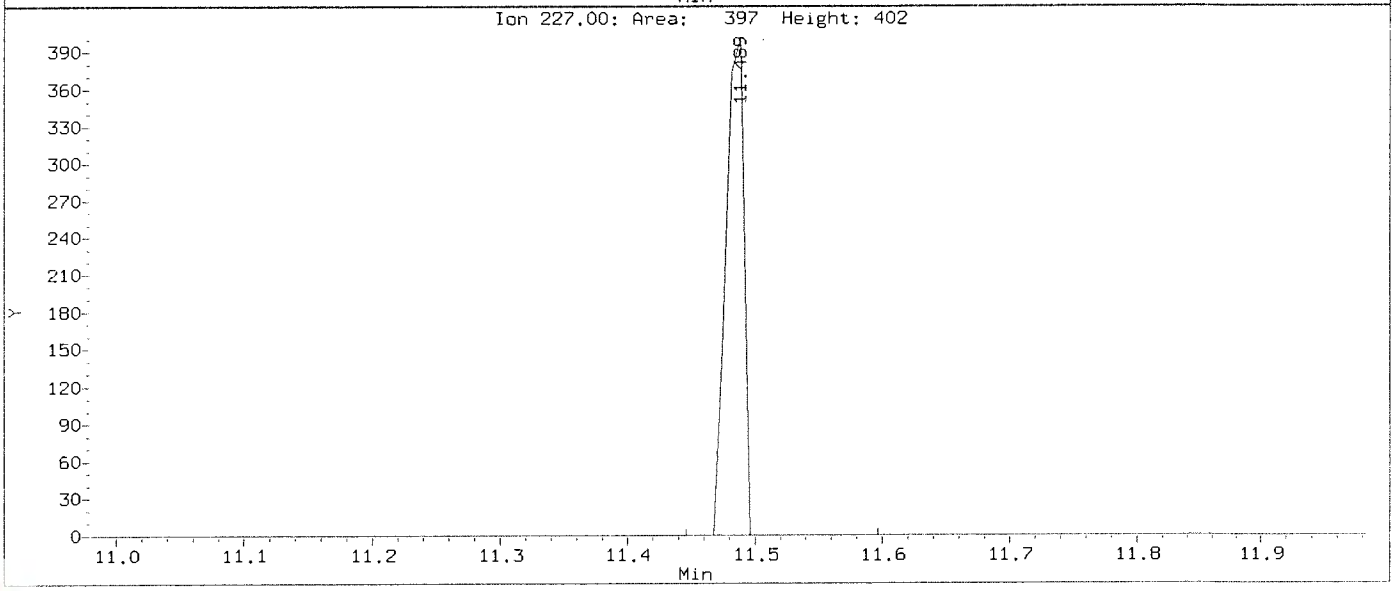
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Hexachlorobutadiene
CAS Number: 87-68-3







ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060206.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 02-JUN-2020 12:58
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 12:58 Cal File: X060206.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	4.182	(1.000)	243229	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	460290	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	418273	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	172551	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.103	(0.983)	17413	5.00000	5.28
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	24513	5.00000	4.77(a)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	56528	5.00000	5.15
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	21510	5.00000	4.53(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	14582	5.00000	4.85(a)
31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	23775	5.00000	5.07
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	17754	5.00000	5.14
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	13865	5.00000	5.20
22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	37002	5.00000	4.91(a)
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	11659	5.00000	4.67(a)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	20990	5.00000	4.83(a)
93 1,2,3-Trichlorobenzene	180	11.754	11.746	(1.216)	803	5.00000	4.83(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	17689	5.00000	5.56(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	1808	5.00000	5.78(M)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	47204	5.00000	4.65(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.103)	975	5.00000	5.64
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	15959	5.00000	4.97(a)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	21405	5.00000	4.65(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	31129	5.00000	5.08

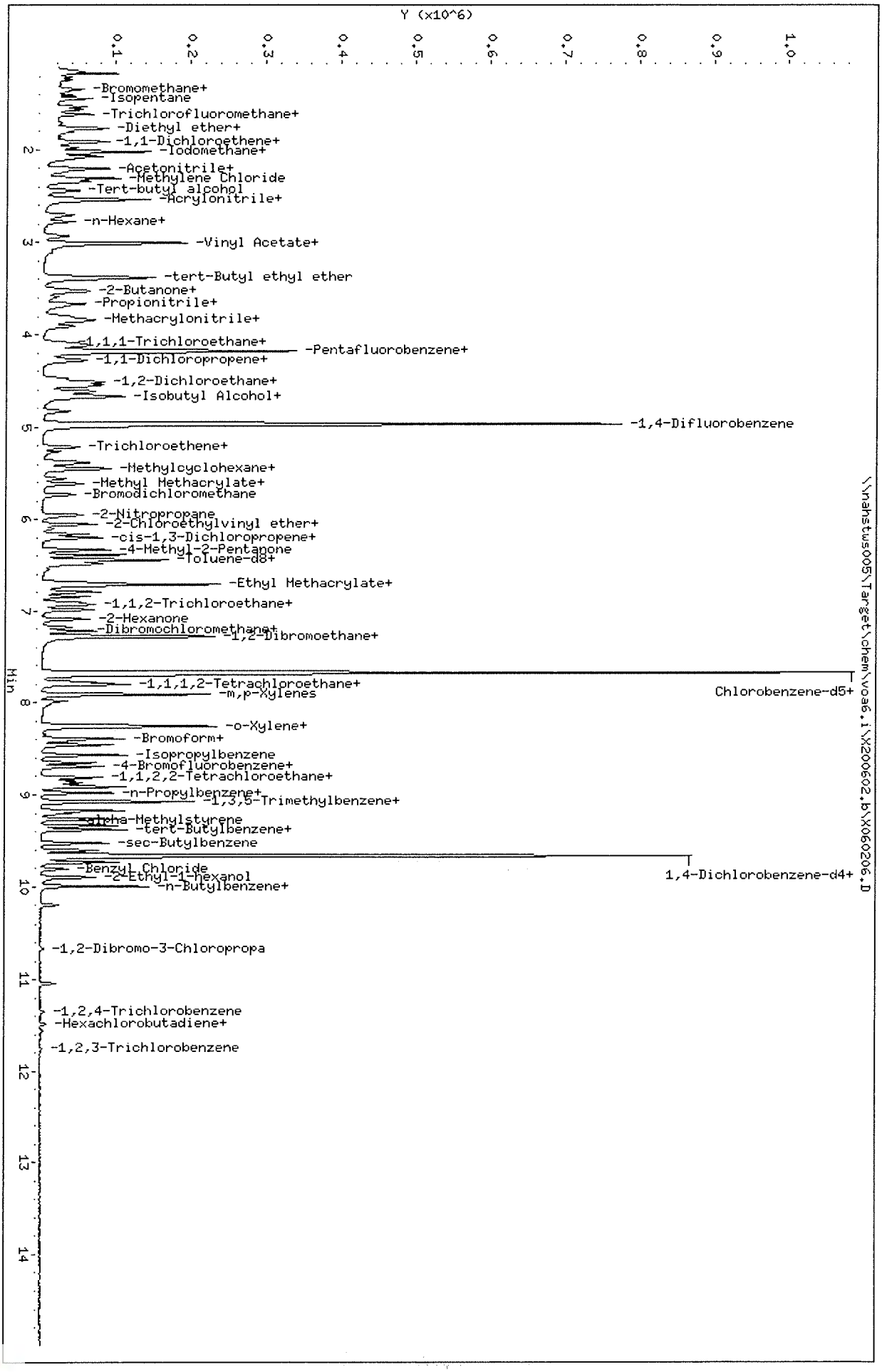
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	20742	5.00000	4.77(aM)
75	1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	46388	5.00000	4.62(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	24992	5.00000	4.62(a)
54	1,3-Dichloropropane	76	6.990	6.983	(0.911)	28643	5.00000	5.09
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	25136	5.00000	4.58(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	24097	5.00000	4.94(a)
24	2-Butanone	43	3.588	3.580	(0.858)	24636	10.0000	9.18
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	43953	5.00000	4.76(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	42008	10.0000	9.98
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	50974	5.00000	4.77(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	40850	5.00000	4.44(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	62932	10.0000	10.10
10	Acetone	43	1.976	1.976	(0.473)	29949	10.0000	8.37(M)
37	Benzene	78	4.519	4.519	(0.909)	64767	5.00000	4.91(a)
74	Bromobenzene	156	8.810	8.809	(0.911)	16525	5.00000	4.89(a)
29	Bromochloromethane	128	3.803	3.803	(0.909)	8643	5.00000	5.04
39	Bromodichloromethane	83	5.729	5.729	(1.153)	23590	5.00000	4.96(a)
66	Bromoform	173	8.416	8.416	(1.097)	10194	5.00000	4.87(Ta)
6	Bromomethane	94	1.338	1.331	(0.320)	14311	5.00000	5.56
19	Carbon Disulfide	76	2.069	2.069	(0.495)	78650	10.0000	9.80
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	18968	5.00000	4.55(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	41130	5.00000	4.98(a)
7	Chloroethane	64	1.403	1.396	(0.336)	12596	5.00000	4.85(a)
28	Chloroform	83	3.910	3.910	(0.935)	30258	5.00000	5.07
3	Chloromethane	50	1.081	1.081	(0.258)	29358	5.00000	4.90(a)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	17673	5.00000	5.11
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	27541	5.00000	4.90(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	16371	5.00000	4.91(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	11608	5.00000	4.96(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	13417	5.00000	4.63(a)
61	Ethylbenzene	106	7.807	7.807	(1.018)	21014	5.00000	4.95(a)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	1277	5.00000	5.49
67	Isopropylbenzene	105	8.566	8.566	(1.117)	57075	5.00000	4.53(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	47514	10.0000	9.28
17	Methylene Chloride	84	2.305	2.305	(0.551)	18494	5.00000	4.65(a)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	33797	5.00000	4.12(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	66977	5.00000	4.64(a)
92	Naphthalene	128	11.553	11.546	(1.195)	3430	5.00000	4.85(a)
63	o-Xylene	106	8.244	8.244	(1.075)	24450	5.00000	4.84(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	49738	5.00000	4.44(a)
64	Styrene	104	8.265	8.265	(1.078)	43239	5.00000	4.80(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	35038	5.00000	4.46(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	10447	5.00000	4.70(a)
50	Toluene	91	6.453	6.453	(0.841)	65142	5.00000	4.97(a)
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	14241	5.00000	4.99(a)
51	trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	24714	5.00000	4.87(a)
38	Trichloroethene	130	5.214	5.206	(1.049)	14497	5.00000	4.65(a)
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	21124	5.00000	4.66(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	22914	5.00000	4.48(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.



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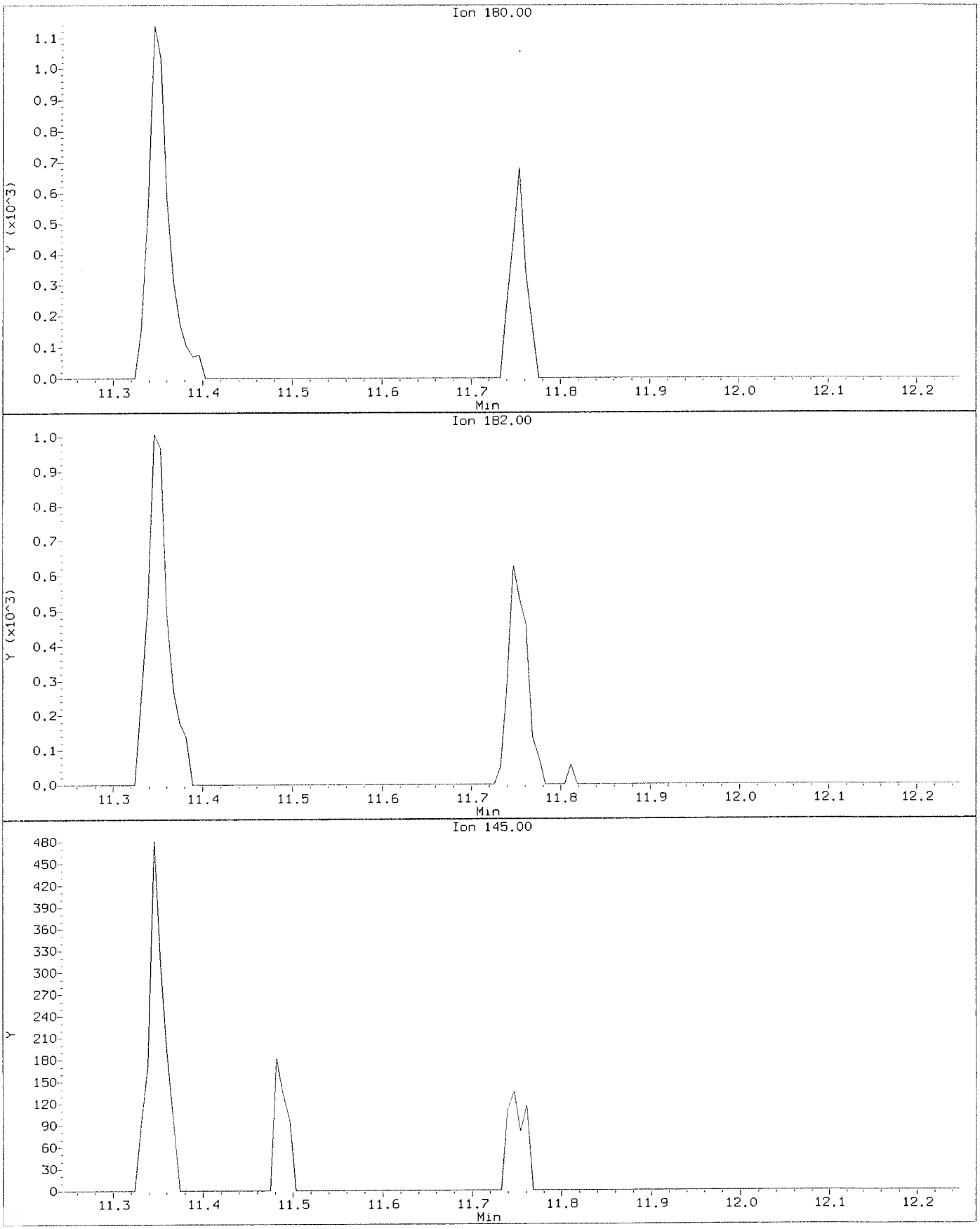
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060206.D
Injection Date: 02-JUN-2020 12:58
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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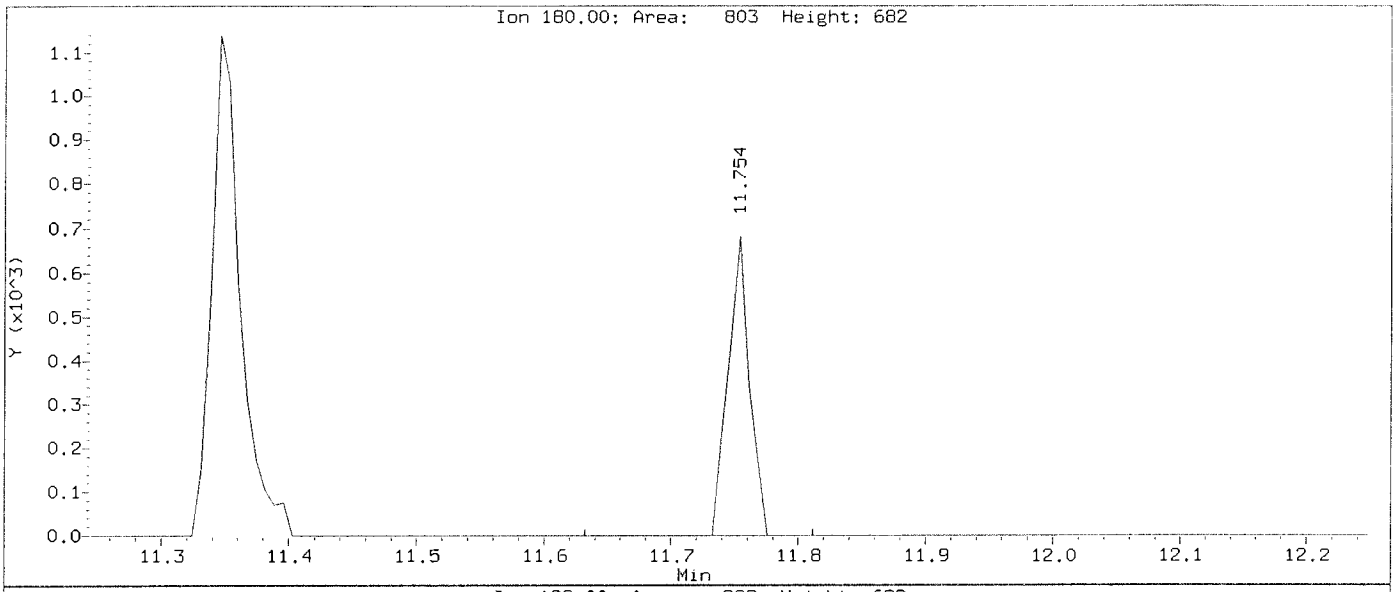
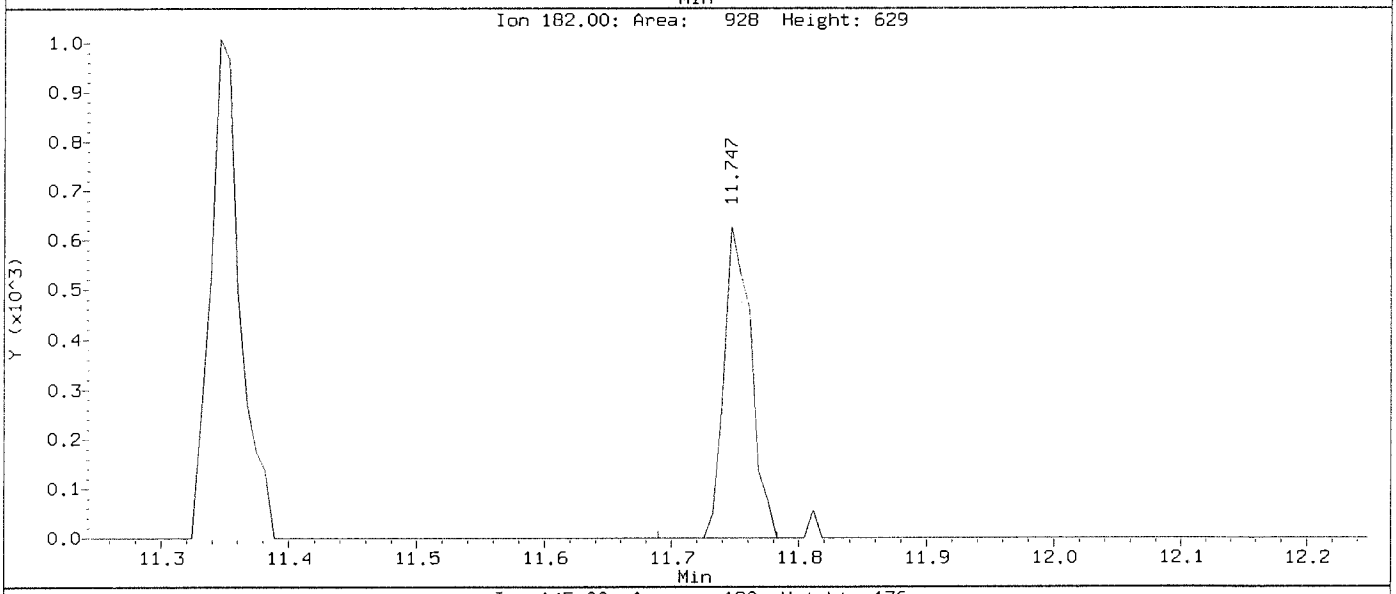
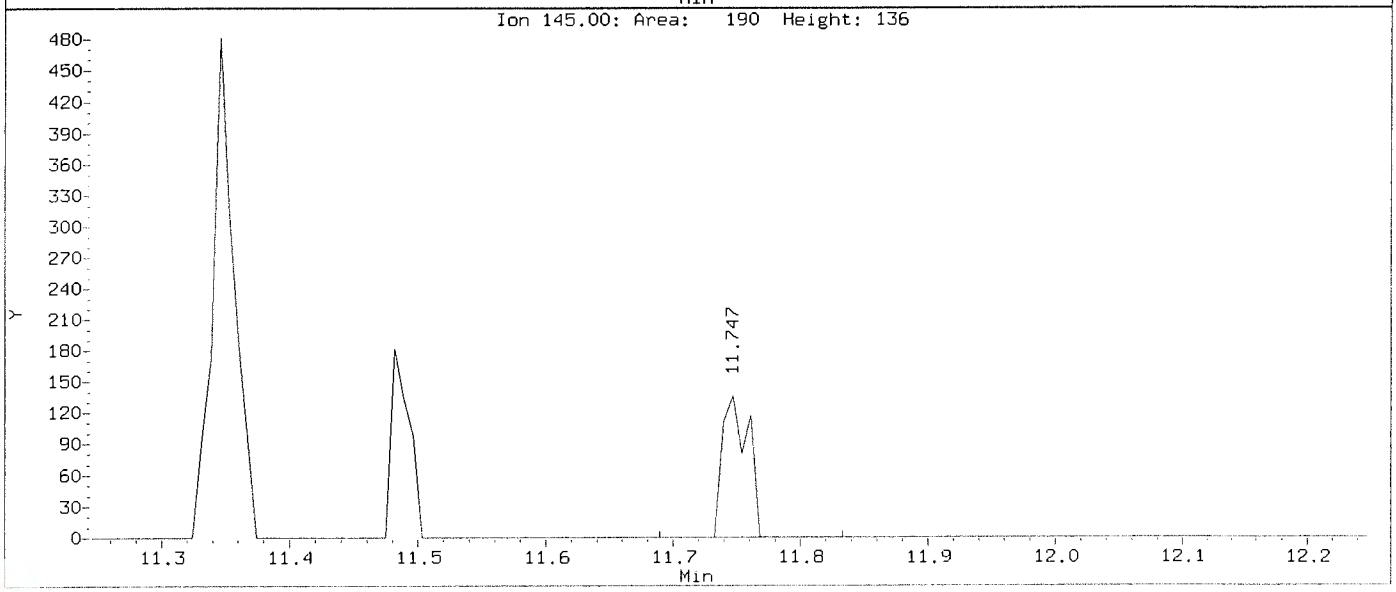
Client Sample ID: VSTD005

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6







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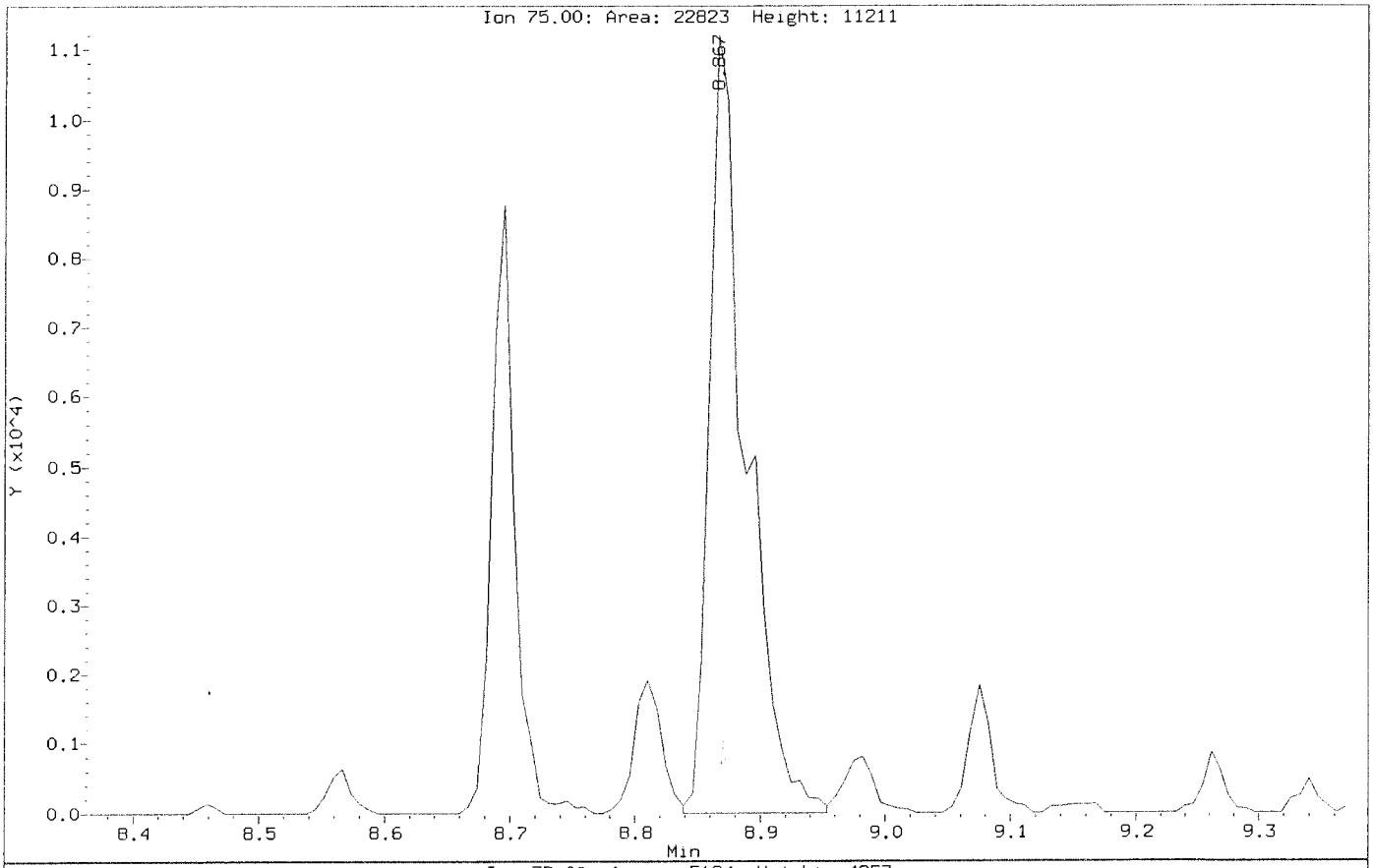
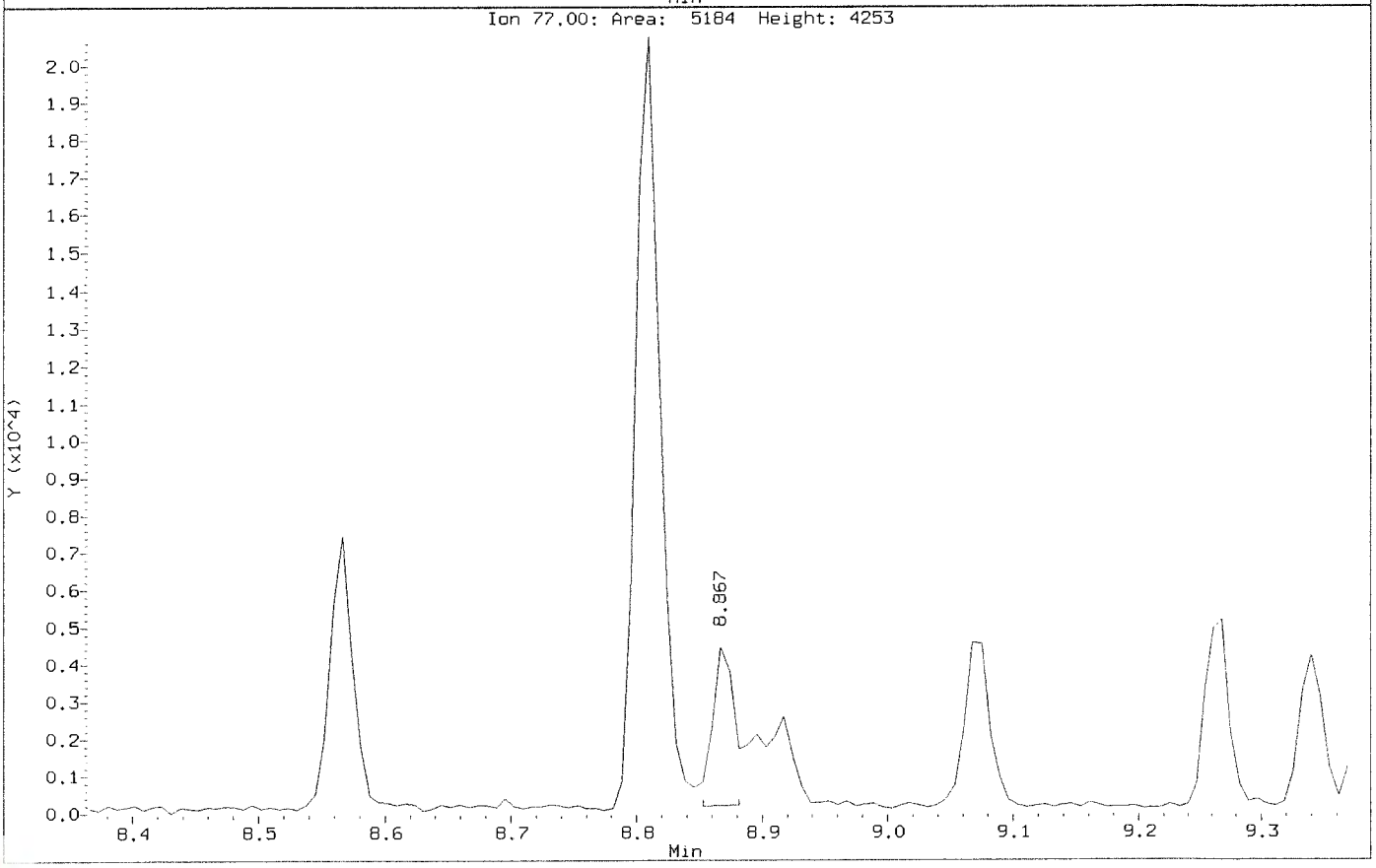
Injection Date: 02-JUN-2020 12:58
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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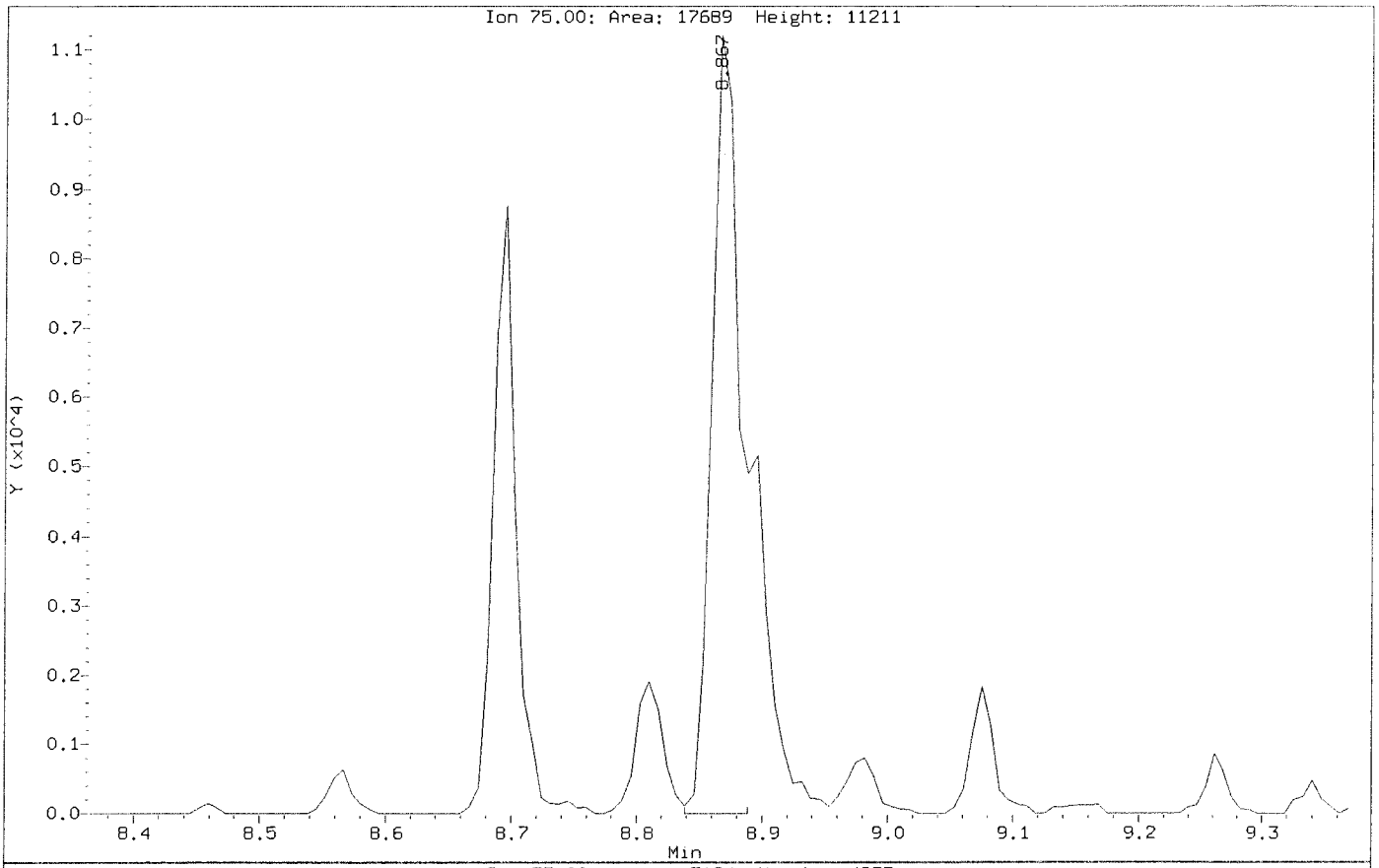
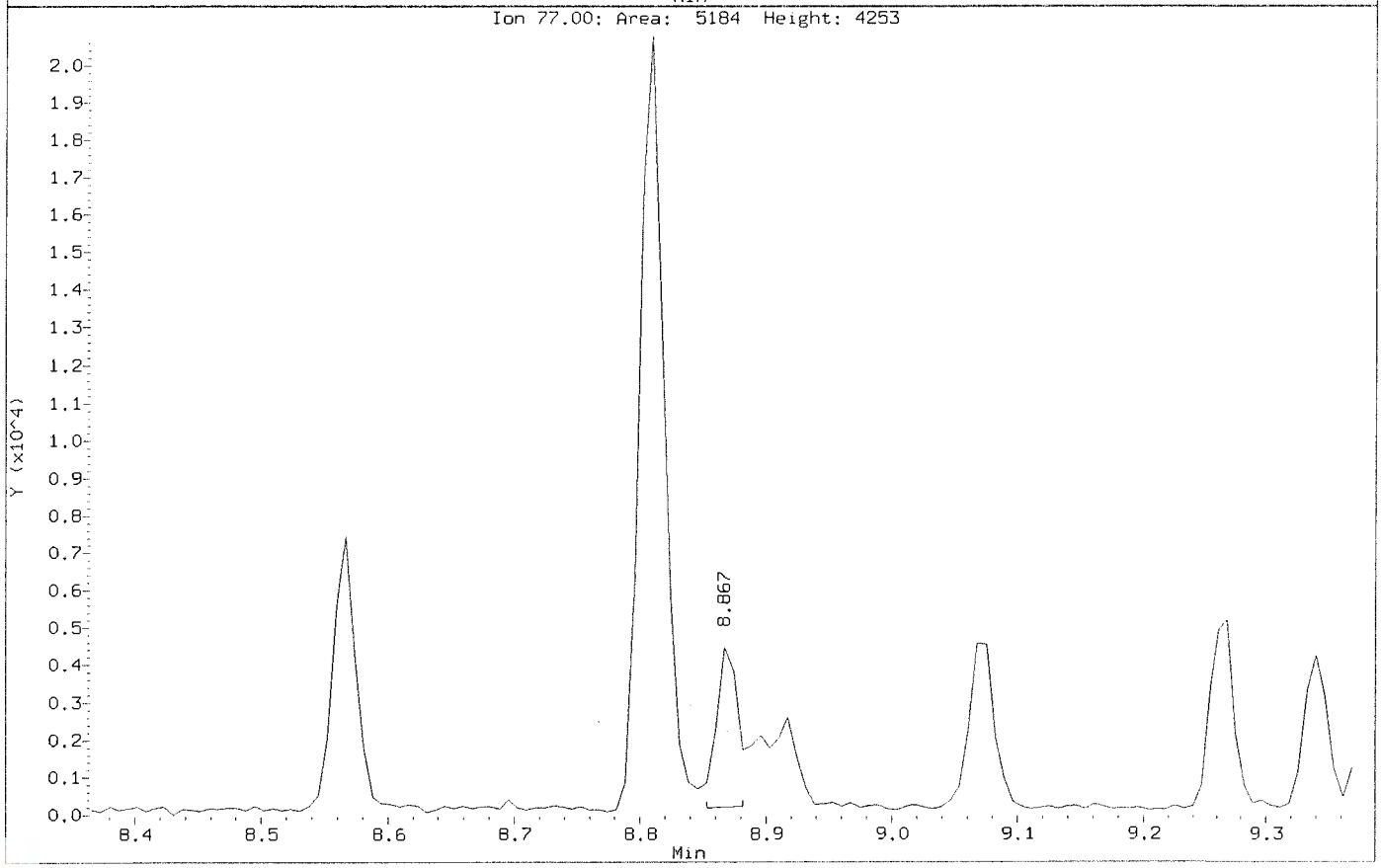
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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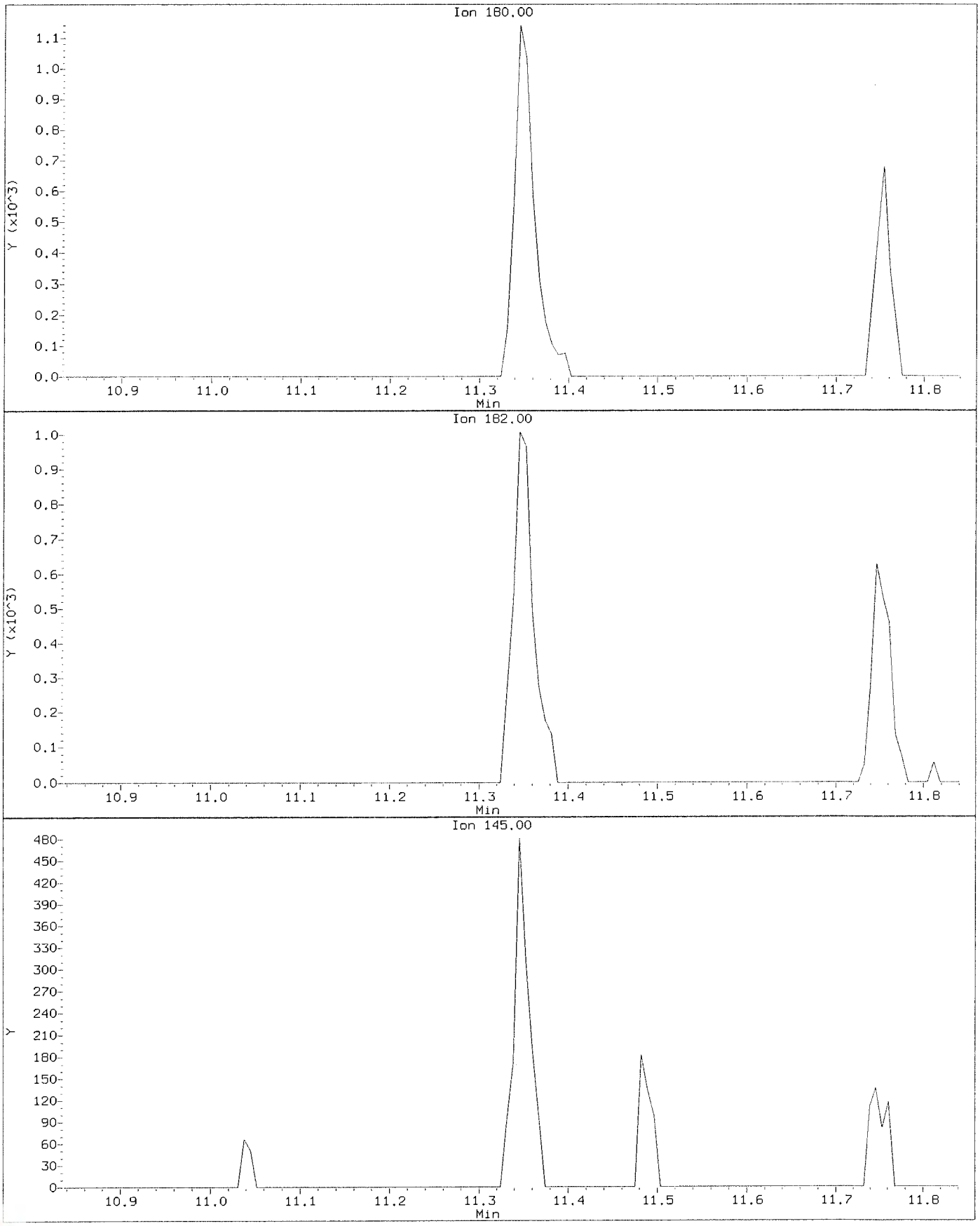
Injection Date: 02-JUN-2020 12:58
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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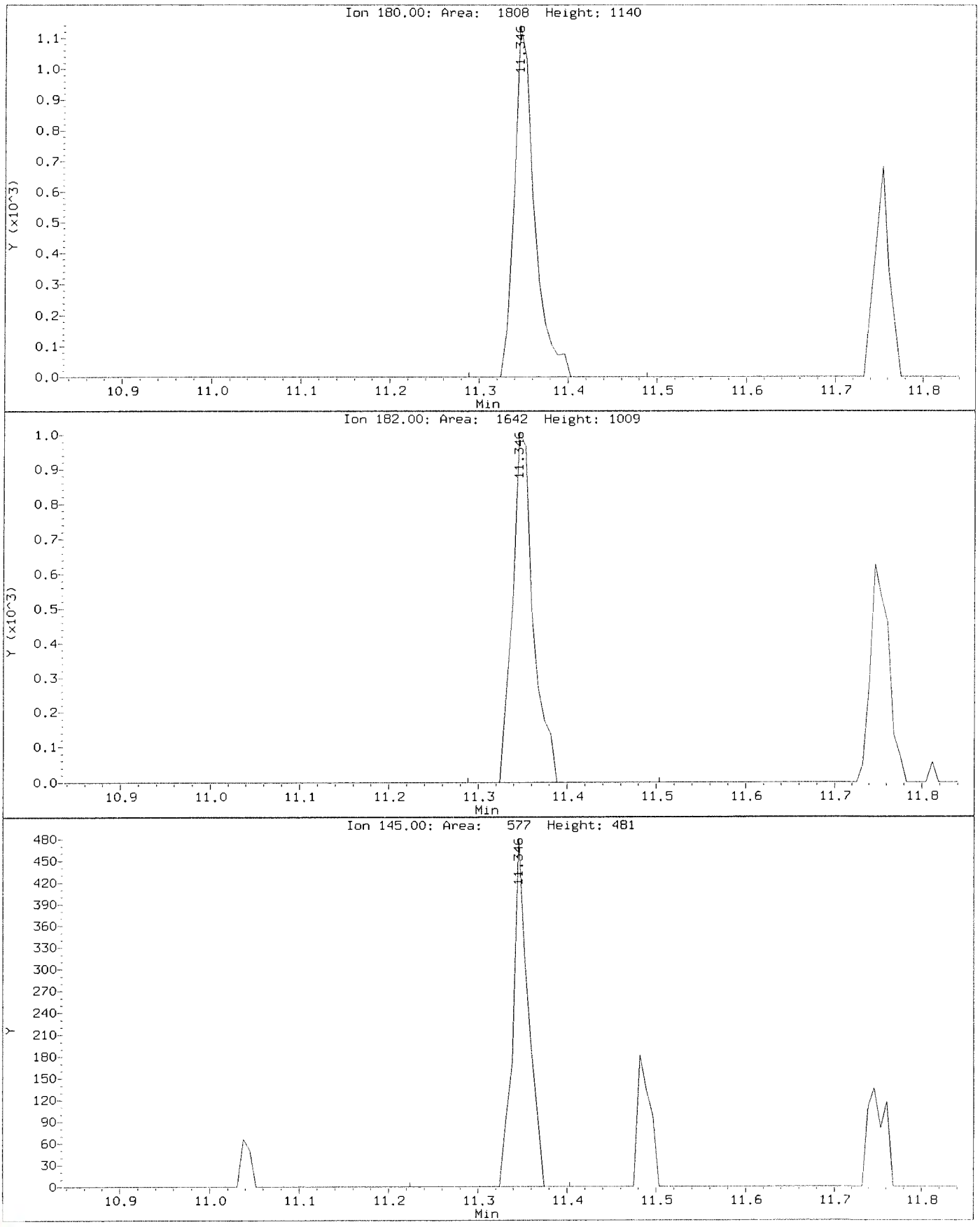
Client Sample ID: VSTD005

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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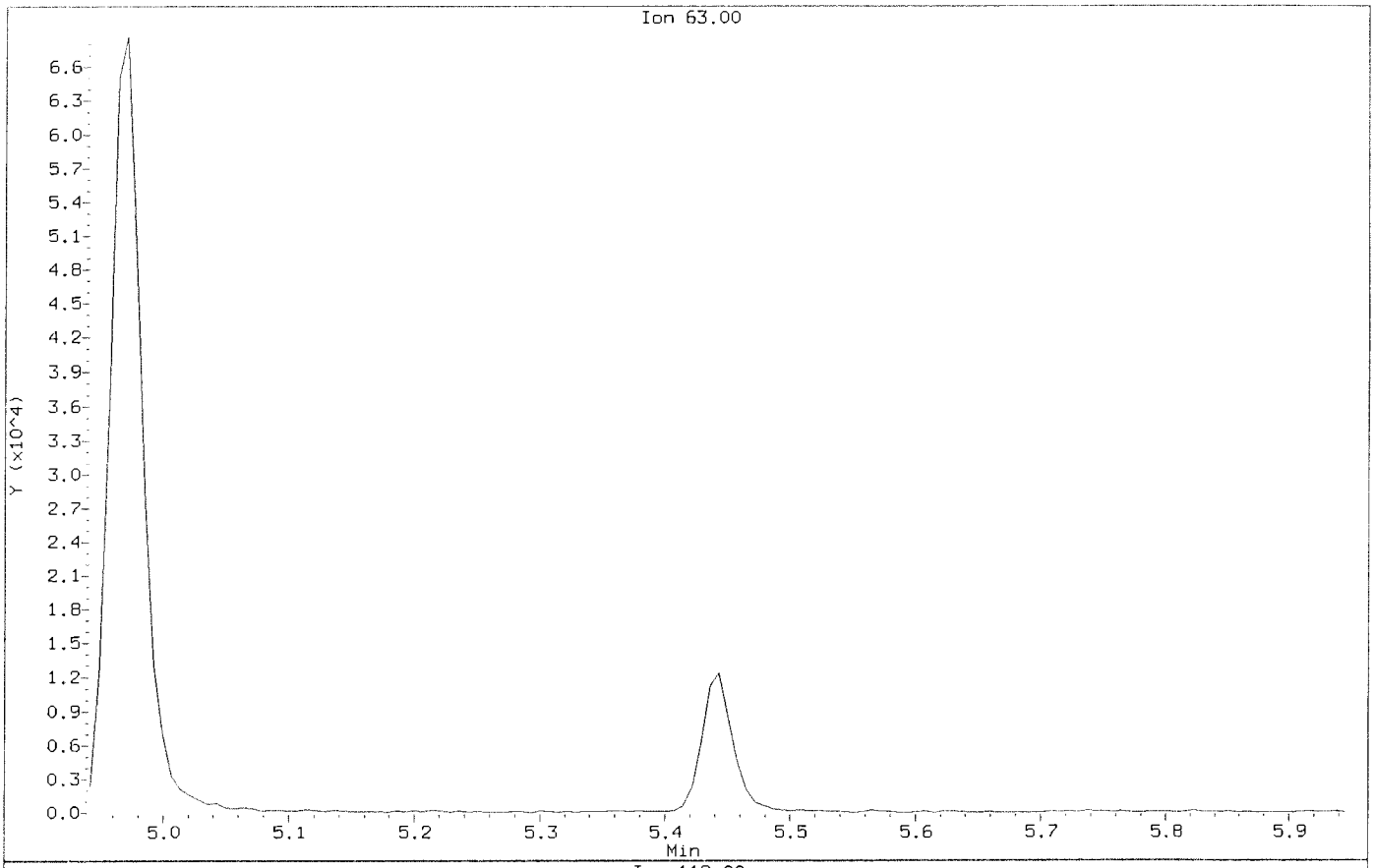
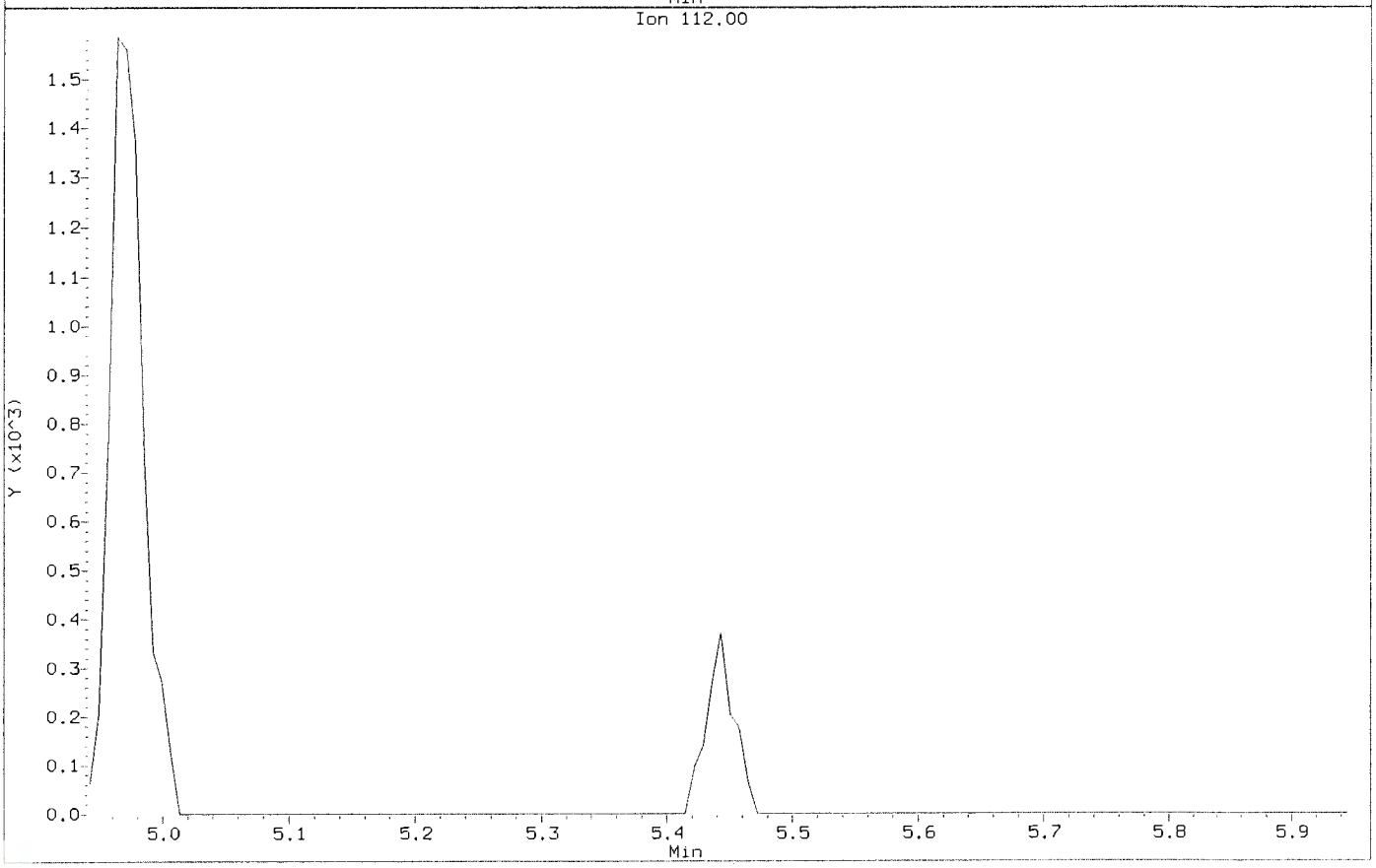
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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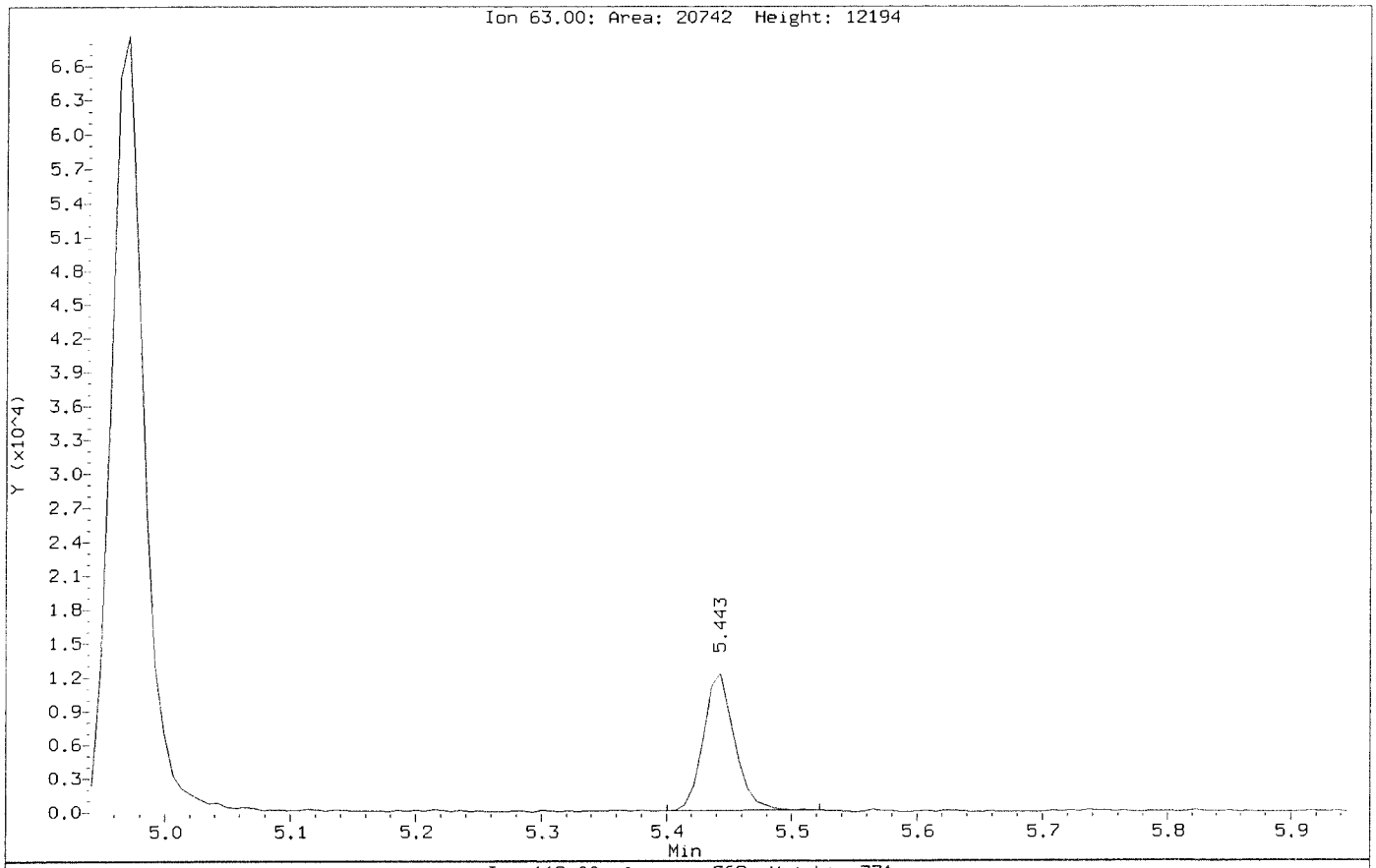
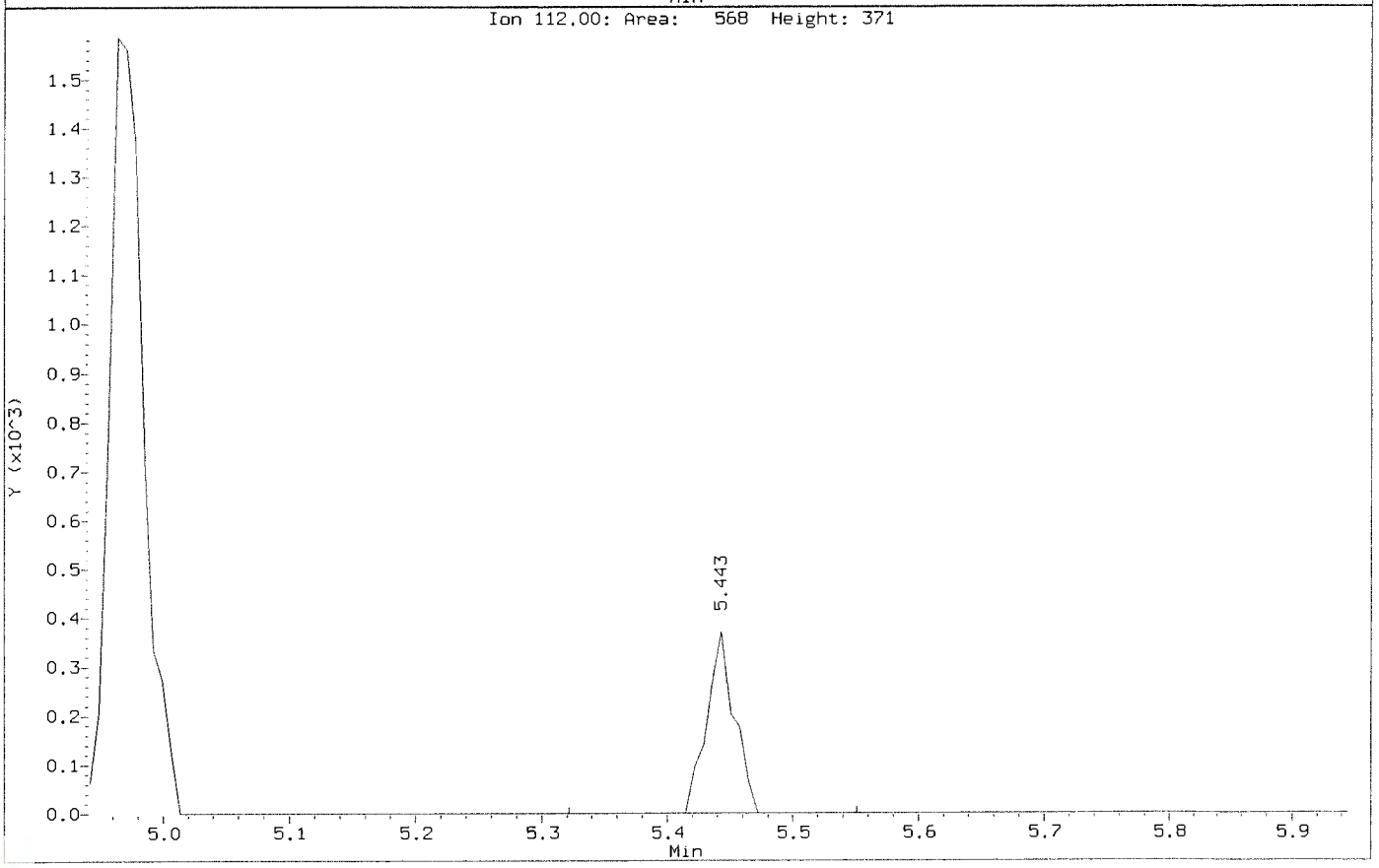
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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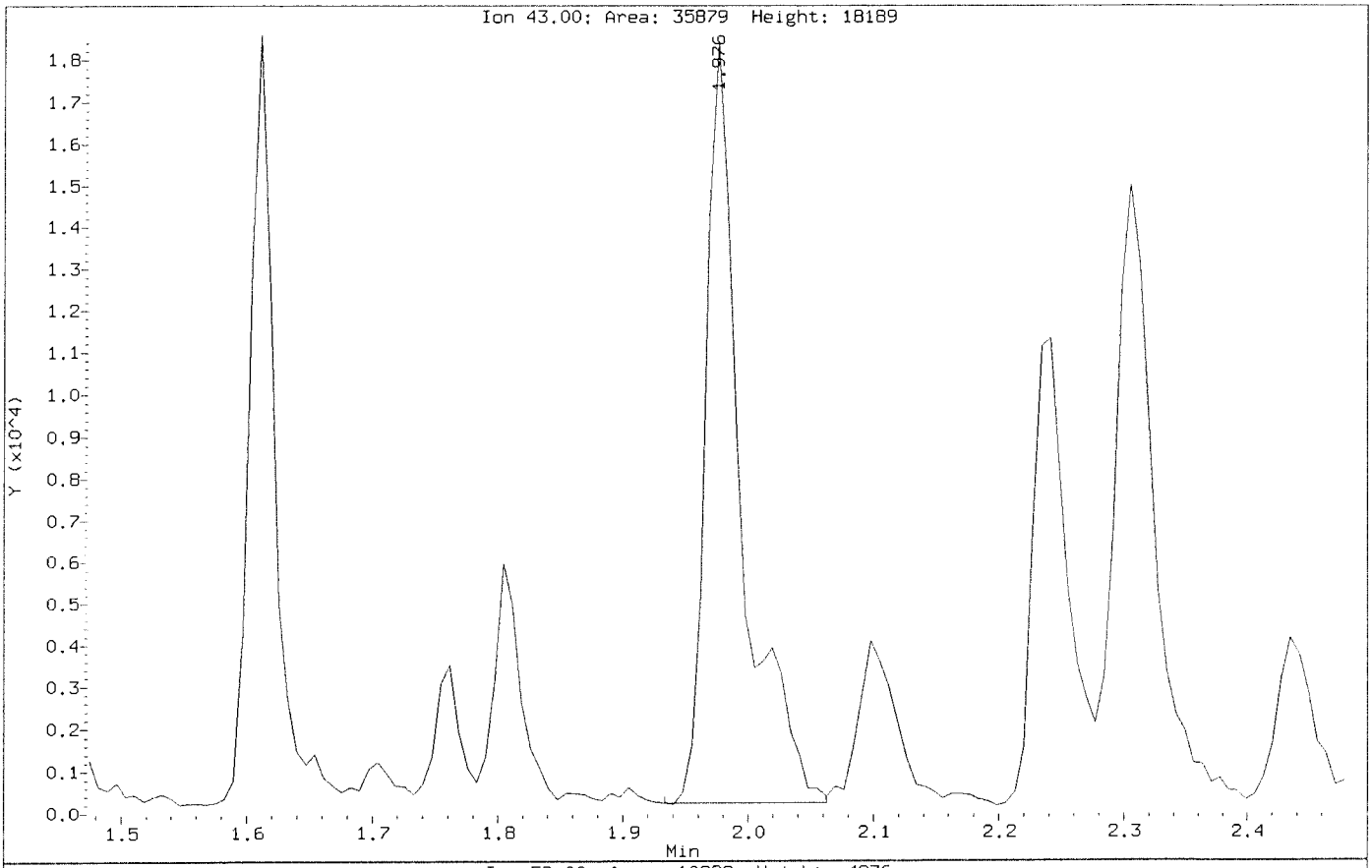
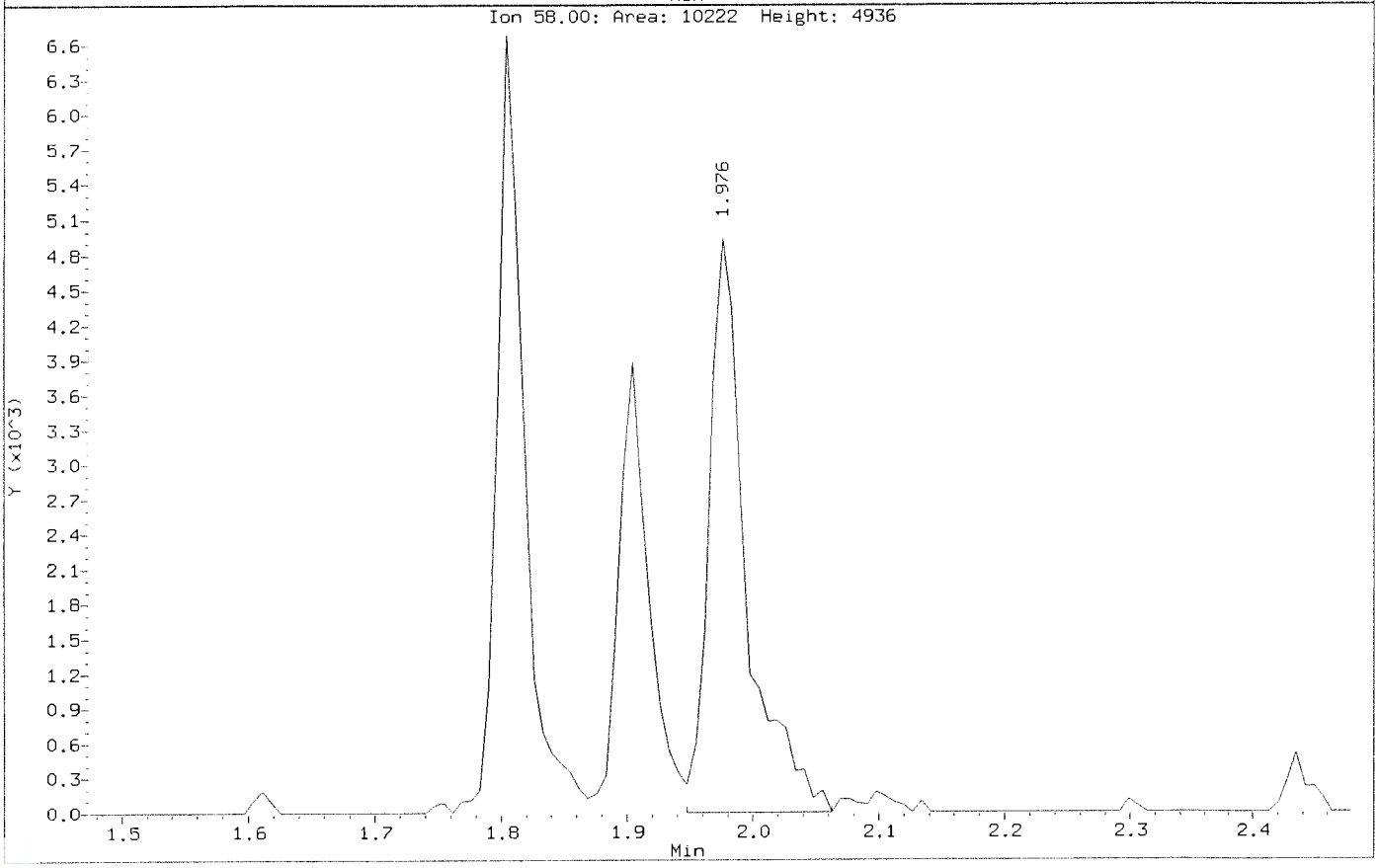
Injection Date: 02-JUN-2020 12:58
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Acetone
CAS Number: 67-64-1





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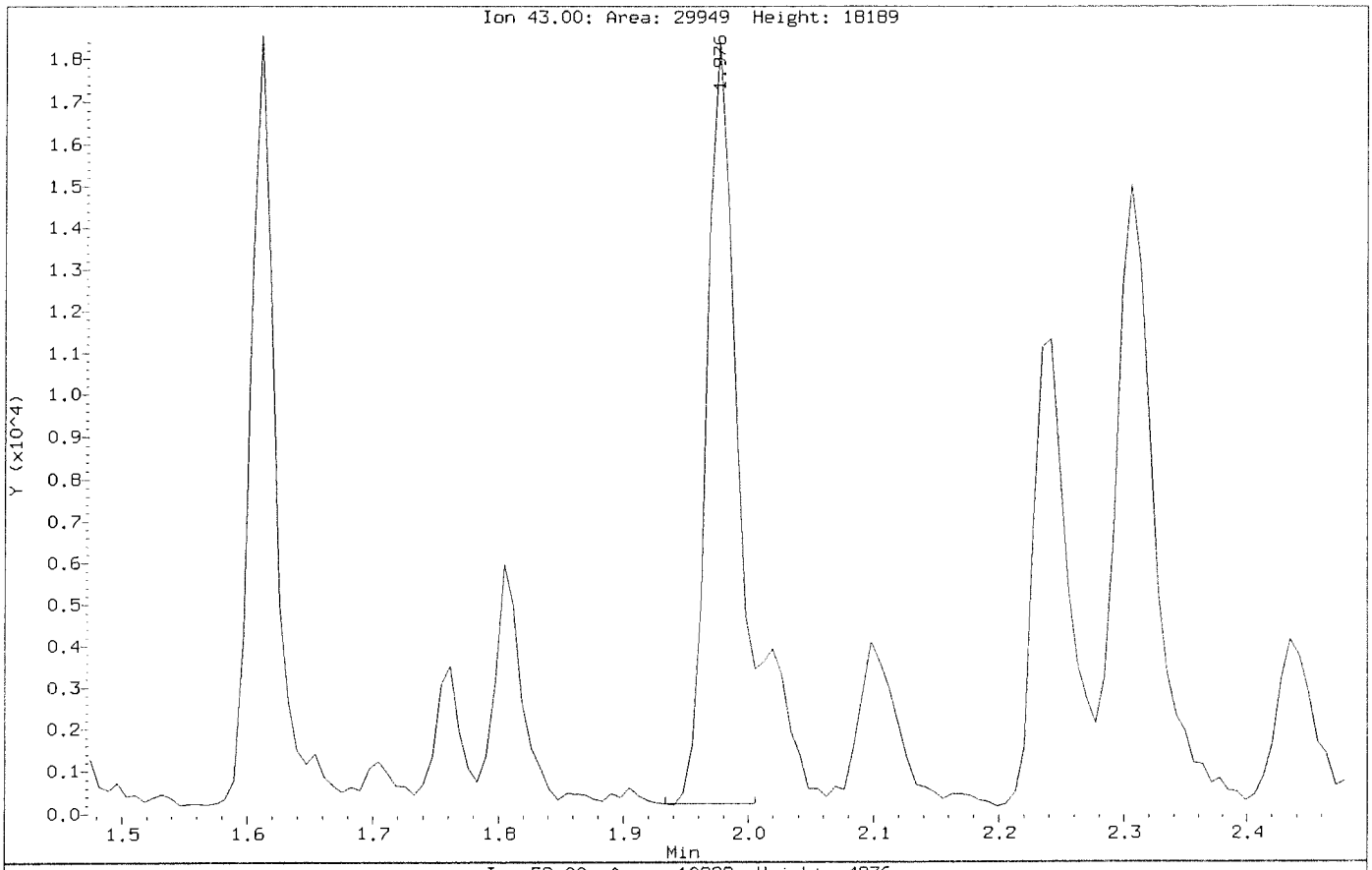
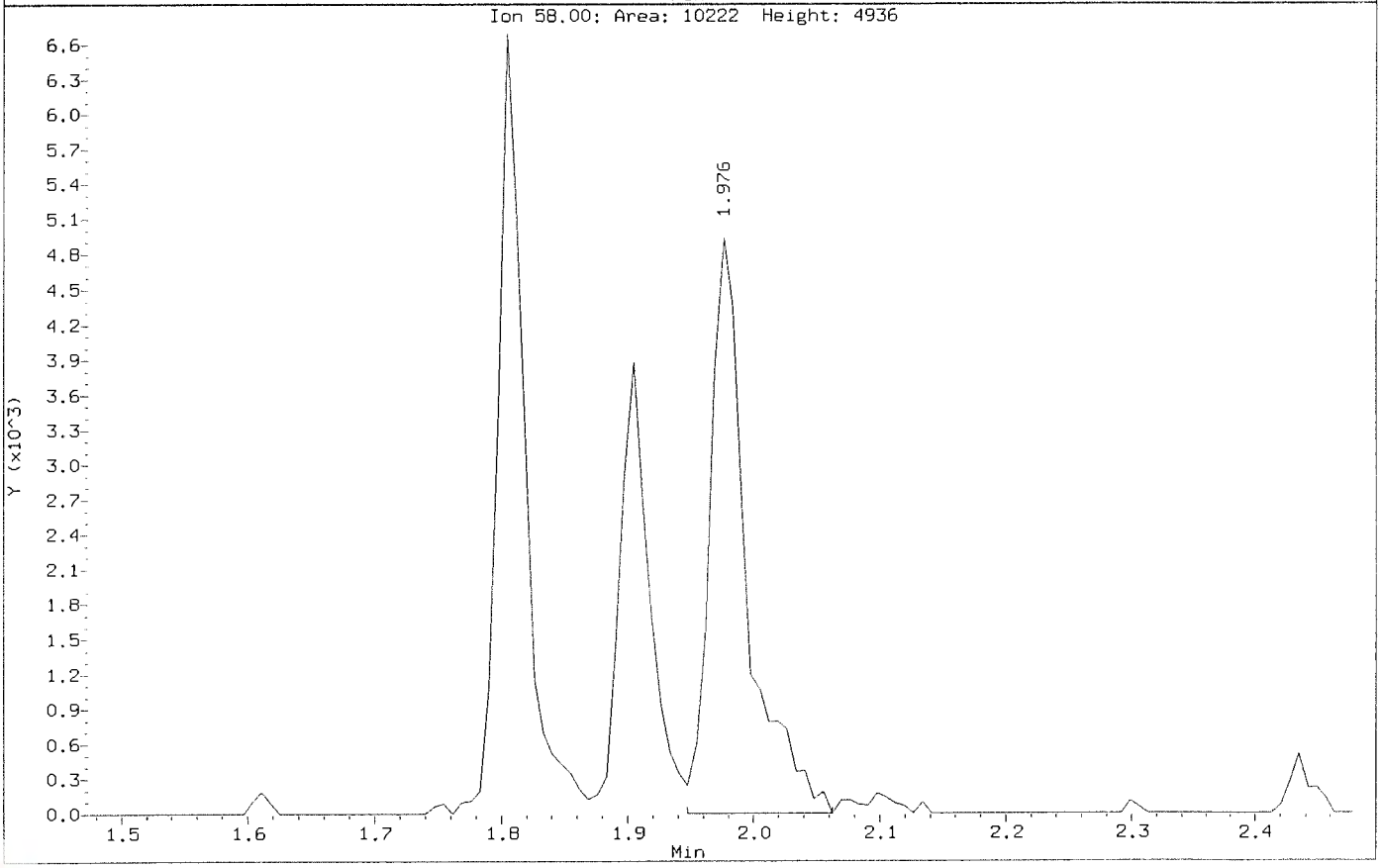
Injection Date: 02-JUN-2020 12:58
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Acetone
CAS Number: 67-64-1





ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060207.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 02-JUN-2020 13:21
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 13:21 Cal File: X060207.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

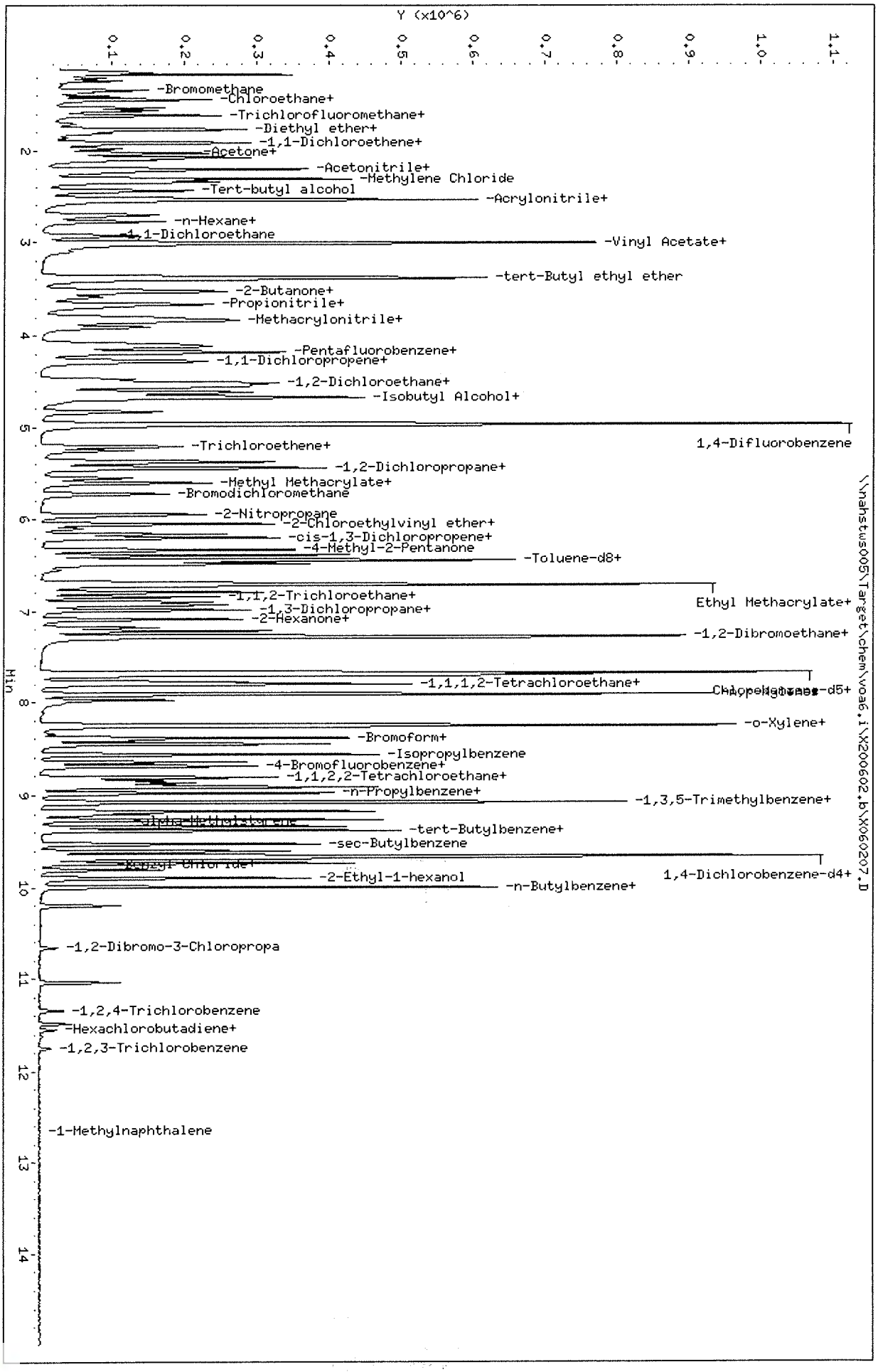
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	241358	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	441207	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	404923	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	174548	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	60981	20.0000	20.23
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	91293	20.0000	20.46
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	210081	20.0000	19.80
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	81314	20.0000	19.88
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	59462	20.0000	20.46
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	91562	20.0000	19.69
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.914)	69268	20.0000	19.85
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	52986	20.0000	20.56
22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	148994	20.0000	19.96
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	46426	20.0000	18.77
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	78962	20.0000	18.96
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	4004	20.0000	19.44
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	65906	20.0000	20.48(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	8997	20.0000	19.52
79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	202687	20.0000	19.73
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	3937	20.0000	20.85
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	63726	20.0000	20.51
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	93613	20.0000	20.11
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	121042	20.0000	20.63

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	85410	20.0000	20.52
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	198283	20.0000	19.54
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	106214	20.0000	19.44
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	108221	20.0000	19.87
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	105953	20.0000	19.10
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	91645	20.0000	18.94
24	2-Butanone	43	3.580	3.580	(0.856)	110665	40.0000	41.60
76	2-Chlorotoluene	91	8.974	8.981	(0.928)	179240	20.0000	19.22
52	2-Hexanone	43	7.090	7.090	(0.924)	173460	40.0000	42.60
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	207609	20.0000	19.22
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	177678	20.0000	19.11
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	248538	40.0000	41.22
10	Acetone	43	1.976	1.976	(0.473)	97902	40.0000	45.50
37	Benzene	78	4.519	4.519	(0.909)	251950	20.0000	19.93
74	Bromobenzene	156	8.809	8.809	(0.911)	66831	20.0000	19.57
29	Bromochloromethane	128	3.795	3.803	(0.908)	33735	20.0000	19.85
39	Bromodichloromethane	83	5.729	5.729	(1.153)	90767	20.0000	19.93
66	Bromoform	173	8.415	8.416	(1.097)	42677	20.0000	21.07
6	Bromomethane	94	1.338	1.331	(0.320)	47538	20.0000	21.05
19	Carbon Disulfide	76	2.069	2.069	(0.495)	306205	40.0000	38.45
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	71886	20.0000	18.01
59	Chlorobenzene	112	7.699	7.699	(1.004)	156980	20.0000	19.66
7	Chloroethane	64	1.403	1.396	(0.336)	50942	20.0000	19.80
28	Chloroform	83	3.910	3.910	(0.935)	118902	20.0000	20.08
3	Chloromethane	50	1.081	1.081	(0.258)	114951	20.0000	19.36
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	70177	20.0000	20.46
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	107588	20.0000	19.99
55	Dibromochloromethane	129	7.176	7.183	(0.936)	63060	20.0000	19.54
44	Dibromomethane	93	5.557	5.557	(1.118)	44721	20.0000	19.95
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	53282	20.0000	18.54
61	Ethylbenzene	106	7.799	7.807	(1.017)	81049	20.0000	19.73
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	6003	20.0000	17.84
67	Isopropylbenzene	105	8.566	8.566	(1.117)	233089	20.0000	19.14
62	m,p-Xylenes	106	7.907	7.907	(1.031)	192408	40.0000	38.83
17	Methylene Chloride	84	2.305	2.305	(0.551)	70232	20.0000	20.92
87	n-Butylbenzene	91	9.999	9.999	(1.034)	157076	20.0000	18.96
73	n-Propylbenzene	91	8.917	8.917	(0.922)	285781	20.0000	19.57
92	Naphthalene	128	11.546	11.546	(1.194)	16228	20.0000	20.44
63	o-Xylene	106	8.244	8.244	(1.075)	96779	20.0000	19.79
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	207288	20.0000	18.32
64	Styrene	104	8.265	8.265	(1.078)	175384	20.0000	20.13
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	148992	20.0000	18.77
56	Tetrachloroethene	164	6.933	6.933	(0.904)	41967	20.0000	19.53
50	Toluene	91	6.446	6.453	(0.840)	252348	20.0000	19.92
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	56613	20.0000	20.01
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	98679	20.0000	20.30
38	Trichloroethene	130	5.206	5.206	(1.048)	58403	20.0000	19.54
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	85873	20.0000	19.10
5	Vinyl Chloride	62	1.138	1.138	(0.272)	91071	20.0000	17.94

QC Flag Legend

M - Compound response manually integrated.



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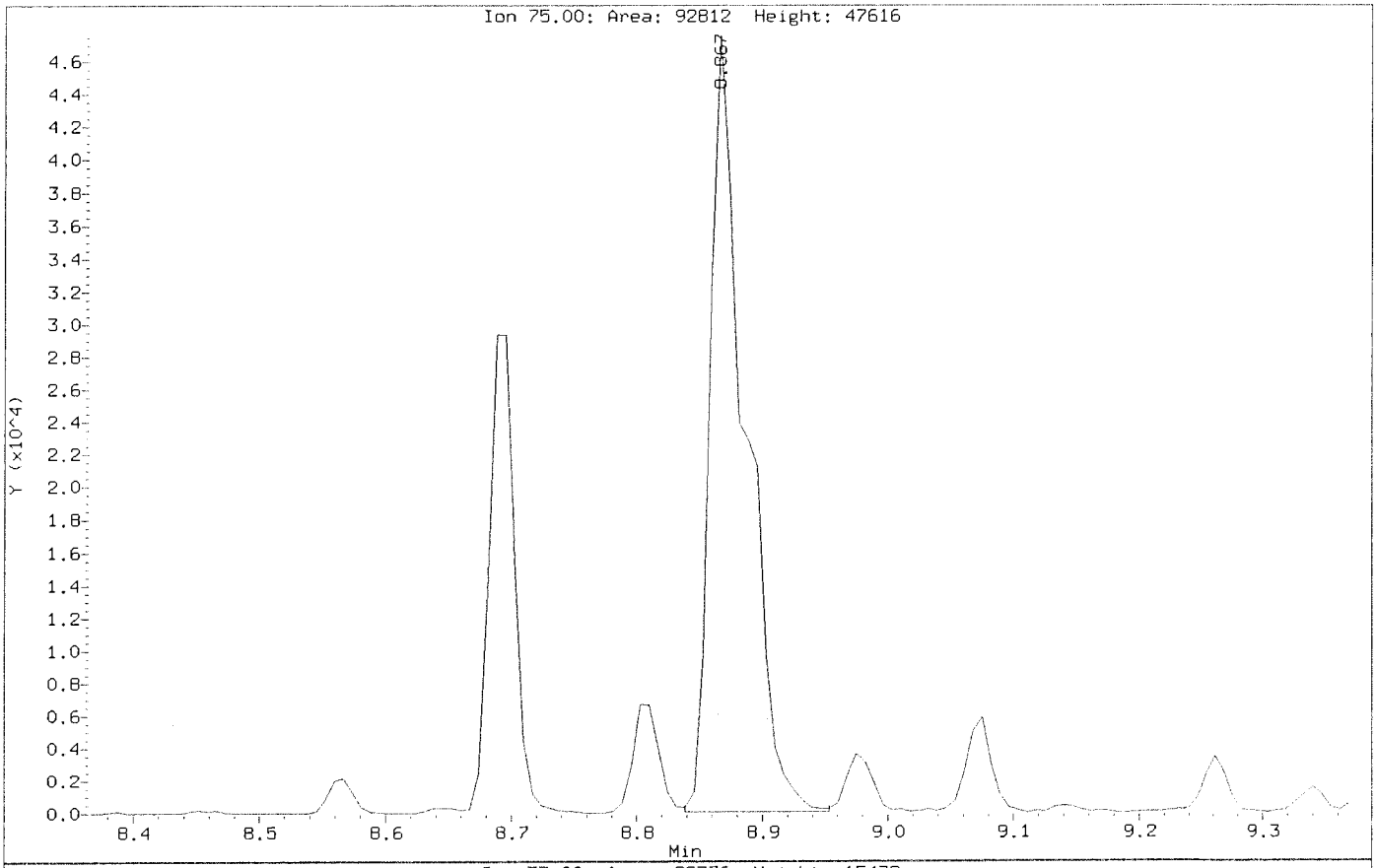
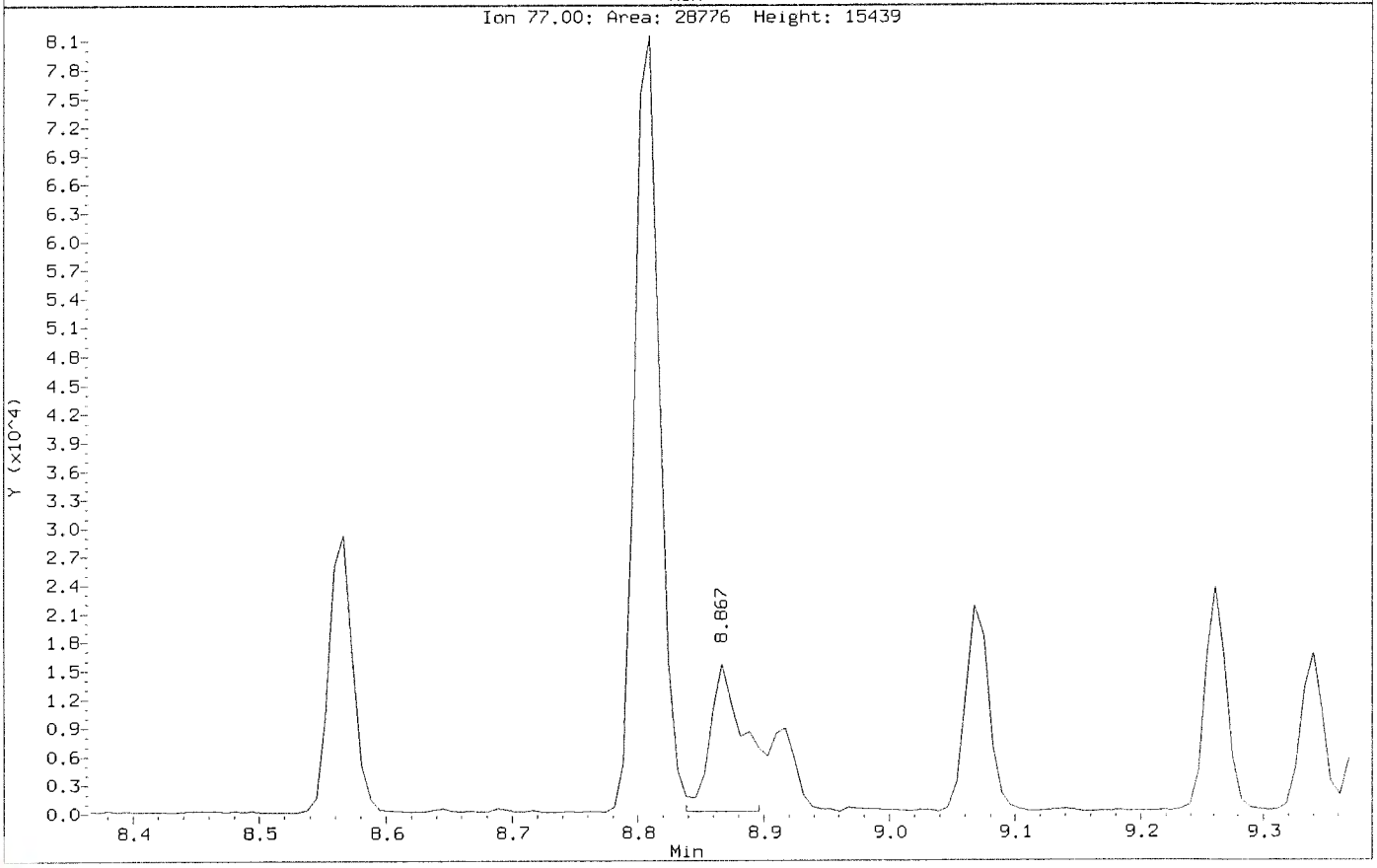
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060207.D
Injection Date: 02-JUN-2020 13:21
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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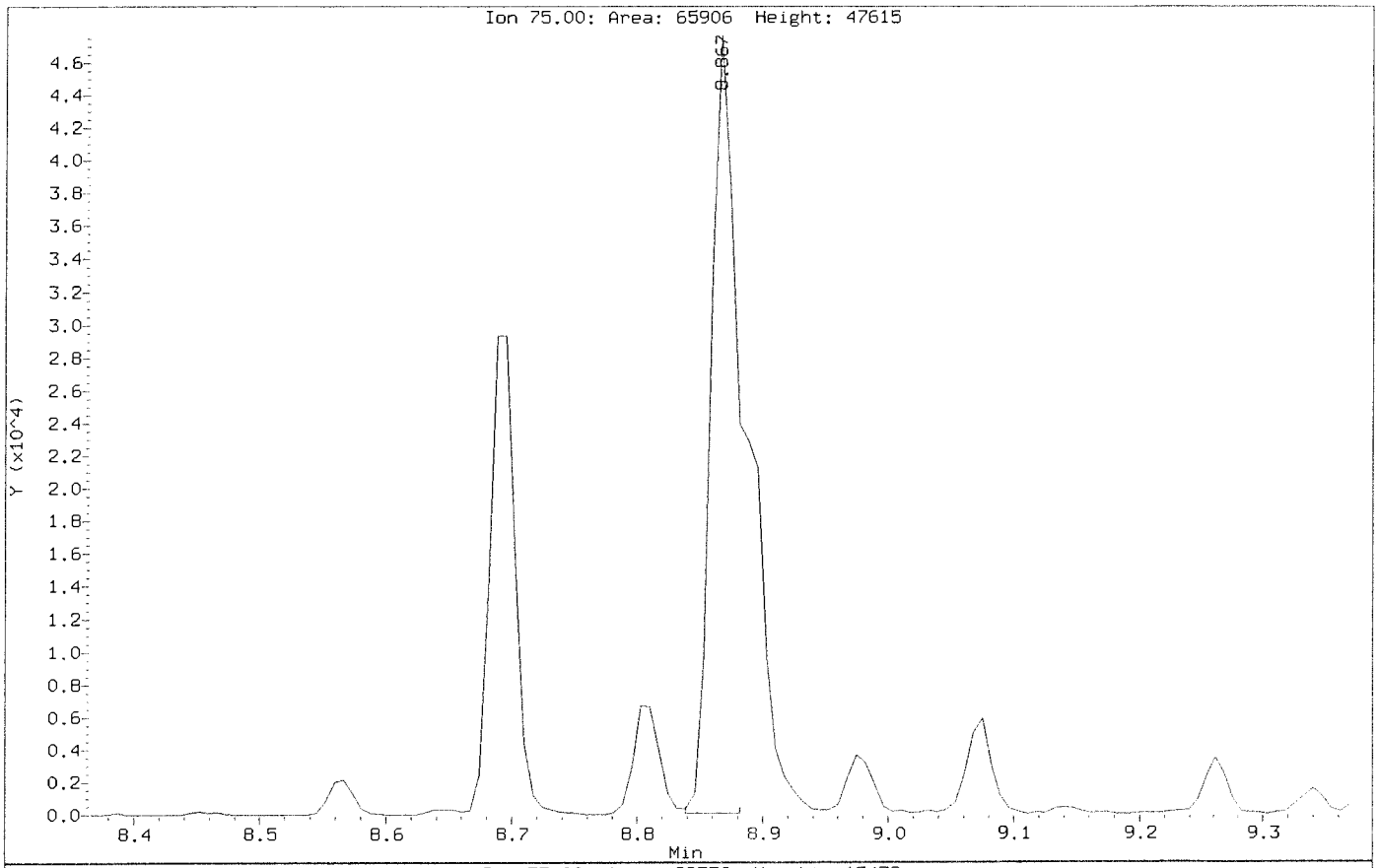
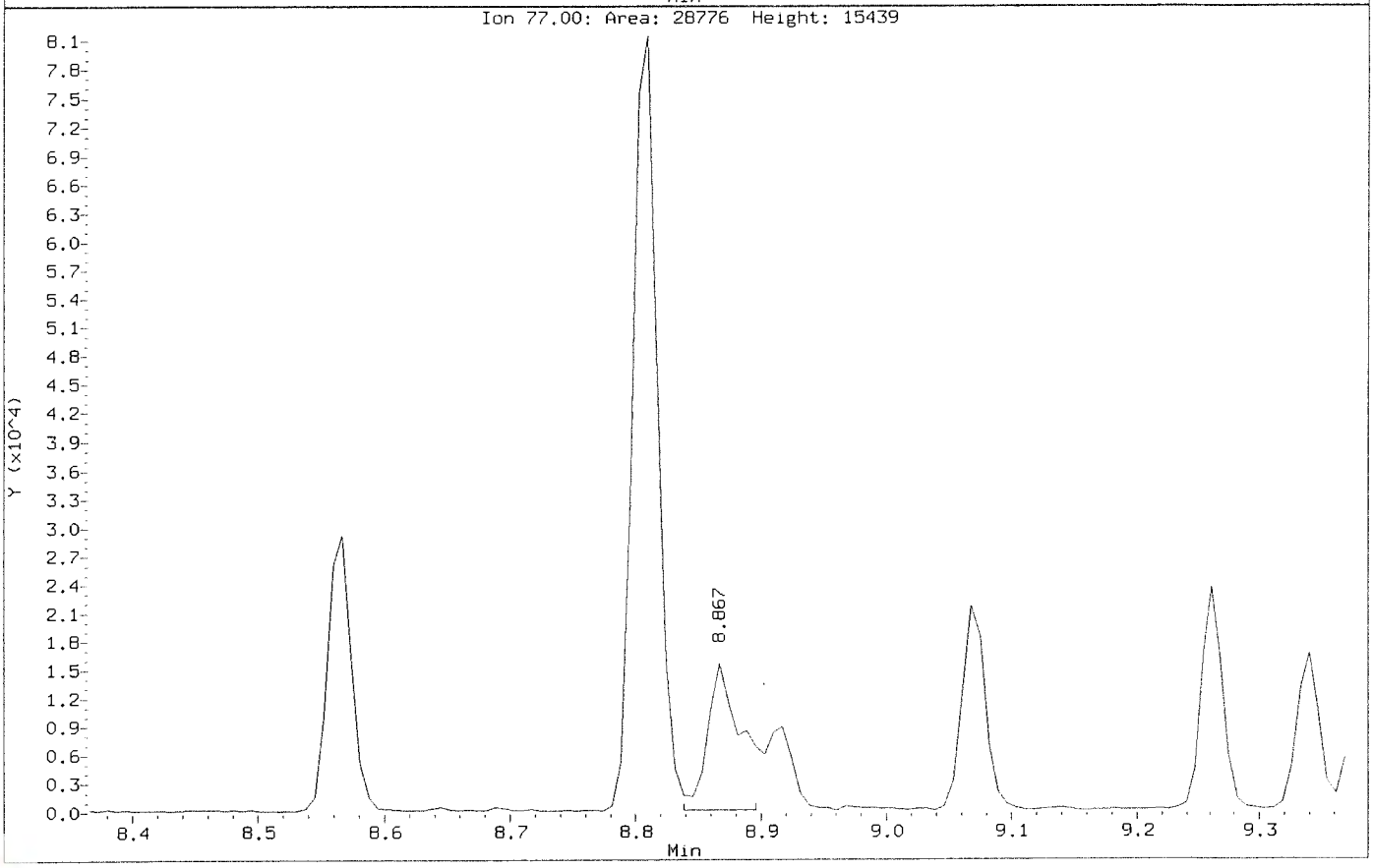
Client Sample ID: VSTD020

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060208.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 02-JUN-2020 13:45
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 13:45 Cal File: X060208.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

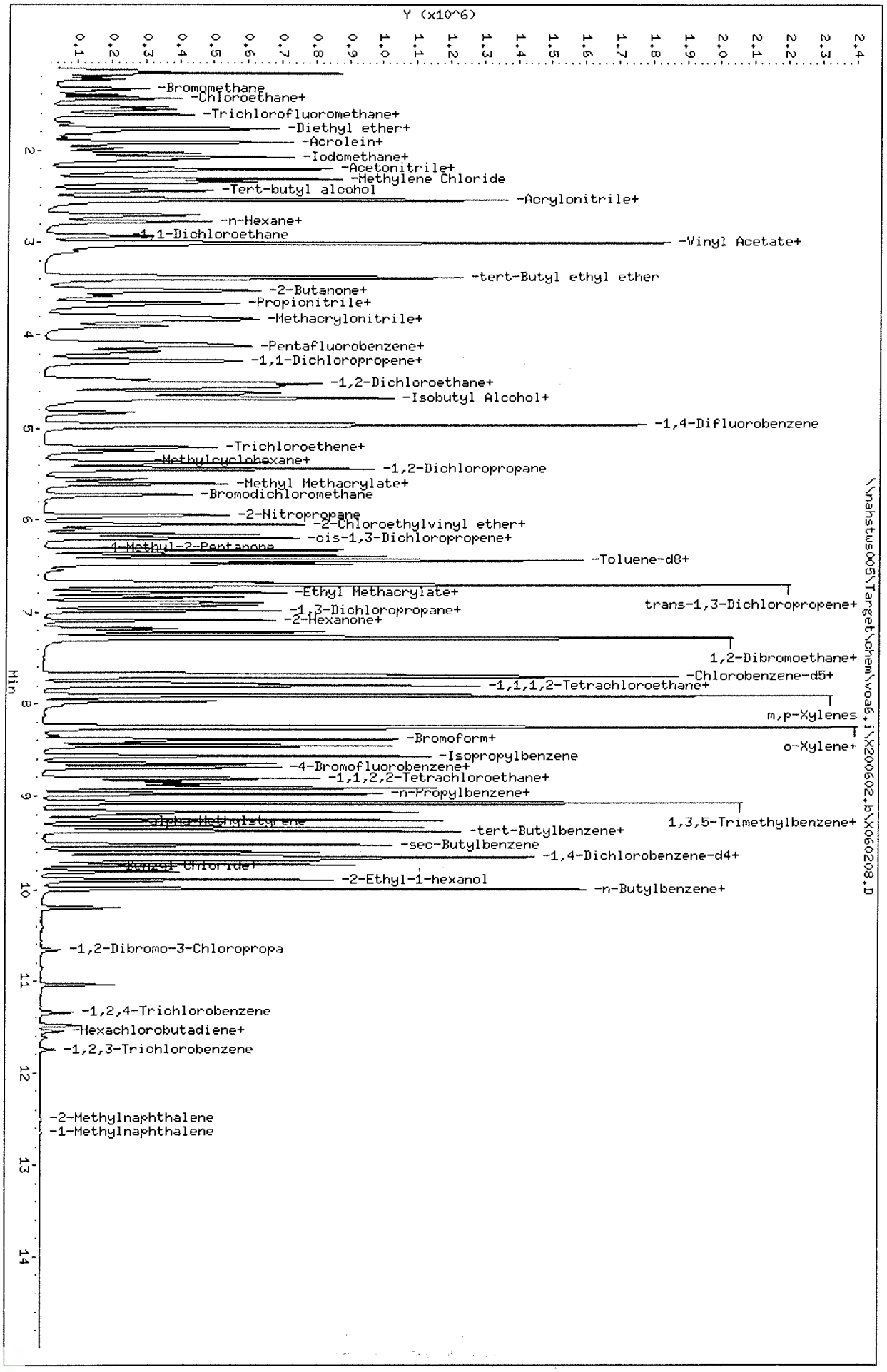
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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	4.182	(1.000)	234603	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	419955	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	391664	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	170314	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.979)	144483	50.0000	50.22
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	213560	50.0000	50.55
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	494135	50.0000	48.15
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	195210	50.0000	50.46
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	143356	50.0000	51.00
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	228181	50.0000	50.48
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.914)	169111	50.0000	49.68
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	125584	50.0000	50.39
22 1,1-Dichloroethane	63	2.922	2.921	(0.697)	358957	50.0000	49.47
11 1,1-Dichloroethene	96	1.912	1.911	(0.456)	118872	50.0000	49.44
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	195632	50.0000	49.35
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	10729	50.0000	50.47
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	158661	50.0000	50.53(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	22734	50.0000	46.93
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	507897	50.0000	50.69
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	9084	50.0000	48.54
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	153274	50.0000	51.02
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	227692	50.0000	50.13
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	284224	50.0000	50.90

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	205150	50.0000	51.79
75	1,3,5-Trimethylbenzene	105	9.068	9.075	(0.938)	494398	50.0000	49.95
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	258679	50.0000	48.54
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	264613	50.0000	50.24
84	1,4-Dichlorobenzene	146	9.684	9.683	(1.001)	260533	50.0000	48.14
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	226555	50.0000	48.18
24	2-Butanone	43	3.581	3.580	(0.855)	259472	100.000	100.34
76	2-Chlorotoluene	91	8.974	8.981	(0.928)	437515	50.0000	48.08
52	2-Hexanone	43	7.091	7.090	(0.924)	412059	100.000	104.62
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	512871	50.0000	48.67
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	464322	50.0000	51.18
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	601394	100.000	103.13
10	Acetone	43	1.976	1.976	(0.472)	208678	100.000	109.11
37	Benzene	78	4.519	4.519	(0.909)	613364	50.0000	50.99
74	Bromobenzene	156	8.810	8.809	(0.911)	163962	50.0000	49.20
29	Bromochloromethane	128	3.803	3.803	(0.908)	80815	50.0000	48.93
39	Bromodichloromethane	83	5.730	5.729	(1.153)	222948	50.0000	51.45
66	Bromoform	173	8.416	8.416	(1.097)	101324	50.0000	51.73
6	Bromomethane	94	1.339	1.331	(0.320)	108118	50.0000	50.66
19	Carbon Disulfide	76	2.069	2.069	(0.494)	793560	100.000	102.53
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	185909	50.0000	48.95
59	Chlorobenzene	112	7.699	7.699	(1.004)	381692	50.0000	49.42
7	Chloroethane	64	1.403	1.396	(0.335)	127746	50.0000	51.08
28	Chloroform	83	3.910	3.910	(0.933)	287833	50.0000	50.03
3	Chloromethane	50	1.081	1.081	(0.258)	275527	50.0000	47.74
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	166623	50.0000	49.98
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	262781	50.0000	51.31
55	Dibromochloromethane	129	7.176	7.183	(0.936)	156839	50.0000	50.26
44	Dibromomethane	93	5.558	5.557	(1.118)	108245	50.0000	50.74
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	146094	50.0000	52.29
61	Ethylbenzene	106	7.800	7.807	(1.017)	198335	50.0000	49.91
91	Hexachlorobutadiene	225	11.489	11.481	(1.188)	17167	50.0000	48.22
67	Isopropylbenzene	105	8.566	8.566	(1.117)	582641	50.0000	49.48
62	m,p-Xylenes	106	7.907	7.907	(1.031)	478295	100.000	99.80
17	Methylene Chloride	84	2.306	2.305	(0.550)	166214	50.0000	52.51
87	n-Butylbenzene	91	9.999	9.999	(1.034)	421379	50.0000	52.13
73	n-Propylbenzene	91	8.917	8.917	(0.922)	715248	50.0000	50.21
92	Naphthalene	128	11.546	11.546	(1.194)	39390	50.0000	48.99
63	o-Xylene	106	8.244	8.244	(1.075)	237782	50.0000	50.28
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	558584	50.0000	50.60
64	Styrene	104	8.258	8.265	(1.077)	429325	50.0000	50.96
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	383782	50.0000	49.57
56	Tetrachloroethene	164	6.933	6.933	(0.904)	103604	50.0000	49.85
50	Toluene	91	6.446	6.453	(0.840)	609164	50.0000	49.71
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.603)	140656	50.0000	51.15
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	242389	50.0000	52.39
38	Trichloroethene	130	5.207	5.206	(1.048)	145681	50.0000	51.21
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	227995	50.0000	52.17
5	Vinyl Chloride	62	1.138	1.138	(0.272)	235666	50.0000	47.78

QC Flag Legend

M - Compound response manually integrated.



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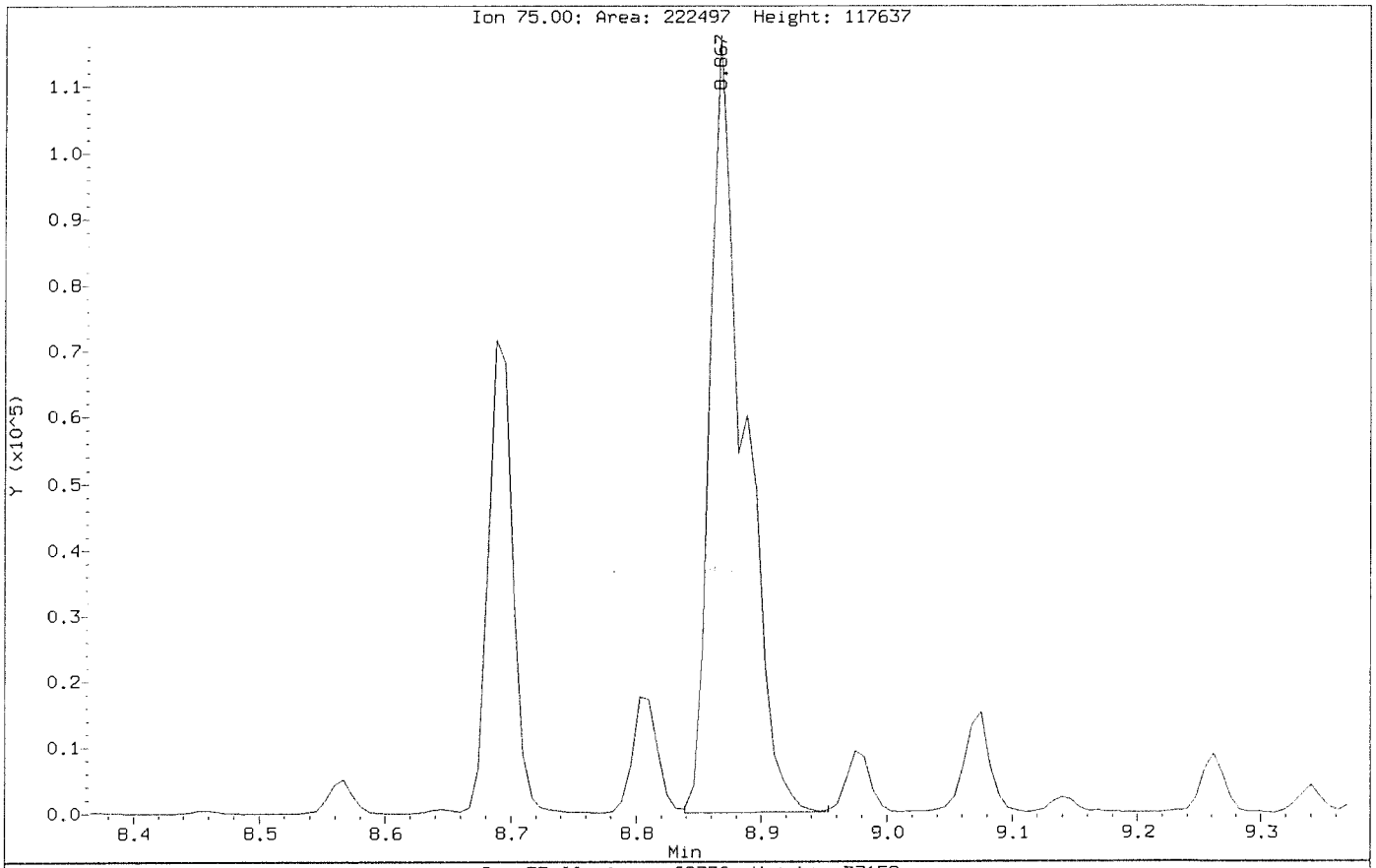
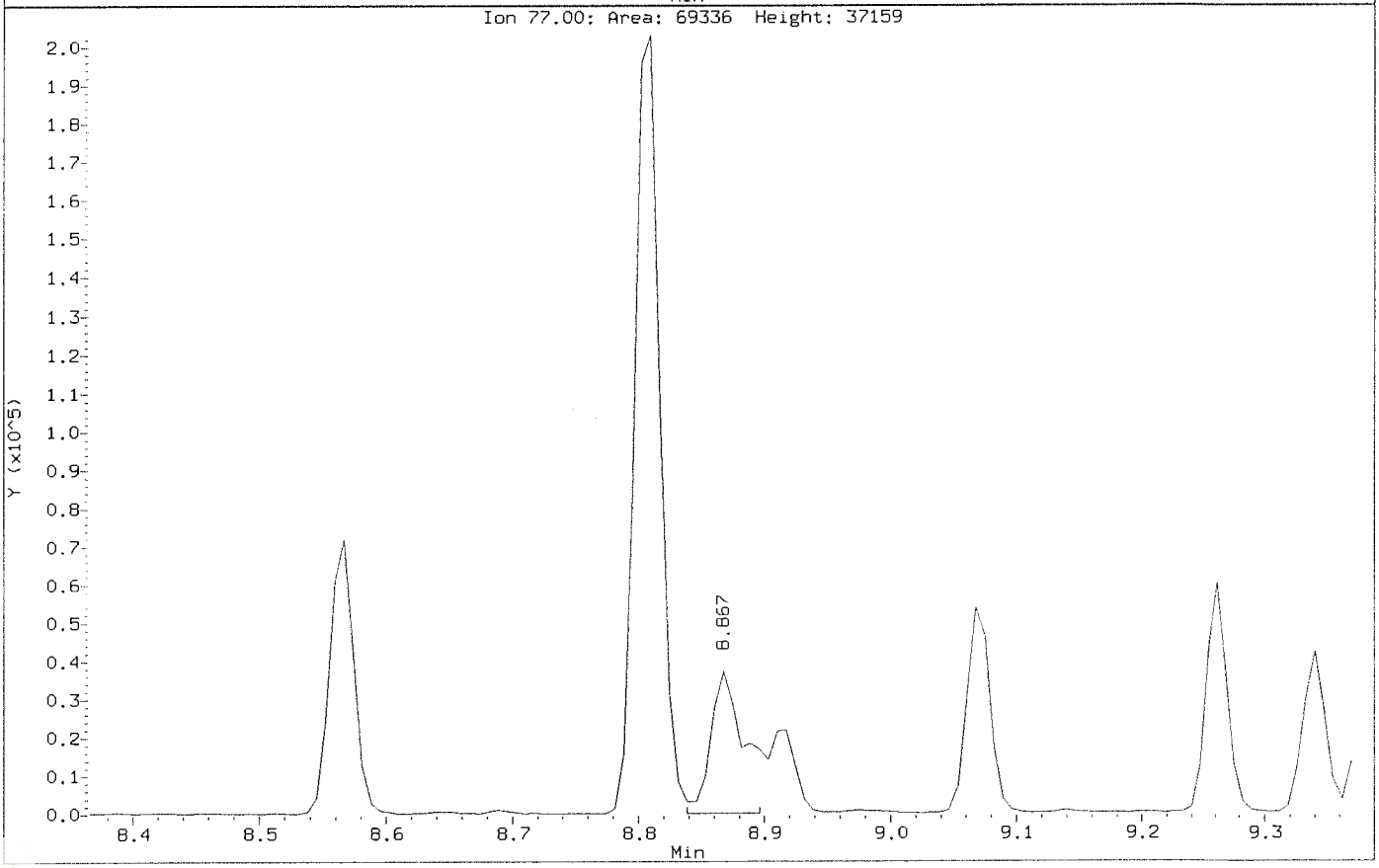
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6_i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060208.D
Injection Date: 02-JUN-2020 13:45
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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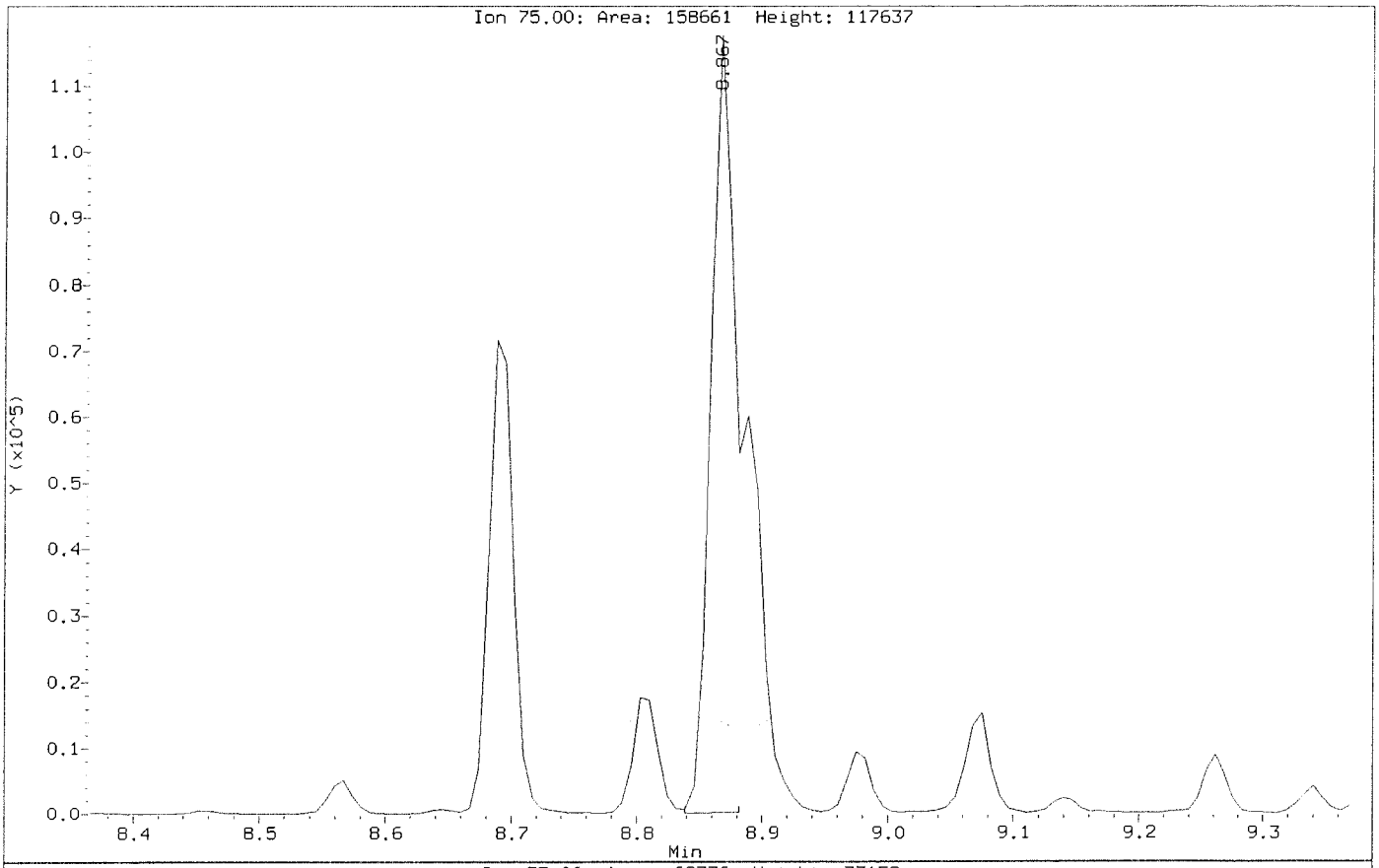
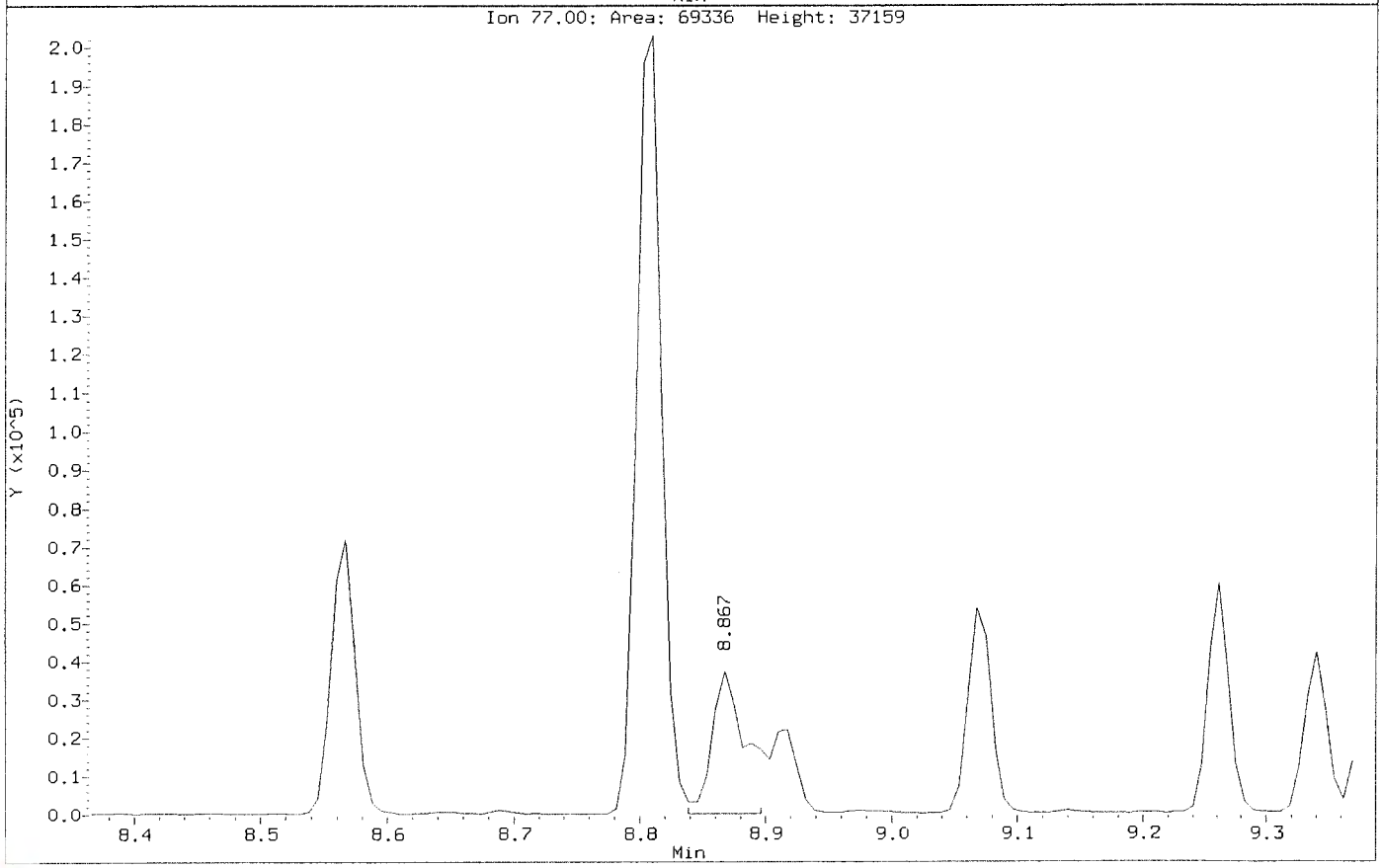
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060209.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 02-JUN-2020 14:09
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:09 Cal File: X060209.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	(1.000)	233294	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	413603	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	388529	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	170872	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	285402	100.000	100.38
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	422784	100.000	101.55
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	989422	100.000	97.19
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	388425	100.000	101.98
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	276409	100.000	99.13
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	440726	100.000	98.06
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	321579	100.000	94.17
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	237631	100.000	96.12
22 1,1-Dichloroethane	63	2.922	2.921	(0.697)	676971	100.000	93.82
11 1,1-Dichloroethene	96	1.912	1.911	(0.456)	231458	100.000	96.81
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	375197	100.000	96.10
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	20684	100.000	93.06
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	303593	100.000	96.38(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	44957	100.000	90.30
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	981945	100.000	97.68
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	18276	100.000	96.77
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	295050	100.000	99.00
88 1,2-Dichlorobenzene	146	9.991	9.999	(1.034)	438084	100.000	96.14
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	533975	100.000	97.09

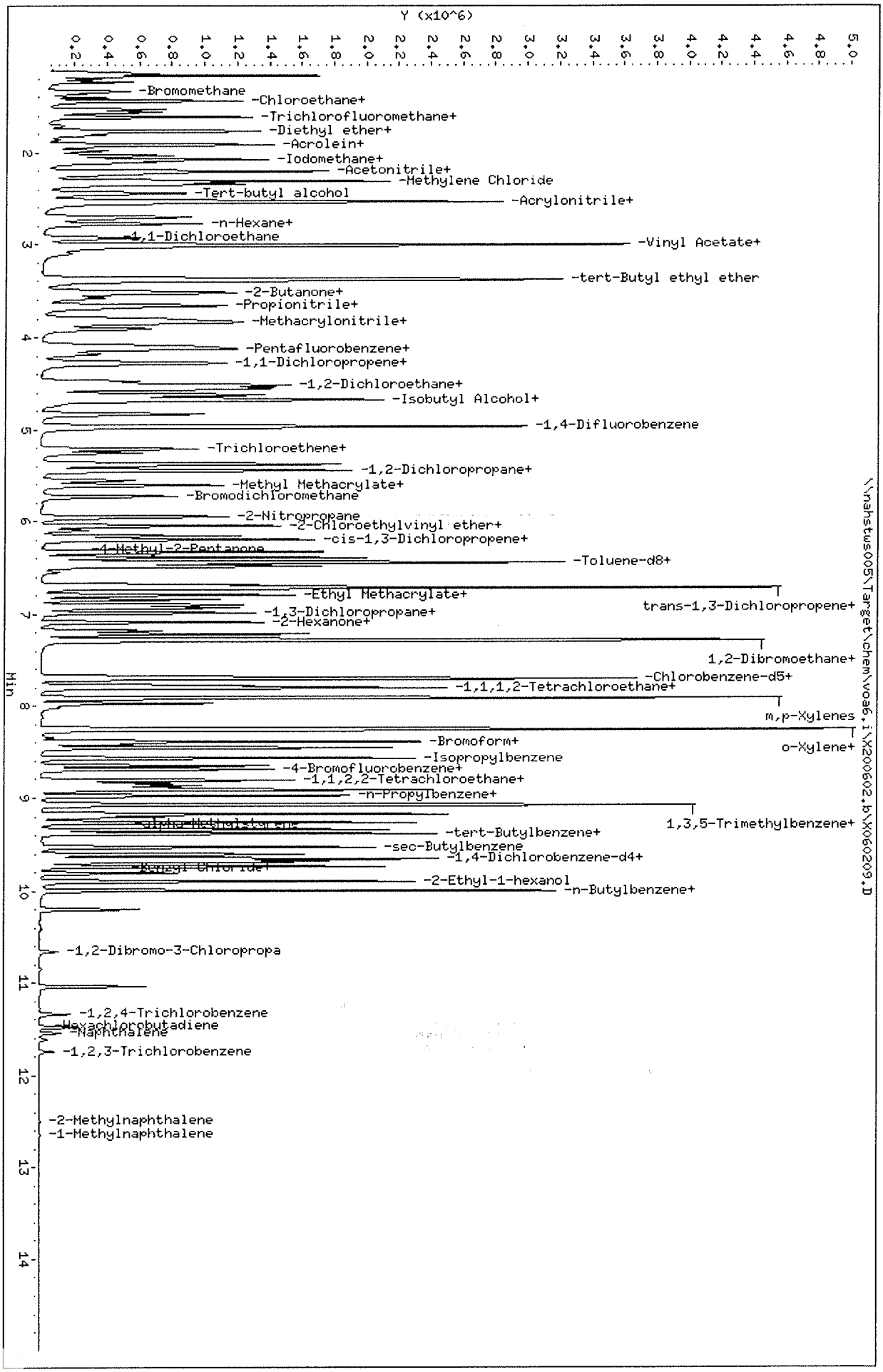
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	389073	100.000	99.73
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	964248	100.000	97.11
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	507374	100.000	94.89
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	493307	100.000	94.42
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	503088	100.000	92.67
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	424507	100.000	90.79
24	2-Butanone	43	3.581	3.580	(0.855)	498738	200.000	193.96
76	2-Chlorotoluene	91	8.974	8.981	(0.929)	842984	100.000	92.34
52	2-Hexanone	43	7.090	7.090	(0.924)	804543	200.000	205.92(A)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	995039	100.000	94.13
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	910019	100.000	99.98
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	1163467	200.000	201.13(A)
10	Acetone	43	1.976	1.976	(0.472)	380505	200.000	206.59(A)
37	Benzene	78	4.519	4.519	(0.909)	1149009	100.000	97.00
74	Bromobenzene	156	8.810	8.809	(0.912)	314160	100.000	93.97
29	Bromochloromethane	128	3.795	3.803	(0.906)	153551	100.000	93.50
39	Bromodichloromethane	83	5.729	5.729	(1.153)	425617	100.000	99.74
66	Bromoform	173	8.416	8.416	(1.097)	200947	100.000	103.42
6	Bromomethane	94	1.339	1.331	(0.320)	203862	100.000	96.98
19	Carbon Disulfide	76	2.069	2.069	(0.494)	1503885	200.000	195.41
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	362514	100.000	96.93
59	Chlorobenzene	112	7.699	7.699	(1.004)	729094	100.000	95.17
7	Chloroethane	64	1.403	1.396	(0.335)	236627	100.000	95.15
28	Chloroform	83	3.910	3.910	(0.933)	541282	100.000	94.61
3	Chloromethane	50	1.081	1.081	(0.258)	550488	100.000	95.93
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	314827	100.000	94.97
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	502784	100.000	99.68
55	Dibromochloromethane	129	7.176	7.183	(0.936)	303236	100.000	97.96
44	Dibromomethane	93	5.558	5.557	(1.118)	206480	100.000	98.27
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	287026	100.000	103.32
61	Ethylbenzene	106	7.800	7.807	(1.017)	388510	100.000	98.56
91	Hexachlorobutadiene	225	11.489	11.481	(1.189)	33315	100.000	91.31
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1140795	100.000	97.66
62	m,p-Xylenes	106	7.907	7.907	(1.031)	930274	200.000	195.69
17	Methylene Chloride	84	2.306	2.305	(0.550)	304409	100.000	97.63
87	n-Butylbenzene	91	9.999	9.999	(1.035)	831577	100.000	102.54
73	n-Propylbenzene	91	8.917	8.917	(0.923)	1409410	100.000	98.61
92	Naphthalene	128	11.546	11.546	(1.195)	79452	100.000	94.38
63	o-Xylene	106	8.244	8.244	(1.075)	461781	100.000	98.44
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	1092289	100.000	98.63
64	Styrene	104	8.265	8.265	(1.078)	813156	100.000	97.30
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	748134	100.000	96.32
56	Tetrachloroethene	164	6.933	6.933	(0.904)	205578	100.000	99.73
50	Toluene	91	6.453	6.453	(0.841)	1161880	100.000	95.59
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.603)	262593	100.000	96.03
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	464951	100.000	102.05
38	Trichloroethene	130	5.207	5.206	(1.048)	276348	100.000	98.64
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	442095	100.000	101.73
5	Vinyl Chloride	62	1.138	1.138	(0.272)	457490	100.000	93.28

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

QC Flag Legend

M - Compound response manually integrated.



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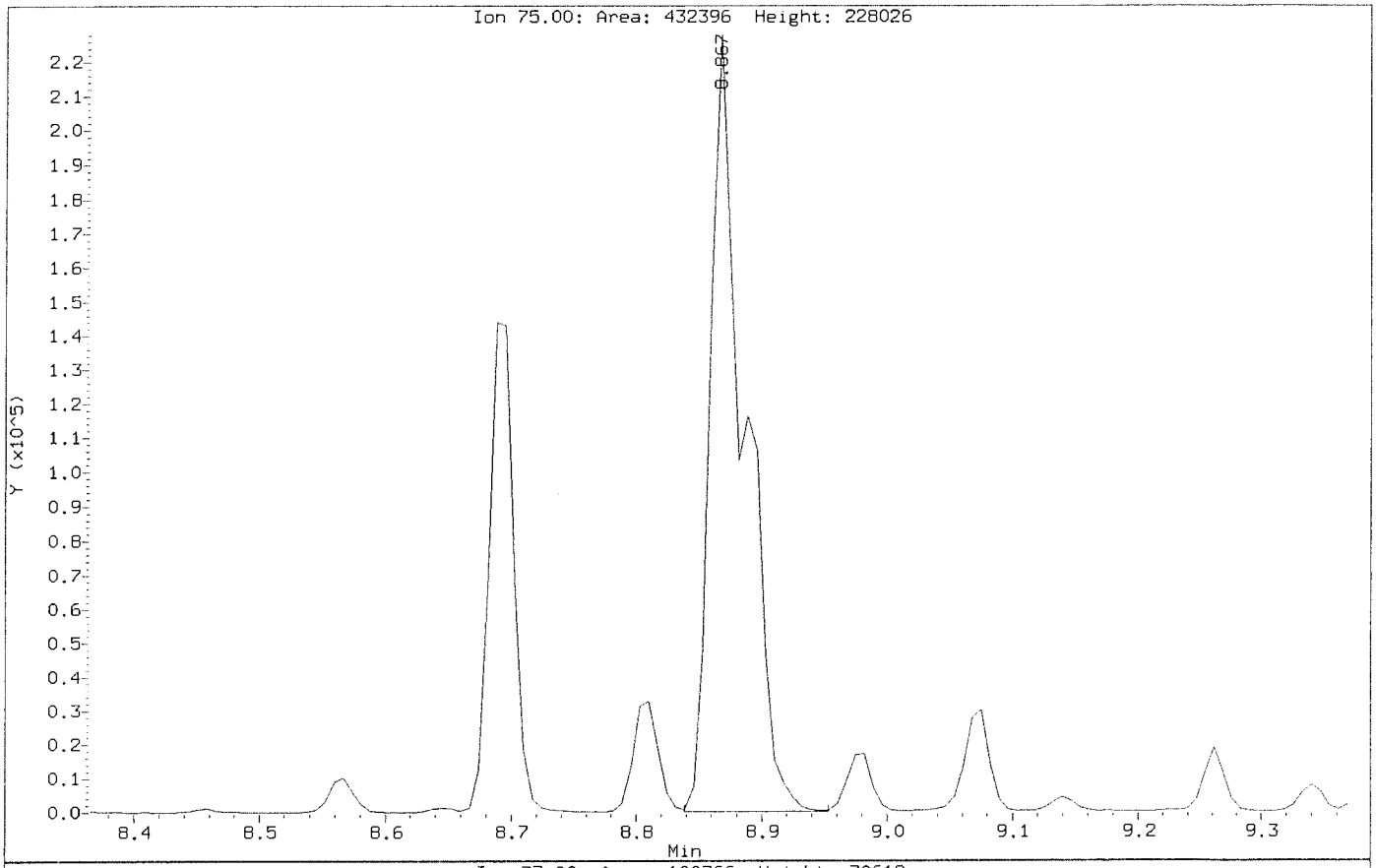
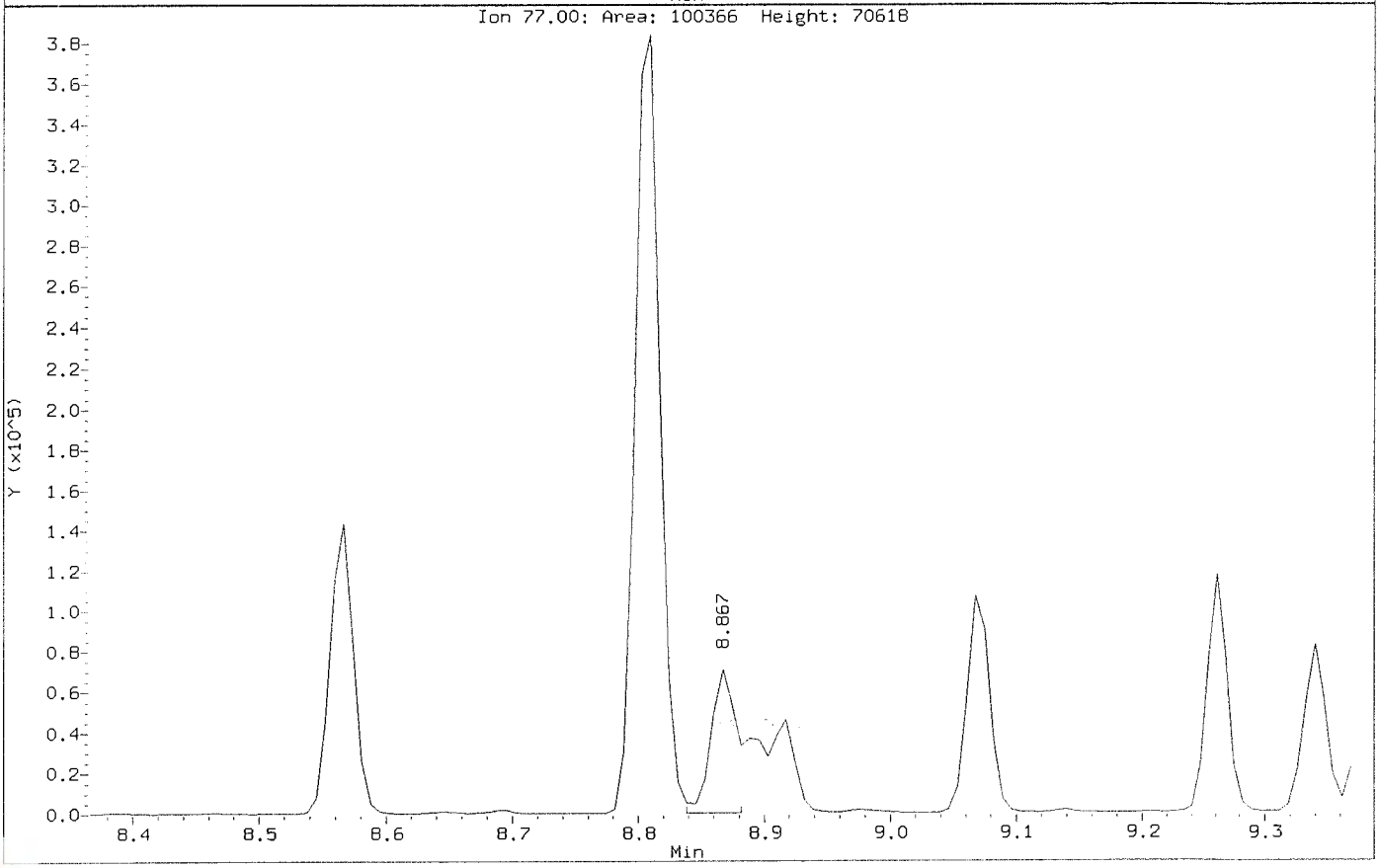
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060209.D
Injection Date: 02-JUN-2020 14:09
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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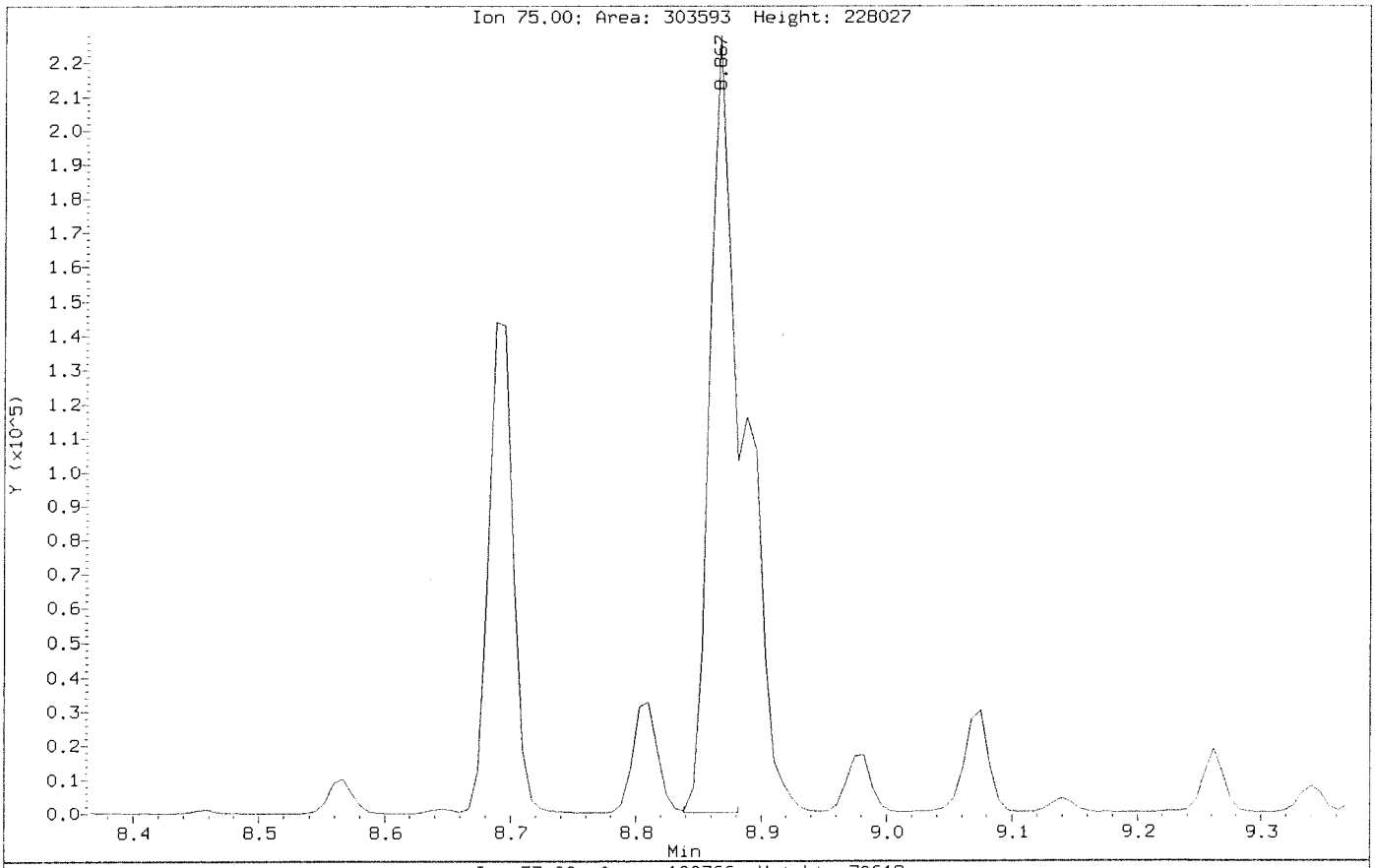
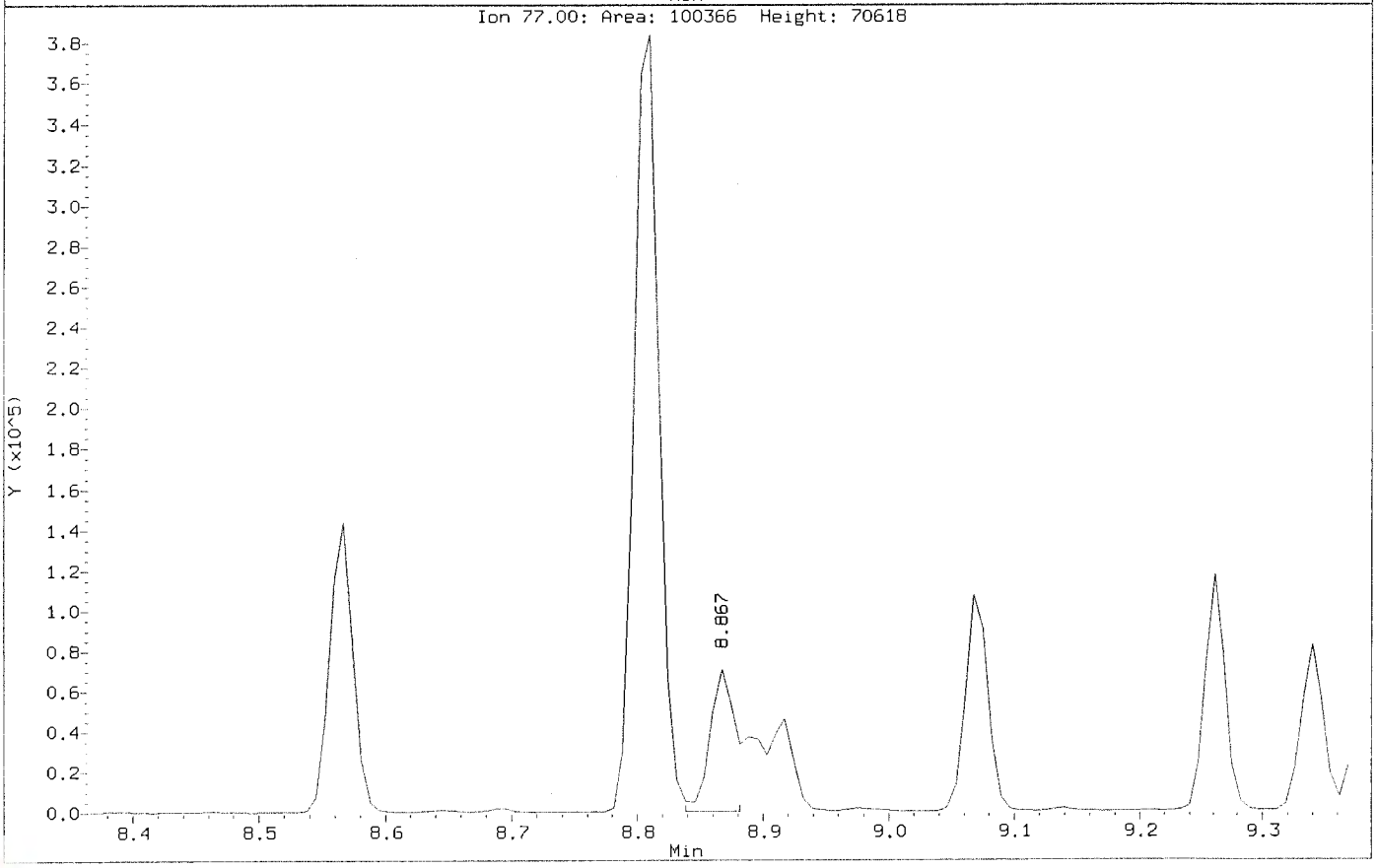
Injection Date: 02-JUN-2020 14:09
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060210.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 02-JUN-2020 14:33
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:33 Cal File: X060210.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	4.182	(1.000)	223718	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	399912	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	379239	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	163411	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	417964	150.000	153.62
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	617702	150.000	155.20
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1460055	150.000	146.94
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	568076	150.000	153.17
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	424056	150.000	155.80
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	684309	150.000	158.78
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	489845	150.000	150.00
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	358806	150.000	148.70
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	1027735	150.000	148.54
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	362036	150.000	157.92
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	593880	150.000	157.33
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	36196	150.000	160.06
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	448560	150.000	148.91(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	75487	150.000	156.83
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	1513006	150.000	157.39
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	27849	150.000	153.86
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	441825	150.000	151.89
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	660070	150.000	151.47
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	797215	150.000	149.92

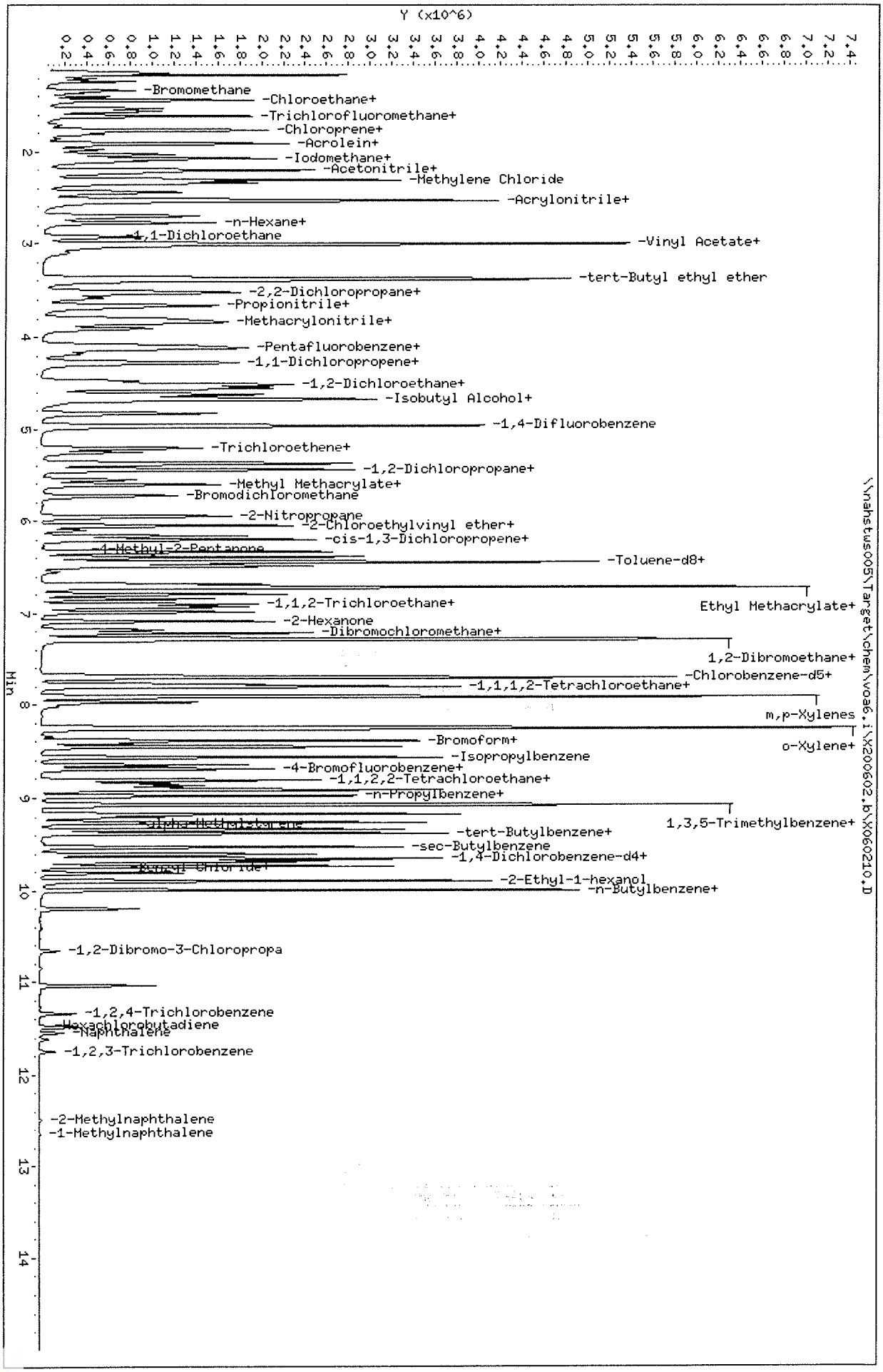
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	593700	150.000	157.39
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	1491164	150.000	157.04
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	779782	150.000	152.50
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	749909	150.000	147.06
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	763813	150.000	147.12
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	653811	150.000	145.82
24	2-Butanone	43	3.580	3.580	(0.856)	736034	300.000	298.50(AH)
76	2-Chlorotoluene	91	8.974	8.981	(0.929)	1290817	150.000	147.86
52	2-Hexanone	43	7.090	7.090	(0.924)	1207558	300.000	316.65(A)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	1519430	150.000	150.30
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1427471	150.000	163.99
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	1737437	300.000	307.71(A)
10	Acetone	43	1.976	1.976	(0.473)	535084	300.000	306.60(A)
37	Benzene	78	4.519	4.519	(0.909)	1765184	150.000	154.12
74	Bromobenzene	156	8.809	8.809	(0.912)	486864	150.000	152.28
29	Bromochloromethane	128	3.803	3.803	(0.909)	229469	150.000	145.71
39	Bromodichloromethane	83	5.729	5.729	(1.153)	643815	150.000	156.03
66	Bromoform	173	8.416	8.416	(1.097)	302191	150.000	159.35
6	Bromomethane	94	1.331	1.331	(0.318)	316905	150.000	157.86
19	Carbon Disulfide	76	2.069	2.069	(0.495)	2352791	300.000	318.80(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	579706	150.000	160.31
59	Chlorobenzene	112	7.699	7.699	(1.004)	1122569	150.000	150.13
7	Chloroethane	64	1.396	1.396	(0.334)	362068	150.000	151.83
28	Chloroform	83	3.910	3.910	(0.935)	813702	150.000	148.32
3	Chloromethane	50	1.081	1.081	(0.258)	879813	150.000	159.89
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	476814	150.000	150.00
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	768121	150.000	157.50
55	Dibromochloromethane	129	7.176	7.183	(0.936)	456764	150.000	151.17
44	Dibromomethane	93	5.557	5.557	(1.118)	310677	150.000	152.93
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	465313	150.000	174.68
61	Ethylbenzene	106	7.800	7.807	(1.017)	600486	150.000	156.08
91	Hexachlorobutadiene	225	11.488	11.481	(1.189)	54291	150.000	154.11
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1790333	150.000	157.02
62	m,p-Xylenes	106	7.907	7.907	(1.031)	1437867	300.000	309.88(A)
17	Methylene Chloride	84	2.305	2.305	(0.551)	458611	150.000	154.01
87	n-Butylbenzene	91	9.999	9.999	(1.035)	1288213	150.000	166.10
73	n-Propylbenzene	91	8.917	8.917	(0.923)	2194189	150.000	160.54
92	Naphthalene	128	11.546	11.546	(1.195)	136164	150.000	158.65
63	o-Xylene	106	8.244	8.244	(1.075)	705728	150.000	154.14
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	1715624	150.000	161.99
64	Styrene	104	8.258	8.265	(1.077)	1247305	150.000	152.90
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	1164111	150.000	156.72
56	Tetrachloroethene	164	6.933	6.933	(0.904)	322120	150.000	160.09
50	Toluene	91	6.446	6.453	(0.840)	1787674	150.000	150.68
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	402178	150.000	153.37
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	709489	150.000	161.06
38	Trichloroethene	130	5.206	5.206	(1.048)	430500	150.000	158.93
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	693525	150.000	166.42
5	Vinyl Chloride	62	1.138	1.138	(0.272)	720944	150.000	153.29

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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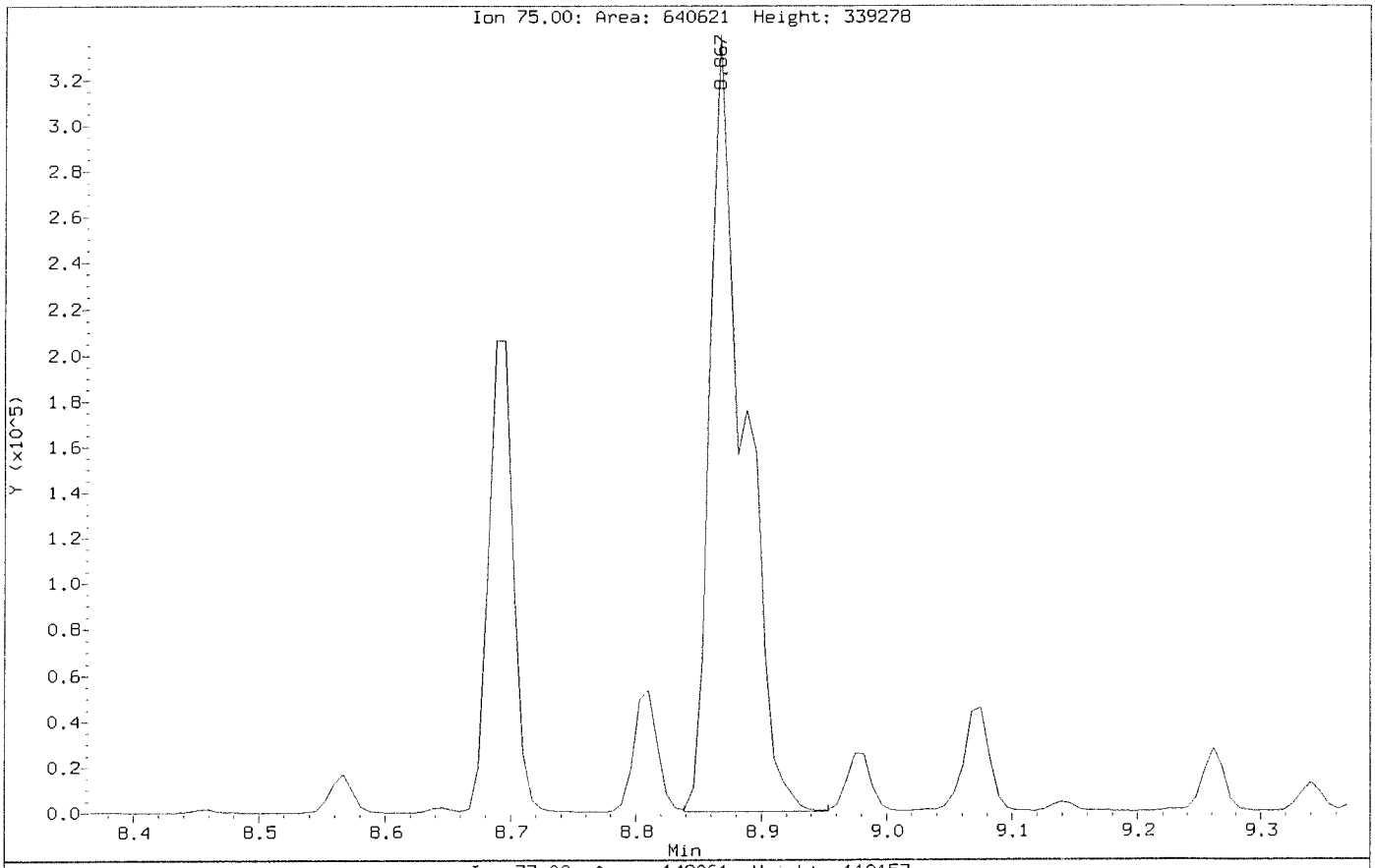
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

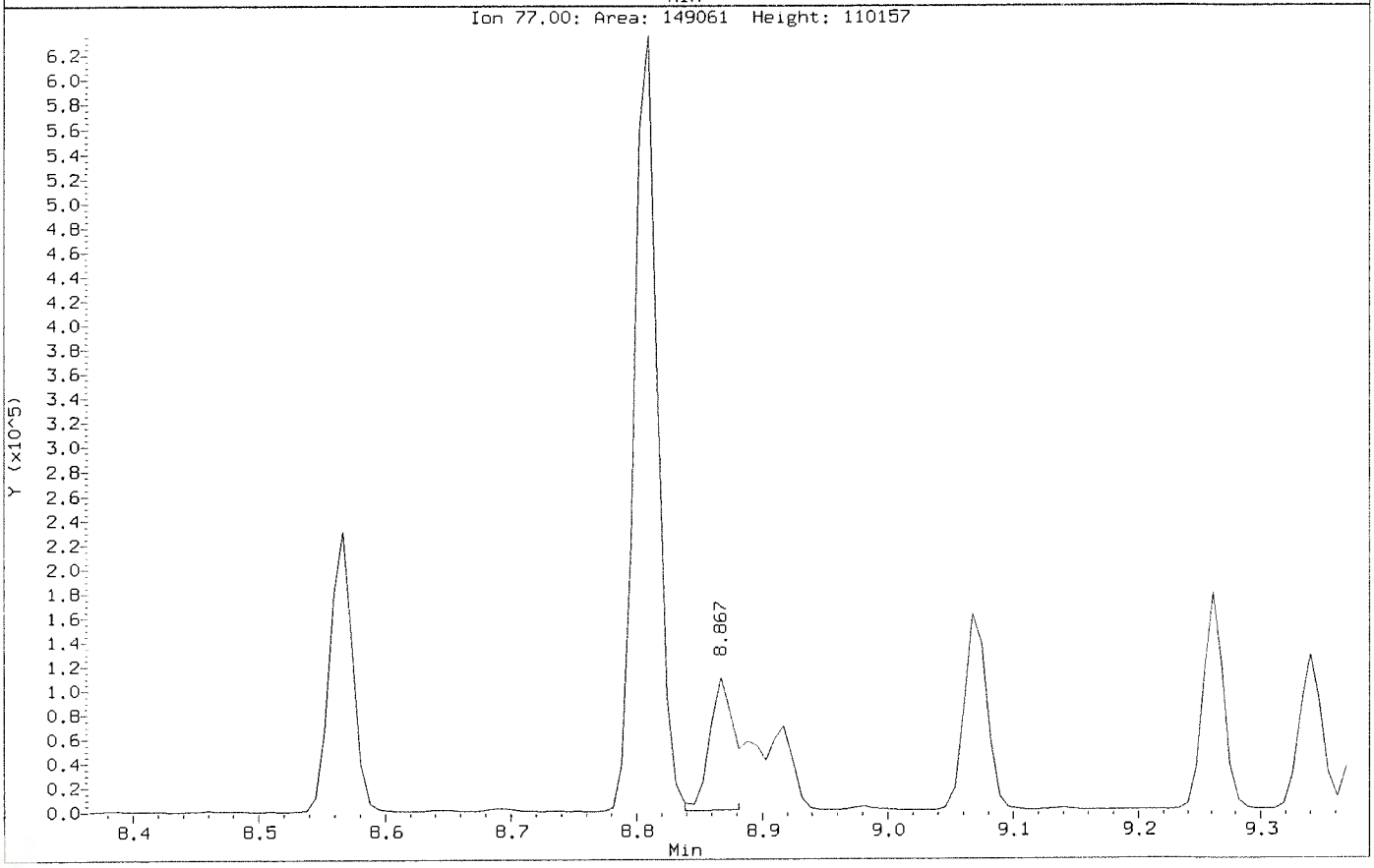
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

\\nahstws005\Target\chem\voa6.i\X200602.b\X060210.D

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060210.D
Injection Date: 02-JUN-2020 14:33
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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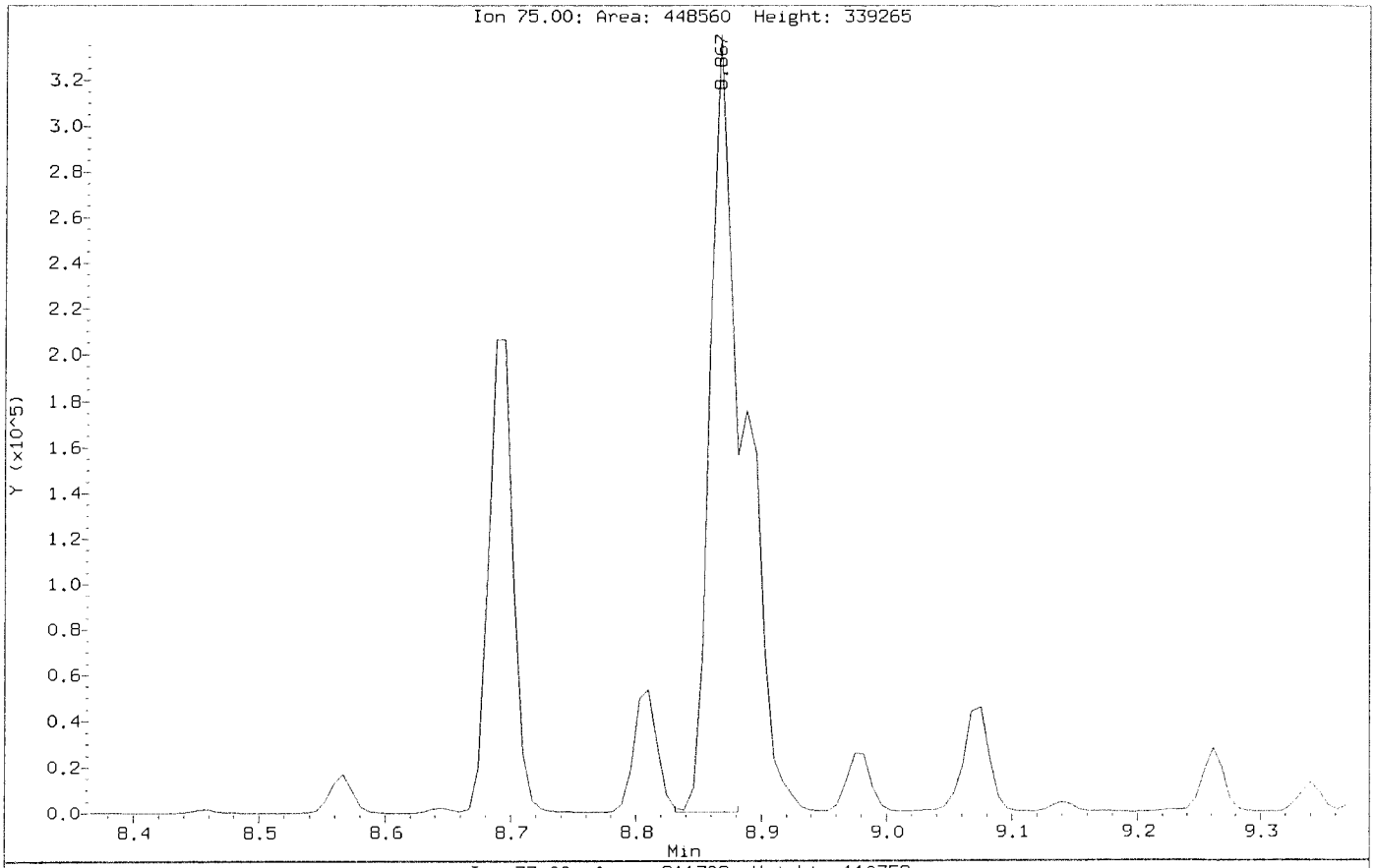
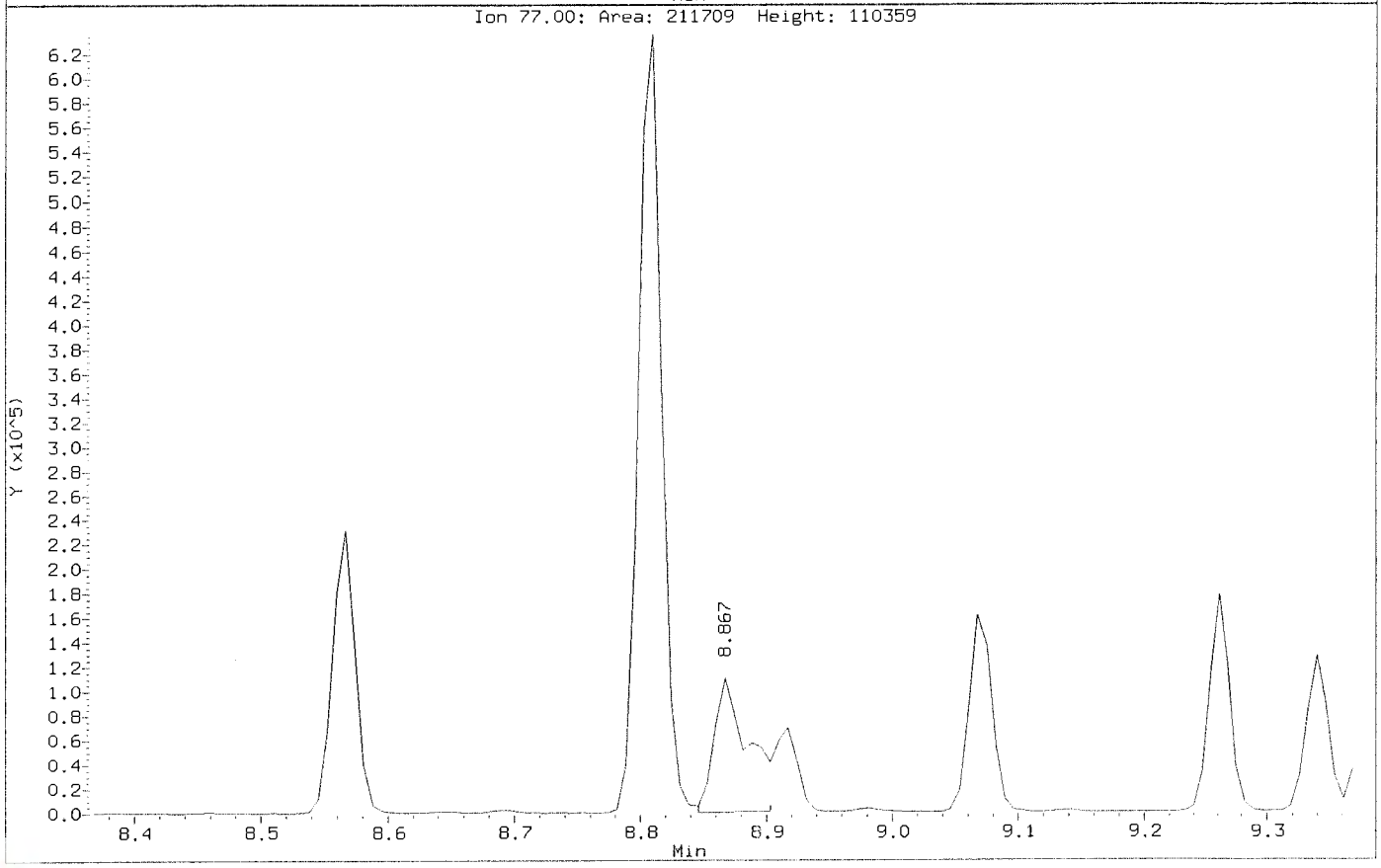
Injection Date: 02-JUN-2020 14:33
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060211.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 02-JUN-2020 14:57
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:57 Cal File: X060211.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	229801	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	414202	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	389346	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	167338	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	549750	200.000	196.89
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	795626	200.000	194.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1910853	200.000	187.31
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	746966	200.000	196.39
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	566838	200.000	202.86(A)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	906040	200.000	204.66(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	646876	200.000	193.44
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	470701	200.000	190.01
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	1355545	200.000	190.73
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	469318	200.000	199.30
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	779475	200.000	199.37
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	46791	200.000	194.96
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	572698	200.000	185.66(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	98724	200.000	199.66
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1987721	200.000	201.92(A)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	36884	200.000	198.82
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	579620	200.000	194.09
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	875981	200.000	196.30
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	1048354	200.000	190.35

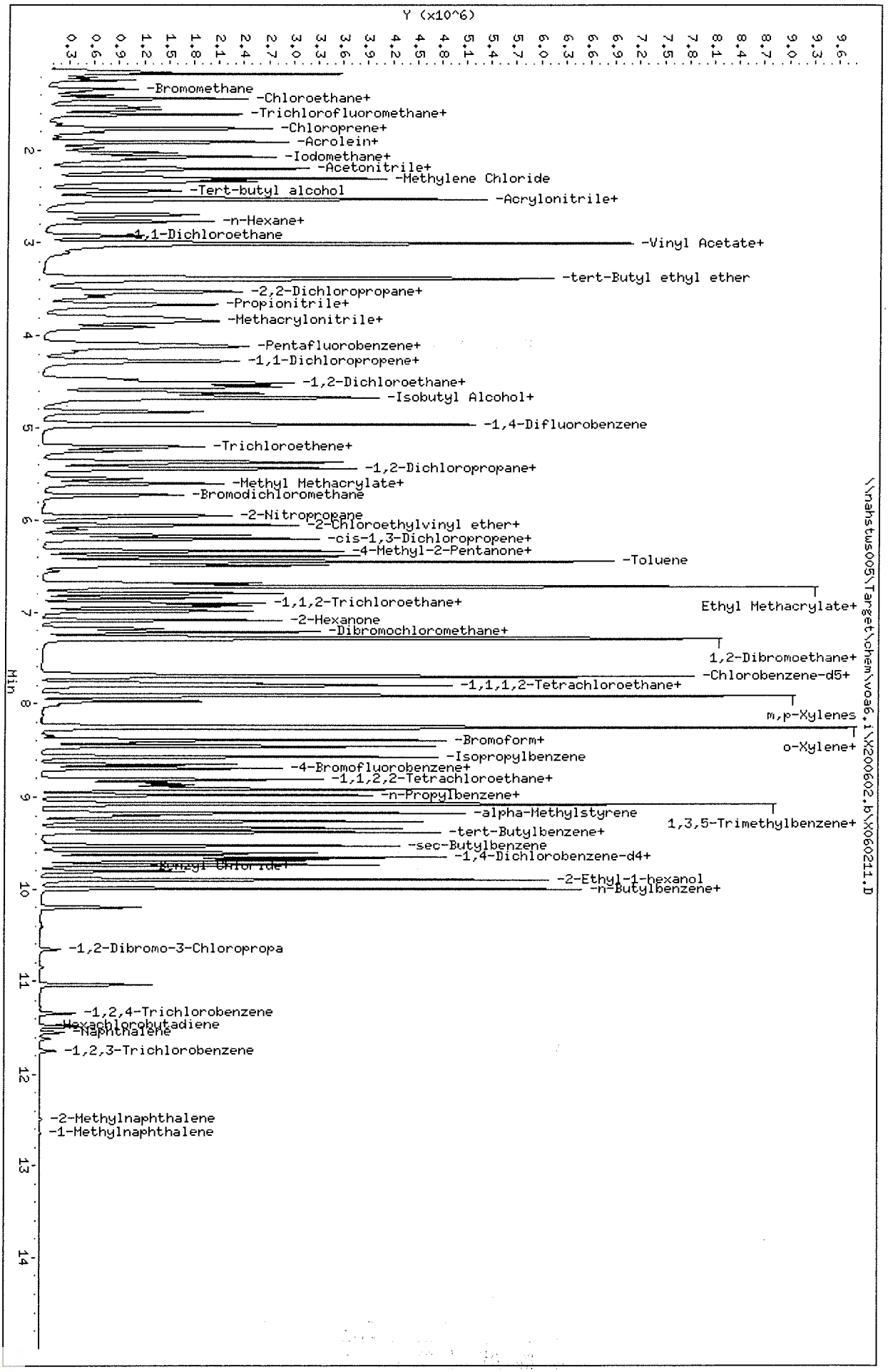
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	776528	200.000	198.76
75 1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	1955782	200.000	201.14(A)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	1031267	200.000	196.95
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	986308	200.000	188.40
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	1016979	200.000	191.29
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	851066	200.000	184.79
24 2-Butanone	43	3.580	3.580	(0.856)	987146	400.000	389.74(AH)
76 2-Chlorotoluene	91	8.981	8.981	(0.929)	1726377	200.000	193.11
52 2-Hexanone	43	7.090	7.090	(0.924)	1606504	400.000	410.33(A)
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	2009120	200.000	194.08
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1860852	200.000	208.76(A)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	2319898	400.000	400.20(A)
10 Acetone	43	1.976	1.976	(0.473)	691876	400.000	387.97(A)
37 Benzene	78	4.519	4.519	(0.909)	2340062	200.000	197.26
74 Bromobenzene	156	8.809	8.809	(0.911)	642845	200.000	196.35
29 Bromochloromethane	128	3.803	3.803	(0.909)	295737	200.000	182.81
39 Bromodichloromethane	83	5.729	5.729	(1.153)	857508	200.000	200.66(A)
66 Bromoform	173	8.416	8.416	(1.097)	403195	200.000	207.09(A)
6 Bromomethane	94	1.331	1.331	(0.318)	401260	200.000	194.83
19 Carbon Disulfide	76	2.069	2.069	(0.495)	3109286	400.000	410.15(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	767193	200.000	204.84(A)
59 Chlorobenzene	112	7.699	7.699	(1.004)	1483251	200.000	193.22
7 Chloroethane	64	1.396	1.396	(0.334)	474857	200.000	193.85
28 Chloroform	83	3.910	3.910	(0.935)	1080164	200.000	191.68
3 Chloromethane	50	1.081	1.081	(0.258)	1194919	200.000	211.40(A)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	630423	200.000	193.07
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	1024803	200.000	202.88(A)
55 Dibromochloromethane	129	7.183	7.183	(0.937)	605575	200.000	195.22
44 Dibromomethane	93	5.557	5.557	(1.118)	411897	200.000	195.76
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	617353	200.000	225.62(A)
61 Ethylbenzene	106	7.807	7.807	(1.018)	789156	200.000	199.79
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	72849	200.000	201.28(A)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	2345338	200.000	200.36(A)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	1891275	400.000	397.01(A)
17 Methylene Chloride	84	2.305	2.305	(0.551)	602460	200.000	197.27
87 n-Butylbenzene	91	9.999	9.999	(1.034)	1686871	200.000	212.40(A)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	2888059	200.000	206.34(A)
92 Naphthalene	128	11.546	11.546	(1.194)	179740	200.000	195.88
63 o-Xylene	106	8.244	8.244	(1.075)	938134	200.000	199.58
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	2247121	200.000	207.20(A)
64 Styrene	104	8.265	8.265	(1.078)	1650721	200.000	197.11
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	1527680	200.000	200.83(A)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	420935	200.000	203.78(A)
50 Toluene	91	6.453	6.453	(0.841)	2360527	200.000	193.81
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	528365	200.000	196.16
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	942487	200.000	206.57(A)
38 Trichloroethene	130	5.206	5.206	(1.048)	570348	200.000	203.30(A)
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	898205	200.000	209.83(A)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	956992	200.000	198.10

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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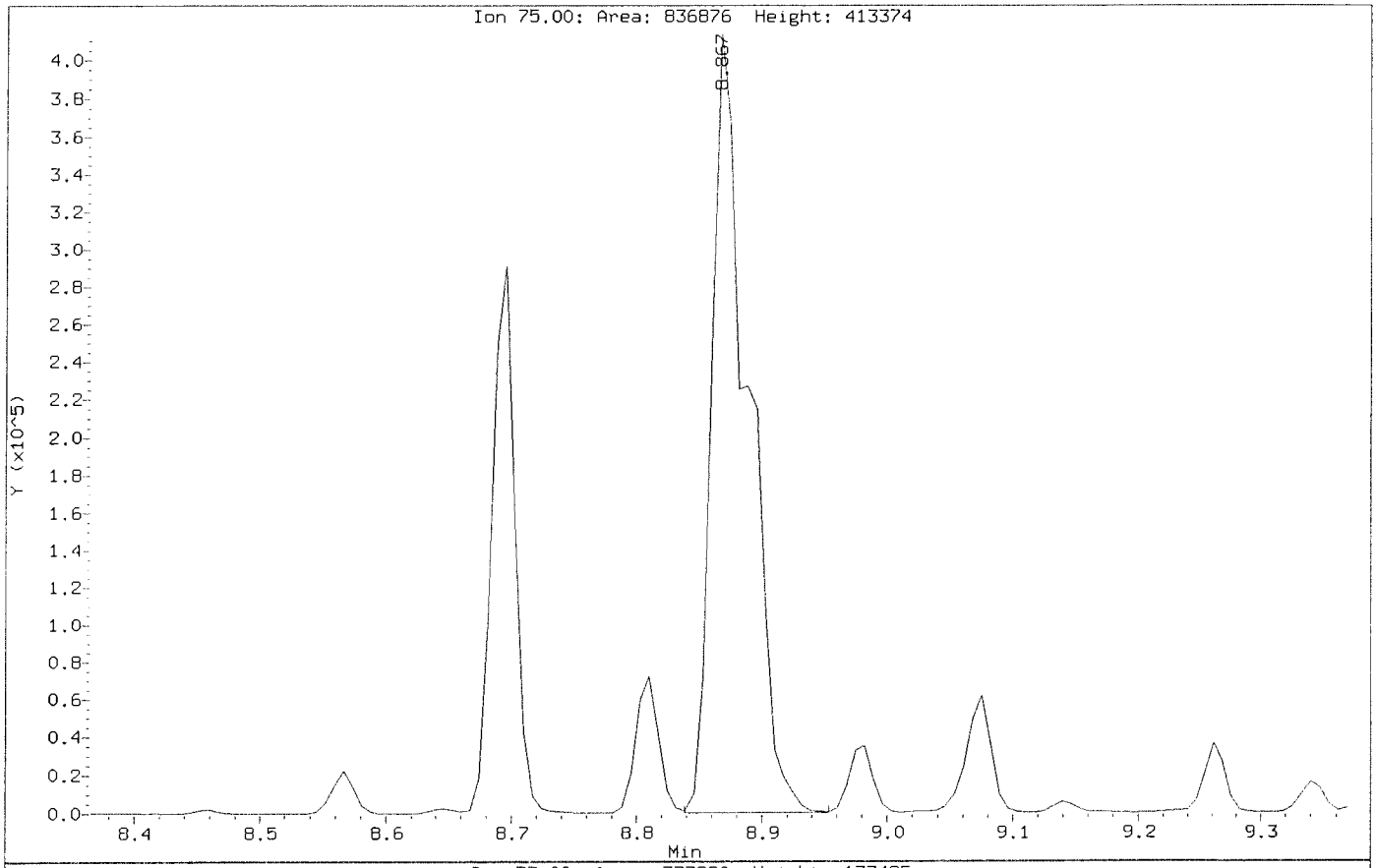
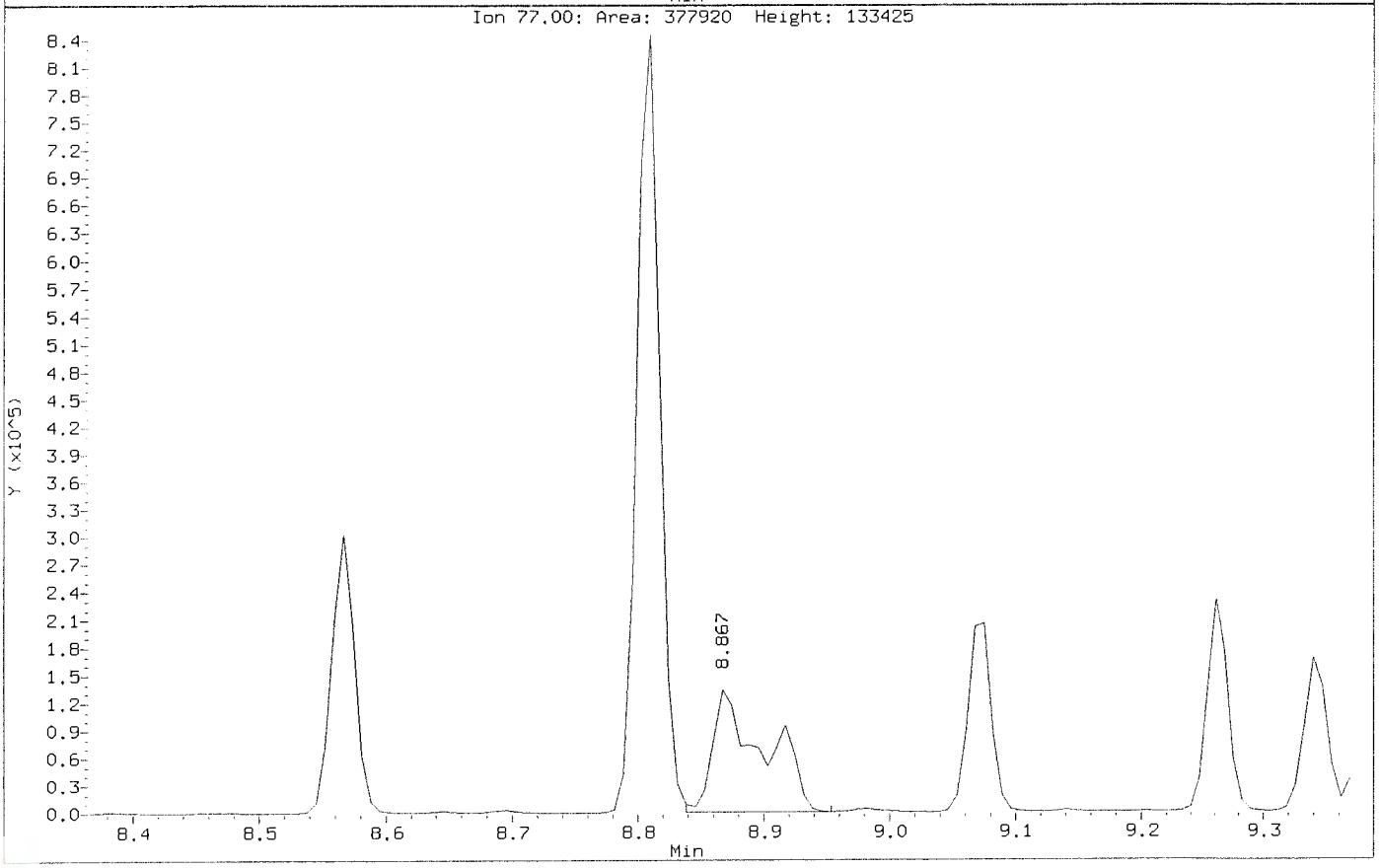
Date : 02-JUN-2020 14:57
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060211.D
Injection Date: 02-JUN-2020 14:57
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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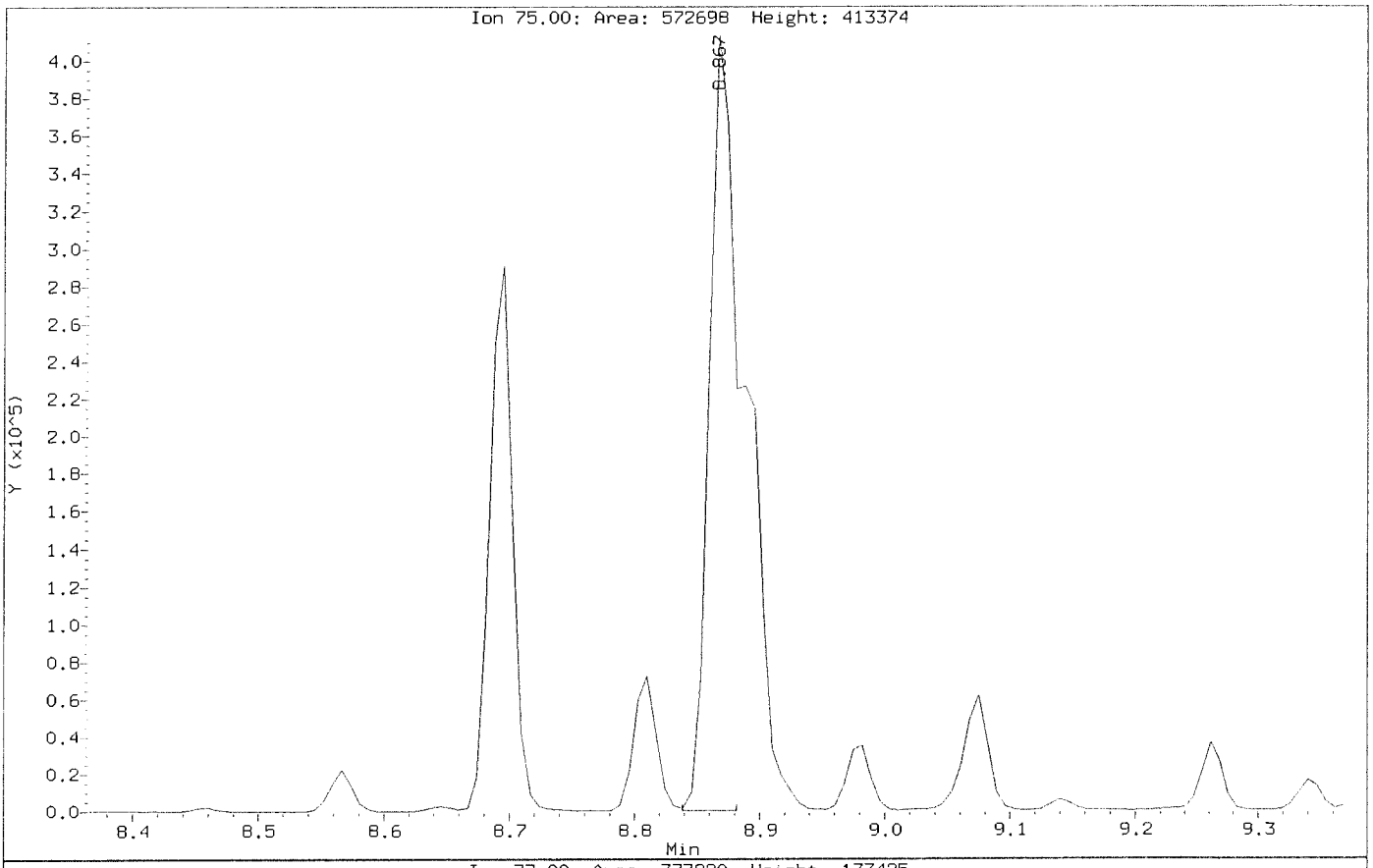
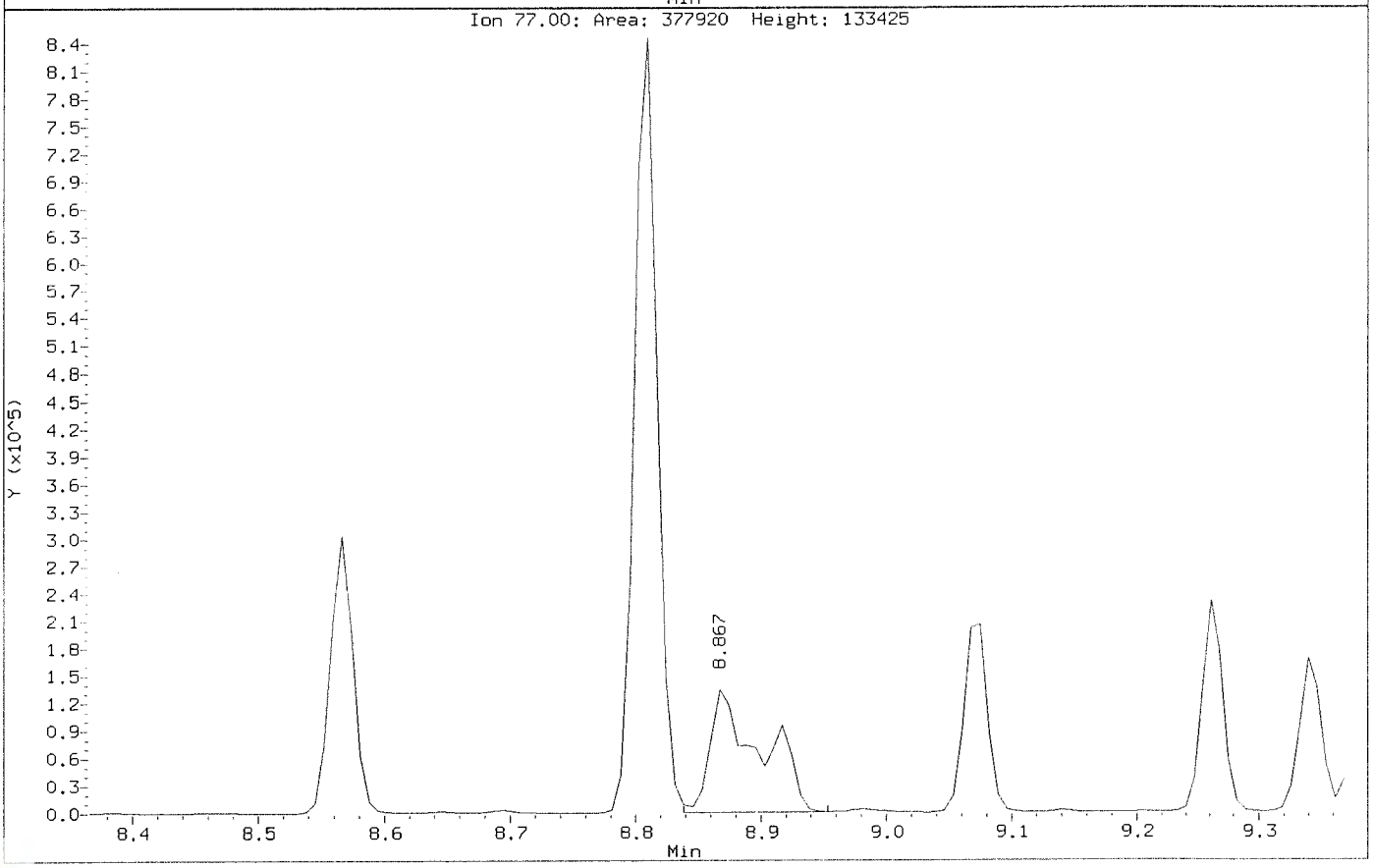
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060213.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 02-JUN-2020 15:45
Operator : PC Inst ID: voa6.i
Smp Info : ICV;ICV;2;;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:57 Cal File: X060211.D
Als bottle: 14 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% moisture
Vt	5.000	Purge Volume (ml)
Ws	5.000	weight of sample (g)
Va	400.000	Soil Aliquot Volume (uL)
Cpnd Variable		Local Compound Variable

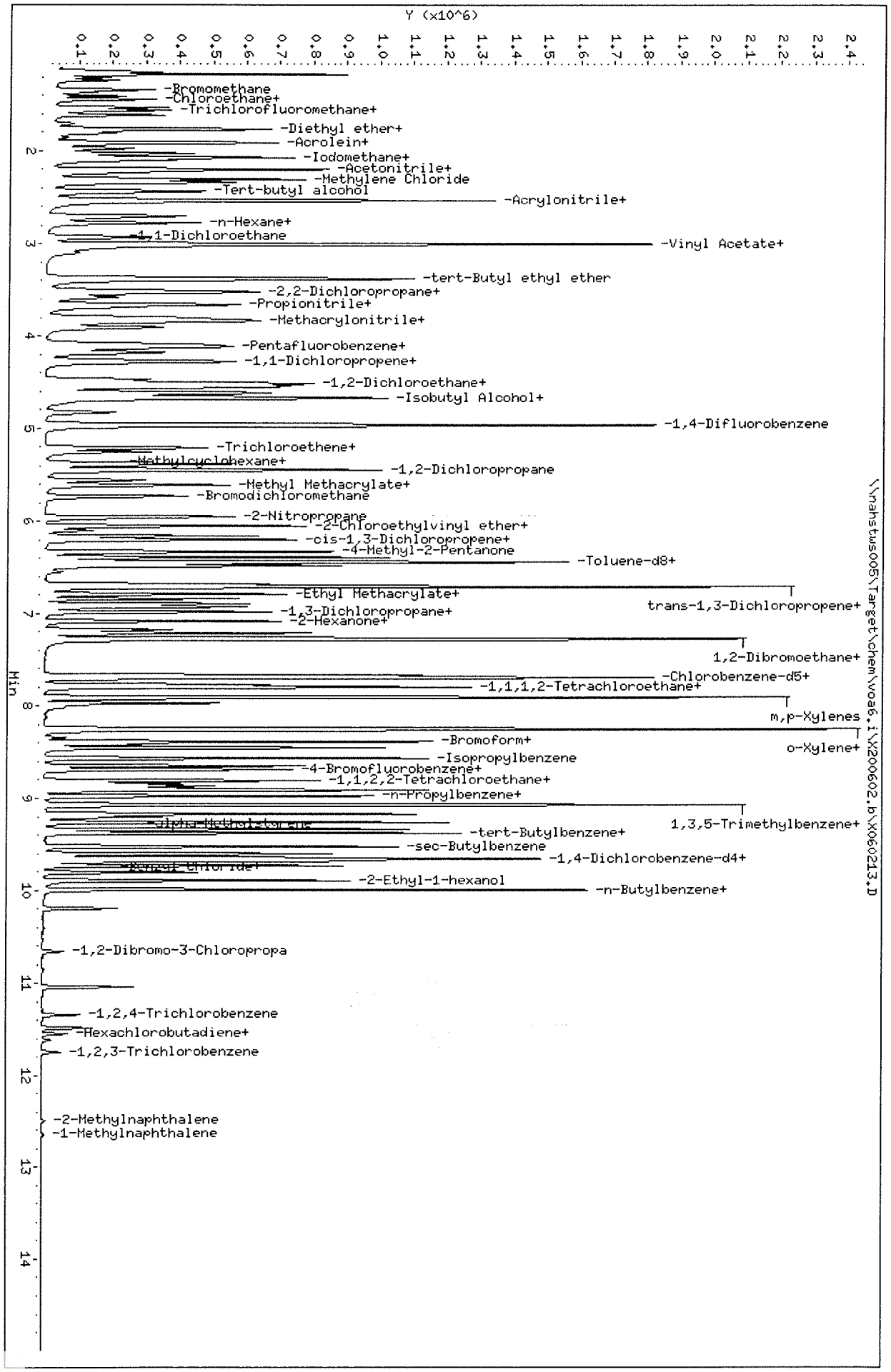
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/Kg)
*	1 Pentafluorobenzene	168	4.189	4.182	(1.000)	244530	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	440693	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	409171	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	184148	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	147907	49.3160	49.31
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	216981	49.2561	49.25
$	48 Toluene-d8	98	6.388	6.388	(0.833)	514421	47.9844	47.98
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	203578	50.3801	50.38
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	142553	48.5458	48.54
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	225261	47.8200	47.82
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.914)	169743	46.1276	46.12
	53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	123310	47.3658	47.36
	22 1,1-Dichloroethane	63	2.922	2.921	(0.697)	354899	46.9289	46.92
	11 1,1-Dichloroethene	96	1.919	1.911	(0.458)	118664	47.3565	47.35
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	190346	45.7606	45.76
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	13919	59.9536	59.95
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	157061	46.2689	46.26(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	26347	50.1479	50.14
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	512715	47.3305	47.33
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	9900	48.9240	48.92
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	150489	47.9513	47.95

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060213.D Page 2
Report Date: 06-Jul-2020 11:16

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
88 1,2-Dichlorobenzene	146	9.991	9.999	(1.033)	232515	47.3489	47.34
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	278277	47.4917	47.49
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	203696	49.0045	49.00
75 1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	492708	46.0467	46.04
83 1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	270794	46.9964	46.99
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	253330	46.0455	46.04
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	265882	45.4464	45.44
26 2,2-Dichloropropane	77	3.516	3.516	(0.839)	237974	48.5608	48.56
24 2-Butanone	43	3.581	3.580	(0.855)	280736	104.165	104.16(H)
76 2-Chlorotoluene	91	8.974	8.981	(0.928)	436373	44.3567	44.35
52 2-Hexanone	43	7.090	7.090	(0.924)	417040	101.359	101.35
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	518291	45.4972	45.49
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	467024	47.6125	47.61
45 4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	586782	96.3208	96.32
10 Acetone	43	1.976	1.976	(0.472)	236397	119.272	119.27(M)
37 Benzene	78	4.519	4.519	(0.909)	601092	47.6256	47.62
74 Bromobenzene	156	8.810	8.809	(0.911)	165529	45.9457	45.94
29 Bromochloromethane	128	3.803	3.803	(0.908)	80092	46.5290	46.52
39 Bromodichloromethane	83	5.729	5.729	(1.153)	220237	48.4385	48.43
66 Bromoform	173	8.416	8.416	(1.097)	101951	49.8278	49.82
6 Bromomethane	94	1.338	1.331	(0.320)	113895	51.2122	51.21
19 Carbon Disulfide	76	2.069	2.069	(0.494)	797670	98.8842	98.88
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	178972	44.9145	44.91
59 Chlorobenzene	112	7.699	7.699	(1.004)	378170	46.8769	46.87
7 Chloroethane	64	1.403	1.396	(0.335)	125430	48.1220	48.12
28 Chloroform	83	3.910	3.910	(0.933)	283061	47.2054	47.20
3 Chloromethane	50	1.081	1.081	(0.258)	295900	49.1978	49.19
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	165573	47.6554	47.65
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	263187	48.9723	48.97
55 Dibromochloromethane	129	7.176	7.183	(0.936)	154296	47.3311	47.33
44 Dibromomethane	93	5.558	5.557	(1.118)	106567	47.6045	47.60
2 Dichlorodifluoromethane	85	0.973	0.973	(0.232)	142608	48.9793	48.97
61 Ethylbenzene	106	7.800	7.807	(1.017)	198362	47.7872	47.78
91 Hexachlorobutadiene	225	11.489	11.481	(1.188)	20856	53.9244	53.92
67 Isopropylbenzene	105	8.566	8.566	(1.117)	572074	46.5051	46.50
62 m,p-Xylenes	106	7.907	7.907	(1.031)	474786	94.8382	94.83
17 Methylene Chloride	84	2.305	2.305	(0.550)	162504	49.1904	49.19
87 n-Butylbenzene	91	9.999	9.999	(1.034)	431593	49.3839	49.38
73 n-Propylbenzene	91	8.917	8.917	(0.922)	713185	46.3049	46.30
92 Naphthalene	128	11.546	11.546	(1.194)	46766	53.5588	53.55
63 o-Xylene	106	8.244	8.244	(1.075)	238280	48.2374	48.23
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	552454	46.2913	46.29
64 Styrene	104	8.258	8.265	(1.077)	424000	48.1764	48.17
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	378006	45.1589	45.15
56 Tetrachloroethene	164	6.933	6.933	(0.904)	102115	47.0401	47.04
50 Toluene	91	6.446	6.453	(0.840)	600177	46.8902	46.89
20 trans-1,2-Dichloroethene	96	2.528	2.527	(0.603)	140289	48.9473	48.94
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	238163	49.0630	49.06
38 Trichloroethene	130	5.214	5.206	(1.049)	143233	47.9878	47.98
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	219343	48.1551	48.15
5 Vinyl Chloride	62	1.145	1.138	(0.273)	232212	45.1738	45.17

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060213.D
Date : 02-JUN-2020 15:45
Client ID: ICV
Sample Info: ICV;ICV;2;;;ICV

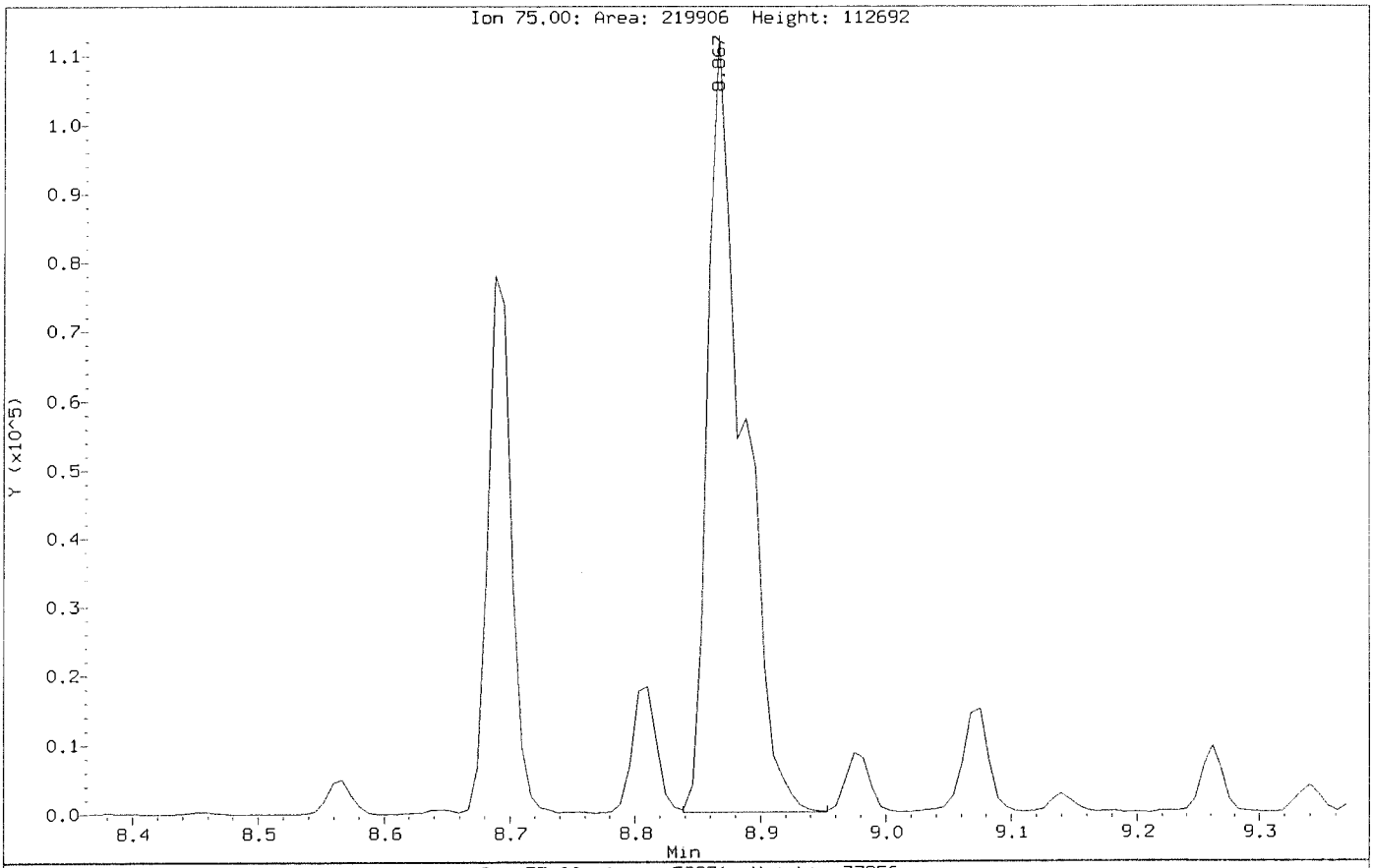
Column phase: DB624

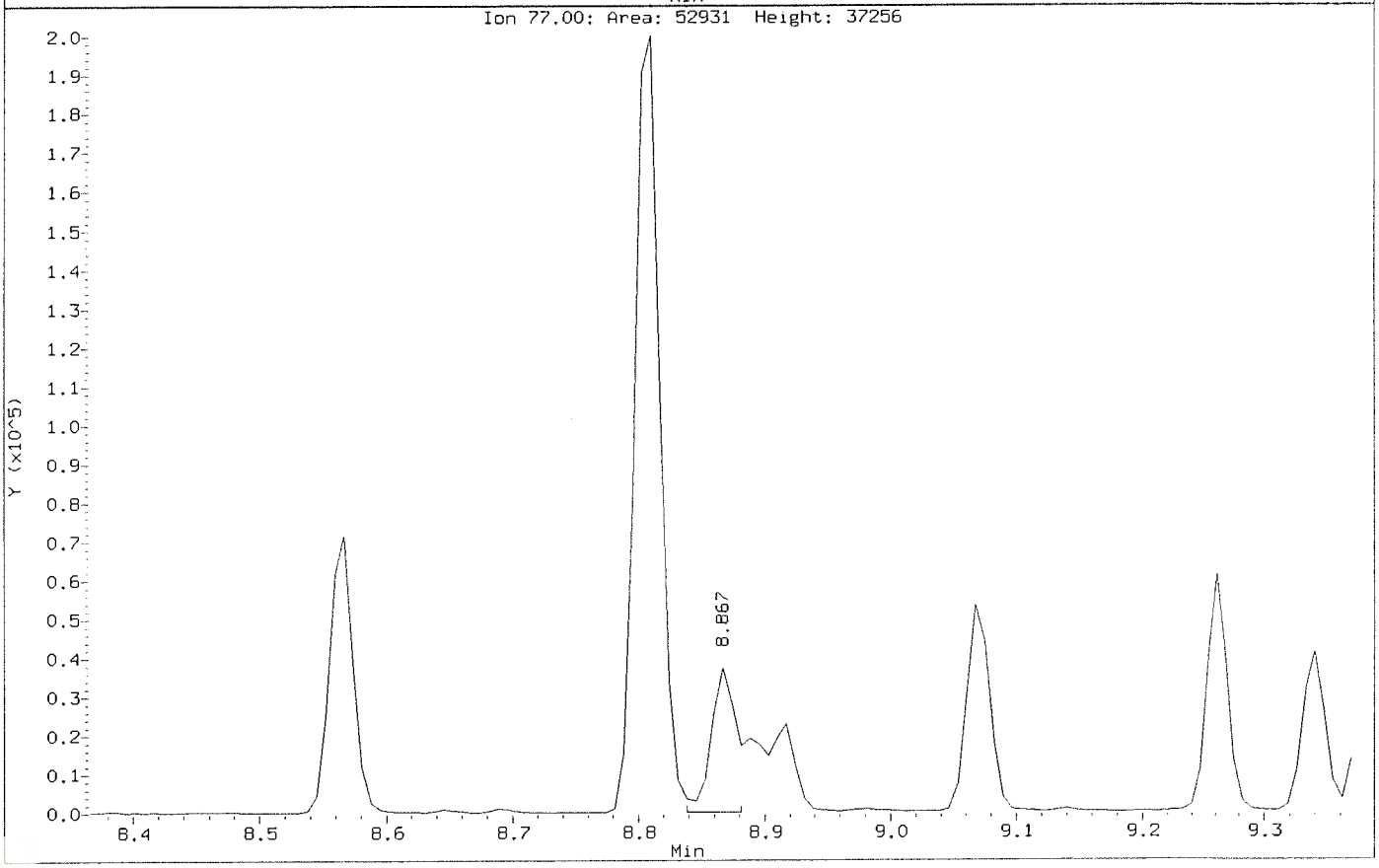
Instrument: voa6.i

Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060213.D
Injection Date: 02-JUN-2020 15:45
Instrument: voa6.i
Client Sample ID: ICV

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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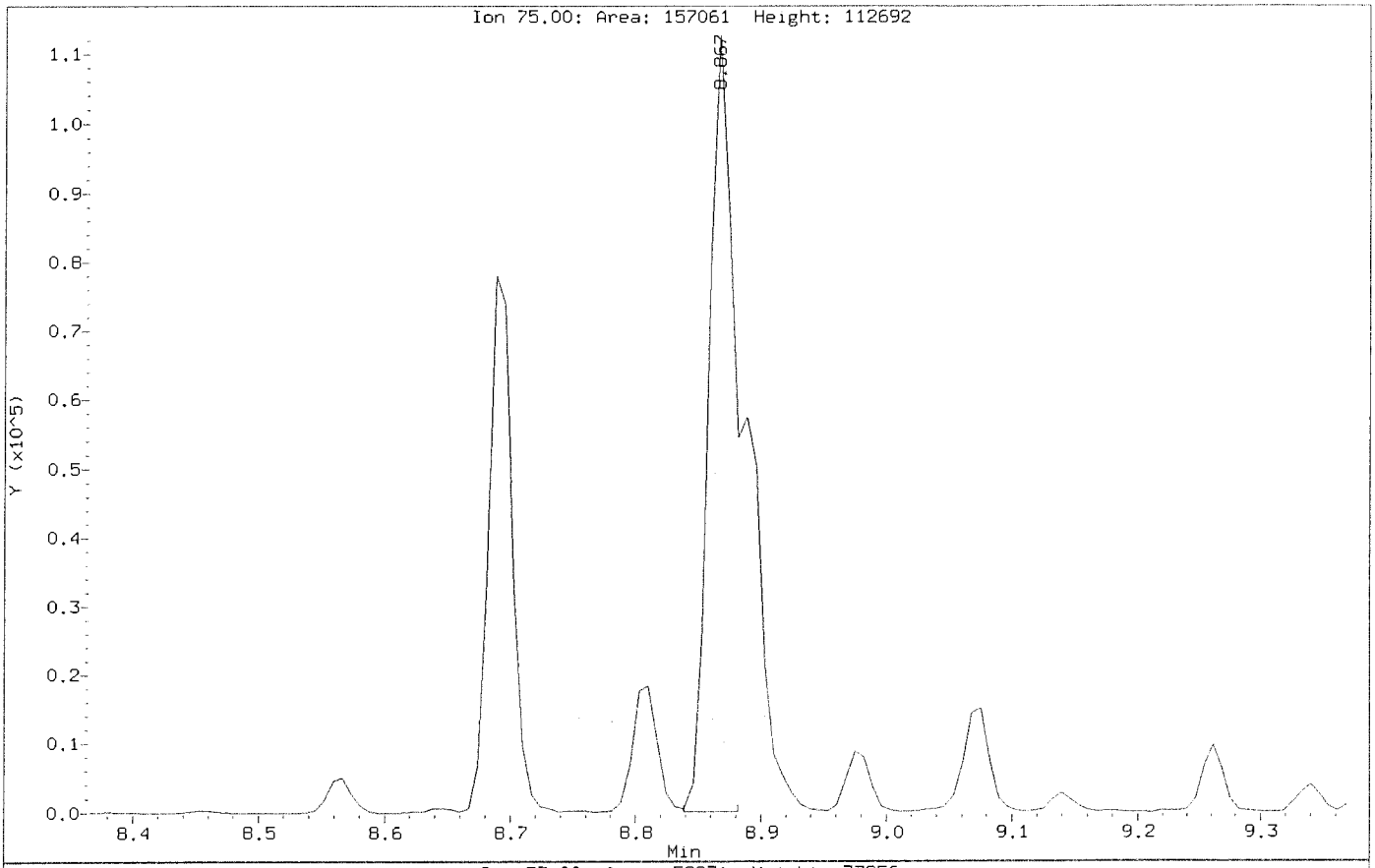
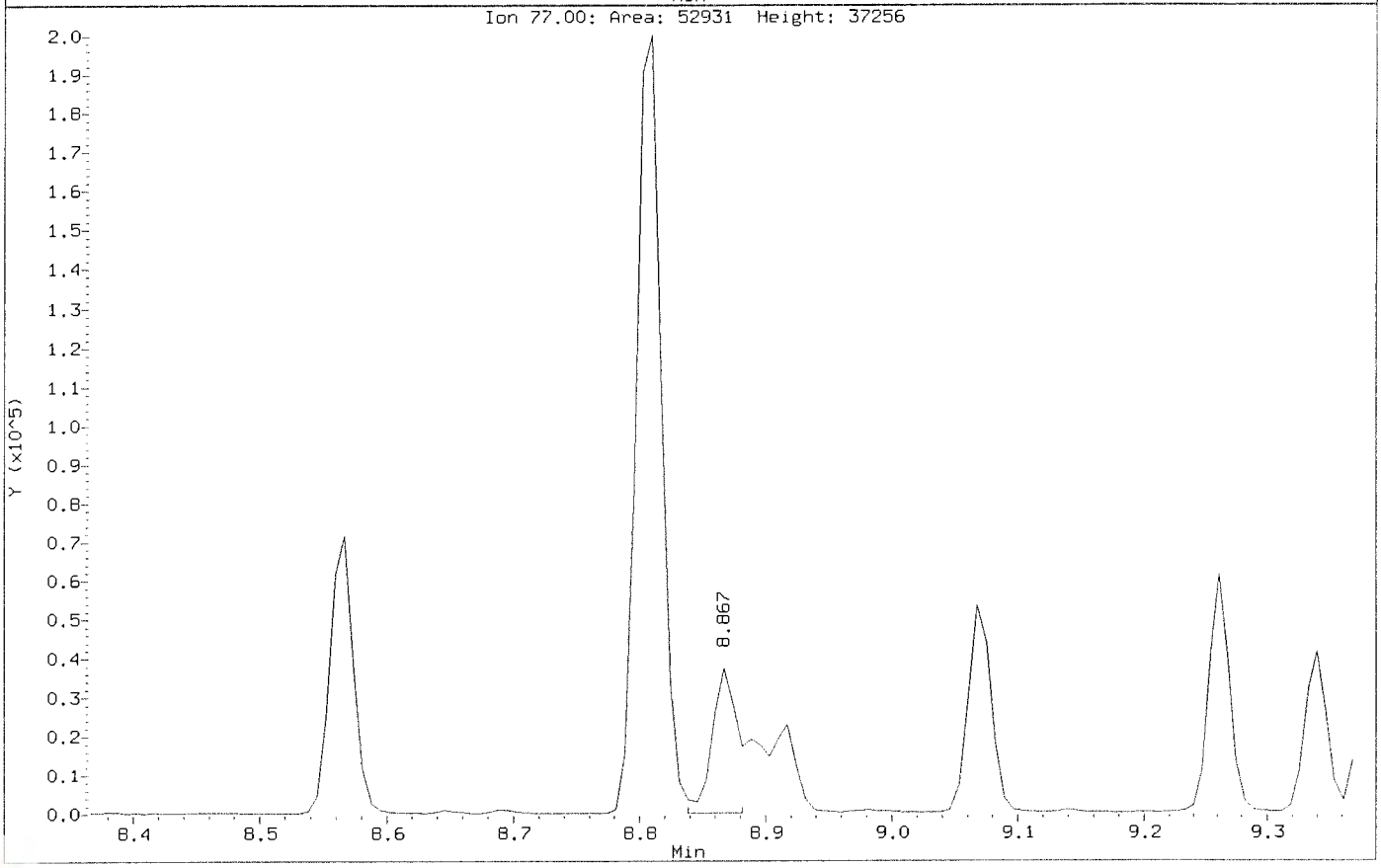
Injection Date: 02-JUN-2020 15:45
Instrument: voa6.i
Client Sample ID: ICV

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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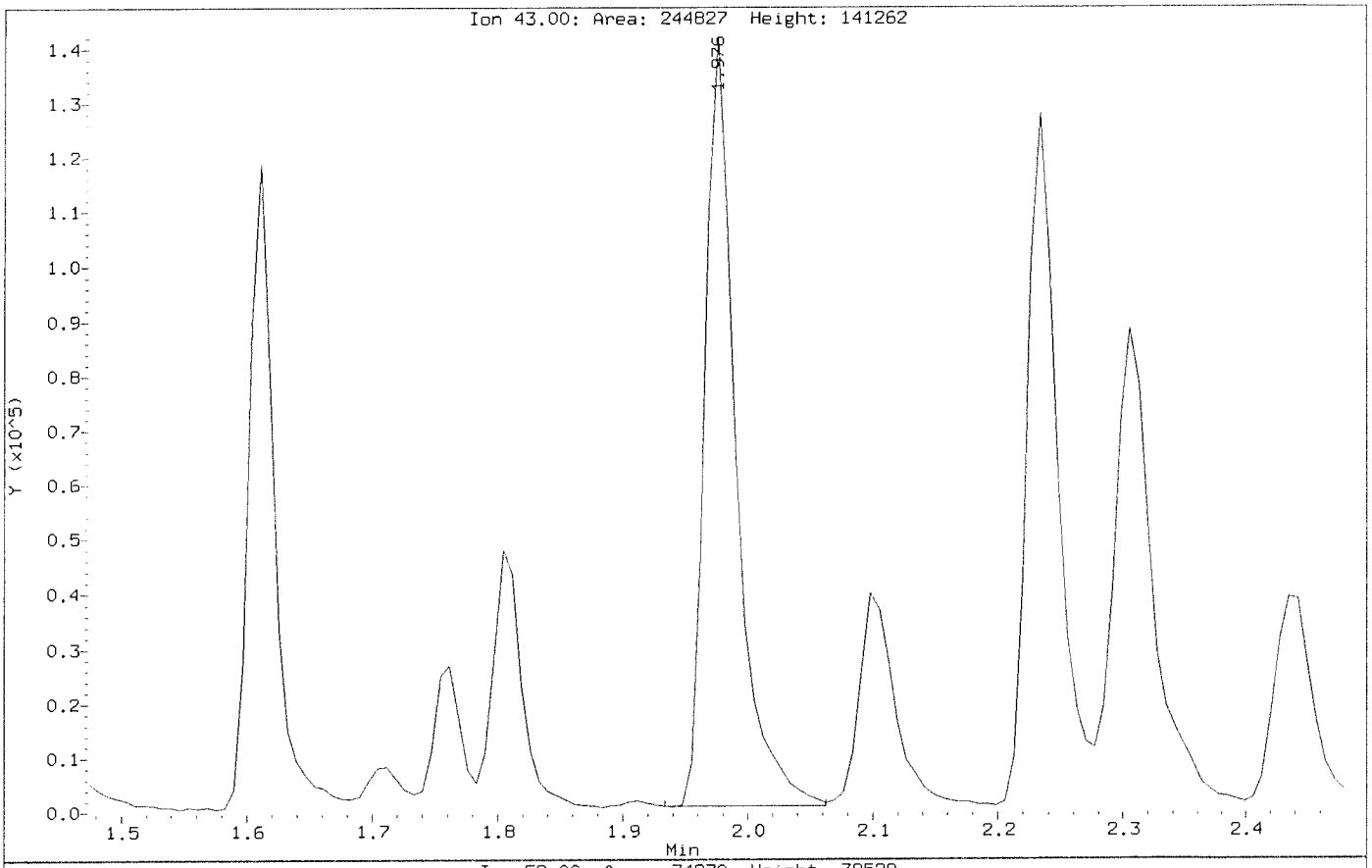
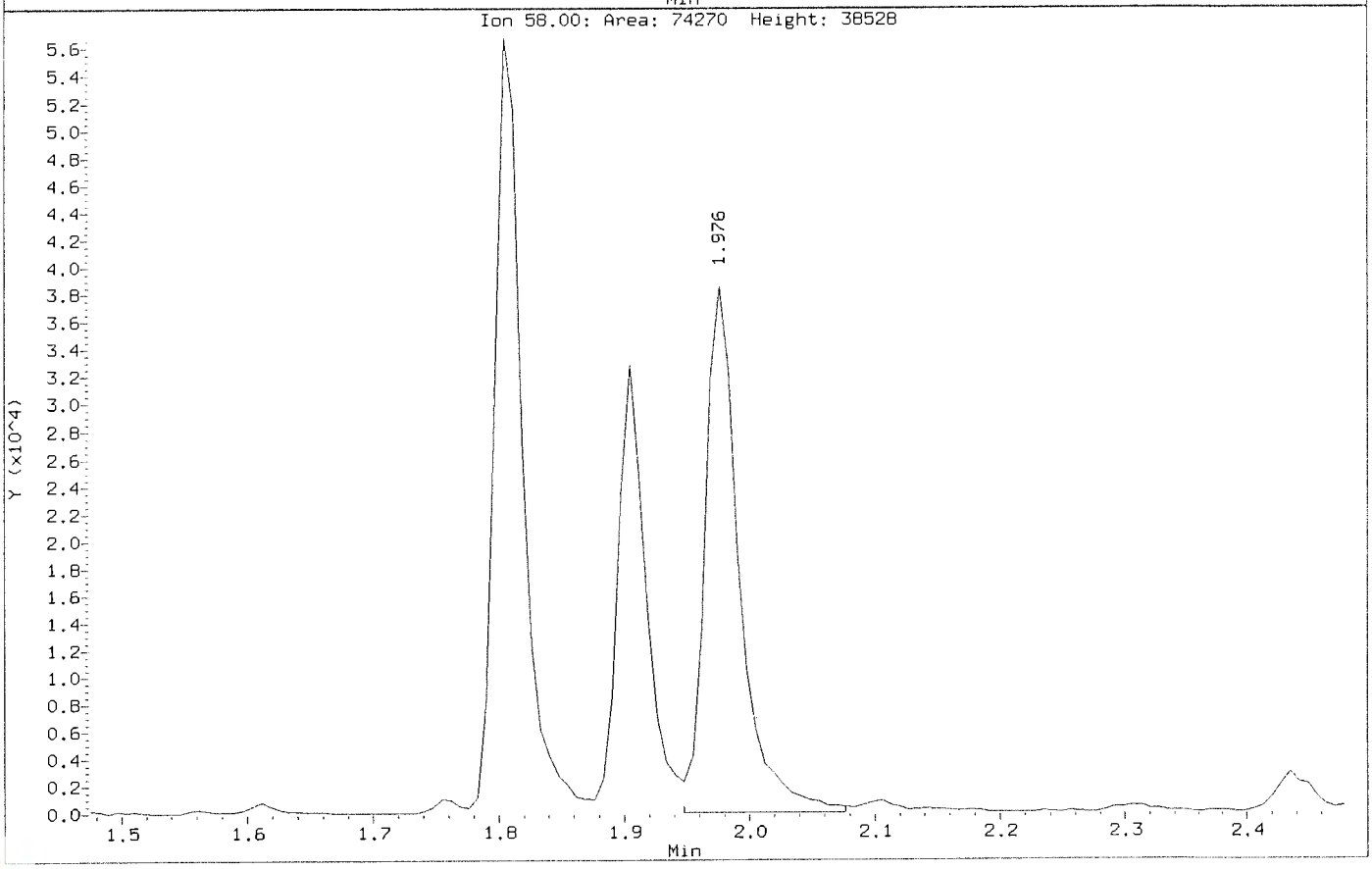
Injection Date: 02-JUN-2020 15:45
Instrument: voa6.i
Client Sample ID: ICV

Compound: Acetone
CAS Number: 67-64-1





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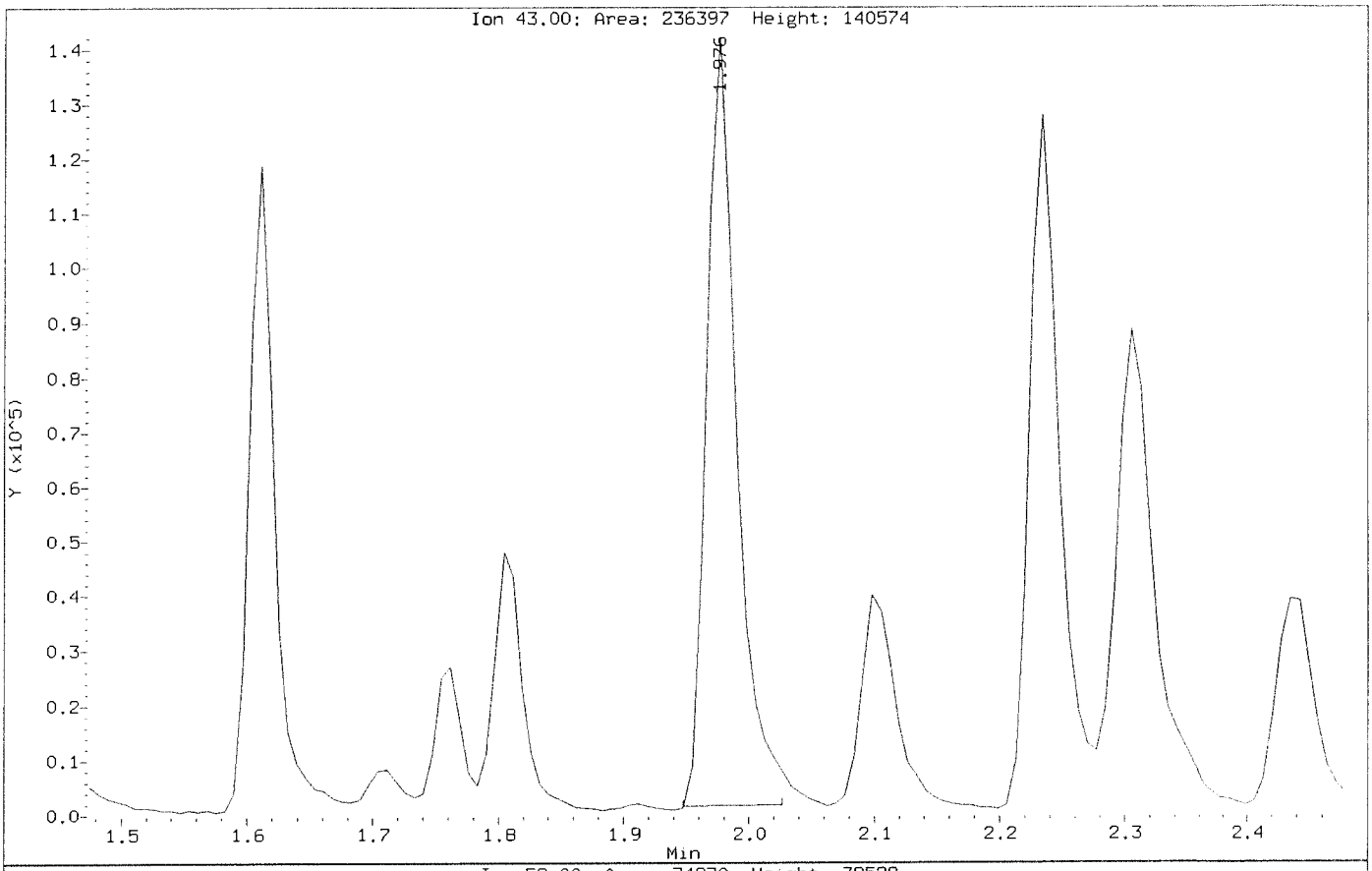
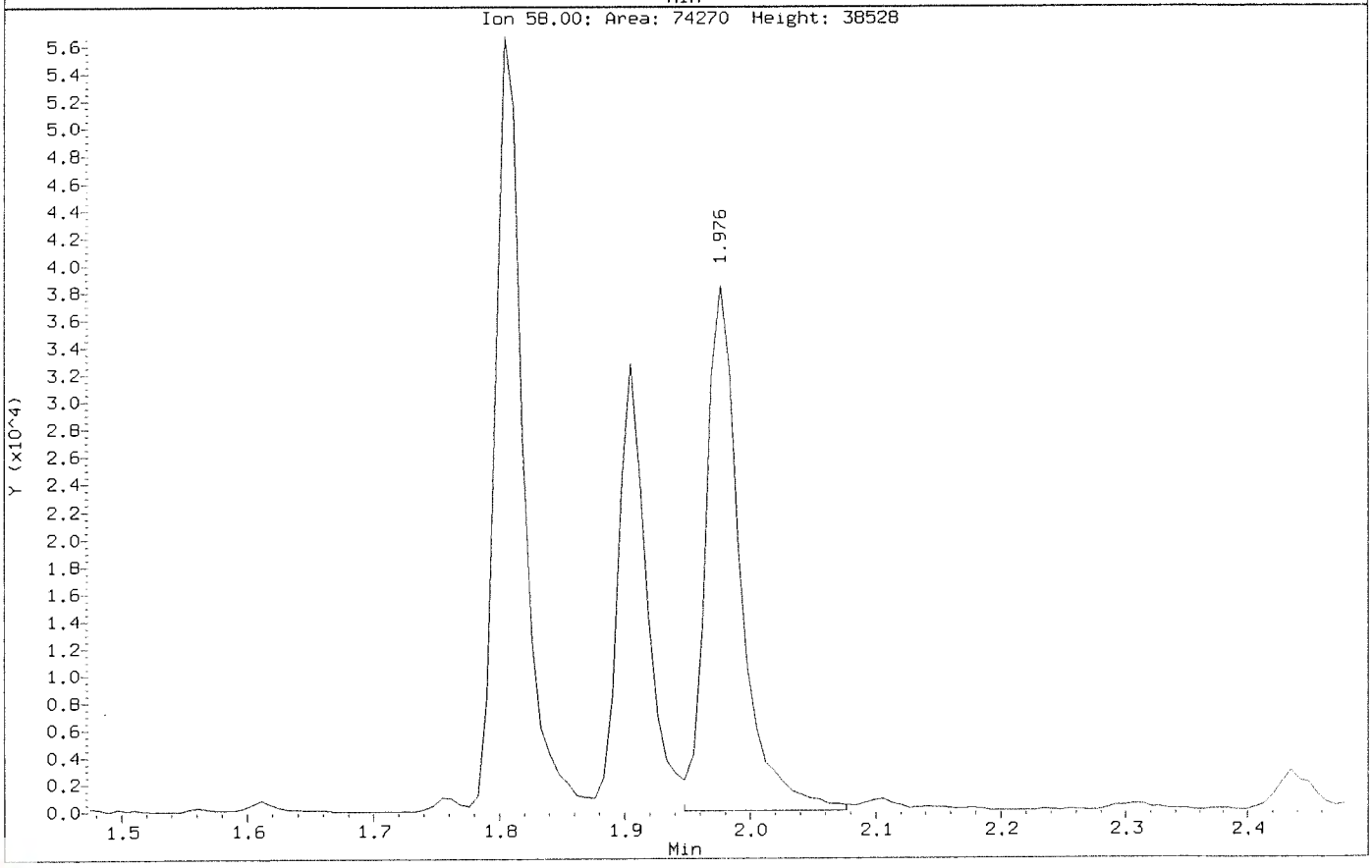
Injection Date: 02-JUN-2020 15:45
Instrument: voa6.i
Client Sample ID: ICV

Compound: Acetone
CAS Number: 67-64-1





Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060216.D Page 1
Report Date: 06-Jul-2020 12:11

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060216.D
Lab Smp Id: VLCSW-200602 Client Smp ID: VLCSW-200602
Inj Date : 02-JUN-2020 16:57
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200602;VLCSW-200602;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200602.b\8260W.m
Meth Date : 06-Jul-2020 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:57 Cal File: X060211.D
Als bottle: 17 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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

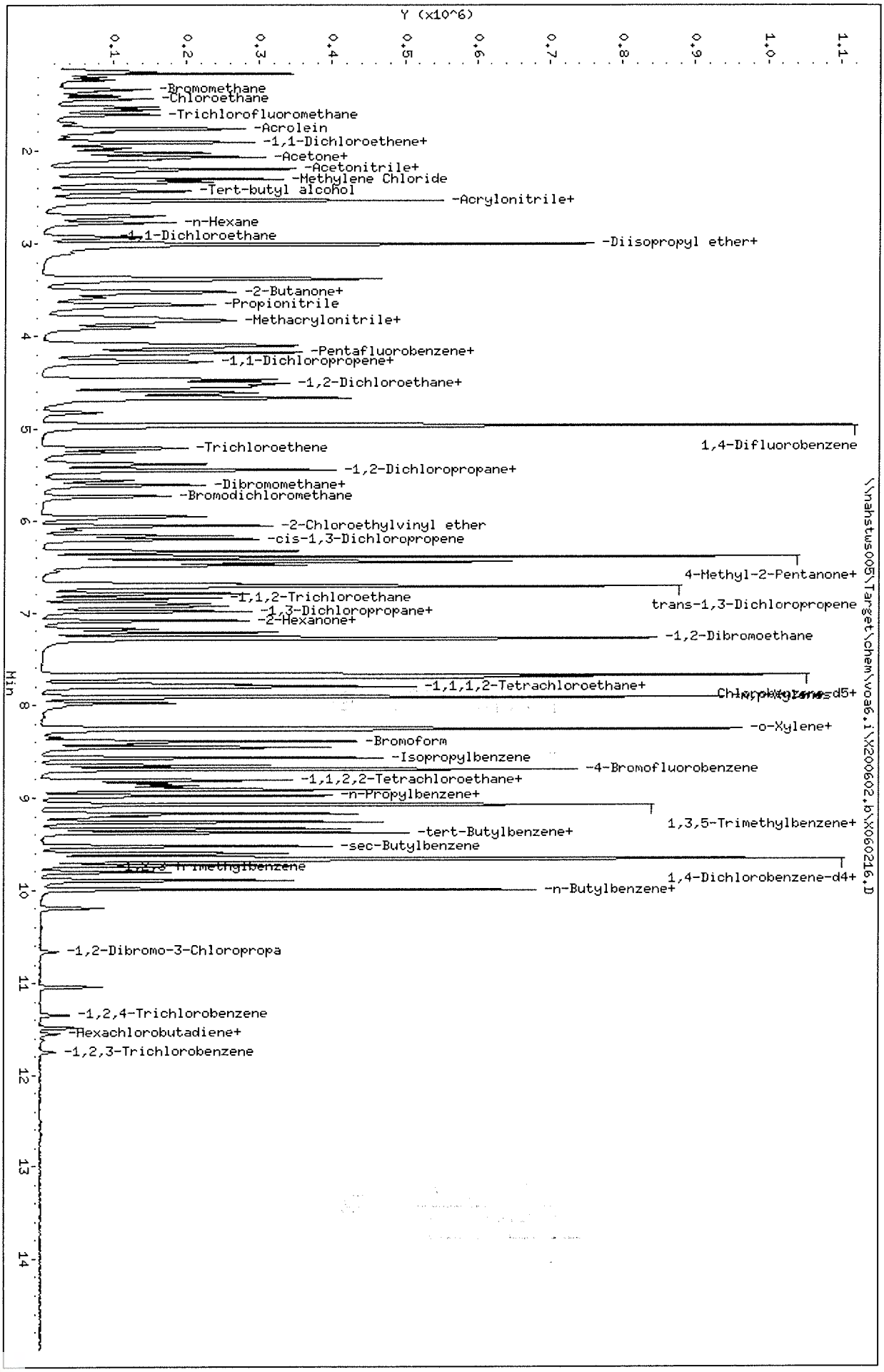
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	250496	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	446224	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	406976	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	179577	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	152602	49.6741	49.67
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	229510	50.8894	50.88
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	516342	48.4234	48.42
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	203145	50.5465	50.54
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	59636	20.4183	20.41
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	93185	19.3108	19.31
68 1,1,2,2-Tetrachloroethane	83	8.845	8.838	(0.915)	69591	19.3927	19.39
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	52258	20.1816	20.18
22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	148599	19.1815	19.18
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	47998	18.6989	18.69
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	78831	18.7167	18.71
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	4866	22.7308	22.73
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	65901	19.9080	19.90(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	10565	21.9624	21.96
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	205090	19.4145	19.41
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	4235	21.7793	21.77
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	62456	20.0081	20.00
88 1,2-Dichlorobenzene	146	9.999	9.992	(1.034)	95165	19.8725	19.87

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060216.D Page 2
Report Date: 06-Jul-2020 12:11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	119414	20.1270	20.12
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	87268	20.7344	20.73
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	200068	19.1735	19.17
83	1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	107744	19.1750	19.17
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	109512	20.0124	20.01
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	109599	19.2103	19.21
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	97417	19.4054	19.40
24	2-Butanone	43	3.580	3.581	(0.856)	112912	40.8973	40.89
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	180411	18.8053	18.80
52	2-Hexanone	43	7.090	7.090	(0.924)	177386	43.3453	43.34
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	212330	19.1134	19.11
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	182510	19.0803	19.08
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	250958	41.4172	41.41
10	Acetone	43	1.976	1.976	(0.473)	106693	48.1773	48.17
37	Benzene	78	4.519	4.519	(0.909)	252644	19.7693	19.76
74	Bromobenzene	156	8.809	8.810	(0.911)	67671	19.2615	19.26
29	Bromochloromethane	128	3.803	3.803	(0.909)	32483	18.4214	18.42
39	Bromodichloromethane	83	5.729	5.730	(1.153)	92926	20.1847	20.18
66	Bromoform	173	8.416	8.416	(1.097)	40937	20.1156	20.11
6	Bromomethane	94	1.338	1.339	(0.320)	50095	21.3982	21.39
19	Carbon Disulfide	76	2.069	2.069	(0.495)	320819	38.8236	38.82
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	72283	17.9152	17.91
59	Chlorobenzene	112	7.699	7.699	(1.004)	155638	19.3965	19.39
7	Chloroethane	64	1.403	1.403	(0.336)	52001	19.4754	19.47
28	Chloroform	83	3.910	3.910	(0.935)	122054	19.8699	19.86
3	Chloromethane	50	1.081	1.081	(0.258)	119702	19.4282	19.42
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	69111	19.4179	19.41
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	110295	20.2687	20.26
55	Dibromochloromethane	129	7.176	7.176	(0.936)	64037	19.7497	19.74
44	Dibromomethane	93	5.557	5.558	(1.118)	44418	19.5960	19.59
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	54793	18.3707	18.37
61	Ethylbenzene	106	7.799	7.800	(1.017)	82577	20.0008	20.00
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	8390	23.4829	23.48
67	Isopropylbenzene	105	8.566	8.566	(1.117)	234156	19.1377	19.13
62	m,p-Xylenes	106	7.907	7.907	(1.031)	196402	39.4428	39.44
17	Methylene Chloride	84	2.305	2.306	(0.551)	69231	19.8181	19.81
87	n-Butylbenzene	91	9.999	9.999	(1.034)	165552	19.4250	19.42
73	n-Propylbenzene	91	8.917	8.917	(0.922)	285874	19.0334	19.03
92	Naphthalene	128	11.546	11.546	(1.194)	17844	21.7972	21.79
63	o-Xylene	106	8.244	8.244	(1.075)	98216	19.9901	19.99
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	212299	18.2418	18.24
64	Styrene	104	8.265	8.258	(1.078)	172434	19.6982	19.69
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	149631	18.3308	18.33
56	Tetrachloroethene	164	6.933	6.933	(0.904)	41737	19.3302	19.33
50	Toluene	91	6.453	6.446	(0.841)	252590	19.8406	19.84
20	trans-1,2-Dichloroethene	96	2.535	2.528	(0.606)	58332	19.8675	19.86
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	101331	20.6161	20.61
38	Trichloroethene	130	5.214	5.207	(1.049)	58859	19.4753	19.47
8	Trichlorofluoromethane	101	1.560	1.561	(0.373)	86388	18.5141	18.51
5	Vinyl Chloride	62	1.138	1.138	(0.272)	92663	17.5970	17.59

QC Flag Legend

M - Compound response manually integrated.



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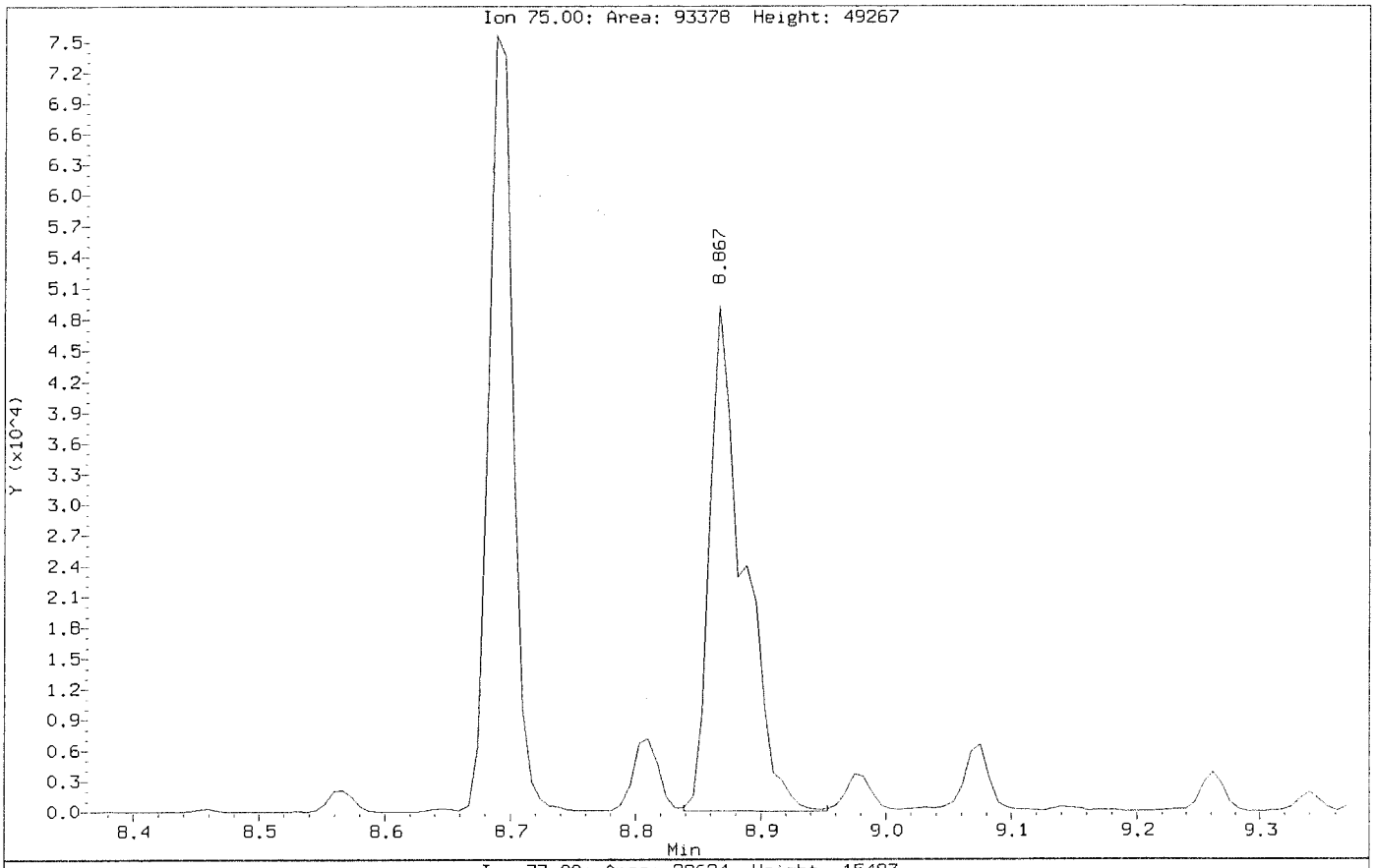
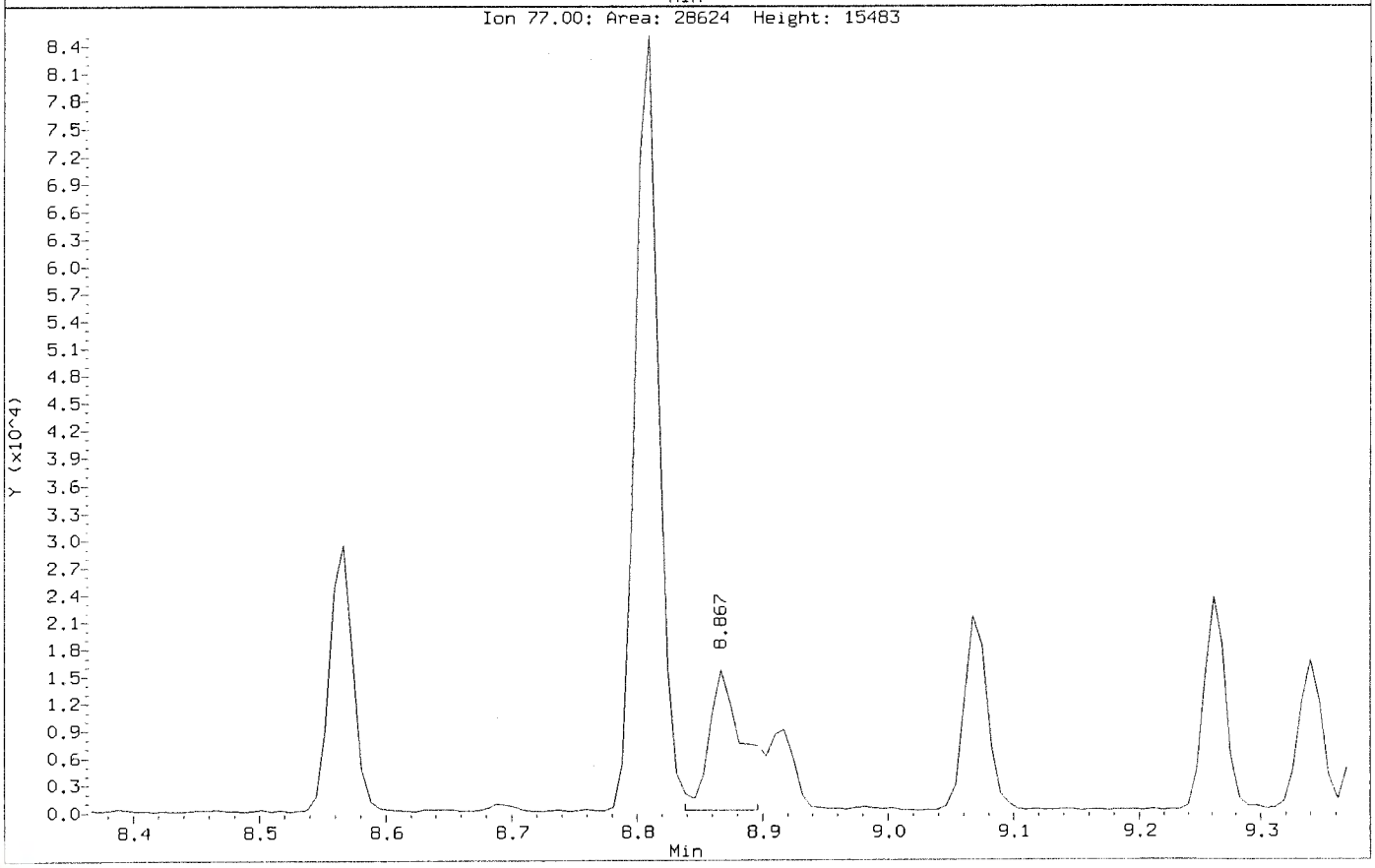
Date : 02-JUN-2020 16:57
Client ID: VLCSW-200602
Sample Info: VLCSW-200602;VLCSW-200602;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060216.D
Injection Date: 02-JUN-2020 16:57
Instrument: voa6.i
Client Sample ID: VLCSW-200602

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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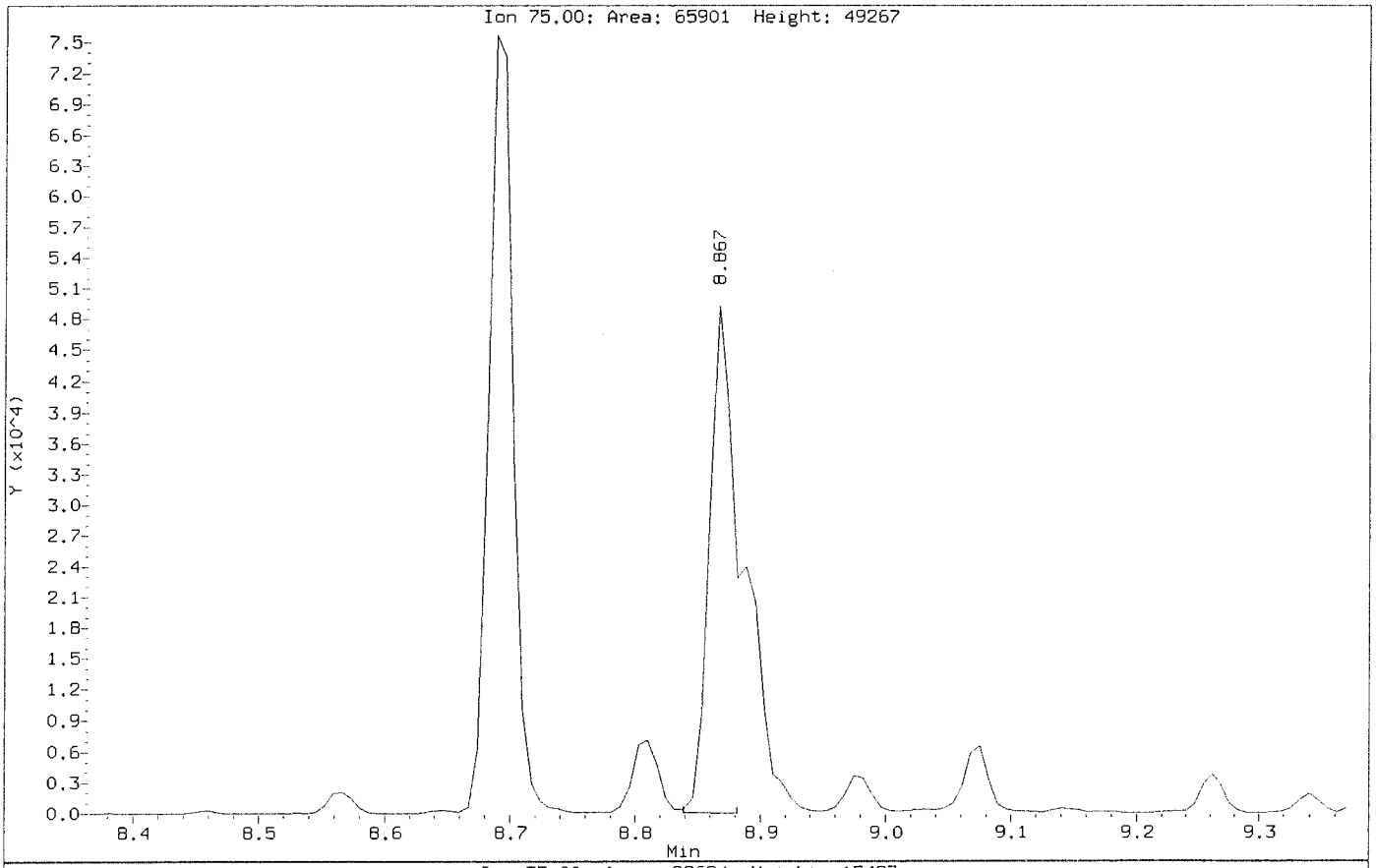
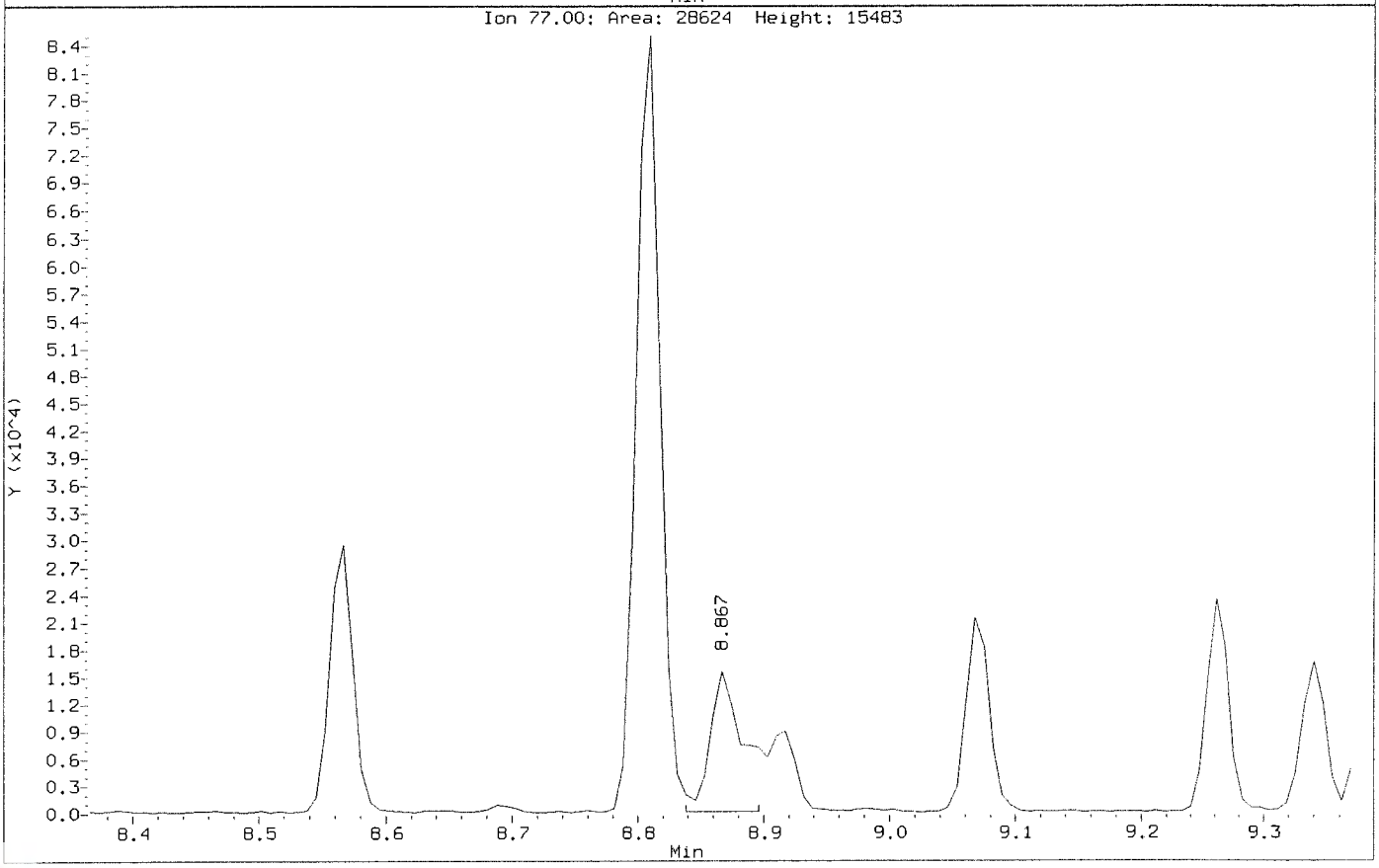
Injection Date: 02-JUN-2020 16:57
Instrument: voa6.i
Client Sample ID: VLCSW-200602

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060219.D
Lab Smp Id: VBLKW-200602 Client Smp ID: VBLKW-200602
Inj Date : 02-JUN-2020 18:09
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200602;VBLKW-200602;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200602.b\8260W.m
Meth Date : 06-Jul-2020 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:57 Cal File: X060211.D
Als bottle: 20 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

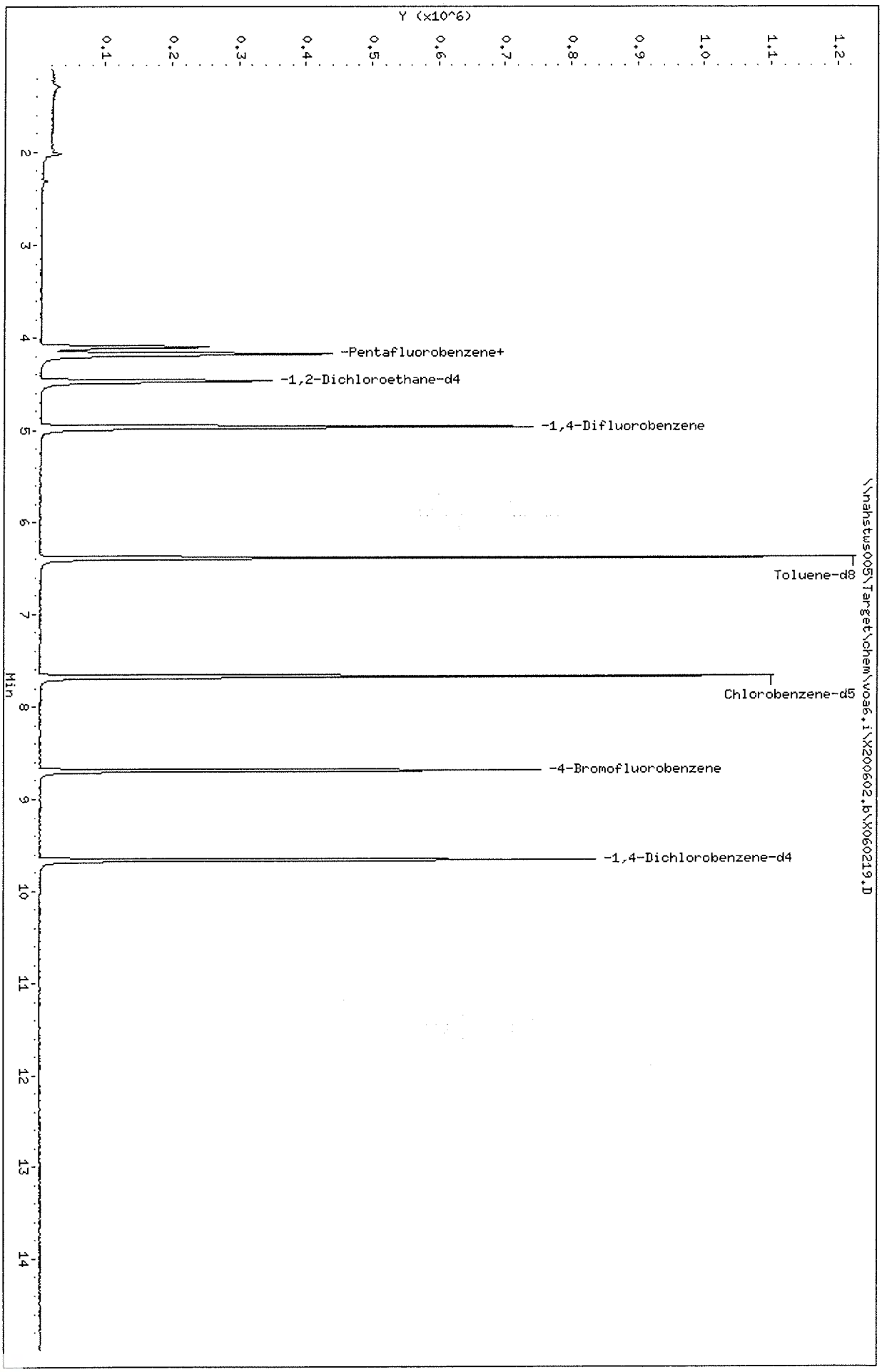
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.182	4.182	(1.000)	317915	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	524655	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	444706	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	179376	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	175908	45.0603	45.06
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	252154	43.9300	43.93
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	631140	54.1675	54.16
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	215247	48.9911	48.99

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060219.D
Date : 02-JUN-2020 18:09
Client ID: VBLKW-200602
Sample Info: VBLKW-200602;VBLKW-200602;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\X200602.b\X060220.D
Lab Smp Id: HS20051138-02 Client Smp ID: HS20051138-02
Inj Date : 02-JUN-2020 18:33
Operator : PC Inst ID: voa6.i
Smp Info : HS20051138-02;HS20051138-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200602.b\8260W.m
Meth Date : 06-Jul-2020 12:11 Luke.Targe Quant Type: ISTD
Cal Date : 02-JUN-2020 14:57 Cal File: X060211.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	4.182	(1.000)	322998	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	537457	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	462593	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	194482	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	177136	44.6553	44.65
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	249393	42.7409	42.74
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	640947	52.8822	52.88
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	228887	50.0978	50.09

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060220.D

Date : 02-JUN-2020 18:33

Client ID: HS20051138-02

Instrument: voa6.i

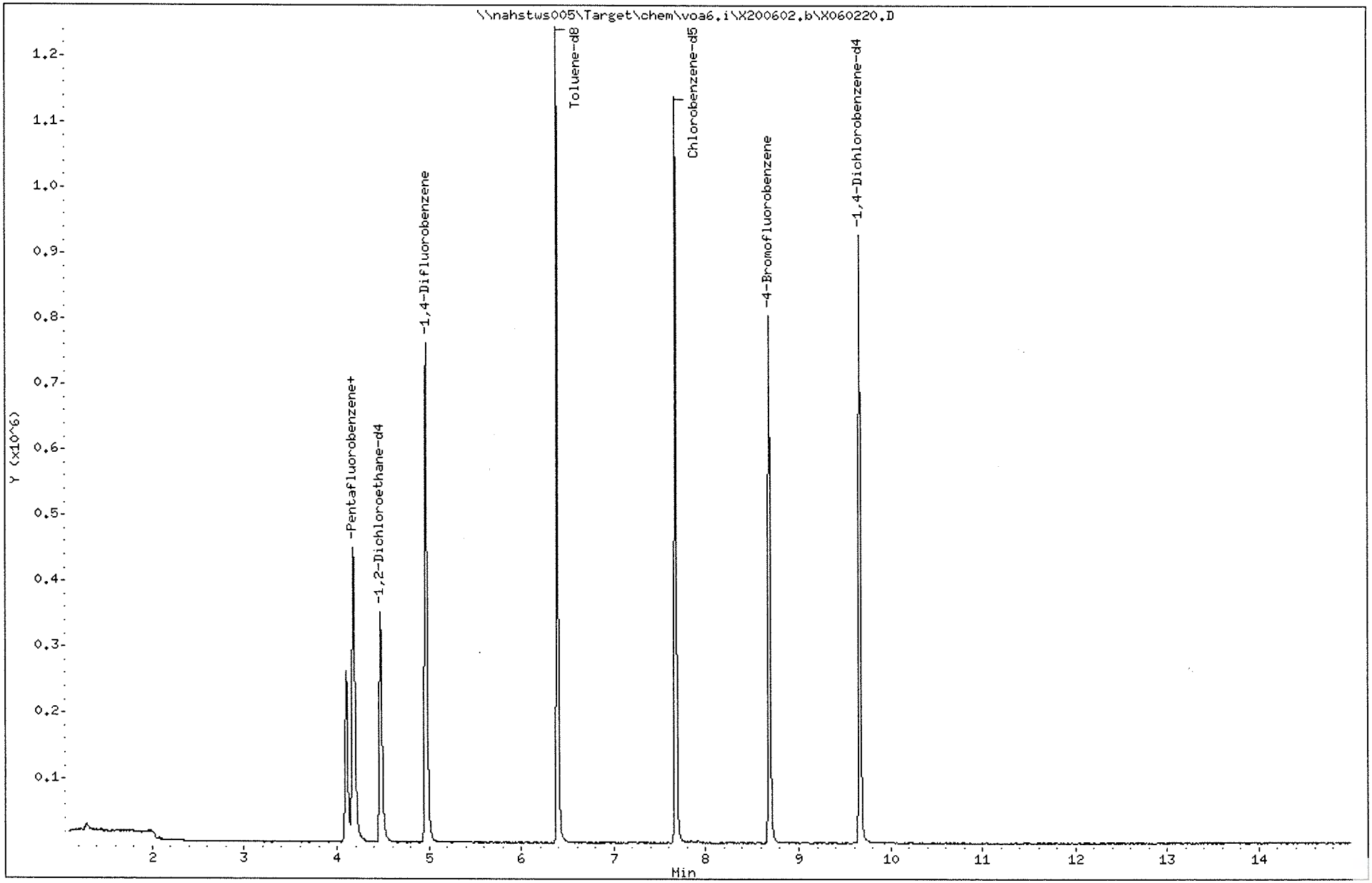
Sample Info: HS20051138-02;HS20051138-02;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060221.D
Lab Smp Id: HS20051138-01 Client Smp ID: HS20051138-01
Inj Date : 02-JUN-2020 18:57
Operator : PC Inst ID: voa6.i
Smp Info : HS20051138-01;HS20051138-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200602.b\8260W.m
Meth Date : 06-Jul-2020 12:11 Luke.Targe Quant Type: ISTD
Cal Date : 02-JUN-2020 14:57 Cal File: X060211.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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

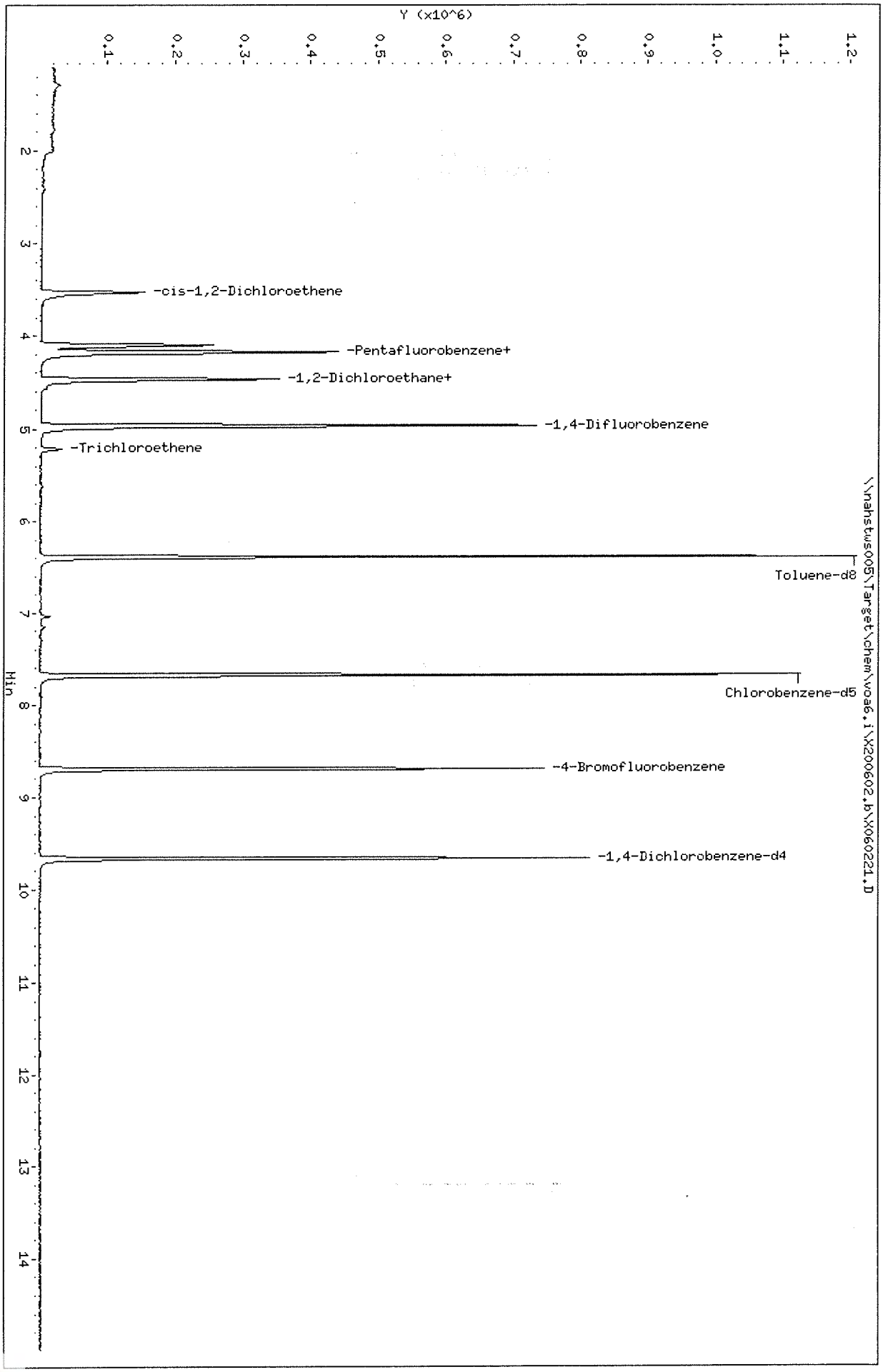
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	313714	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	518930	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	441100	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	174291	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	176308	45.7773	45.77
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	250035	44.1487	44.14
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	624624	54.0465	54.04
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	212256	48.7009	48.70
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	5692	0.82496	0.82(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	64865	14.5523	14.55
38 Trichloroethene	130	5.214	5.207	(1.049)	9399	2.67422	2.67(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060221.D
Date : 02-JUN-2020 18:57
Client ID: HS20051138-01
Sample Info: HS20051138-01;HS20051138-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



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Date : 02-JUN-2020 18:57

Client ID: HS20051138-01

Instrument: voa6.i

Sample Info: HS20051138-01;HS20051138-01;;;

Purge Volume: 5.0

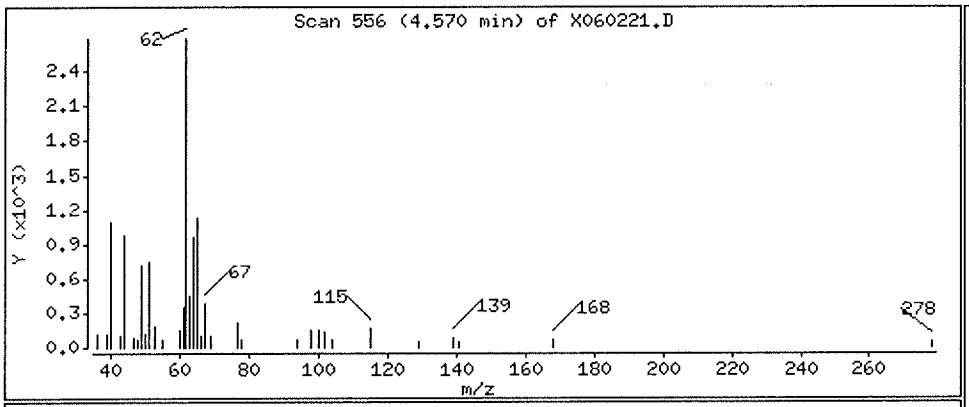
Operator: PC

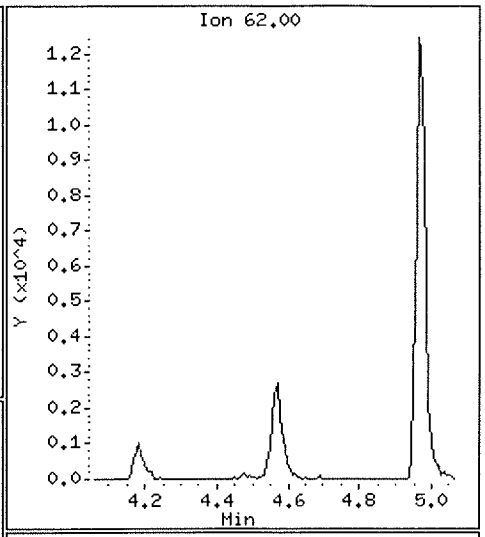
Column phase: DB624

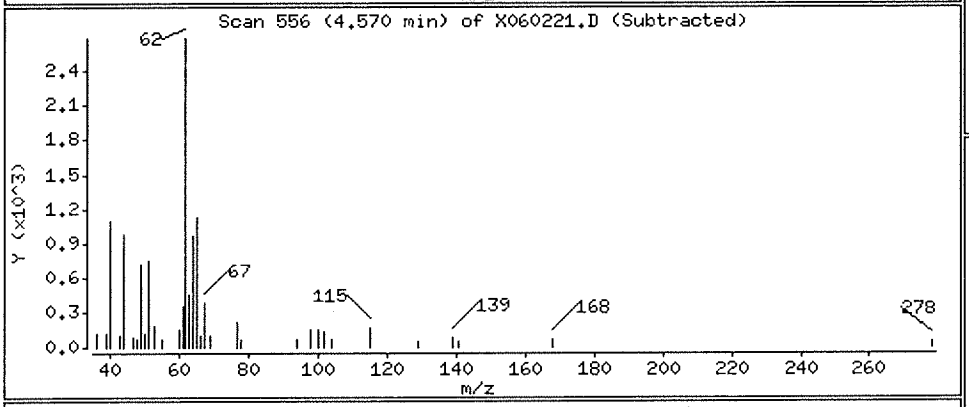
Column diameter: 0.18

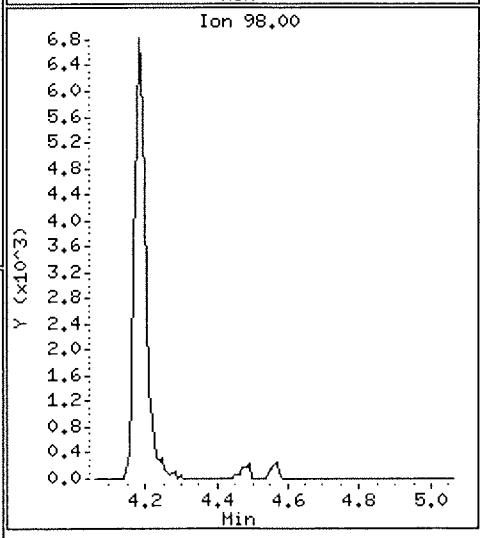
33 1,2-Dichloroethane

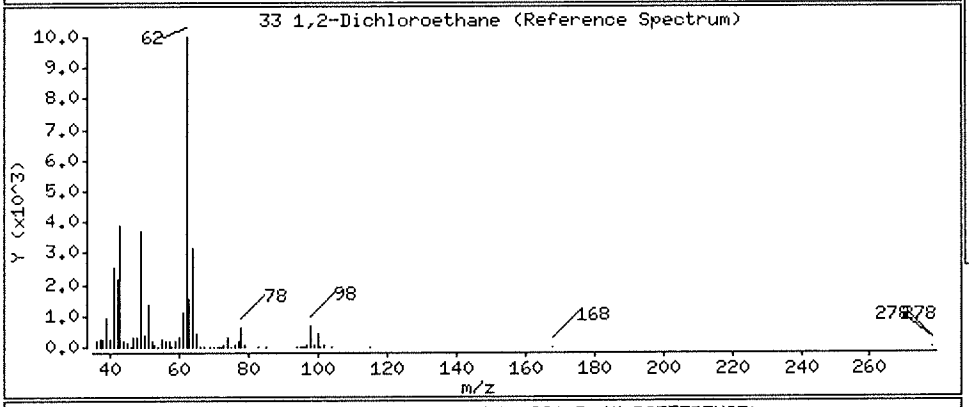
Concentration: 0.82 ug/l

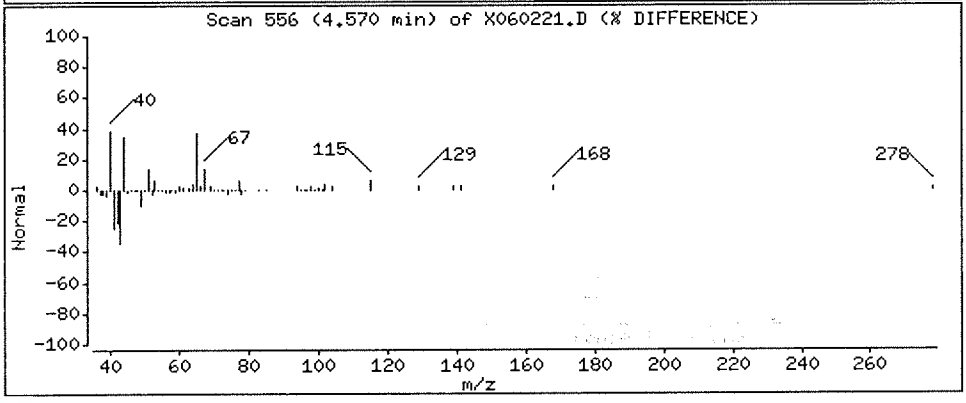












Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060221.D Page 4

Date : 02-JUN-2020 18:57

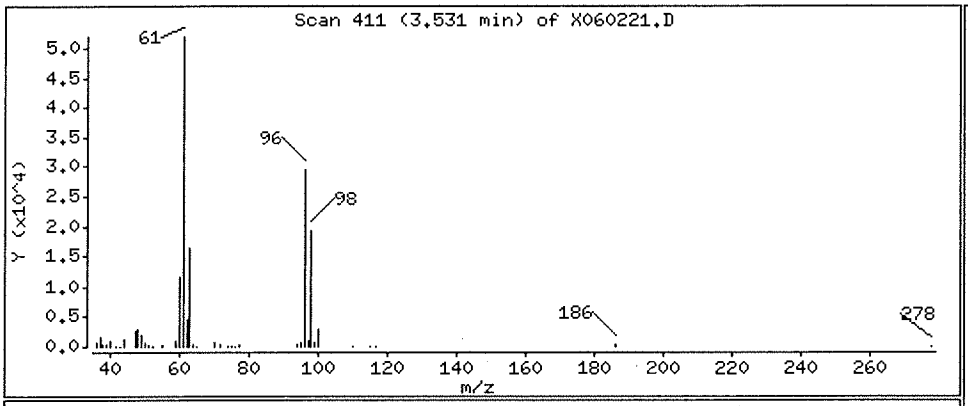
Client ID: HS20051138-01 Instrument: voa6.i

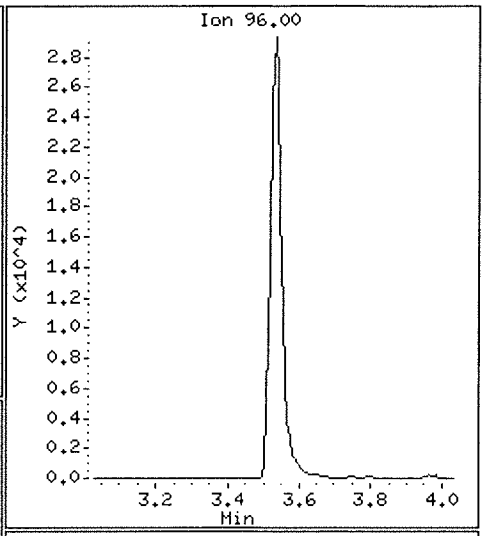
Sample Info: HS20051138-01;HS20051138-01;;;

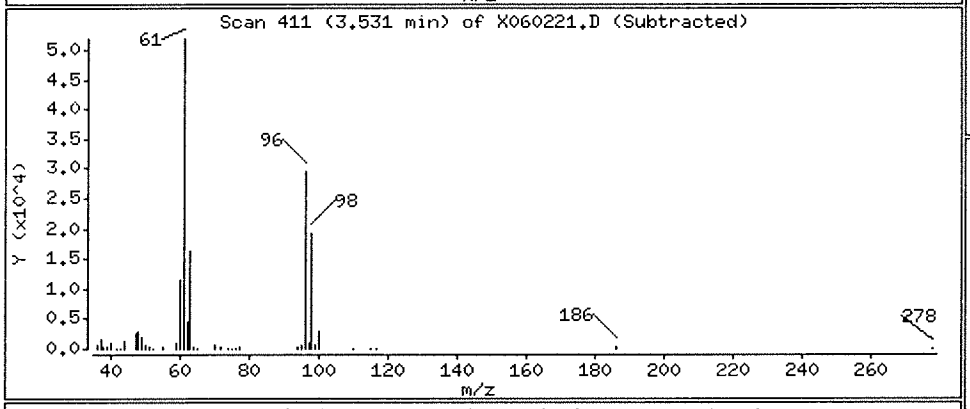
Purge Volume: 5.0 Operator: PC

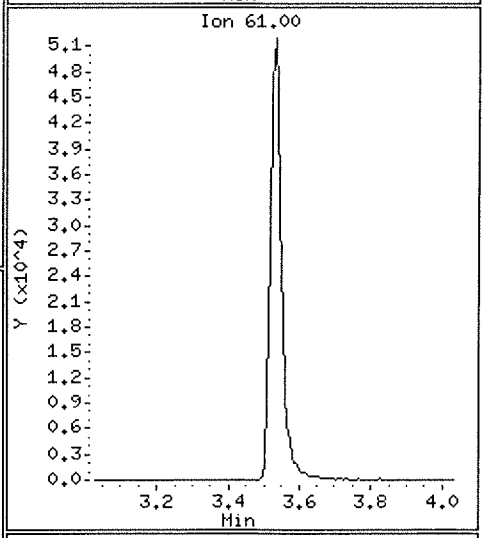
Column phase: DB624 Column diameter: 0.18

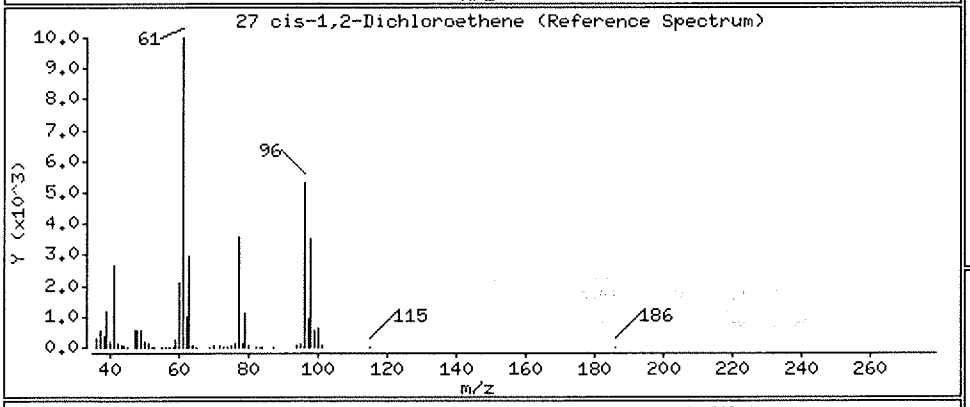
27 cis-1,2-Dichloroethene Concentration: 14.55 ug/l

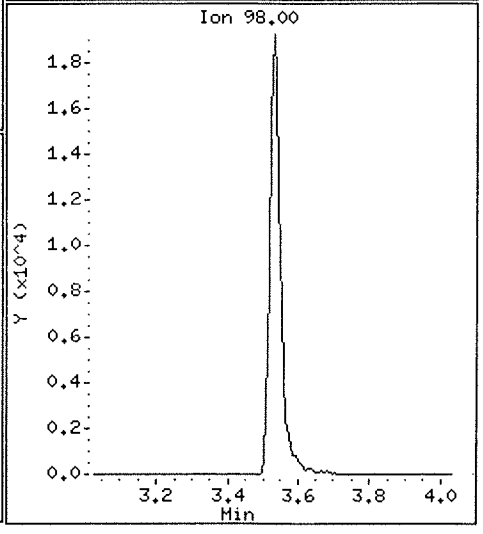


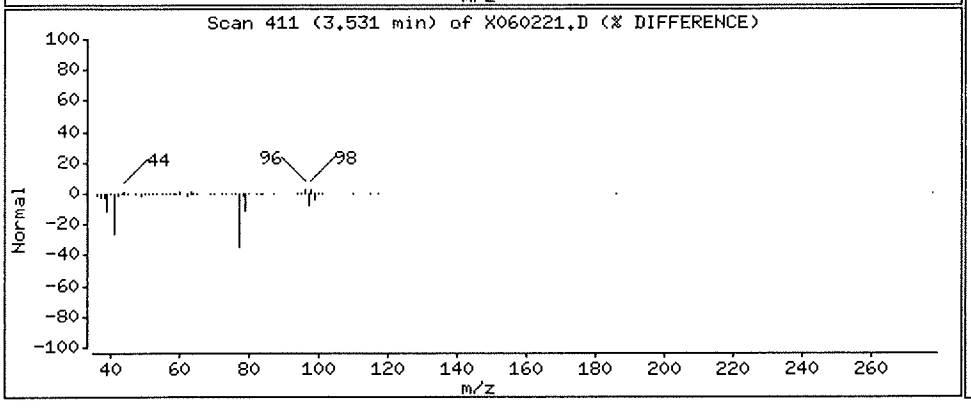












Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060221.D

Date : 02-JUN-2020 18:57

Client ID: HS20051138-01

Instrument: voa6.i

Sample Info: HS20051138-01;HS20051138-01;;;

Purge Volume: 5.0

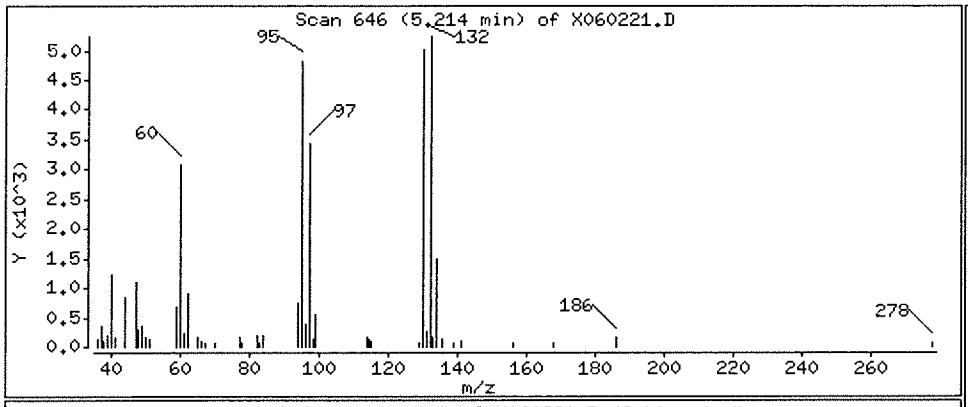
Operator: PC

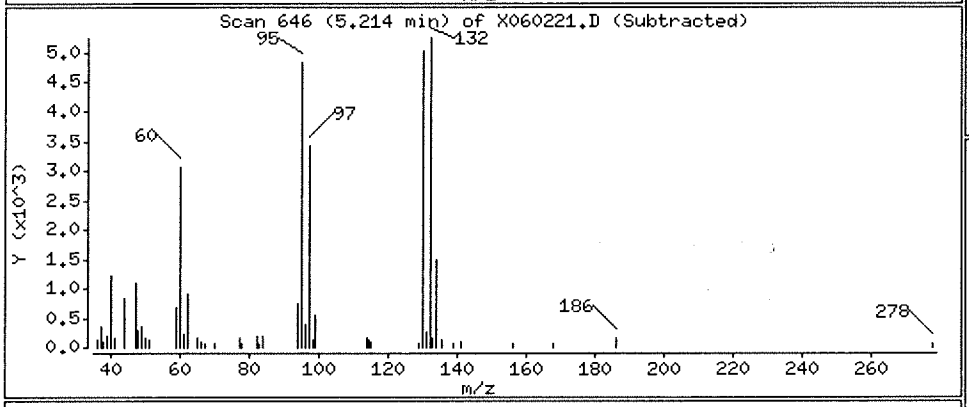
Column phase: DB624

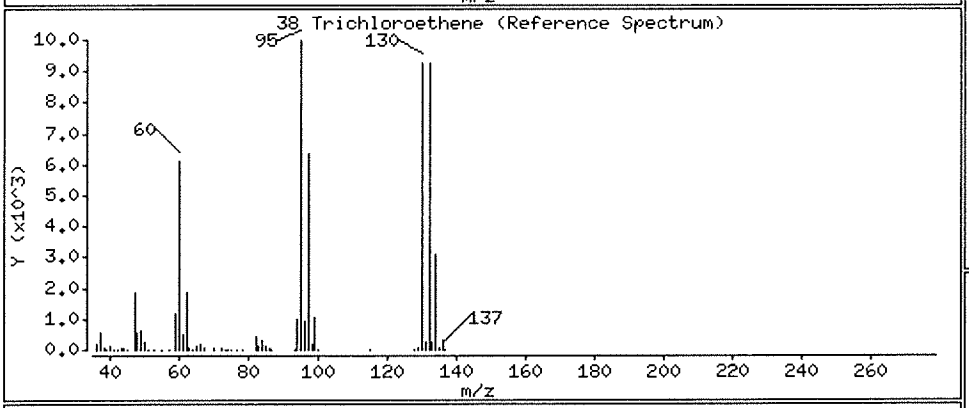
Column diameter: 0.18

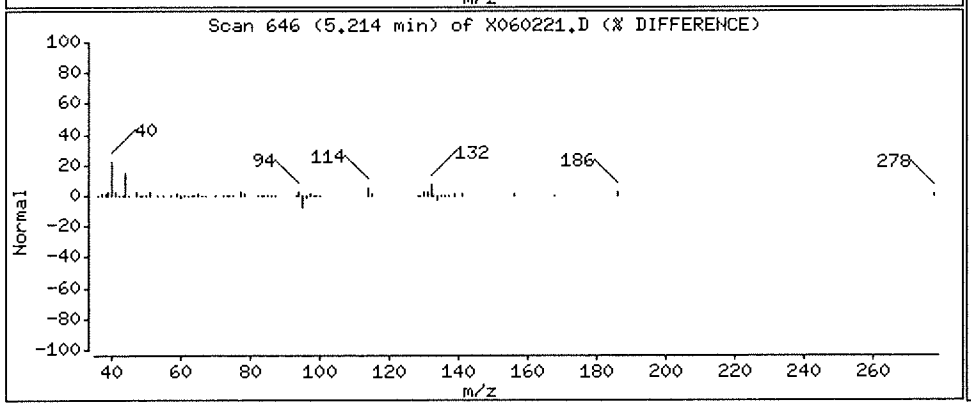
38 Trichloroethene

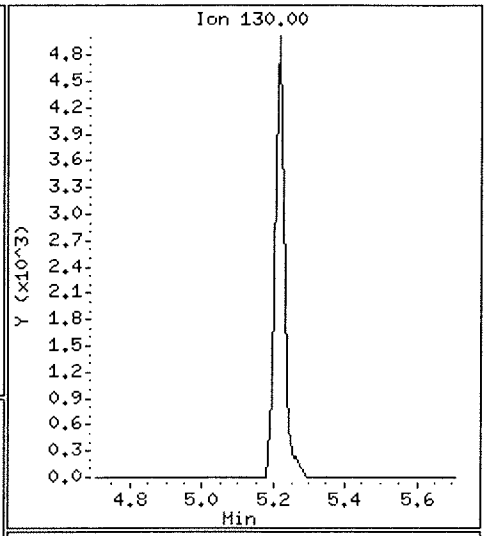
Concentration: 2.67 ug/l

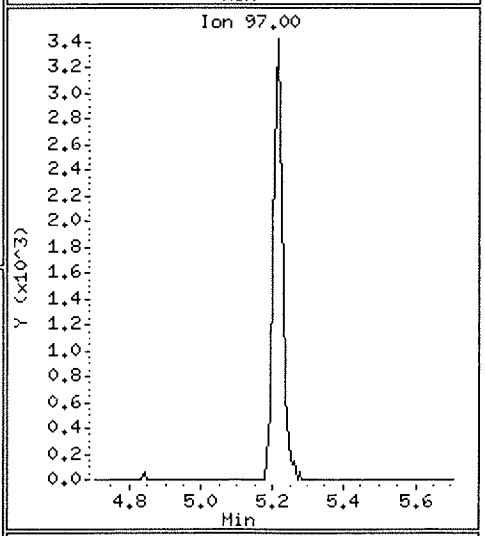


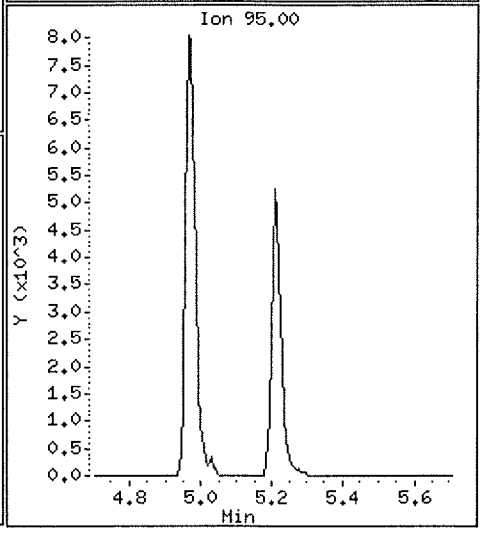












Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060226.D Page 1
Report Date: 06-Jul-2020 12:11

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060226.D
Lab Smp Id: HS20051138-01MS Client Smp ID: HS20051138-01MS
Inj Date : 02-JUN-2020 20:58
Operator : PC Inst ID: voa6.i
Smp Info : HS20051138-01MS;HS20051138-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200602.b\8260W.m
Meth Date : 06-Jul-2020 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:57 Cal File: X060211.D
Als bottle: 27 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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

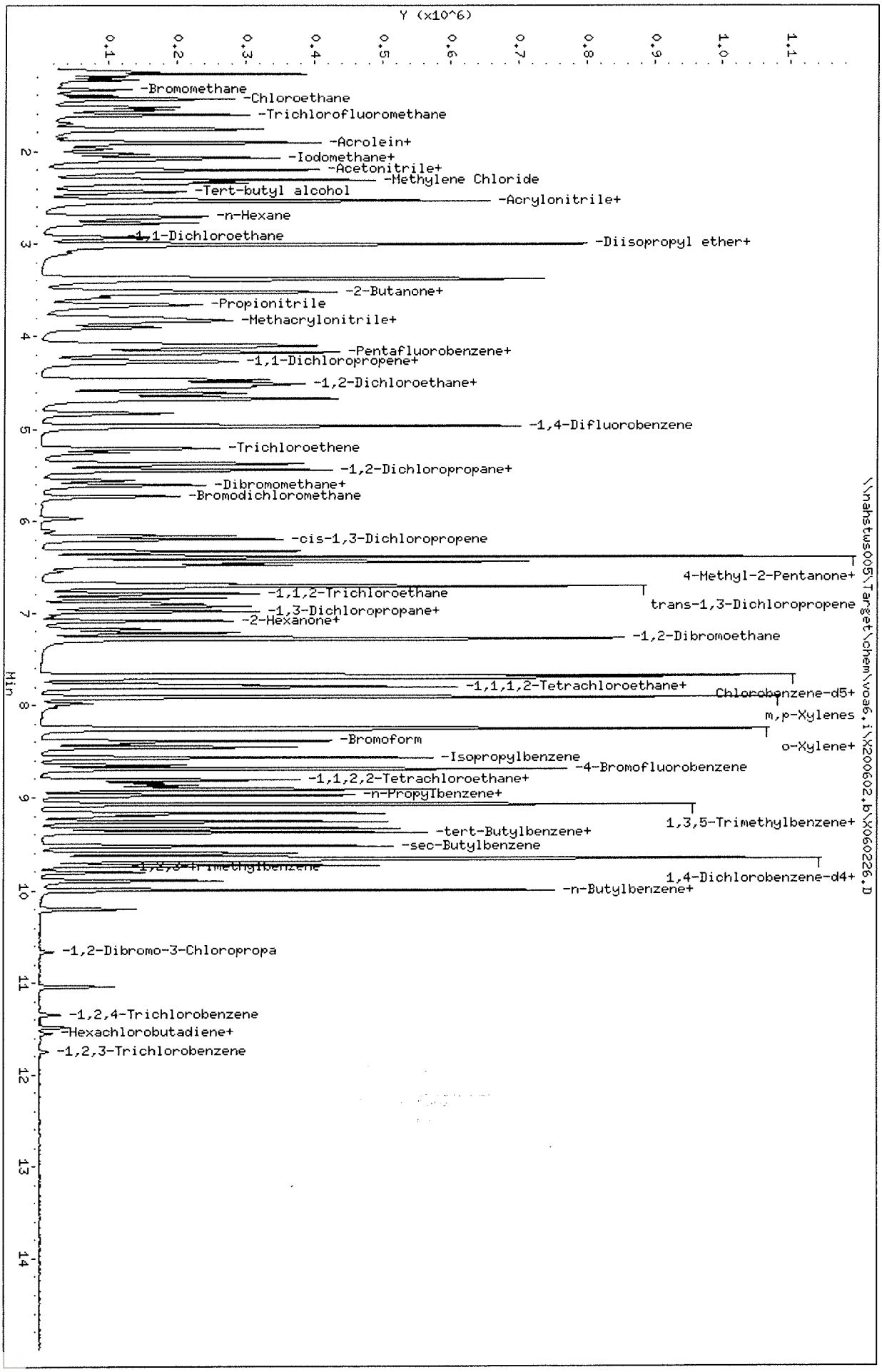
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	299275	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	496325	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	423867	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	175379	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	168413	45.8379	45.83
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	237672	43.9871	43.98
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	593131	53.4081	53.40
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	211111	50.4337	50.43
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	65030	21.3779	21.37
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	110715	19.2040	19.20
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	75100	21.4288	21.42
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	58101	21.5440	21.54
22 1,1-Dichloroethane	63	2.922	2.929	(0.699)	170175	18.3862	18.38
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	57791	18.8444	18.84
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	96522	20.6037	20.60
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	3656	17.7888	17.78
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	66724	20.6392	20.63(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	8135	17.7978	17.79
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	238206	23.0891	23.08
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.103)	3664	19.3585	19.35
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	68522	21.0766	21.07
88 1,2-Dichlorobenzene	146	9.999	9.992	(1.034)	99254	21.2225	21.22

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060226.D Page 2
Report Date: 06-Jul-2020 12:11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	133151	20.1769	20.17
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	94759	20.2416	20.24
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	235352	23.0949	23.09
83	1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	117873	21.4797	21.47
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	117903	20.6872	20.68
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	117953	21.1694	21.16
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	108577	18.1032	18.10
24	2-Butanone	43	3.581	3.581	(0.856)	108805	32.9863	32.98
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	207233	22.1182	22.11
52	2-Hexanone	43	7.090	7.090	(0.924)	174372	40.9108	40.91
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	239344	22.0609	22.06
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	223148	23.8871	23.88
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	264504	41.9132	41.91
10	Acetone	43	1.976	1.976	(0.473)	80126	27.3815	27.38
37	Benzene	78	4.519	4.519	(0.909)	286061	20.1246	20.12
74	Bromobenzene	156	8.810	8.810	(0.911)	75639	22.0448	22.04
29	Bromochloromethane	128	3.795	3.803	(0.908)	38075	18.0732	18.07
39	Bromodichloromethane	83	5.729	5.730	(1.153)	101981	19.9154	19.91
66	Bromoform	173	8.416	8.416	(1.097)	44473	20.9823	20.98
6	Bromomethane	94	1.338	1.339	(0.320)	54177	19.2719	19.27
19	Carbon Disulfide	76	2.069	2.069	(0.495)	380700	38.5610	38.56
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	90255	20.1114	20.11
59	Chlorobenzene	112	7.699	7.699	(1.004)	174911	20.9298	20.92
7	Chloroethane	64	1.403	1.403	(0.336)	57059	17.8866	17.88
28	Chloroform	83	3.910	3.910	(0.935)	137234	18.6997	18.69
3	Chloromethane	50	1.081	1.081	(0.258)	117317	15.9376	15.93
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	139354	32.7721	32.77
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	118716	19.6140	19.61
55	Dibromochloromethane	129	7.176	7.176	(0.936)	69467	20.5706	20.57
44	Dibromomethane	93	5.558	5.558	(1.118)	48882	19.3885	19.38
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	47504	13.3309	13.33
61	Ethylbenzene	106	7.800	7.800	(1.017)	96305	22.3963	22.39
91	Hexachlorobutadiene	225	11.489	11.481	(1.188)	6700	19.5858	19.58
67	Isopropylbenzene	105	8.566	8.566	(1.117)	284743	22.3448	22.34
62	m,p-Xylenes	106	7.907	7.907	(1.031)	225593	43.4997	43.49
17	Methylene Chloride	84	2.305	2.306	(0.551)	76602	18.2732	18.27
87	n-Butylbenzene	91	9.999	9.999	(1.034)	198051	23.7946	23.79
73	n-Propylbenzene	91	8.917	8.917	(0.922)	345178	23.5319	23.53
92	Naphthalene	128	11.546	11.546	(1.194)	13222	16.7310	16.73
63	o-Xylene	106	8.244	8.244	(1.075)	113325	22.1461	22.14
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	268541	23.6267	23.62
64	Styrene	104	8.258	8.258	(1.077)	191053	20.9555	20.95
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	186060	23.3393	23.33
56	Tetrachloroethene	164	6.933	6.933	(0.904)	51487	22.8956	22.89
50	Toluene	91	6.446	6.446	(0.840)	291775	22.0052	22.00
20	trans-1,2-Dichloroethene	96	2.535	2.528	(0.606)	66828	19.0513	19.05
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	106679	19.5132	19.51
38	Trichloroethene	130	5.207	5.207	(1.048)	76860	22.8643	22.86
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	109286	19.6040	19.60
5	Vinyl Chloride	62	1.138	1.138	(0.272)	101773	16.1769	16.17

QC Flag Legend

M - Compound response manually integrated.



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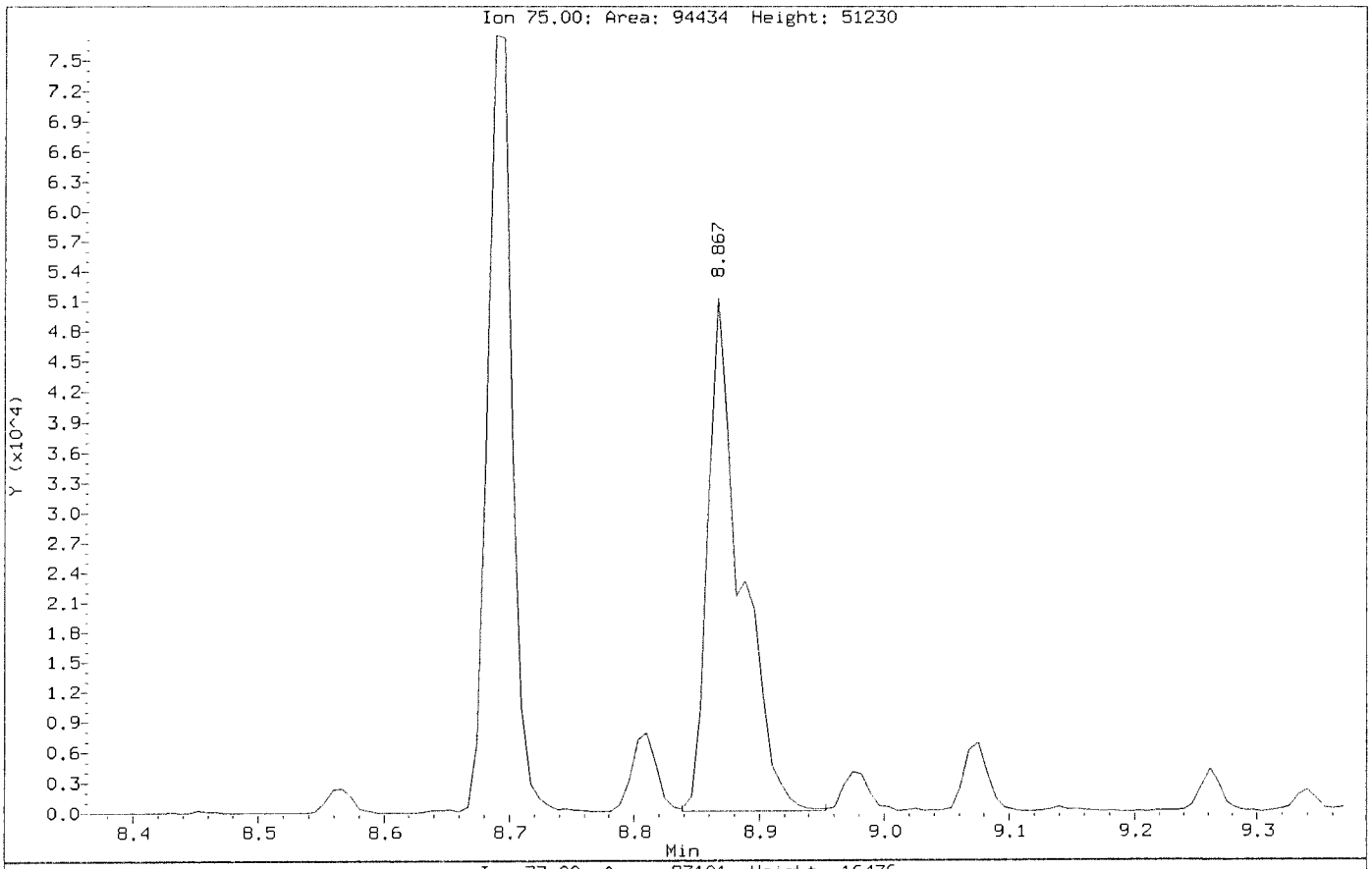
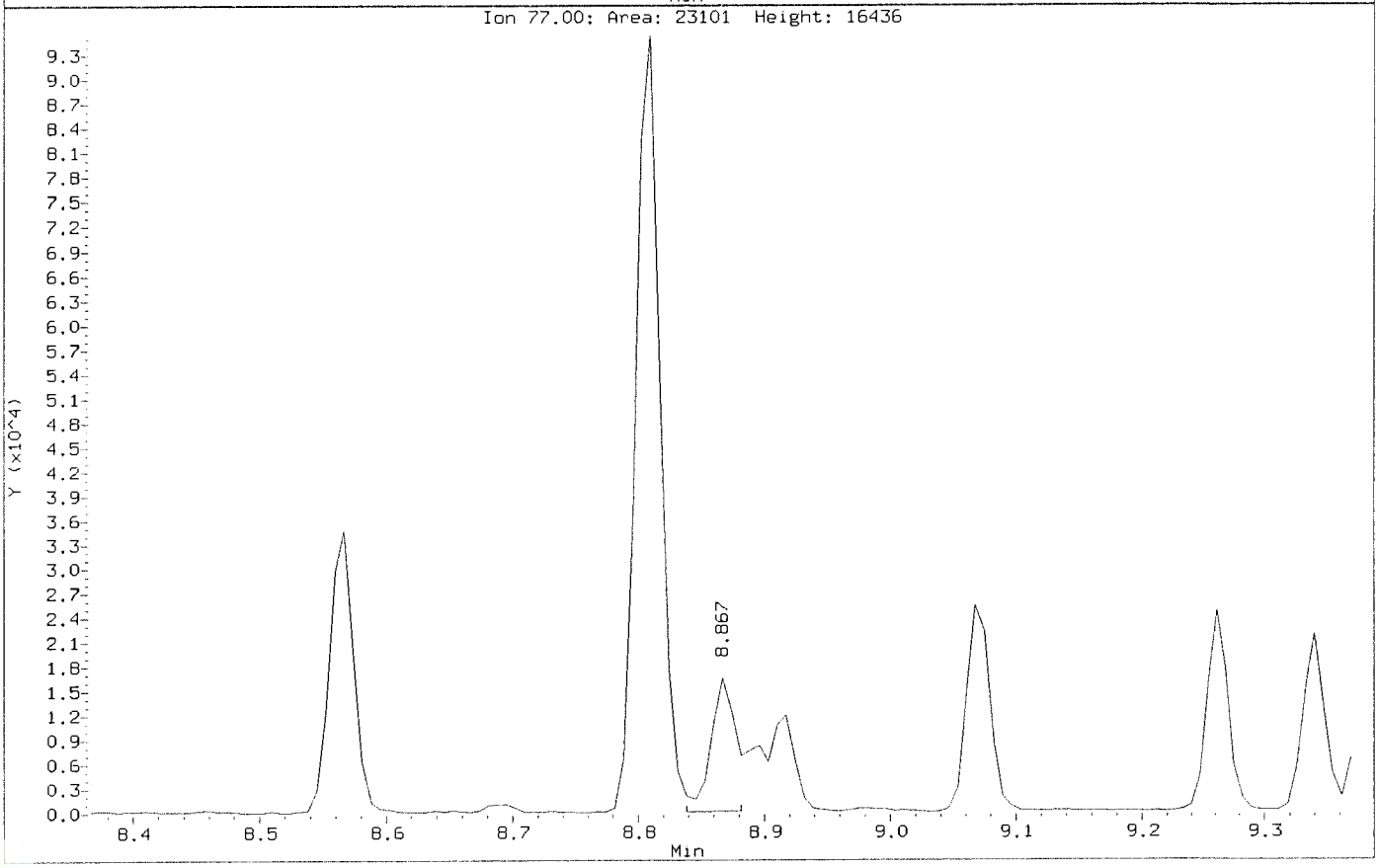
Date : 02-JUN-2020 20:58
Client ID: HS20051138-01HS
Sample Info: HS20051138-01HS;HS20051138-01HS;3;;HS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060226.D
Injection Date: 02-JUN-2020 20:58
Instrument: voa6.i
Client Sample ID: HS20051138-01MS

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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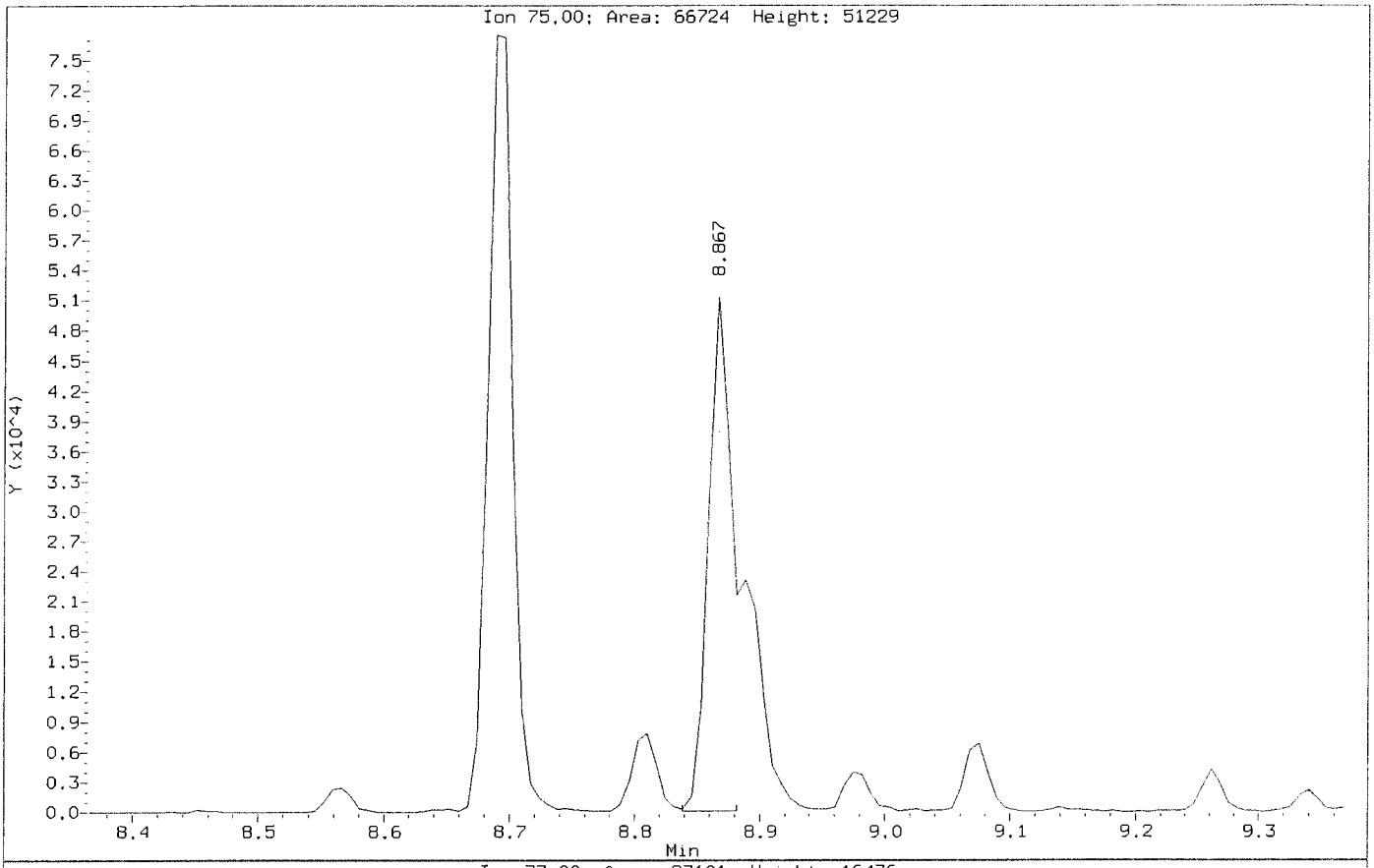
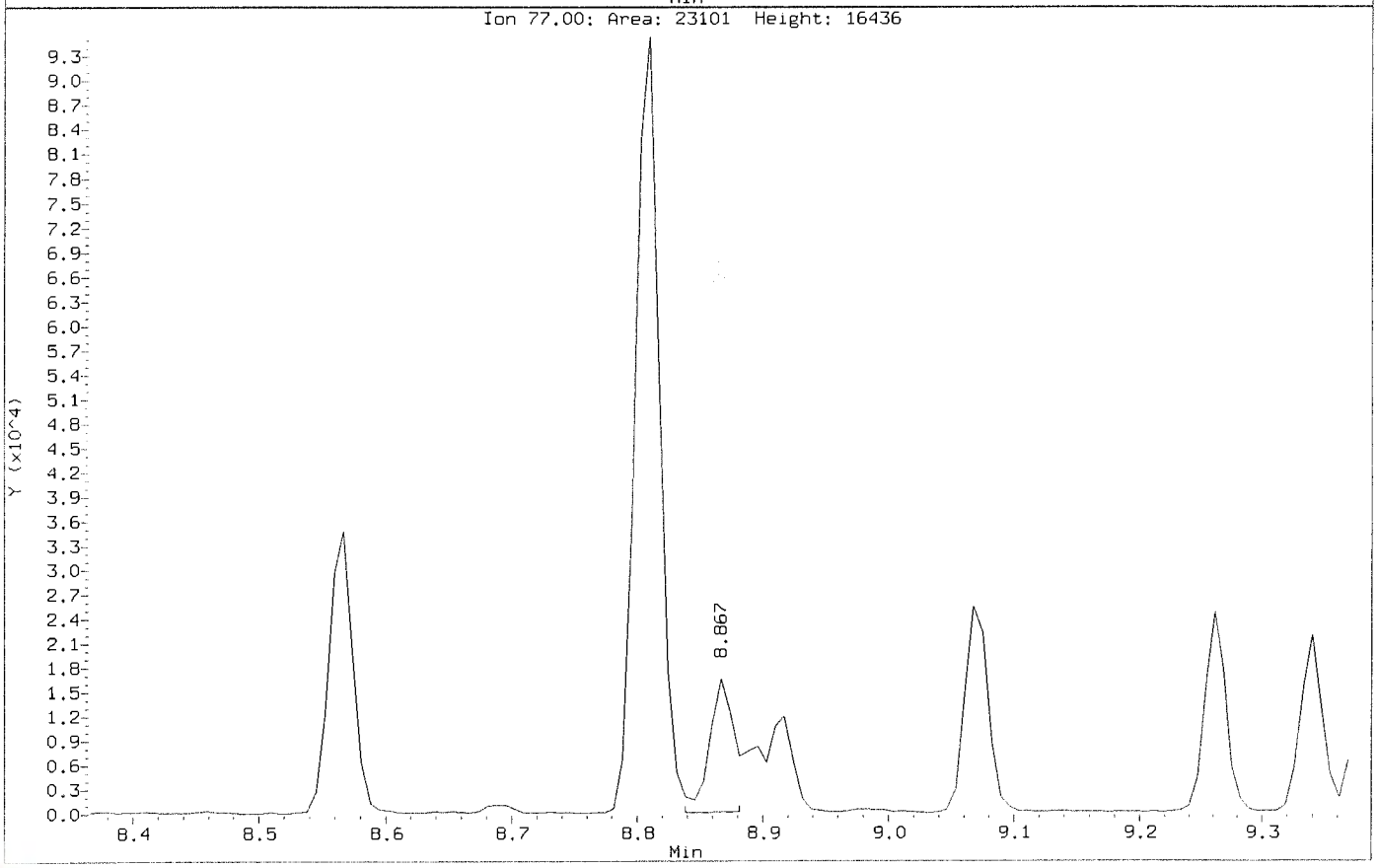
Injection Date: 02-JUN-2020 20:58
Instrument: voa6.i
Client Sample ID: HS20051138-01MS

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060227.D Page 1
Report Date: 06-Jul-2020 12:11

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060227.D
Lab Smp Id: HS20051138-01MSD Client Smp ID: HS20051138-01MSD
Inj Date : 02-JUN-2020 21:22
Operator : PC Inst ID: voa6.i
Smp Info : HS20051138-01MSD;HS20051138-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200602.b\8260W.m
Meth Date : 06-Jul-2020 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:57 Cal File: X060211.D
Als bottle: 27 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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

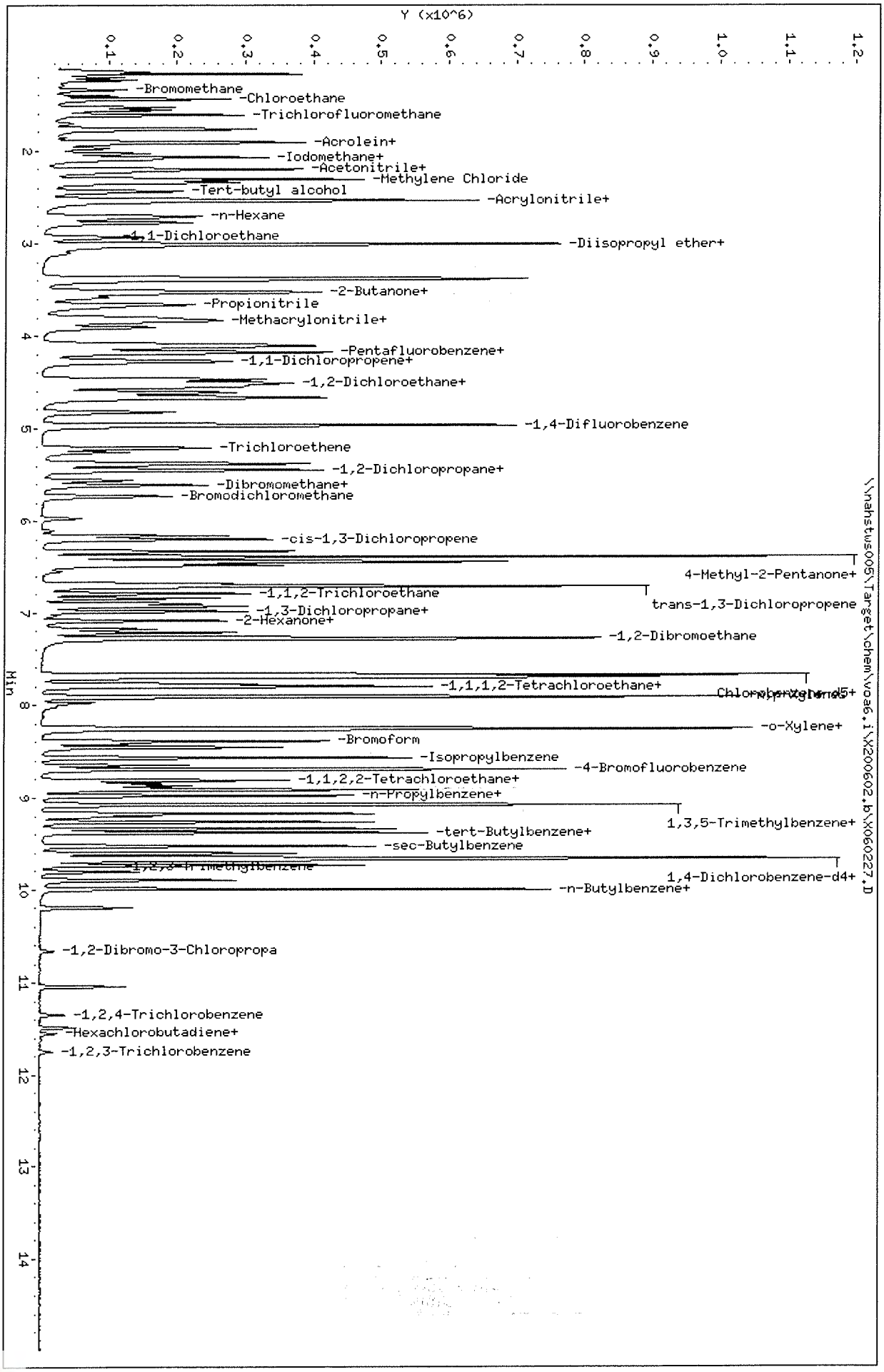
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	299842	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	496295	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	430014	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	181121	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	164445	44.6575	44.65
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	234043	43.2178	43.21
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	596393	52.9342	52.93
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	214251	50.4524	50.45
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	64666	20.9543	20.95
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	107514	18.6135	18.61
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	71275	19.6926	19.69
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	56786	20.7554	20.75
22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	161496	17.4155	17.41
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	55621	18.1025	18.10
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	93292	19.9154	19.91
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	4413	20.5748	20.57
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	66872	20.0292	20.02(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.174)	9771	20.3279	20.32
79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.971)	231219	21.7014	21.70
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.104)	3539	18.1419	18.14
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	67545	20.4791	20.47
88 1,2-Dichlorobenzene	146	9.998	9.992	(1.035)	97432	20.1724	20.17

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060227.D Page 2
Report Date: 06-Jul-2020 12:11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	131477	19.9245	19.92
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	92348	19.7278	19.72
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	229435	21.8005	21.80
83	1,3-Dichlorobenzene	146	9.604	9.605	(0.994)	116337	20.5278	20.52
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	114197	19.7505	19.75
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.002)	112382	19.5302	19.53
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	100963	16.8019	16.80
24	2-Butanone	43	3.580	3.581	(0.856)	103579	31.3426	31.34
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	200110	20.6808	20.68
52	2-Hexanone	43	7.090	7.090	(0.924)	171434	39.6466	39.64
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	229165	20.4530	20.45
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	220168	22.8210	22.82
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	255457	39.9010	39.90
10	Acetone	43	1.976	1.976	(0.473)	77314	26.0820	26.08
37	Benzene	78	4.519	4.519	(0.909)	275862	19.4083	19.40
74	Bromobenzene	156	8.809	8.810	(0.912)	74092	20.9093	20.90
29	Bromochloromethane	128	3.795	3.803	(0.908)	35709	16.9181	16.91
39	Bromodichloromethane	83	5.729	5.730	(1.153)	98622	19.2606	19.26
66	Bromoform	173	8.415	8.416	(1.097)	42757	19.8843	19.88
6	Bromomethane	94	1.338	1.339	(0.320)	48085	16.9544	16.95
19	Carbon Disulfide	76	2.069	2.069	(0.495)	363488	36.7480	36.74
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	88444	19.7091	19.70
59	Chlorobenzene	112	7.699	7.699	(1.004)	170769	20.1420	20.14
7	Chloroethane	64	1.403	1.403	(0.336)	54154	16.9439	16.94
28	Chloroform	83	3.910	3.910	(0.935)	131026	17.8200	17.82
3	Chloromethane	50	1.080	1.081	(0.258)	112410	15.2421	15.24
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	134363	31.5386	31.53
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	116295	19.2151	19.21
55	Dibromochloromethane	129	7.176	7.176	(0.936)	67608	19.7339	19.73
44	Dibromomethane	93	5.557	5.558	(1.118)	48054	19.0613	19.06
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	45053	12.6192	12.61
61	Ethylbenzene	106	7.799	7.800	(1.017)	91560	20.9885	20.98
91	Hexachlorobutadiene	225	11.488	11.481	(1.189)	7891	22.0402	22.04
67	Isopropylbenzene	105	8.566	8.566	(1.117)	276524	21.3897	21.38
62	m,p-Xylenes	106	7.907	7.907	(1.031)	220030	41.8205	41.82
17	Methylene Chloride	84	2.305	2.306	(0.551)	73383	17.4243	17.42
87	n-Butylbenzene	91	9.998	9.999	(1.035)	198274	23.0661	23.06
73	n-Propylbenzene	91	8.917	8.917	(0.923)	336748	22.2294	22.22
92	Naphthalene	128	11.546	11.546	(1.195)	17256	20.9349	20.93
63	o-Xylene	106	8.243	8.244	(1.075)	107709	20.7477	20.74
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	264841	22.5625	22.56
64	Styrene	104	8.258	8.258	(1.077)	187756	20.2995	20.29
78	tert-Butylbenzene	119	9.339	9.340	(0.967)	183553	22.2948	22.29
56	Tetrachloroethene	164	6.933	6.933	(0.904)	50822	22.2768	22.27
50	Toluene	91	6.446	6.446	(0.840)	280274	20.8357	20.83
20	trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	63985	18.2064	18.20
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	104585	19.1314	19.13
38	Trichloroethene	130	5.214	5.207	(1.049)	75155	22.3585	22.35
8	Trichlorofluoromethane	101	1.560	1.561	(0.373)	105346	18.8615	18.86
5	Vinyl Chloride	62	1.145	1.138	(0.274)	96180	15.2590	15.25

QC Flag Legend

M - Compound response manually integrated.



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Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

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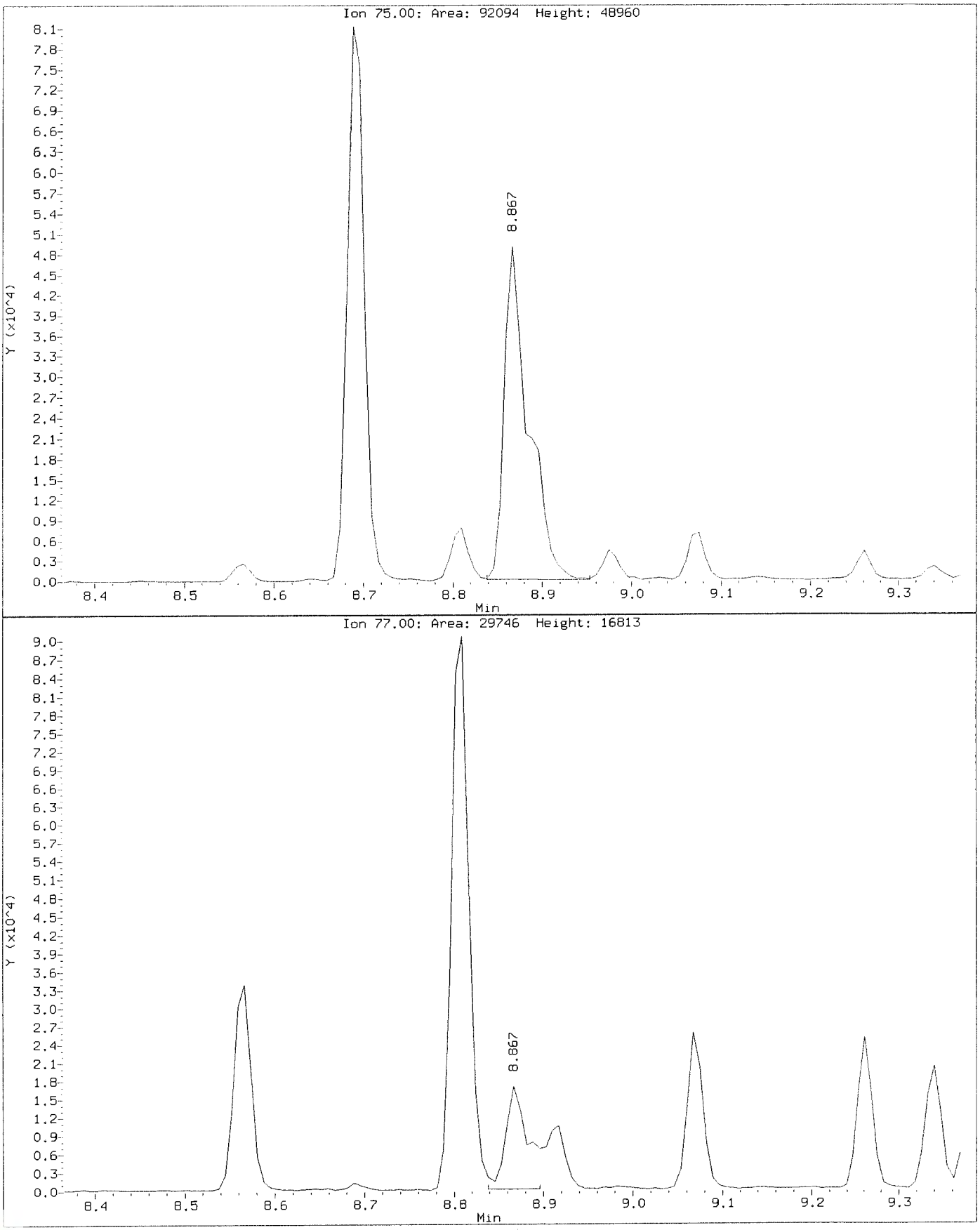
Injection Date: 02-JUN-2020 21:22
Instrument: voa6.i
Client Sample ID: HS20051138-01MSD

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



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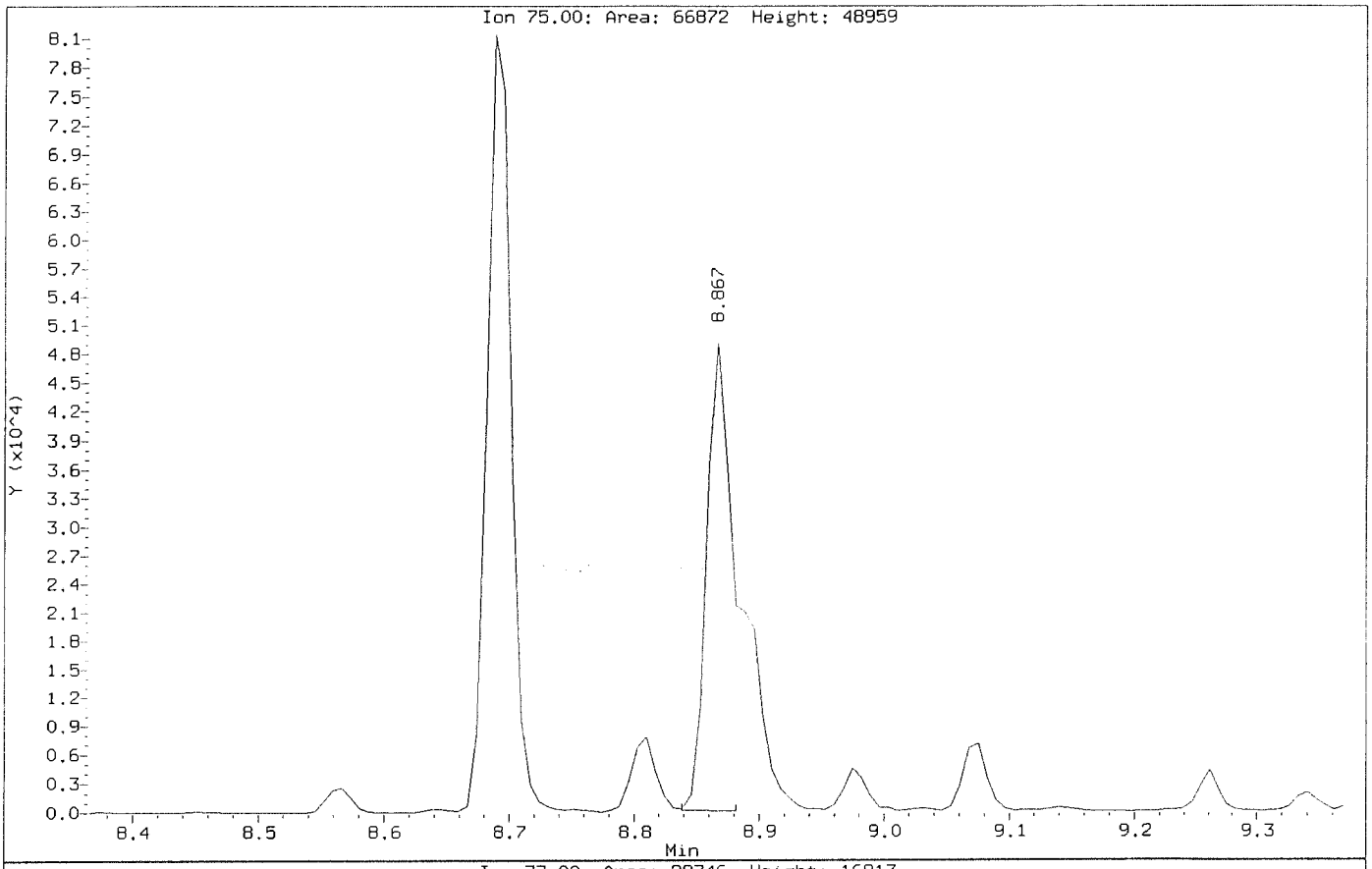
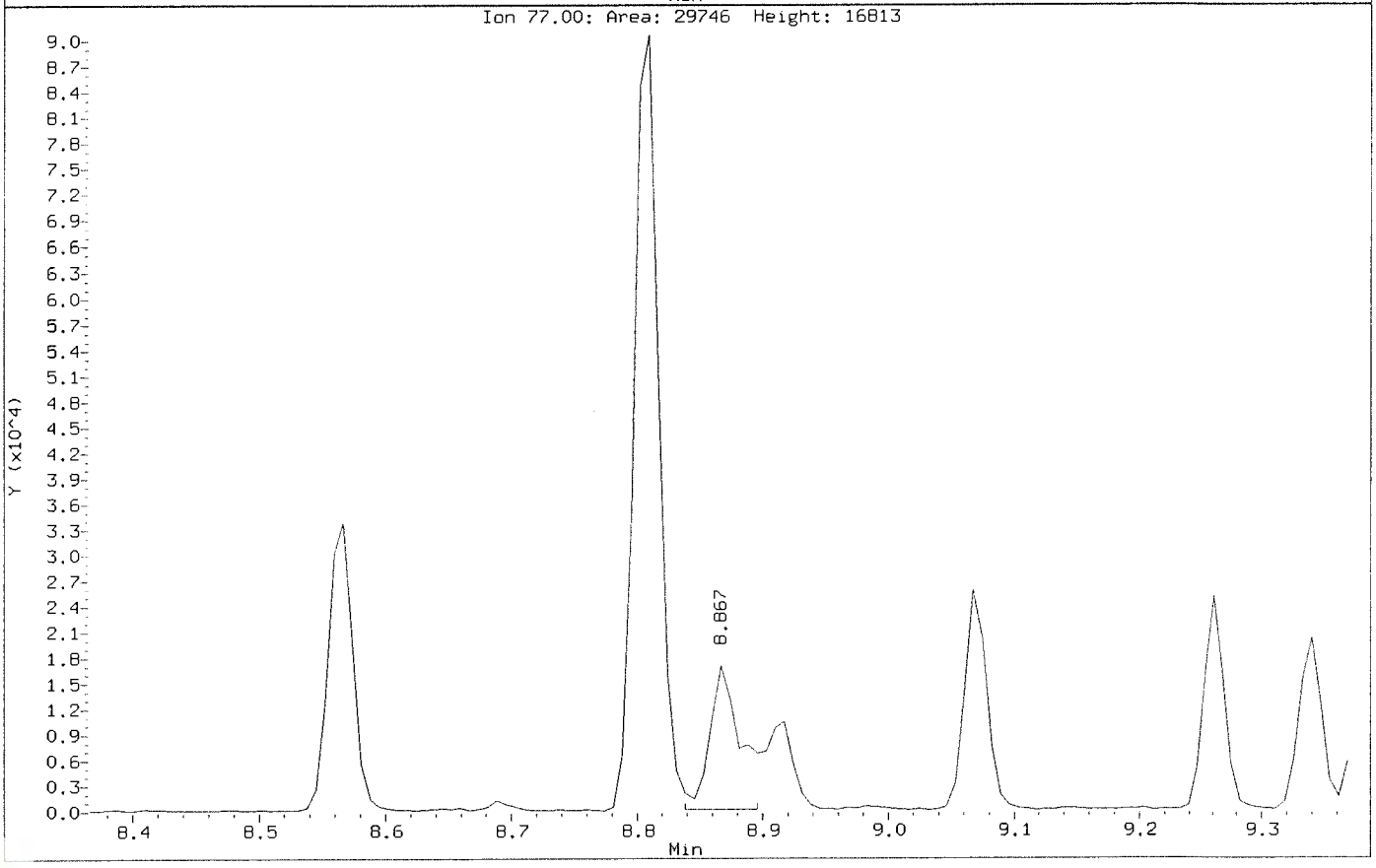
Injection Date: 02-JUN-2020 21:22
Instrument: voa6.i
Client Sample ID: HS20051138-01MSD

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060228.D
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Inj Date : 02-JUN-2020 21:46
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 12:11 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:57 Cal File: X060211.D
Als bottle: 28 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

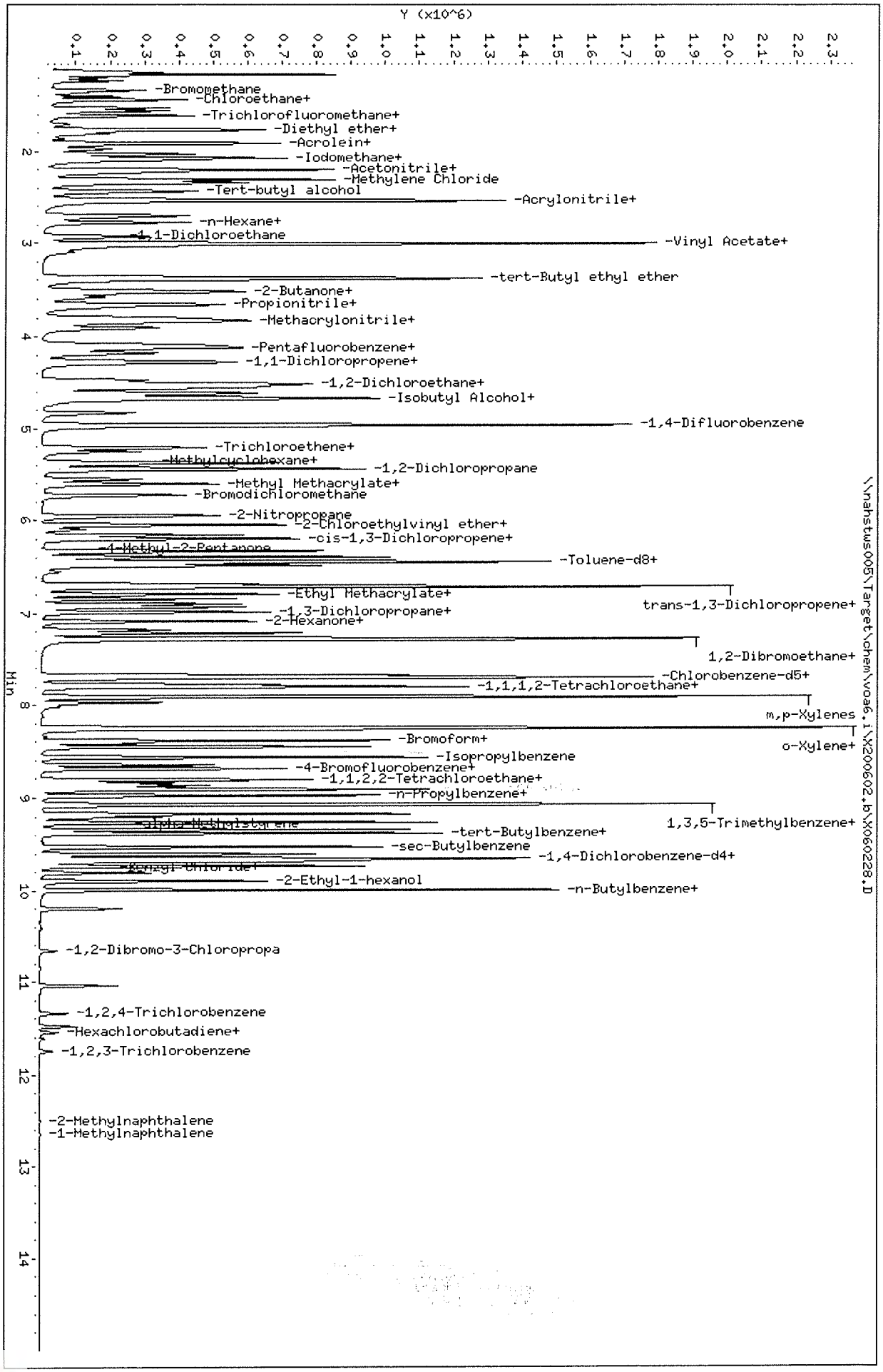
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	233421	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	426488	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	394160	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	164841	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.981)	145740	50.0000	50.92
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	212875	50.0000	50.64
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	499799	50.0000	48.39
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	195775	50.0000	50.29
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	141240	50.0000	49.93
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	223183	50.0000	49.63
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	156539	50.0000	47.52
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	120001	50.0000	47.85
22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	349079	50.0000	48.35
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	116721	50.0000	48.79
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	189578	50.0000	47.09
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	9313	50.0000	45.53
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	146415	50.0000	48.18(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	19701	50.0000	42.26
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	489370	50.0000	50.46
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	7906	50.0000	43.70(M)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	147359	50.0000	48.74
88 1,2-Dichlorobenzene	146	9.992	9.992	(1.033)	210869	50.0000	47.97

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	267896	50.0000	47.24
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	199347	50.0000	49.55
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	478030	50.0000	49.90
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	248793	50.0000	48.23
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	252338	50.0000	47.61
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.001)	245906	50.0000	46.95
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	204842	50.0000	43.78
24	2-Butanone	43	3.581	3.581	(0.856)	234655	100.000	91.21
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	425887	50.0000	48.36
52	2-Hexanone	43	7.090	7.090	(0.924)	384484	100.000	97.00
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	493592	50.0000	48.40
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	446340	50.0000	50.83
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	561459	100.000	95.67
10	Acetone	43	1.976	1.976	(0.473)	180318	100.000	93.73
37	Benzene	78	4.519	4.519	(0.909)	587671	50.0000	48.11
74	Bromobenzene	156	8.810	8.810	(0.911)	159392	50.0000	49.42
29	Bromochloromethane	128	3.803	3.803	(0.909)	79163	50.0000	48.17
39	Bromodichloromethane	83	5.730	5.730	(1.153)	215884	50.0000	49.06
66	Bromoform	173	8.416	8.416	(1.097)	97570	50.0000	49.50
6	Bromomethane	94	1.339	1.339	(0.320)	108158	50.0000	50.94
19	Carbon Disulfide	76	2.069	2.069	(0.495)	762866	100.000	99.07
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	178515	50.0000	46.29
59	Chlorobenzene	112	7.699	7.699	(1.004)	371897	50.0000	47.85
7	Chloroethane	64	1.403	1.403	(0.336)	122015	50.0000	49.03
28	Chloroform	83	3.910	3.910	(0.935)	277283	50.0000	48.44
3	Chloromethane	50	1.081	1.081	(0.258)	277240	50.0000	48.28
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	162067	50.0000	48.86
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	250246	50.0000	48.11
55	Dibromochloromethane	129	7.176	7.176	(0.936)	148320	50.0000	47.23
44	Dibromomethane	93	5.558	5.558	(1.118)	106035	50.0000	48.94
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	138677	50.0000	49.89
61	Ethylbenzene	106	7.800	7.800	(1.017)	193677	50.0000	48.43
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	15229	50.0000	44.37
67	Isopropylbenzene	105	8.566	8.566	(1.117)	568798	50.0000	47.99
62	m,p-Xylenes	106	7.907	7.907	(1.031)	469464	100.000	97.34
17	Methylene Chloride	84	2.306	2.306	(0.551)	160761	50.0000	51.01
87	n-Butylbenzene	91	9.999	9.999	(1.034)	394253	50.0000	50.39
73	n-Propylbenzene	91	8.917	8.917	(0.922)	699797	50.0000	50.75
92	Naphthalene	128	11.546	11.546	(1.194)	33349	50.0000	43.12
63	o-Xylene	106	8.244	8.244	(1.075)	235197	50.0000	49.42
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	538531	50.0000	50.40
64	Styrene	104	8.258	8.258	(1.077)	411712	50.0000	48.56
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	372005	50.0000	49.64
56	Tetrachloroethene	164	6.933	6.933	(0.904)	100554	50.0000	48.08
50	Toluene	91	6.446	6.446	(0.840)	595353	50.0000	48.28
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	135728	50.0000	49.60
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	227301	50.0000	48.38
38	Trichloroethene	130	5.207	5.207	(1.048)	140304	50.0000	48.57
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	211746	50.0000	48.69
5	Vinyl Chloride	62	1.138	1.138	(0.272)	225926	50.0000	46.04

QC Flag Legend

M - Compound response manually integrated.



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Date : 02-JUN-2020 21:46
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

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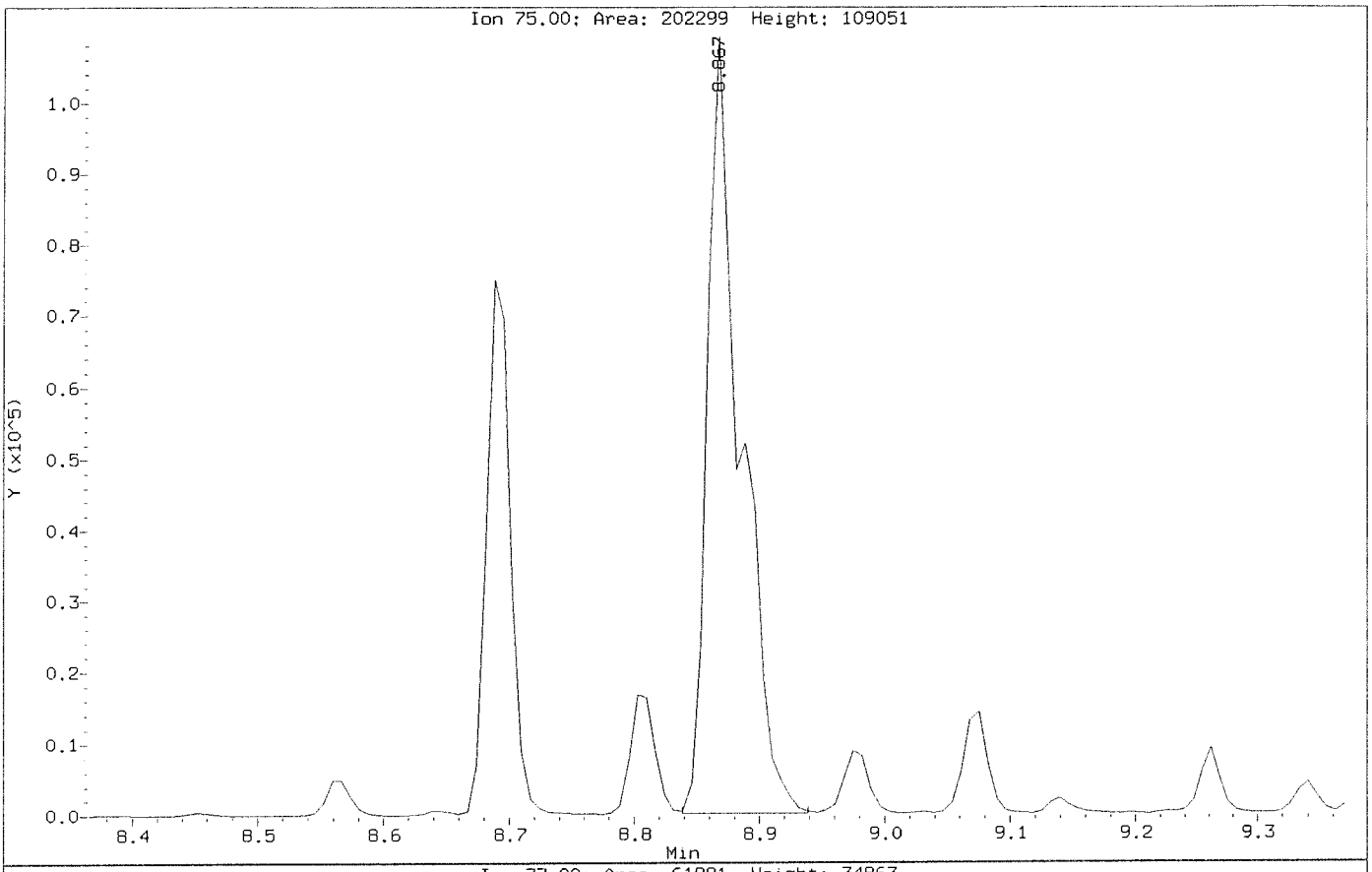
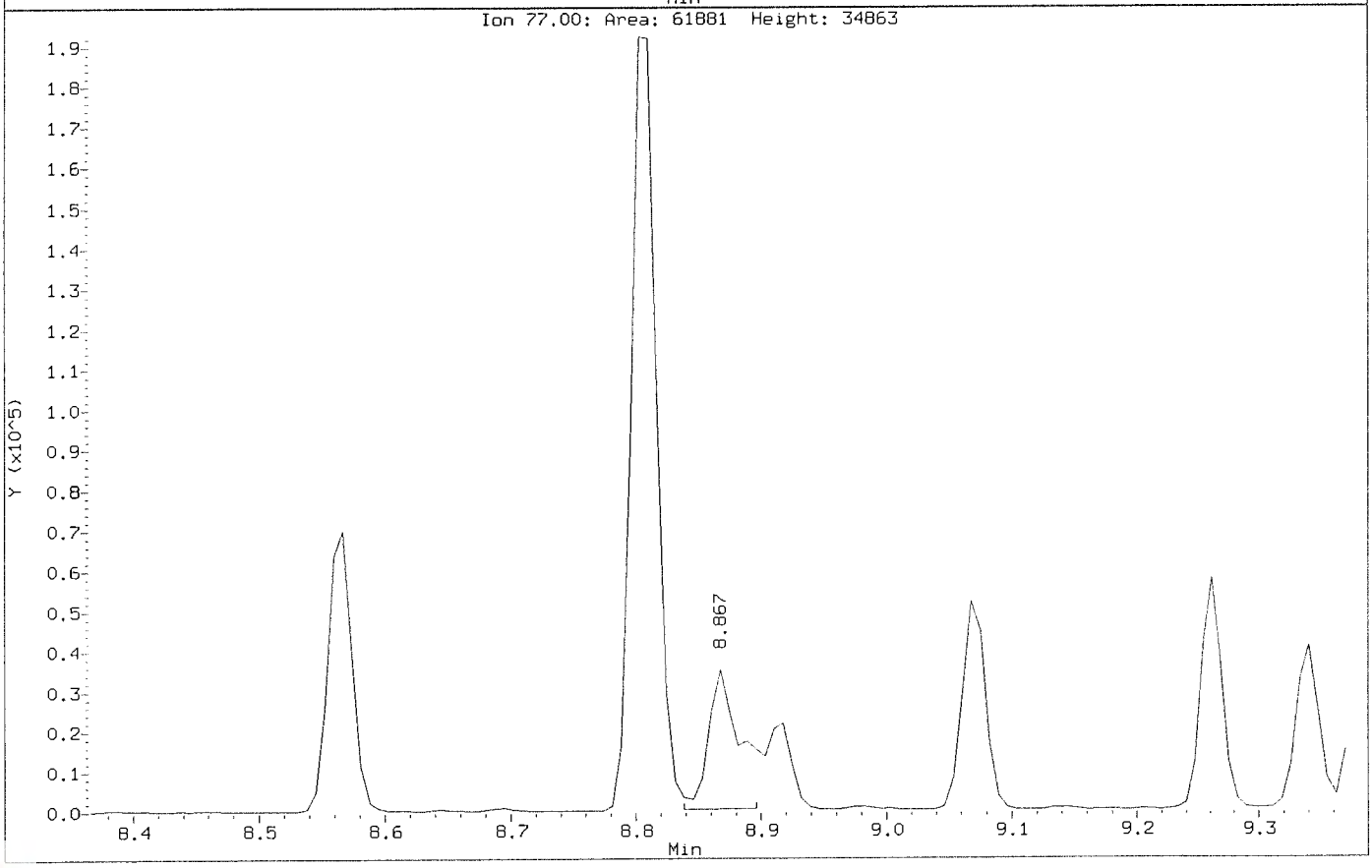
Injection Date: 02-JUN-2020 21:46
Instrument: voa6.i
Client Sample ID: CCV-END

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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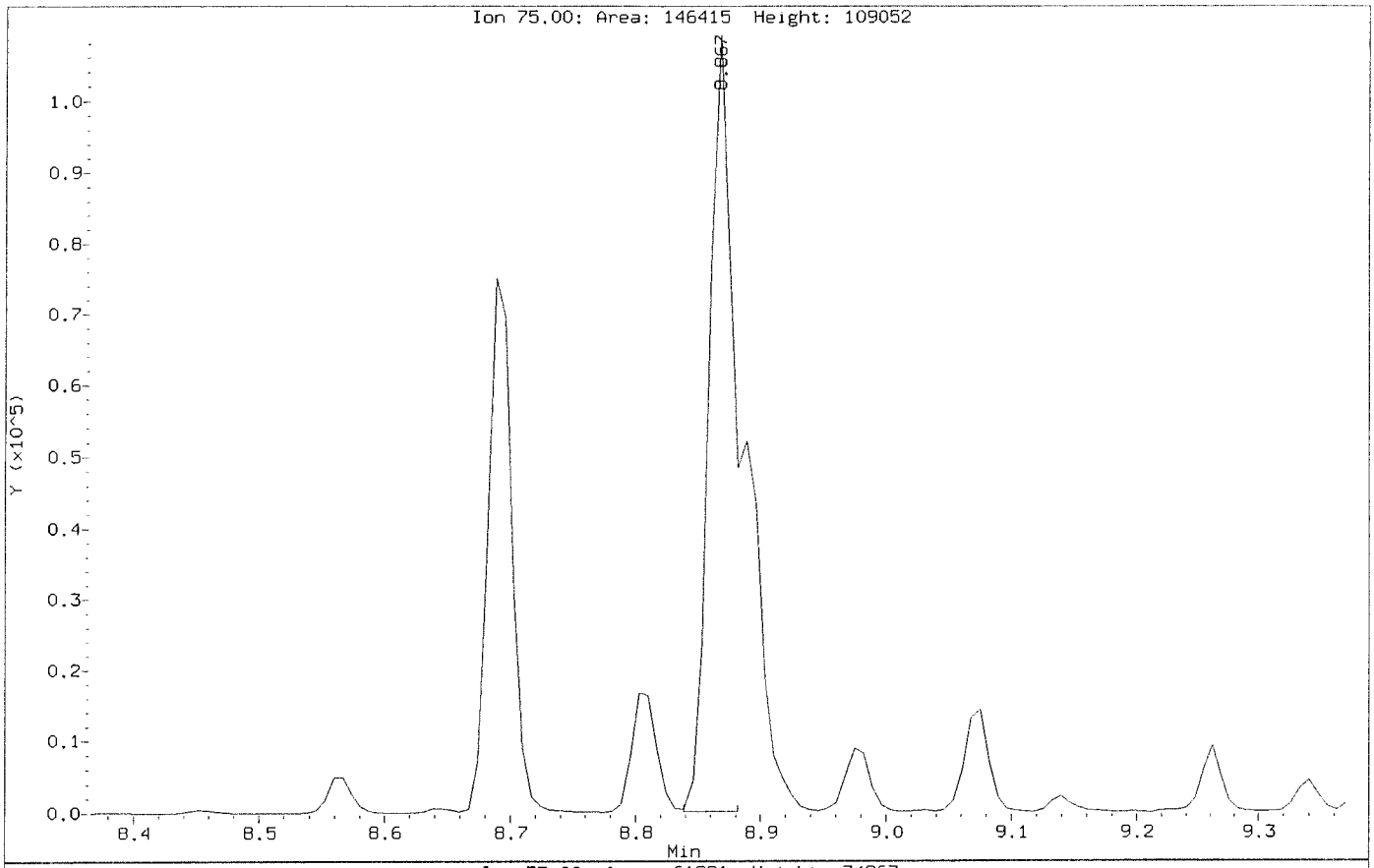
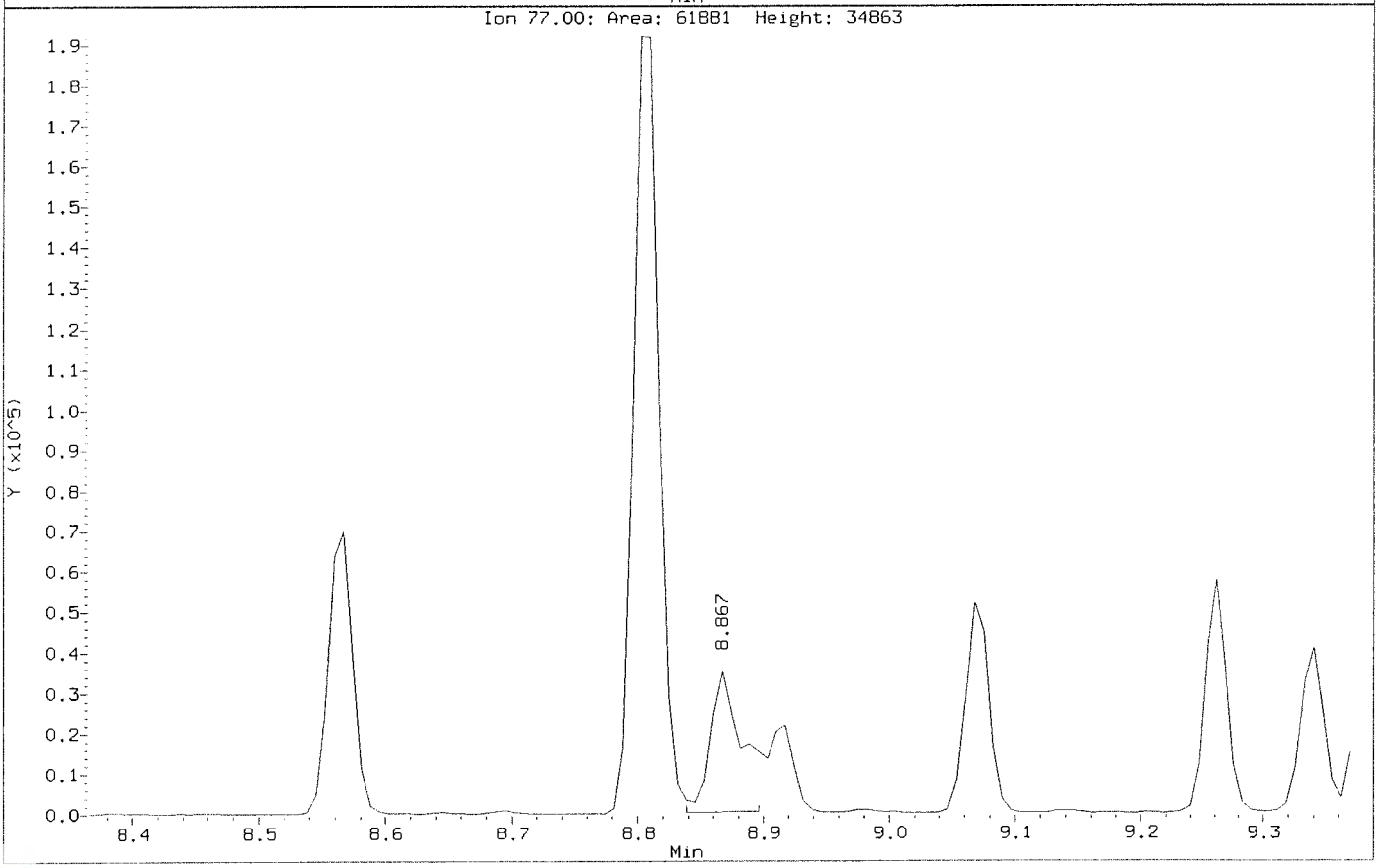
Instrument: voa6.i
Client Sample ID: CCV-END

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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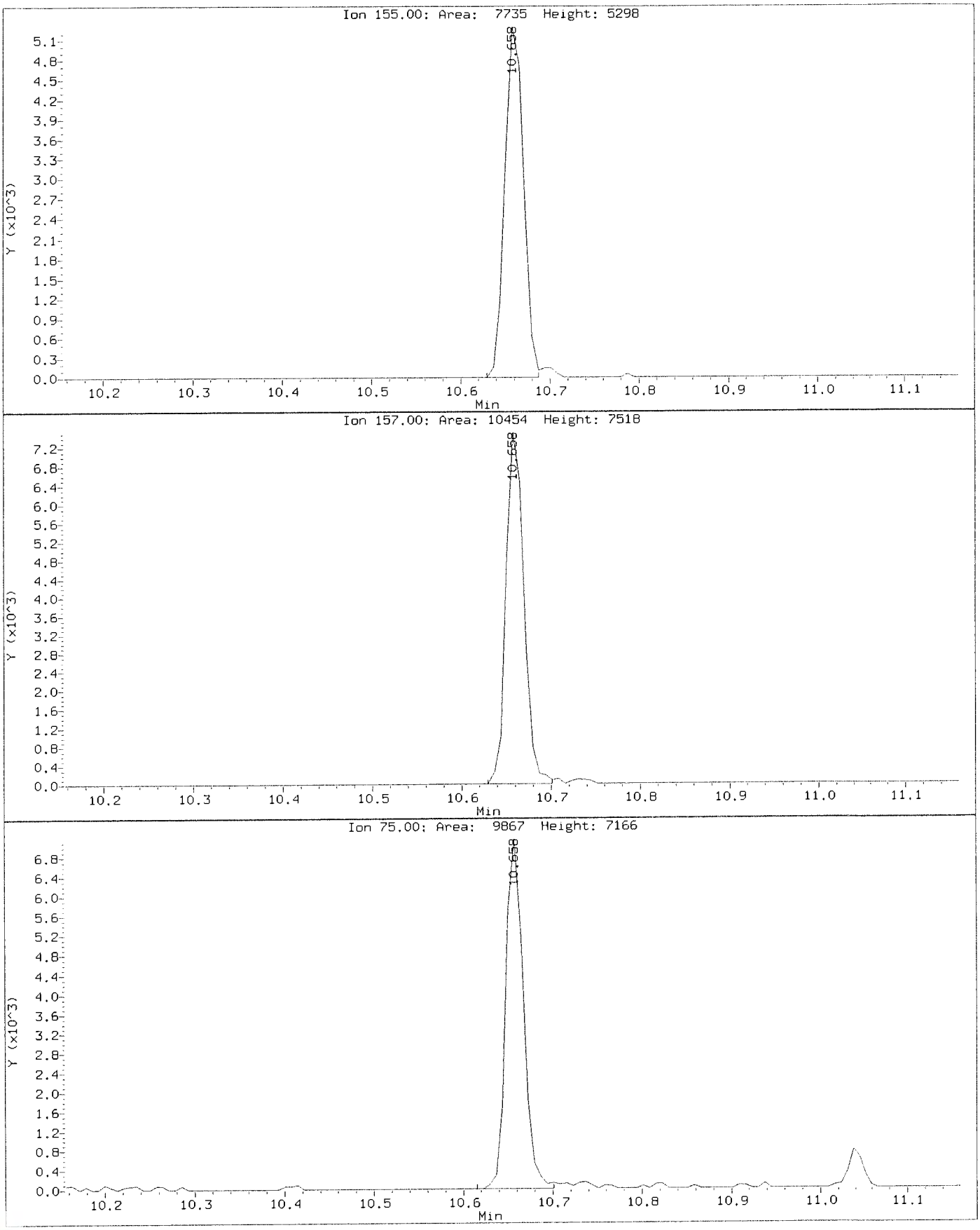
Injection Date: 02-JUN-2020 21:46
Instrument: voa6.i
Client Sample ID: CCV-END

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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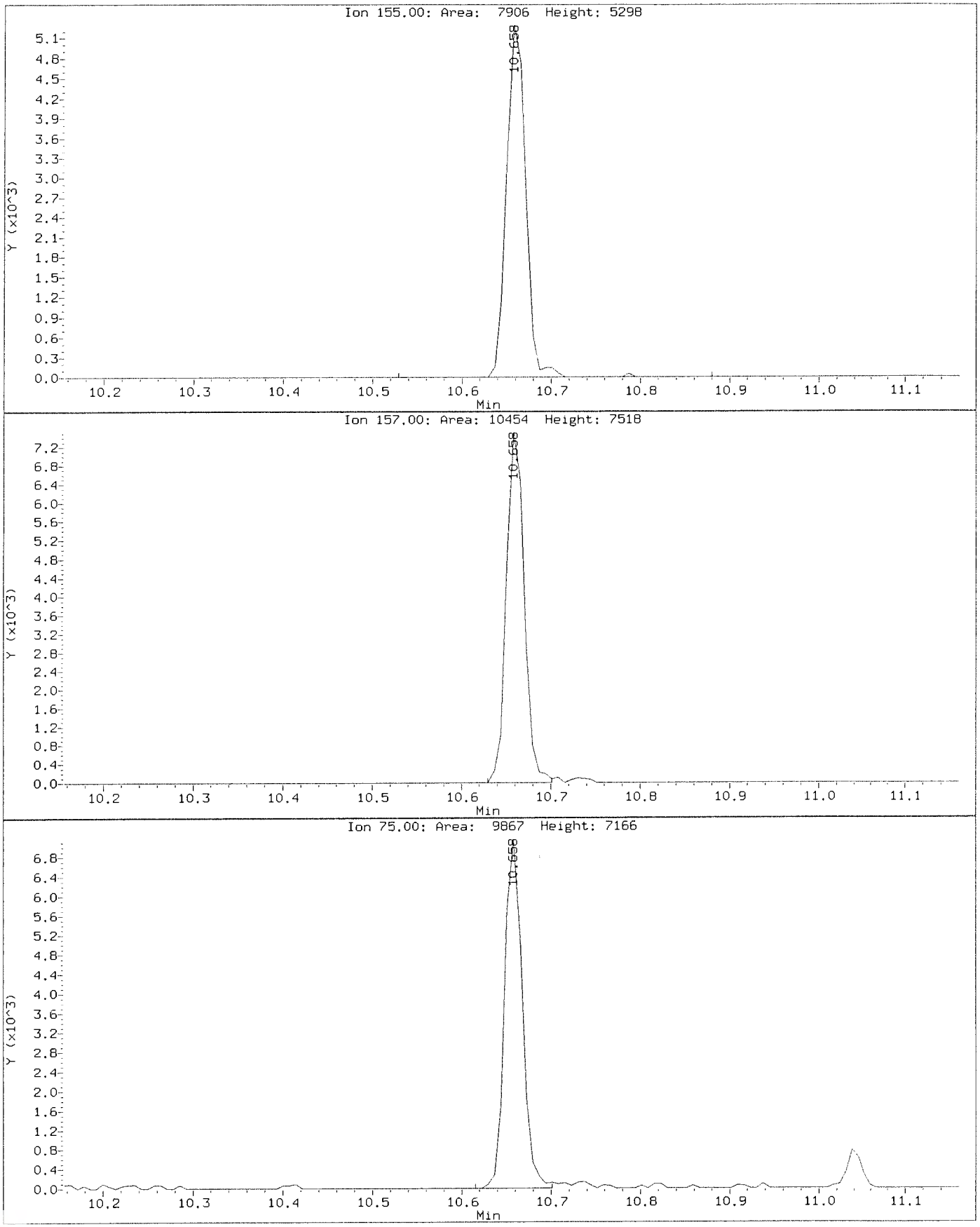
Instrument: voa6.i
Client Sample ID: CCV-END

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



HS20051138 WC Raw Data

ALS WO# HS20051138

Sequence: 060620
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume	Status
	STD1		Calibration	GB1	1.0000	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	GB2	1.0000	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	GB3	1.0000	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	GB4	1.0000	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	GB5	1.0000	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	GB6	1.0000	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	GB7	1.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BA3	1.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20060163-01DF10		Unknown	RC3	10.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20060163-01MSDF10		Unknown	RC4	10.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20060163-01MSDDF10		Unknown	RC5	10.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20051138-01	9056_W	Unknown	RC7	1.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20051138-01DF10		Unknown	RC8	10.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	WBLKW1-060620	9056_W	Unknown	BB1	1.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	WLCSW1-060620		Unknown	BB2	1.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.0000		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 060620
Last Update Operator: alshs.nouser

Inject Time
6/2/2020 11:02:48 AM -05:00
6/2/2020 11:20:59 AM -05:00
6/2/2020 11:39:04 AM -05:00
6/2/2020 11:57:10 AM -05:00
6/2/2020 12:15:18 PM -05:00
6/2/2020 12:33:22 PM -05:00
6/2/2020 12:51:27 PM -05:00
6/2/2020 1:45:50 PM -05:00
6/6/2020 5:47:19 PM -05:00
6/6/2020 6:05:24 PM -05:00
6/6/2020 6:23:35 PM -05:00
6/6/2020 6:41:40 PM -05:00
6/6/2020 6:59:46 PM -05:00
6/6/2020 7:35:57 PM -05:00
6/6/2020 7:54:02 PM -05:00
6/6/2020 8:12:09 PM -05:00
6/6/2020 8:30:16 PM -05:00
6/6/2020 9:24:33 PM -05:00
6/6/2020 9:42:38 PM -05:00

Sequence: 060920
Injection #6: STD6

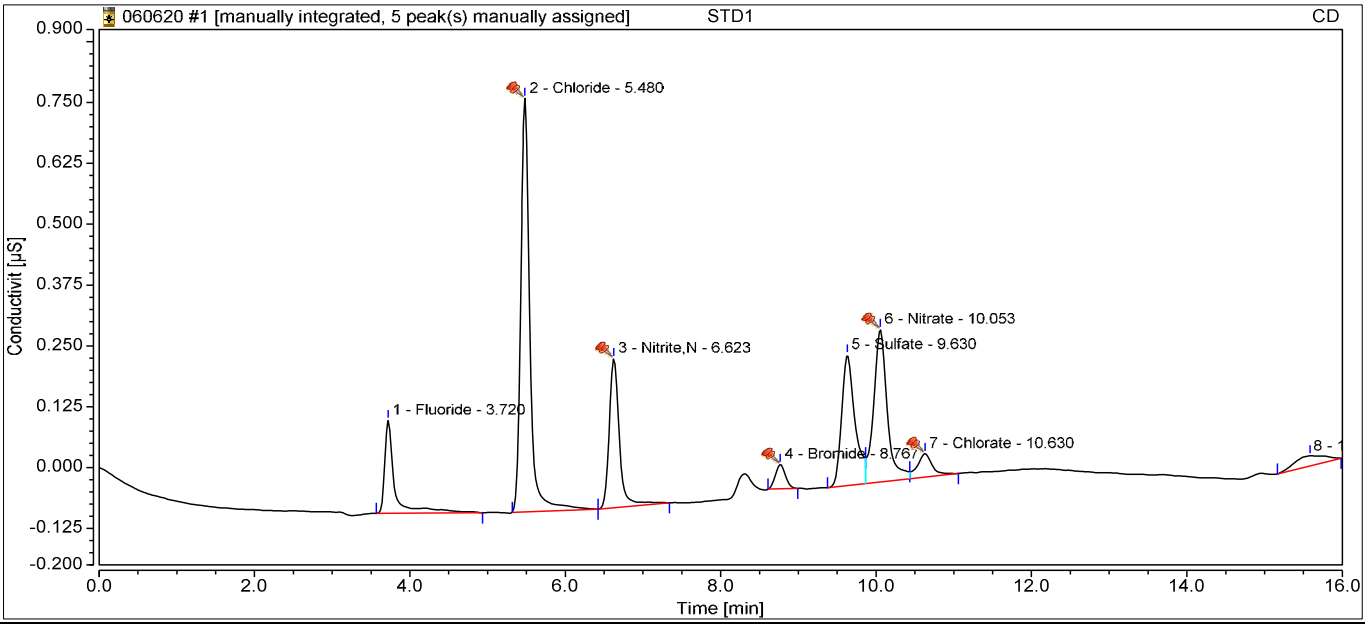
Calibration

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*	*10.8139*	*0.99942*	*-0.0046*	*0.3376*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	3.4292	0.99994	0.0066	0.2216	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	25.3231	0.99619	0.0124	0.4569	0.0000
4	Bromide	Lin, WithOffset, 1/	Area	6	11.6783	0.99936	-0.0023	0.0890	0.0000
5	Sulfate	Lin, WithOffset, 1/	Area	6	4.6337	0.99991	-0.0317	0.1582	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	5.8899	0.99981	0.0058	0.5970	0.0000
7	Chlorate	Lin, WithOffset, 1/	Area	6	15.6369	0.99851	0.0032	0.0971	0.0000
8	Phosphate	Lin, WithOffset, 1/	Area	5	24.1443	0.99440	-0.0555	0.1862	0.0000
Maximum					**25.3231**	0.99994			
Minimum					3.4292	**0.99440**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**GB1**	*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:	**06/02/2020 11:02**	*Sample Weight:*	**1.0000**

Run Time:

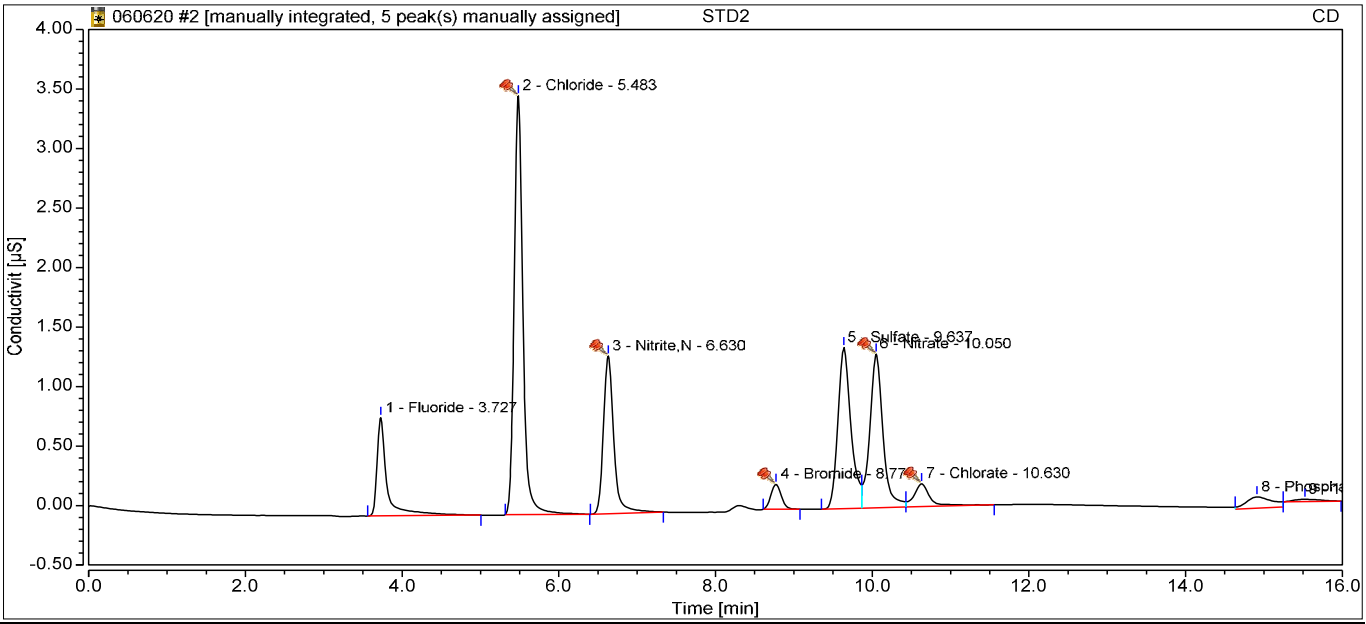


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.029	0.0982	0.0982	1.0000
2	5.48	Chloride	BMB^	0.115	0.4904	0.4904	1.0000
3	6.62	Nitrite,N	BMB*^	0.046	0.0745	0.0745	1.0000
4	8.77	Bromide	BMB^	0.007	0.1093	0.1093	1.0000
5	9.63	Sulfate	BM	0.053	0.5374	0.5374	1.0000
6	10.05	Nitrate	M ^	0.064	0.0969	0.0969	1.0000
7	10.63	Chlorate	MB^	0.011	0.0775	0.0775	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.325**		**1.48**	

2 STD2			
Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**GB2**	*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:	**06/02/2020 11:20**	*Sample Weight:*	**1.0000**

Run Time:



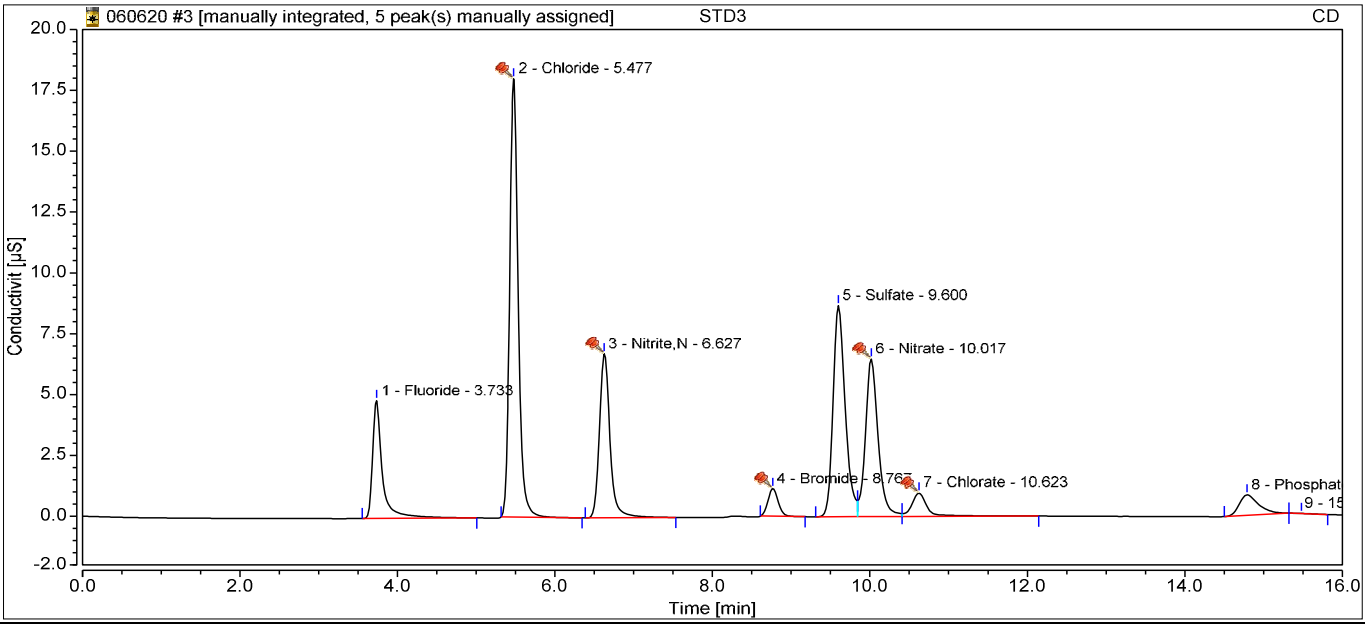
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.122	0.3761	0.3761	1.0000
2	5.48	Chloride	BMB^	0.452	2.0081	2.0081	1.0000
3	6.63	Nitrite,N	BMB*^	0.202	0.4159	0.4159	1.0000
4	8.77	Bromide	BMB^	0.032	0.3810	0.3810	1.0000
5	9.64	Sulfate	BM	0.263	1.8631	1.8631	1.0000
6	10.05	Nitrate	M ^	0.253	0.4135	0.4135	1.0000
7	10.63	Chlorate	MB^	0.046	0.4359	0.4359	1.0000
8	14.91	Phosphate	M *	0.037	0.4982	0.4982	1.0000
Total:			**0.000**	**1.407**		**6.39**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**GB3**	*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:	**06/02/2020 11:39**	*Sample Weight:*	**1.0000**

Run Time:



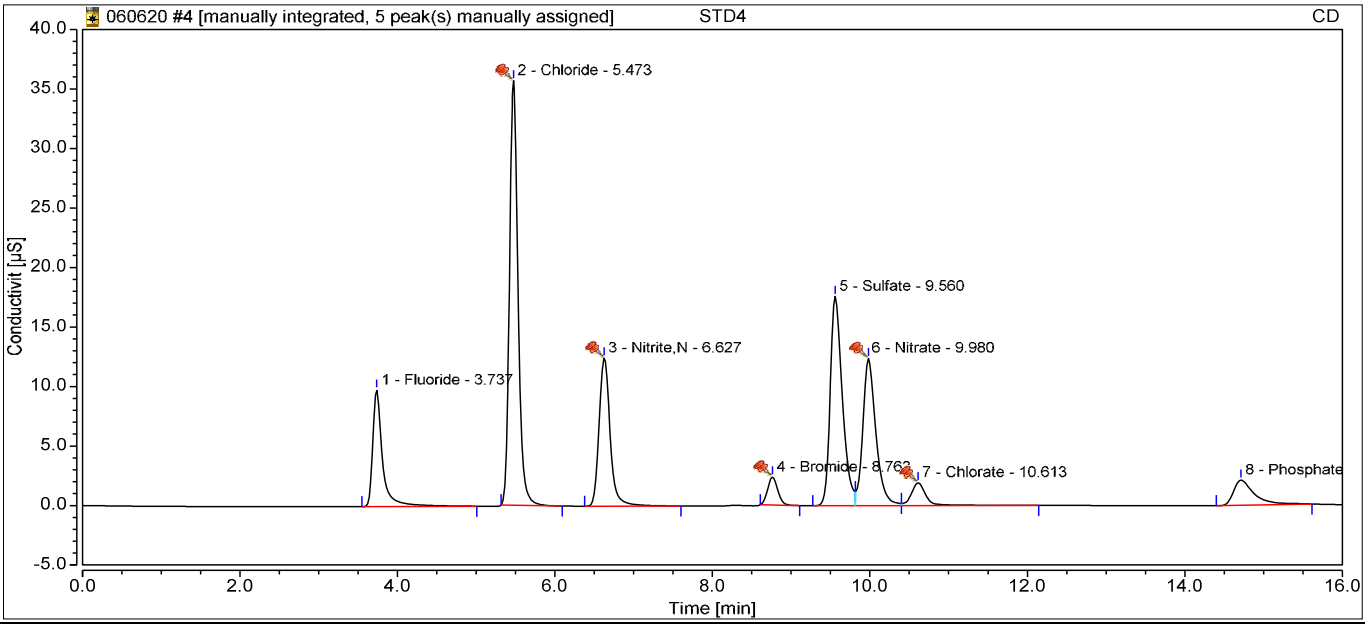
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.697	2.0782	2.0782	1.0000
2	5.48	Chloride	BMB^	2.257	10.1575	10.1575	1.0000
3	6.63	Nitrite,N	BMB*^	1.049	2.2692	2.2692	1.0000
4	8.77	Bromide	BMB^	0.172	1.9524	1.9524	1.0000
5	9.60	Sulfate	BM	1.543	9.9532	9.9532	1.0000
6	10.02	Nitrate	M ^	1.213	2.0220	2.0220	1.0000
7	10.62	Chlorate	MB^	0.220	2.2332	2.2332	1.0000
8	14.79	Phosphate	BMB	0.243	1.6042	1.6042	1.0000
Total:			**0.000**	**7.394**		**32.27**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**GB4**	*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:	**06/02/2020 11:57**	*Sample Weight:*	**1.0000**

Run Time:



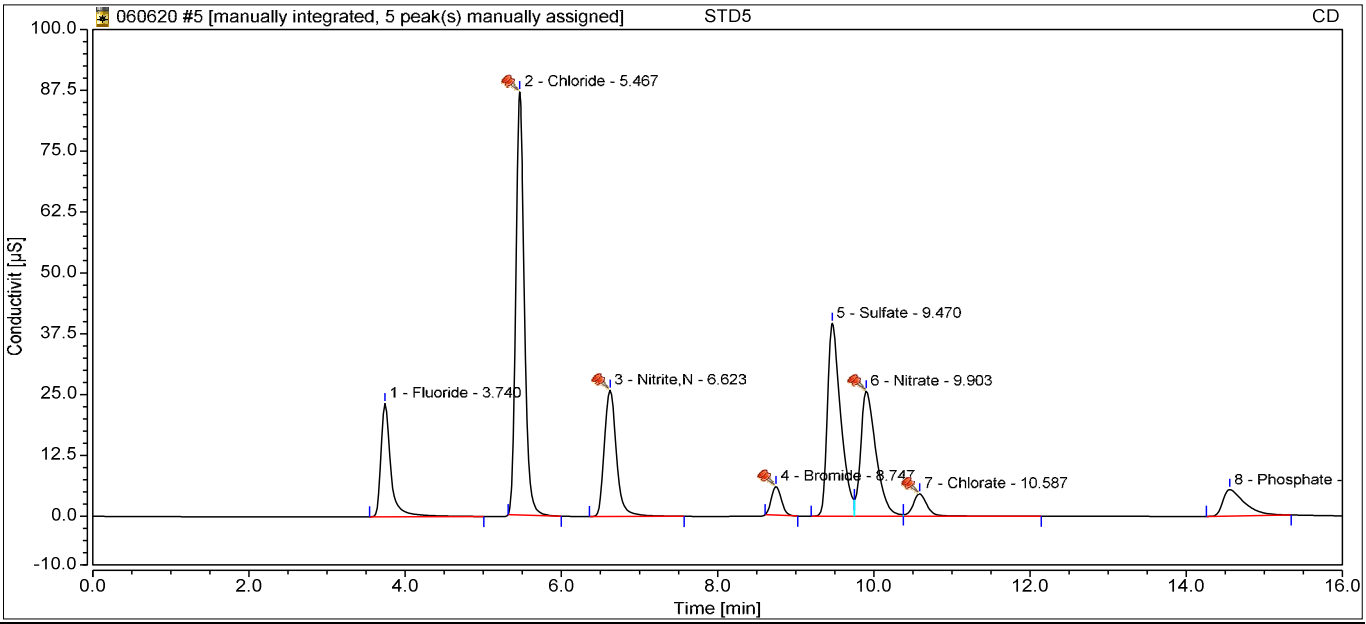
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.406	4.1793	4.1793	1.0000
2	5.47	Chloride	BMB^	4.475	20.1656	20.1656	1.0000
3	6.63	Nitrite,N	BMB*^	2.031	4.4170	4.4170	1.0000
4	8.76	Bromide	BMB^	0.350	3.9560	3.9560	1.0000
5	9.56	Sulfate	BM	3.131	19.9943	19.9943	1.0000
6	9.98	Nitrate	M ^	2.388	3.9909	3.9909	1.0000
7	10.61	Chlorate	MB^	0.410	4.1864	4.1864	1.0000
8	14.71	Phosphate	BMB*	0.647	3.7708	3.7708	1.0000
Total:			**0.000**	**14.837**		**64.66**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**GB5**	*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:	**06/02/2020 12:15**	*Sample Weight:*	**1.0000**

Run Time:



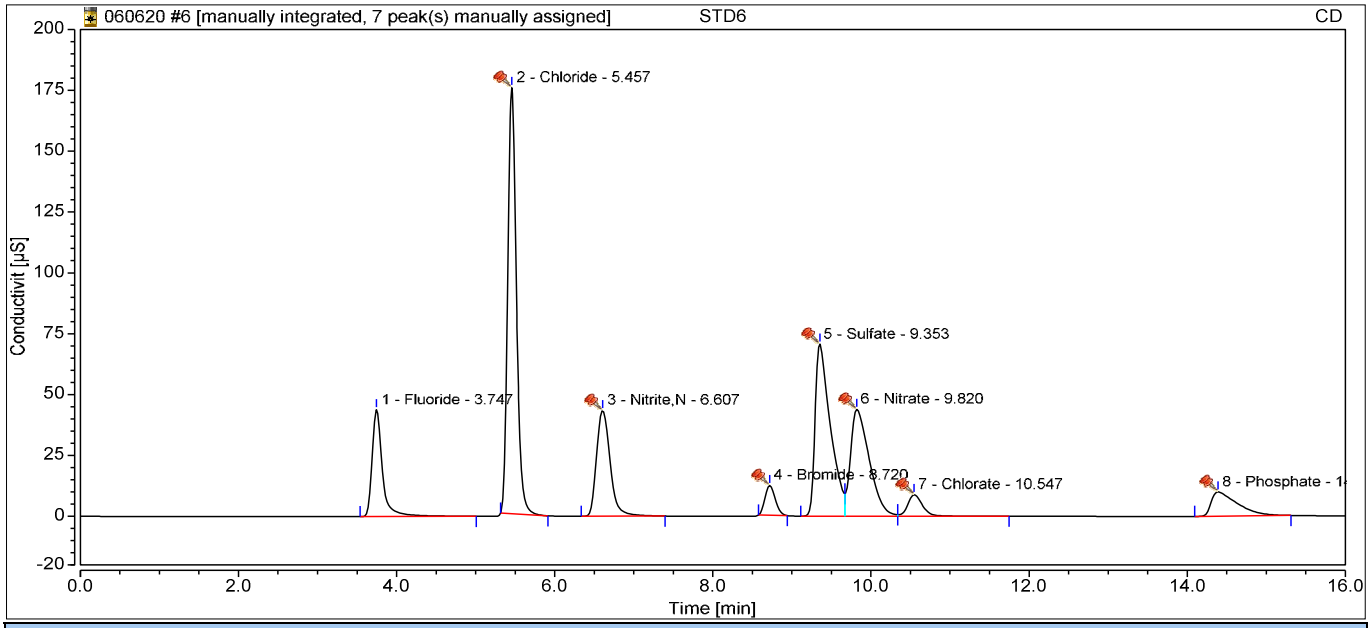
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.409	10.1112	10.1112	1.0000
2	5.47	Chloride	BMB^	10.962	49.4436	49.4436	1.0000
3	6.62	Nitrite,N	BMB*^	4.673	10.1996	10.1996	1.0000
4	8.75	Bromide	BMB^	0.860	9.6874	9.6874	1.0000
5	9.47	Sulfate	BM	7.832	49.7141	49.7141	1.0000
6	9.90	Nitrate	M ^	5.855	9.7981	9.7981	1.0000
7	10.59	Chlorate	MB^	0.963	9.8794	9.8794	1.0000
8	14.56	Phosphate	BMB*	1.744	9.6675	9.6675	1.0000
Total:			**0.000**	**36.299**		**158.50**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**GB6**	*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:	**06/02/2020 12:33**	*Sample Weight:*	**1.0000**

Run Time:



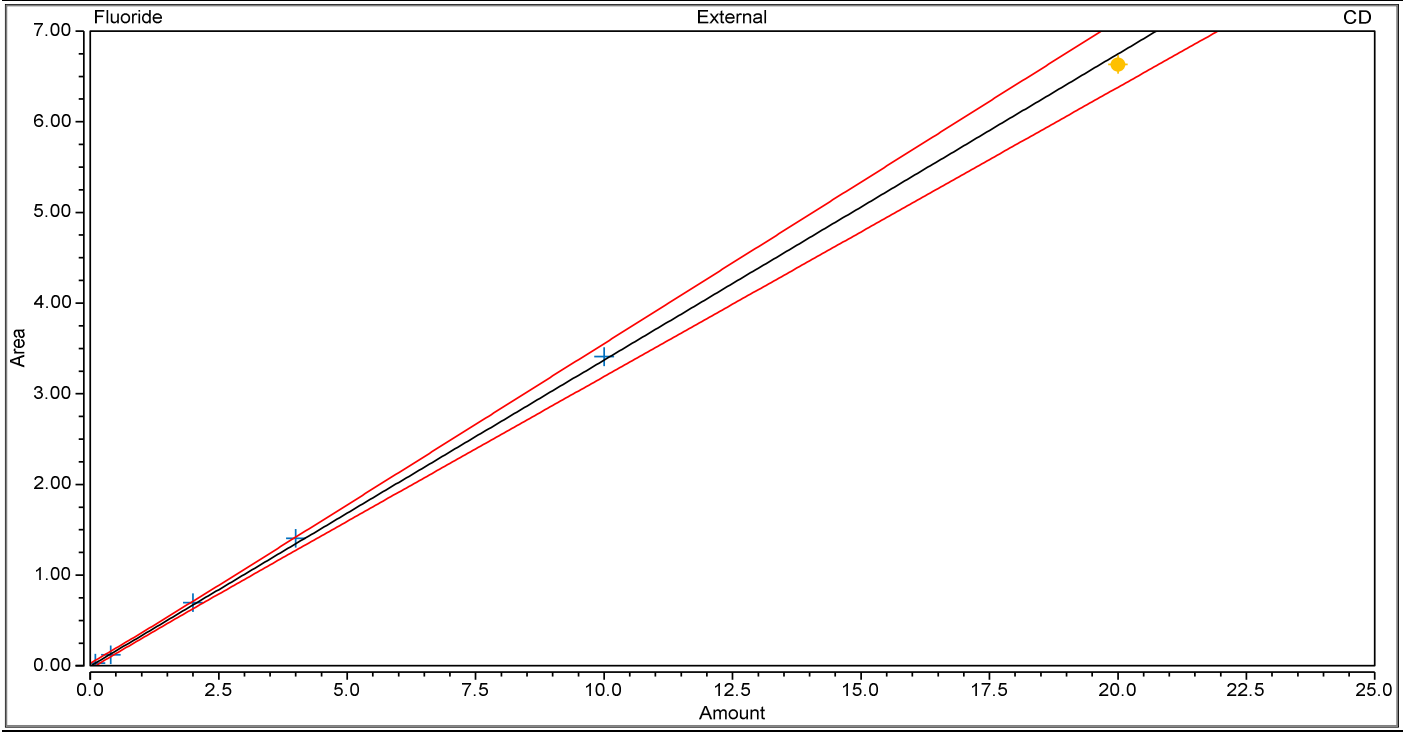
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	6.632	19.6569	19.6569	1.0000
2	5.46	Chloride	BMB^	22.217	100.2349	100.2349	1.0000
3	6.61	Nitrite,N	BMB*^	8.750	19.1238	19.1238	1.0000
4	8.72	Bromide	BMB*^	1.815	20.4140	20.4140	1.0000
5	9.35	Sulfate	BM ^	15.855	100.4380	100.4380	1.0000
6	9.82	Nitrate	M ^	12.052	20.1786	20.1786	1.0000
7	10.55	Chlorate	MB^	1.916	19.6877	19.6877	1.0000
8	14.39	Phosphate	BMB*^	3.828	20.8593	20.8593	1.0000
Total:			**0.000**	**73.065**		**320.59**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0046
Evaluation Type	Area	*Slope (C1)*	0.3376
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9994

Calibration Plot **Fluoride**



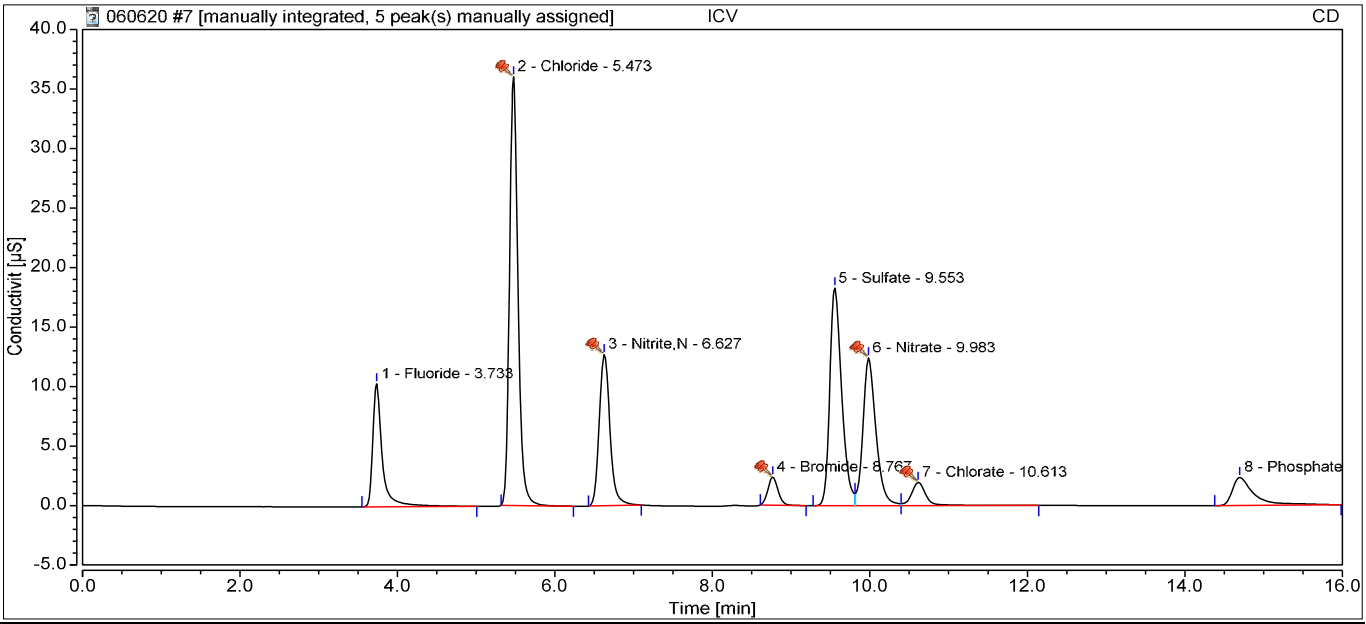
Calibration Results **Fluoride**

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	0.0285	0.0285	0.029	0.191
2	STD2	2	0.4000	0.1224	0.1224	0.122	0.826
3	STD3	3	2.0000	0.6970	0.6970	0.697	4.841
4	STD4	4	4.0000	1.4064	1.4064	1.406	9.790
5	STD5	5	10.0000	3.4092	3.4092	3.409	23.253
6	STD6	6	20.0000	6.6320	6.6320	6.632	43.889

7 ICV

Sample Name:	**ICV**	*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:*	**1.0000**
Recording Time:	**06/02/2020 12:51**	*Sample Weight:*	**1.0000**

Run Time:



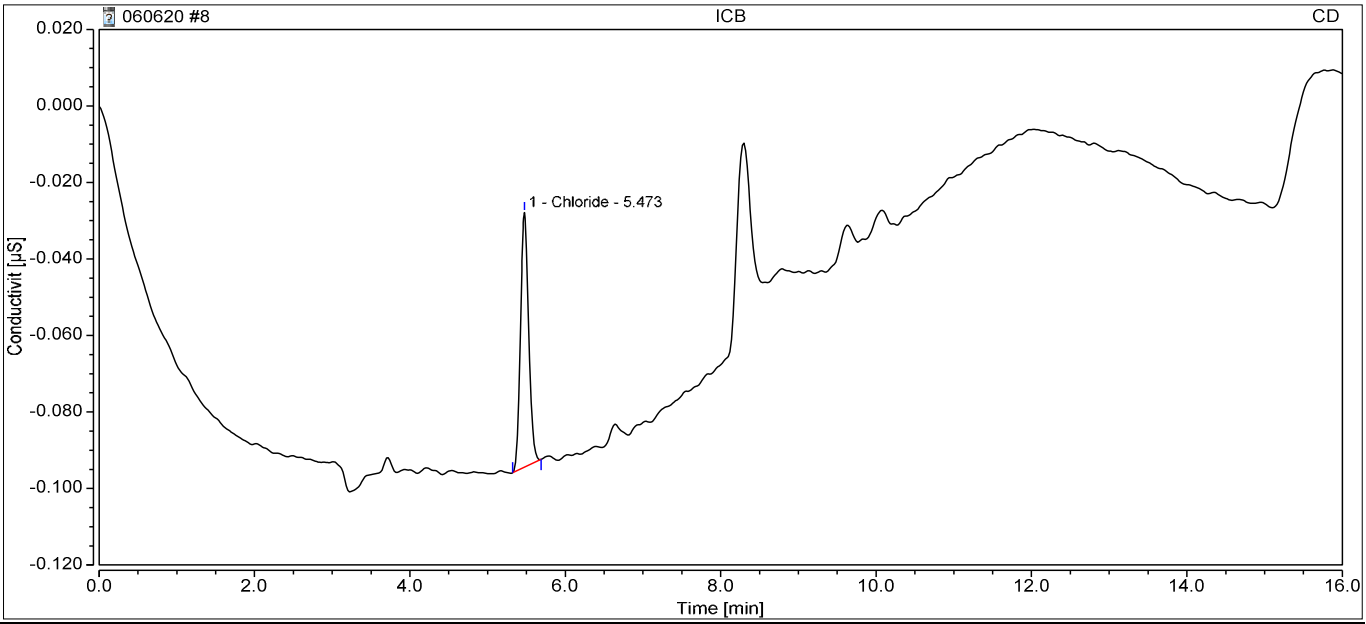
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.442	4.2839	4.2839	1.0000
2	5.47	Chloride	BMB^	4.508	20.3168	20.3168	1.0000
3	6.63	Nitrite,N	BMB*^	2.013	4.3785	4.3785	1.0000
4	8.77	Bromide	BMB^	0.352	3.9794	3.9794	1.0000
5	9.55	Sulfate	BM	3.208	20.4827	20.4827	1.0000
6	9.98	Nitrate	M ^	2.387	3.9894	3.9894	1.0000
7	10.61	Chlorate	MB^	0.412	4.2081	4.2081	1.0000
8	14.70	Phosphate	BMB	0.762	4.3926	4.3926	1.0000
Total:			**0.000**	**15.085**		**66.03**	

8 ICB

Sample Name:	**ICB**	*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:	**06/02/2020 13:45**	*Sample Weight:*	**1.0000**

Run Time:



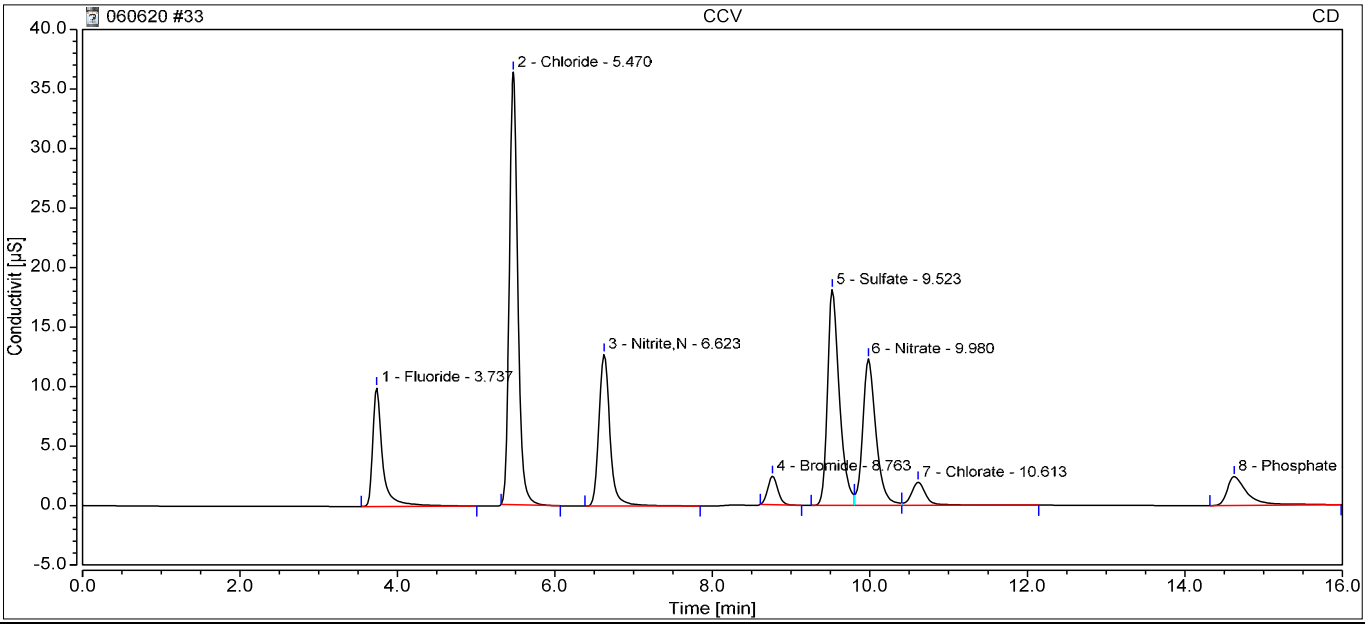
Integration Results

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	5.47	Chloride	BMB	0.008	0.0067	0.0067	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**	**0.008**		**0.01**	

33 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:	**06/06/2020 17:47**	*Sample Weight:*	**1.0000**

Run Time:



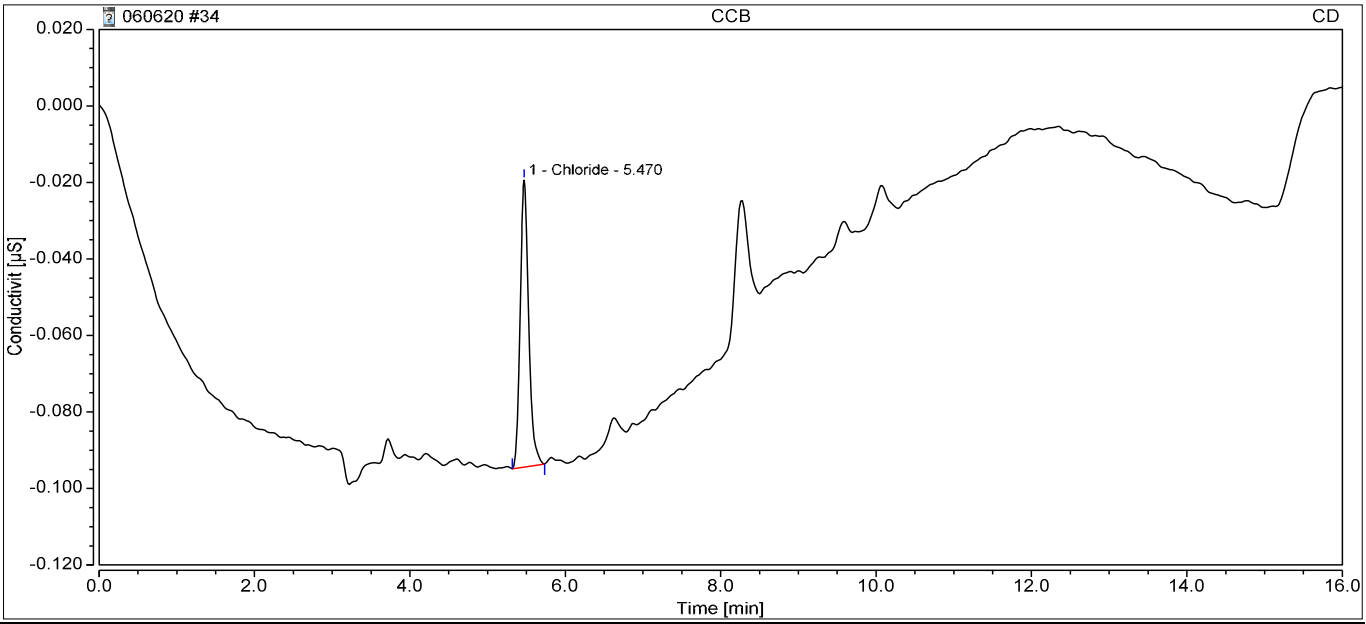
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.443	4.2876	4.2876	1.0000
2	5.47	Chloride	BMB	4.544	20.4758	20.4758	1.0000
3	6.62	Nitrite,N	BMB	2.079	4.5233	4.5233	1.0000
4	8.76	Bromide	BMB	0.357	4.0392	4.0392	1.0000
5	9.52	Sulfate	BM	3.199	20.4255	20.4255	1.0000
6	9.98	Nitrate	M	2.411	4.0281	4.0281	1.0000
7	10.61	Chlorate	MB	0.419	4.2775	4.2775	1.0000
8	14.63	Phosphate	BMB	0.730	4.2213	4.2213	1.0000
Total:			**0.000**	**15.182**		**66.28**	

34 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:	**06/06/2020 18:05**	*Sample Weight:*	**1.0000**

Run Time:



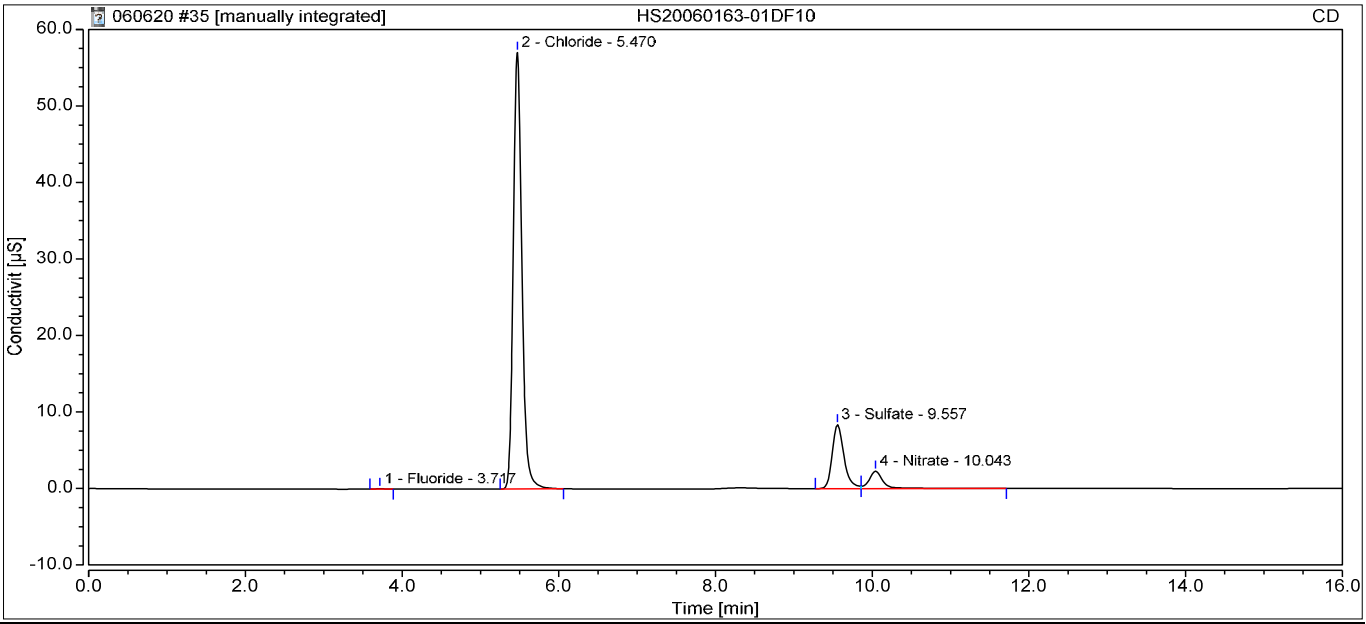
Integration Results

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	5.47	Chloride	BMB	0.010	0.0131	0.0131	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**		**0.01**	

35 HS20060163-01DF10

Sample Name:	**HS20060163-01DF10**	*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:*	**10.0000**
Recording Time:	**06/06/2020 18:23**	*Sample Weight:*	**1.0000**

Run Time:



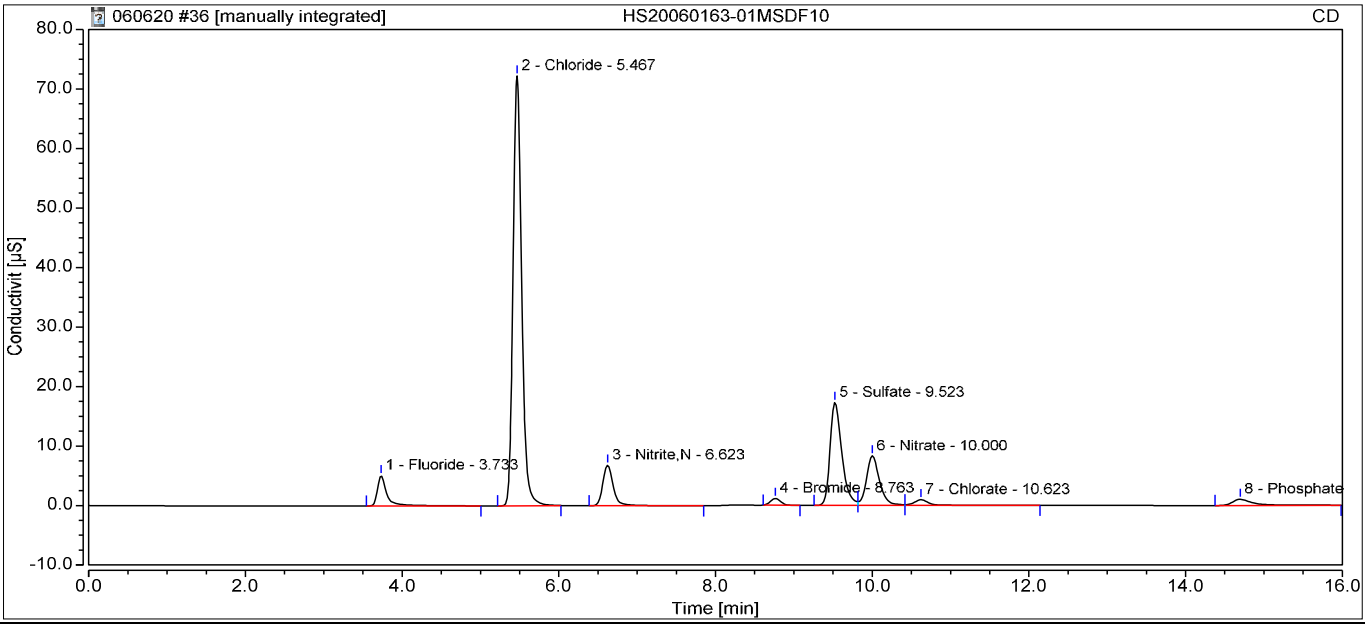
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.007	0.0330	0.3297	10.0000
2	5.47	Chloride	BMB*	7.202	32.4744	324.7445	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
3	9.56	Sulfate	BM	1.448	9.3553	93.5530	10.0000
4	10.04	Nitrate	MB	0.465	0.7687	7.6867	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**	**9.122**		**426.31**	

36 HS20060163-01MSDF10

Sample Name:	**HS20060163-01MSDF10**	*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:*	**10.0000**
Recording Time:	**06/06/2020 18:41**	*Sample Weight:*	**1.0000**

Run Time:



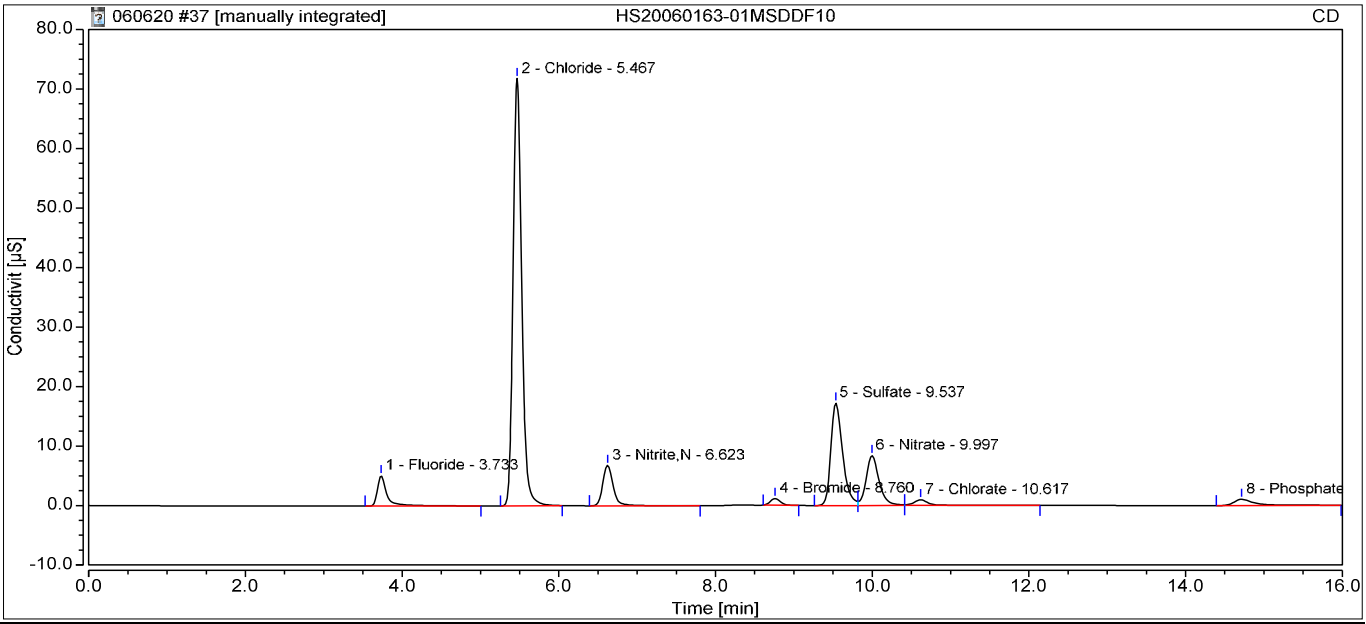
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.723	2.1563	21.5630	10.0000
2	5.47	Chloride	BMB*	9.125	41.1530	411.5296	10.0000
3	6.62	Nitrite,N	BMB	1.058	2.2874	22.8738	10.0000
4	8.76	Bromide	BMB	0.168	1.9129	19.1286	10.0000
5	9.52	Sulfate	BM	3.012	19.2427	192.4273	10.0000
6	10.00	Nitrate	M	1.610	2.6869	26.8685	10.0000
7	10.62	Chlorate	MB	0.219	2.2214	22.2136	10.0000
8	14.70	Phosphate	BMB	0.327	2.0546	20.5461	10.0000
Total:			**0.000**	**16.242**		**737.15**	

37 HS20060163-01MSDDF10

Sample Name:	**HS20060163-01MSDDF10**	*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:*	**10.0000**
Recording Time:	**06/06/2020 18:59**	*Sample Weight:*	**1.0000**

Run Time:



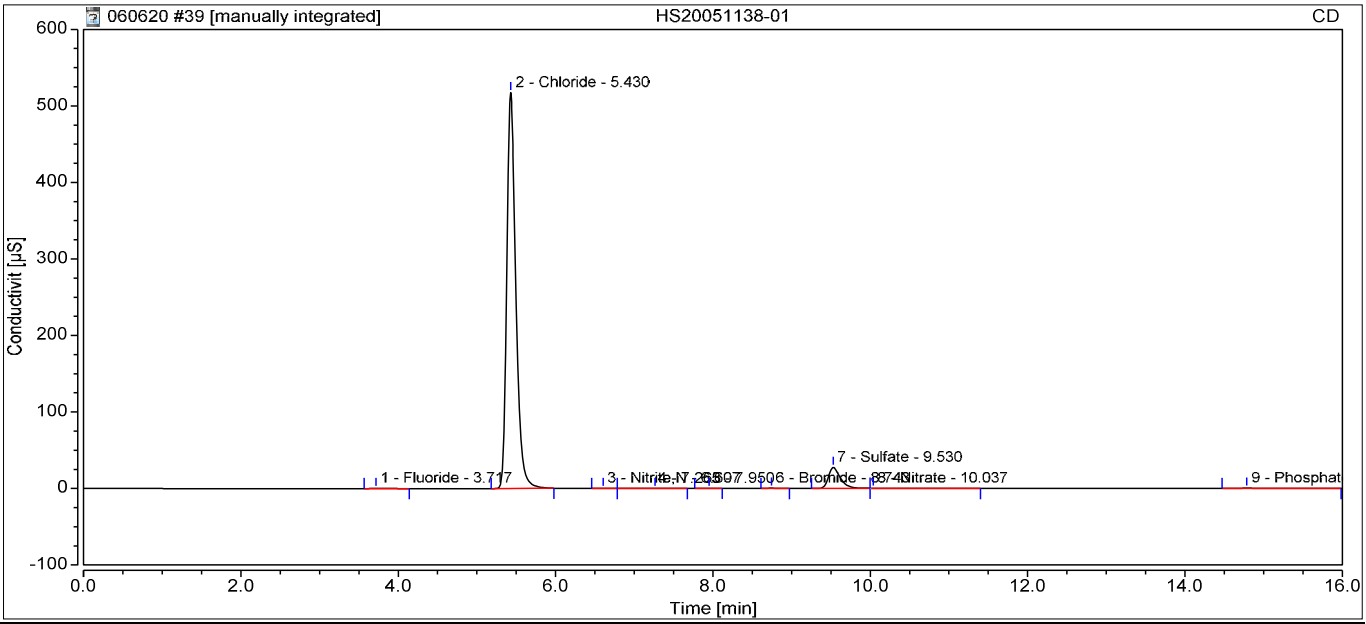
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.717	2.1368	21.3678	10.0000
2	5.47	Chloride	BMB*	9.079	40.9441	409.4406	10.0000
3	6.62	Nitrite,N	BMB	1.053	2.2784	22.7841	10.0000
4	8.76	Bromide	BMB	0.166	1.8856	18.8556	10.0000
5	9.54	Sulfate	BM	2.988	19.0917	190.9167	10.0000
6	10.00	Nitrate	M	1.607	2.6827	26.8275	10.0000
7	10.62	Chlorate	MB	0.218	2.2143	22.1434	10.0000
8	14.71	Phosphate	BMB	0.330	2.0687	20.6867	10.0000
Total:			**0.000**	**16.158**		**733.02**	

39 HS20051138-01

Sample Name:	**HS20051138-01**	*Injection Volume:*	**5.00**
Vial Number:	**RC7**	*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:	**06/06/2020 19:35**	*Sample Weight:*	**1.0000**

Run Time:



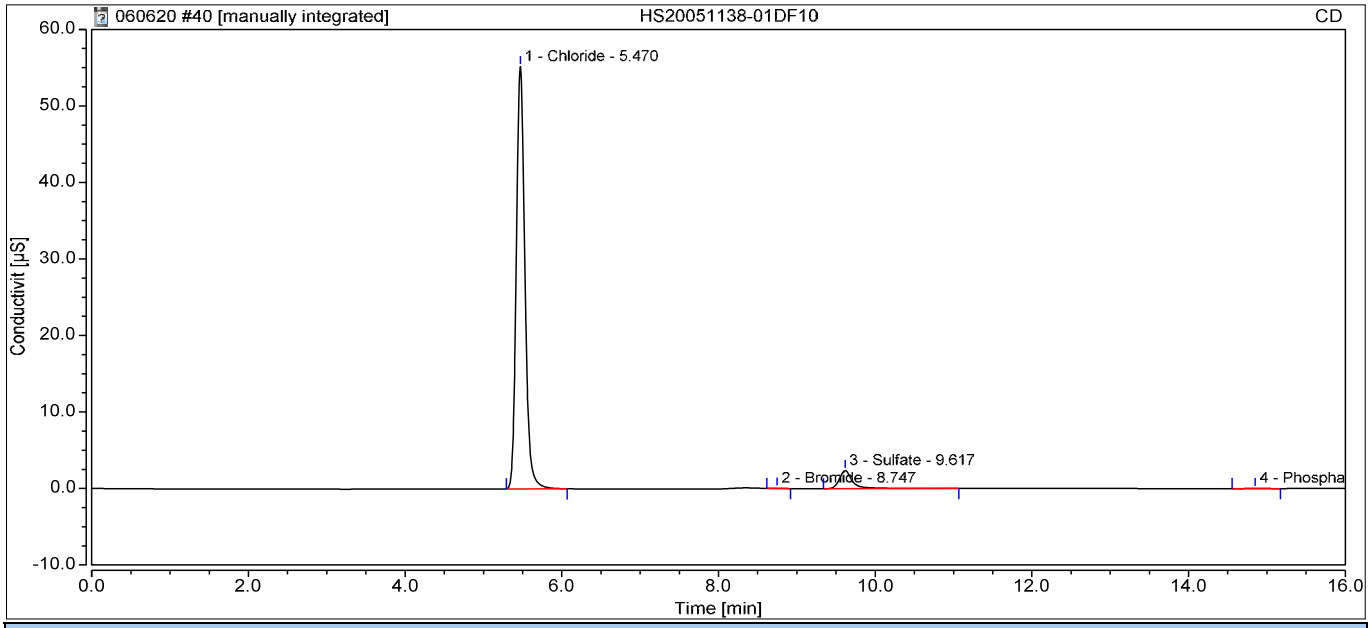
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.026	0.0917	0.0917	1.0000
2	5.43	Chloride	BMB*	69.298	312.7181	312.7181	1.0000
3	6.61	Nitrite,N	BMB	0.015	0.0056	0.0056	1.0000
6	8.74	Bromide	BMB	0.042	0.5003	0.5003	1.0000
7	9.53	Sulfate	BM	4.946	31.4716	31.4716	1.0000
8	10.04	Nitrate	MB	0.079	0.1218	0.1218	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
9	14.79	Phosphate	BMB	0.146	1.0814	1.0814	1.0000
Total:			**0.000**	**74.553**		**345.99**	

40 HS20051138-01DF10

Sample Name:	**HS20051138-01DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RC8**	*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:	**06/06/2020 19:54**	*Sample Weight:*	**1.0000**

Run Time:



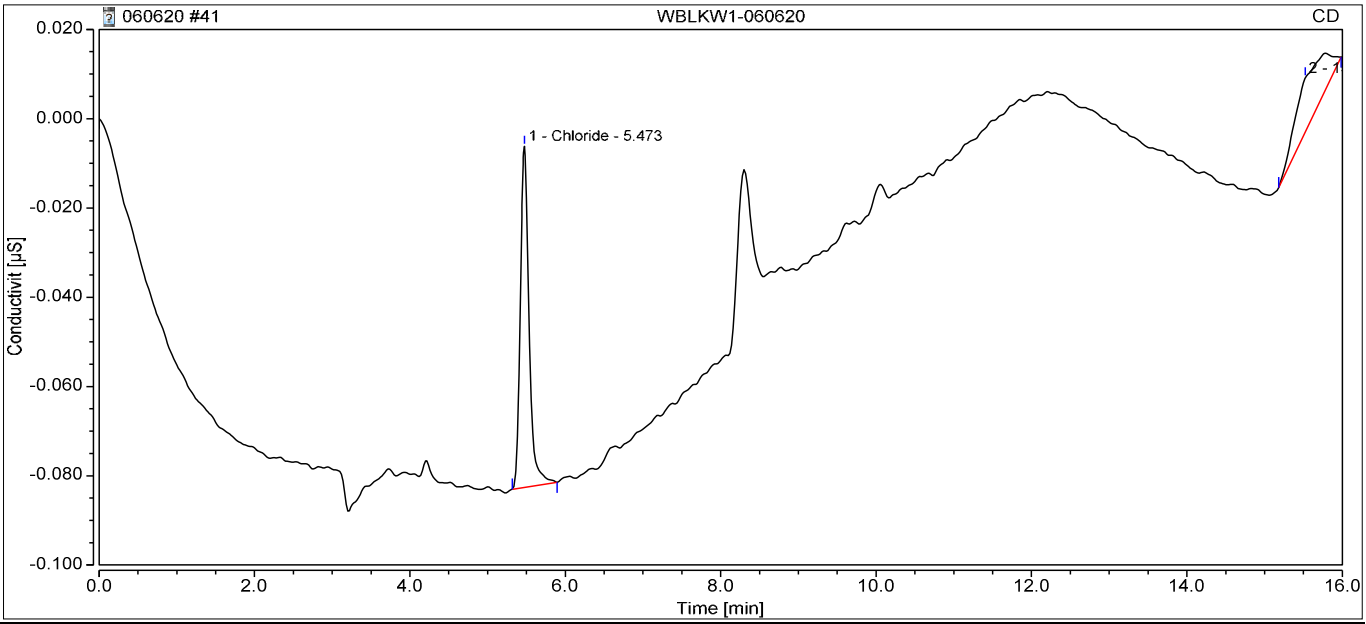
Integration Results

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	5.47	Chloride	BMB*	6.948	31.3268	313.2680	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
2	8.75	Bromide	BMB	0.004	0.0650	0.6501	10.0000
3	9.62	Sulfate	BMB	0.464	3.1307	31.3073	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
4	14.85	Phosphate	BMB	0.005	0.3275	3.2747	10.0000
Total:			**0.000**	**7.421**		**348.50**	

41 WBLKW1-060620

Sample Name:	**WBLKW1-060620**	*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:	**06/06/2020 20:12**	*Sample Weight:*	**1.0000**

Run Time:



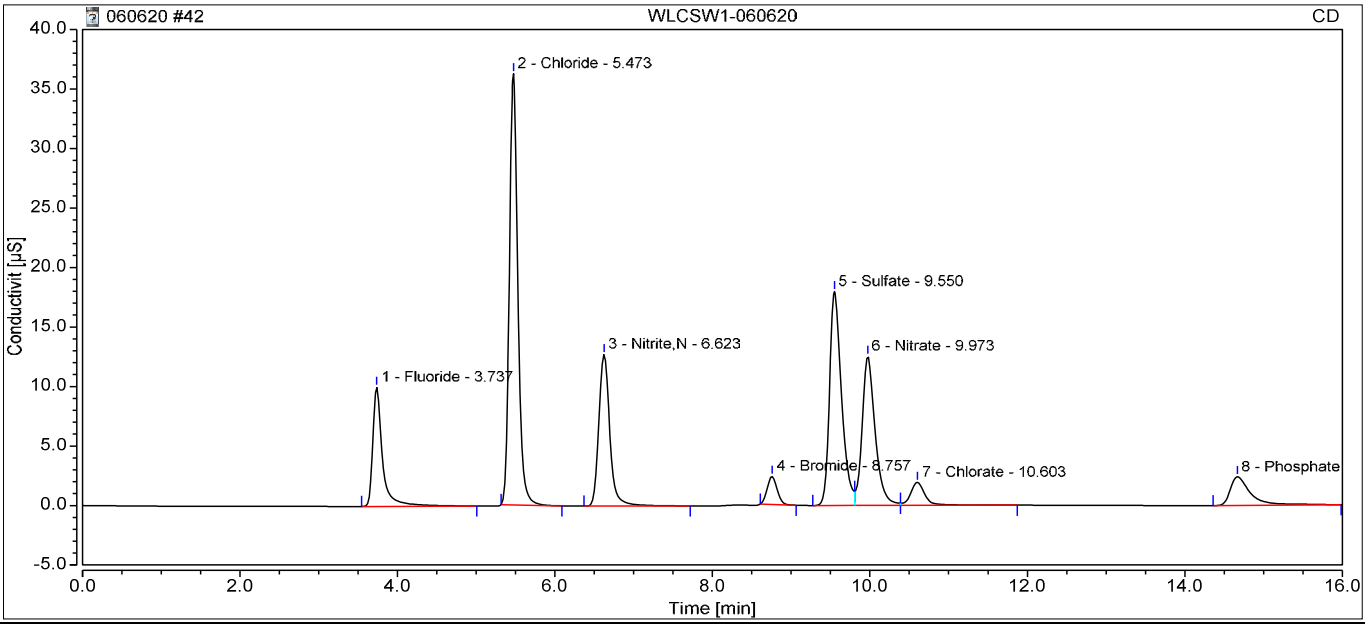
Integration Results

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	5.47	Chloride	BMB	0.010	0.0151	0.0151	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**		**0.02**	

42 WLCSW1-060620

Sample Name:	**WLCSW1-060620**	*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:	**06/06/2020 20:30**	*Sample Weight:*	**1.0000**

Run Time:



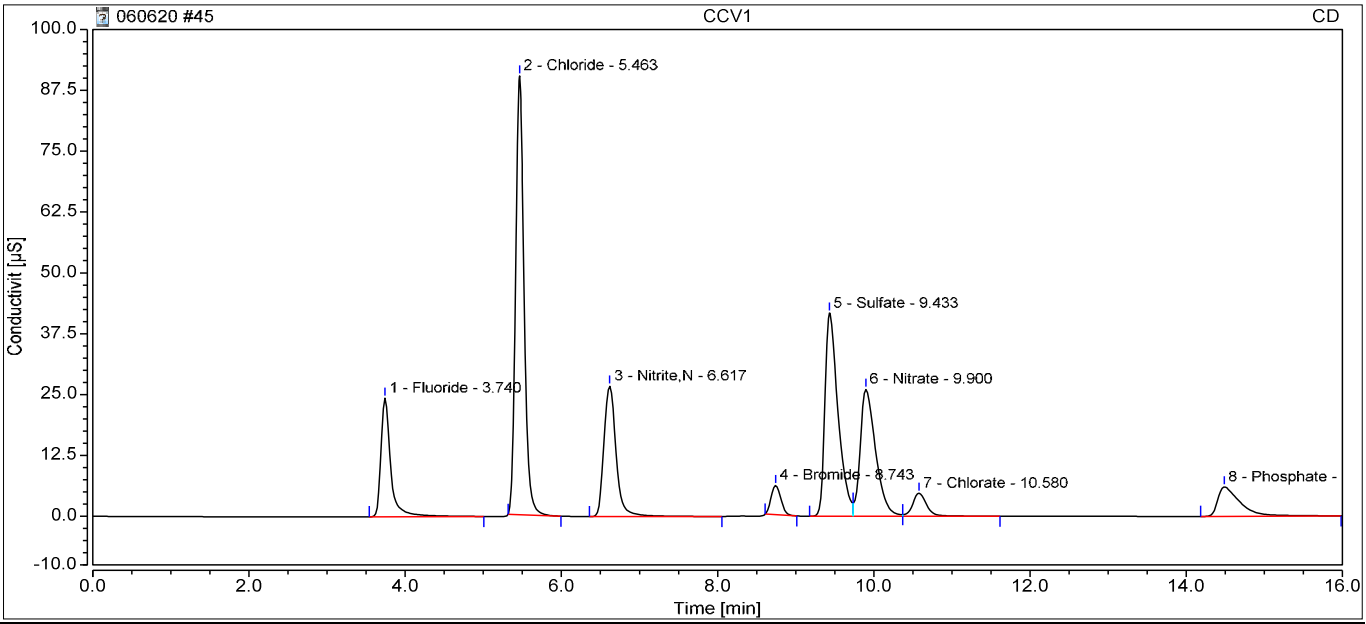
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.428	4.2423	4.2423	1.0000
2	5.47	Chloride	BMB	4.527	20.4026	20.4026	1.0000
3	6.62	Nitrite,N	BMB	2.064	4.4912	4.4912	1.0000
4	8.76	Bromide	BMB	0.346	3.9111	3.9111	1.0000
5	9.55	Sulfate	BM	3.170	20.2397	20.2397	1.0000
6	9.97	Nitrate	M	2.407	4.0226	4.0226	1.0000
7	10.60	Chlorate	MB	0.410	4.1839	4.1839	1.0000
8	14.67	Phosphate	BMB	0.728	4.2076	4.2076	1.0000
Total:			**0.000**	**15.080**		**65.70**	

45 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:	**06/06/2020 21:24**	*Sample Weight:*	**1.0000**

Run Time:



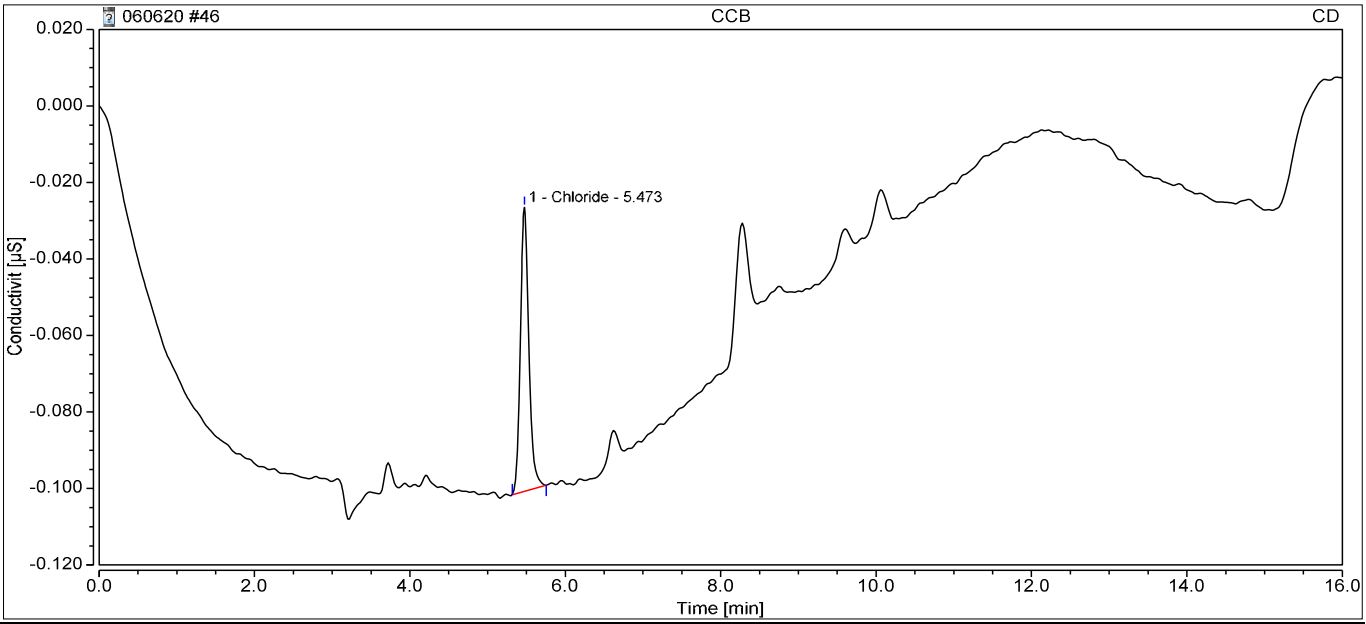
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.524	10.4510	10.4510	1.0000
2	5.46	Chloride	BMB	11.285	50.8996	50.8996	1.0000
3	6.62	Nitrite,N	BMB	4.832	10.5490	10.5490	1.0000
4	8.74	Bromide	BMB	0.869	9.7837	9.7837	1.0000
5	9.43	Sulfate	BM	8.123	51.5549	51.5549	1.0000
6	9.90	Nitrate	M	5.971	9.9917	9.9917	1.0000
7	10.58	Chlorate	MB	0.971	9.9631	9.9631	1.0000
8	14.49	Phosphate	BMB	2.022	11.1575	11.1575	1.0000
Total:			**0.000**	**37.596**		**164.35**	

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:	**06/06/2020 21:42**	*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	5.47	Chloride	BMB	0.009	0.0124	0.0124	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**		**0.01**	

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WorkOrder: HS20060114

Longhorn GW Treatment Plant Monthly Effluent Samples

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16-Jul-2020

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Form 5B - ICPMS05_362980 PDS
Form 5B - ICPMS05_363235 PDS
Form 7 - ICPMS05_362980 LCS
Form 8 - ICPMS05_362980 SD

HS20060114 Longhorn GW Treatment Plant Monthly Effluent Samples Final

ALS WO# HS20060114

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June 18, 2020

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS20060114**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Effluent Samples**

Dear Marcia,

ALS Environmental received 3 sample(s) on Jun 03, 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: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS20060114

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20060114-01	LH18/24-SP650_060220	Water		02-Jun-2020 14:00	03-Jun-2020 09:05	☐
HS20060114-02	LH18/24-SP650_060220_BIX	Water		02-Jun-2020 14:00	03-Jun-2020 09:05	☐
HS20060114-03	Trip Blank	Water	CG-042320-57	02-Jun-2020 00:00	03-Jun-2020 09:05	☐

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS20060114

Work Order Comments

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

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 154059

Sample ID: LH18/24-SP650_060220 (HS20060114-01)

• The surrogate recoveries could not be determined due to dilution below the calibration range.

GCMS Volatiles by Method SW8260

Batch ID: R362756

Sample ID: LH18/24-SP650_060220 (HS20060114-01MSD)

• The recovery of the Matrix Spike Duplicate (MSD) 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.

The RPD between the MS and MSD was outside of the control limit.

Sample ID: VLCSW-200605

• 1,2,3_Trichlorobenzene and Methylene Chloride exceeded QC limits for LCS. Samples are ND for these compounds.

Metals by Method SW6020

Batch ID: 154157

Sample ID: LH18/24-SP650_060220 (HS20060114-01MSD)

• Silver failed on the MSD but passed on the MS and PDS.

WetChemistry by Method SW7196

Batch ID: R362588

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

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20060114
Sample ID: LH18/24-SP650_060220 Lab ID:HS20060114-01
Collection Date: 02-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,2-Dichloroethane	**0.84**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	05-Jun-2020 13:00
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	05-Jun-2020 13:00
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	05-Jun-2020 13:00
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	05-Jun-2020 13:00
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	05-Jun-2020 13:00
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	05-Jun-2020 13:00
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00

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

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20060114
Sample ID: LH18/24-SP650_060220 Lab ID:HS20060114-01
Collection Date: 02-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
cis-1,2-Dichloroethene	**17**		**0.20**	**0.50**	**1.0**	**UG/L**	1	05-Jun-2020 13:00
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	05-Jun-2020 13:00
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	05-Jun-2020 13:00
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Trichloroethene	**3.2**		**0.20**	**0.50**	**1.0**	**UG/L**	1	05-Jun-2020 13:00
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Surr: 1,2-Dichloroethane-d4	*87.2*			**0**	*81-118*	*%REC*	*1*	*05-Jun-2020 13:00*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*05-Jun-2020 13:00*
Surr: Dibromofluoromethane	*90.3*			**0**	*80-119*	*%REC*	*1*	*05-Jun-2020 13:00*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*05-Jun-2020 13:00*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 03-Jun-2020		Analyst: ACN
1,4-Dioxane	**0.48**	a	**0.010**	**0.010**	**0.010**	**ug/L**	1	17-Jun-2020 15:04
Surr: 2-Fluorobiphenyl	*0*	*S*		0	*40-140*	*%REC*	*1*	*17-Jun-2020 15:04*
Surr: 4-Terphenyl-d14	*0*	*S*		0	*40-140*	*%REC*	*1*	*17-Jun-2020 15:04*
Surr: Nitrobenzene-d5	*0*	*S*		0	*40-140*	*%REC*	*1*	*17-Jun-2020 15:04*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 05-Jun-2020		Analyst: JHD
Barium	**0.144**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	10-Jun-2020 16:14
Lead	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	10-Jun-2020 16:14
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	10-Jun-2020 16:14
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	10-Jun-2020 16:14

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

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:HS20060114
Sample ID: LH18/24-SP650_060220
Lab ID:HS20060114-01
Collection Date: 02-Jun-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**							Analyst: KVL
Chromium, Hexavalent	0.0100	U	0.00600	0.0100	0.0100	mg/L	1	03-Jun-2020 12:55

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

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20060114

Sample ID: LH18/24-SP650_060220_BIX Lab ID:HS20060114-02

Collection Date: 02-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	18-Jun-2020 15:50

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

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20060114
Sample ID: Trip Blank Lab ID:HS20060114-03
Collection Date: 02-Jun-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	05-Jun-2020 12:36
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	05-Jun-2020 12:36
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	05-Jun-2020 12:36
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	05-Jun-2020 12:36
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	05-Jun-2020 12:36
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36

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

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20060114

Sample ID: Trip Blank Lab ID:HS20060114-03

Collection Date: 02-Jun-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	05-Jun-2020 12:36
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	05-Jun-2020 12:36
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Surr: 1,2-Dichloroethane-d4	*87.3*			**0**	*81-118*	*%REC*	*1*	*05-Jun-2020 12:36*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*05-Jun-2020 12:36*
Surr: Dibromofluoromethane	*89.2*			**0**	*80-119*	*%REC*	*1*	*05-Jun-2020 12:36*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*05-Jun-2020 12:36*

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

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

Batch ID: 154059 **Start Date:** 03 Jun 2020 10:30 **End Date:** 03 Jun 2020 15:00
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060114-01	1	1000 (mL)	1 (mL)	0.001

Batch ID: 154157 **Start Date:** 05 Jun 2020 10:00 **End Date:** 05 Jun 2020 14:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060114-01		10 (mL)	10 (mL)	1

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 154059 (0)	**Test Name :** SEMIVOLATILES SIM				**Matrix:** Water	
HS20060114-01	LH18/24-SP650_060220	02 Jun 2020 14:00		03 Jun 2020 13:48	17 Jun 2020 15:04	1
Batch ID: 154157 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS20060114-01	LH18/24-SP650_060220	02 Jun 2020 14:00		05 Jun 2020 14:00	10 Jun 2020 16:14	1
Batch ID: R362588 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS20060114-01	LH18/24-SP650_060220	02 Jun 2020 14:00			03 Jun 2020 12:55	1
Batch ID: R362756 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20060114-01	LH18/24-SP650_060220	02 Jun 2020 14:00			05 Jun 2020 13:00	1
HS20060114-03	Trip Blank	02 Jun 2020 00:00			05 Jun 2020 12:36	1
Batch ID: R363524 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20060114-02	LH18/24-SP650_060220_BIX	02 Jun 2020 14:00			18 Jun 2020 15:50	1

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: 154157 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-154157** Units: **mg/L** Analysis Date: **10-Jun-2020 14:34**
Client ID: Run ID: **ICPMS05_362980** SeqNo: **5613660** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.00250	0.00500								U
Lead	0.00100	0.00500								U
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U

LCS Sample ID: **LCS-154157** Units: **mg/L** Analysis Date: **10-Jun-2020 14:40**
Client ID: Run ID: **ICPMS05_362980** SeqNo: **5613662** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.04884	0.00500	0.05	0	97.7	86 - 114				
Lead	0.04804	0.00500	0.05	0	96.1	88 - 115				
Selenium	0.0533	0.00500	0.05	0	107	80 - 120				
Silver	0.04452	0.00500	0.05	0	89.0	85 - 116				

MS Sample ID: **HS20060114-01MS** Units: **mg/L** Analysis Date: **10-Jun-2020 16:19**
Client ID: **LH18/24-SP650_060220** Run ID: **ICPMS05_362980** SeqNo: **5613909** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1983	0.00500	0.05	0.1436	109	86 - 114				
Lead	0.05012	0.00500	0.05	0	100	88 - 115				
Selenium	0.0486	0.00500	0.05	0	97.2	80 - 120				
Silver	0.04254	0.00500	0.05	0	85.1	85 - 116				

MSD Sample ID: **HS20060114-01MSD** Units: **mg/L** Analysis Date: **10-Jun-2020 16:21**
Client ID: **LH18/24-SP650_060220** Run ID: **ICPMS05_362980** SeqNo: **5613910** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.2002	0.00500	0.05	0.1436	113	86 - 114	0.1983	0.971	20	
Lead	0.04816	0.00500	0.05	0	96.3	88 - 115	0.05012	3.99	20	
Selenium	0.04911	0.00500	0.05	0	98.2	80 - 120	0.0486	1.06	20	
Silver	0.04225	0.00500	0.05	0	84.5	85 - 116	0.04254	0.686	20	S

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: 154157 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

PDS Sample ID: **HS20060114-01PDS** Units: **mg/L** Analysis Date: **10-Jun-2020 16:23**
Client ID: **LH18/24-SP650_060220** Run ID: **ICPMS05_362980** SeqNo: **5613911** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.2498	0.00500	0.1	0.1436	106	80 - 120				
Lead	0.09826	0.00500	0.1	0.000067	98.2	80 - 120				
Selenium	0.1008	0.00500	0.1	0.000544	100	80 - 120				

PDS Sample ID: **HS20060114-01PDS** Units: **mg/L** Analysis Date: **15-Jun-2020 16:23**
Client ID: **LH18/24-SP650_060220** Run ID: **ICPMS05_363235** SeqNo: **5619462** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	0.08838	0.00500	0.1	0	88.4	80 - 120				

SD Sample ID: **HS20060114-01SD** Units: **mg/L** Analysis Date: **10-Jun-2020 16:16**
Client ID: **LH18/24-SP650_060220** Run ID: **ICPMS05_362980** SeqNo: **5613908** PrepDate: **05-Jun-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	0.1369	0.0250					0.1436	4.66	10	
Lead	0.00500	0.0250					0.000067	0	10	U
Selenium	0.0125	0.0250					0.000544	0	10	U
Silver	0.00250	0.0250					0.000002	0	10	U

The following samples were analyzed in this batch: HS20060114-01

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: 154059 (0) **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

MBLK Sample ID: **MBLK-154059** Units: **ug/L** Analysis Date: **17-Jun-2020 13:06**
Client ID: Run ID: **SV-6_363438** SeqNo: **5623614** PrepDate: **03-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.010	0.010								U
Surr: 2-Fluorobiphenyl	*0.07838*	*0*	*0.08*	*0*	*98.0*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.07859*	*0*	*0.08*	*0*	*98.2*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.0653*	*0*	*0.08*	*0*	*81.6*	*40 - 140*				

LCS Sample ID: **LCS-154059** Units: **ug/L** Analysis Date: **17-Jun-2020 13:26**
Client ID: Run ID: **SV-6_363438** SeqNo: **5623615** PrepDate: **03-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.07495	0.010	0.08	0	93.7	40 - 140				
Surr: 2-Fluorobiphenyl	*0.08185*	*0*	*0.08*	*0*	*102*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.08074*	*0*	*0.08*	*0*	*101*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.1027*	*0*	*0.08*	*0*	*128*	*40 - 140*				

LCSD Sample ID: **LCSD-154059** Units: **ug/L** Analysis Date: **17-Jun-2020 13:46**
Client ID: Run ID: **SV-6_363438** SeqNo: **5623616** PrepDate: **03-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.06747	0.010	0.08	0	84.3	40 - 140	0.07495	10.5	20	
Surr: 2-Fluorobiphenyl	*0.08446*	*0*	*0.08*	*0*	*106*	*40 - 140*	*0.08185*	*3.14*	*20*	
Surr: 4-Terphenyl-d14	*0.08149*	*0*	*0.08*	*0*	*102*	*40 - 140*	*0.08074*	*0.92*	*20*	
Surr: Nitrobenzene-d5	*0.106*	*0*	*0.08*	*0*	*133*	*40 - 140*	*0.1027*	*3.17*	*20*	

The following samples were analyzed in this batch: HS20060114-01

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200605** Units: **UG/L** Analysis Date: **05-Jun-2020 12:12**
Client ID: Run ID: **VOA6_362756** SeqNo: **5608818** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200605** Units: **UG/L** Analysis Date: **05-Jun-2020 12:12**
Client ID: Run ID: **VOA6_362756** SeqNo: **5608818** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.59*	*1.0*	*50*	*0*	*87.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.59*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*45.12*	*1.0*	*50*	*0*	*90.2*	*80 - 119*				
Surr: Toluene-d8	*54.1*	*1.0*	*50*	*0*	*108*	*89 - 112*				

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200605** Units: **UG/L** Analysis Date: **05-Jun-2020 11:24**
Client ID: Run ID: **VOA6_362756** SeqNo: **5608817** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.1	1.0	20	0	100	78 - 124				
1,1,1-Trichloroethane	19.58	1.0	20	0	97.9	74 - 131				
1,1,2,2-Tetrachloroethane	20.17	1.0	20	0	101	71 - 121				
1,1,2-Trichloroethane	20.84	1.0	20	0	104	80 - 119				
1,1-Dichloroethane	20.04	1.0	20	0	100	77 - 125				
1,1-Dichloroethene	19.37	1.0	20	0	96.8	71 - 131				
1,1-Dichloropropene	18.37	1.0	20	0	91.8	78 - 125				
1,2,3-Trichlorobenzene	26.29	1.0	20	0	131	69 - 129				S
1,2,3-Trichloropropane	20.01	1.0	20	0	100	73 - 122				
1,2,4-Trichlorobenzene	23.72	1.0	20	0	119	69 - 130				
1,2,4-Trimethylbenzene	19.05	1.0	20	0	95.3	76 - 124				
1,2-Dibromo-3-chloropropane	21.8	1.0	20	0	109	62 - 128				
1,2-Dibromoethane	20.48	1.0	20	0	102	77 - 121				
1,2-Dichlorobenzene	19.76	1.0	20	0	98.8	80 - 119				
1,2-Dichloroethane	20.65	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	21.17	1.0	20	0	106	78 - 122				
1,3,5-Trimethylbenzene	18.22	1.0	20	0	91.1	75 - 124				
1,3-Dichlorobenzene	19.01	1.0	20	0	95.0	80 - 119				
1,3-Dichloropropane	20.47	1.0	20	0	102	80 - 119				
1,4-Dichlorobenzene	19.33	1.0	20	0	96.6	79 - 118				
2,2-Dichloropropane	20.21	1.0	20	0	101	60 - 139				
2-Butanone	39.35	2.0	40	0	98.4	56 - 143				
2-Chlorotoluene	18.15	1.0	20	0	90.7	79 - 122				
2-Hexanone	43.17	2.0	40	0	108	57 - 139				
4-Chlorotoluene	18.48	1.0	20	0	92.4	78 - 122				
4-Isopropyltoluene	18.48	1.0	20	0	92.4	77 - 127				
4-Methyl-2-pentanone	41.93	2.0	40	0	105	67 - 130				
Acetone	41.64	2.0	40	0	104	39 - 160				
Benzene	19.99	1.0	20	0	99.9	79 - 120				
Bromobenzene	19.54	1.0	20	0	97.7	80 - 120				
Bromochloromethane	20.48	1.0	20	0	102	78 - 123				
Bromodichloromethane	20.64	1.0	20	0	103	79 - 125				
Bromoform	21.14	1.0	20	0	106	66 - 130				
Bromomethane	21.94	1.0	20	0	110	53 - 141				

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200605** Units: **UG/L** Analysis Date: **05-Jun-2020 11:24**
Client ID: Run ID: **VOA6_362756** SeqNo: **5608817** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	39.58	2.0	40	0	98.9	64 - 133				
Carbon tetrachloride	18.46	1.0	20	0	92.3	72 - 136				
Chlorobenzene	19.82	1.0	20	0	99.1	82 - 118				
Chloroethane	19.4	1.0	20	0	97.0	60 - 138				
Chloroform	20.27	1.0	20	0	101	79 - 124				
Chloromethane	20.05	1.0	20	0	100	50 - 139				
cis-1,2-Dichloroethene	20.21	1.0	20	0	101	78 - 123				
cis-1,3-Dichloropropene	20.53	1.0	20	0	103	75 - 124				
Dibromochloromethane	19.97	1.0	20	0	99.8	74 - 126				
Dibromomethane	20.6	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	19.02	1.0	20	0	95.1	32 - 152				
Ethylbenzene	19.23	1.0	20	0	96.2	79 - 121				
Hexachlorobutadiene	25.34	1.0	20	0	127	66 - 134				
Isopropylbenzene	18.57	1.0	20	0	92.9	72 - 131				
m,p-Xylene	38.57	2.0	40	0	96.4	80 - 121				
Methylene chloride	27.28	2.0	20	0	136	74 - 124				S
Naphthalene	22.61	1.0	20	0	113	61 - 128				
n-Butylbenzene	18.68	1.0	20	0	93.4	75 - 128				
n-Propylbenzene	18.45	1.0	20	0	92.2	76 - 126				
o-Xylene	19.69	1.0	20	0	98.5	78 - 122				
sec-Butylbenzene	17.83	1.0	20	0	89.2	77 - 126				
Styrene	19.82	1.0	20	0	99.1	78 - 123				
tert-Butylbenzene	17.64	1.0	20	0	88.2	78 - 124				
Tetrachloroethene	19.22	1.0	20	0	96.1	74 - 129				
Toluene	19.45	1.0	20	0	97.2	80 - 121				
trans-1,2-Dichloroethene	20.63	1.0	20	0	103	75 - 124				
trans-1,3-Dichloropropene	21.24	1.0	20	0	106	73 - 127				
Trichloroethene	19.67	1.0	20	0	98.3	79 - 123				
Trichlorofluoromethane	19.32	1.0	20	0	96.6	65 - 141				
Vinyl chloride	17.43	1.0	20	0	87.1	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.3*	*1.0*	*50*	*0*	*105*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.05*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*51.39*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*47.59*	*1.0*	*50*	*0*	*95.2*	*89 - 112*				

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20060114-01MS** Units: **UG/L** Analysis Date: **05-Jun-2020 15:49**
Client ID: **LH18/24-SP650_060220** Run ID: **VOA6_362756** SeqNo: **5608827** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.36	1.0	20	0	112	78 - 124				
1,1,1-Trichloroethane	19.16	1.0	20	0	95.8	74 - 131				
1,1,2,2-Tetrachloroethane	22.31	1.0	20	0	112	71 - 121				
1,1,2-Trichloroethane	22.39	1.0	20	0	112	80 - 119				
1,1-Dichloroethane	18.12	1.0	20	0	90.6	77 - 125				
1,1-Dichloroethene	18.68	1.0	20	0	93.4	71 - 131				
1,1-Dichloropropene	20.14	1.0	20	0	101	78 - 125				
1,2,3-Trichlorobenzene	25.15	1.0	20	0	126	69 - 129				
1,2,3-Trichloropropane	21.25	1.0	20	0	106	73 - 122				
1,2,4-Trichlorobenzene	22.9	1.0	20	0	114	69 - 130				
1,2,4-Trimethylbenzene	21.94	1.0	20	0	110	76 - 124				
1,2-Dibromo-3-chloropropane	23.89	1.0	20	0	119	62 - 128				
1,2-Dibromoethane	22.67	1.0	20	0	113	77 - 121				
1,2-Dichlorobenzene	22.22	1.0	20	0	111	80 - 119				
1,2-Dichloroethane	21.6	1.0	20	0.8439	104	73 - 128				
1,2-Dichloropropane	21.1	1.0	20	0	106	78 - 122				
1,3,5-Trimethylbenzene	21.27	1.0	20	0	106	75 - 124				
1,3-Dichlorobenzene	21.35	1.0	20	0	107	80 - 119				
1,3-Dichloropropane	21.65	1.0	20	0	108	80 - 119				
1,4-Dichlorobenzene	21.15	1.0	20	0	106	79 - 118				
2,2-Dichloropropane	17.85	1.0	20	0	89.2	60 - 139				
2-Butanone	34.32	2.0	40	0	85.8	56 - 143				
2-Chlorotoluene	21.05	1.0	20	0	105	79 - 122				
2-Hexanone	46.56	2.0	40	0	116	57 - 139				
4-Chlorotoluene	21.12	1.0	20	0	106	78 - 122				
4-Isopropyltoluene	22.61	1.0	20	0	113	77 - 127				
4-Methyl-2-pentanone	46.19	2.0	40	0	115	67 - 130				
Acetone	29.57	2.0	40	0	73.9	39 - 160				
Benzene	20.42	1.0	20	0	102	79 - 120				
Bromobenzene	21.45	1.0	20	0	107	80 - 120				
Bromochloromethane	18.06	1.0	20	0	90.3	78 - 123				
Bromodichloromethane	20.5	1.0	20	0	102	79 - 125				
Bromoform	22.68	1.0	20	0	113	66 - 130				
Bromomethane	17.25	1.0	20	0	86.2	53 - 141				

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20060114-01MS** Units: **UG/L** Analysis Date: **05-Jun-2020 15:49**
Client ID: **LH18/24-SP650_060220** Run ID: **VOA6_362756** SeqNo: **5608827** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	37.79	2.0	40	0	94.5	64 - 133				
Carbon tetrachloride	20.43	1.0	20	0	102	72 - 136				
Chlorobenzene	21.46	1.0	20	0	107	82 - 118				
Chloroethane	17.3	1.0	20	0	86.5	60 - 138				
Chloroform	18.44	1.0	20	0	92.2	79 - 124				
Chloromethane	14.86	1.0	20	0	74.3	50 - 139				
cis-1,2-Dichloroethene	35.3	1.0	20	16.85	92.2	78 - 123				
cis-1,3-Dichloropropene	20.71	1.0	20	0	104	75 - 124				
Dibromochloromethane	21.33	1.0	20	0	107	74 - 126				
Dibromomethane	20.78	1.0	20	0	104	79 - 123				
Dichlorodifluoromethane	11.65	1.0	20	0	58.3	32 - 152				
Ethylbenzene	22.34	1.0	20	0	112	79 - 121				
Hexachlorobutadiene	25.39	1.0	20	0	127	66 - 134				
Isopropylbenzene	22.33	1.0	20	0	112	72 - 131				
m,p-Xylene	44.11	2.0	40	0	110	80 - 121				
Methylene chloride	18.32	2.0	20	0	91.6	74 - 124				
Naphthalene	23.85	1.0	20	0	119	61 - 128				
n-Butylbenzene	23.36	1.0	20	0	117	75 - 128				
n-Propylbenzene	21.92	1.0	20	0	110	76 - 126				
o-Xylene	22.25	1.0	20	0	111	78 - 122				
sec-Butylbenzene	22.11	1.0	20	0	111	77 - 126				
Styrene	21.64	1.0	20	0	108	78 - 123				
tert-Butylbenzene	21.96	1.0	20	0	110	78 - 124				
Tetrachloroethene	23.34	1.0	20	0	117	74 - 129				
Toluene	21.9	1.0	20	0	109	80 - 121				
trans-1,2-Dichloroethene	18.7	1.0	20	0	93.5	75 - 124				
trans-1,3-Dichloropropene	20.64	1.0	20	0	103	73 - 127				
Trichloroethene	24.61	1.0	20	3.195	107	79 - 123				
Trichlorofluoromethane	19.35	1.0	20	0	96.7	65 - 141				
Vinyl chloride	15.55	1.0	20	0	77.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.2*	*1.0*	*50*	*0*	*86.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.8*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*44.92*	*1.0*	*50*	*0*	*89.8*	*80 - 119*				
Surr: Toluene-d8	*53.54*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20060114-01MSD** Units: **UG/L** Analysis Date: **05-Jun-2020 16:13**
Client ID: **LH18/24-SP650_060220** Run ID: **VOA6_362756** SeqNo: **5608828** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.16	1.0	20	0	106	78 - 124	22.36	5.53	20	
1,1,1-Trichloroethane	19.4	1.0	20	0	97.0	74 - 131	19.16	1.22	20	
1,1,2,2-Tetrachloroethane	21	1.0	20	0	105	71 - 121	22.31	6.03	20	
1,1,2-Trichloroethane	21.12	1.0	20	0	106	80 - 119	22.39	5.86	20	
1,1-Dichloroethane	18.26	1.0	20	0	91.3	77 - 125	18.12	0.78	20	
1,1-Dichloroethene	18.19	1.0	20	0	90.9	71 - 131	18.68	2.66	20	
1,1-Dichloropropene	20.93	1.0	20	0	105	78 - 125	20.14	3.86	20	
1,2,3-Trichlorobenzene	31.03	1.0	20	0	155	69 - 129	25.15	20.9	20	SR
1,2,3-Trichloropropane	21.01	1.0	20	0	105	73 - 122	21.25	1.14	20	
1,2,4-Trichlorobenzene	28.59	1.0	20	0	143	69 - 130	22.9	22.1	20	SR
1,2,4-Trimethylbenzene	21.79	1.0	20	0	109	76 - 124	21.94	0.685	20	
1,2-Dibromo-3-chloropropane	24.2	1.0	20	0	121	62 - 128	23.89	1.29	20	
1,2-Dibromoethane	21.16	1.0	20	0	106	77 - 121	22.67	6.92	20	
1,2-Dichlorobenzene	21.69	1.0	20	0	108	80 - 119	22.22	2.43	20	
1,2-Dichloroethane	20.79	1.0	20	0.8439	99.7	73 - 128	21.6	3.85	20	
1,2-Dichloropropane	20.86	1.0	20	0	104	78 - 122	21.1	1.14	20	
1,3,5-Trimethylbenzene	21.42	1.0	20	0	107	75 - 124	21.27	0.699	20	
1,3-Dichlorobenzene	20.95	1.0	20	0	105	80 - 119	21.35	1.91	20	
1,3-Dichloropropane	20.89	1.0	20	0	104	80 - 119	21.65	3.57	20	
1,4-Dichlorobenzene	20.87	1.0	20	0	104	79 - 118	21.15	1.32	20	
2,2-Dichloropropane	18.43	1.0	20	0	92.2	60 - 139	17.85	3.21	20	
2-Butanone	34.46	2.0	40	0	86.2	56 - 143	34.32	0.398	20	
2-Chlorotoluene	20.4	1.0	20	0	102	79 - 122	21.05	3.15	20	
2-Hexanone	45.58	2.0	40	0	114	57 - 139	46.56	2.14	20	
4-Chlorotoluene	20.45	1.0	20	0	102	78 - 122	21.12	3.22	20	
4-Isopropyltoluene	22.61	1.0	20	0	113	77 - 127	22.61	0.0187	20	
4-Methyl-2-pentanone	44.84	2.0	40	0	112	67 - 130	46.19	2.96	20	
Acetone	29.83	2.0	40	0	74.6	39 - 160	29.57	0.879	20	
Benzene	20.52	1.0	20	0	103	79 - 120	20.42	0.477	20	
Bromobenzene	20.51	1.0	20	0	103	80 - 120	21.45	4.48	20	
Bromochloromethane	18.17	1.0	20	0	90.9	78 - 123	18.06	0.635	20	
Bromodichloromethane	20.3	1.0	20	0	102	79 - 125	20.5	0.974	20	
Bromoform	22.17	1.0	20	0	111	66 - 130	22.68	2.27	20	
Bromomethane	16.3	1.0	20	0	81.5	53 - 141	17.25	5.67	20	

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20060114-01MSD** Units: **UG/L** Analysis Date: **05-Jun-2020 16:13**
Client ID: **LH18/24-SP650_060220** Run ID: **VOA6_362756** SeqNo: **5608828** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	38.27	2.0	40	0	95.7	64 - 133	37.79	1.26	20	
Carbon tetrachloride	20.53	1.0	20	0	103	72 - 136	20.43	0.448	20	
Chlorobenzene	20.72	1.0	20	0	104	82 - 118	21.46	3.48	20	
Chloroethane	17.46	1.0	20	0	87.3	60 - 138	17.3	0.962	20	
Chloroform	18.24	1.0	20	0	91.2	79 - 124	18.44	1.07	20	
Chloromethane	14.6	1.0	20	0	73.0	50 - 139	14.86	1.73	20	
cis-1,2-Dichloroethene	35.35	1.0	20	16.85	92.5	78 - 123	35.3	0.159	20	
cis-1,3-Dichloropropene	20.14	1.0	20	0	101	75 - 124	20.71	2.77	20	
Dibromochloromethane	20.79	1.0	20	0	104	74 - 126	21.33	2.57	20	
Dibromomethane	20.32	1.0	20	0	102	79 - 123	20.78	2.25	20	
Dichlorodifluoromethane	11.87	1.0	20	0	59.4	32 - 152	11.65	1.86	20	
Ethylbenzene	21.93	1.0	20	0	110	79 - 121	22.34	1.86	20	
Hexachlorobutadiene	28.39	1.0	20	0	142	66 - 134	25.39	11.1	20	S
Isopropylbenzene	22	1.0	20	0	110	72 - 131	22.33	1.51	20	
m,p-Xylene	42.89	2.0	40	0	107	80 - 121	44.11	2.81	20	
Methylene chloride	18.66	2.0	20	0	93.3	74 - 124	18.32	1.86	20	
Naphthalene	28.88	1.0	20	0	144	61 - 128	23.85	19.1	20	S
n-Butylbenzene	23.75	1.0	20	0	119	75 - 128	23.36	1.66	20	
n-Propylbenzene	21.72	1.0	20	0	109	76 - 126	21.92	0.936	20	
o-Xylene	21.27	1.0	20	0	106	78 - 122	22.25	4.5	20	
sec-Butylbenzene	22.41	1.0	20	0	112	77 - 126	22.11	1.36	20	
Styrene	21.09	1.0	20	0	105	78 - 123	21.64	2.55	20	
tert-Butylbenzene	21.91	1.0	20	0	110	78 - 124	21.96	0.209	20	
Tetrachloroethene	22.72	1.0	20	0	114	74 - 129	23.34	2.68	20	
Toluene	21.21	1.0	20	0	106	80 - 121	21.9	3.16	20	
trans-1,2-Dichloroethene	19.43	1.0	20	0	97.2	75 - 124	18.7	3.87	20	
trans-1,3-Dichloropropene	20.83	1.0	20	0	104	73 - 127	20.64	0.941	20	
Trichloroethene	23.99	1.0	20	3.195	104	79 - 123	24.61	2.55	20	
Trichlorofluoromethane	19.41	1.0	20	0	97.1	65 - 141	19.35	0.331	20	
Vinyl chloride	15.67	1.0	20	0	78.3	58 - 137	15.55	0.764	20	
Surr: 1,2-Dichloroethane-d4	*42.55*	*1.0*	*50*	*0*	*85.1*	*81 - 118*	*43.2*	*1.51*	*20*	
Surr: 4-Bromofluorobenzene	*50.44*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.8*	*0.718*	*20*	
Surr: Dibromofluoromethane	*45*	*1.0*	*50*	*0*	*90.0*	*80 - 119*	*44.92*	*0.181*	*20*	
Surr: Toluene-d8	*51.99*	*1.0*	*50*	*0*	*104*	*89 - 112*	*53.54*	*2.92*	*20*	

ALS Houston, US Date: 18-Jun-20

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:	HS20060114

QC BATCH REPORT

Batch ID:	**R362756 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20060114-01 HS20060114-03

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362588 (0) **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

MBLK Sample ID: **MBLK-R362588** Units: **mg/L** Analysis Date: **03-Jun-2020 12:55**
Client ID: Run ID: **UV-2450_362588** SeqNo: **5605393** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.0100	0.0100								U

LCS Sample ID: **LCS-R362588** Units: **mg/L** Analysis Date: **03-Jun-2020 12:55**
Client ID: Run ID: **UV-2450_362588** SeqNo: **5605392** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.276	0.0100	0.25	0	110	90 - 111				

MS Sample ID: **HS20060114-01MS** Units: **mg/L** Analysis Date: **03-Jun-2020 12:55**
Client ID: **LH18/24-SP650_060220** Run ID: **UV-2450_362588** SeqNo: **5605395** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.277	0.0100	0.25	0	111	90 - 111				

MSD Sample ID: **HS20060114-01MSD** Units: **mg/L** Analysis Date: **03-Jun-2020 12:55**
Client ID: **LH18/24-SP650_060220** Run ID: **UV-2450_362588** SeqNo: **5605394** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.272	0.0100	0.25	0	109	90 - 111	0.277	1.82	20	

The following samples were analyzed in this batch: HS20060114-01

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: **HS20060114**

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

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS20060114

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20060114-01	LH18/24-SP650_060220	Login	6/3/2020 11:45:12 AM	PMG	EXT092
HS20060114-01	LH18/24-SP650_060220	Login	6/3/2020 11:45:12 AM	PMG	WET387
HS20060114-01	LH18/24-SP650_060220	Login	6/3/2020 11:45:12 AM	PMG	MET071
HS20060114-01	LH18/24-SP650_060220	Login	6/3/2020 11:45:12 AM	PMG	VOA198
HS20060114-02	LH18/24-SP650_060220_BIX	Login	6/3/2020 11:45:12 AM	PMG	Sub
HS20060114-03	Trip Blank	Login	6/3/2020 11:45:12 AM	PMG	VOA198

ALS Houston, US Date: 18-Jun-20

Sample Receipt Checklist

Work Order ID: HS20060114 **Date/Time Received:** 03-Jun-2020 09:05

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By:	/S/ Paresh M. Giga	03-Jun-2020 11:47	**Reviewed by:**	/S/ RJ Modashia	03-Jun-2020 15:02
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **FedEx**

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 ☐	COC IDs:None
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):	1.8C U/C	IR25
Cooler(s)/Kit(s):	44677	
Date/Time sample(s) sent to storage:	6/3/2020 12:00	

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: RJ Modashia

Page 1 of 1

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

Project No. NWO1312.0150.0 16.0001

Job:
GROUNDWATER TREATMENT PLANT MONTHLY EFFLUENT SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS20060114
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Monthly Effluent Sample

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOLATILES	SILVER, SELENIUM, LEAD, BARIUM	HEXAVALENT CHROMIUM	1, 4 - DIOXANE	PERCHLORATE						Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_060220	Water	06/02/20 / 14:00		3	X										HCL	
LH18/24-SP650_060220	Water	06/02/20 / 14:00		2			X	X							NONE	
LH18/24-SP650_060220_BIX	Water	06/02/20 / 14:00		1					X						NONE	
LH18/24-SP650_060220	Water	06/02/20 / 14:00		1		X									HNO3	
Trip Blank	Water	06/02/20		2	X										HCL	

Additional Remarks: **Standard TAT**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	06/02/20	14:30	[signature]	6/2/2020	09:05						

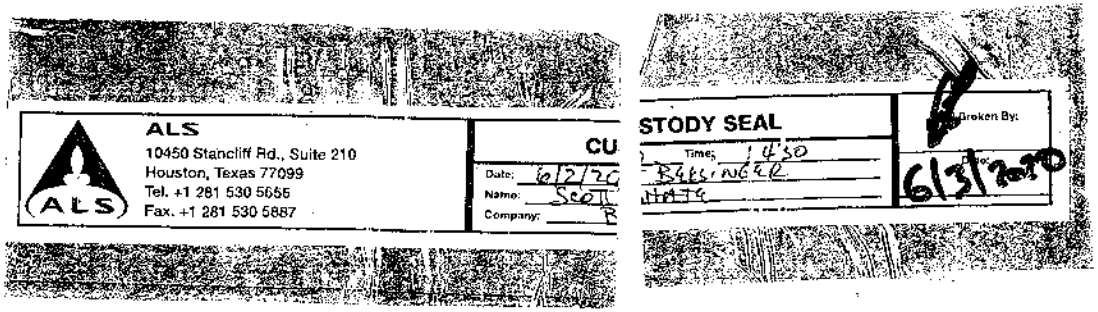
For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

44677 VTC 1.8° #25 CF 0.0°

(Word) S:\1-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

CU
Date: 6/2/20
Name: Scott B
Company:

STODY SEAL
Time: 1430
Broken By:
6/3/2020

ORIGIN ID:SGRA (303) 597-2450
SCOTT BEESINGER
BHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 02MAR20
ACTWGT: 1.00 LB MAN
CAD: 300130/CAFE3211
DIMS: 28x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656

4477.

REF: LHAAP-56-BO 70550-RJ

RMA:

FedEx Express

FedEx
TRK# 0221 1251 0294 9660

WED - 03 JUN 16
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

June 18, 2020 Service Request No:E2000495

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

Laboratory Results for: HS20060114

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 04, 2020
For your reference, these analyses have been assigned our service request number **E2000495.**

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.:**	E2000495
Project:	HS20060114	**Date Received:**	06/04/20
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

One sample was received for analysis at ALS Environmental in Houston on 06/04/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000228: 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:**E2000495
Project: HS20060114

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000495-001	LH18/24-SP650_060220_BIX	6/2/2020	1400

Service Request Summary

Folder #: **E2000495**
Client Name: ALS Environmental - US
Project Name: HS20060114
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: 06/04/20
Internal Due Date: 6/17/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060114
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-AirArch 4
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000495-001	LH18/24-SP650_060220_BIX	Ground Water	06/02/20 1400	**IV**

Service Request Summary

Folder #: **E2000495**
Client Name: ALS Environmental - US
Project Name: HS20060114
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: 06/04/20
Internal Due Date: 6/17/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060114
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-AirArch 4
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	Level IV due 6/24,level II 6/17

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.
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.
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.
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.

Data Qualifiers

Lab Standard

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
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611	6/30/2020
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	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
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	6/30/2020
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	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

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:** **14015**

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:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS20060114
TSR: Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060114-02**	**LH18/24-SP650_060220_BIX**	**Water**	**02 Jun 2020 14:00**
	SUB_Perch-6850			17 Jun 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: 6/9/20 1945

Cooler ID(s): _____ Temperature(s): _____

Cooler Receipt Form

ALS Environmental

Project Chemist: LH

Client/Project: ALS-H

Thermometer ID: IR11

Date/Time Received: 6/14/20 Initials: LH

Date/Time Logged in: 6/14/20 Initials: LH

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

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?
-		6/14/20	1940	LH	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#: 359781 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 6/9/20 09:50

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000493-001	18CPTMW12SW_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000493-002	18CPTWM12DW_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000493-003	MW7_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000493-004	MW9_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000493-005	18CPTMW23SW_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000493-006	18CPTMW23_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000493-007	18WW24_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000493-008	18WW14_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000494-001	102_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000494-002	129_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000494-003	120_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2000494-004	MW14_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2000495-001	LH18/24-SP650_060220_BIX	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2000496-001	LH18/24-SP140_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2000497-001	LH18/24-SP650_060220_BIX	.01	6850/ClO4 DOD			Ground Water	10mL	
16	EQ2000228-01	MB		6850/ClO4 DOD			Liquid	10mL	
17	EQ2000228-02	LCS		6850/ClO4 DOD			Liquid	10mL	
18	EQ2000228-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 202037 Logbook Ref: Sodium Perchlorate Expires On: 05/22/2021

EQ2000228-02 100.00µL EQ2000228-03 100.00µL

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

E2000493-001	1.00µL	E2000493-002	1.00µL	E2000493-003	1.00µL	E2000493-004	1.00µL	E2000493-005	1.00µL	E2000493-006	1.00µL
E2000493-007	1.00µL	E2000493-008	1.00µL	E2000494-001	1.00µL	E2000494-002	1.00µL	E2000494-003	1.00µL	E2000494-004	1.00µL
E2000495-001	1.00µL	E2000496-001	1.00µL	E2000497-001	1.00µL	EQ2000228-01	1.00µL	EQ2000228-02	1.00µL	EQ2000228-03	1.00µL

Preparation Steps

Step: Preparation
Started: 6/9/20 09:50
Finished: 6/9/20 13:43
By: GRIVERA
Comments

Preparation Information Benchsheet

Prep Run#: 359781
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 6/9/20 09:50

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
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:**	E2000495
Project:	HS20060114	**Date Collected:**	6/ 2/20 1400
Sample Matrix:	Ground Water	**Date Received:**	6/ 4/20
Sample Name:	LH18/24-SP650_060220_BIX	**Units:**	µg/L
Lab Code:	E2000495-001	**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	6/ 9/20	6/17/20 11:51	359781	683950	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000228-01	**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			1	6/ 9/20	6/16/20 14:31	359781	683950	

Accuracy & Precision

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

QA/QC Report

Client: ALS Environmental - US
Project: HS20060114
Sample Matrix: Ground Water

Service Request: E2000495
Date Analyzed: 6/16/20

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: 359781

	Lab Control Sample EQ2000228-02			Duplicate Lab Control Sample EQ2000228-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.114	0.100	114	0.114	0.100	114	84 - 119	<1	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:**	E2000495
Project:	HS20060114	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000228-02	**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	**0.114**		0.100			1	6/ 9/20	6/16/20 14:39	359781	683950	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000228-03	**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	**0.114**		0.100			1	6/ 9/20	6/16/20 14:47	359781	683950	

Initial Calibration

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

20200602

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

Initial Calibration - Detailed Report

Calibration ID: EC2000007 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000007-01	PERCHLORATE1	20200602_009	06/02/2020 15:37
02	EC2000007-02	PERCHLORATE2	20200602_010	06/02/2020 15:45
03	EC2000007-03	PERCHLORATE3	20200602_011	06/02/2020 15:53
04	EC2000007-04	PERCHLORATE4	20200602_012	06/02/2020 16:05
05	EC2000007-05	PERCHLORATE5	20200602_013	06/02/2020 16:13
06	EC2000007-06	PERCHLORATE6	20200602_014	06/02/2020 16:21
07	EC2000007-07	PERCHLORATE7	20200602_015	06/02/2020 16:29
08	EC2000007-08	PERCHLORATE8	20200602_016	06/02/2020 16:37
09	EC2000007-09	PERCHLORATE9	20200602_017	06/02/2020 16:44
10	EC2000007-10	PERCHLORATE10	20200602_018	06/02/2020 16:52

Analyte **Curve Fit** **Weighting**

Perchlorate **Average RF** **RSD = 11.36** **Average RF = 0.1279**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1628	02	0.5000	0.122	03	0.7000	0.1165	04	1.0000	0.1408
05	2.0000	0.1172	06	5.0000	0.1212	07	10.0000	0.135	08	20.0000	0.1233
09	30.0000	0.12	10	50.0000	0.1202						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.127	27.3	02	0.5000	0.477	-4.6	03	0.7000	0.638	-8.9
04	1.0000	1.10	10.1	05	2.0000	1.83	-8.4	06	5.0000	4.74	-5.2
07	10.0000	10.6	5.5	08	20.0000	19.3	-3.6	09	30.0000	28.1	-6.2
10	50.0000	47.0	-6.0								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000007	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200602_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000007-11	T	Average RF	10	10.859	ng/mL	8.6	<= 15

ALS Group Houston

PERCHLORATE1

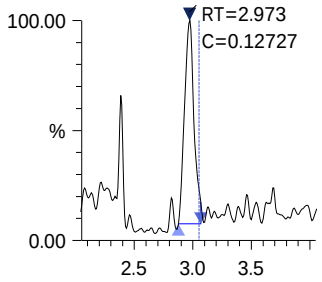
Date acquired: 6/2/2020 3:37:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_009.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	6/2/2020 3:37:49 PM	2231	0.12727	20200602_009	2.973	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/2/2020 3:37:49 PM	137060	1.00000	20200602_009	2.954	25.0000	1.0000	4

Perchlorate

Conc 0.12727
Area 2231

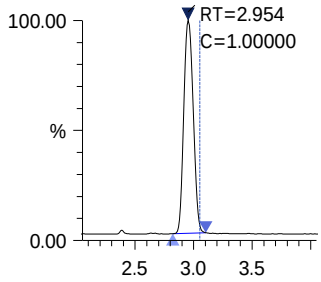
Q 99.00>83.00 (-) 4.13e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 137060

ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

PERCHLORATE2

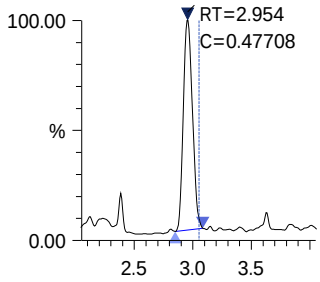
Date acquired: 6/2/2020 3:45:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_010.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	6/2/2020 3:45:42 PM	8464	0.47708	20200602_010	2.954	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/2/2020 3:45:42 PM	138722	1.00000	20200602_010	2.949	25.0000	1.0000	5

Perchlorate

Conc 0.47708
Area 8464

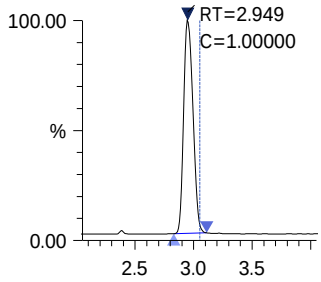
Q 99.00>83.00 (-) 1.56e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 138722

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

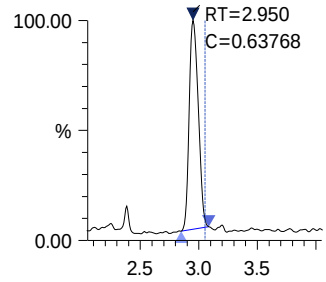
PERCHLORATE3

Date acquired: 6/2/2020 3:53:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_011.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	PERCHLORATE3	6/2/2020 3:53:36 PM	11656	0.63768	20200602_011	2.950	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/2/2020 3:53:36 PM	142915	1.00000	20200602_011	2.954	25.0000	1.0000	6

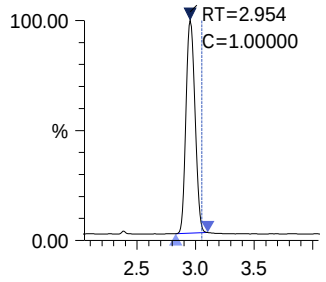
Perchlorate

Conc 0.63768
Area 11656



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 142915



ALS Group Houston

PERCHLORATE4

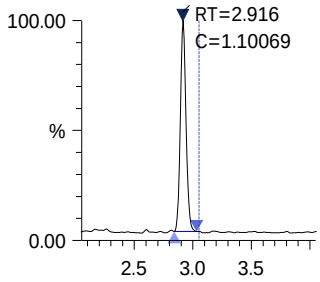
Date acquired: 6/2/2020 4:05:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_012.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	6/2/2020 4:05:28 PM	18119	1.10069	20200602_012	2.916	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/2/2020 4:05:28 PM	128706	1.00000	20200602_012	2.914	25.0000	1.0000	7

Perchlorate

Conc 1.10069
Area 18119

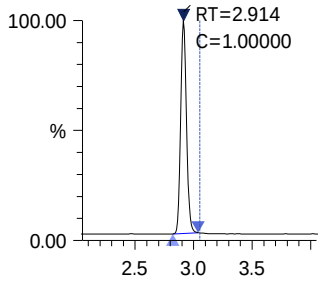
Q 99.00>83.00 (-) 5.42e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128706

ISTD 107.00>89.00 (-) 3.72e4



ALS Group Houston

PERCHLORATE5

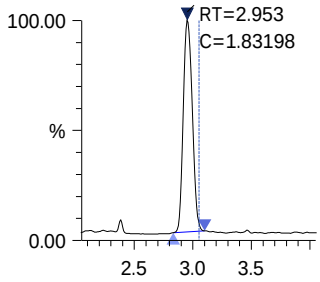
Date acquired: 6/2/2020 4:13:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_013.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	6/2/2020 4:13:21 PM	33971	1.83198	20200602_013	2.953	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/2/2020 4:13:21 PM	144982	1.00000	20200602_013	2.953	25.0000	1.0000	8

Perchlorate

Conc 1.83198
Area 33971

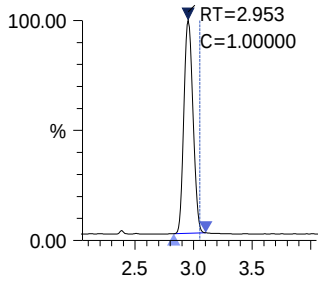
Q 99.00>83.00 (-) 6.29e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 144982

ISTD 107.00>89.00 (-) 2.71e4



ALS Group Houston

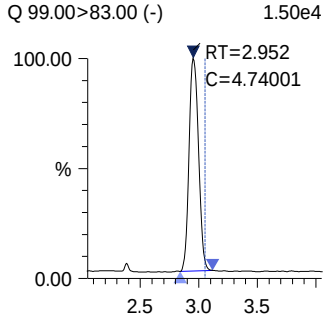
PERCHLORATE6

Date acquired: 6/2/2020 4:21:16 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_014.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	PERCHLORATE6	6/2/2020 4:21:16 PM	85178	4.74001	20200602_014	2.952	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/2/2020 4:21:16 PM	140500	1.00000	20200602_014	2.948	25.0000	1.0000	9

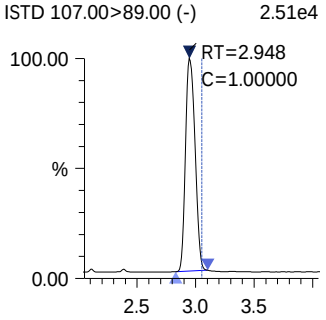
Perchlorate

Conc 4.74001
Area 85178



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 140500



ALS Group Houston

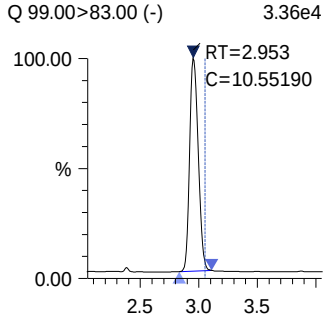
PERCHLORATE7

Date acquired: 6/2/2020 4:29:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_015.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	PERCHLORATE7	6/2/2020 4:29:10 PM	173998	10.55190	20200602_015	2.953	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 4:29:10 PM	128928	1.00000	20200602_015	2.951	25.0000	1.0000	10

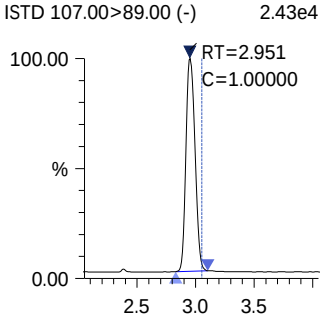
Perchlorate

Conc 10.55190
Area 173998



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128928



ALS Group Houston

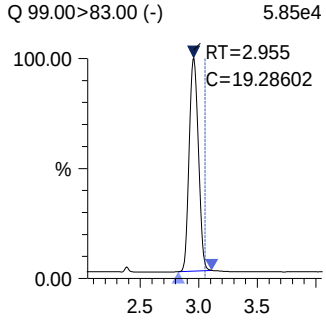
PERCHLORATE8

Date acquired: 6/2/2020 4:37:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	PERCHLORATE8	6/2/2020 4:37:02 PM	324944	19.28602	20200602_016	2.955	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/2/2020 4:37:02 PM	131734	1.00000	20200602_016	2.953	25.0000	1.0000	11

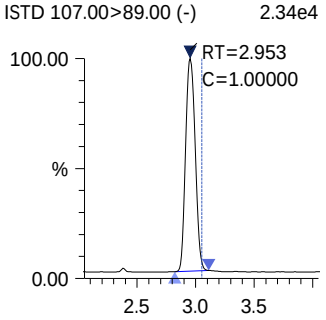
Perchlorate

Conc 19.28602
Area 324944



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 131734



ALS Group Houston

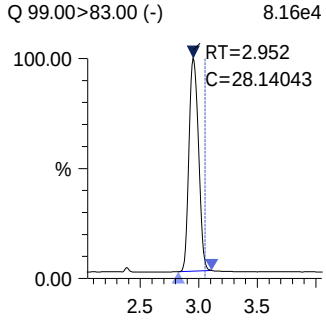
PERCHLORATE9

Date acquired: 6/2/2020 4:44:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	PERCHLORATE9	6/2/2020 4:44:57 PM	469066	28.14043	20200602_017	2.952	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/2/2020 4:44:57 PM	130327	1.00000	20200602_017	2.953	25.0000	1.0000	12

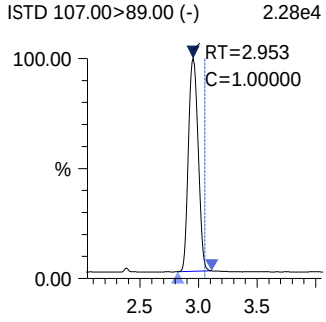
Perchlorate

Conc 28.14043
Area 469066



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130327



ALS Group Houston

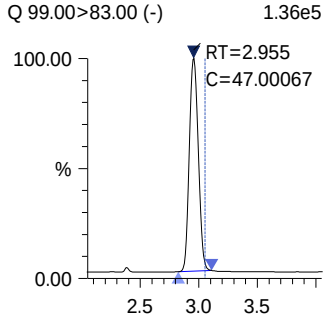
PERCHLORATE10

Date acquired: 6/2/2020 4:52:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	PERCHLORATE10	6/2/2020 4:52:49 PM	737362	47.00067	20200602_018	2.955	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	6/2/2020 4:52:49 PM	122661	1.00000	20200602_018	2.952	25.0000	1.0000	13

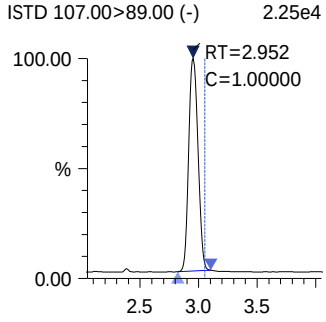
Perchlorate

Conc 47.00067
Area 737362



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 122661



ALS Group Houston

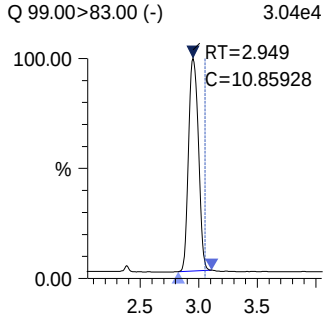
PERCHLORATEICV

Date acquired: 6/2/2020 5:00:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_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	6/2/2020 5:00:42 PM	180334	10.85928	20200602_019	2.949	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/2/2020 5:00:42 PM	129839	1.00000	20200602_019	2.948	25.0000	1.0000	14

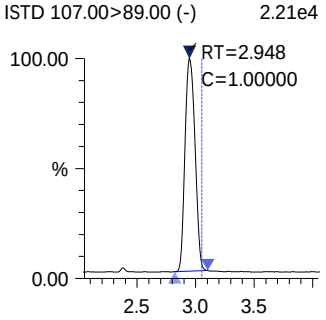
Perchlorate

Conc 10.85928
Area 180334



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 129839



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

20200616

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200616_001	Perchlorate6850b.lcm	1x	☒	
	null		20200616_002	Perchlorate6850b.lcm	1x	☒	
	null		20200616_003	Perchlorate6850b.lcm	1x	☒	
	IB		20200616_004	Perchlorate6850b.lcm	1x	☒	
	IB		20200616_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200616_006	Perchlorate6850b.lcm	1x	☒	
	LODV		20200616_007	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_008	Perchlorate6850b.lcm	1x	☒	3100807-04
	ICS		20200616_009	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-02		20200616_010	Perchlorate6850b.lcm	1x	☒	
	E2000491-006		20200616_011	Perchlorate6850b.lcm	1x	☒	do not use
	E2000492-004		20200616_012	Perchlorate6850b.lcm	1x	☒	
	E2000492-005		20200616_013	Perchlorate6850b.lcm	1x	☒	
	E2000492-007		20200616_014	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-02		20200616_015	Perchlorate6850b.lcm	1x	☒	
	E2000492-008		20200616_016	Perchlorate6850b.lcm	1x	☒	
	E2000491-005X2		20200616_017	Perchlorate6850b.lcm	2x	☒	
	E2000492-001X10		20200616_018	Perchlorate6850b.lcm	10x	☒	
	PERCHLORATE7		20200616_019	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000492-006X50		20200616_020	Perchlorate6850b.lcm	50x	☒	
	EQ2000228-01		20200616_021	Perchlorate6850b.lcm	1x	☒	
	EQ2000228-02		20200616_022	Perchlorate6850b.lcm	1x	☒	
	EQ2000228-03		20200616_023	Perchlorate6850b.lcm	1x	☒	
	E2000493-001		20200616_024	Perchlorate6850b.lcm	1x	☒	
	E2000493-002		20200616_025	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_026	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000493-003		20200616_027	Perchlorate6850b.lcm	1x	☒	
	E2000493-004		20200616_028	Perchlorate6850b.lcm	1x	☒	
	E2000493-005		20200616_029	Perchlorate6850b.lcm	1x	☒	
	E2000493-006		20200616_030	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_031	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000493-007		20200616_032	Perchlorate6850b.lcm	1x	☒	
	E2000493-008		20200616_033	Perchlorate6850b.lcm	1x	☒	
	E2000494-001		20200616_034	Perchlorate6850b.lcm	1x	☒	
	E2000494-002		20200616_035	Perchlorate6850b.lcm	1x	☒	
	E2000494-003		20200616_036	Perchlorate6850b.lcm	1x	☒	
	E2000494-004		20200616_037	Perchlorate6850b.lcm	1x	☒	
	E2000495-001		20200616_038	Perchlorate6850b.lcm	1x	☒	
	E2000496-001		20200616_039	Perchlorate6850b.lcm	1x	☒	
	E2000497-001		20200616_040	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_041	Perchlorate6850b.lcm	1x	☒	3100807-04

20200617

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200617_001	Perchlorate6850b.lcm	1x	☒	
	null		20200617_002	Perchlorate6850b.lcm	1x	☒	
	IB		20200617_003	Perchlorate6850b.lcm	1x	☒	
	IB		20200617_004	Perchlorate6850b.lcm	1x	☒	
	LODV		20200617_005	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200617_006	Perchlorate6850b.lcm	1x	☒	3100807-04
	ICS		20200617_007	Perchlorate6850b.lcm	1x	☒	
	E2000493-005		20200617_008	Perchlorate6850b.lcm	1x	☒	
	E2000495-001		20200617_009	Perchlorate6850b.lcm	1x	☒	
	E2000497-001		20200617_010	Perchlorate6850b.lcm	1x	☒	
	E2000493-003X500		20200617_011	Perchlorate6850b.lcm	500x	☒	
	E2000493-004X20		20200617_012	Perchlorate6850b.lcm	20x	☒	
	E2000493-006X20		20200617_013	Perchlorate6850b.lcm	20x	☒	
	E2000494-002X100		20200617_014	Perchlorate6850b.lcm	100x	☒	
	E2000494-003X500		20200617_015	Perchlorate6850b.lcm	500x	☒	
	E2000494-004X5000		20200617_016	Perchlorate6850b.lcm	5000x	☒	
	PERCHLORATE7		20200617_017	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000496-001X200		20200617_018	Perchlorate6850b.lcm	200x	☒	
	E2000493-005		20200617_019	Perchlorate6850b.lcm	1x	☒	
	E2000495-001		20200617_020	Perchlorate6850b.lcm	1x	☒	
	E2000497-001		20200617_021	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200617_022	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060114

Service Request: E2000495
Date Analyzed: 6/16/20

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\20200616\20200616_019

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 683950
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.5	0.1279		5.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060114

Service Request: E2000495
Date Analyzed: 6/16/20

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\20200616\20200616_026

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 683950
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.6	0.1279		6.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060114

Service Request: E2000495
Date Analyzed: 6/16/20

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\20200616\20200616_031

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 683950
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.2	0.1279		11.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_041	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.3	0.1279		13.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060114

Service Request: E2000495
Date Analyzed: 6/17/20

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\20200617\20200617_006

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 683950
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279		8.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060114

Service Request: E2000495
Date Analyzed: 6/17/20

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\20200617\20200617_017

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 683950
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.0	0.1279		10.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060114

Service Request: E2000495
Date Analyzed: 6/17/20

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\20200617\20200617_022

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 683950
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.1	0.1279		10.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20 14:15

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200616\20200616_019	**Lab Code:**	EQ2000242-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-01	121,207	3.04
Method Blank	EQ2000228-01	132,882	3.04
Lab Control Sample	EQ2000228-02	144,551	3.04
Duplicate Lab Control Sample	EQ2000228-03	143,510	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:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20 15:23

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200616\20200616_026	**Lab Code:**	EQ2000242-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-02	116,422	2.99

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:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20 16:02

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200616\20200616_031	**Lab Code:**	EQ2000242-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-03	108,679	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:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20 17:21

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200616\20200616_041	**Lab Code:**	EQ2000242-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-04	111,059	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:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/17/20 10:00

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200617\20200617_006	**Lab Code:**	EQ2000242-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-05	164,082	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:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/17/20 11:27

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200617\20200617_017	**Lab Code:**	EQ2000242-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-06	177,876	3.03
LH18/24-SP650_060220_BIX	E2000495-001	201,832	3.01

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:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/17/20 12:07

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200617\20200617_022	**Lab Code:**	EQ2000242-07
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-07	167,560	3.03

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

ALS Group Houston

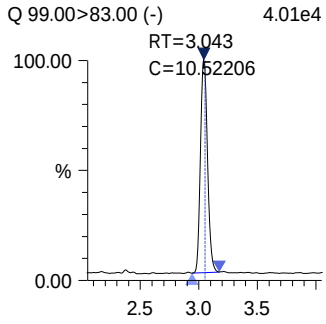
PERCHLORATE7

Date acquired: 6/16/2020 2:15:37 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_019.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	6/16/2020 2:15:37 PM	163116	10.52206	20200616_019	3.043	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/16/2020 2:15:37 PM	121207	1.00000	20200616_019	3.039	25.0000	1.0000	4

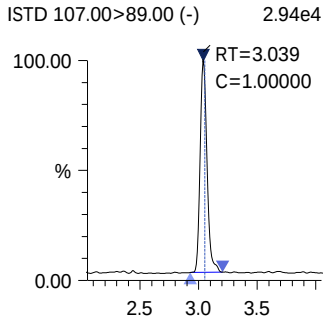
Perchlorate

Conc 10.52206
Area 163116



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 121207



ALS Group Houston

EQ2000228-01

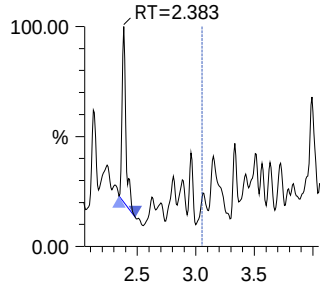
Date acquired: 6/16/2020 2:31:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_021.lcd
Vial: 33 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000228-01	6/16/2020 2:31:26 PM	----	----	20200616_021	----	25.0000	1.0000	33
Sodium Perchlorate-18O4_IS	EQ2000228-01	6/16/2020 2:31:26 PM	132882	1.00000	20200616_021	3.042	25.0000	1.0000	33

Perchlorate

Conc ----
Area ----

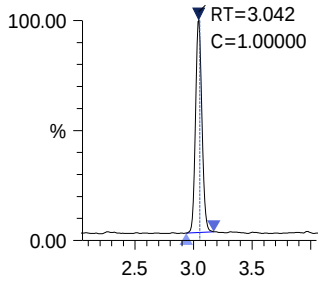
Q 99.00>83.00 (-) 8.78e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 132882

ISTD 107.00>89.00 (-) 3.46e4



ALS Group Houston

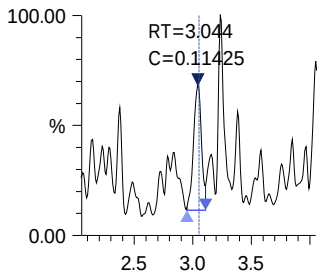
EQ2000228-02

Date acquired: 6/16/2020 2:39:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_022.lcd
Vial: 34 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000228-02	6/16/2020 2:39:18 PM	2112	0.11425	20200616_022	3.044	25.0000	1.0000	34
Sodium Perchlorate-18O4_IS	EQ2000228-02	6/16/2020 2:39:18 PM	144551	1.00000	20200616_022	3.040	25.0000	1.0000	34

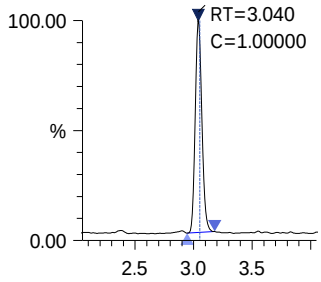
Perchlorate

Conc 0.11425
Area 2112
Q 99.00>83.00 (-) 7.77e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 144551
ISTD 107.00>89.00 (-) 3.62e4



ALS Group Houston

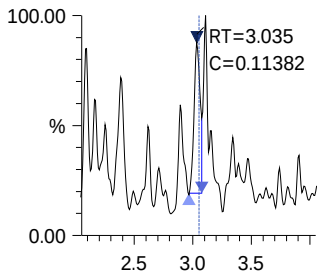
EQ2000228-03

Date acquired: 6/16/2020 2:47:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_023.lcd
Vial: 35 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000228-03	6/16/2020 2:47:11 PM	2089	0.11382	20200616_023	3.035	25.0000	1.0000	35
Sodium Perchlorate-18O4_IS	EQ2000228-03	6/16/2020 2:47:11 PM	143510	1.00000	20200616_023	3.041	25.0000	1.0000	35

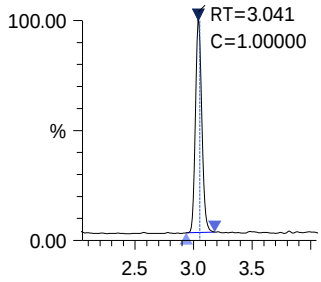
Perchlorate

Conc 0.11382
Area 2089
Q 99.00>83.00 (-) 8.57e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 143510
ISTD 107.00>89.00 (-) 3.73e4



ALS Group Houston

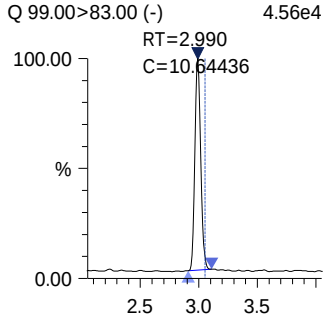
PERCHLORATE7

Date acquired: 6/16/2020 3:23:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_026.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	6/16/2020 3:23:02 PM	158498	10.64436	20200616_026	2.990	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/16/2020 3:23:02 PM	116422	1.00000	20200616_026	2.989	25.0000	1.0000	4

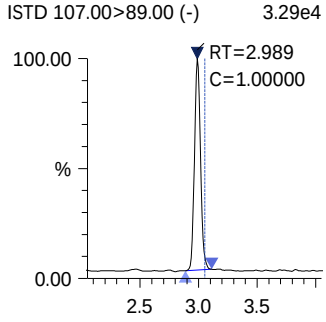
Perchlorate

Conc 10.64436
Area 158498



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 116422



HS20060114 8260 Raw Data

ALS WO# HS20060114

MSVOA06 -Logbook

Batch: 40702 **Analyst:** Presenta Cabascango

Date: 06-02-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	06-02-2020 10:34 am	1.00	50 mL	50 mL	X060201.D	Liquid	Y	NA
	Auto find/ purged									
2	VSTD000.25	ICAL1	06-02-2020 10:58 am	1.00	50 mL	50 mL	X060202.D	Liquid	Y	NA
	0.10 uL cal std/100 mL DI									
3	VSTD000.5	ICAL2	06-02-2020 11:22 am	1.00	50 mL	50 mL	X060203.D	Liquid	Y	NA
	0.10 uL cal std/50 mL DI									
4	VSTD001	ICAL3	06-02-2020 12:10 pm	1.00	50 mL	50 mL	X060204.D	Liquid	Y	NA
	0.20 uL cal std/50 mL DI									
5	VSTD002	ICAL4	06-02-2020 12:34 pm	1.00	50 mL	50 mL	X060205.D	Liquid	Y	NA
	0.40 uL cal std/50 mL DI									
6	VSTD005	ICAL5	06-02-2020 12:58 pm	1.00	50 mL	50 mL	X060206.D	Liquid	Y	NA
	1.0 uL cal std/50 mL DI									
7	VSTD020	ICAL6	06-02-2020 01:21 pm	1.00	50 mL	50 mL	X060207.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
8	VSTD050	ICAL7	06-02-2020 01:45 pm	1.00	50 mL	50 mL	X060208.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
9	VSTD100	ICAL8	06-02-2020 02:09 pm	1.00	50 mL	50 mL	X060209.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
10	VSTD150	ICAL9	06-02-2020 02:33 pm	1.00	50 mL	50 mL	X060210.D	Liquid	Y	NA
	30 uL cal std/50 mL DI									
11	VSTD200	ICAL	06-02-2020 02:57 pm	1.00	50 mL	50 mL	X060211.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLANK	SAMP	06-02-2020 03:21 pm	1.00	50 mL	50 mL	X060212.D	Liquid	Y	NA
	clean up blank									
13	CCV	ICV	06-02-2020 03:45 pm	1.00	50 mL	50 mL	X060213.D	Liquid	Y	NA
	10 uL icv std/50 mL DI									
14	BLANK	SAMP	06-02-2020 04:09 pm	1.00	50 mL	50 mL	X060214.D	Liquid	Y	NA
15	BLANK	SAMP	06-02-2020 04:33 pm	1.00	50 mL	50 mL	X060215.D	Liquid	Y	NA
16	VLCSW-200602	LCS	06-02-2020 04:57 pm	1.00	50 mL	50 mL	X060216.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
17	BLANK	SAMP	06-02-2020 05:21 pm	1.00	50 mL	50 mL	X060217.D	Liquid	Y	NA
18	BLANK	SAMP	06-02-2020 05:45 pm	1.00	50 mL	50 mL	X060218.D	Liquid	Y	NA
19	VBLKW-200602	MBLK	06-02-2020 06:09 pm	1.00	50 mL	50 mL	X060219.D	Liquid	Y	NA
20	HS20051138-02	SAMP	06-02-2020 06:33 pm	1.00	50 mL	50 mL	X060220.D	Liquid	Y	<2
21	HS20051138-01	SAMP	06-02-2020 06:57 pm	1.00	50 mL	50 mL	X060221.D	Liquid	Y	<2
22	HS20050984-01	SAMP	06-02-2020 07:21 pm	1000.0	50 µL	50 mL	X060222.D	Liquid	Y	<2
23	HS20060015-03	SAMP	06-02-2020 07:45 pm	50.00	1 mL	50 mL	X060223.D	Liquid	Y	NA
	neat samples									
24	HS20060015-01	SAMP	06-02-2020 08:09 pm	100.0(	500 µL	50 mL	X060224.D	Liquid	Y	NA
25	HS20060015-02	SAMP	06-02-2020 08:34 pm	100.0(	500 µL	50 mL	X060225.D	Liquid	Y	NA
26	HS20051138-01MS	MS	06-02-2020 08:58 pm	1.00	50 mL	50 mL	X060226.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
27	HS20051138-01MSD	MSD	06-02-2020 09:22 pm	1.00	50 mL	50 mL	X060227.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
28	CCV-END	CCV	06-02-2020 09:46 pm	1.00	50 mL	50 mL	X060228.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
29	BLANK	SAMP	06-02-2020 10:10 pm	1.00	50 mL	50 mL	X060240.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-30-06
IS ID	31106-30-06
CAL STD ID	31106-32-01/02
BFB ID	31106-30-06
pH Paper	634-64-11

FORM 3
SOIL VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

Matrix Spike - Sample No.: ICV Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
cis-1,3-Dichloropropene	50.00	48.97	98	80-120
trans-1,3-Dichloroprope	50.00	49.06	98	80-120
1,3-Dichlorobenzene	50.00	46.99	94	80-120
2,2-Dichloropropane	50.00	48.56	97	80-120
1,1-Dichloropropene	50.00	45.76	92	80-120
Dibromomethane	50.00	47.60	95	80-120
1,2-Dibromoethane	50.00	47.95	96	80-120
trans-1,2-Dichloroethen	50.00	48.94	98	80-120
1,1,1,2-Tetrachloroetha	50.00	48.54	97	80-120
1,1,1-Trichloroethane	50.00	47.82	96	80-120
1,1,2,2-Tetrachloroetha	50.00	46.12	92	80-120
1,1,2-Trichloroethane	50.00	47.36	95	80-120
1,1-Dichloroethane	50.00	46.92	94	80-120
1,1-Dichloroethene	50.00	47.35	95	80-120
Trichloroethene	50.00	47.98	96	80-120
1,2,3-Trichlorobenzene	50.00	59.95	120	80-120
Trichlorofluoromethane	50.00	48.15	96	80-120
1,2,4-Trichlorobenzene	50.00	50.14	100	80-120
1,2,4-Trimethylbenzene	50.00	47.33	95	80-120
Tetrachloroethene	50.00	47.04	94	80-120
1,2-Dichlorobenzene	50.00	47.34	95	80-120
1,2-Dichloroethane	50.00	47.49	95	80-120
1,2-Dichloropropane	50.00	49.00	98	80-120
1,3,5-Trimethylbenzene	50.00	46.04	92	80-120
1,3-Dichloropropane	50.00	46.04	92	80-120
1,4-Dichlorobenzene	50.00	45.44	91	80-120
Toluene	50.00	46.89	94	80-120
2-Butanone	100.00	104.16	104	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 3
SOIL VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

Matrix Spike - Sample No.: ICV Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
2-Chlorotoluene	50.00	44.35	89	80-120
2-Hexanone	100.00	101.35	101	80-120
4-Chlorotoluene	50.00	45.49	91	80-120
tert-Butylbenzene	50.00	45.15	90	80-120
4-Methyl-2-Pentanone	100.00	96.32	96	80-120
Acetone	100.00	119.27	119	80-120
Benzene	50.00	47.62	95	80-120
Bromobenzene	50.00	45.94	92	80-120
Bromochloromethane	50.00	46.52	93	80-120
Bromodichloromethane	50.00	48.43	97	80-120
Bromoform	50.00	49.82	100	80-120
Bromomethane	50.00	51.21	102	80-120
Carbon Disulfide	100.00	98.88	99	80-120
Carbon Tetrachloride	50.00	44.91	90	80-120
Chlorobenzene	50.00	46.87	94	80-120
Chloroethane	50.00	48.12	96	80-120
Chloroform	50.00	47.20	94	80-120
Chloromethane	50.00	49.19	98	80-120
cis-1,2-Dichloroethene	50.00	47.65	95	80-120
Dibromochloromethane	50.00	47.33	95	80-120
Dichlorodifluoromethane	50.00	48.97	98	80-120
Ethylbenzene	50.00	47.78	96	80-120
Hexachlorobutadiene	50.00	53.92	108	80-120
Isopropylbenzene	50.00	46.50	93	80-120
m,p-Xylenes	100.00	94.83	95	80-120
Methylene Chloride	50.00	49.19	98	80-120
n-Butylbenzene	50.00	49.38	99	80-120
n-Propylbenzene	50.00	46.30	93	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 3
SOIL VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

Matrix Spike - Sample No.: ICV Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Naphthalene	50.00	53.55	107	80-120
o-Xylene	50.00	48.23	96	80-120
sec-Butylbenzene	50.00	46.29	92	80-120
Styrene	50.00	48.17	96	80-120
Vinyl Chloride	50.00	45.17	90	80-120
1,2,3-Trichloropropane	50.00	46.26	92	80-120
p-Isopropyltoluene	50.00	47.61	95	80-120
1,2-Dibromo-3-Chloropro	50.00	48.92	98	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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

Lab File ID: X060201 BFB Injection Date: 06/02/20

Instrument ID: VOA6 BFB Injection Time: 1034

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	31.4
75	30.0 - 60.0% of mass 95	52.6
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	0.6 (1.0)1
174	Greater than 50.0% of mass 95	65.3
175	5.0 - 9.0% of mass 174	4.9 (7.6)1
176	95.0 - 101.0% of mass 174	62.8 (96.2)1
177	5.0 - 9.0% of mass 176	4.4 (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	X060202	06/02/20	1058
02	VSTD000.5	VSTD000.5	X060203	06/02/20	1122
03	VSTD001	VSTD001	X060204	06/02/20	1210
04	VSTD002	VSTD002	X060205	06/02/20	1234
05	VSTD005	VSTD005	X060206	06/02/20	1258
06	VSTD020	VSTD020	X060207	06/02/20	1321
07	VSTD050	VSTD050	X060208	06/02/20	1345
08	VSTD100	VSTD100	X060209	06/02/20	1409
09	VSTD150	VSTD150	X060210	06/02/20	1433
10	VSTD200	VSTD200	X060211	06/02/20	1457
11	ICV	ICV	X060213	06/02/20	1545
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

Instrument ID: VOA6 Calibration Date(s): 06/02/20 06/02/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1058 1457

LAB FILE ID: RF0.25: X060202 RF0.5: X060203 RF1: X060204
RF2: X060205 RF5: X060206 RF20: X060207

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
cis-1,3-Dichloropropene		0.532	0.664	0.590	0.598	0.610
trans-1,3-Dichloropropene		0.500	0.532	0.528	0.537	0.559
1,3-Dichlorobenzene		1.787	1.647	1.542	1.448	1.521
2,2-Dichloropropane		1.117	1.189	0.997	0.991	0.949
1,1-Dichloropropene		0.504	0.483	0.472	0.456	0.447
Dibromomethane		0.232	0.294	0.239	0.252	0.253
1,2-Dibromoethane		0.396	0.369	0.380	0.382	0.393
trans-1,2-Dichloroethene		0.549	0.658	0.559	0.585	0.586
1,1,1,2-Tetrachloroethane		0.341	0.366	0.349	0.349	0.367
1,1,1-Trichloroethane		0.876	0.970	0.974	0.977	0.948
1,1,2,2-Tetrachloroethane		0.943	1.102	1.027	1.029	0.992
1,1,2-Trichloroethane		0.304	0.340	0.317	0.331	0.327
1,1-Dichloroethane		1.650	1.772	1.444	1.521	1.543
1,1-Dichloroethene		0.544	0.556	0.498	0.479	0.481
Trichloroethene		0.346	0.344	0.328	0.315	0.331
1,2,3-Trichlorobenzene		63	140	341	803	4004
Trichlorofluoromethane		0.831	0.980	0.882	0.868	0.889
1,2,4-Trichlorobenzene		265	458	683	1808	8997
1,2,4-Trimethylbenzene		2.925	3.135	2.862	2.736	2.903
Tetrachloroethene		0.241	0.291	0.264	0.250	0.259
1,2-Dichlorobenzene		1.450	1.401	1.294	1.240	1.341
1,2-Dichloroethane		0.637	0.744	0.620	0.676	0.686
1,2-Dichloropropane		0.438	0.504	0.446	0.451	0.484
1,3,5-Trimethylbenzene		3.108	3.007	2.816	2.688	2.840
1,3-Dichloropropane		0.675	0.779	0.640	0.685	0.668
1,4-Dichlorobenzene		1.971	1.754	1.517	1.457	1.518
Toluene		1.546	1.681	1.597	1.557	1.558
2-Butanone		0.614	0.618	0.476	0.506	0.573
2-Chlorotoluene		2.998	3.014	2.666	2.547	2.567
2-Hexanone		0.429	0.503	0.465	0.502	0.535
4-Chlorotoluene		3.544	3.371	2.972	2.954	2.974
tert-Butylbenzene		2.604	2.446	2.142	2.030	2.134
4-Methyl-2-Pentanone		0.700	0.743	0.713	0.752	0.767
Acetone		6053	7782	17803	29949	97902
Benzene		1.432	1.484	1.404	1.407	1.428
Bromobenzene		1.010	1.058	0.985	0.958	0.957
Bromochloromethane		0.380	0.433	0.312	0.355	0.349
Bromodichloromethane		0.478	0.525	0.513	0.512	0.514
Bromoform		0.213	0.252	0.236	0.244	0.263
Bromomethane		1841	2890	5832	14311	47538
Carbon Disulfide		1.592	1.756	1.547	1.617	1.586
Carbon Tetrachloride		0.523	0.534	0.365	0.412	0.407
Chlorobenzene		1.053	1.081	0.934	0.983	0.969
Chloroethane		0.480	0.641	0.522	0.518	0.528

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006011

Instrument ID: VOA6 Calibration Date(s): 06/02/20 06/02/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1058 1457

LAB FILE ID: RF0.25: X060202 RF0.5: X060203 RF1: X060204
RF2: X060205 RF5: X060206 RF20: X060207

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Chloroform		1.173	1.392	1.219	1.244	1.232
Chloromethane		1.107	1.368	1.230	1.207	1.191
cis-1,2-Dichloroethene		0.640	0.807	0.712	0.726	0.727
Dibromochloromethane		0.386	0.444	0.393	0.391	0.389
Dichlorodifluoromethane		0.499	0.611	0.542	0.552	0.552
Ethylbenzene		0.483	0.533	0.505	0.502	0.500
Hexachlorobutadiene		272	459	812	1277	6003
Isopropylbenzene		1.617	1.581	1.492	1.364	1.439
m,p-Xylenes		0.649	0.655	0.592	0.568	0.594
Methylene Chloride		2950	4893	8194	18494	70232
n-Butylbenzene		2.718	2.332	2.042	1.959	2.250
n-Propylbenzene		4.275	4.241	4.033	3.882	4.093
Naphthalene		489	938	1568	3430	16228
o-Xylene		0.605	0.632	0.590	0.584	0.598
sec-Butylbenzene		3.616	3.281	3.083	2.882	2.969
Styrene		1.143	1.101	1.019	1.034	1.083
Vinyl Chloride		1.357	1.130	0.987	0.942	0.943
1,2,3-Trichloropropane		0.772	0.988	0.975	1.025	0.944
p-Isopropyltoluene		2.881	2.628	2.467	2.367	2.545
1,2-Dibromo-3-Chloropropane		49	194	216	975	3937
1,2-Dichloroethane-d4		2576	5718	9006	24513	91293
Dibromofluoromethane		1607	3464	6437	17413	60981
Toluene-d8		1.390	1.422	1.285	1.351	1.297
4-Bromofluorobenzene		2952	5656	9213	21510	81314

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006011

Instrument ID: VOA6 Calibration Date(s): 06/02/20 06/02/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1058 1457

LAB FILE ID: RF50: X060208 RF100: X060209 RF150: X060210
RF200: X060211

COMPOUND	RF50	RF100	RF150	RF200
cis-1,3-Dichloropropene	0.626	0.608	0.640	0.618
trans-1,3-Dichloropropene	0.577	0.562	0.591	0.569
1,3-Dichlorobenzene	1.519	1.485	1.591	1.541
2,2-Dichloropropane	0.966	0.910	0.974	0.926
1,1-Dichloropropene	0.466	0.454	0.495	0.470
Dibromomethane	0.258	0.250	0.259	0.249
1,2-Dibromoethane	0.391	0.380	0.388	0.372
trans-1,2-Dichloroethene	0.600	0.563	0.599	0.575
1,1,1,2-Tetrachloroethane	0.366	0.356	0.373	0.364
1,1,1-Trichloroethane	0.973	0.944	1.020	0.986
1,1,2,2-Tetrachloroethane	0.993	0.941	0.999	0.966
1,1,2-Trichloroethane	0.321	0.306	0.315	0.302
1,1-Dichloroethane	1.530	1.451	1.531	1.475
1,1-Dichloroethene	0.507	0.496	0.539	0.510
Trichloroethene	0.347	0.334	0.359	0.344
1,2,3-Trichlorobenzene	10729	20684	36196	46791
Trichlorofluoromethane	0.972	0.948	1.033	0.977
1,2,4-Trichlorobenzene	22734	44957	75487	98724
1,2,4-Trimethylbenzene	2.982	2.873	3.086	2.970
Tetrachloroethene	0.264	0.264	0.283	0.270
1,2-Dichlorobenzene	1.337	1.282	1.346	1.309
1,2-Dichloroethane	0.677	0.646	0.664	0.633
1,2-Dichloropropane	0.488	0.470	0.495	0.469
1,3,5-Trimethylbenzene	2.903	2.822	3.042	2.922
1,3-Dichloropropane	0.676	0.635	0.659	0.633
1,4-Dichlorobenzene	1.530	1.472	1.558	1.519
Toluene	1.555	1.495	1.571	1.516
2-Butanone	0.553	0.534	0.548	0.537
2-Chlorotoluene	2.569	2.467	2.633	2.579
2-Hexanone	0.526	0.518	0.531	0.516
4-Chlorotoluene	3.011	2.912	3.099	3.002
tert-Butylbenzene	2.253	2.189	2.375	2.282
4-Methyl-2-Pentanone	0.768	0.749	0.764	0.745
Acetone	208678	380505	535084	691876
Benzene	1.460	1.389	1.471	1.412
Bromobenzene	0.963	0.919	0.993	0.960
Bromochloromethane	0.344	0.329	0.342	0.322
Bromodichloromethane	0.531	0.514	0.537	0.518
Bromoform	0.259	0.258	0.266	0.259
Bromomethane	108118	203862	316905	401260
Carbon Disulfide	1.691	1.612	1.753	1.691
Carbon Tetrachloride	0.443	0.438	0.483	0.463
Chlorobenzene	0.974	0.938	0.987	0.952
Chloroethane	0.544	0.507	0.539	0.516

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006011

Instrument ID: VOA6 Calibration Date(s): 06/02/20 06/02/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1058 1457

LAB FILE ID: RF50: X060208 RF100: X060209 RF150: X060210
RF200: X060211

COMPOUND	RF50	RF100	RF150	RF200
Chloroform	1.227	1.160	1.212	1.175
Chloromethane	1.174	1.180	1.311	1.300
cis-1,2-Dichloroethene	0.710	0.675	0.710	0.686
Dibromochloromethane	0.400	0.390	0.401	0.389
Dichlorodifluoromethane	0.623	0.615	0.693	0.672
Ethylbenzene	0.506	0.500	0.528	0.507
Hexachlorobutadiene	17167	33315	54291	72849
Isopropylbenzene	1.488	1.468	1.574	1.506
m,p-Xylenes	0.610	0.598	0.632	0.607
Methylene Chloride	166214	304409	458611	602460
n-Butylbenzene	2.474	2.433	2.628	2.520
n-Propylbenzene	4.200	4.124	4.476	4.315
Naphthalene	39390	79452	136164	179740
o-Xylene	0.607	0.594	0.620	0.602
sec-Butylbenzene	3.280	3.196	3.500	3.357
Styrene	1.096	1.046	1.096	1.060
Vinyl Chloride	1.004	0.980	1.074	1.041
1,2,3-Trichloropropane	0.932	0.888	0.915	0.856
p-Isopropyltoluene	2.726	2.663	2.912	2.780
1,2-Dibromo-3-Chloropropane	9084	18276	27849	36884
1,2-Dichloroethane-d4	213560	422784	617702	795626
Dibromofluoromethane	144483	285402	417964	549750
Toluene-d8	1.262	1.273	1.283	1.227
4-Bromofluorobenzene	195210	388425	568076	746966

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006011

Instrument ID: VOA6 Calibration Date(s): 06/02/20 06/02/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1058 1457

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	COEFFICENTS A2	%RSD OR R^2	MAX %RSD OR R^2
cis-1,3-Dichloropropene	AVRG		0.60974400		6.016	15.000
trans-1,3-Dichloropropene	AVRG		0.55074917		5.153	15.000
1,3-Dichlorobenzene	AVRG		1.56450744		6.462	15.000
2,2-Dichloropropane	AVRG		1.00203284		9.165	15.000
1,1-Dichloropropene	AVRG		0.47193864		4.063	15.000
Dibromomethane	AVRG		0.25398511		6.803	15.000
1,2-Dibromoethane	AVRG		0.38350390		2.437	15.000
trans-1,2-Dichloroethene	AVRG		0.58604691		5.508	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.35883072		2.983	15.000
1,1,1-Trichloroethane	AVRG		0.96319476		4.071	15.000
1,1,2,2-Tetrachloroethane	AVRG		0.99915846		5.002	15.000
1,1,2-Trichloroethane	AVRG		0.31812544		4.090	15.000
1,1-Dichloroethane	AVRG		1.54633090		6.758	15.000
1,1-Dichloroethene	AVRG		0.51236256		5.426	15.000
Trichloroethene	AVRG		0.33864584		3.832	15.000
1,2,3-Trichlorobenzene	2ORDR	2.14e-002	16.2148045	-8.3915690	0.9960141	0.9900000
Trichlorofluoromethane	AVRG		0.93136463		7.091	15.000
1,2,4-Trichlorobenzene	LINR	4.557e-002	6.69151779		0.9963264	0.9900000
1,2,4-Trimethylbenzene	AVRG		2.94129062		4.092	15.000
Tetrachloroethene	AVRG		0.26526896		5.778	15.000
1,2-Dichlorobenzene	AVRG		1.33335108		4.722	15.000
1,2-Dichloroethane	AVRG		0.66480309		5.632	15.000
1,2-Dichloropropane	AVRG		0.47160671		4.882	15.000
1,3,5-Trimethylbenzene	AVRG		2.90532371		4.503	15.000
1,3-Dichloropropane	AVRG		0.67230165		6.606	15.000
1,4-Dichlorobenzene	AVRG		1.58851819		10.539	15.000
Toluene	AVRG		1.56409299		3.380	15.000
2-Butanone	AVRG		0.55107978		8.376	15.000
2-Chlorotoluene	AVRG		2.67117095		7.402	15.000
2-Hexanone	AVRG		0.50278078		6.903	15.000
4-Chlorotoluene	AVRG		3.09308496		7.013	15.000
tert-Butylbenzene	AVRG		2.27278576		7.810	15.000
4-Methyl-2-Pentanone	AVRG		0.74442653		3.179	15.000
Acetone	LINR	-0.1562882	2.62916947		0.9976284	0.9900000
Benzene	AVRG		1.43197192		2.304	15.000
Bromobenzene	AVRG		0.97821128		4.050	15.000
Bromochloromethane	AVRG		0.35196817		10.338	15.000
Bromodichloromethane	AVRG		0.51586139		3.214	15.000
Bromoform	AVRG		0.25002563		6.748	15.000
Bromomethane	LINR	-2.07e-002	2.24344294		0.9977292	0.9900000
Carbon Disulfide	AVRG		1.64943042		4.597	15.000
Carbon Tetrachloride	AVRG		0.45209783		12.176	15.000
Chlorobenzene	AVRG		0.98580966		5.067	15.000
Chloroethane	AVRG		0.53296124		8.392	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006011

Instrument ID: VOA6 Calibration Date(s): 06/02/20 06/02/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1058 1457

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Chloroform	AVRG		1.22610163		5.612	15.000
Chloromethane	AVRG		1.22980766		6.634	15.000
cis-1,2-Dichloroethene	AVRG		0.71041989		6.442	15.000
Dibromochloromethane	AVRG		0.39835729		4.493	15.000
Dichlorodifluoromethane	AVRG		0.59534561		10.749	15.000
Ethylbenzene	AVRG		0.50723840		2.979	15.000
Hexachlorobutadiene	LINR	4.214e-002	9.15038949		0.9973586	0.9900000
Isopropylbenzene	AVRG		1.50319859		5.200	15.000
m,p-Xylenes	AVRG		0.61175815		4.633	15.000
Methylene Chloride	LINR	-2.19e-002	1.51332935		0.9991482	0.9900000
n-Butylbenzene	AVRG		2.37296829		10.716	15.000
n-Propylbenzene	AVRG		4.18194079		4.143	15.000
Naphthalene	2ORDR	1.111e-002	4.34048887	-0.6549165	0.9971688	0.9900000
o-Xylene	AVRG		0.60362751		2.447	15.000
sec-Butylbenzene	AVRG		3.24040706		7.346	15.000
Styrene	AVRG		1.07546579		3.619	15.000
Vinyl Chloride	AVRG		1.05108067		12.370	15.000
1,2,3-Trichloropropane	AVRG		0.92168512		8.256	15.000
p-Isopropyltoluene	AVRG		2.66330773		6.872	15.000
1,2-Dibromo-3-Chloropropane	LINR	1.133e-002	17.9898018		0.9993132	0.9900000
1,2-Dichloroethane-d4	LINR	-1.84e-002	1.13092579		0.9986804	0.9900000
Dibromofluoromethane	LINR	-1.25e-002	1.65126742		0.9994580	0.9900000
Toluene-d8	AVRG		1.31003761		4.876	15.000
4-Bromofluorobenzene	LINR	-1.49e-002	2.05515489		0.9993649	0.9900000

FORM VI VOA

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060201.D

Date : 02-JUN-2020 10:34

Client ID: BFB

Instrument: voa6.i

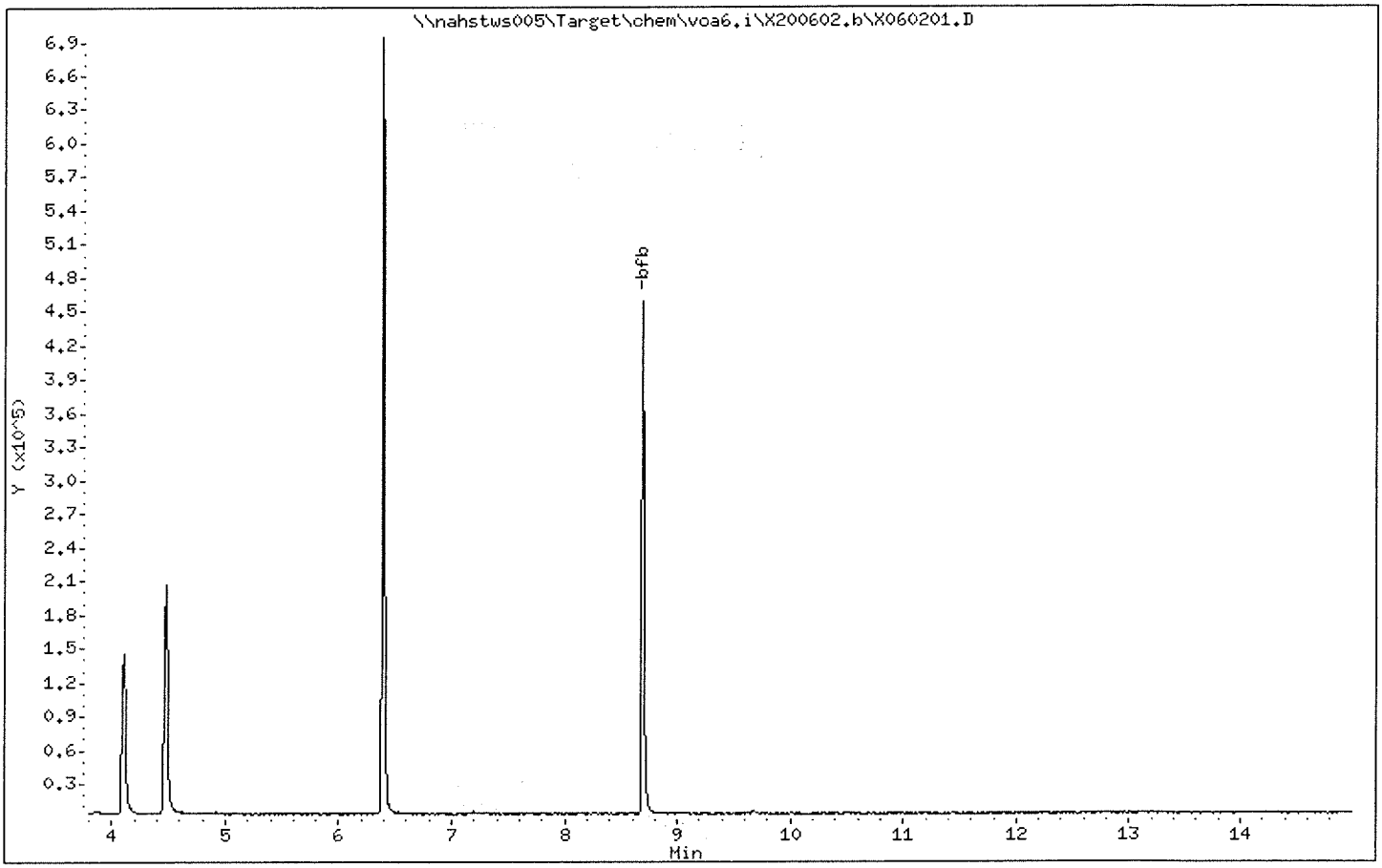
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060201.D

Date : 02-JUN-2020 10:34

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

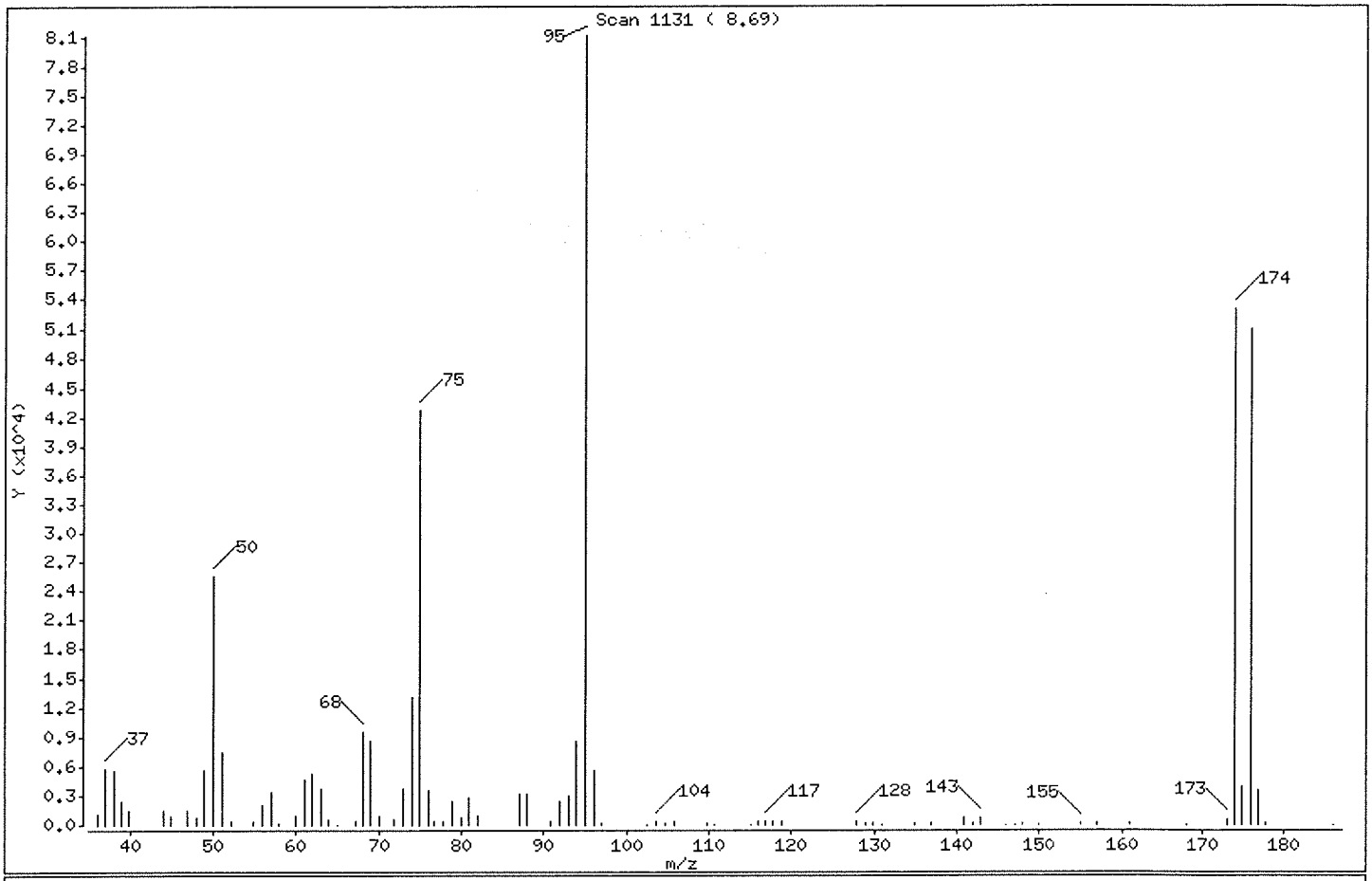
Volume Injected (uL): 2.0

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	31.41
75	30.00 - 60.00% of mass 95	52.59
96	5.00 - 9.00% of mass 95	6.83
173	Less than 2.00% of mass 174	0.62 (0.96)
174	Greater than 50.00% of mass 95	65.27
175	5.00 - 9.00% of mass 174	4.93 (7.56)
176	95.00 - 101.00% of mass 174	62.81 (96.24)
177	5.00 - 9.00% of mass 176	4.41 (7.02)

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060201.D

Date : 02-JUN-2020 10:34

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: X060201.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 82

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1204	64.00	494	93.00	2906	136.90	226
37.00	5795	64.90	84	94.00	8649	140.90	749
38.00	5623	67.10	299	95.00	81128	141.90	202
39.00	2483	68.00	9453	96.00	5544	142.90	801
39.90	1554	69.00	8549	96.90	171	145.90	74
44.00	1476	70.00	887	102.60	58	147.00	56
44.90	895	71.90	567	103.70	405	147.90	197
46.90	1541	73.00	3811	104.70	144	149.90	77
48.00	726	74.00	13073	105.80	305	155.00	144
49.00	5609	75.00	42664	109.80	115	156.90	133
50.00	25480	76.00	3481	110.70	59	160.90	117
51.00	7458	76.80	436	115.10	71	168.00	54
52.10	455	77.90	294	116.00	321	173.00	507
54.90	327	78.90	2436	116.90	449	173.90	52952
56.00	1989	79.90	799	117.80	402	174.90	4001
57.00	3275	80.90	2785	118.90	369	175.90	50960
57.90	140	81.90	848	127.80	305	176.90	3575
60.00	882	87.00	3172	129.00	95	177.80	95
61.00	4747	88.00	3157	129.80	219	186.00	83
62.00	5275	90.90	330	131.00	84		
63.00	3699	92.00	2427	135.00	190		

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060202.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 02-JUN-2020 10:58
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 10:58 Cal File: X060202.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

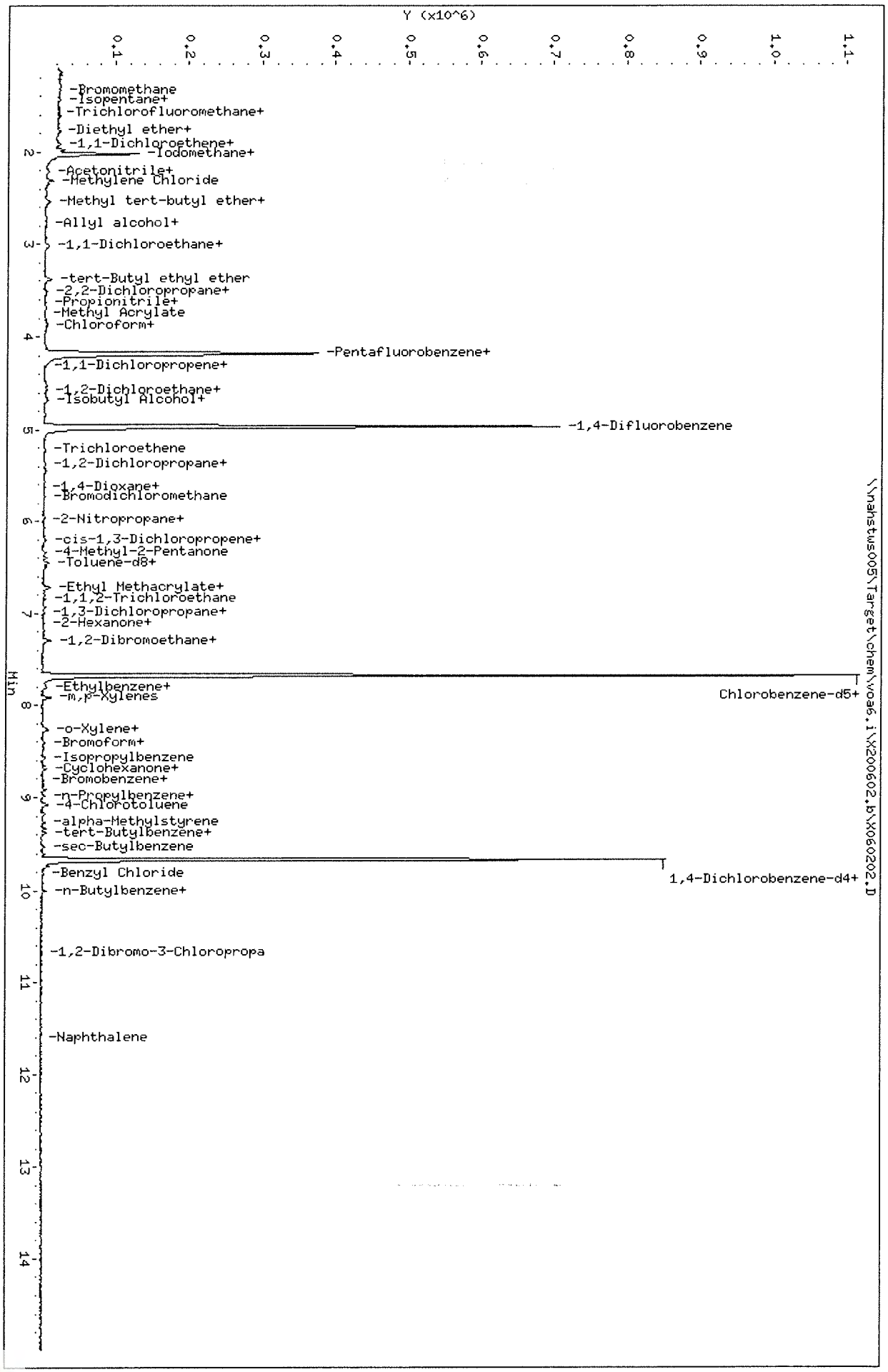
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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	4.182	(1.000)	280532	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	498111	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	441520	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	179367	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	826	0.25000	(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.070)	1505	0.25000	(Ta)
$ 48 Toluene-d8	98	6.396	6.388	(0.834)	3214	0.25000	0.27(Ta)
$ 69 4-Bromofluorobenzene	95	8.702	8.695	(1.134)	1961	0.25000	(aM)
60 1,1,1,2-Tetrachloroethane	131	7.785	7.778	(1.015)	841	0.25000	0.26(aM)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	1436	0.25000	0.26(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	993	0.25000	0.27(aM)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	758	0.25000	0.26(a)
22 1,1-Dichloroethane	63	2.929	2.921	(0.699)	2709	0.25000	0.31(Ta)
11 1,1-Dichloroethene	96	1.919	1.911	(0.458)	817	0.25000	0.28(a)
32 1,1-Dichloropropene	75	4.304	4.282	(0.866)	1213	0.25000	0.25(a)
71 1,2,3-Trichloropropane	75	8.874	8.867	(0.918)	1066	0.25000	0.32(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	2654	0.25000	0.25(a)
89 1,2-Dibromo-3-Chloropropane	155	10.672	10.658	(1.104)	42	0.25000	0.77(aM)
57 1,2-Dibromoethane	107	7.269	7.262	(0.948)	787	0.25000	0.23(a)
88 1,2-Dichlorobenzene	146	10.006	9.999	(1.035)	1378	0.25000	0.28(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	1760	0.25000	0.26(a)
42 1,2-Dichloropropane	63	5.450	5.443	(1.097)	943	0.25000	0.20(aM)
75 1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	2581	0.25000	0.24(a)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
83	1,3-Dichlorobenzene	146	9.619	9.612	(0.995)	1249	0.25000	0.22(a)
54	1,3-Dichloropropane	76	6.990	6.983	(0.911)	1765	0.25000	0.29(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	1625	0.25000	0.28(a)
26	2,2-Dichloropropane	77	3.530	3.516	(0.843)	1397	0.25000	0.24(aM)
24	2-Butanone	43	3.623	3.580	(0.865)	2127	0.50000	0.68(aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	2911	0.25000	0.30(a)
52	2-Hexanone	43	7.105	7.090	(0.926)	2439	0.50000	0.54(a)
77	4-Chlorotoluene	91	9.082	9.075	(0.939)	3023	0.25000	0.27(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	2331	0.25000	0.24(a)
45	4-Methyl-2-Pentanone	43	6.338	6.331	(0.826)	3938	0.50000	0.59(a)
10	Acetone	43	1.969	1.976	(0.470)	3073	0.50000	(aM)
37	Benzene	78	4.519	4.519	(0.909)	4283	0.25000	0.30(a)
74	Bromobenzene	156	8.817	8.809	(0.912)	795	0.25000	0.22(a)
29	Bromochloromethane	128	3.803	3.803	(0.908)	477	0.25000	0.24(aM)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	1068	0.25000	0.20(aM)
66	Bromoform	173	8.423	8.416	(1.098)	357	0.25000	0.16(aM)
6	Bromomethane	94	1.338	1.331	(0.320)	981	0.25000	(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.494)	4695	0.50000	0.50(a)
34	Carbon Tetrachloride	117	4.261	4.268	(0.857)	1366	0.25000	0.30(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	2267	0.25000	0.26(a)
7	Chloroethane	64	1.403	1.396	(0.335)	1023	0.25000	0.34(aM)
28	Chloroform	83	3.924	3.910	(0.937)	1694	0.25000	0.24(a)
3	Chloromethane	50	1.081	1.081	(0.258)	1823	0.25000	0.26(aM)
27	cis-1,2-Dichloroethene	96	3.545	3.530	(0.846)	1066	0.25000	0.26(aM)
46	cis-1,3-Dichloropropene	75	6.166	6.159	(1.241)	1521	0.25000	0.25(aM)
55	Dibromochloromethane	129	7.184	7.183	(0.937)	872	0.25000	0.24(a)
44	Dibromomethane	93	5.565	5.557	(1.120)	564	0.25000	0.22(aM)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	833	0.25000	0.24(aM)
61	Ethylbenzene	106	7.807	7.807	(1.018)	1219	0.25000	0.27(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	3182	0.25000	0.23(a)
62	m,p-Xylenes	106	7.914	7.907	(1.032)	2709	0.50000	0.50(a)
17	Methylene Chloride	84	2.305	2.305	(0.550)	2245	0.25000	(a)
87	n-Butylbenzene	91	10.006	9.999	(1.035)	1884	0.25000	0.22(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	3424	0.25000	0.22(a)
92	Naphthalene	128	11.603	11.546	(1.200)	172	0.25000	0.76(aM)
63	o-Xylene	106	8.244	8.244	(1.075)	1377	0.25000	0.25(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	2873	0.25000	0.24(a)
64	Styrene	104	8.272	8.265	(1.078)	2203	0.25000	0.23(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	2170	0.25000	0.26(a)
56	Tetrachloroethene	164	6.940	6.933	(0.905)	576	0.25000	0.24(aM)
50	Toluene	91	6.453	6.453	(0.841)	3752	0.25000	0.27(a)
20	trans-1,2-Dichloroethene	96	2.549	2.527	(0.608)	737	0.25000	0.22(Ta)
51	trans-1,3-Dichloropropene	75	6.696	6.682	(1.347)	1434	0.25000	0.26(aM)
38	Trichloroethene	130	5.207	5.206	(1.048)	959	0.25000	0.28(a)
8	Trichlorofluoromethane	101	1.568	1.560	(0.374)	1110	0.25000	0.21(a)
5	Vinyl Chloride	62	1.145	1.138	(0.273)	2265	0.25000	0.38(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.



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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\X200602.b\X060203.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 02-JUN-2020 11:22
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 11:22 Cal File: X060203A.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	260016	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	471106	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	426951	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	179026	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.103	(0.983)	1607	0.50000	(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.072)	2576	0.50000	(Ta)
$ 48 Toluene-d8	98	6.396	6.388	(0.834)	5934	0.50000	0.53(Ta)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2952	0.50000	(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1456	0.50000	0.47(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	2278	0.50000	0.45(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1688	0.50000	0.47(aM)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1297	0.50000	0.47(a)
22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	4290	0.50000	0.53(Ta)
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	1415	0.50000	0.53(aM)
32 1,1-Dichloropropene	75	4.290	4.282	(0.863)	2376	0.50000	0.53(a)
93 1,2,3-Trichlorobenzene	180	11.761	11.746	(1.216)	63	0.50000	1.35(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	1383	0.50000	0.41(aM)
90 1,2,4-Trichlorobenzene	180	11.367	11.338	(1.176)	265	0.50000	2.77(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	5236	0.50000	0.49(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.103)	49	0.50000	0.81(aM)
57 1,2-Dibromoethane	107	7.269	7.262	(0.948)	1690	0.50000	0.51(a)
88 1,2-Dichlorobenzene	146	10.006	9.999	(1.035)	2595	0.50000	0.54(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	3003	0.50000	0.47(a)

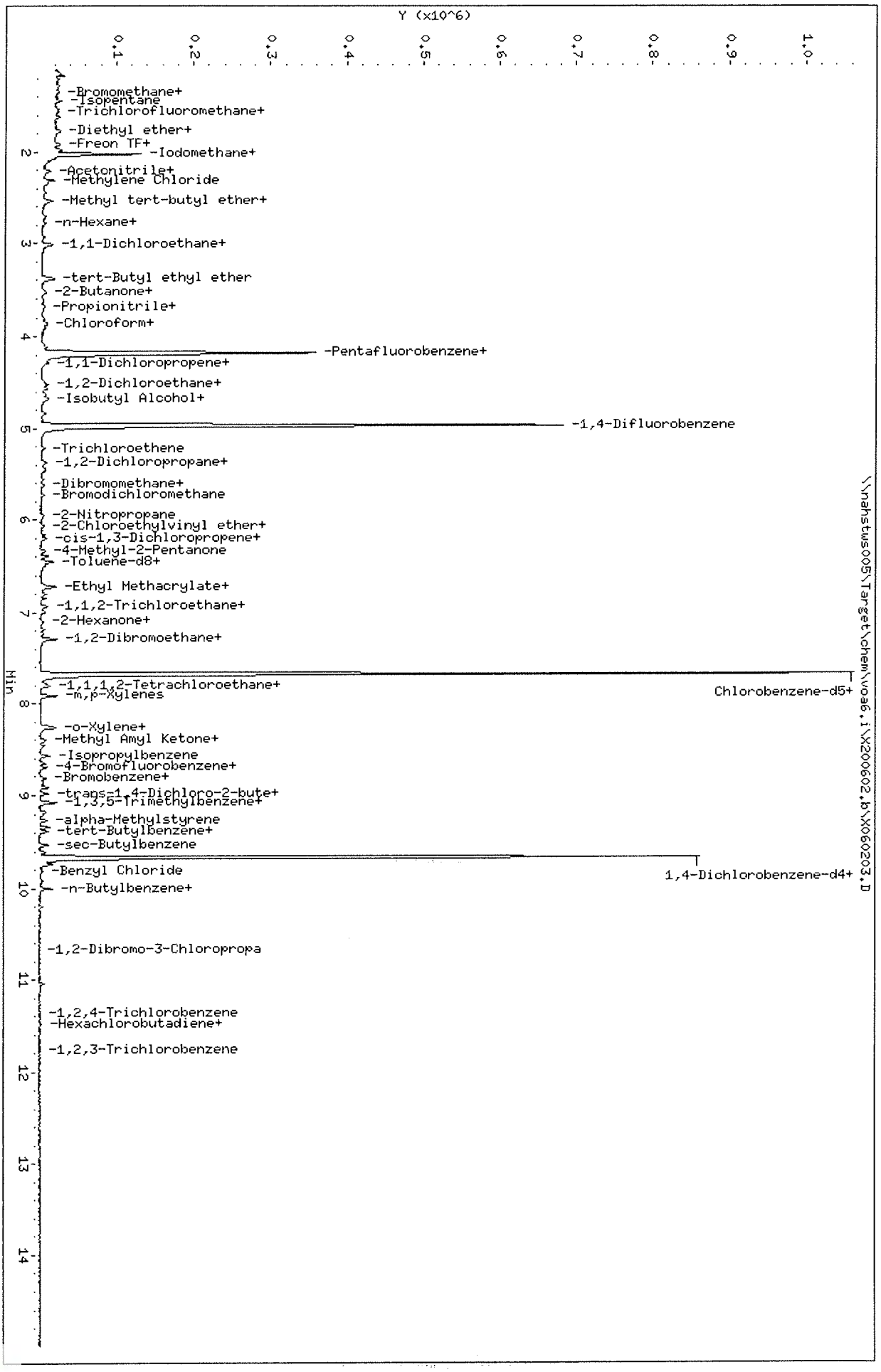
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.450	5.443	(1.097)	2062	0.50000	0.46(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	5565	0.50000	0.53(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	3199	0.50000	0.57(a)
54	1,3-Dichloropropane	76	6.990	6.983	(0.911)	2884	0.50000	0.50(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	3529	0.50000	0.62(a)
26	2,2-Dichloropropane	77	3.523	3.516	(0.842)	2905	0.50000	0.55(aM)
24	2-Butanone	43	3.602	3.580	(0.861)	3193	1.00000	1.11(a)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	5367	0.50000	0.56(a)
52	2-Hexanone	43	7.098	7.090	(0.925)	3665	1.00000	0.85(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	6344	0.50000	0.57(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	5158	0.50000	0.54(a)
45	4-Methyl-2-Pentanone	43	6.338	6.331	(0.826)	5979	1.00000	0.94(a)
10	Acetone	43	1.976	1.976	(0.473)	6053	1.00000	(aM)
37	Benzene	78	4.519	4.519	(0.909)	6748	0.50000	0.50(a)
74	Bromobenzene	156	8.817	8.809	(0.912)	1809	0.50000	0.51(a)
29	Bromochloromethane	128	3.795	3.803	(0.908)	988	0.50000	0.53(a)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	2252	0.50000	0.46(aM)
66	Bromoform	173	8.416	8.416	(1.097)	908	0.50000	0.42(aM)
6	Bromomethane	94	1.346	1.331	(0.322)	1841	0.50000	(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	8278	1.00000	0.96(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	2462	0.50000	0.57(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	4495	0.50000	0.53(a)
7	Chloroethane	64	1.403	1.396	(0.336)	1249	0.50000	0.45(a)
28	Chloroform	83	3.910	3.910	(0.935)	3051	0.50000	0.47(a)
3	Chloromethane	50	1.081	1.081	(0.258)	2879	0.50000	0.45(a)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	1663	0.50000	0.45(a)
46	cis-1,3-Dichloropropene	75	6.166	6.159	(1.241)	2508	0.50000	0.43(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	1649	0.50000	0.48(a)
44	Dibromomethane	93	5.565	5.557	(1.120)	1094	0.50000	0.45(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1297	0.50000	0.41(aM)
61	Ethylbenzene	106	7.807	7.807	(1.018)	2062	0.50000	0.47(a)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	272	0.50000	2.80(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	6903	0.50000	0.53(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	5540	1.00000	1.06(a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	2950	0.50000	(a)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	4866	0.50000	0.57(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	7653	0.50000	0.51(a)
92	Naphthalene	128	11.582	11.546	(1.198)	489	0.50000	1.14(aM)
63	o-Xylene	106	8.251	8.244	(1.076)	2583	0.50000	0.50(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	6473	0.50000	0.55(a)
64	Styrene	104	8.265	8.265	(1.078)	4881	0.50000	0.53(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	4661	0.50000	0.57(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	1030	0.50000	0.45(a)
50	Toluene	91	6.453	6.453	(0.841)	6601	0.50000	0.49(a)
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	1428	0.50000	0.46(a)
51	trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	2357	0.50000	0.45(a)
38	Trichloroethene	130	5.221	5.206	(1.050)	1631	0.50000	0.51(a)
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	2162	0.50000	0.44(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	3529	0.50000	0.64(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.



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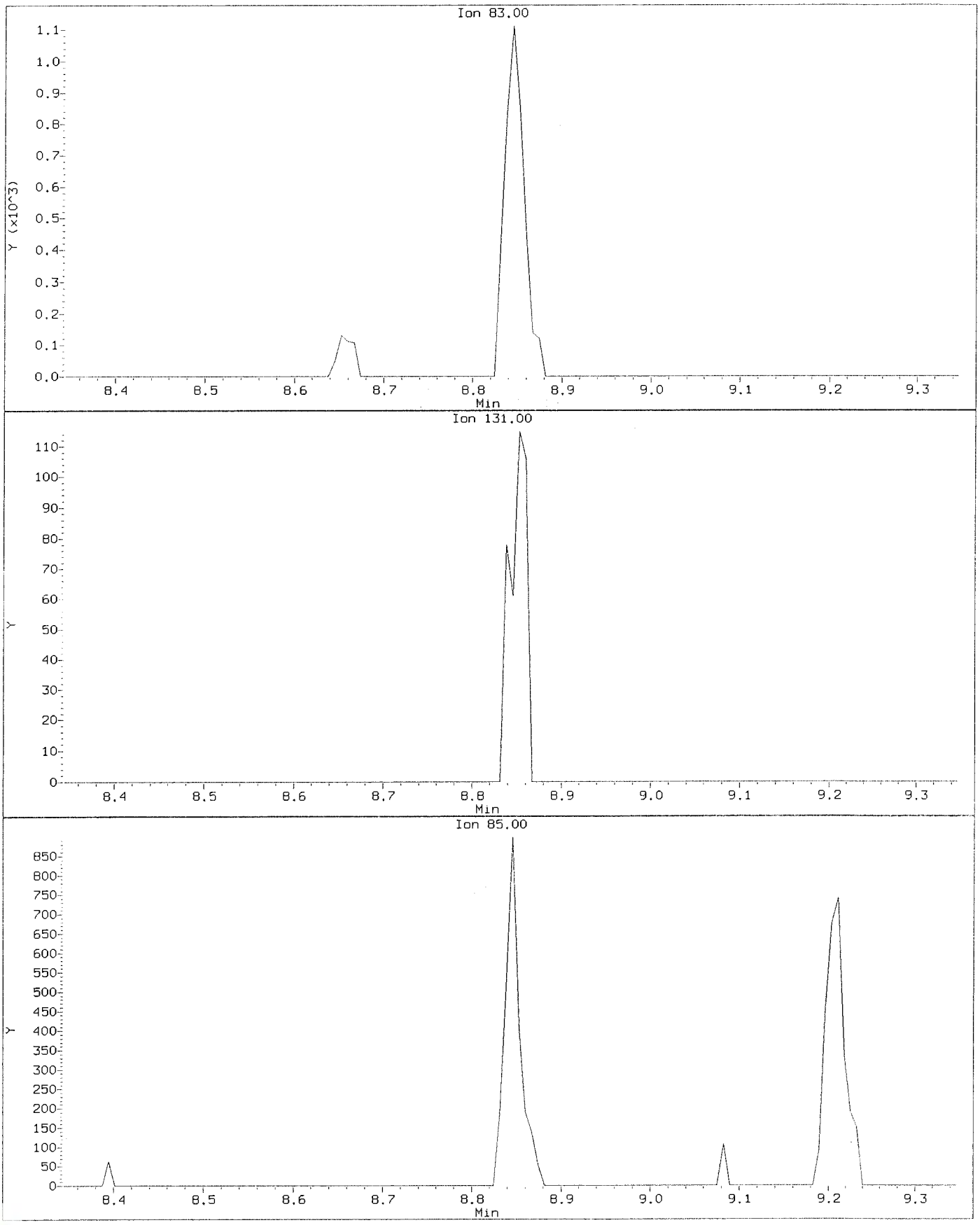
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060203.D
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



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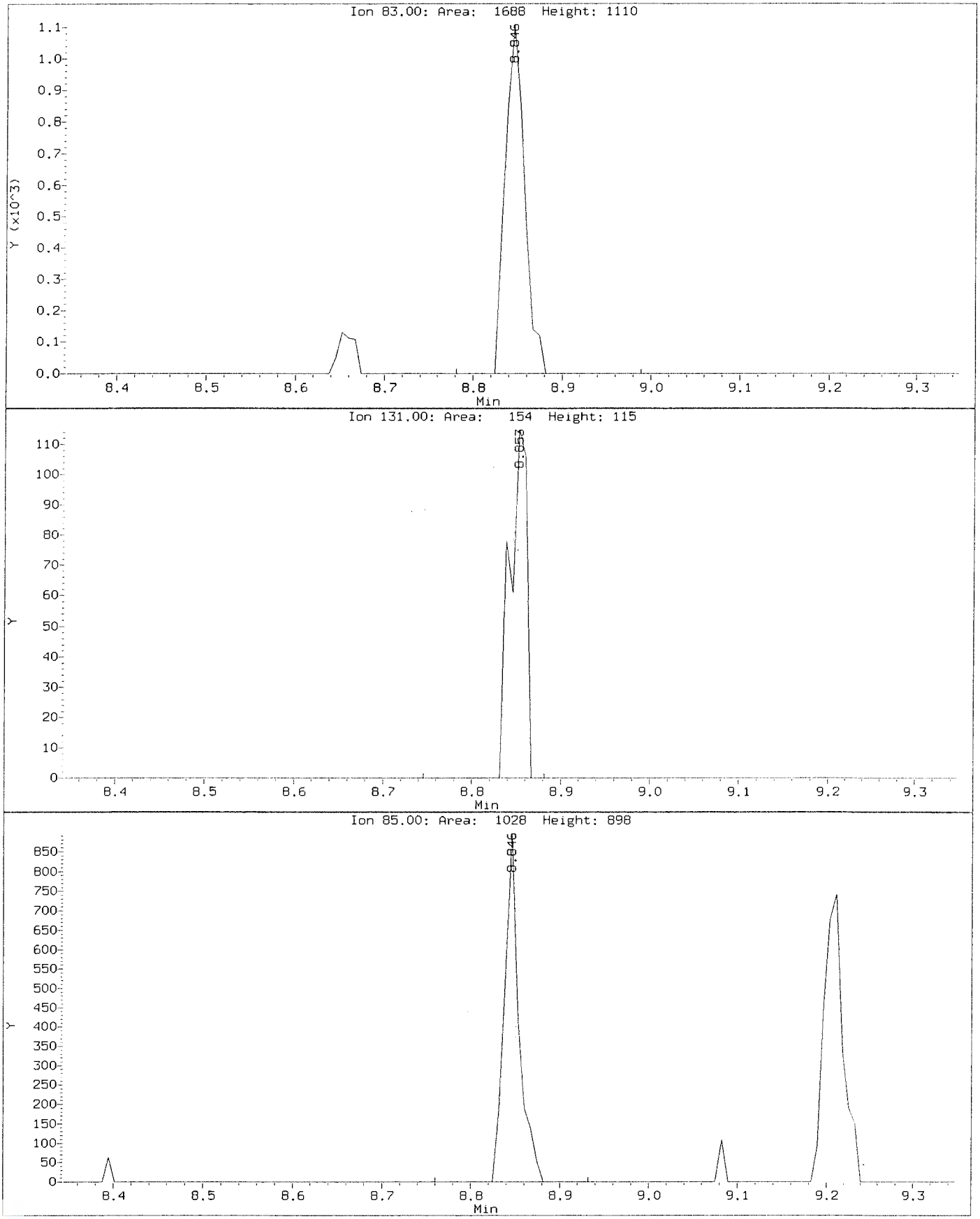
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



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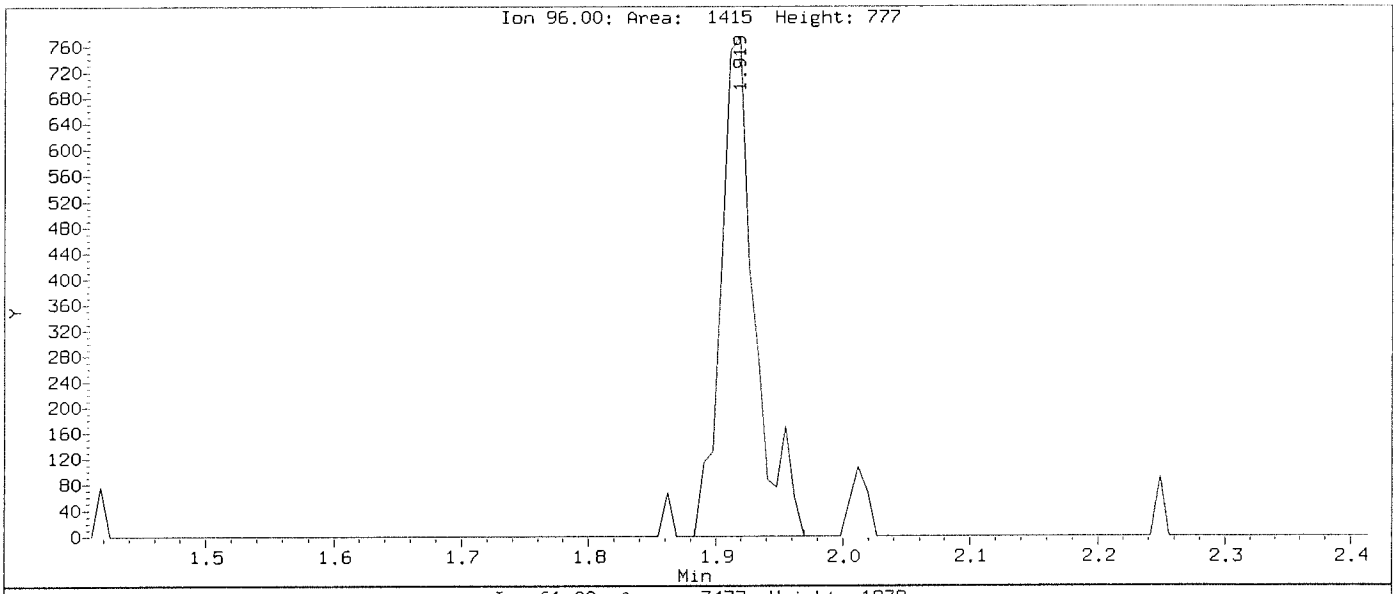
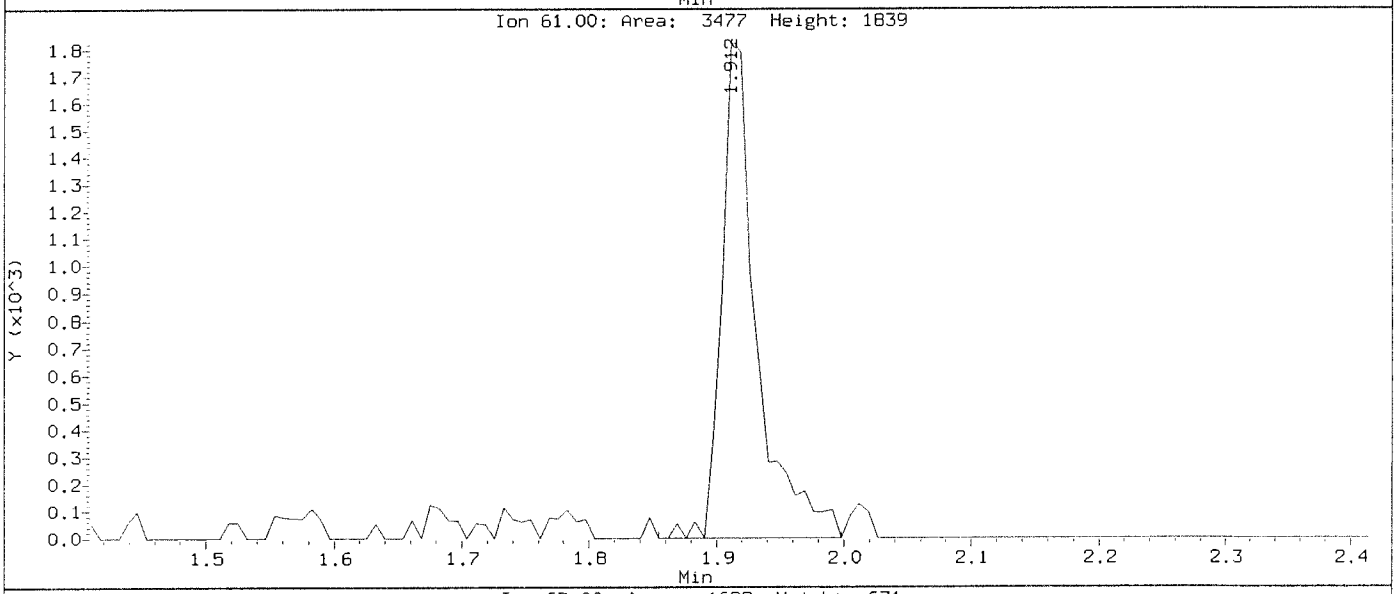
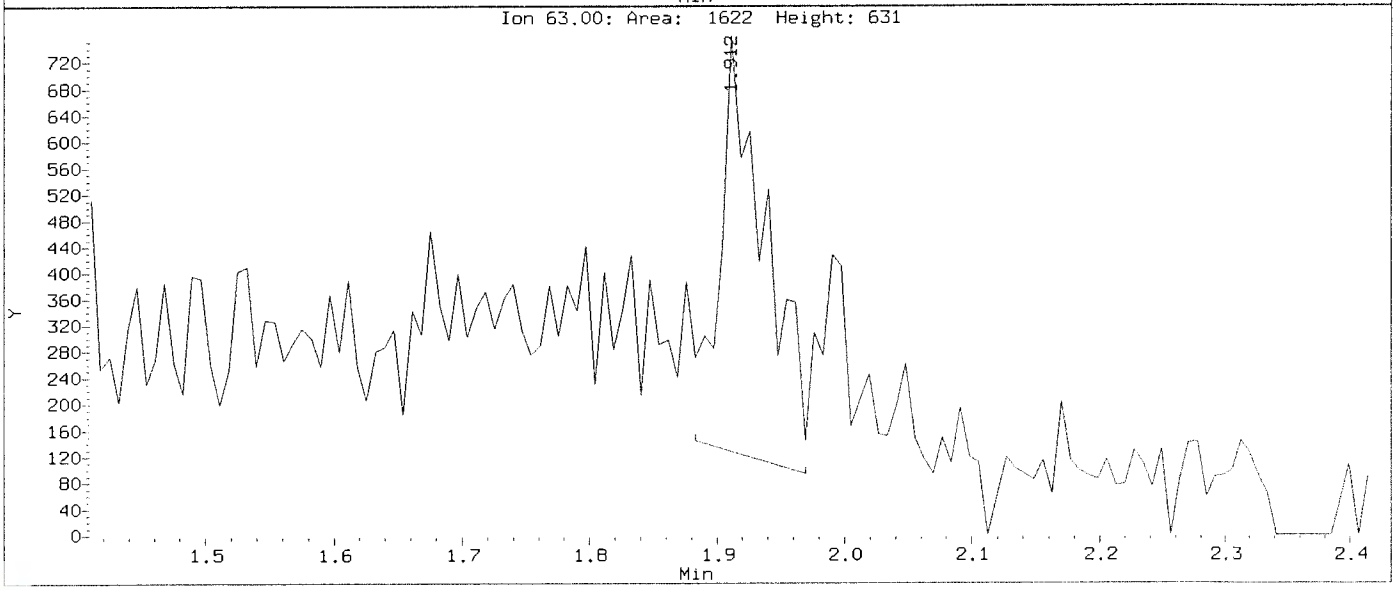
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4







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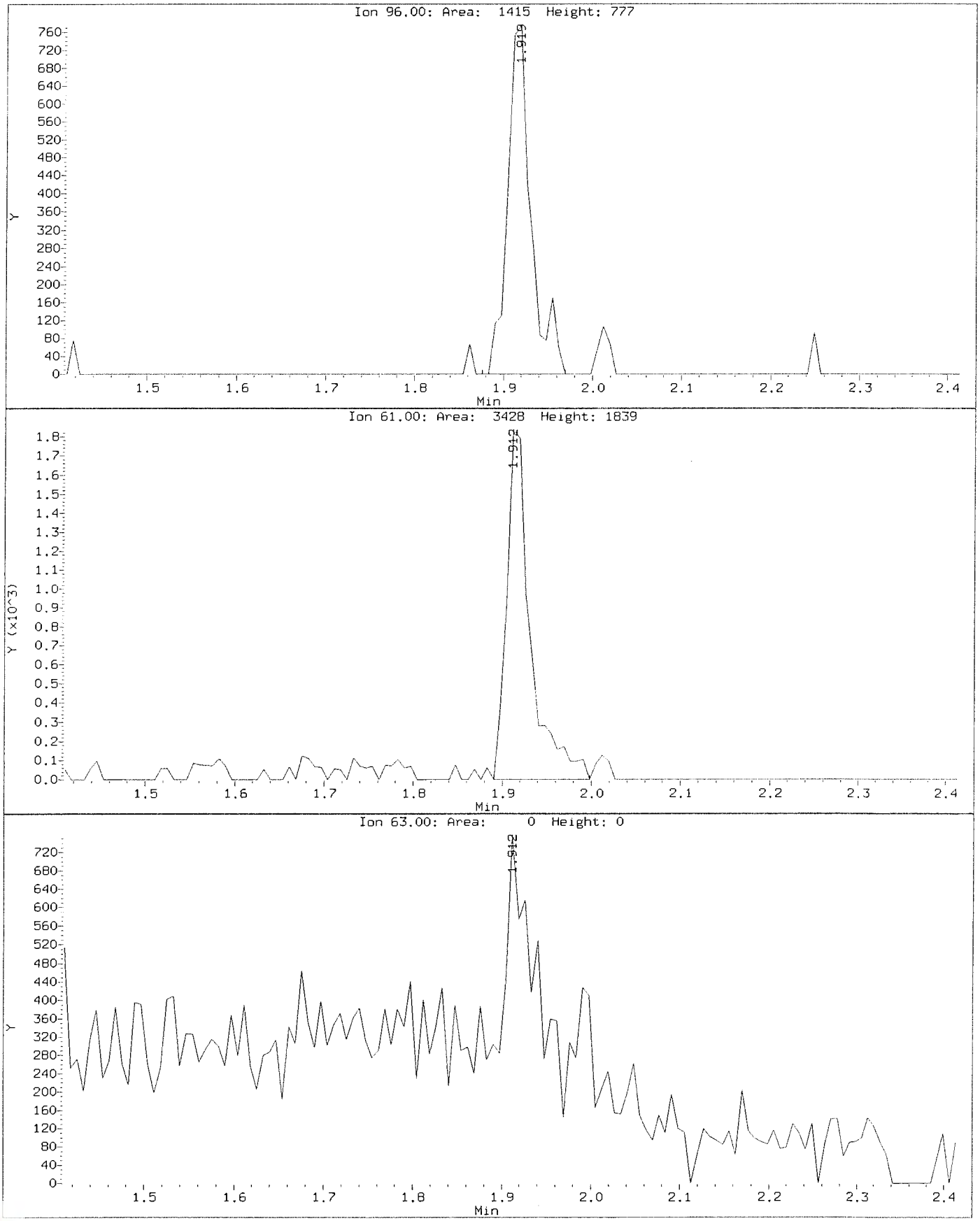
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



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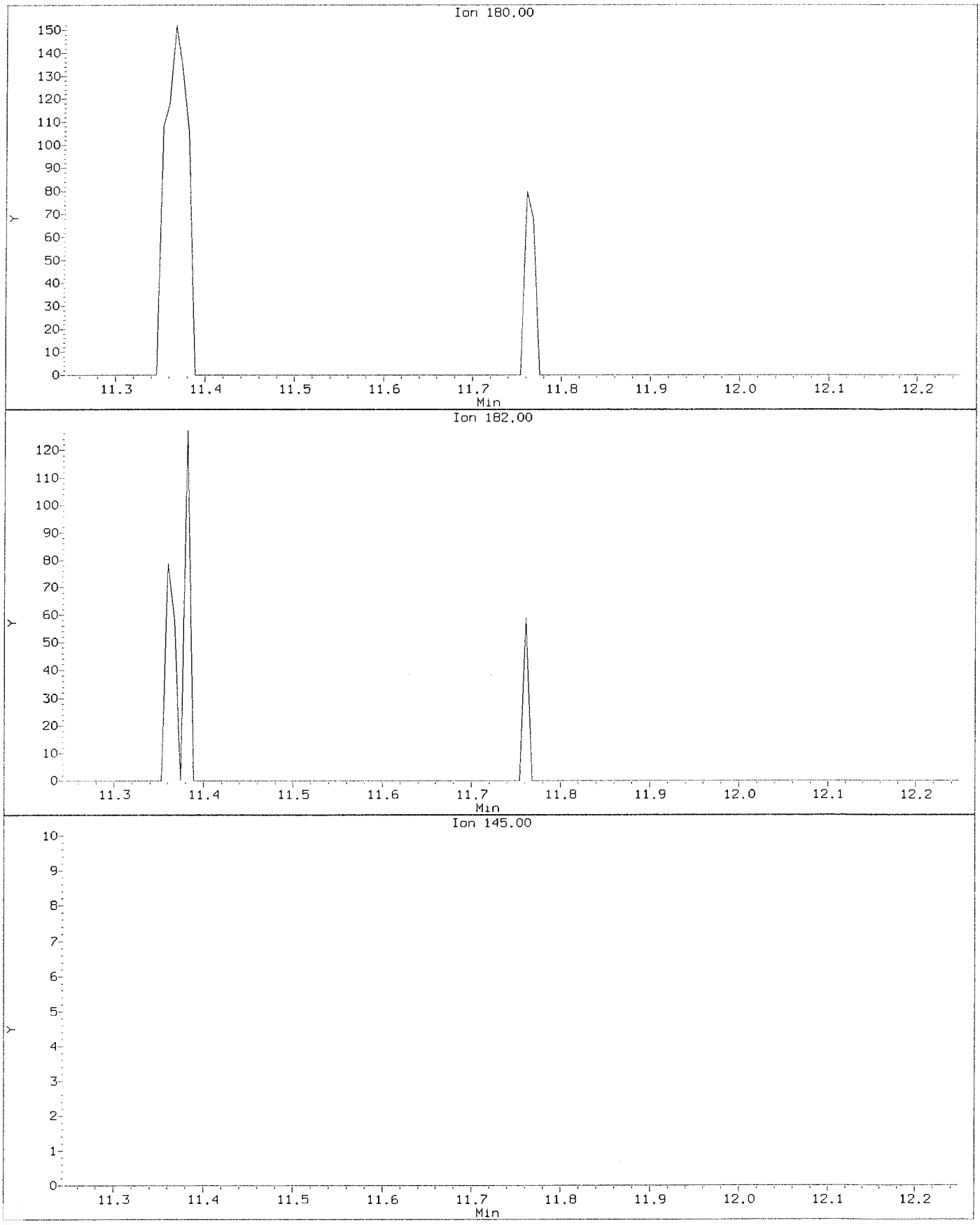
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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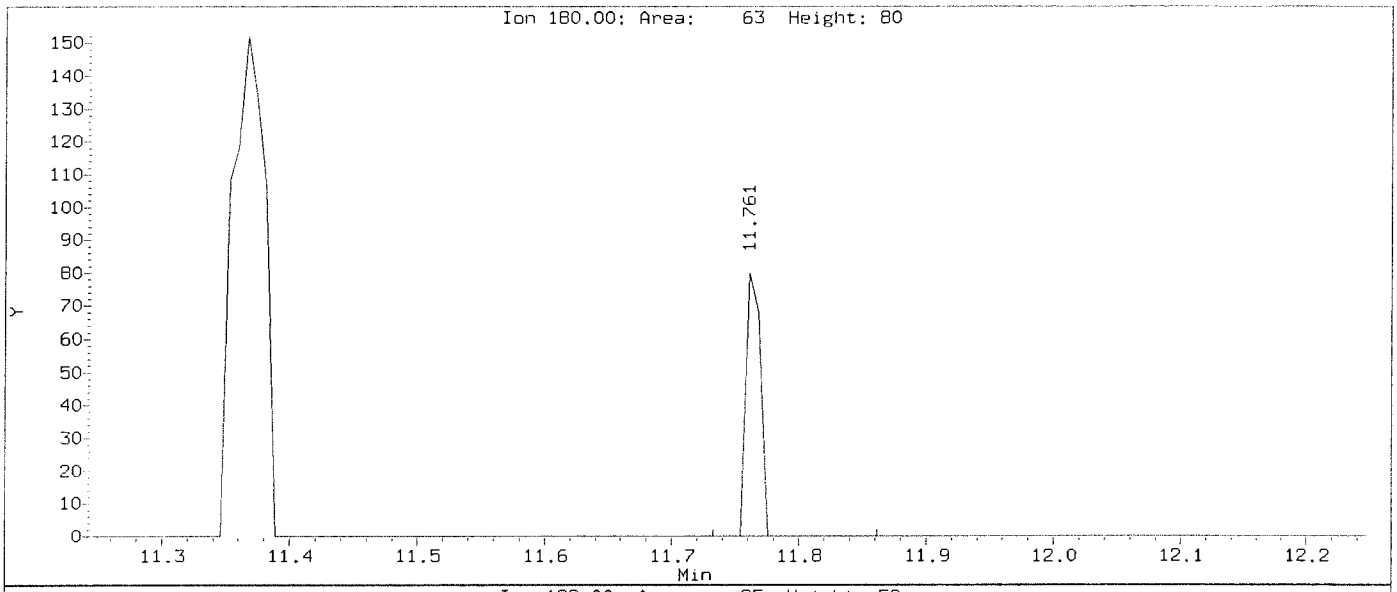
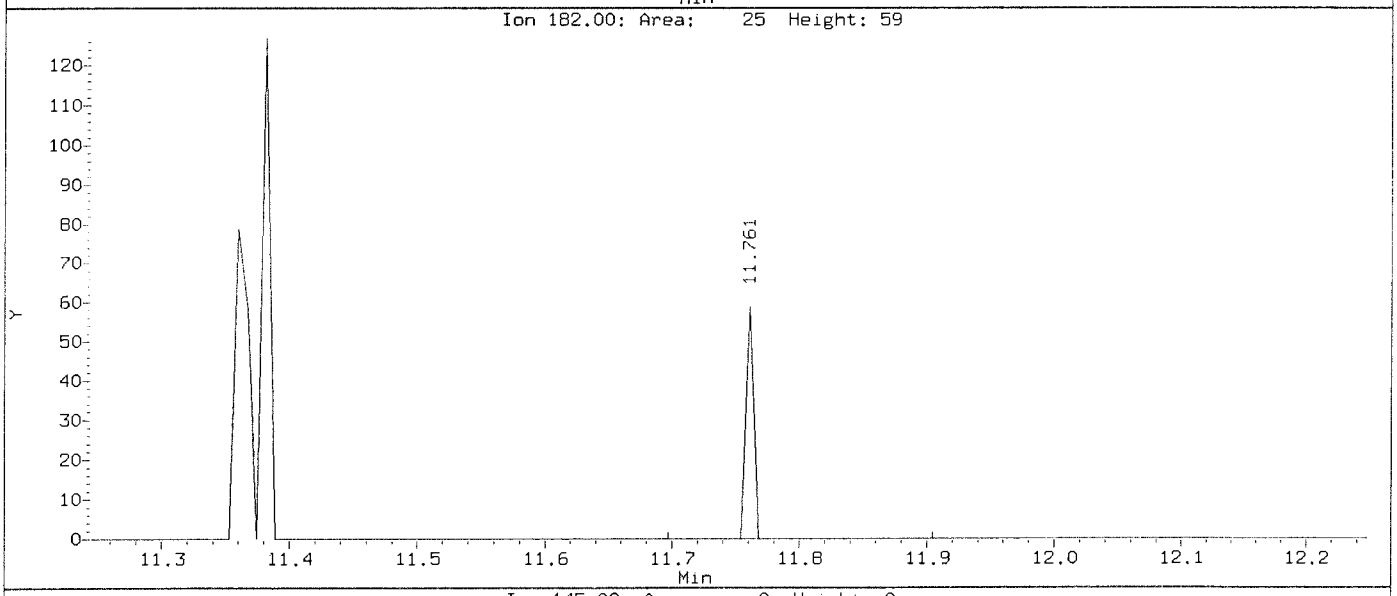
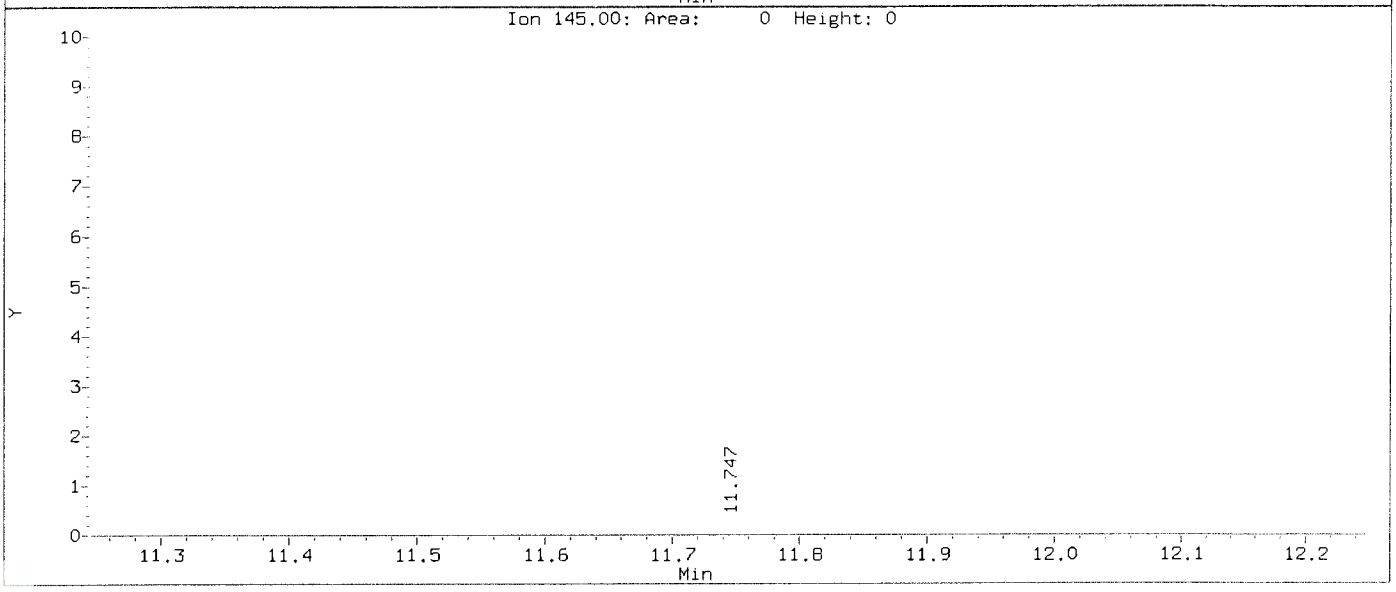
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6







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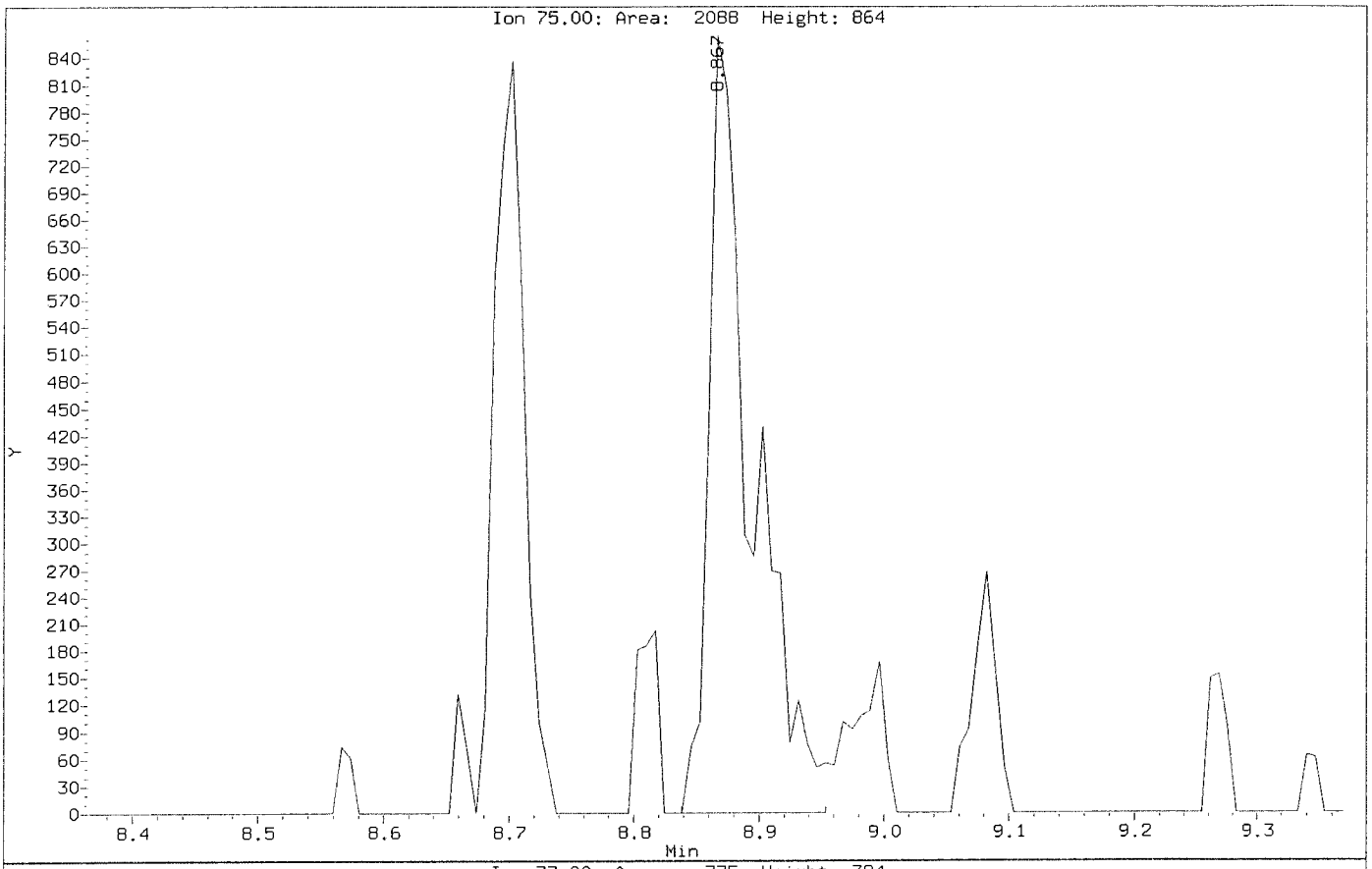
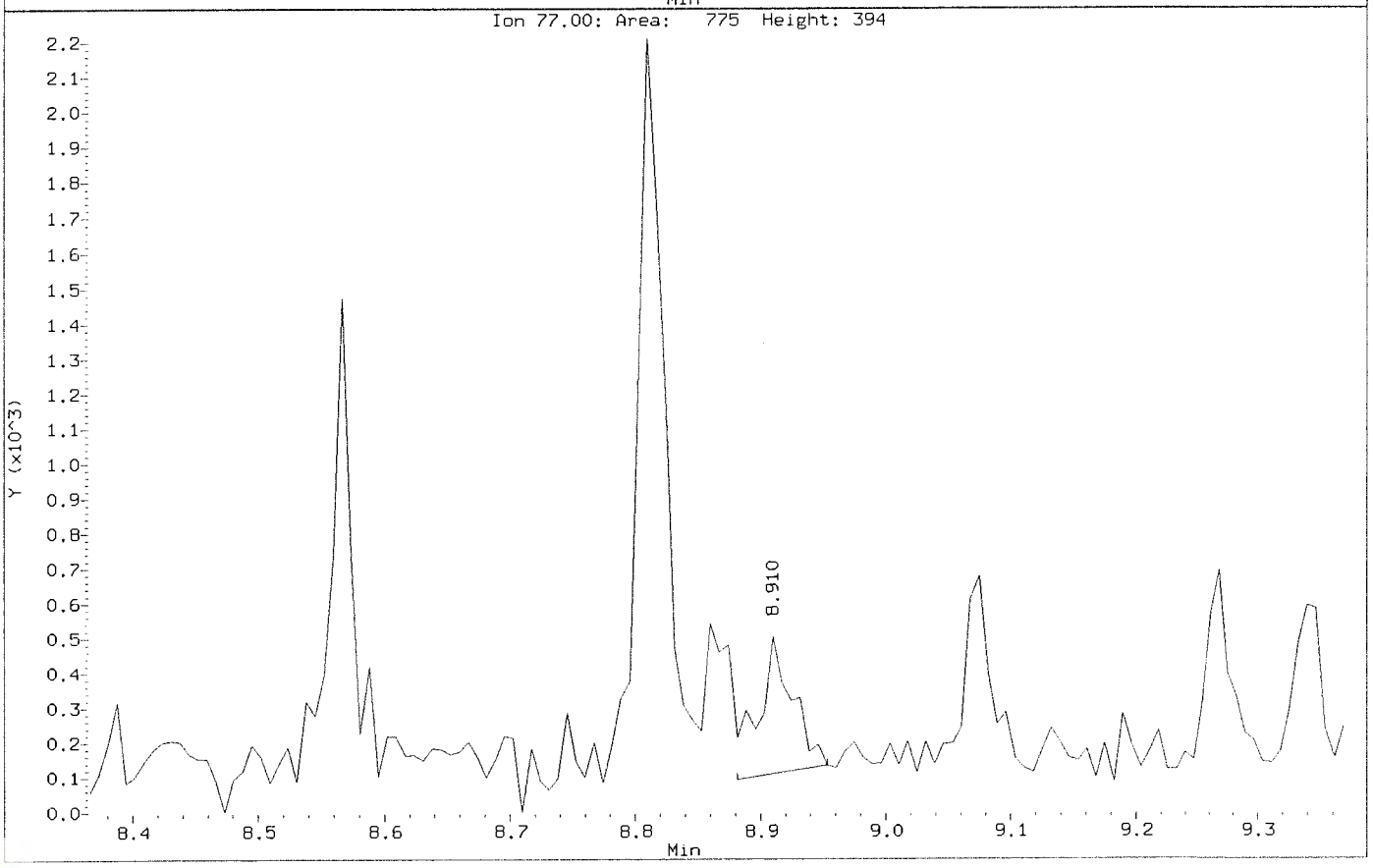
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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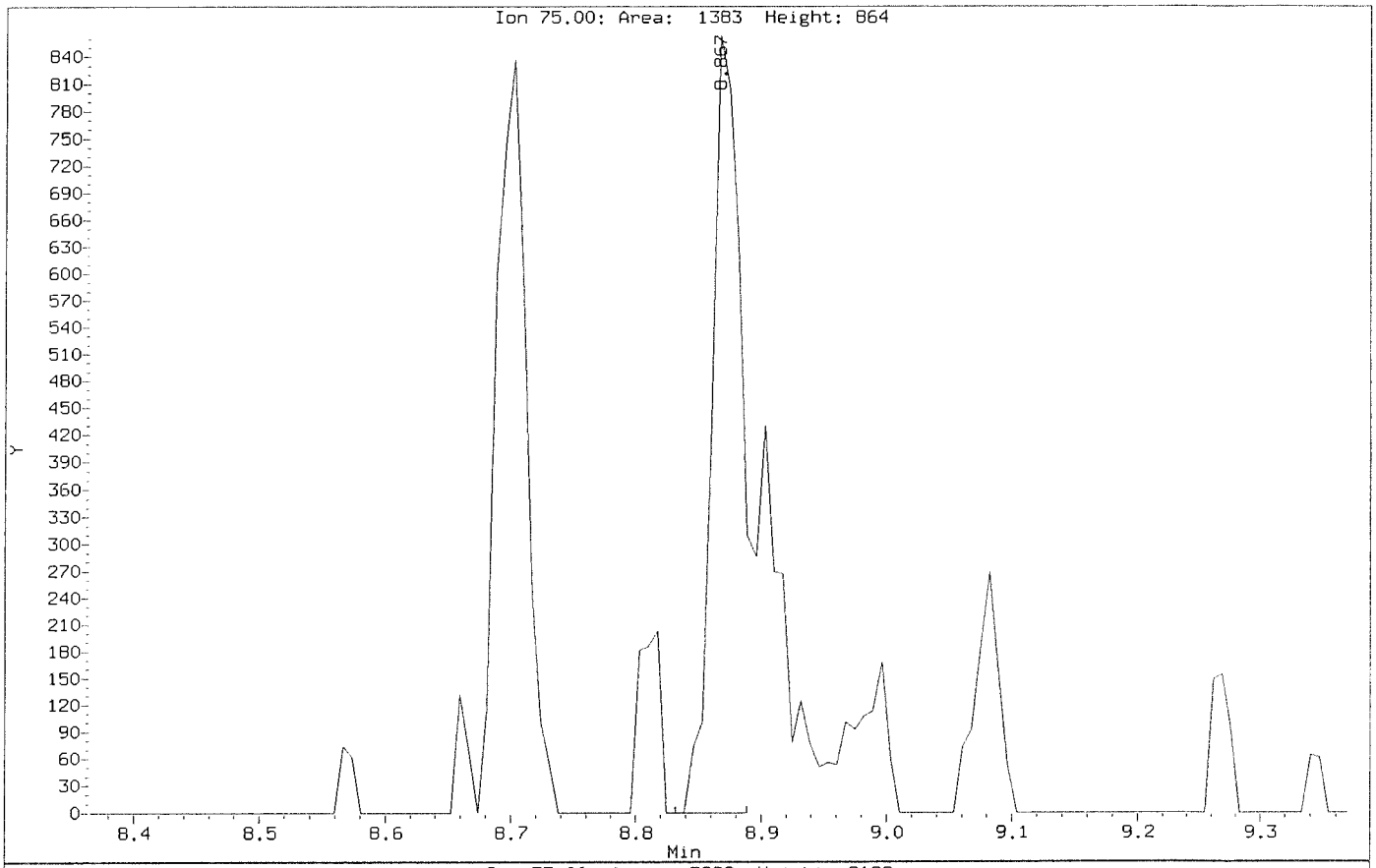
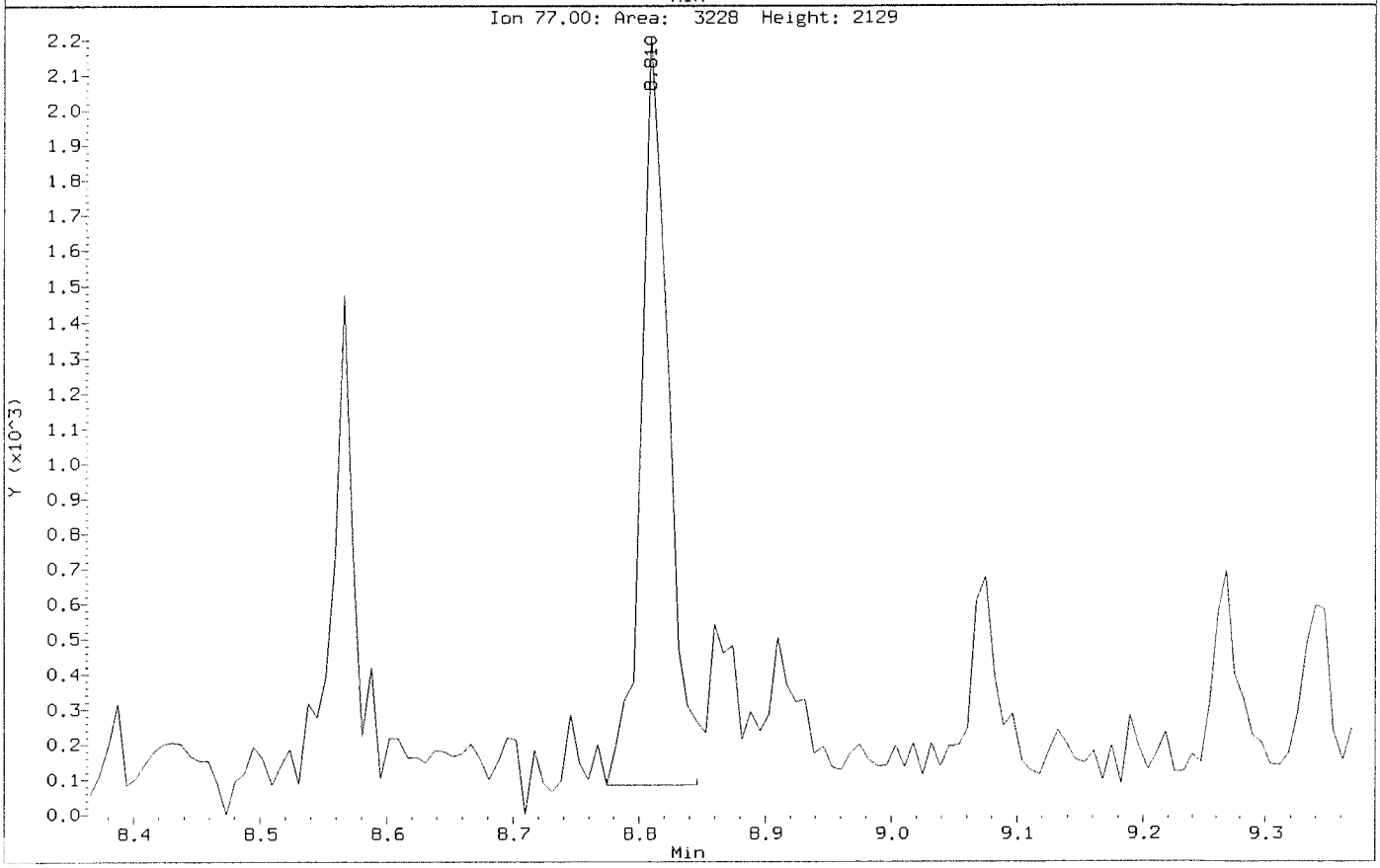
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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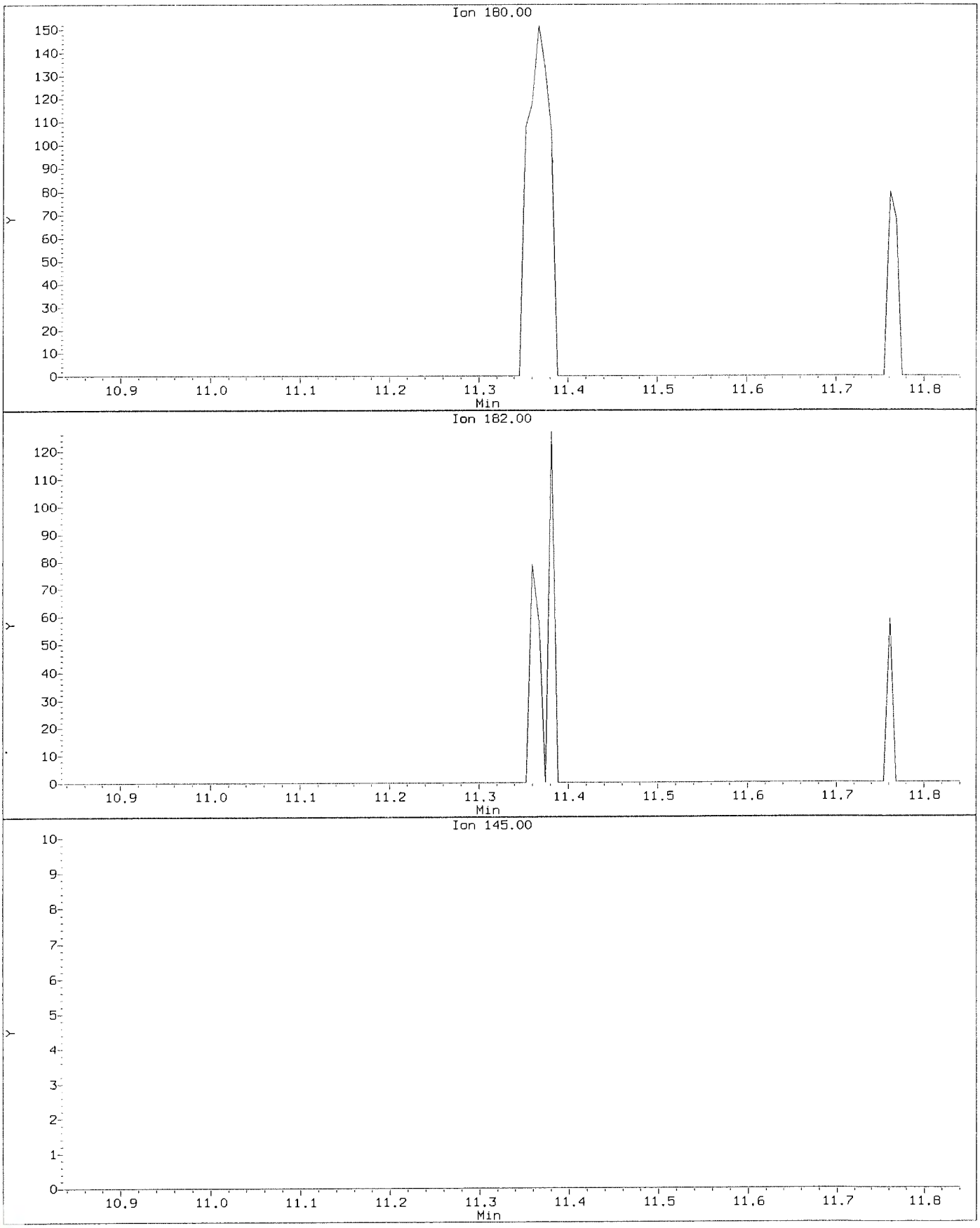
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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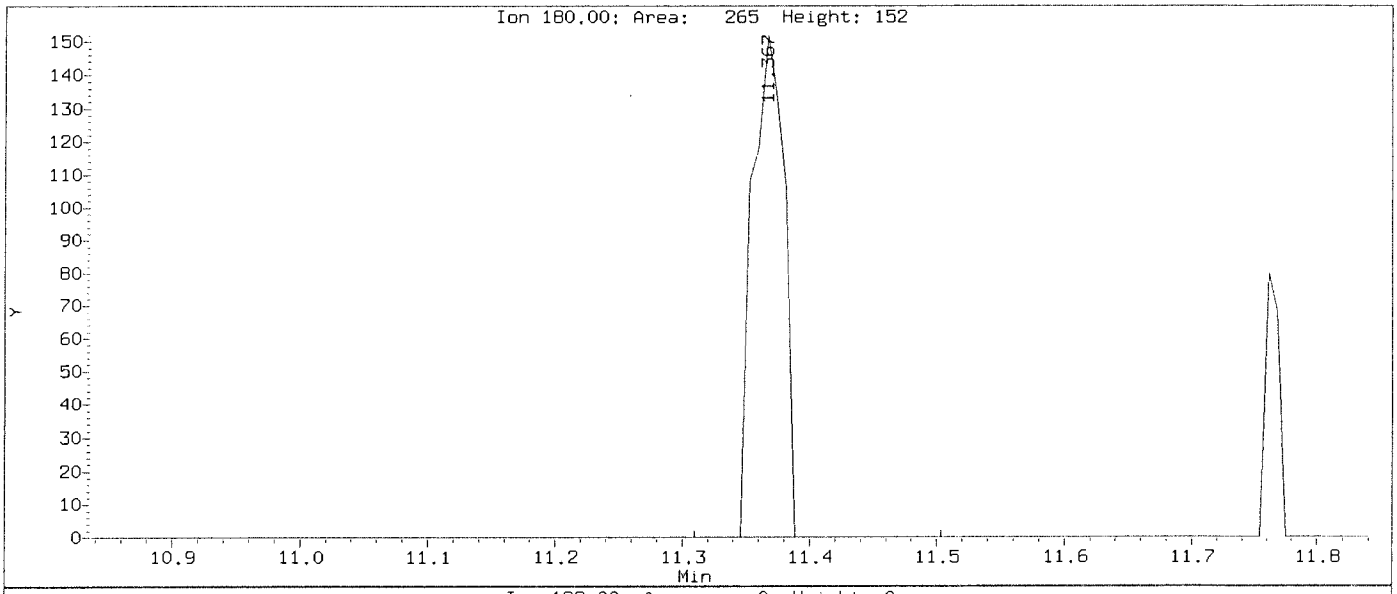
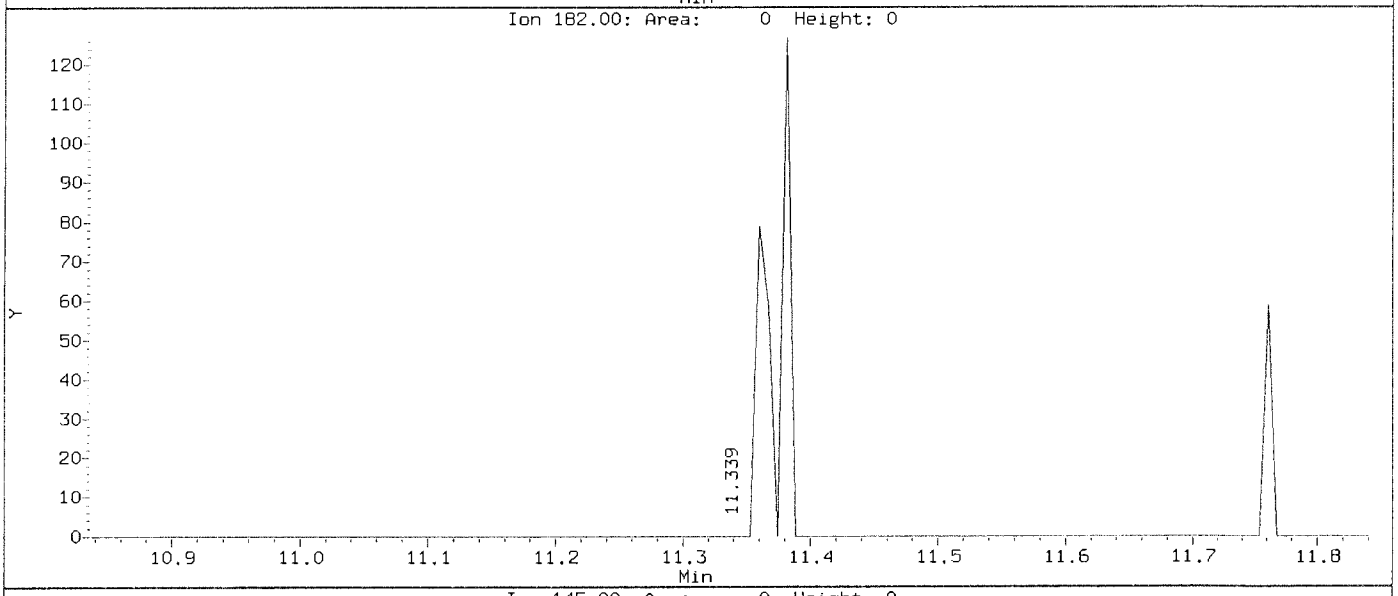
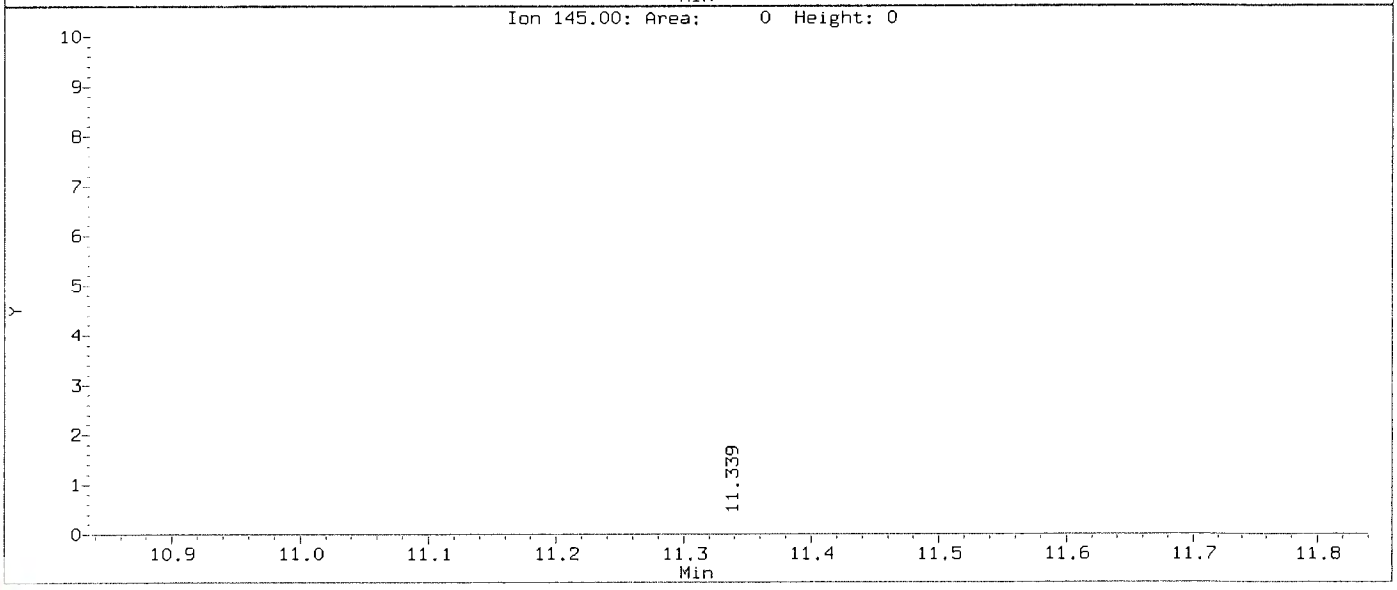
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1







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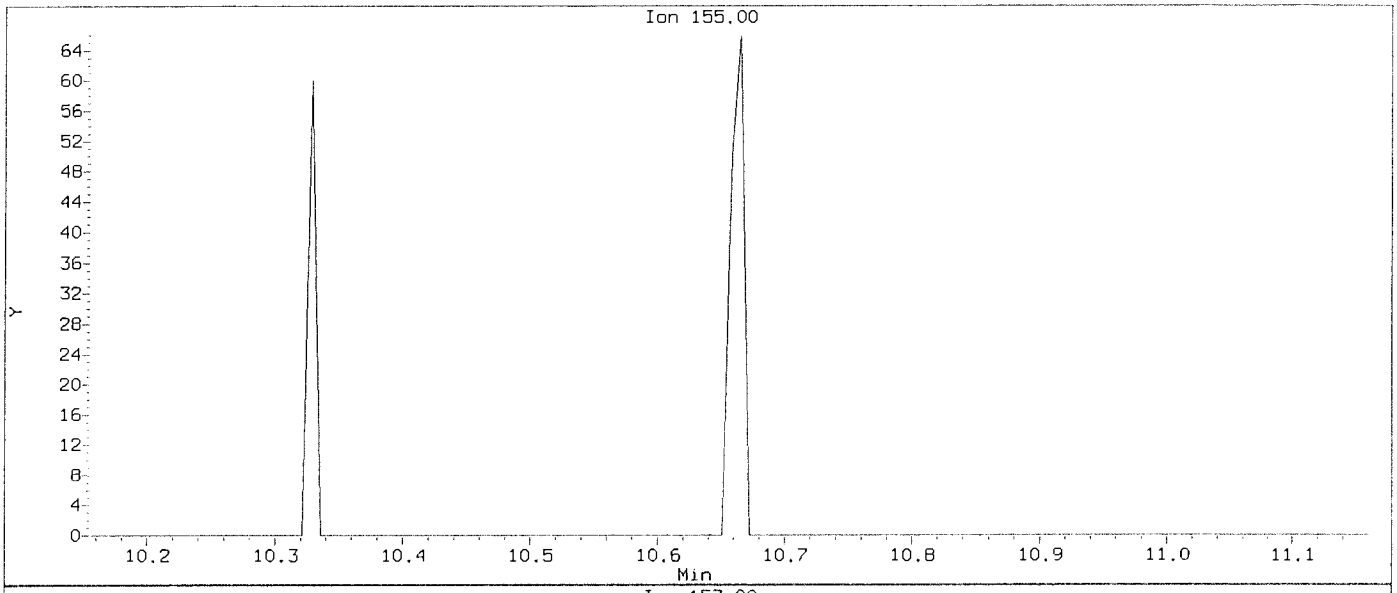
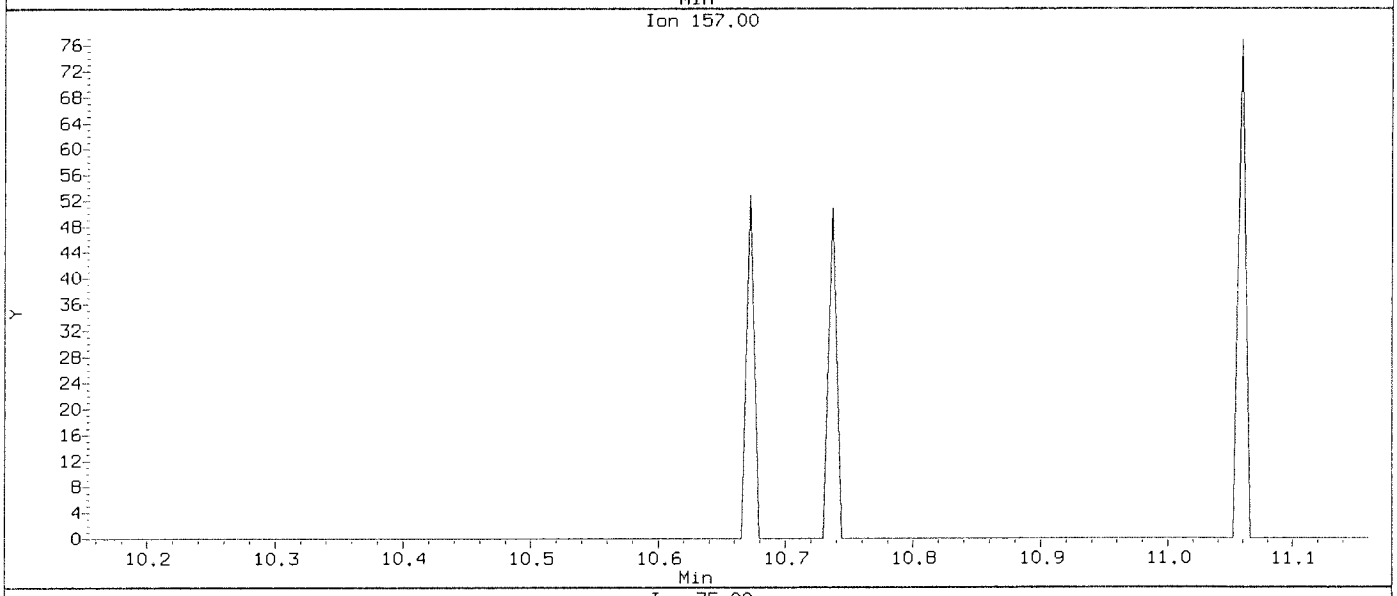
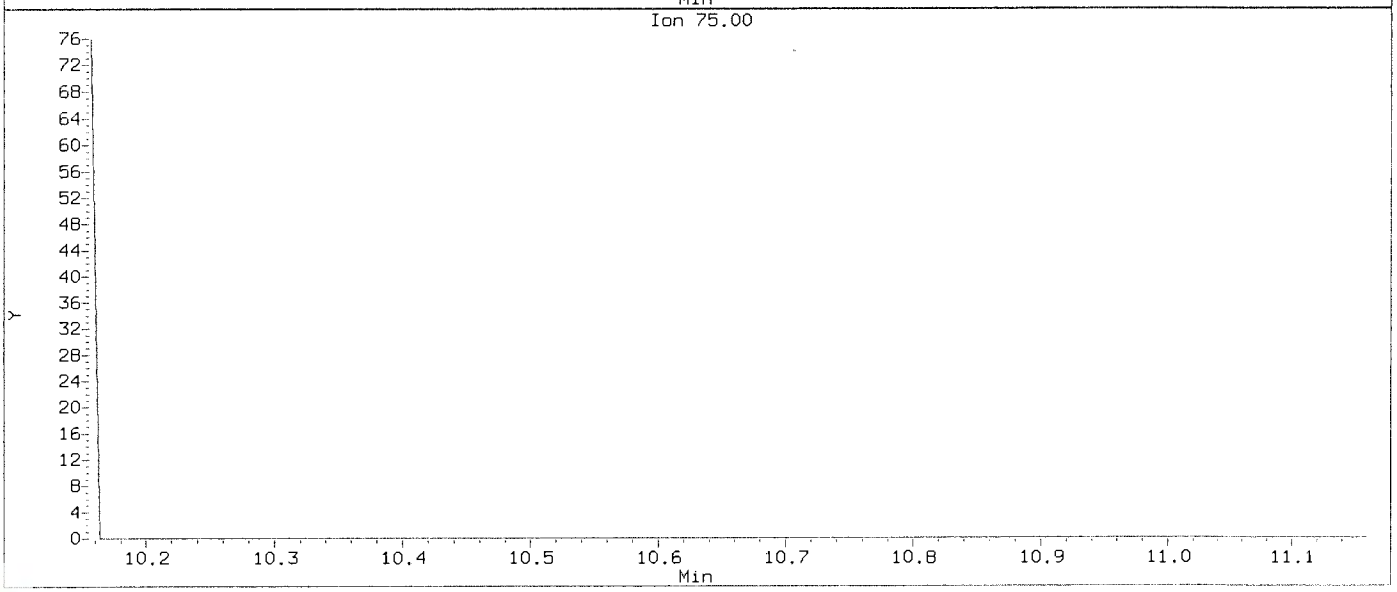
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8







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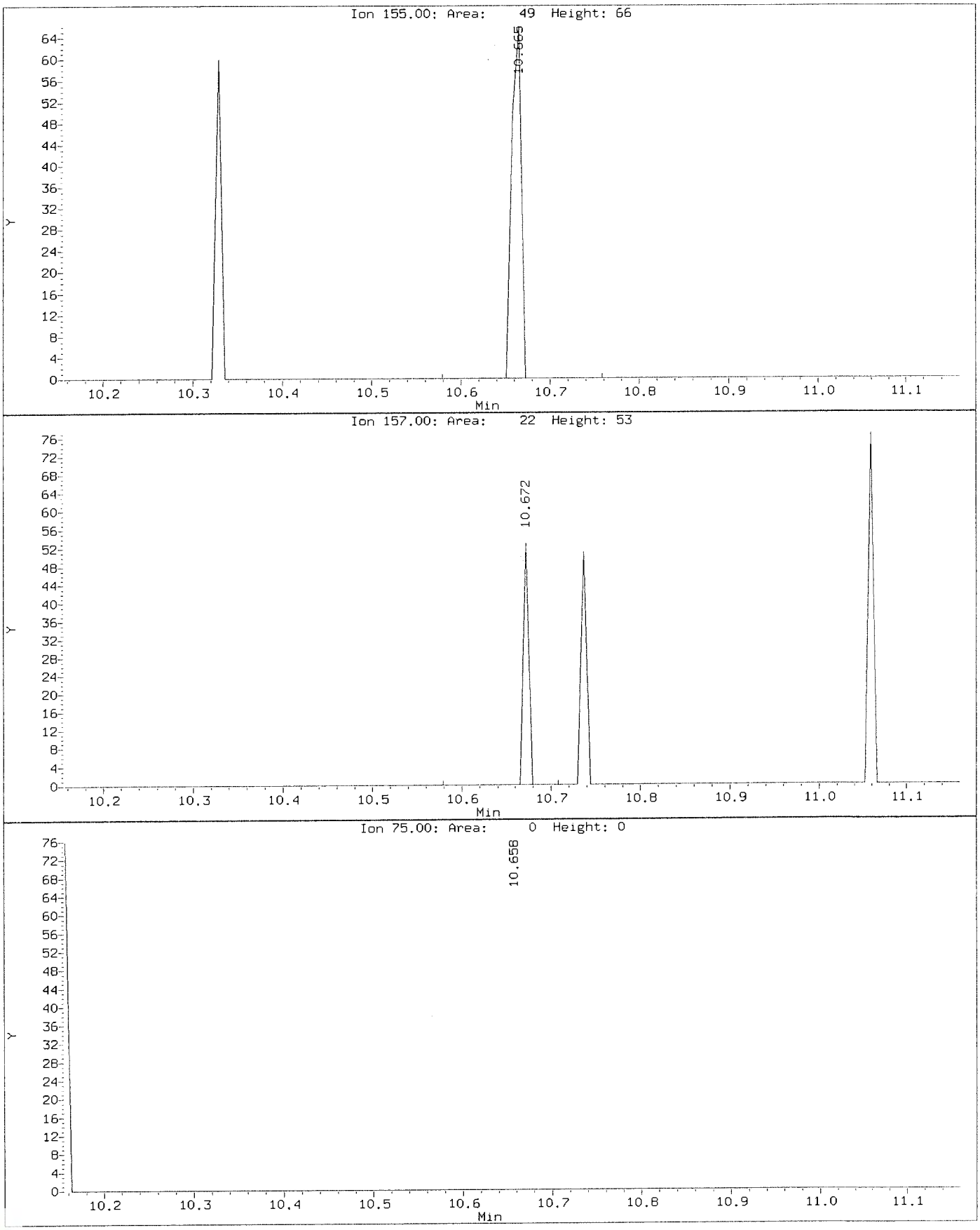
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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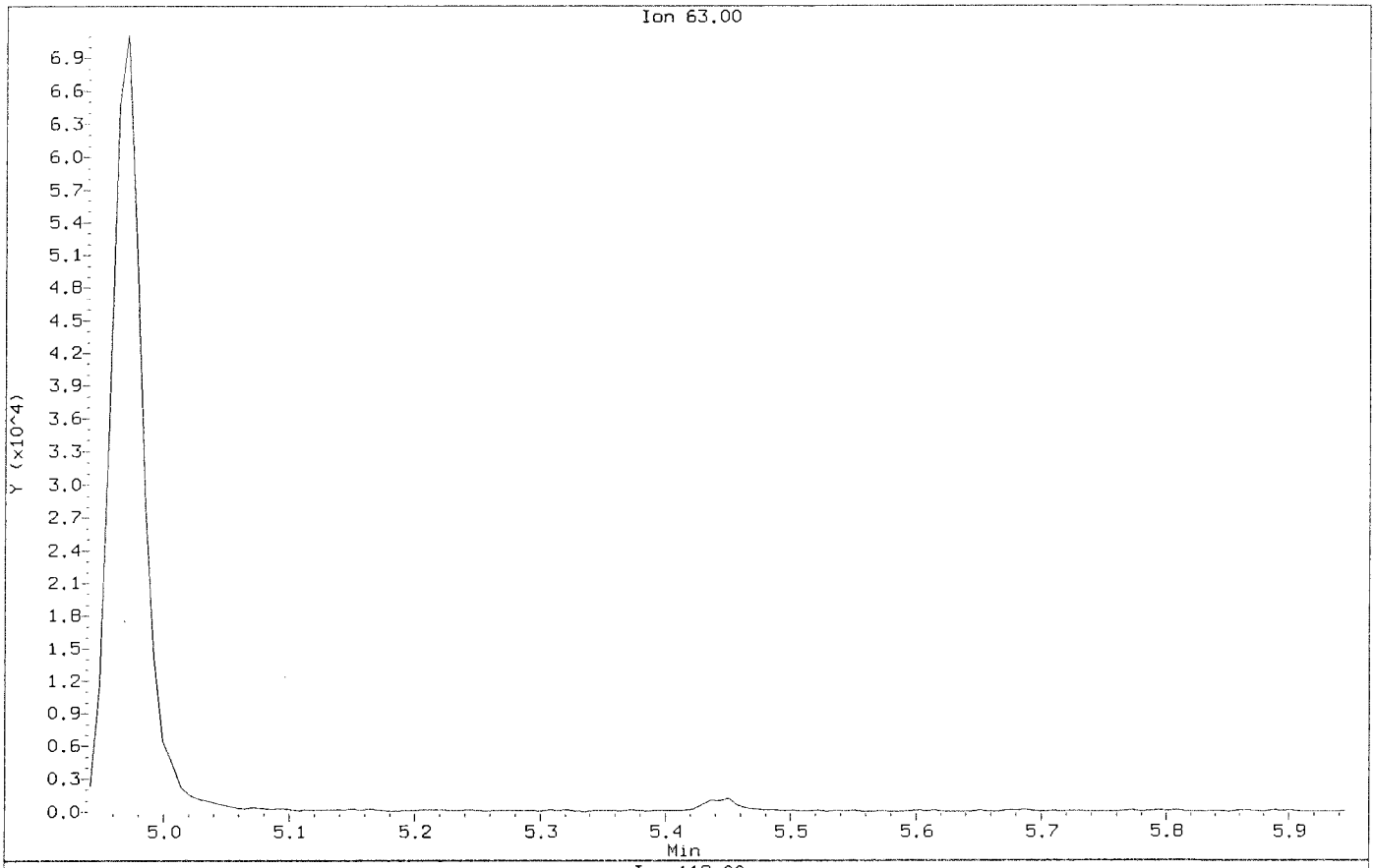
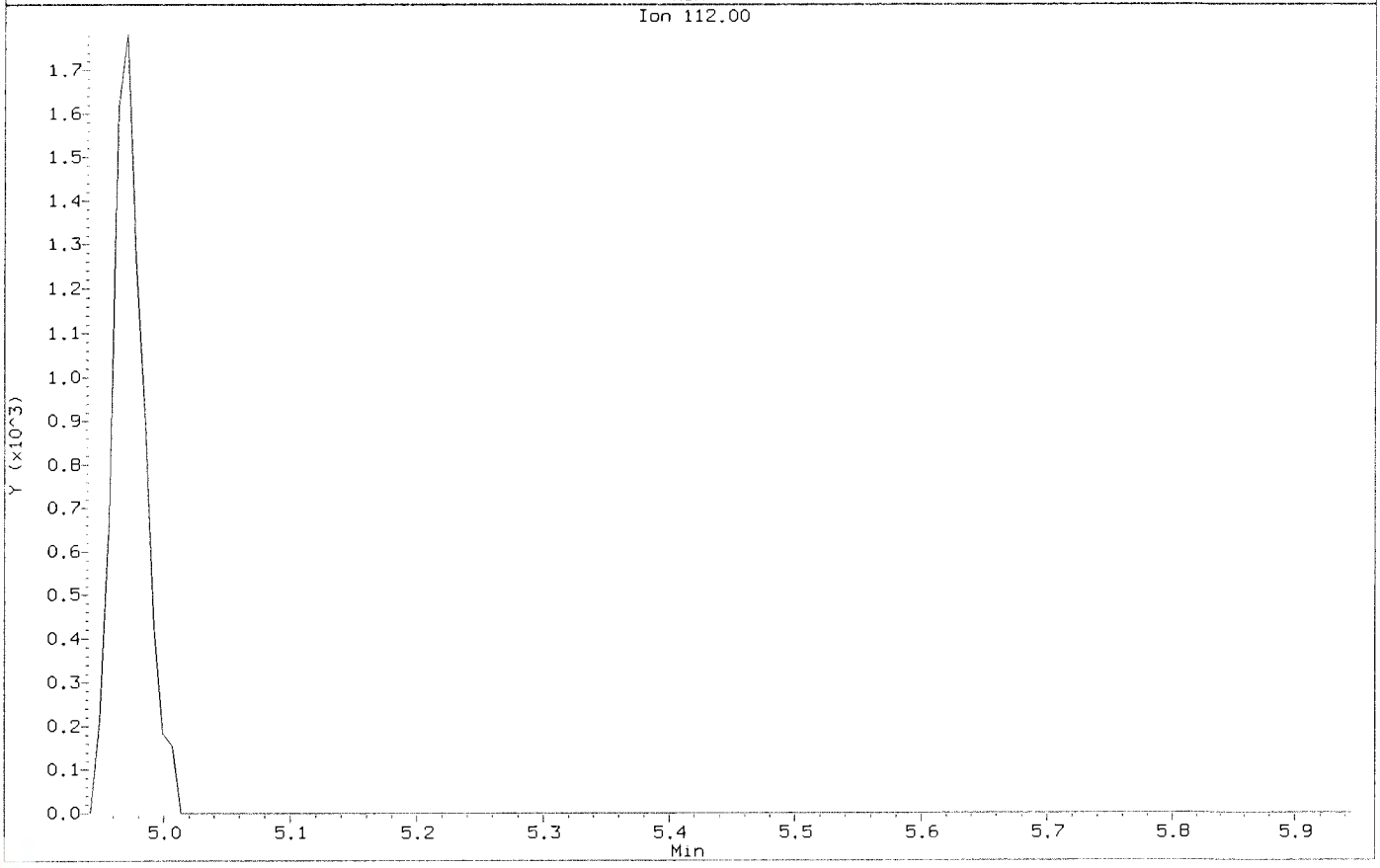
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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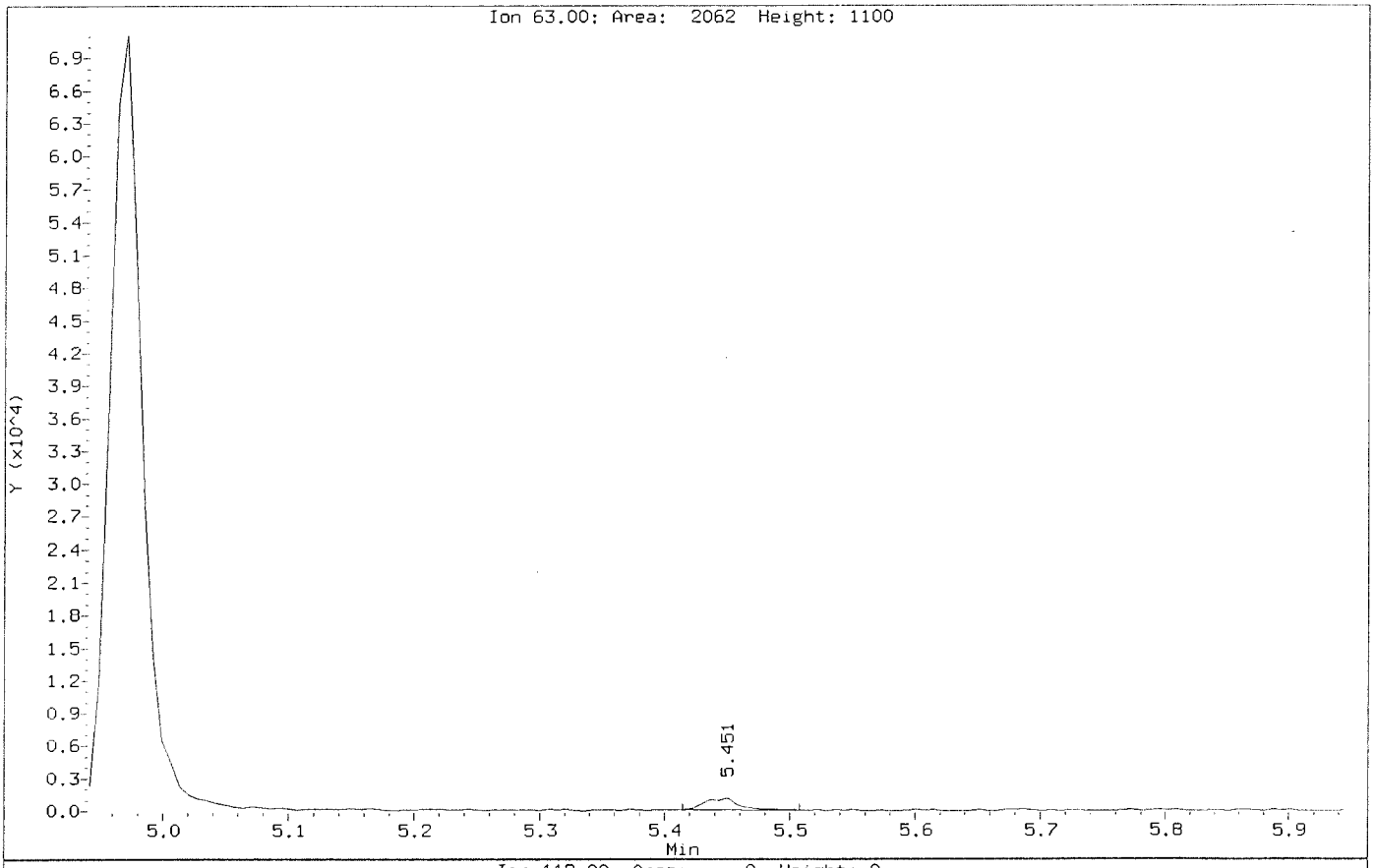
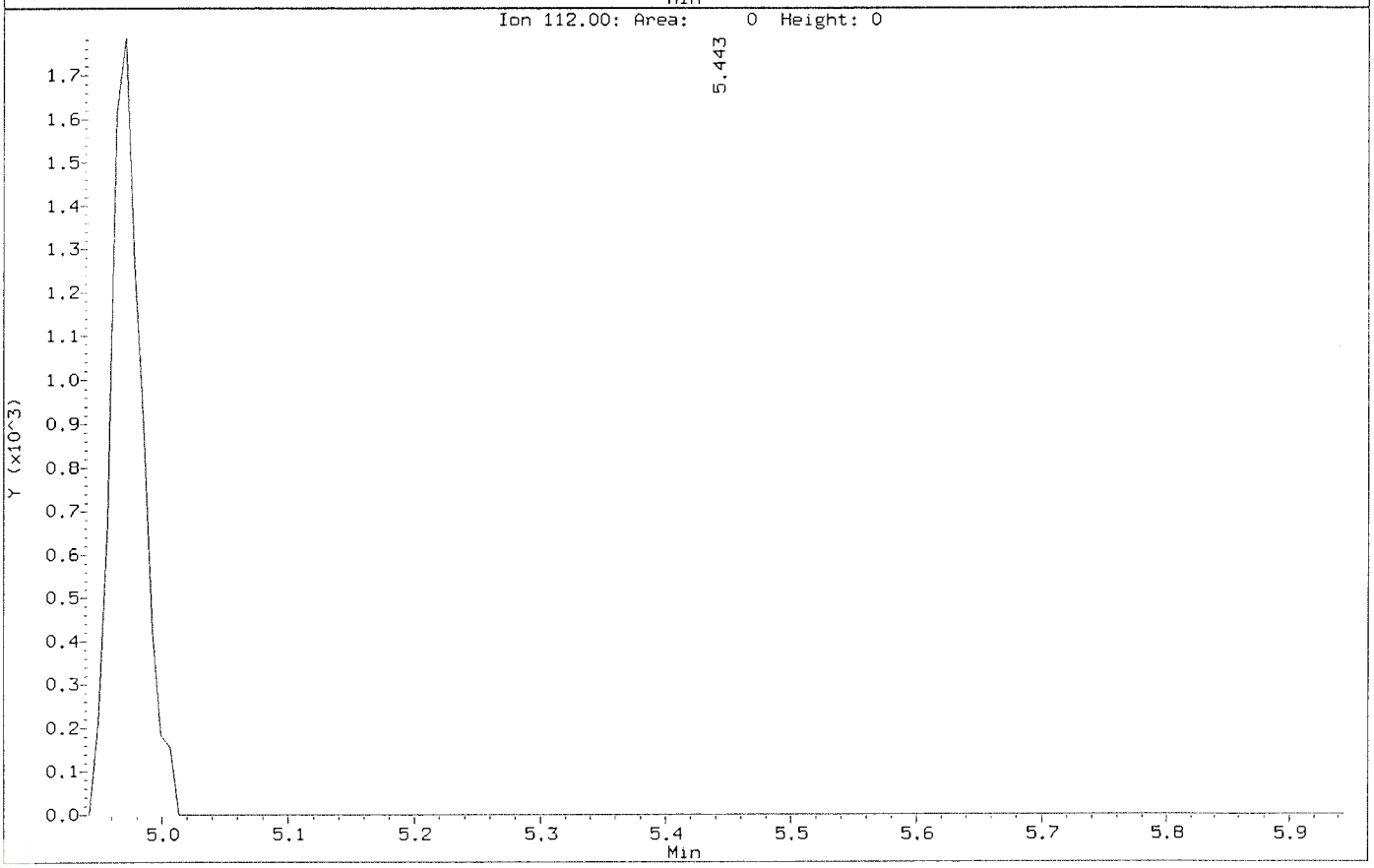
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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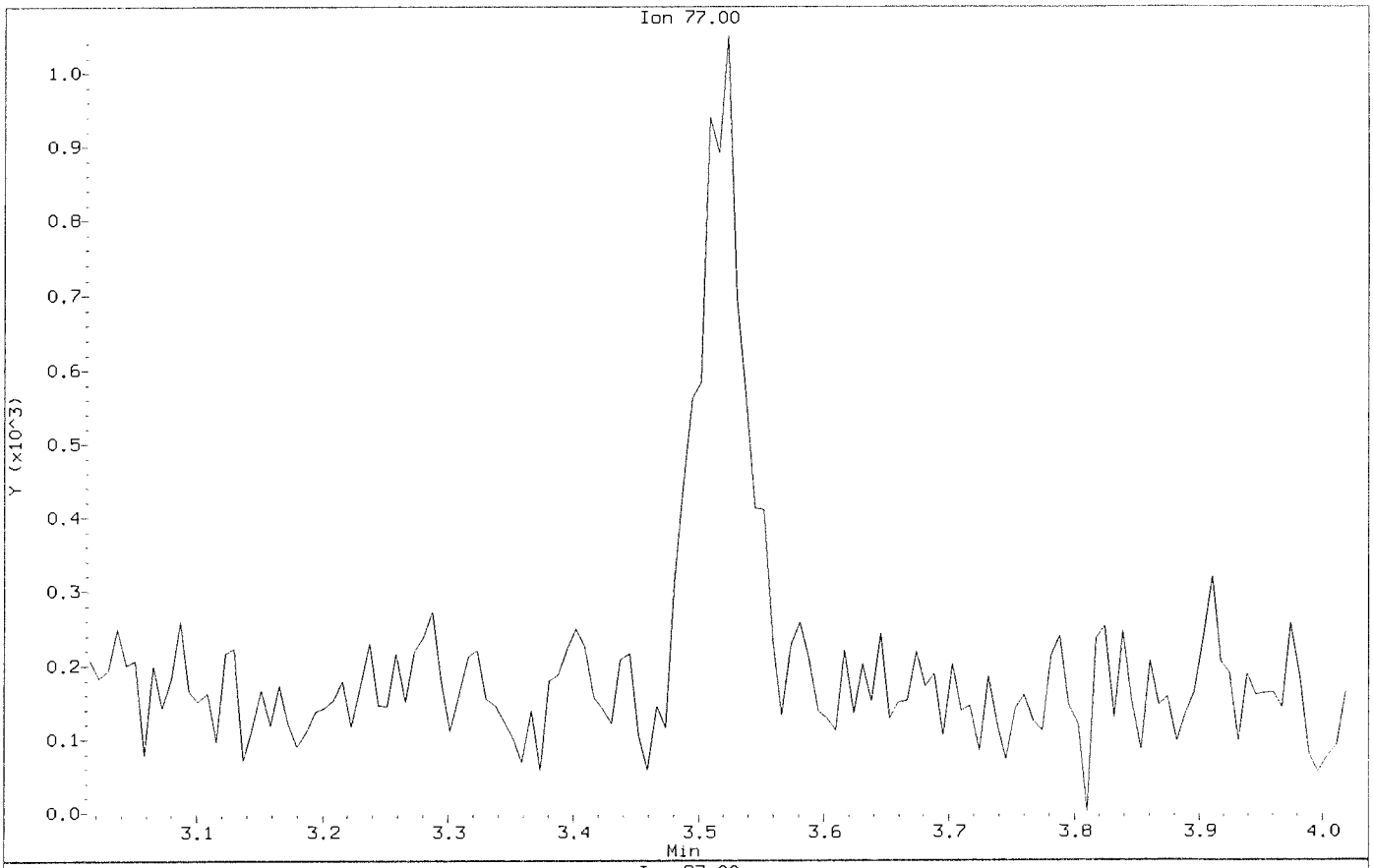
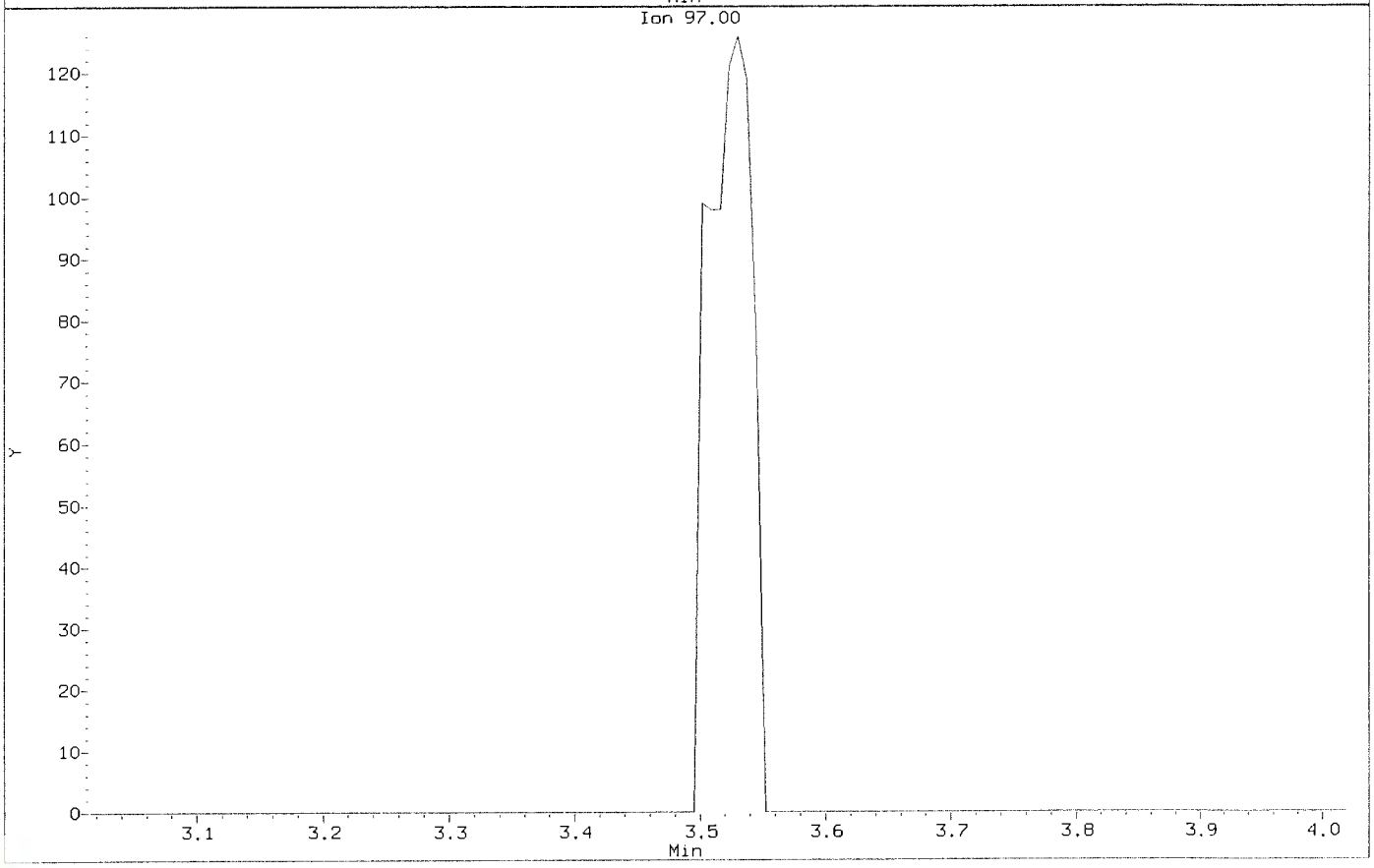
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 2,2-Dichloropropane
CAS Number: 594-20-7





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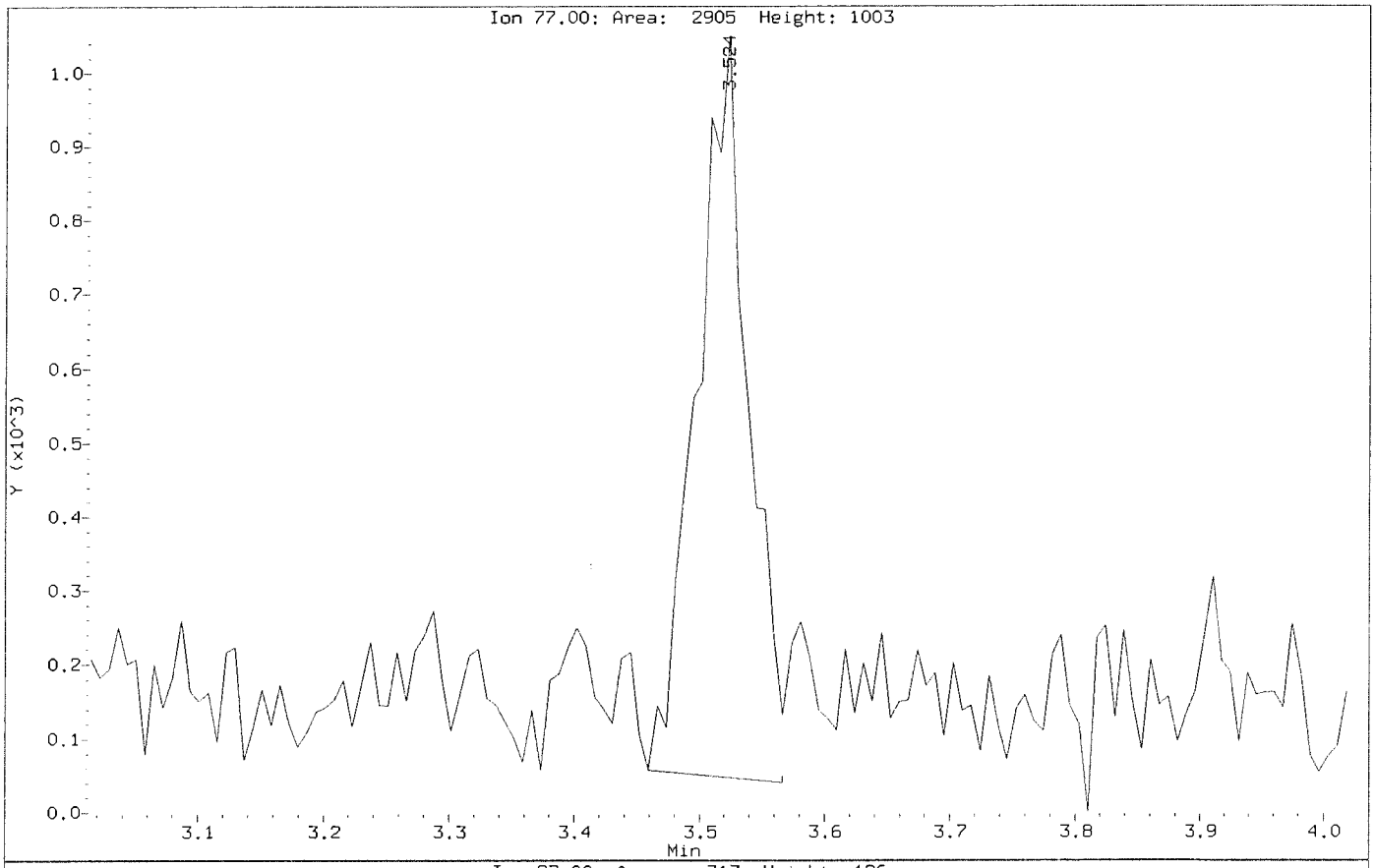
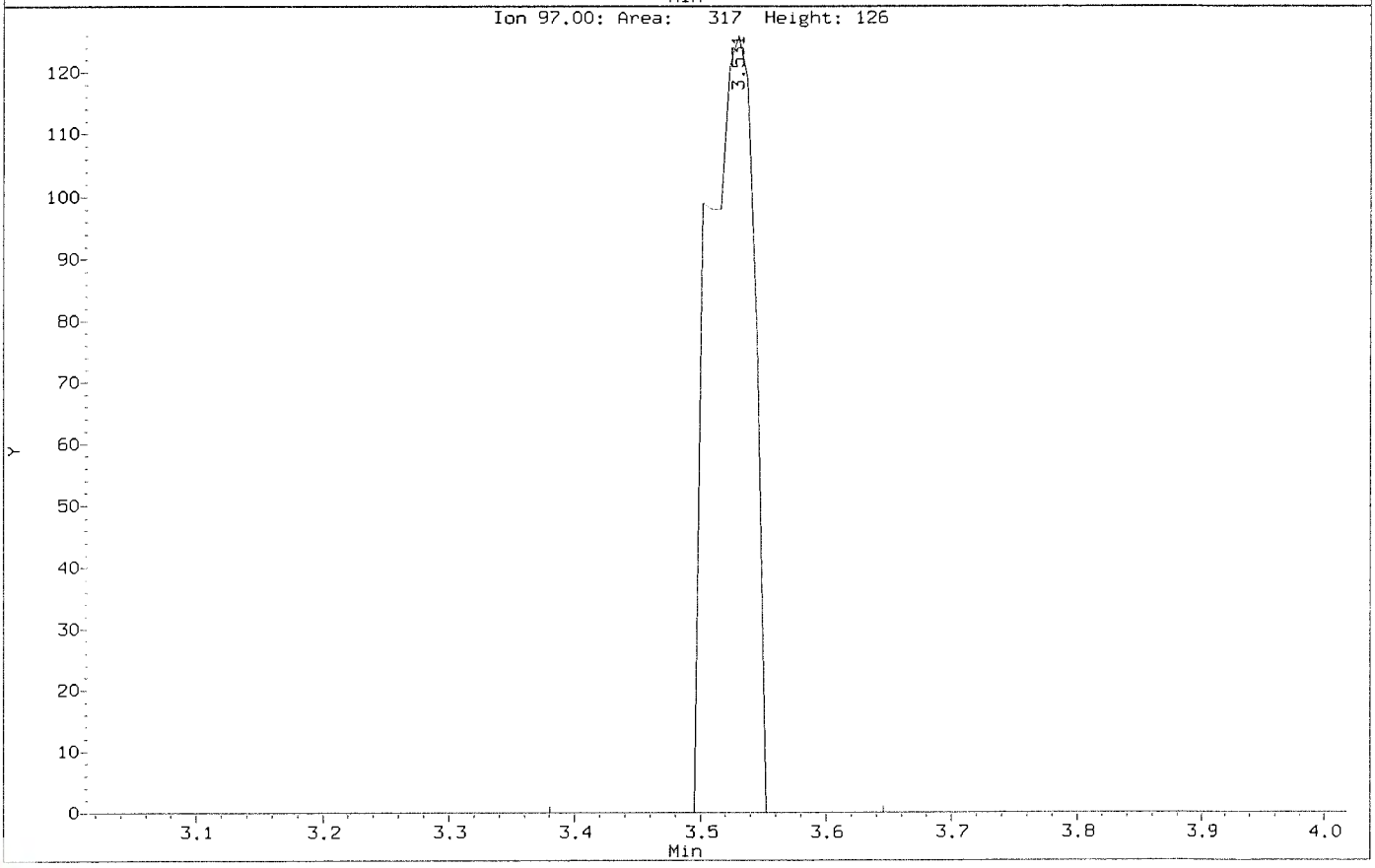
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 2,2-Dichloropropane
CAS Number: 594-20-7





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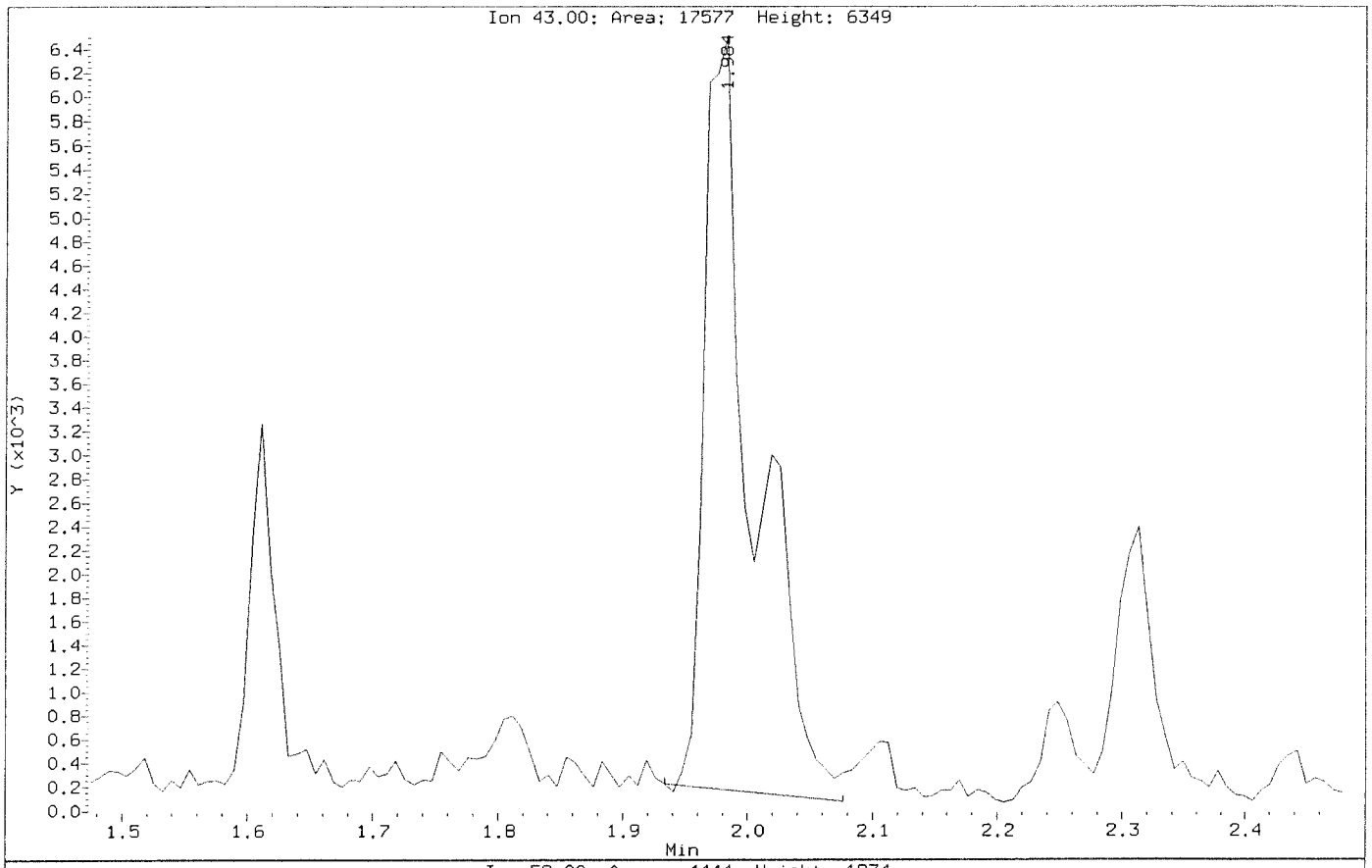
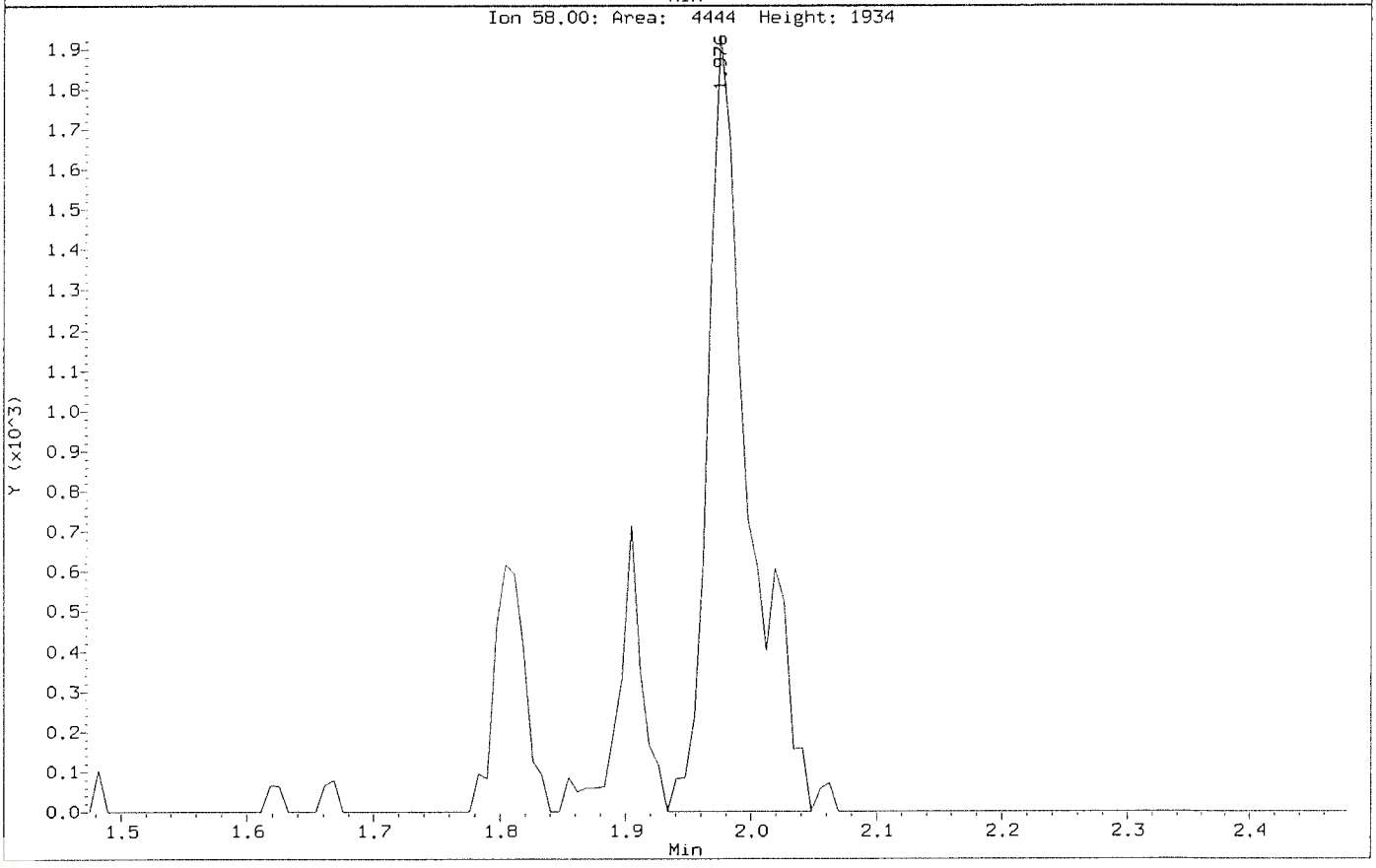
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Acetone
CAS Number: 67-64-1





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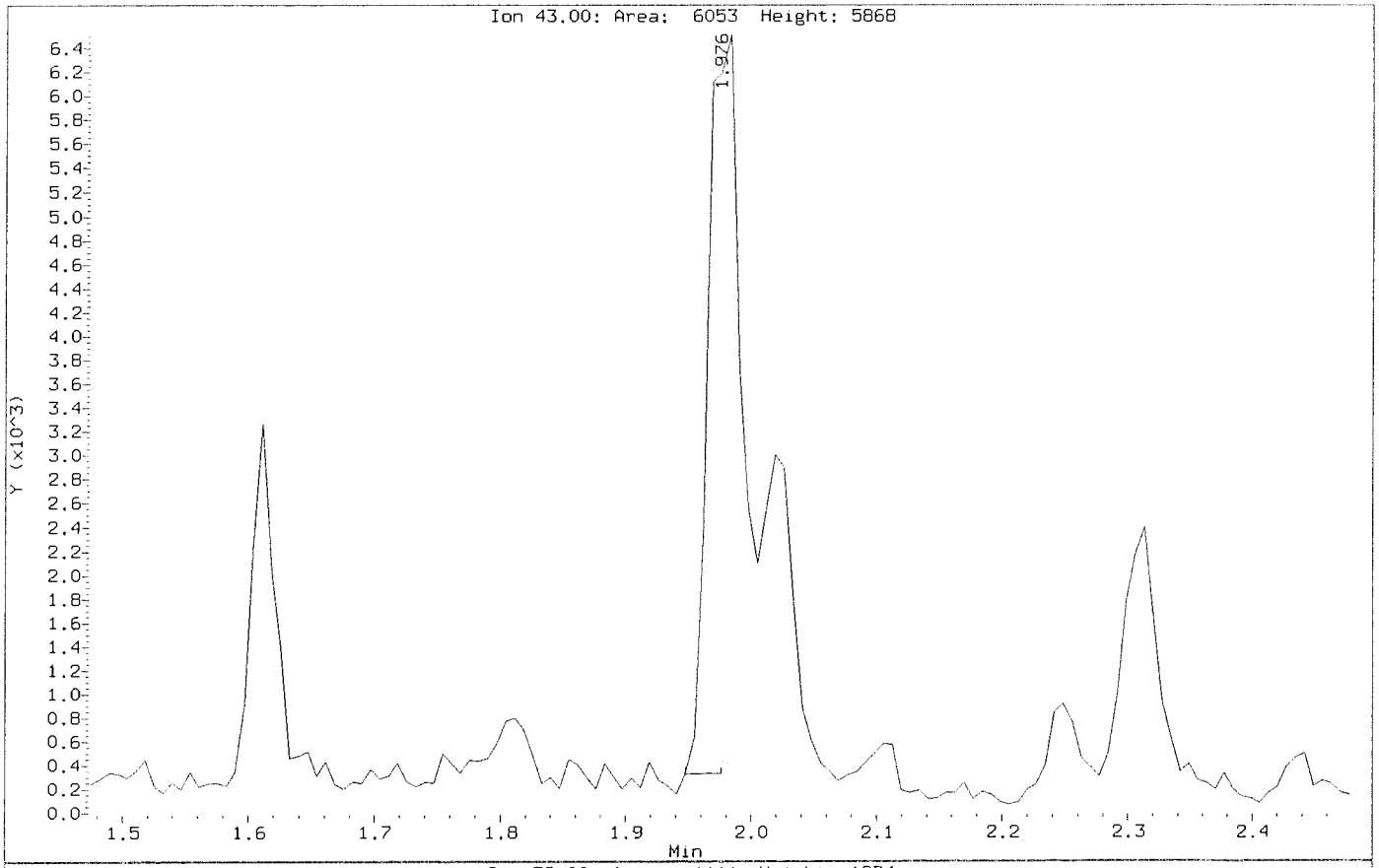
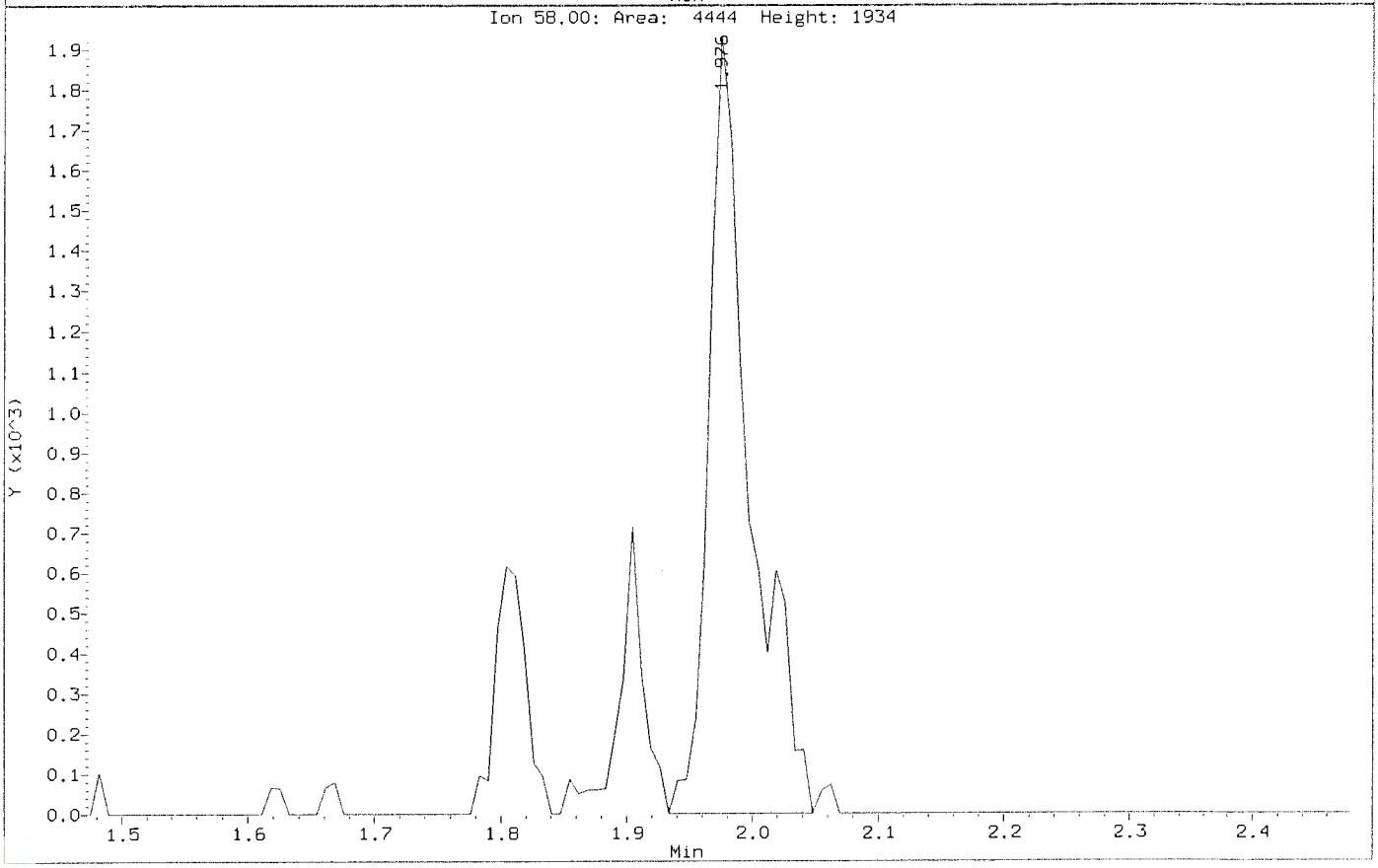
Compound: Acetone
CAS Number: 67-64-1





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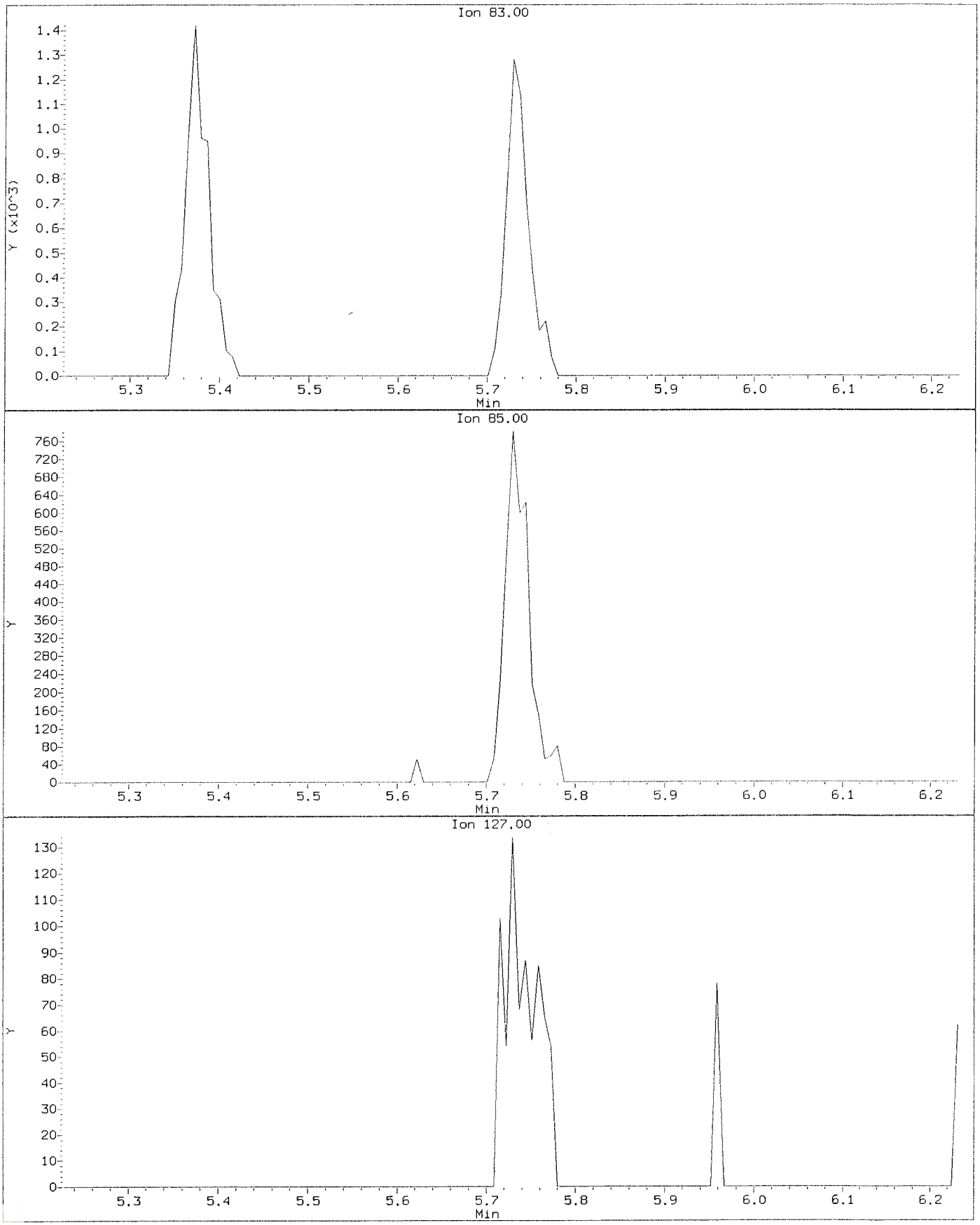
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



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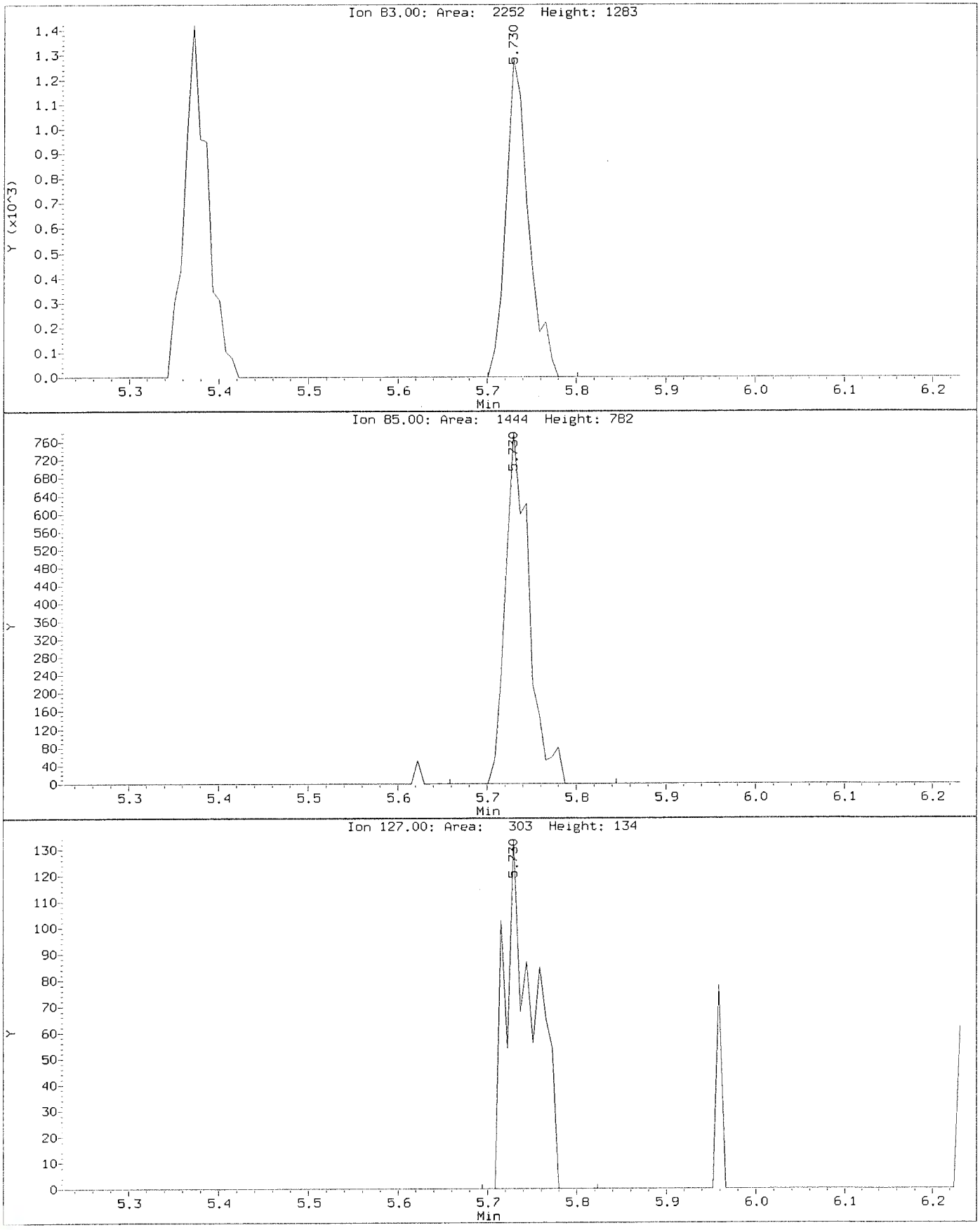
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



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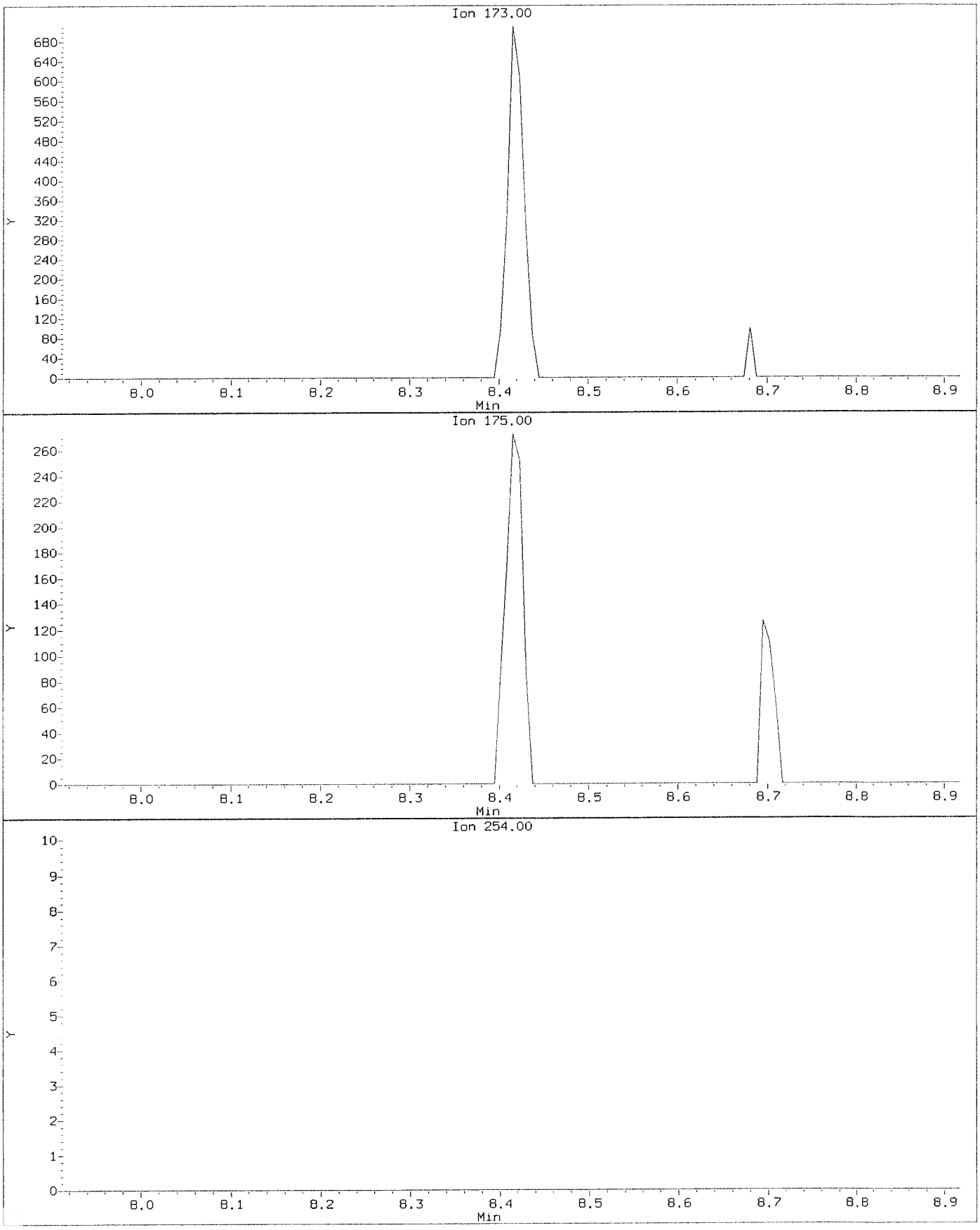
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



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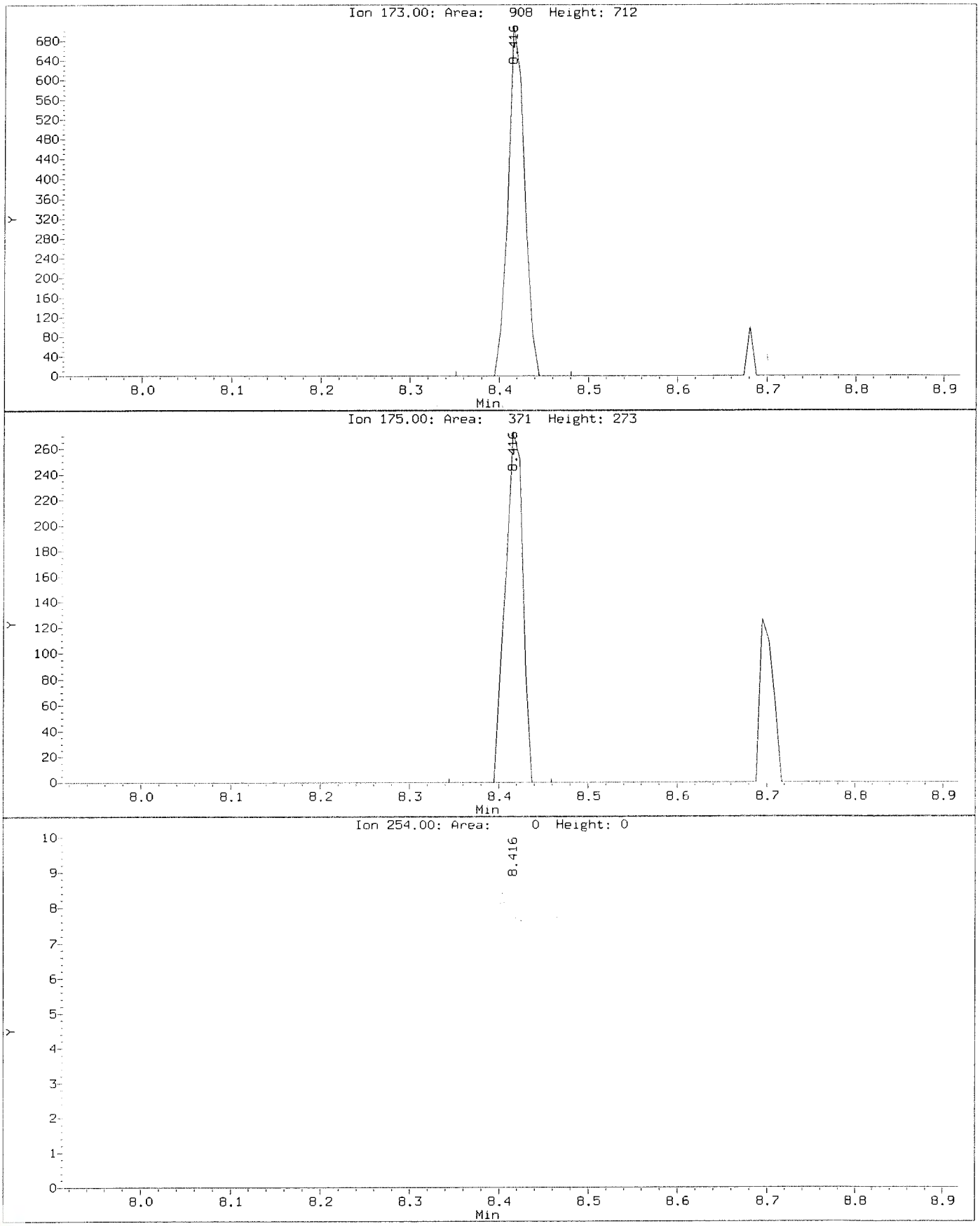
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



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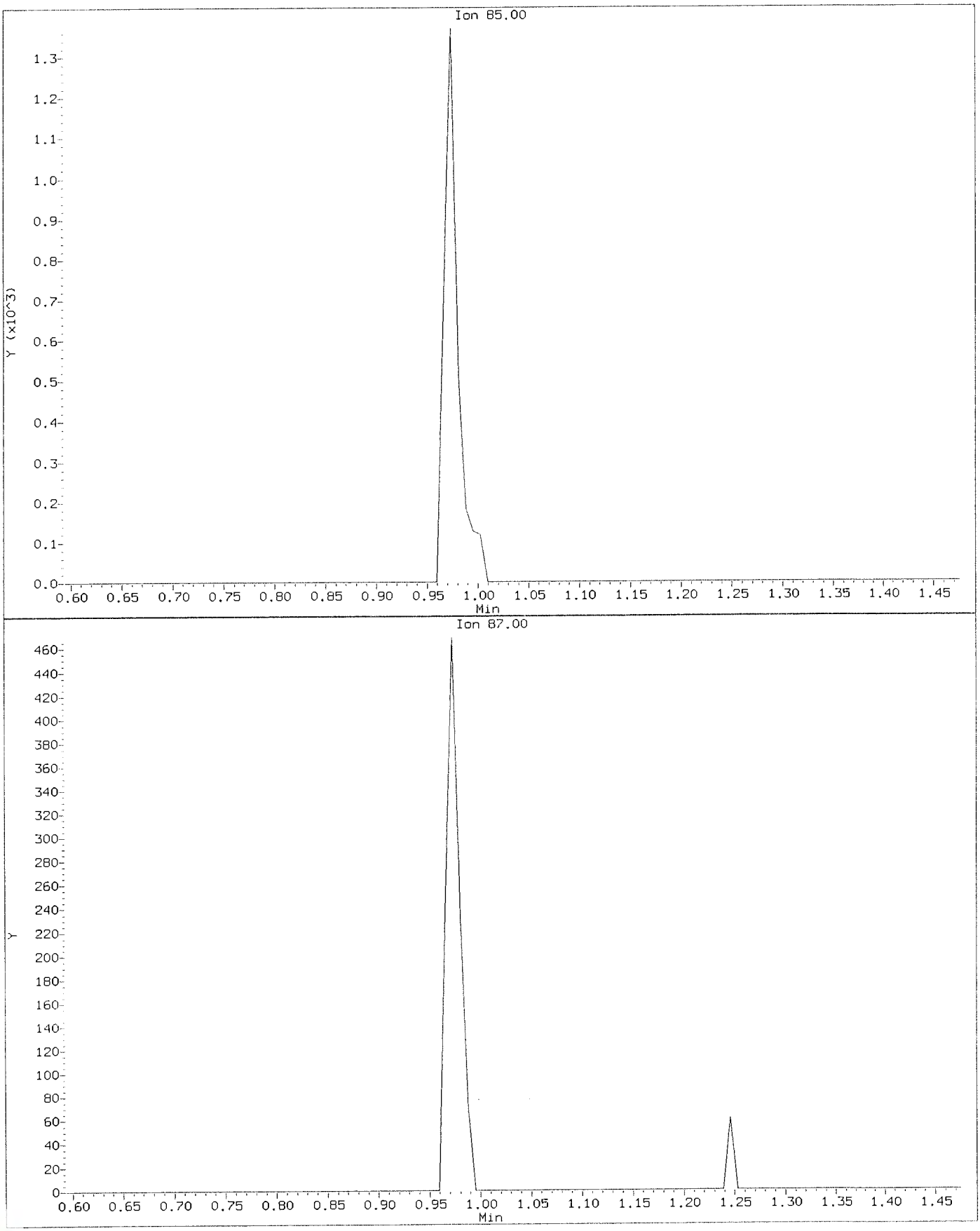
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8



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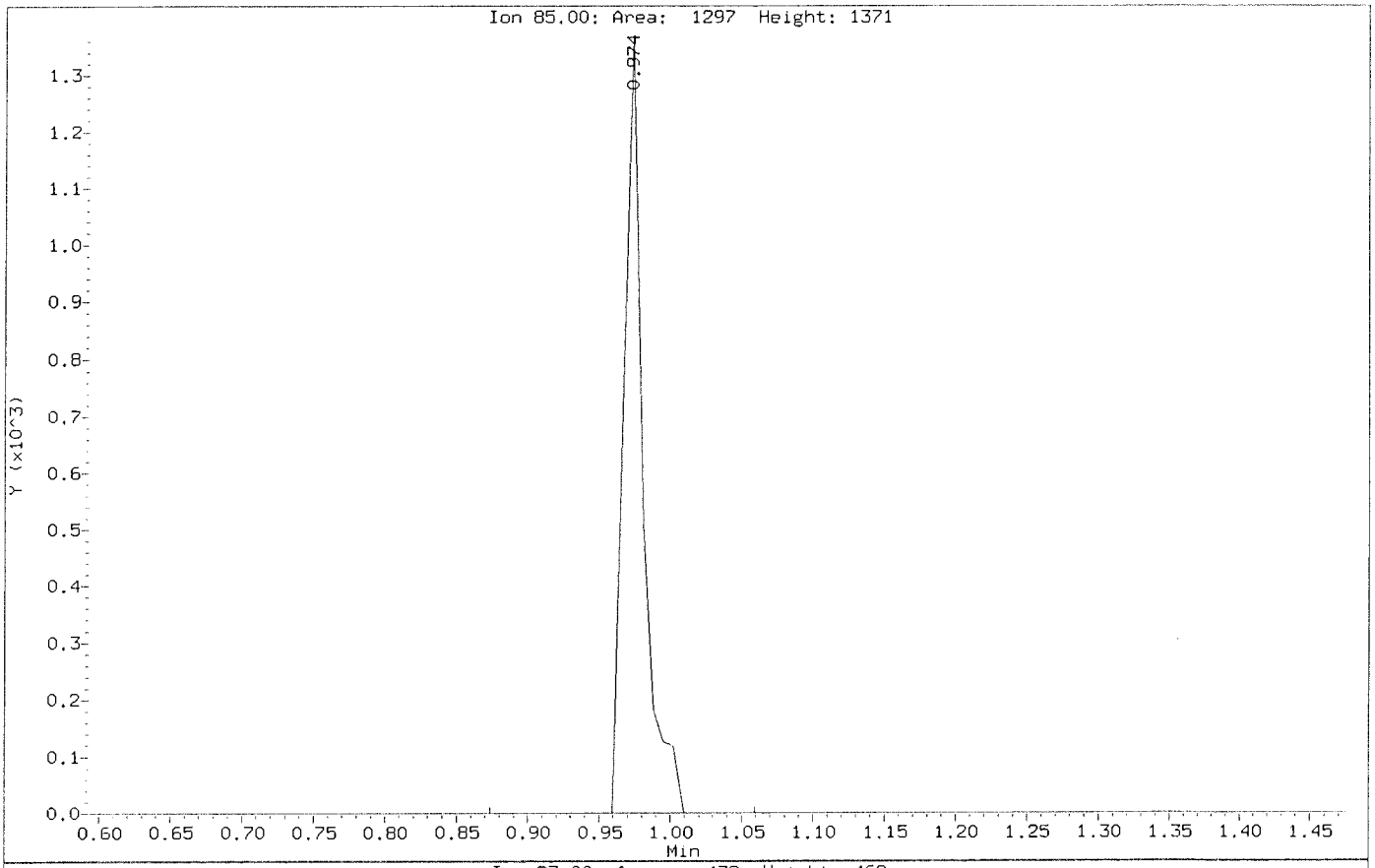
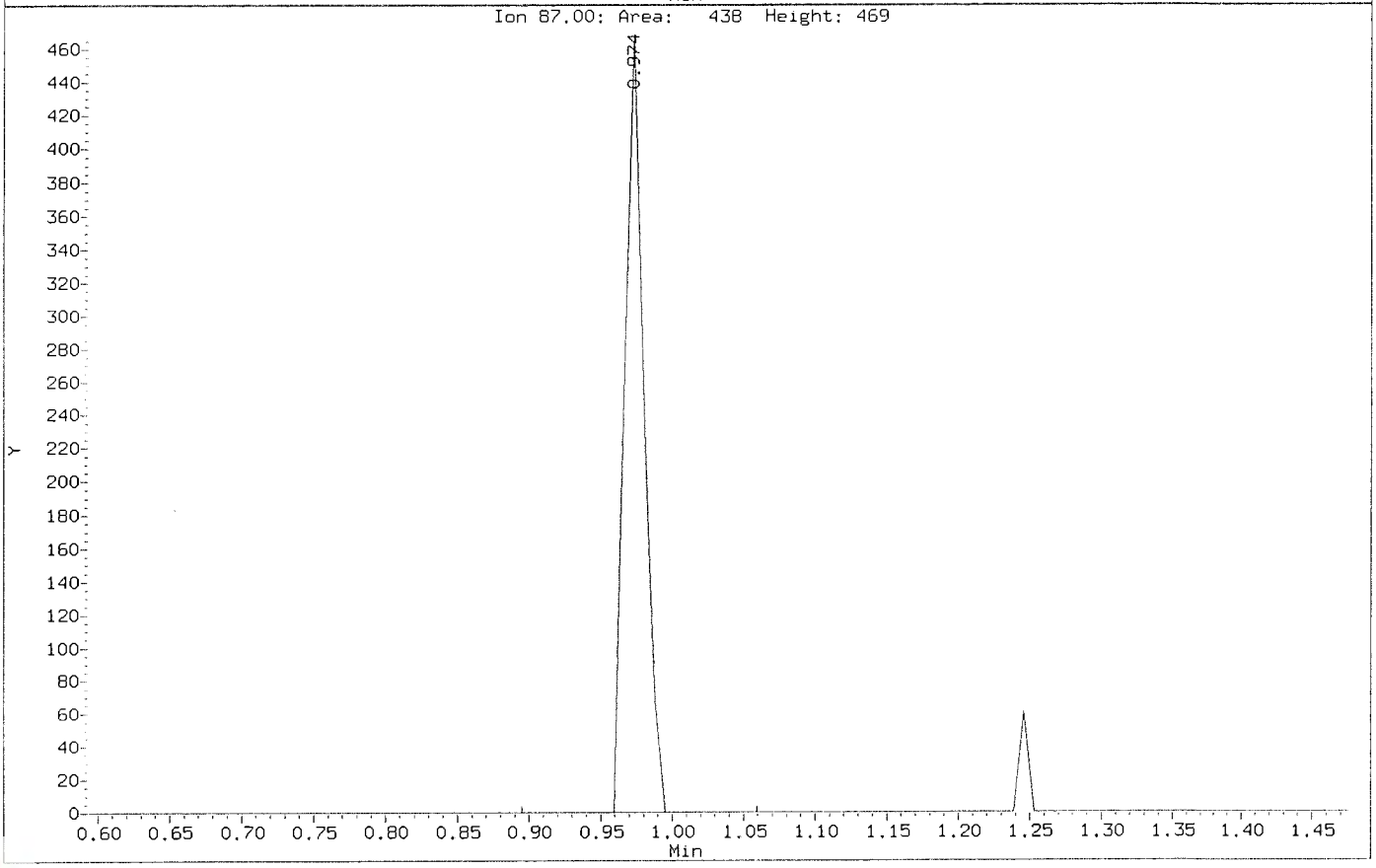
Client Sample ID: VSTD000.5

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





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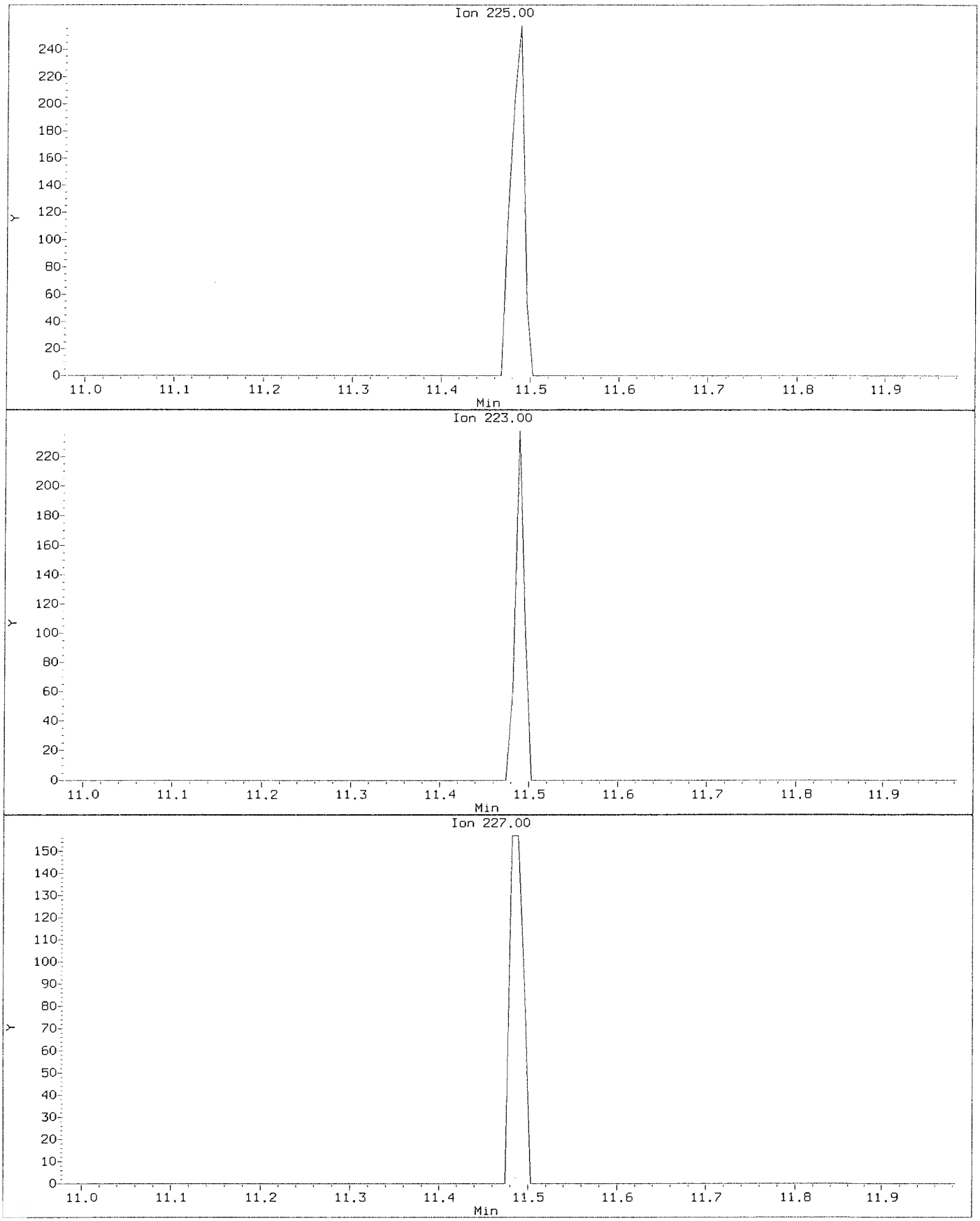
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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Injection Date: 02-JUN-2020 11:22
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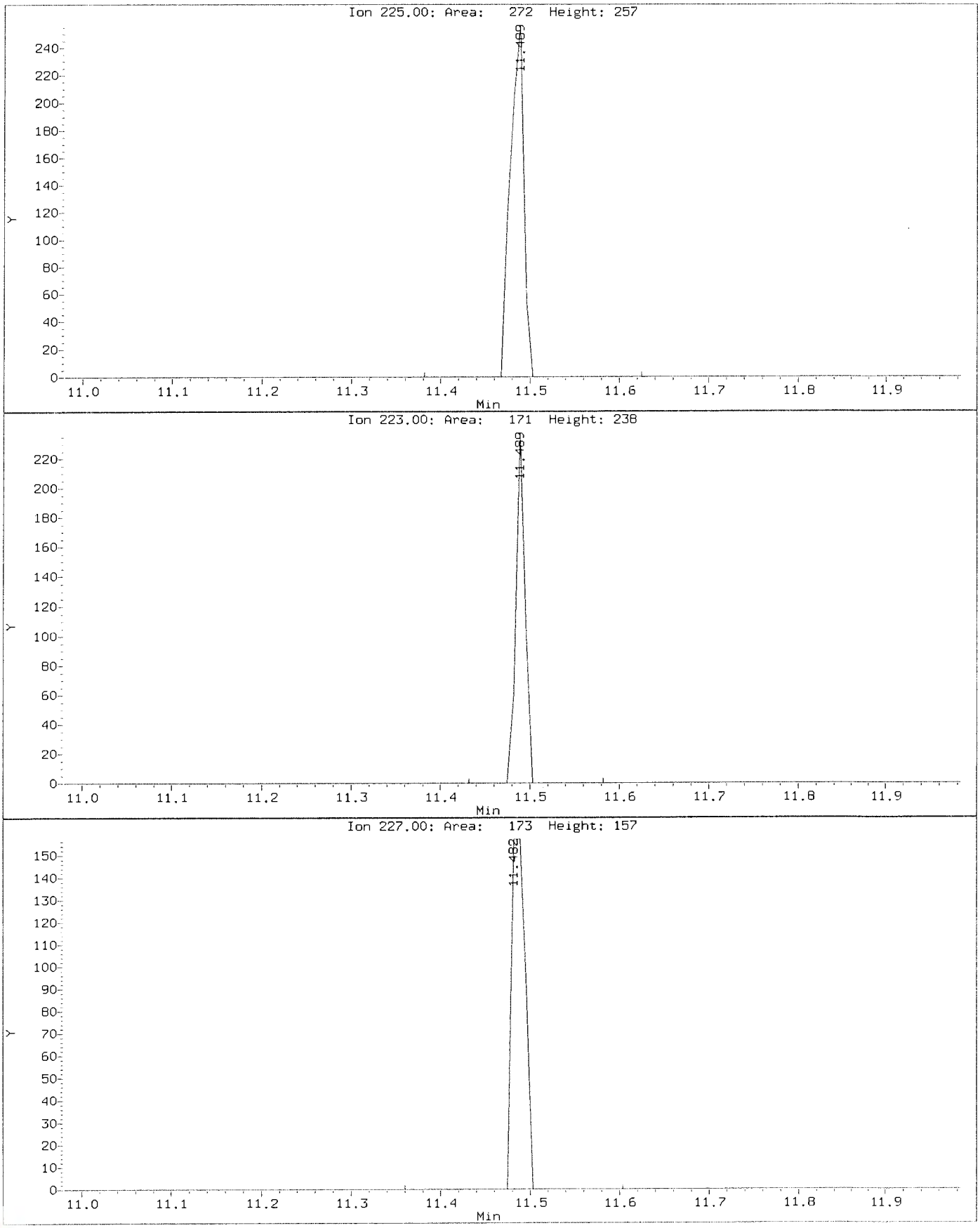
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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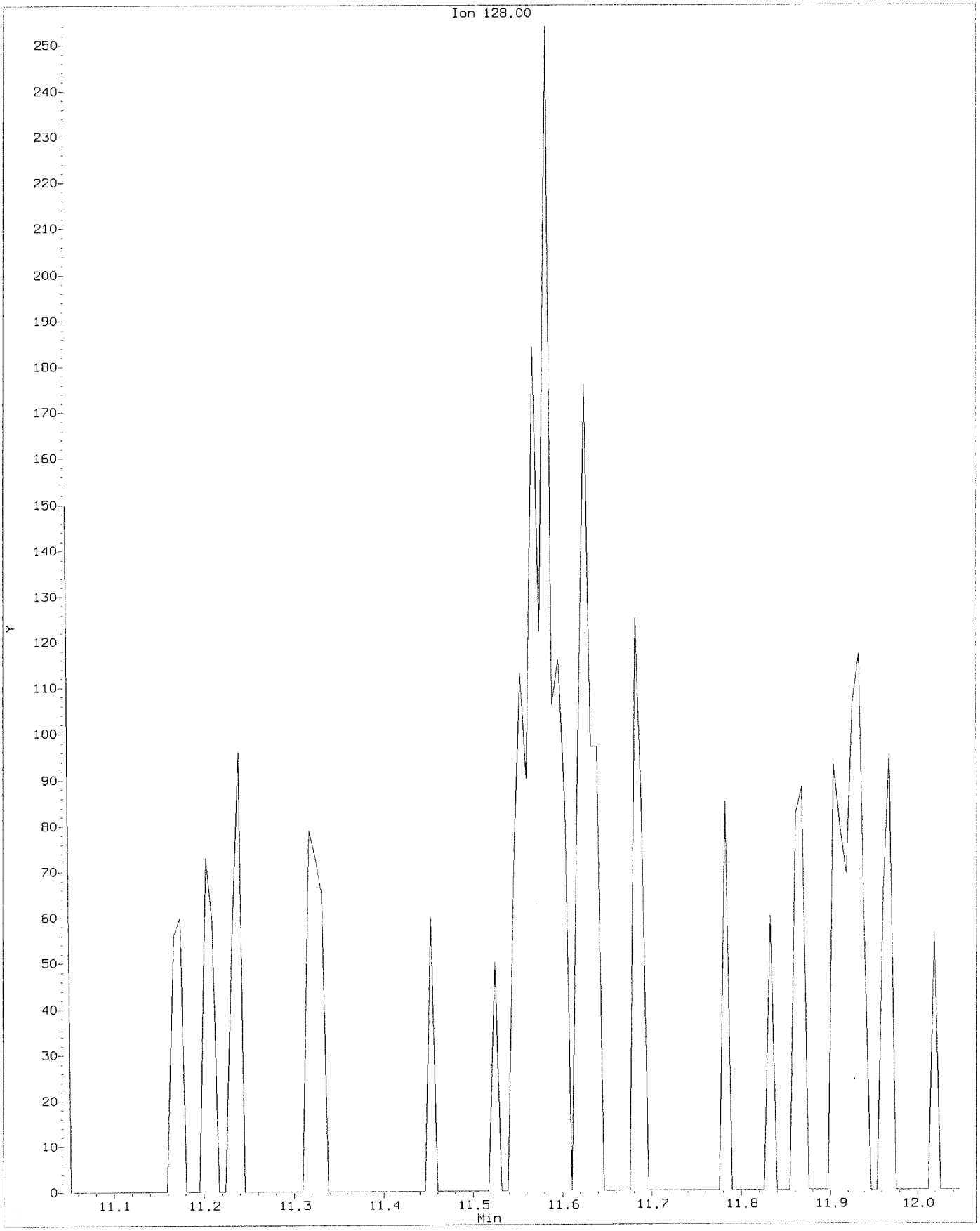
Injection Date: 02-JUN-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Naphthalene
CAS Number: 91-20-3



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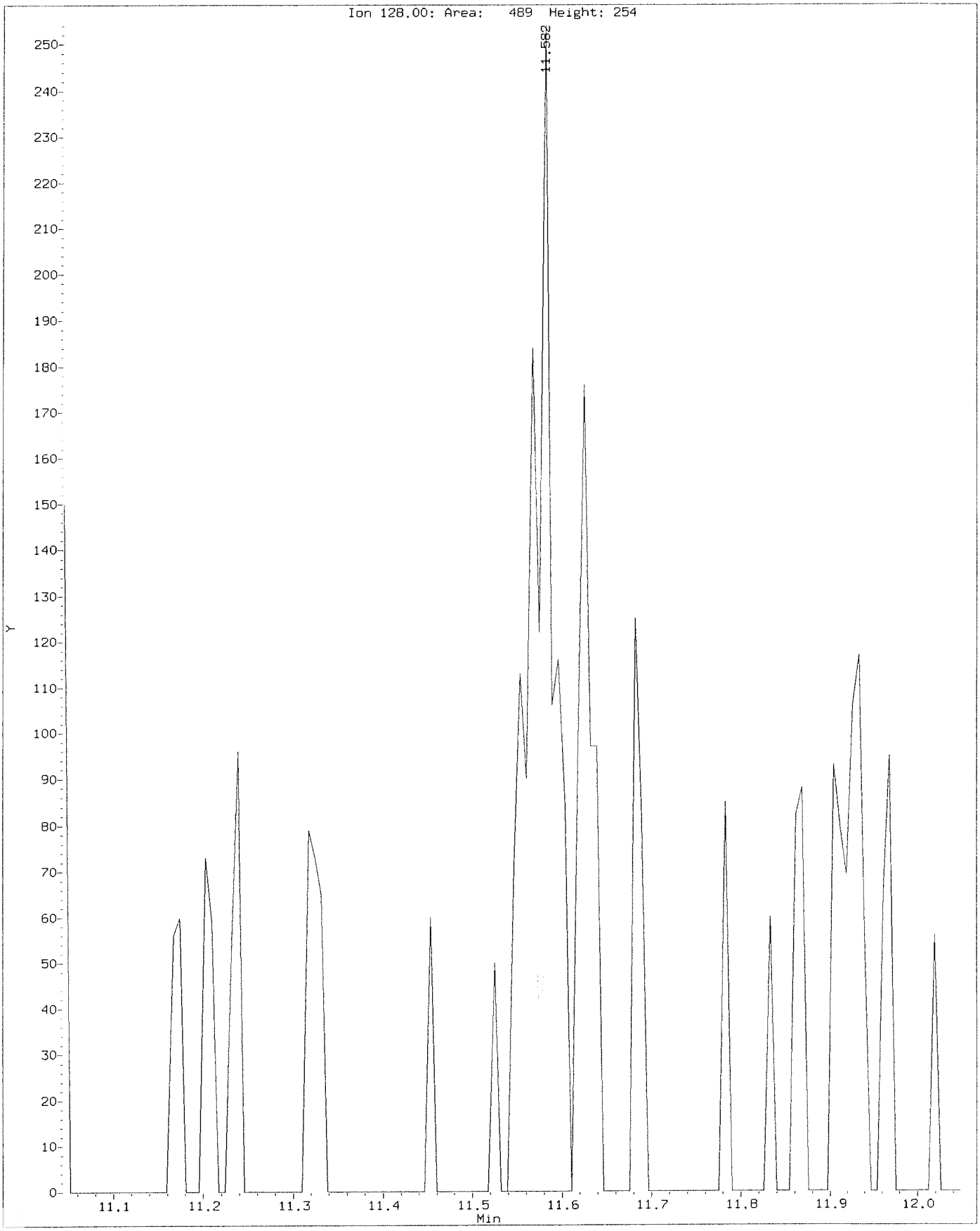
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Naphthalene
CAS Number: 91-20-3



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060204.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 02-JUN-2020 12:10
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 12:10 Cal File: X060204.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	4.182	(1.000)	251741	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	470373	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	429677	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	178224	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	3464	1.00000	0.51(a)
$	35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.072)	5718	1.00000	0.36(a)
$	48 Toluene-d8	98	6.396	6.388	(0.834)	12217	1.00000	1.08(a)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	5656	1.00000	0.60(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	3141	1.00000	1.01(a)
	31 1,1,1-Trichloroethane	97	4.096	4.089	(0.979)	4883	1.00000	1.00(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	3929	1.00000	1.10(aM)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	2920	1.00000	1.06(a)
	22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	8920	1.00000	1.14(a)
	11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	2797	1.00000	1.08(a)
	32 1,1-Dichloropropene	75	4.297	4.282	(0.865)	4546	1.00000	1.02(a)
	93 1,2,3-Trichlorobenzene	180	11.753	11.746	(1.216)	140	1.00000	1.70(aM)
	71 1,2,3-Trichloropropane	75	8.874	8.867	(0.918)	3523	1.00000	1.07(aM)
	90 1,2,4-Trichlorobenzene	180	11.352	11.338	(1.174)	458	1.00000	3.13(aM)
	79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	11174	1.00000	1.06(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	194	1.00000	1.54(aM)
	57 1,2-Dibromoethane	107	7.269	7.262	(0.948)	3173	1.00000	0.96(a)
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	4994	1.00000	1.05(a)
	33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	7002	1.00000	1.11(a)

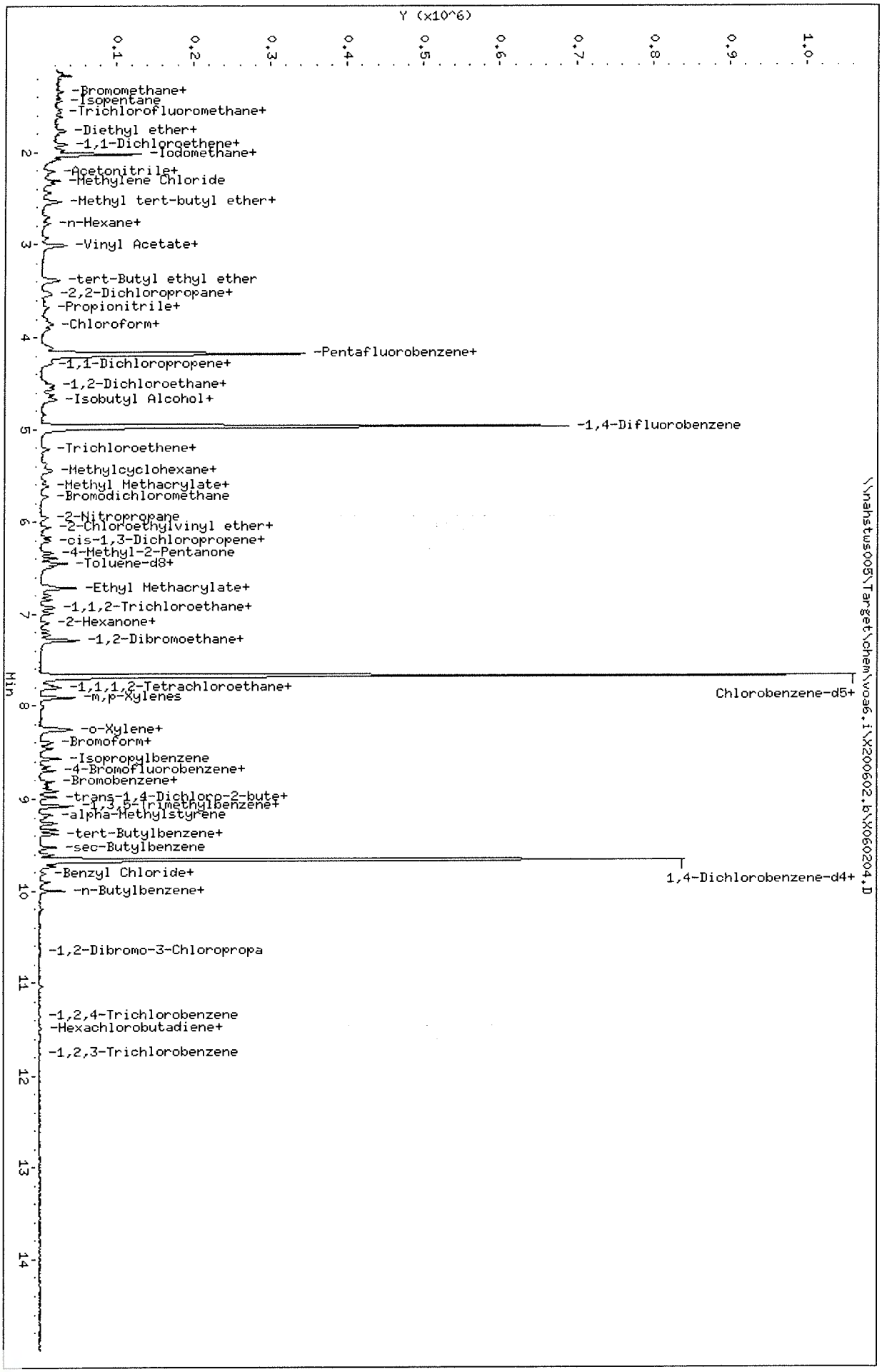
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	4737	1.00000	1.06(aM)
75	1,3,5-Trimethylbenzene	105	9.074	9.075	(0.939)	10719	1.00000	1.03(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	5870	1.00000	1.05(a)
54	1,3-Dichloropropane	76	6.990	6.983	(0.911)	6697	1.00000	1.15(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	6254	1.00000	1.10(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	5985	1.00000	1.18(a)
24	2-Butanone	43	3.602	3.580	(0.861)	6220	2.00000	2.24(a)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	10744	1.00000	1.12(a)
52	2-Hexanone	43	7.097	7.090	(0.925)	8649	2.00000	2.00(a)
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	12015	1.00000	1.08(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	9367	1.00000	0.98(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	12766	2.00000	1.99(a)
10	Acetone	43	1.976	1.976	(0.473)	7782	2.00000	(aM)
37	Benzene	78	4.519	4.519	(0.909)	13958	1.00000	1.03(a)
74	Bromobenzene	156	8.809	8.809	(0.911)	3771	1.00000	1.08(a)
29	Bromochloromethane	128	3.795	3.803	(0.908)	2182	1.00000	1.23(a)
39	Bromodichloromethane	83	5.737	5.729	(1.154)	4940	1.00000	1.01(aM)
66	Bromoform	173	8.415	8.416	(1.097)	2167	1.00000	1.00(Ta)
6	Bromomethane	94	1.338	1.331	(0.320)	2890	1.00000	0.25(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	17687	2.00000	2.12(a)
34	Carbon Tetrachloride	117	4.275	4.268	(0.860)	5027	1.00000	1.18(aM)
59	Chlorobenzene	112	7.699	7.699	(1.004)	9288	1.00000	1.09(a)
7	Chloroethane	64	1.403	1.396	(0.336)	3229	1.00000	1.20(a)
28	Chloroform	83	3.917	3.910	(0.937)	7009	1.00000	1.13(a)
3	Chloromethane	50	1.081	1.081	(0.258)	6888	1.00000	1.11(a)
27	cis-1,2-Dichloroethene	96	3.537	3.530	(0.846)	4063	1.00000	1.13(a)
46	cis-1,3-Dichloropropene	75	6.166	6.159	(1.241)	6252	1.00000	1.08(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	3816	1.00000	1.11(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	2766	1.00000	1.15(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	3076	1.00000	1.02(a)
61	Ethylbenzene	106	7.807	7.807	(1.018)	4584	1.00000	1.05(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	459	1.00000	3.28(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	13587	1.00000	1.05(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	11251	2.00000	2.14(a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	4893	1.00000	0.37(a)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	8314	1.00000	0.98(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	15117	1.00000	1.01(a)
92	Naphthalene	128	11.567	11.546	(1.196)	938	1.00000	1.69(aM)
63	o-Xylene	106	8.244	8.244	(1.075)	5427	1.00000	1.04(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	11694	1.00000	1.01(a)
64	Styrene	104	8.265	8.265	(1.078)	9462	1.00000	1.02(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	8717	1.00000	1.07(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	2503	1.00000	1.09(a)
50	Toluene	91	6.453	6.453	(0.841)	14446	1.00000	1.07(a)
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	3314	1.00000	1.12(a)
51	trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	5009	1.00000	0.96(a)
38	Trichloroethene	130	5.206	5.206	(1.048)	3234	1.00000	1.01(a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	4937	1.00000	1.05(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	5687	1.00000	1.07(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.



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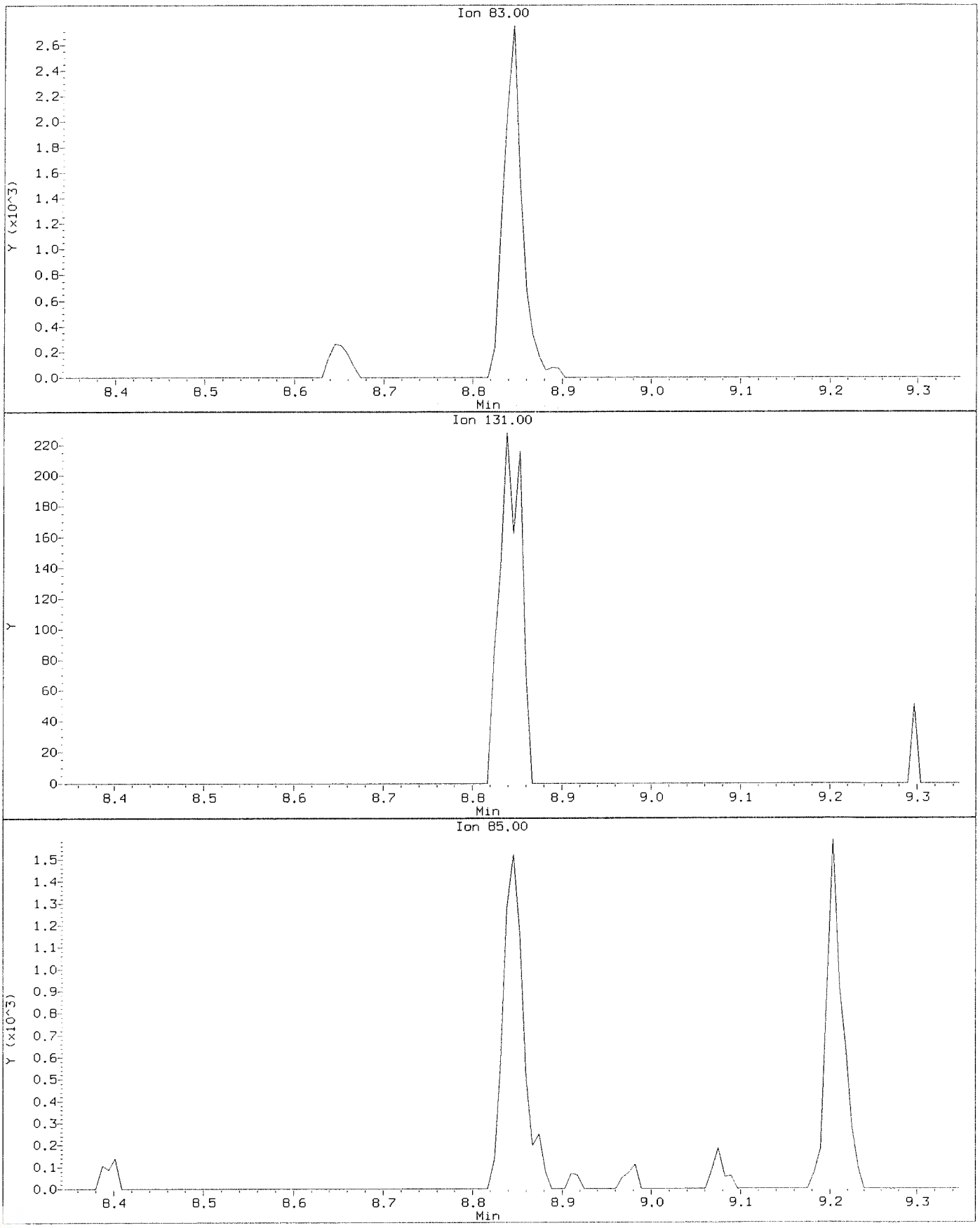
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060204.D
Injection Date: 02-JUN-2020 12:10
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



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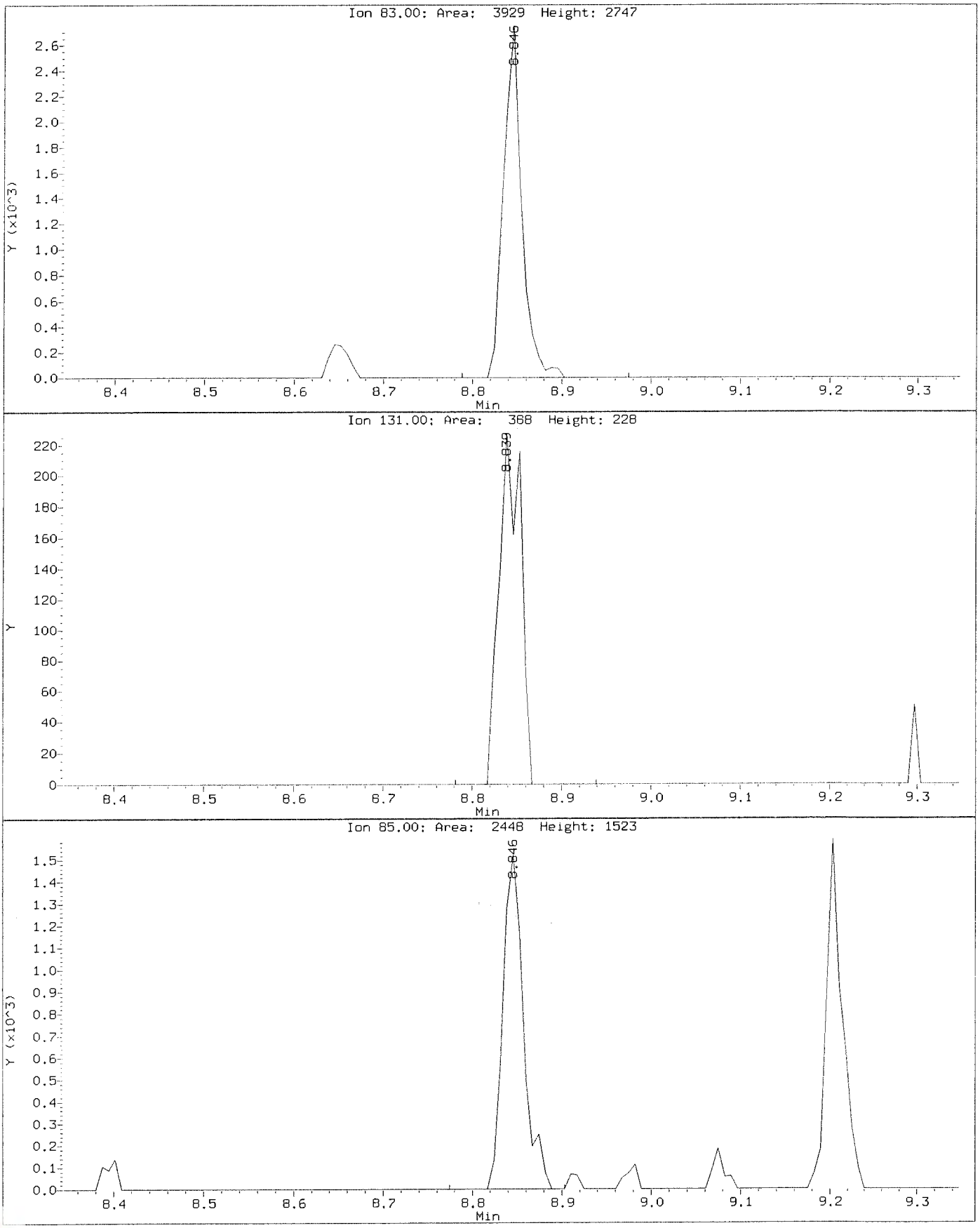
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



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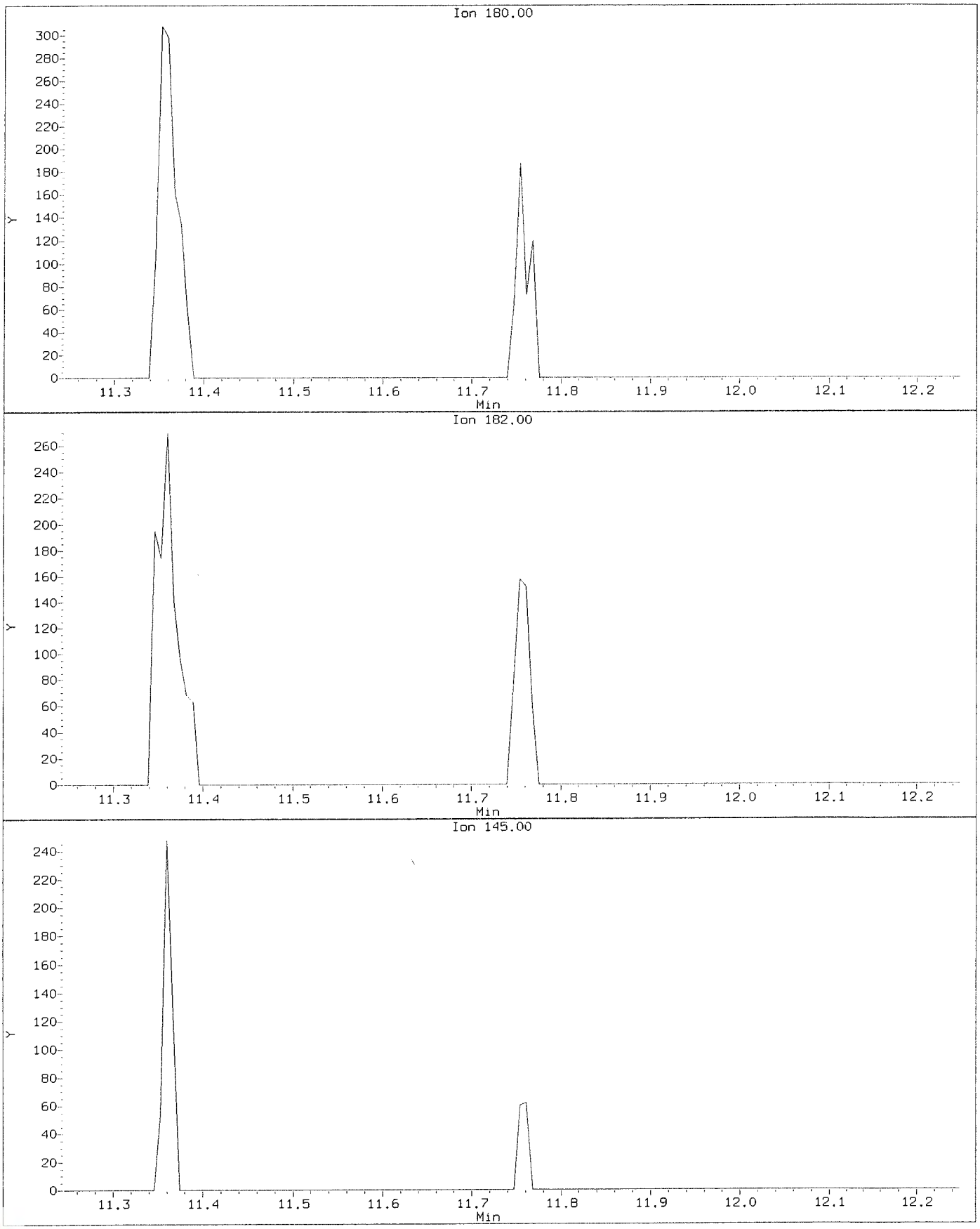
Injection Date: 02-JUN-2020 12:10
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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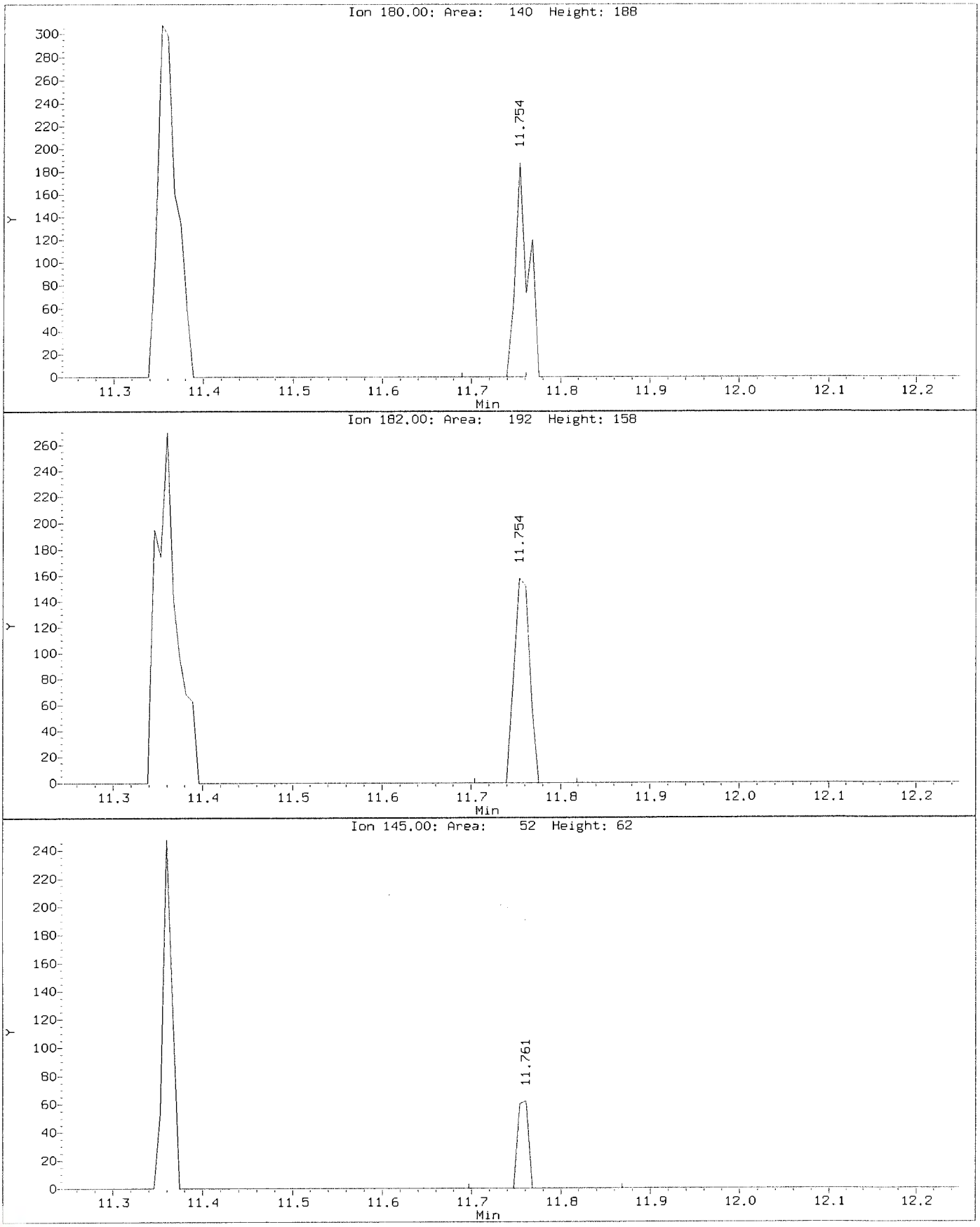
Client Sample ID: VSTD001

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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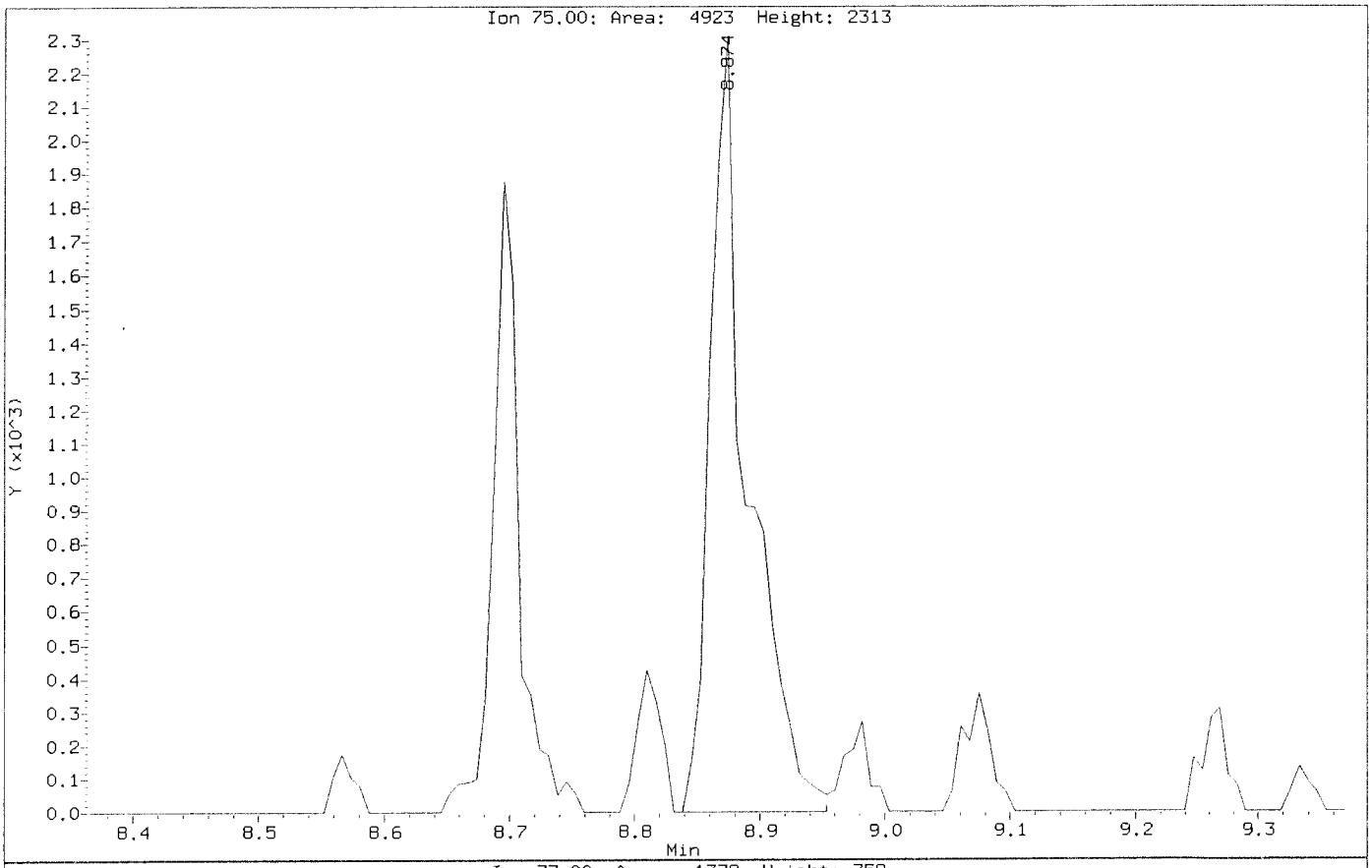
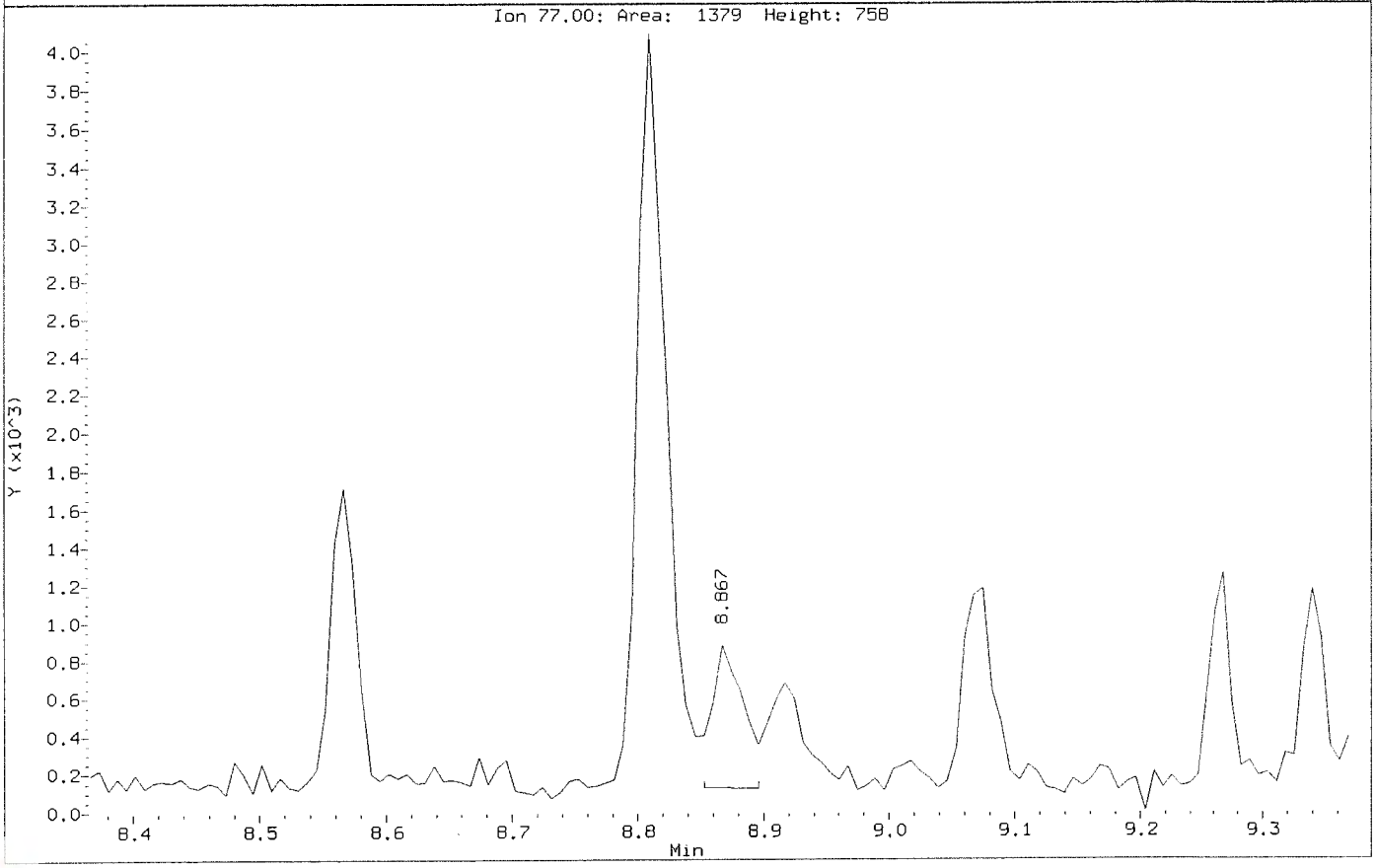
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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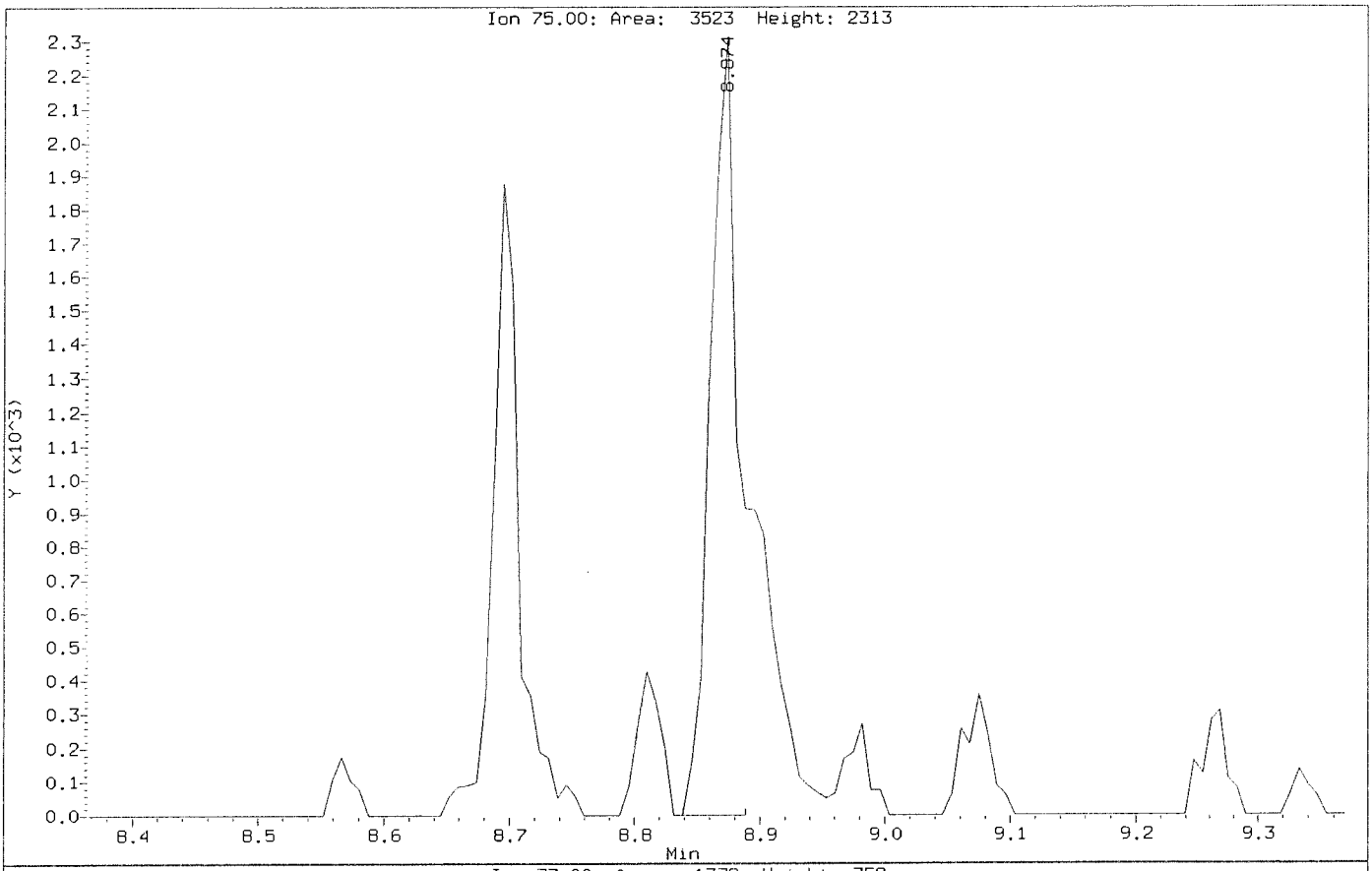
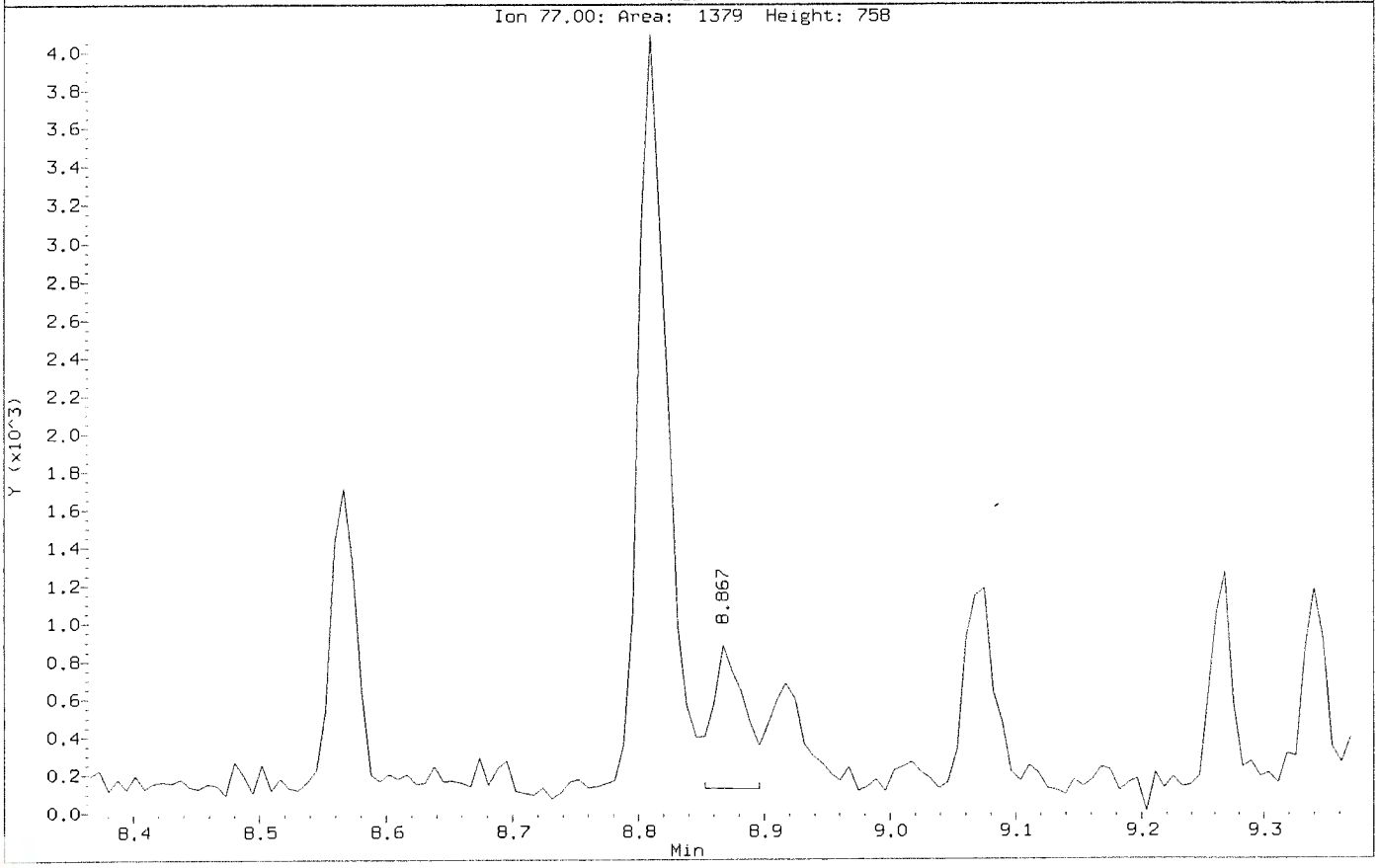
Client Sample ID: VSTD001

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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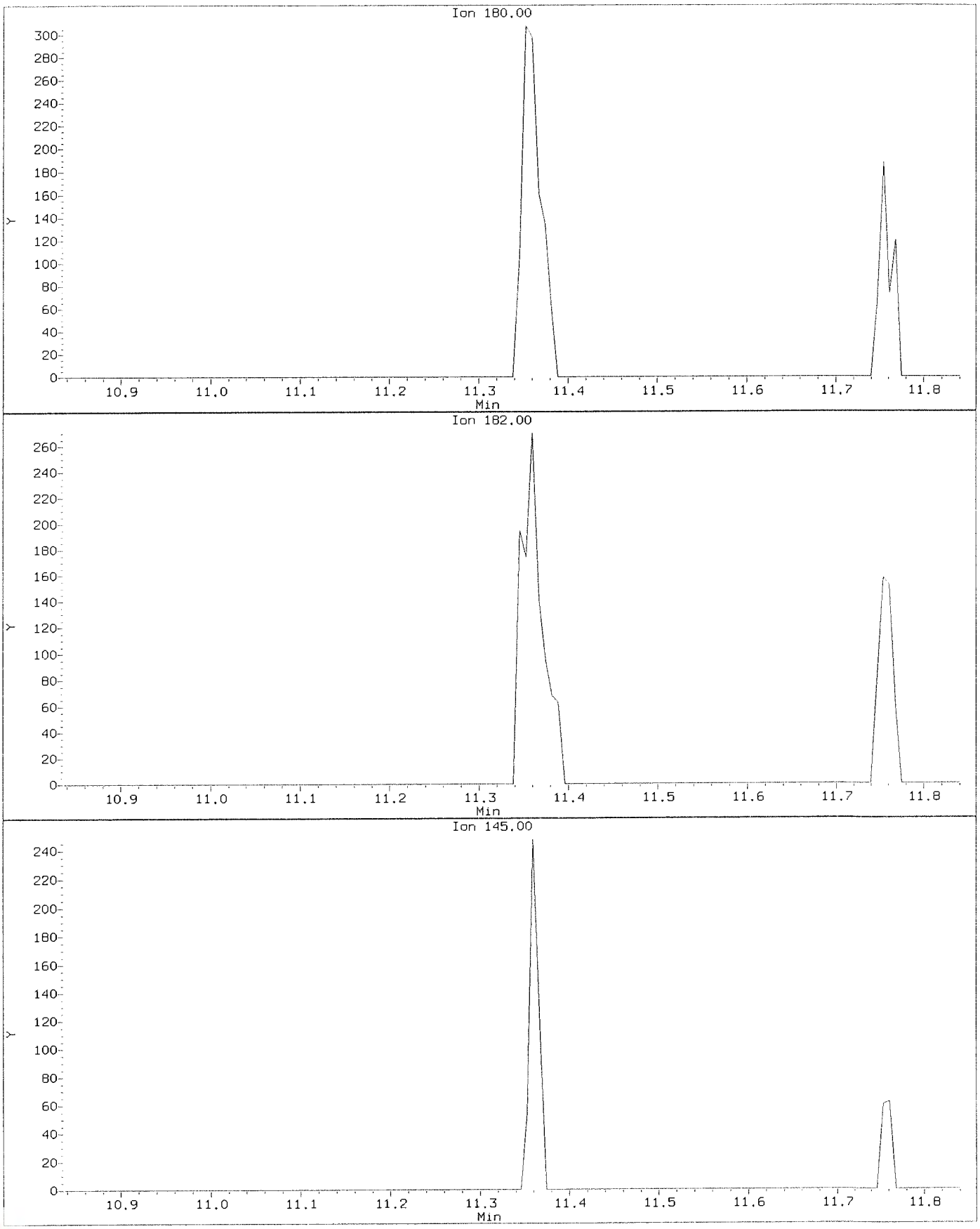
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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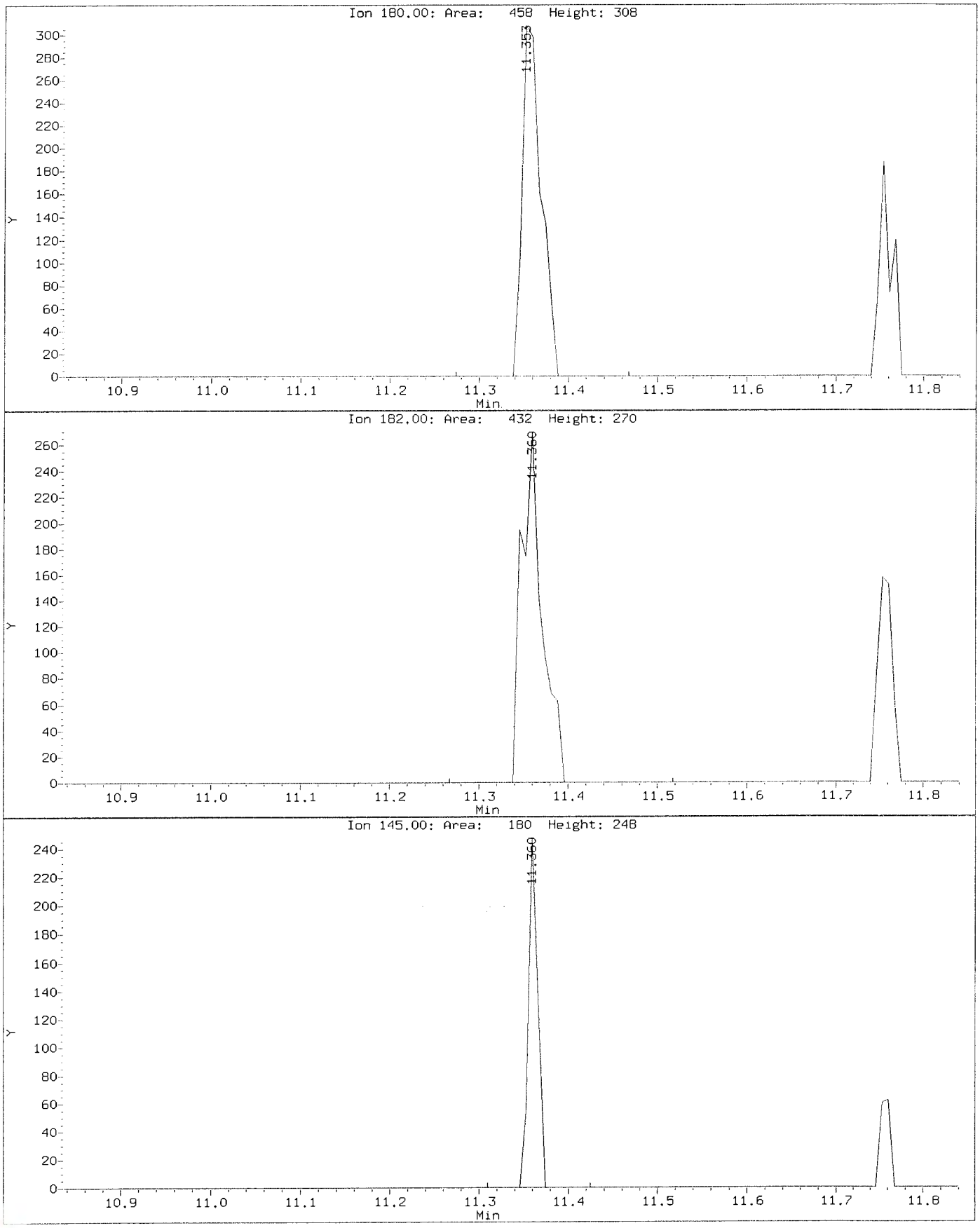
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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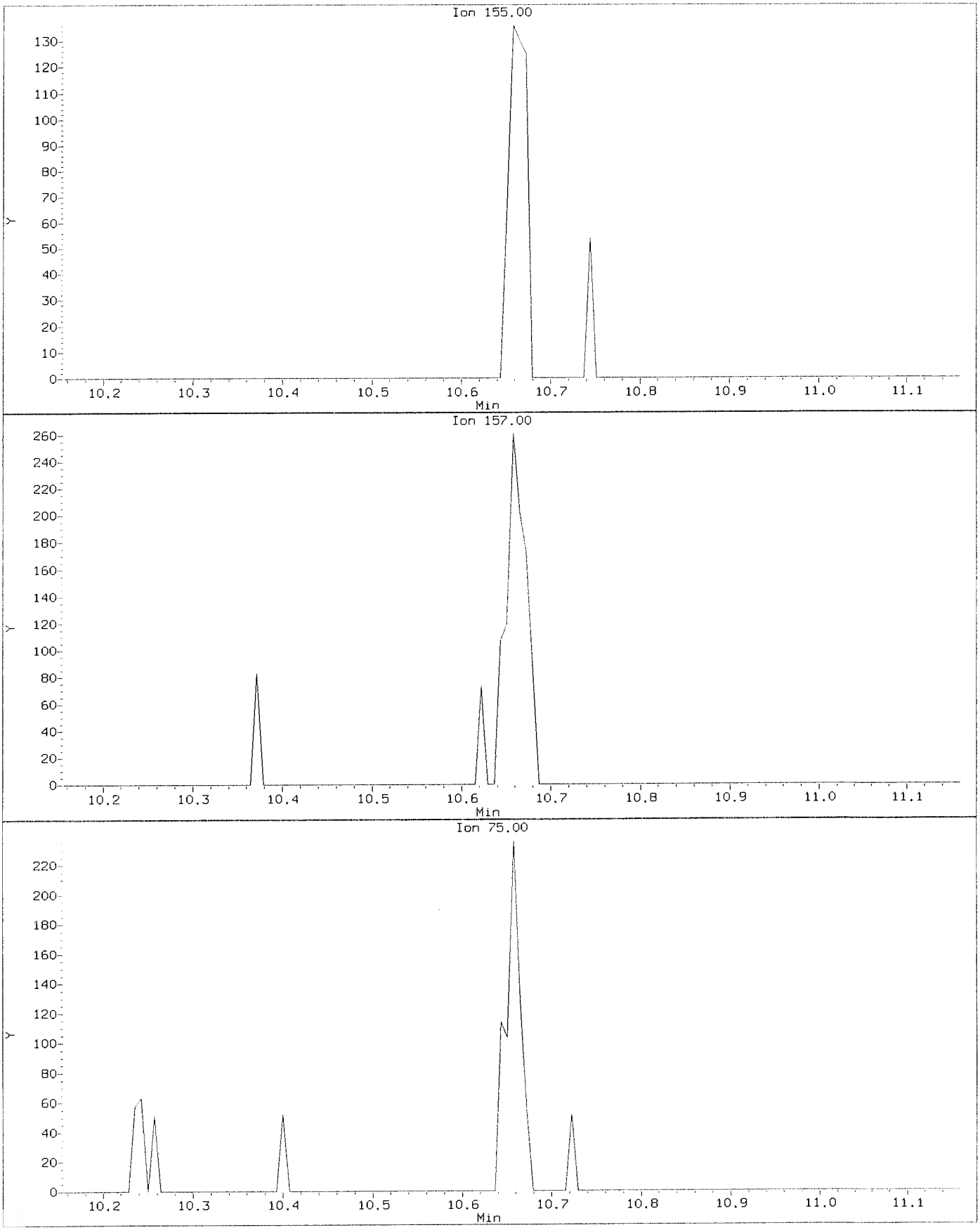
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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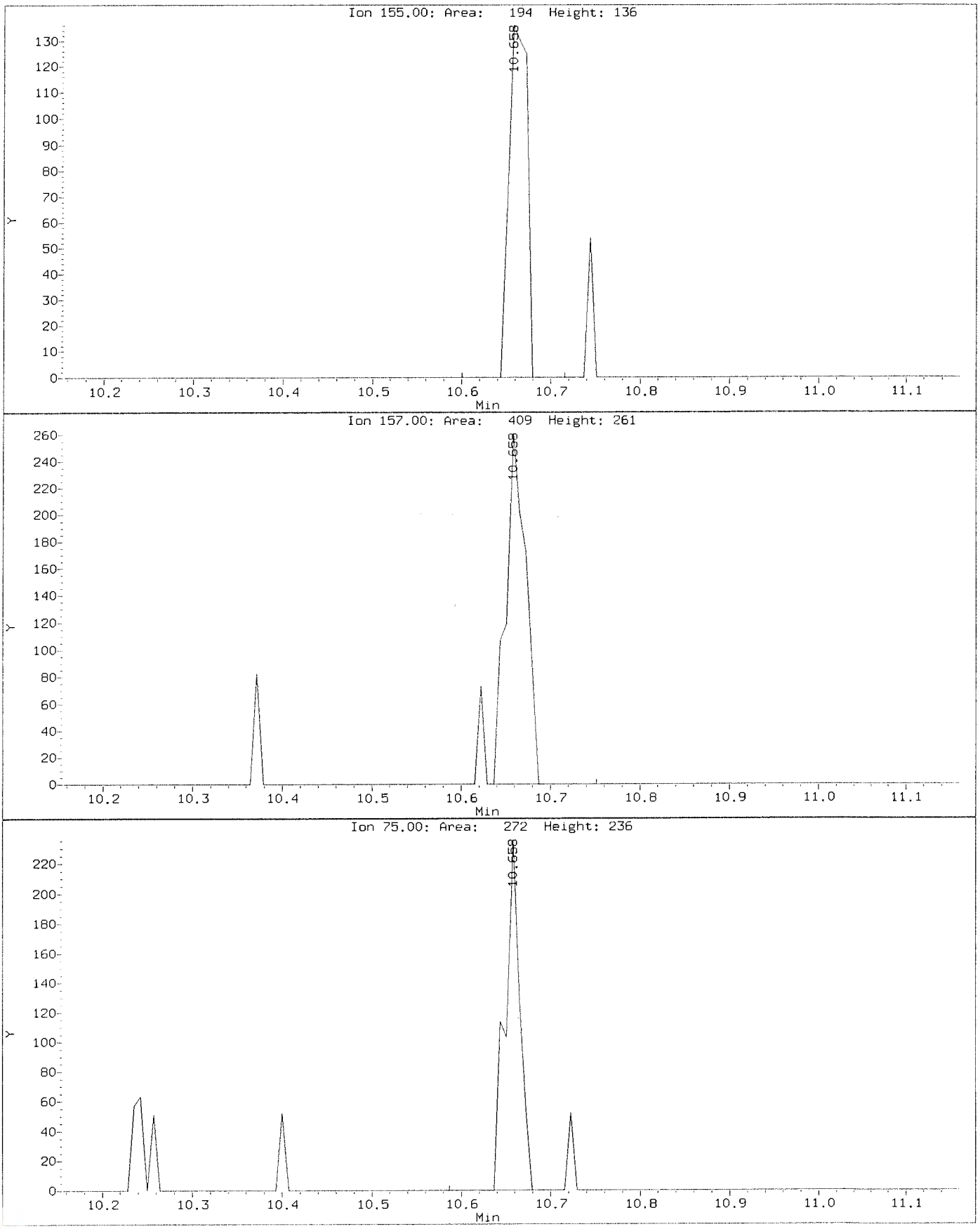
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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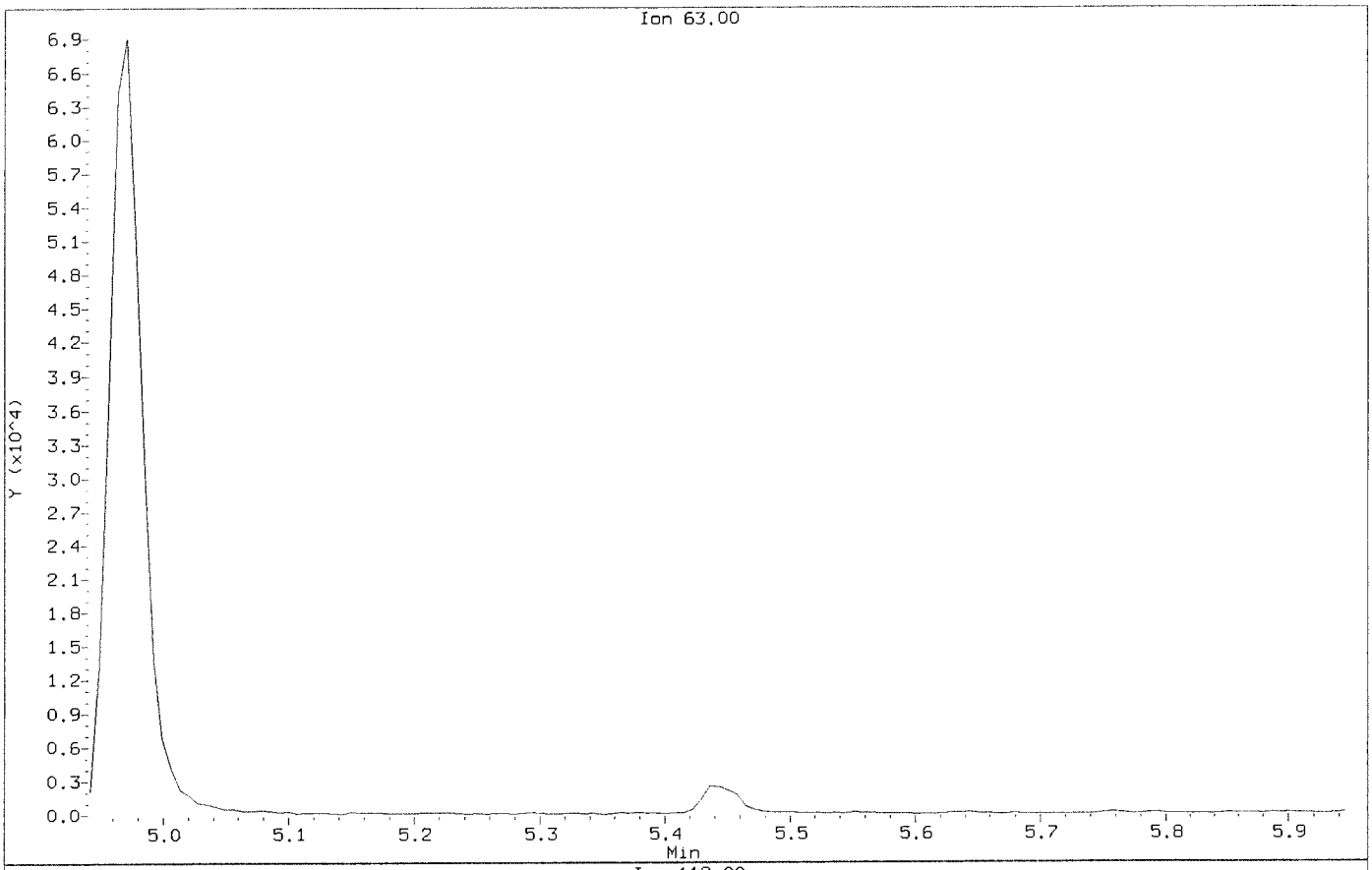
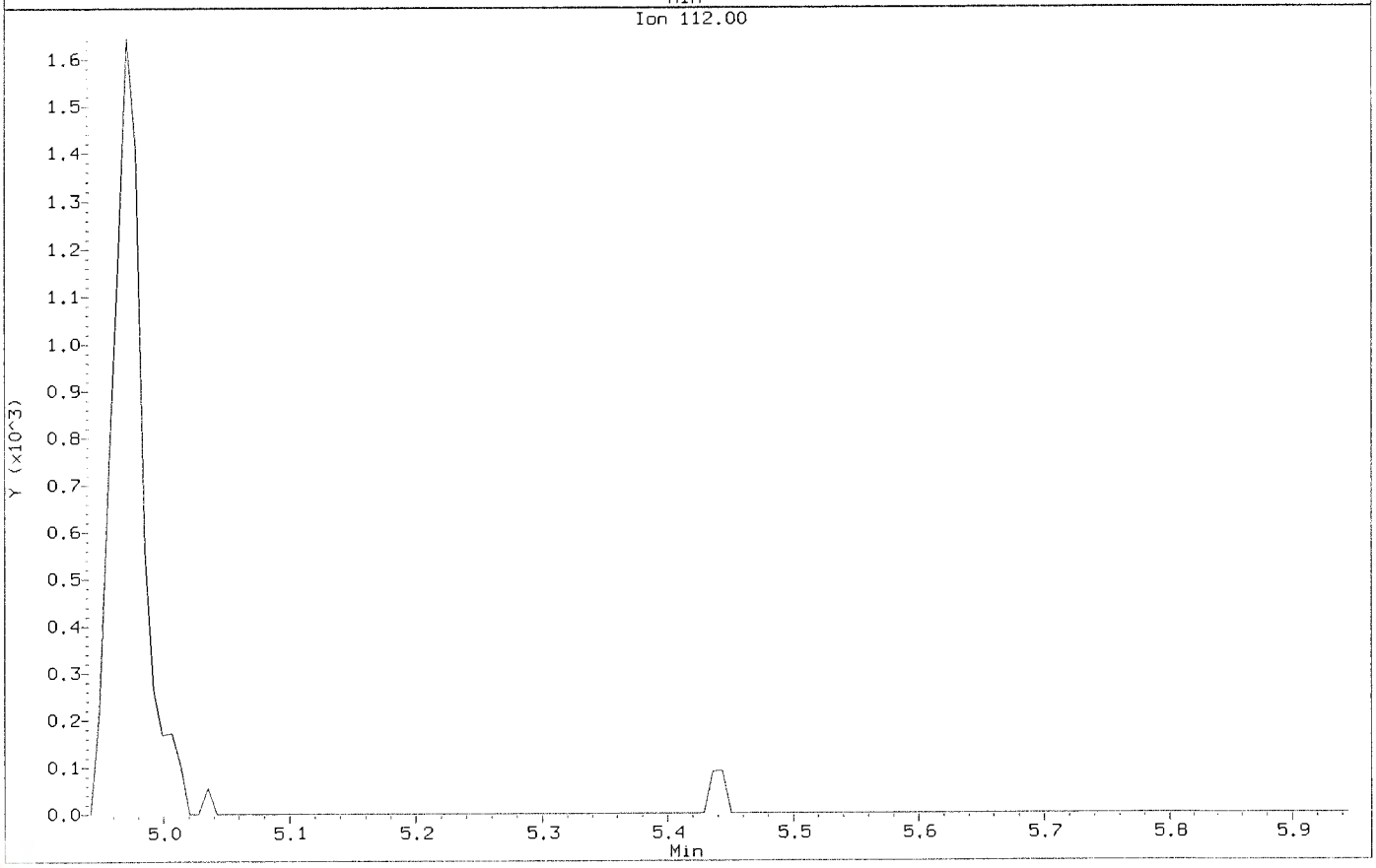
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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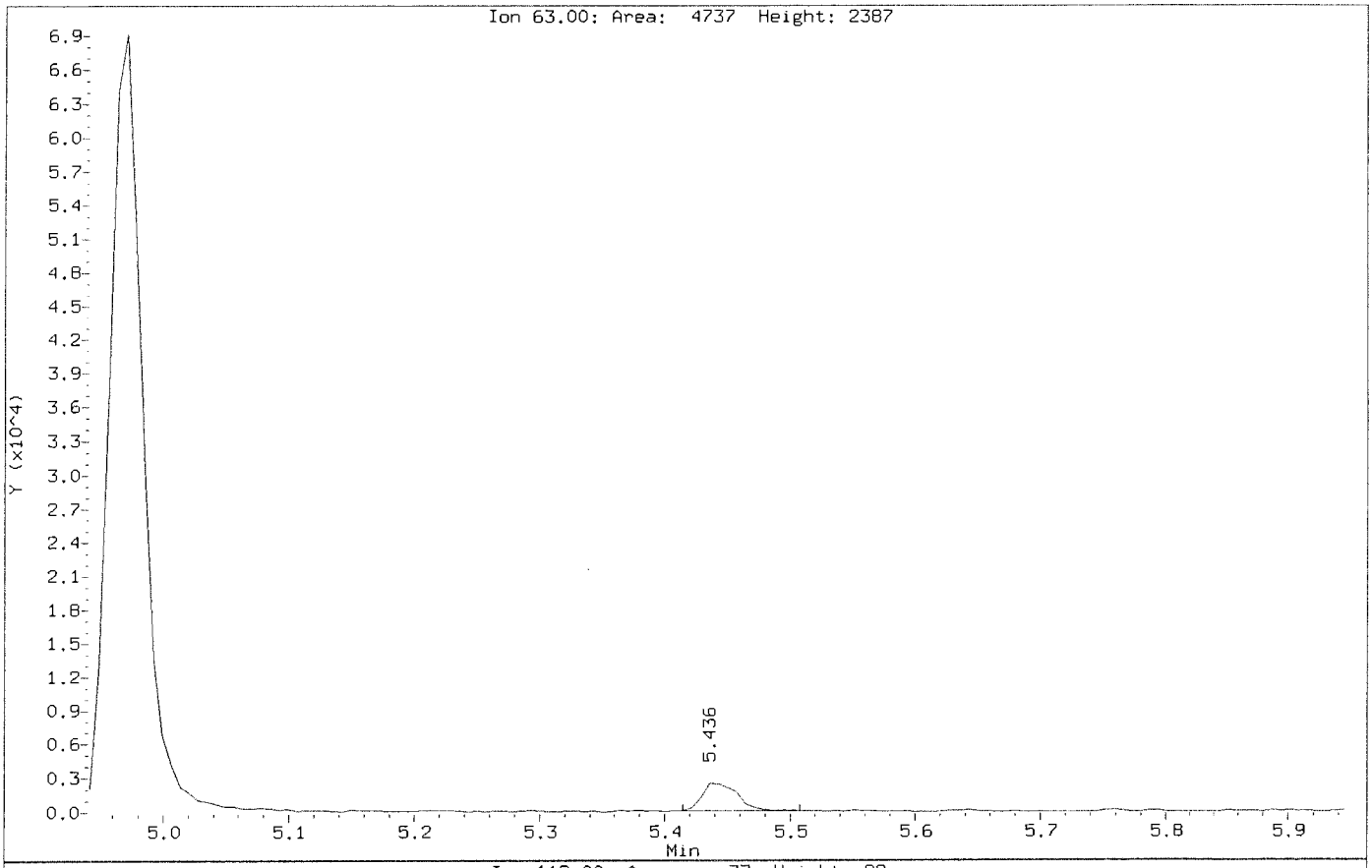
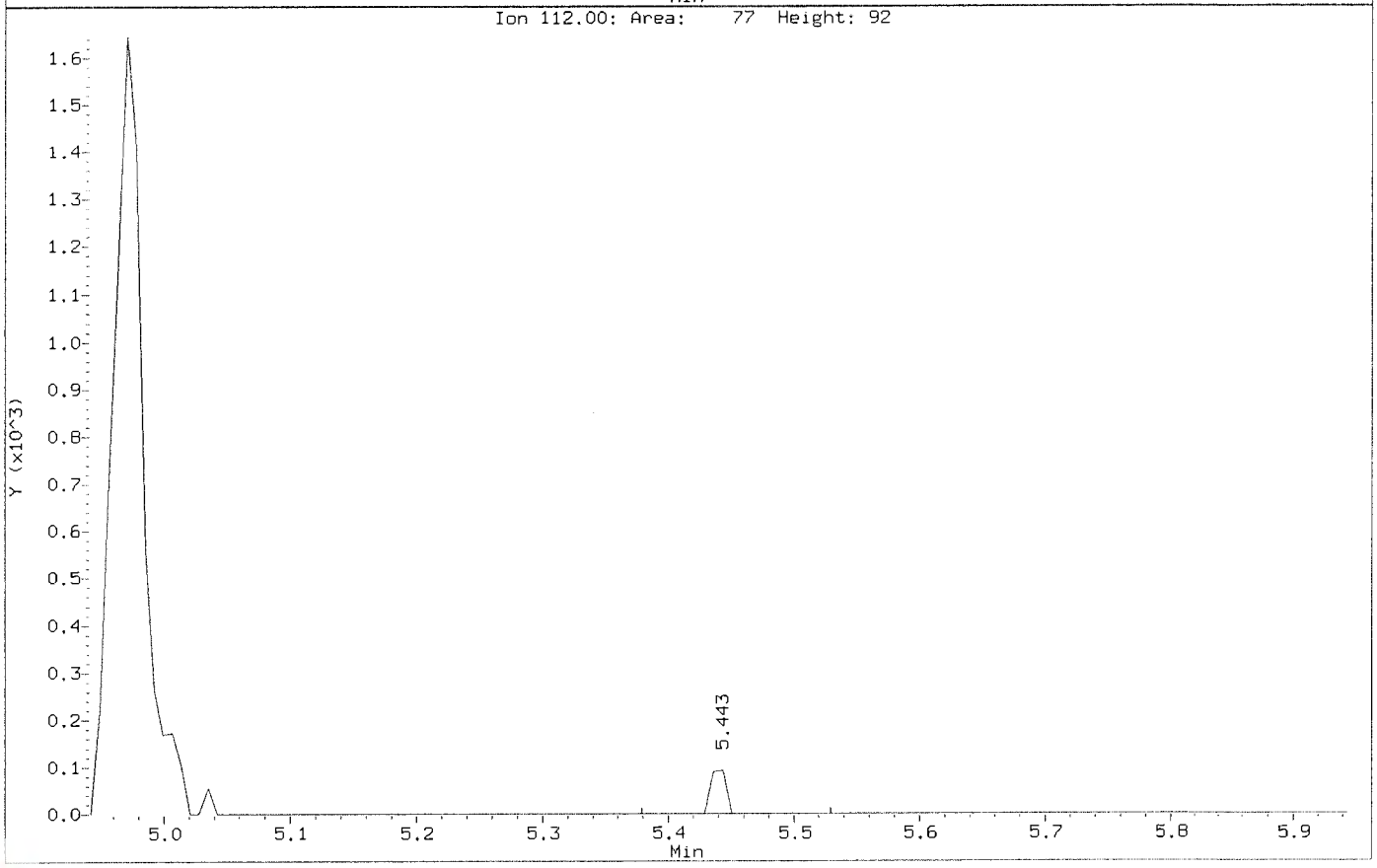
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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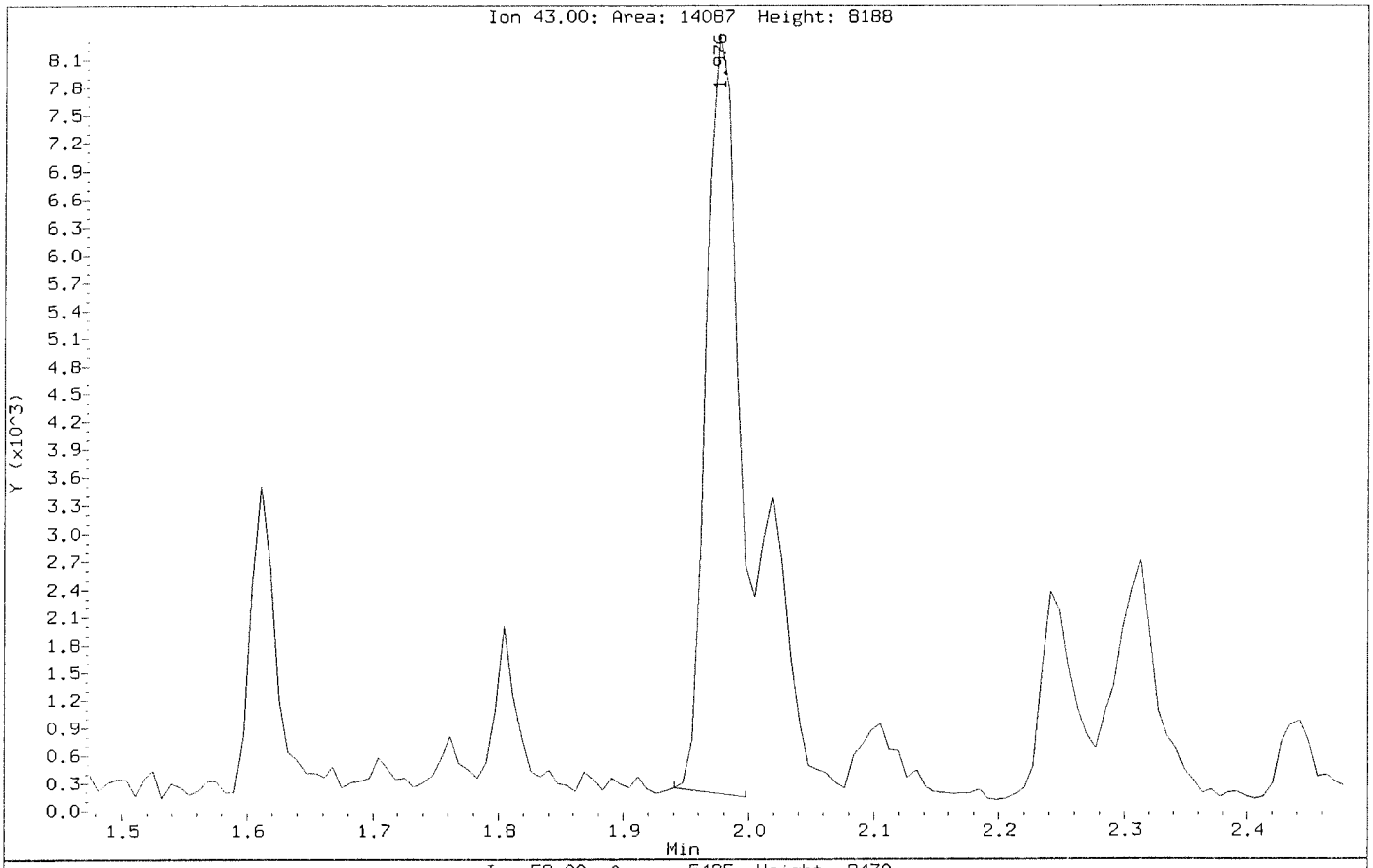
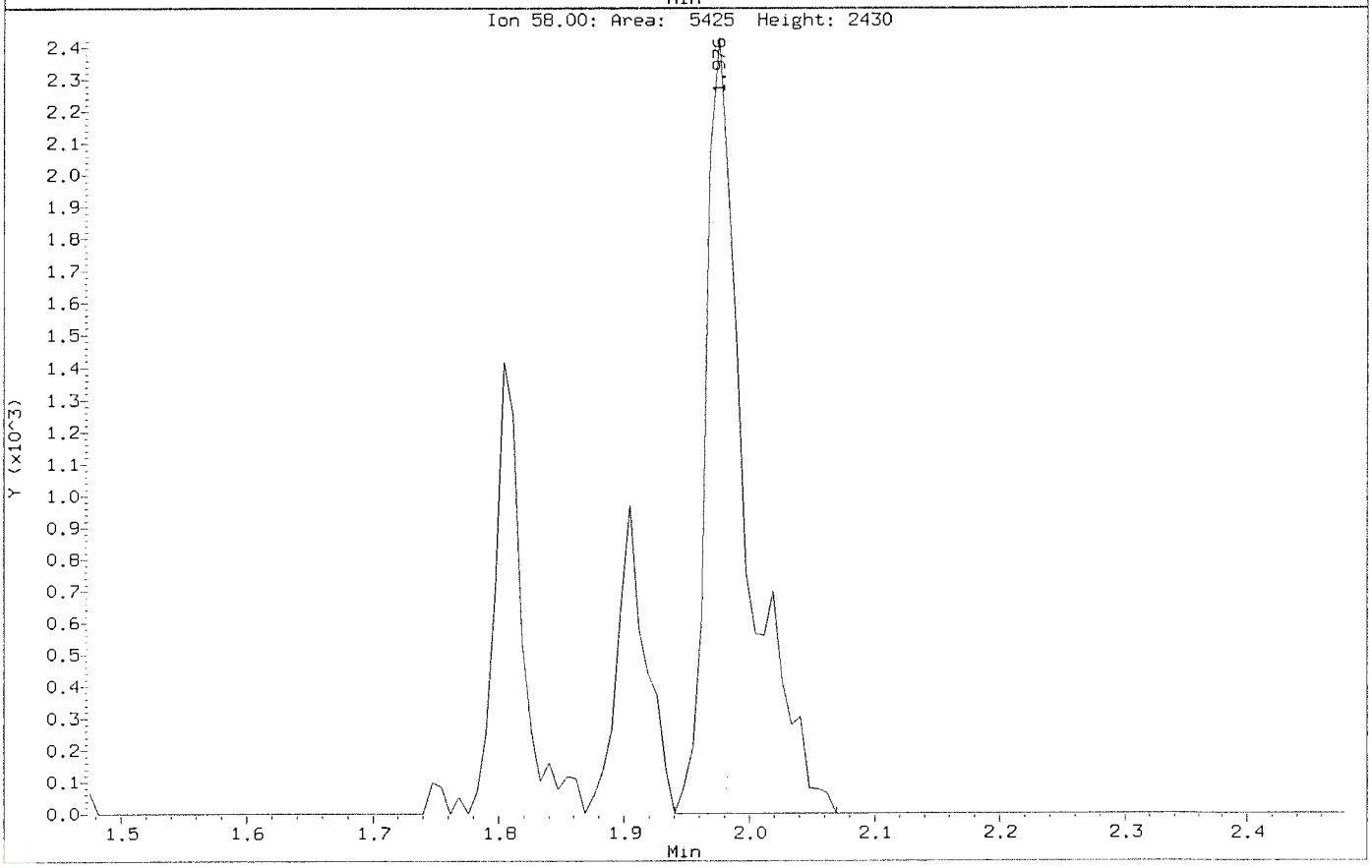
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Acetone
CAS Number: 67-64-1





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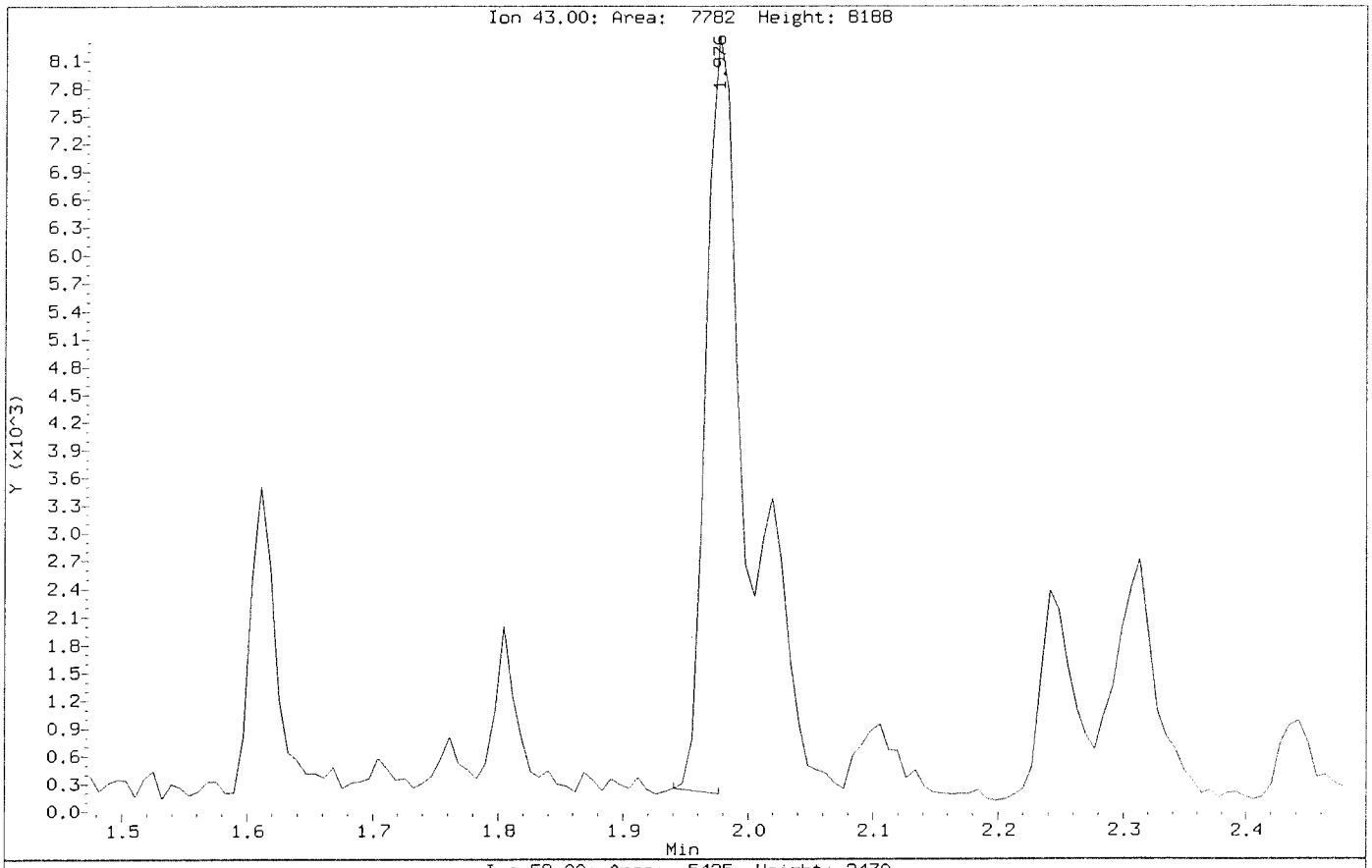
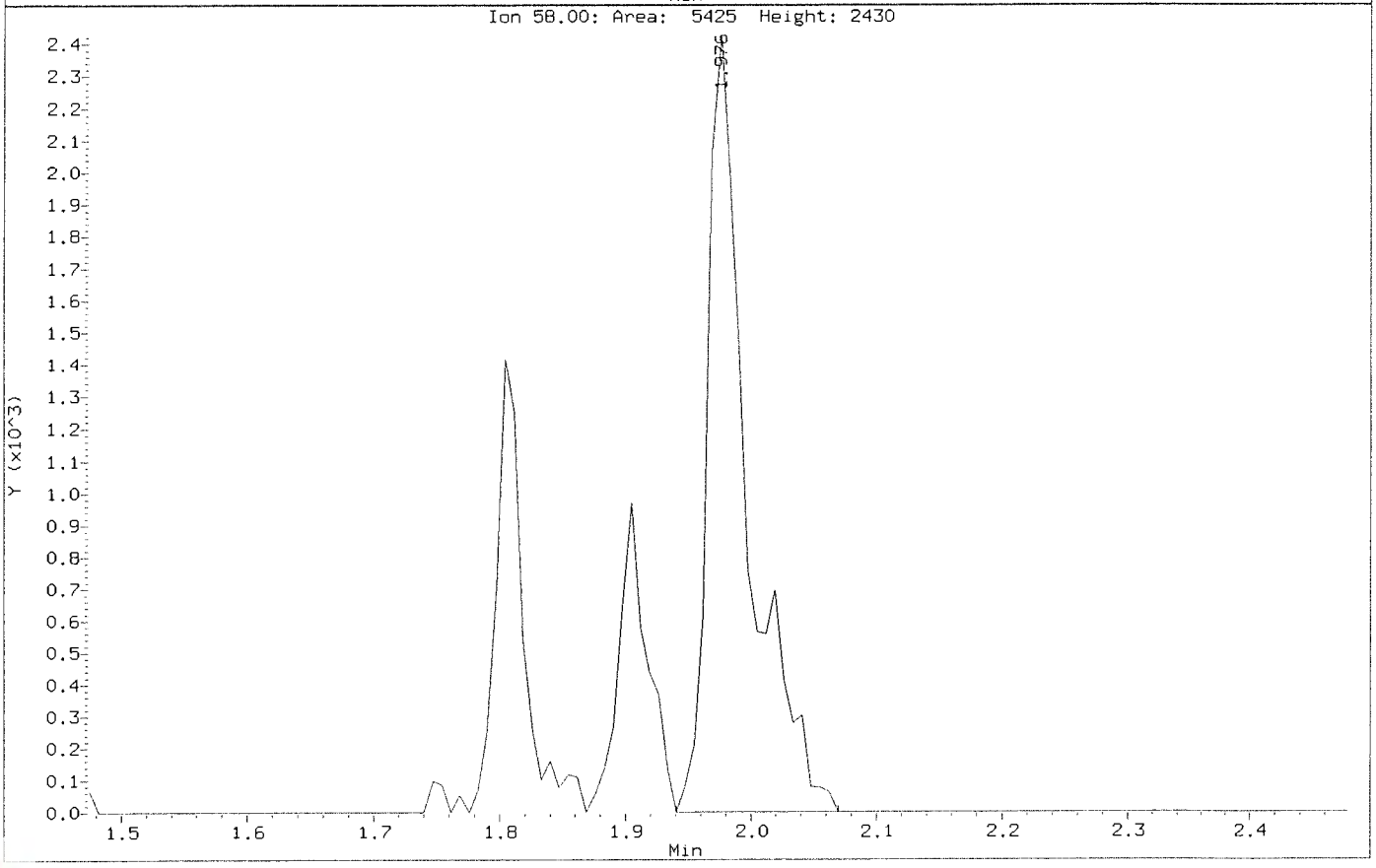
Client Sample ID: VSTD001

Compound: Acetone
CAS Number: 67-64-1





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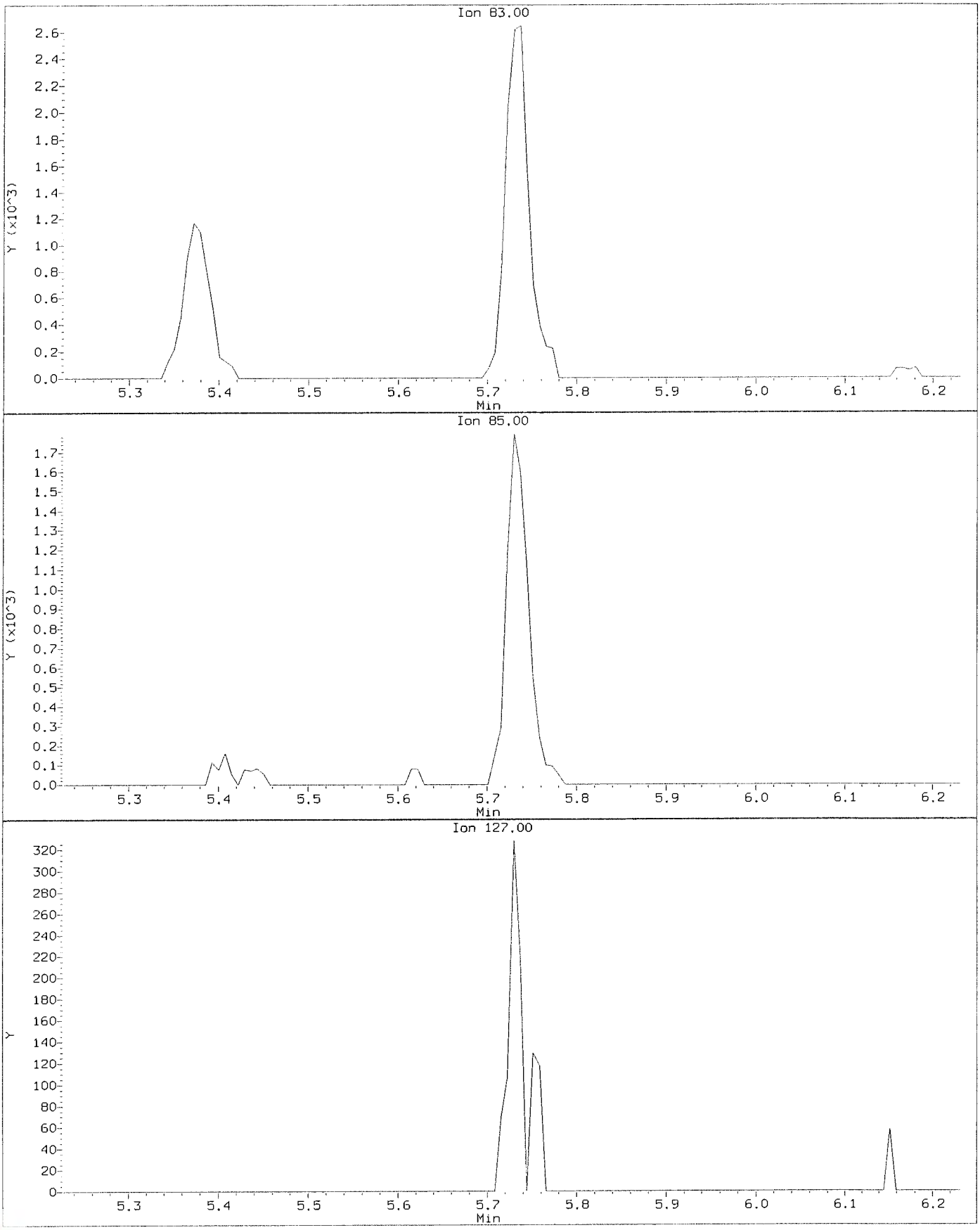
Injection Date: 02-JUN-2020 12:10
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4



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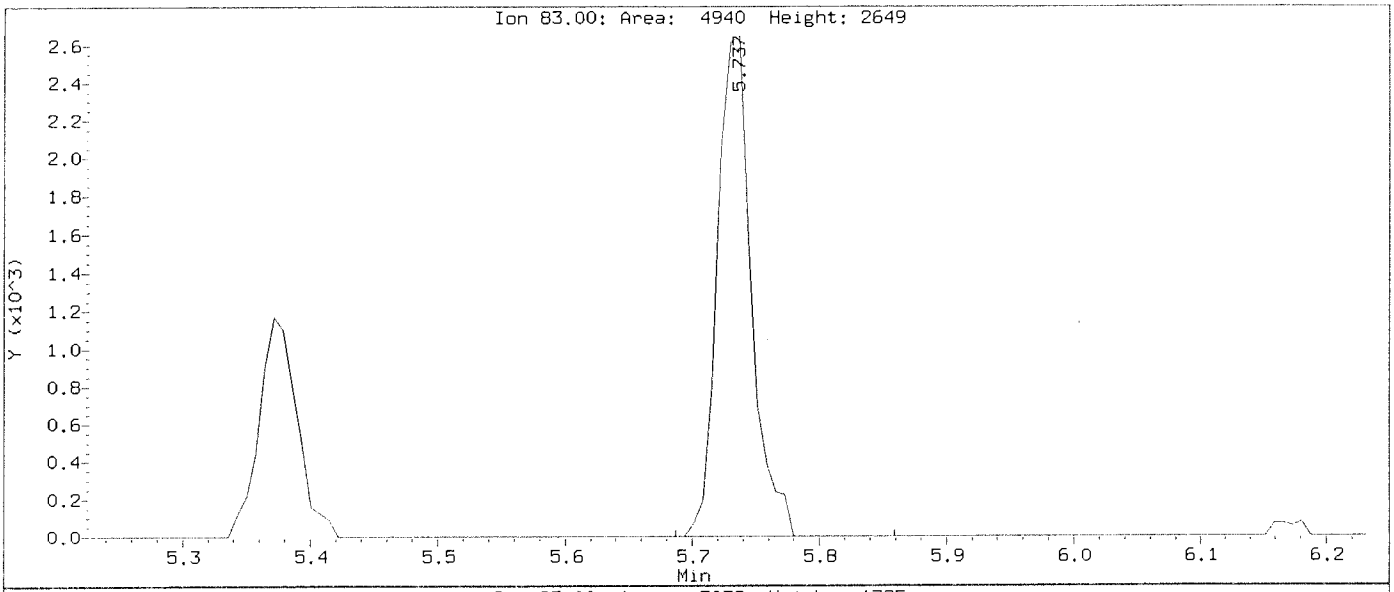
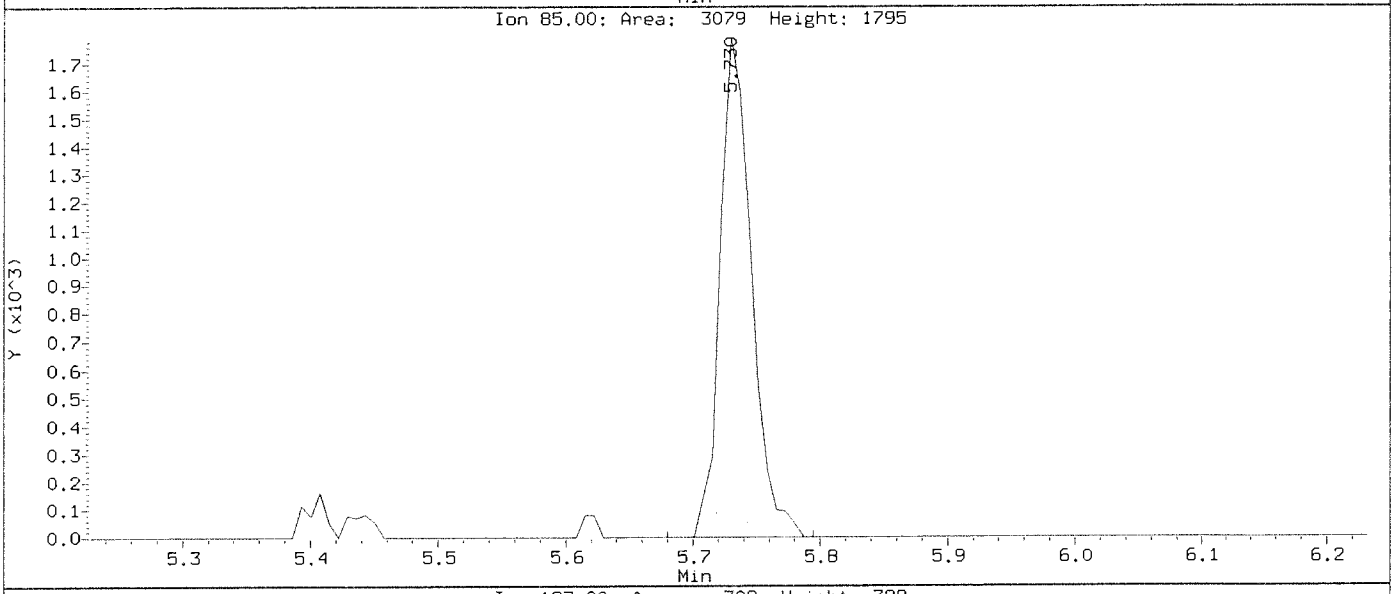
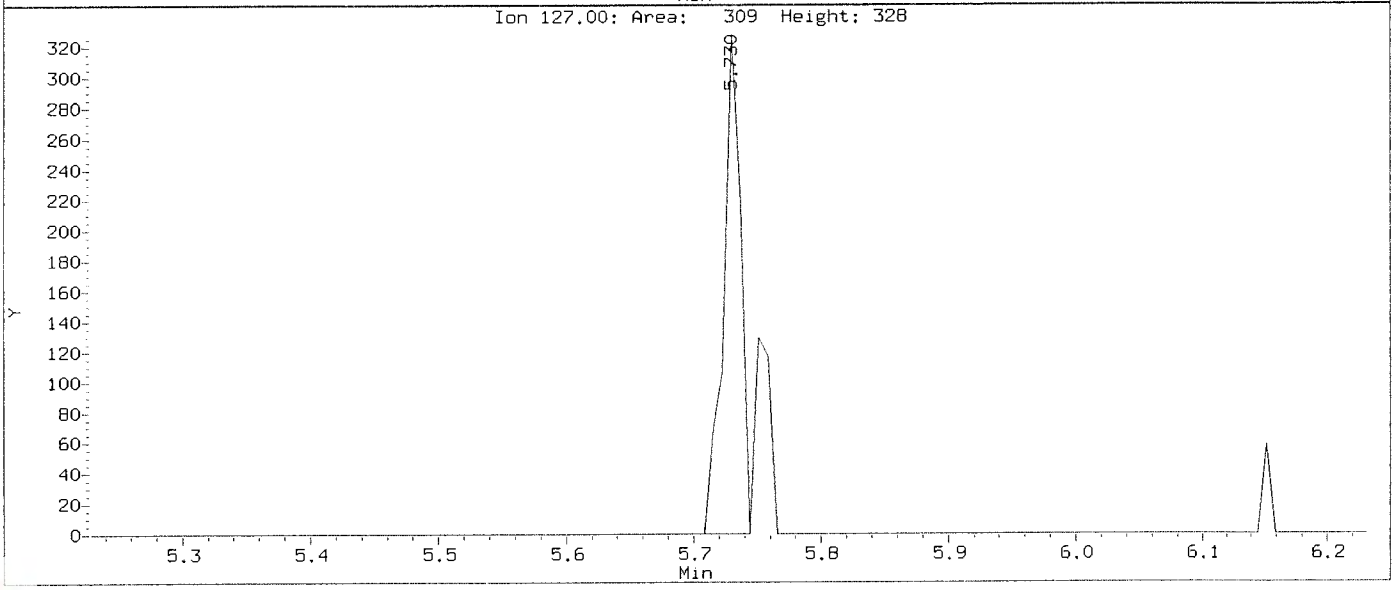
Injection Date: 02-JUN-2020 12:10
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4







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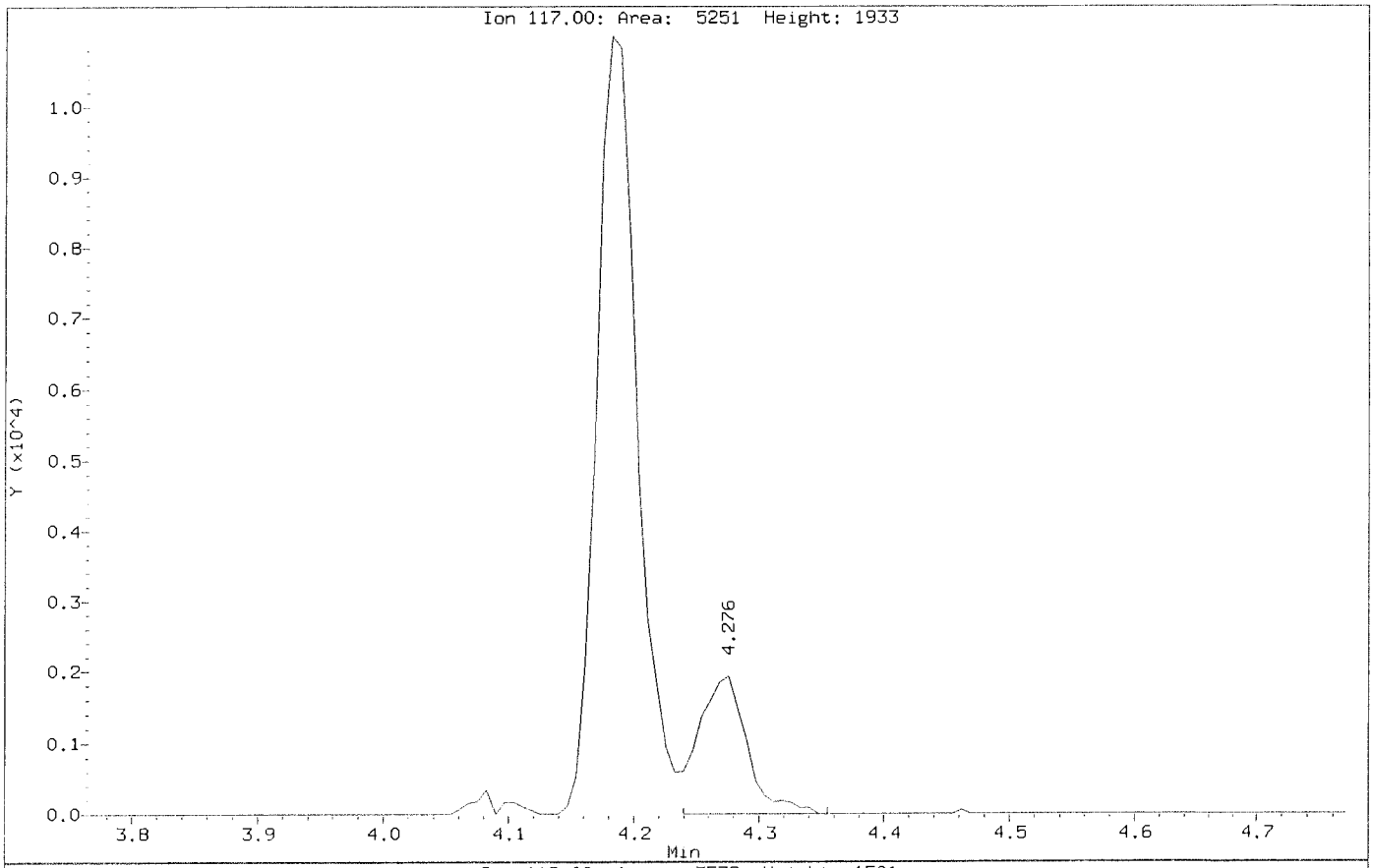
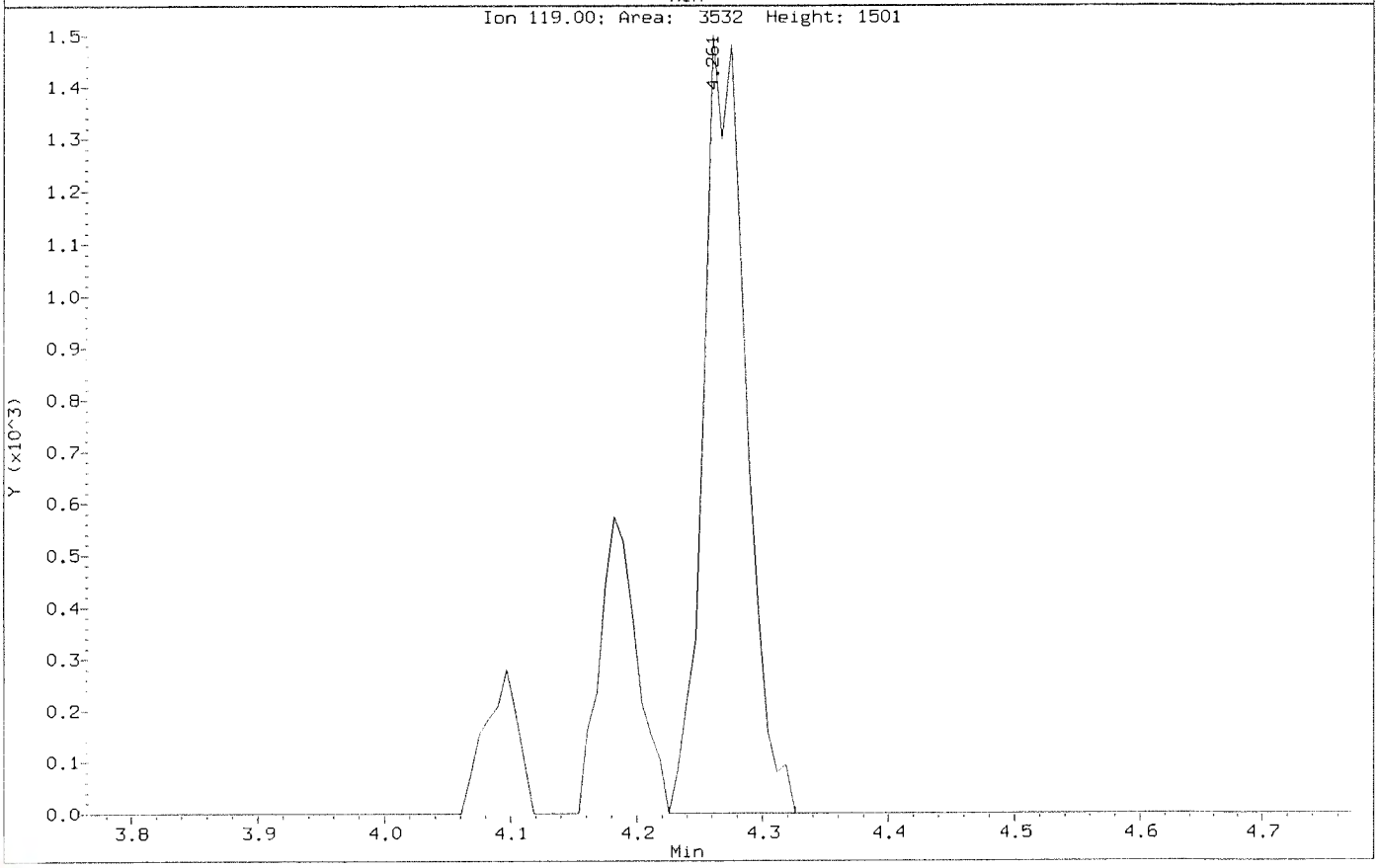
Injection Date: 02-JUN-2020 12:10
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Carbon Tetrachloride
CAS Number: 56-23-5





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Instrument: voa6.i
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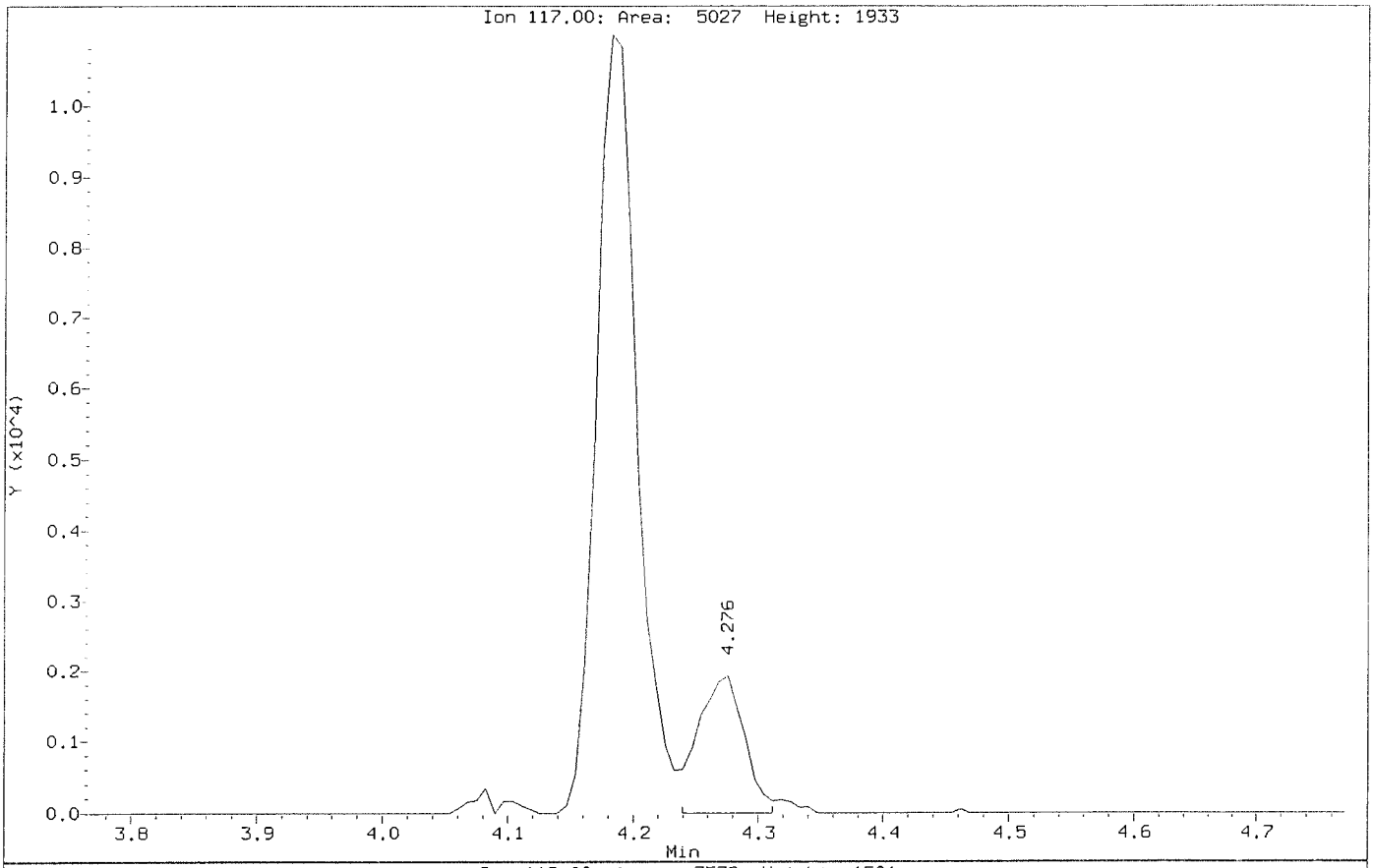
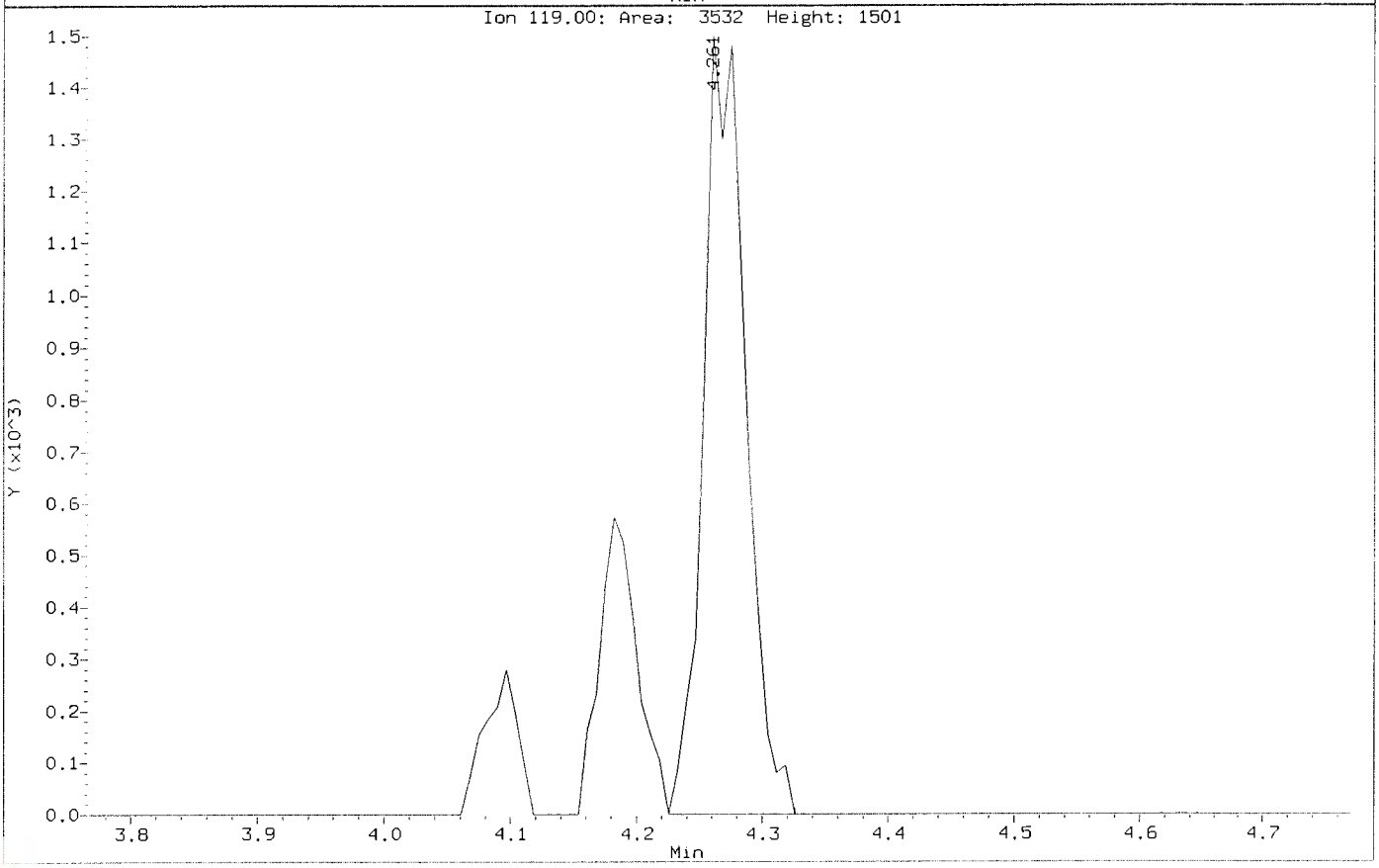
Compound: Carbon Tetrachloride
CAS Number: 56-23-5





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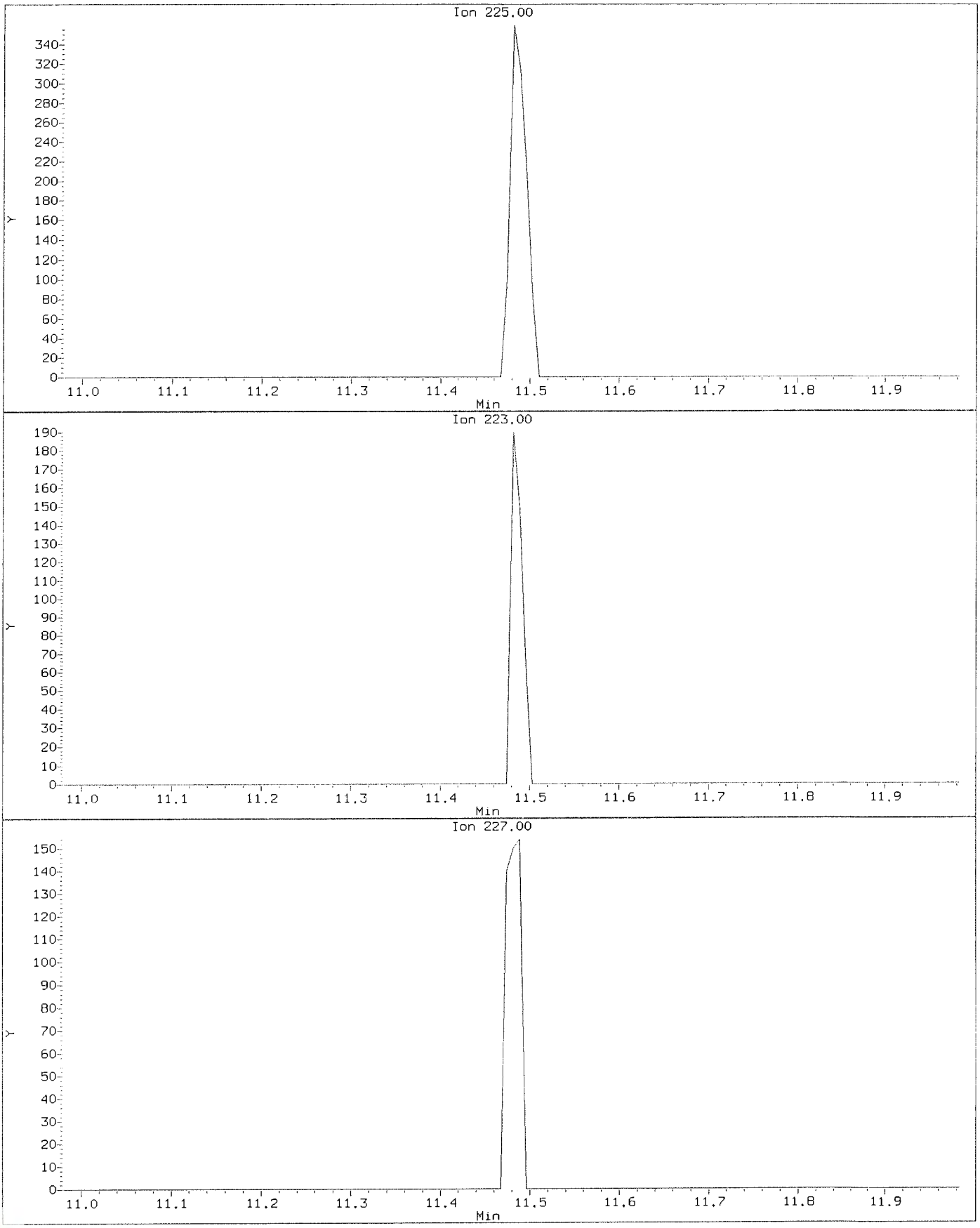
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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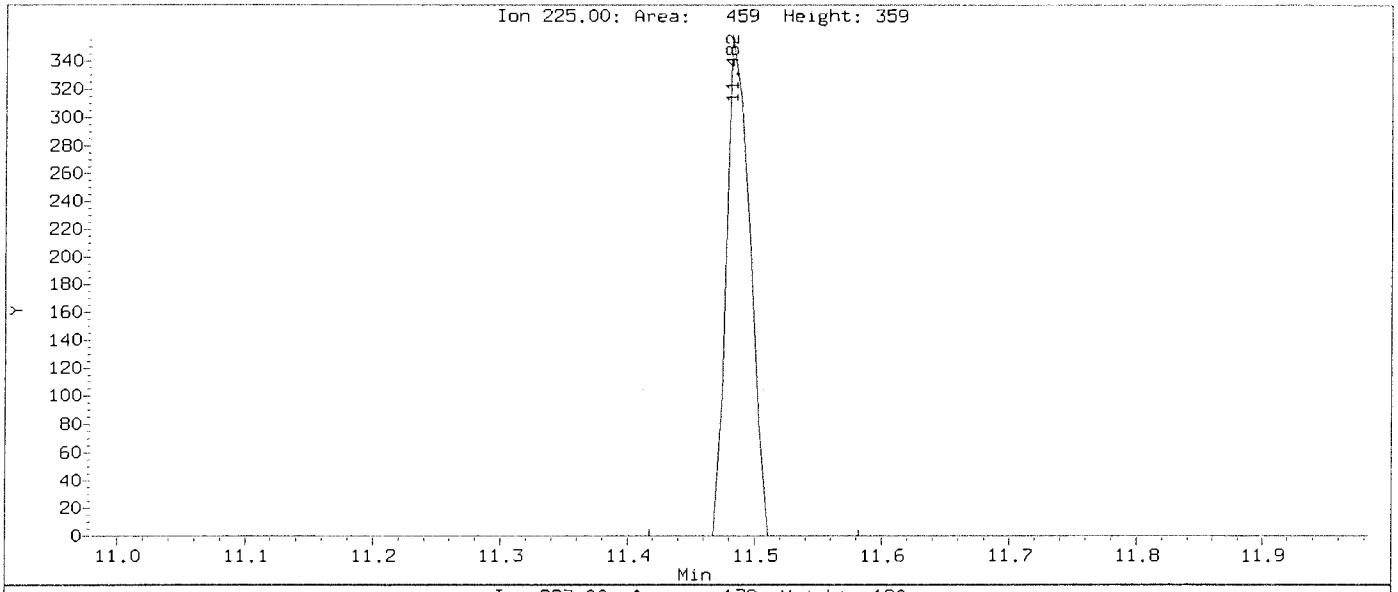
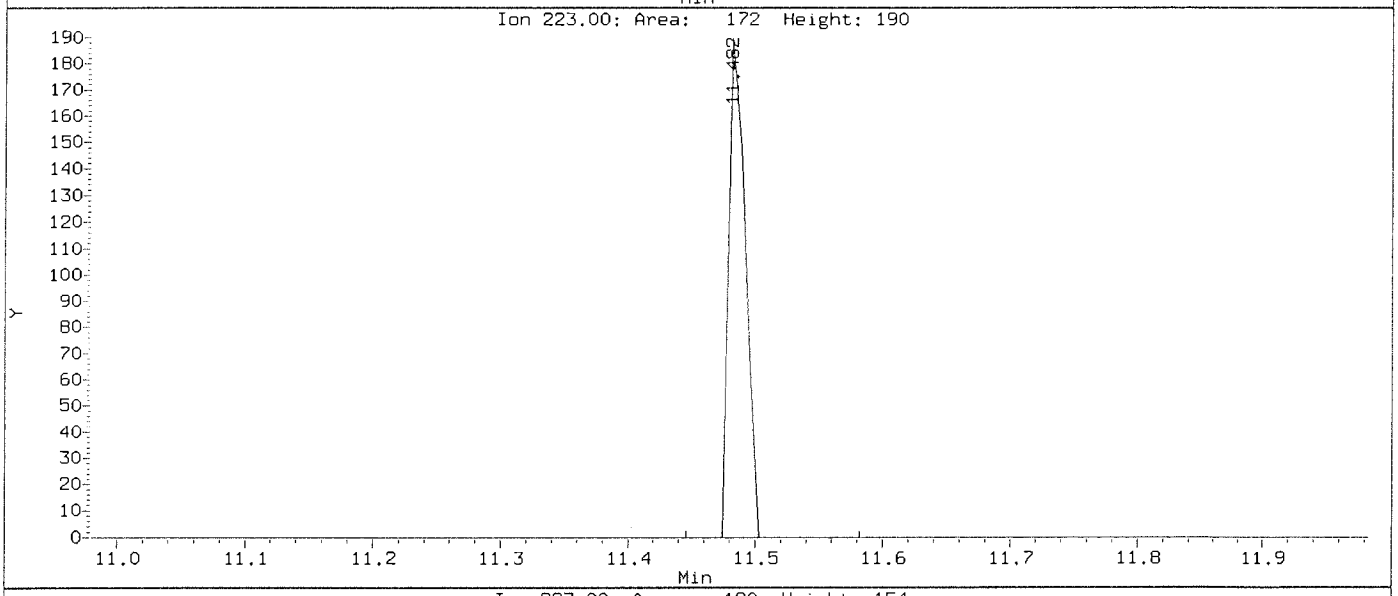
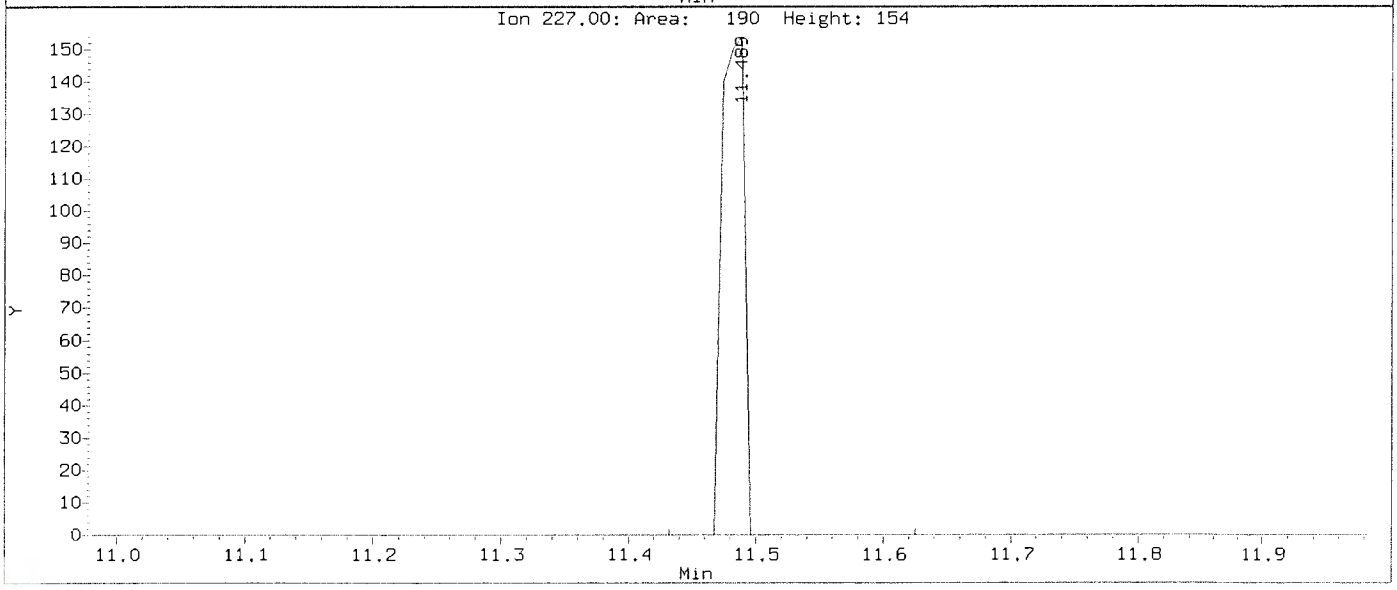
Client Sample ID: VSTD001

Compound: Hexachlorobutadiene
CAS Number: 87-68-3







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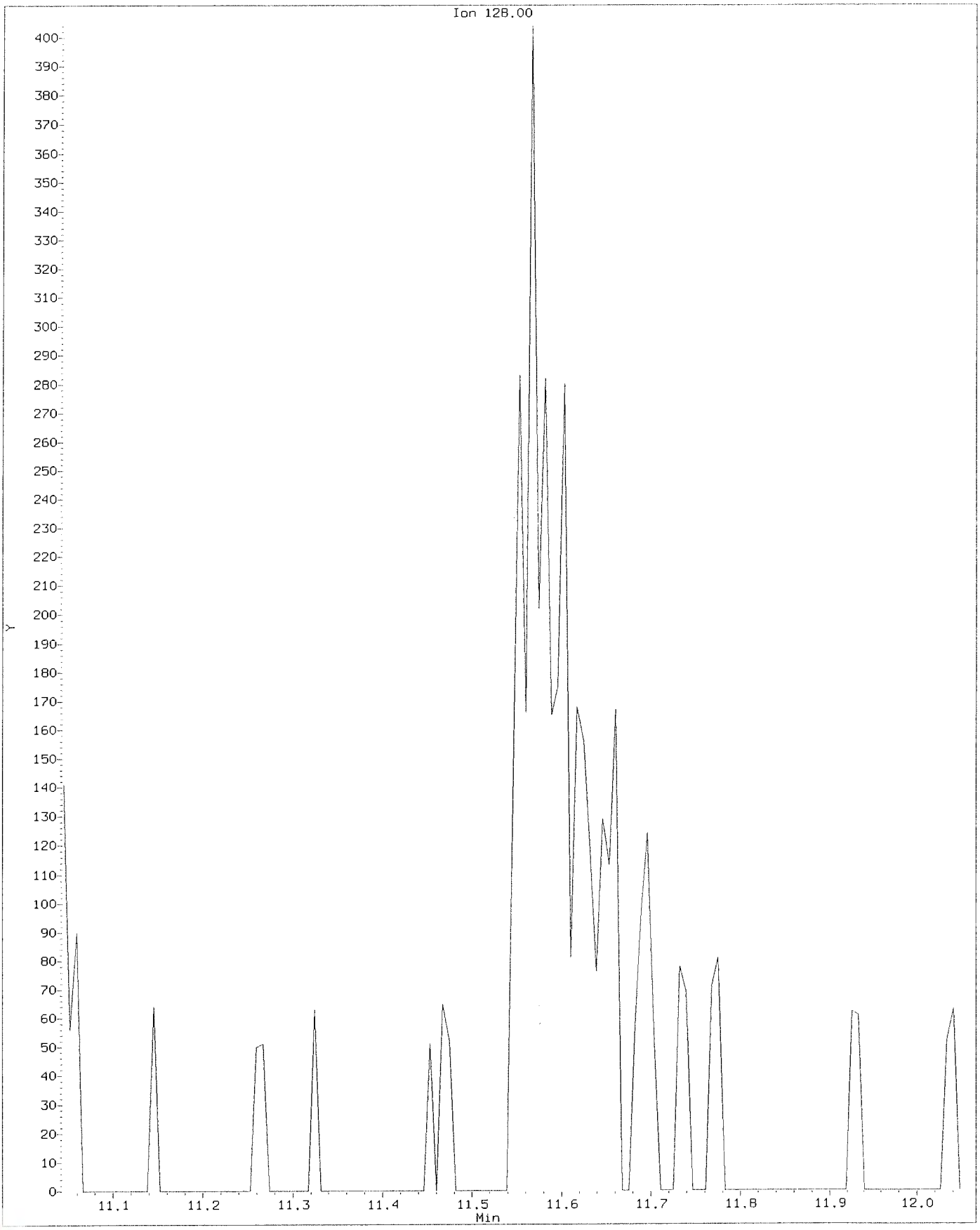
Injection Date: 02-JUN-2020 12:10
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Naphthalene
CAS Number: 91-20-3



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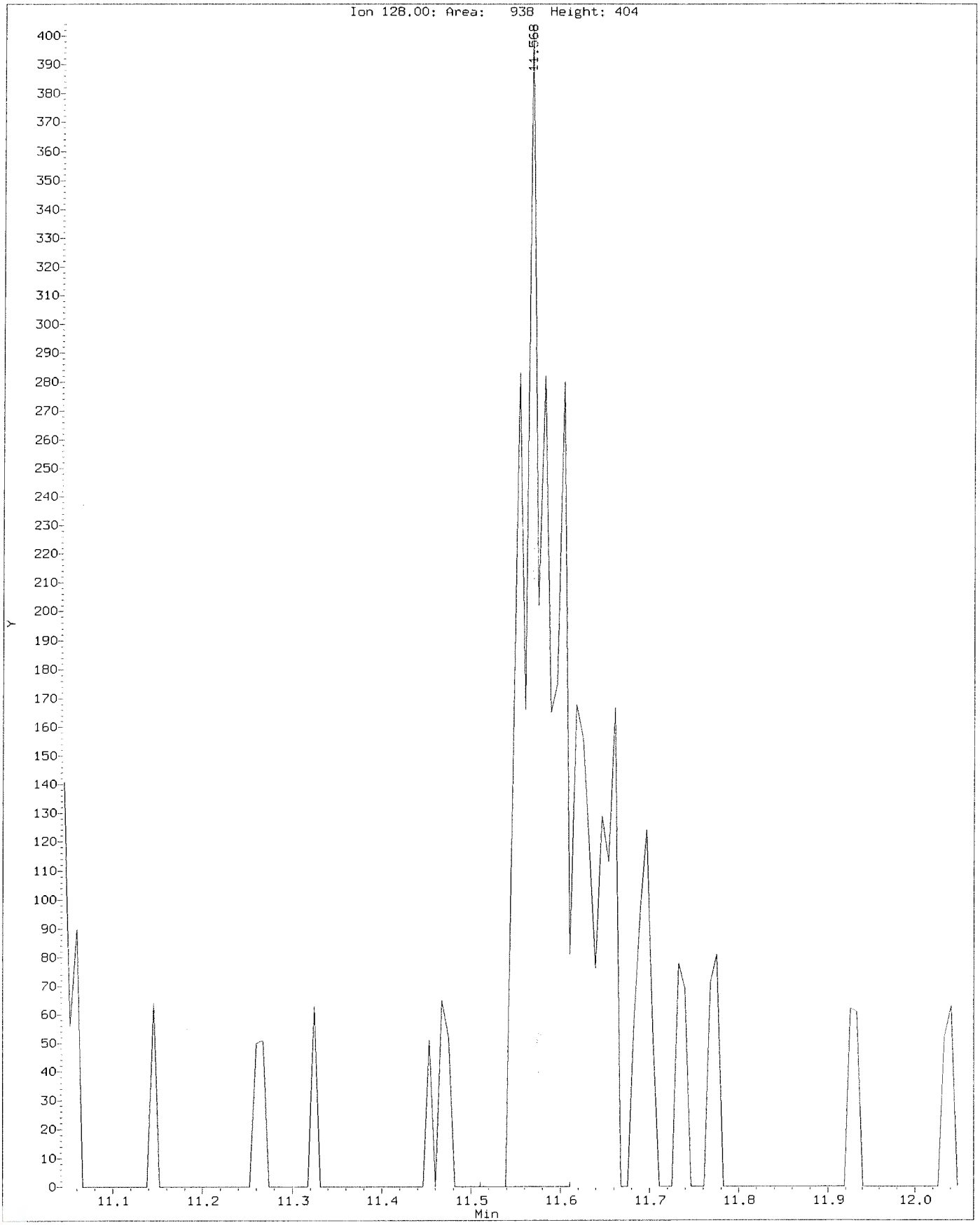
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Naphthalene
CAS Number: 91-20-3



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060205.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 02-JUN-2020 12:34
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 12:34 Cal File: X060205.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	(1.000)	255939	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	472385	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	427060	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	182039	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.103	(0.981)	6437	2.00000	1.45(a)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	9006	2.00000	1.07(a)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	21953	2.00000	1.96(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	9213	2.00000	1.47(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	5958	2.00000	1.94(a)
31 1,1,1-Trichloroethane	97	4.096	4.089	(0.978)	9976	2.00000	2.02(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	7476	2.00000	2.05(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	5413	2.00000	1.99(a)
22 1,1-Dichloroethane	63	2.929	2.921	(0.699)	14782	2.00000	1.86(a)
11 1,1-Dichloroethene	96	1.919	1.911	(0.458)	5104	2.00000	1.94(a)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	8910	2.00000	1.99(a)
93 1,2,3-Trichlorobenzene	180	11.761	11.746	(1.216)	341	2.00000	2.58(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	7097	2.00000	2.11(aM)
90 1,2,4-Trichlorobenzene	180	11.352	11.338	(1.174)	683	2.00000	3.53(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	20840	2.00000	1.94(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.103)	216	2.00000	1.63(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	6490	2.00000	1.98(a)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	9425	2.00000	1.94(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	11711	2.00000	1.86(a)

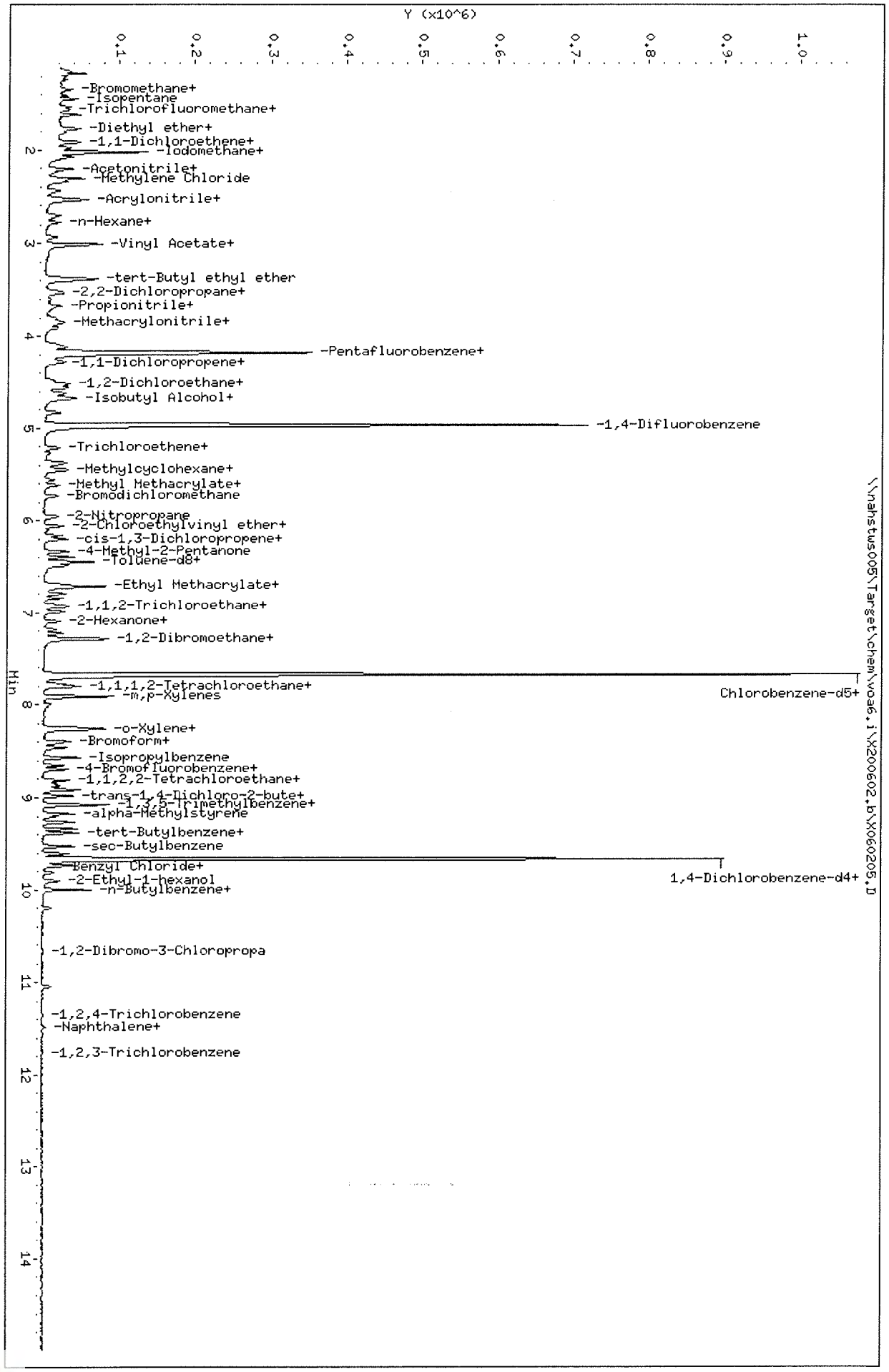
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	8432	2.00000	1.89(aM)
75	1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	20504	2.00000	1.93(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	11231	2.00000	1.97(a)
54	1,3-Dichloropropane	76	6.990	6.983	(0.911)	10934	2.00000	1.90(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	11049	2.00000	1.91(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	10205	2.00000	1.98(a)
24	2-Butanone	43	3.595	3.580	(0.858)	9740	4.00000	3.45(a)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	19414	2.00000	1.99(a)
52	2-Hexanone	43	7.098	7.090	(0.925)	15879	4.00000	3.69(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	21639	2.00000	1.92(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	17967	2.00000	1.85(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	24346	4.00000	3.82(a)
10	Acetone	43	1.976	1.976	(0.472)	17803	4.00000	1.32(aM)
37	Benzene	78	4.519	4.519	(0.909)	26523	2.00000	1.96(a)
74	Bromobenzene	156	8.810	8.809	(0.911)	7173	2.00000	2.01(a)
29	Bromochloromethane	128	3.810	3.803	(0.909)	3198	2.00000	1.77(a)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	9697	2.00000	1.98(a)
66	Bromoform	173	8.416	8.416	(1.097)	4038	2.00000	1.89(Ta)
6	Bromomethane	94	1.338	1.331	(0.320)	5832	2.00000	1.52(a)
19	Carbon Disulfide	76	2.069	2.069	(0.494)	31675	4.00000	3.75(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	6903	2.00000	1.61(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	15959	2.00000	1.89(a)
7	Chloroethane	64	1.403	1.396	(0.335)	5341	2.00000	1.95(a)
28	Chloroform	83	3.917	3.910	(0.935)	12483	2.00000	1.98(a)
3	Chloromethane	50	1.081	1.081	(0.258)	12594	2.00000	2.00(a)
27	cis-1,2-Dichloroethene	96	3.538	3.530	(0.844)	7294	2.00000	2.00(a)
46	cis-1,3-Dichloropropene	75	6.166	6.159	(1.241)	11157	2.00000	1.93(a)
55	Dibromochloromethane	129	7.184	7.183	(0.937)	6717	2.00000	1.97(a)
44	Dibromomethane	93	5.558	5.557	(1.118)	4518	2.00000	1.88(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	5549	2.00000	1.82(a)
61	Ethylbenzene	106	7.800	7.807	(1.017)	8628	2.00000	1.99(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	812	2.00000	4.14(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	25487	2.00000	1.98(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	20232	4.00000	3.87(a)
17	Methylene Chloride	84	2.305	2.305	(0.550)	8194	2.00000	1.32(a)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	14872	2.00000	1.72(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	29364	2.00000	1.92(a)
92	Naphthalene	128	11.567	11.546	(1.196)	1568	2.00000	2.42(a)
63	o-Xylene	106	8.244	8.244	(1.075)	10079	2.00000	1.95(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	22450	2.00000	1.90(a)
64	Styrene	104	8.265	8.265	(1.078)	17415	2.00000	1.89(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	15597	2.00000	1.88(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	4502	2.00000	1.98(a)
50	Toluene	91	6.453	6.453	(0.841)	27277	2.00000	2.04(a)
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.605)	5720	2.00000	1.90(a)
51	trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	9985	2.00000	1.91(a)
38	Trichloroethene	130	5.214	5.206	(1.049)	6196	2.00000	1.93(a)
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	9034	2.00000	1.89(a)
5	Vinyl Chloride	62	1.145	1.138	(0.273)	10107	2.00000	1.87(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.



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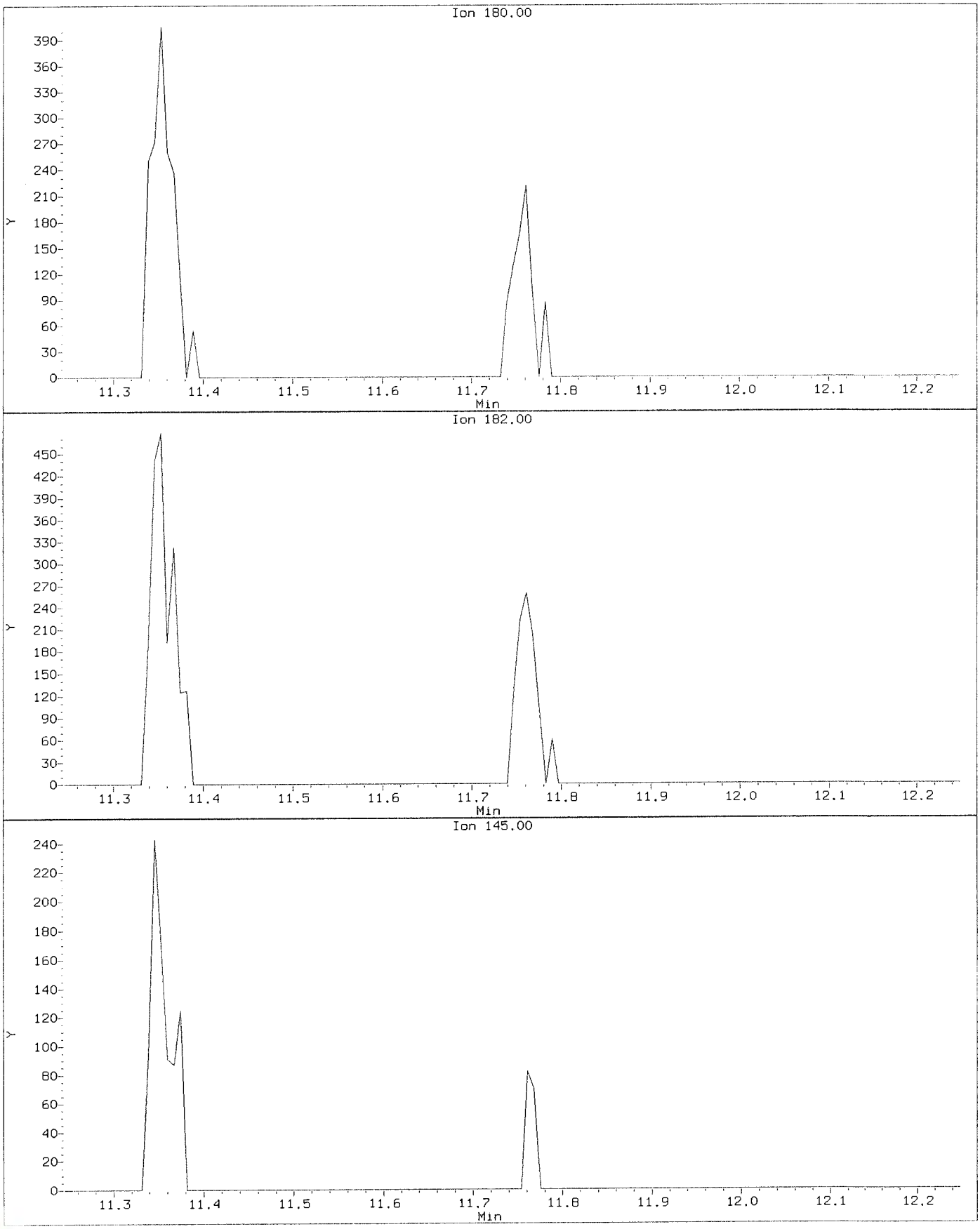
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060205.D
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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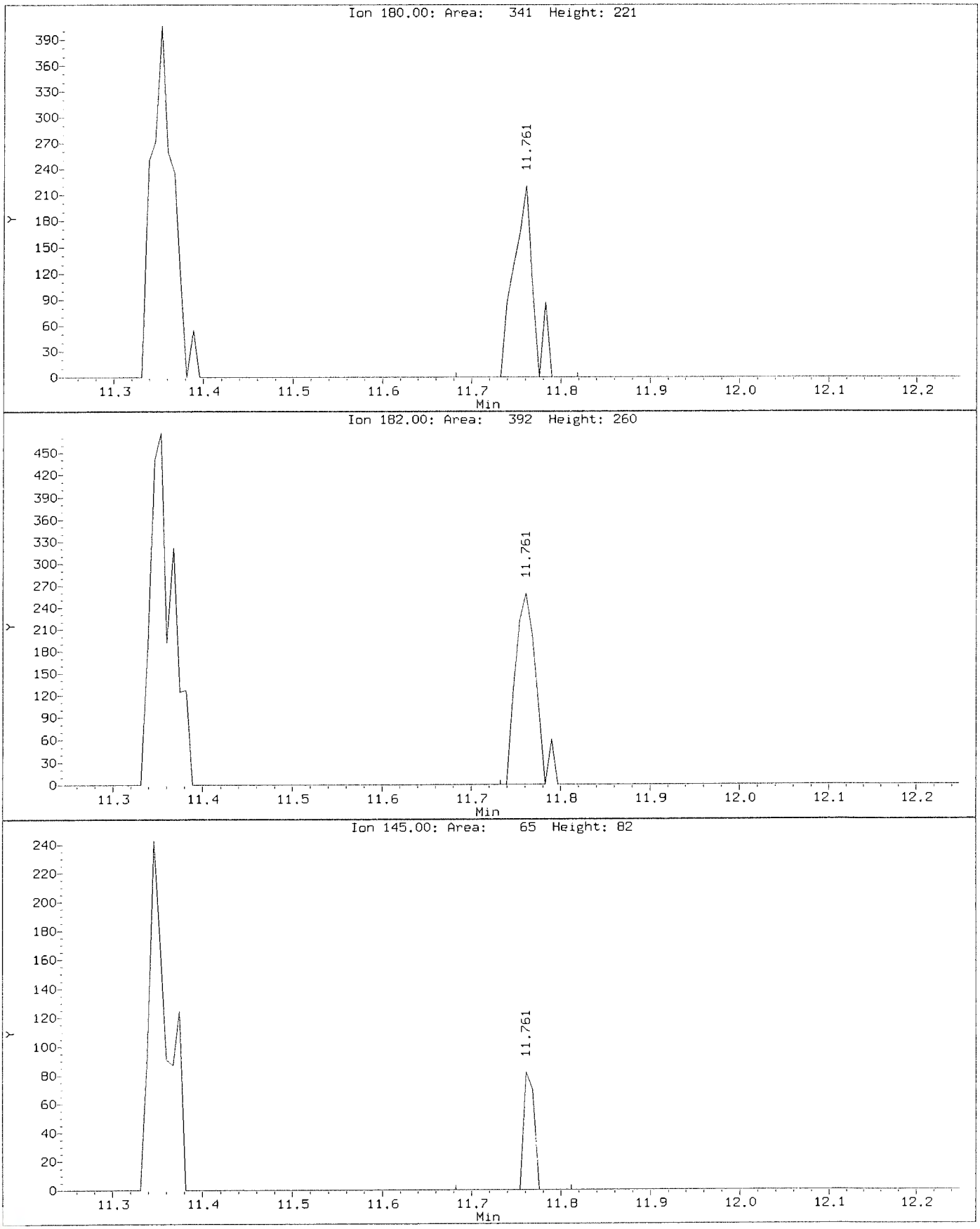
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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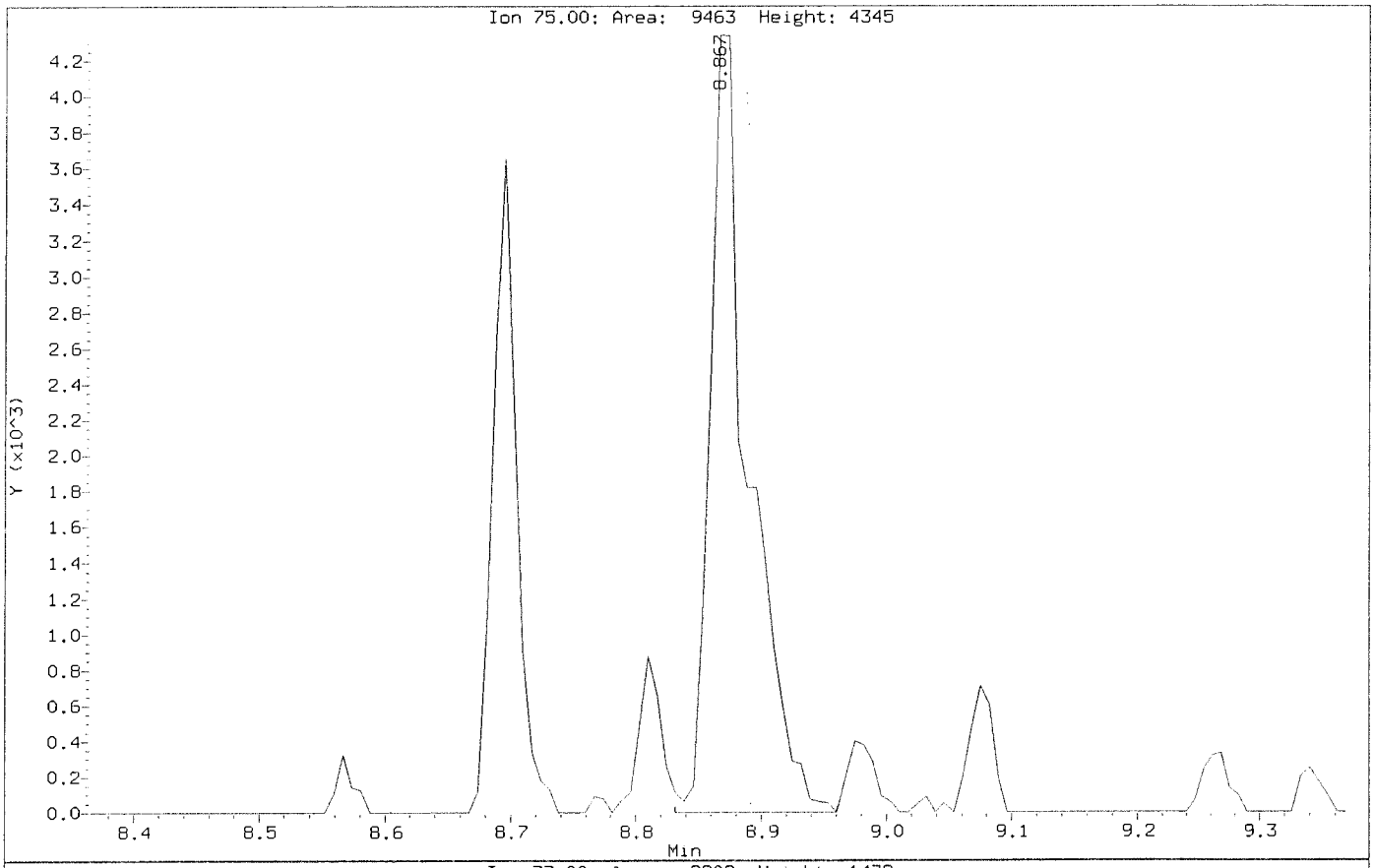
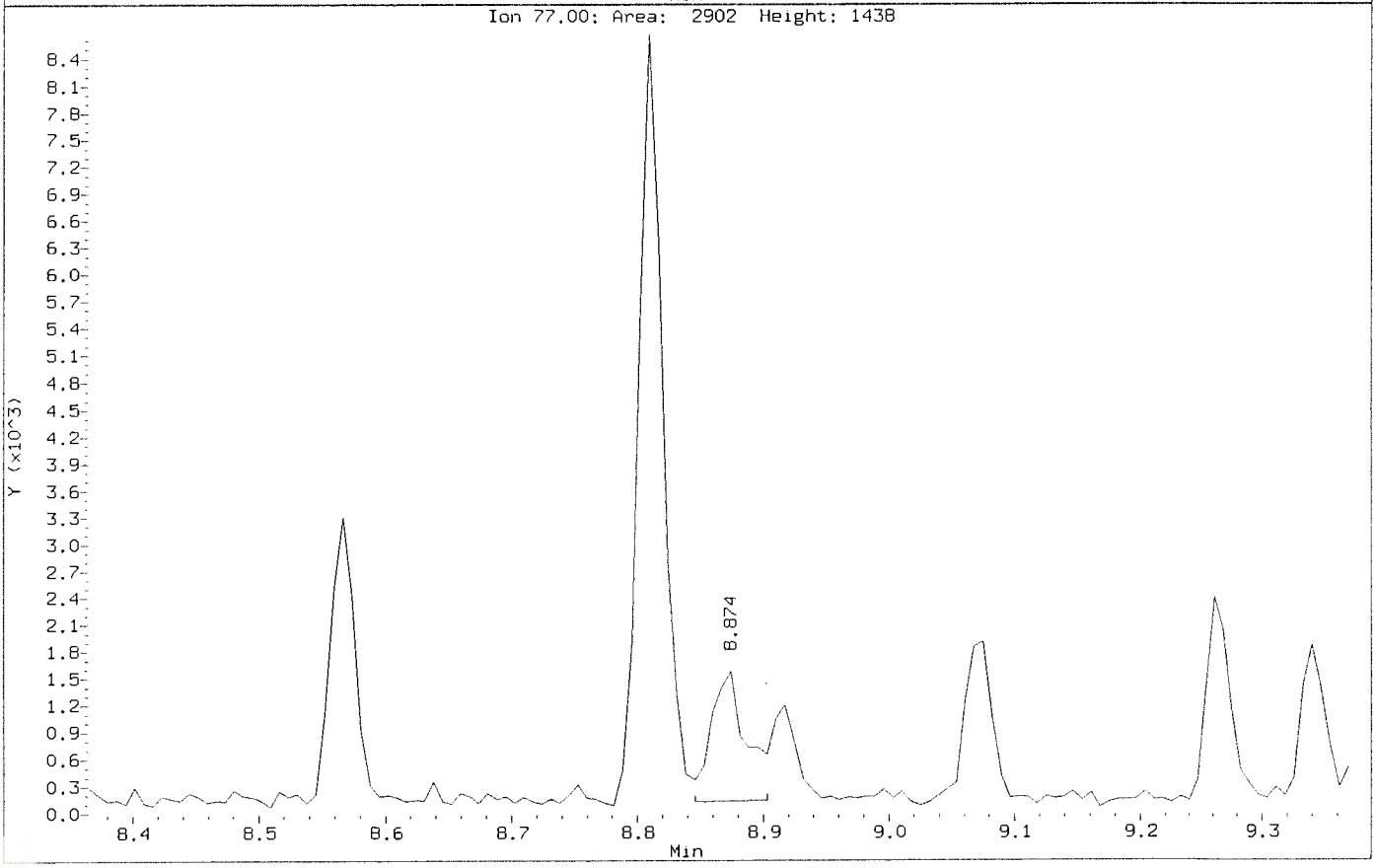
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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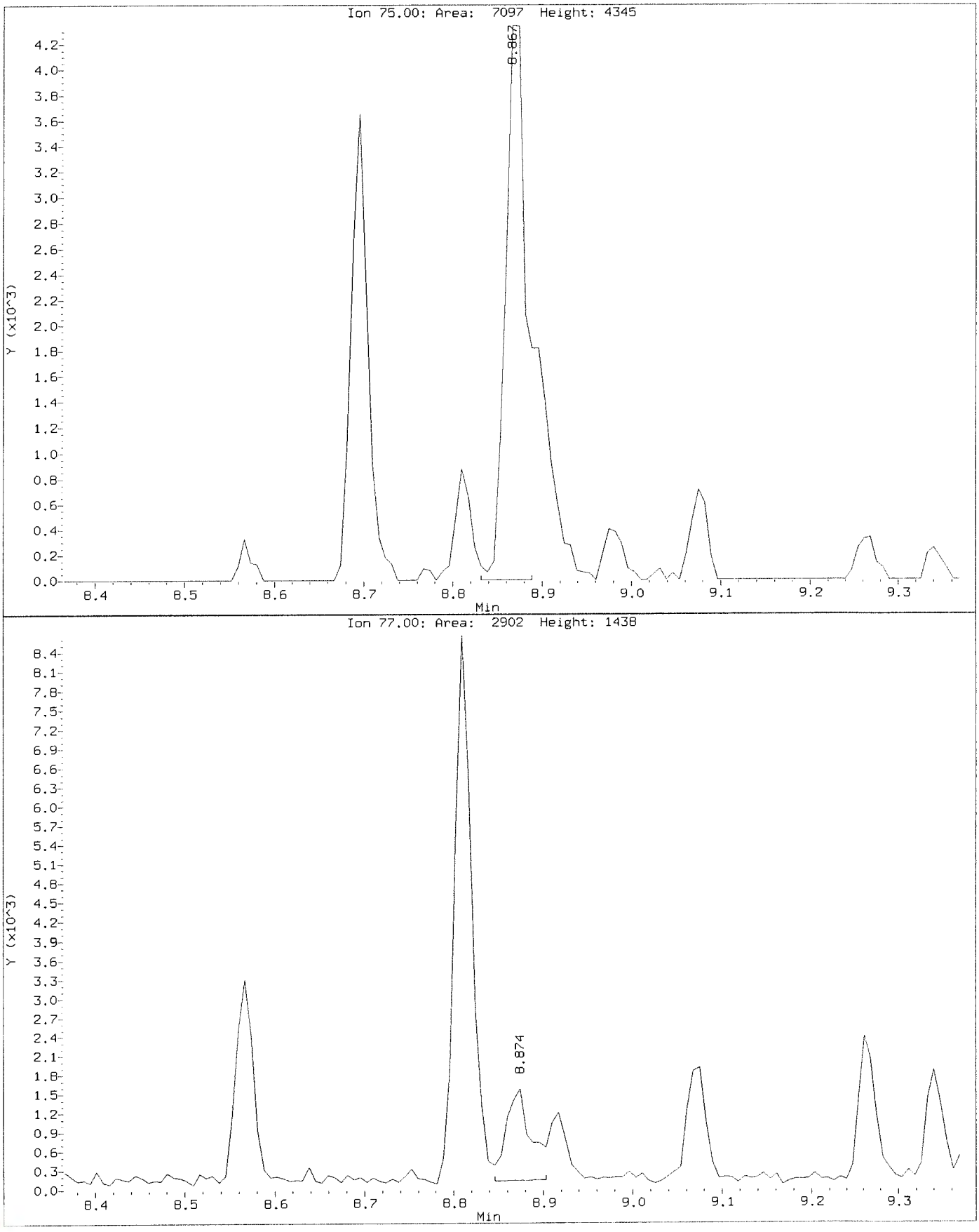
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



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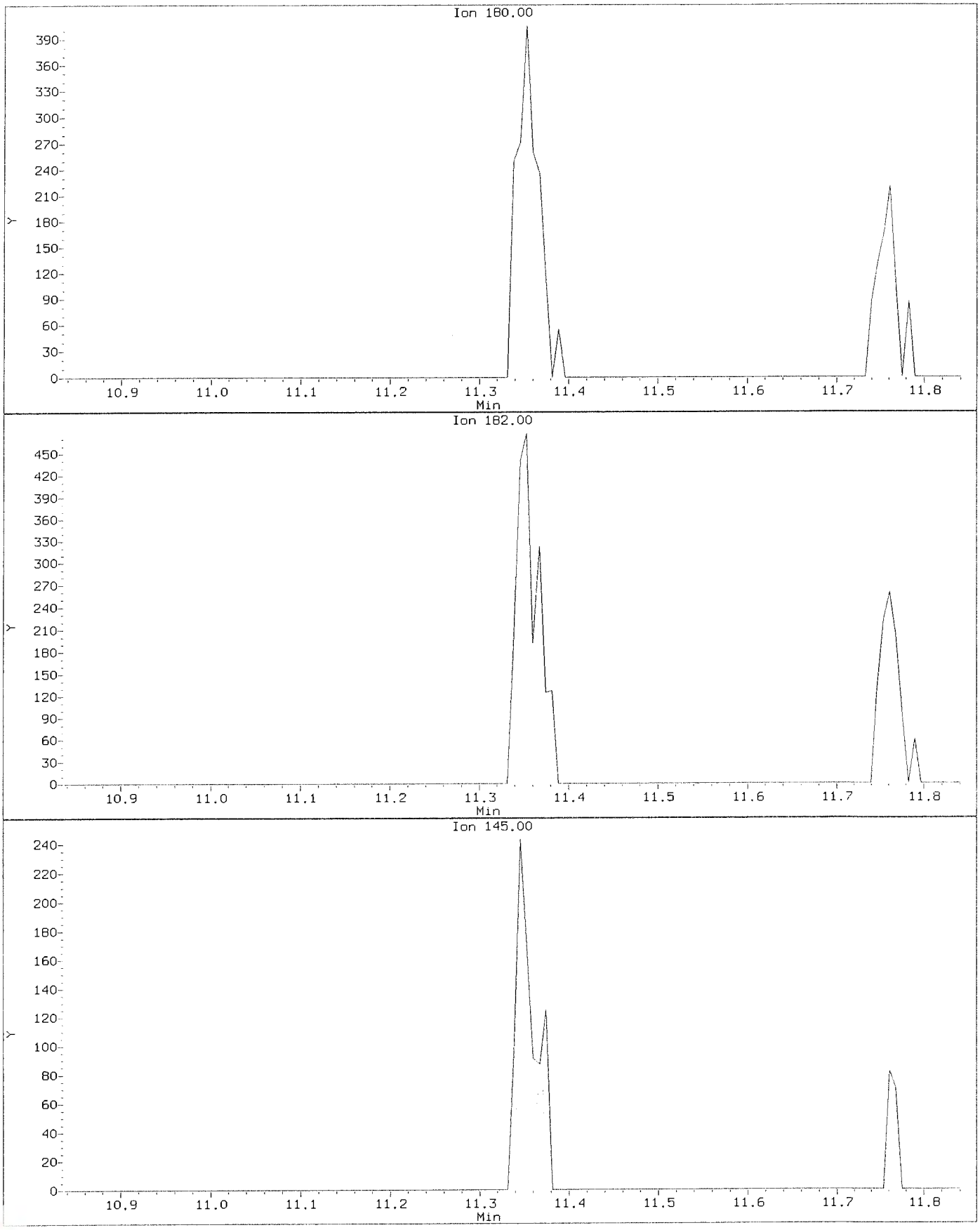
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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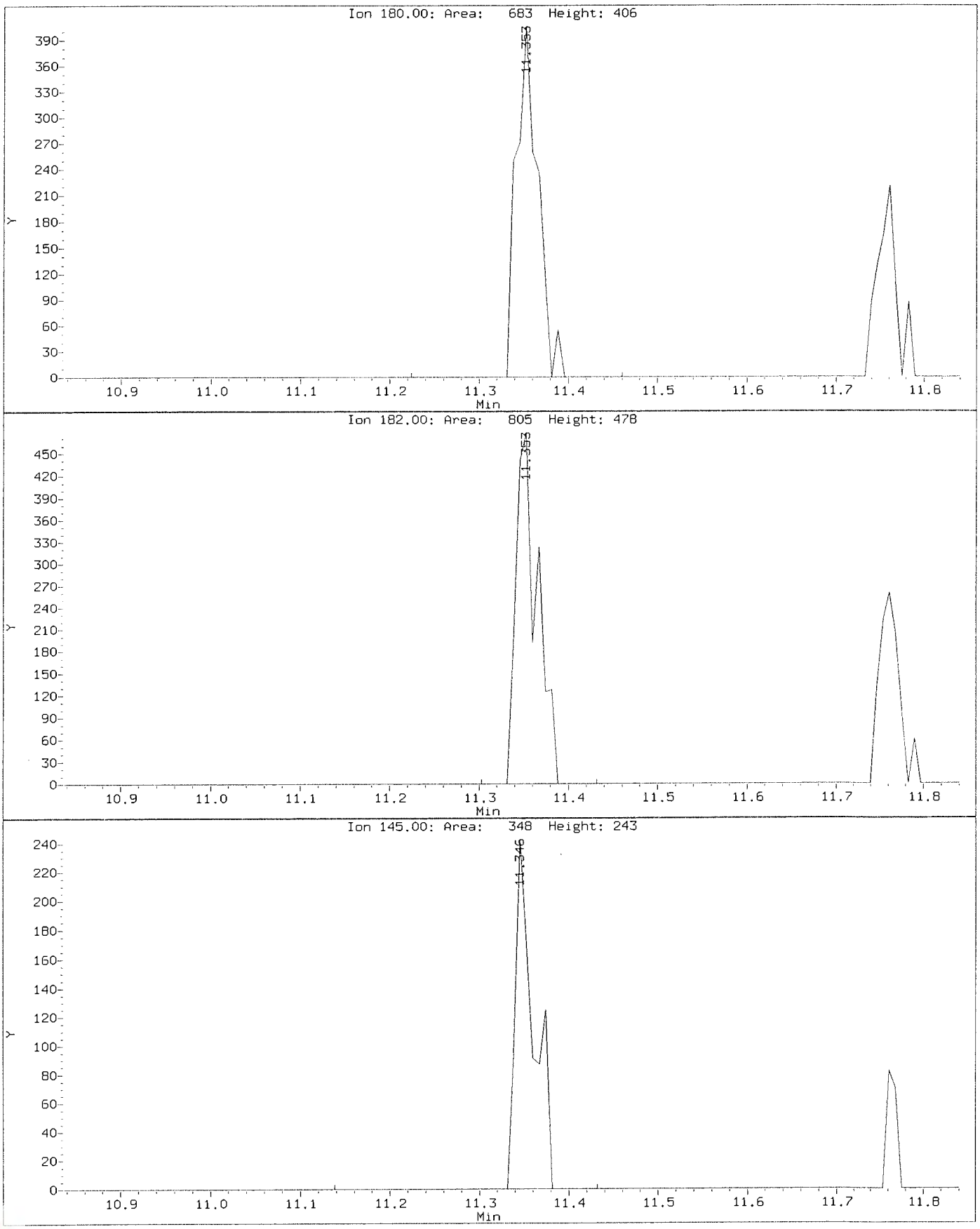
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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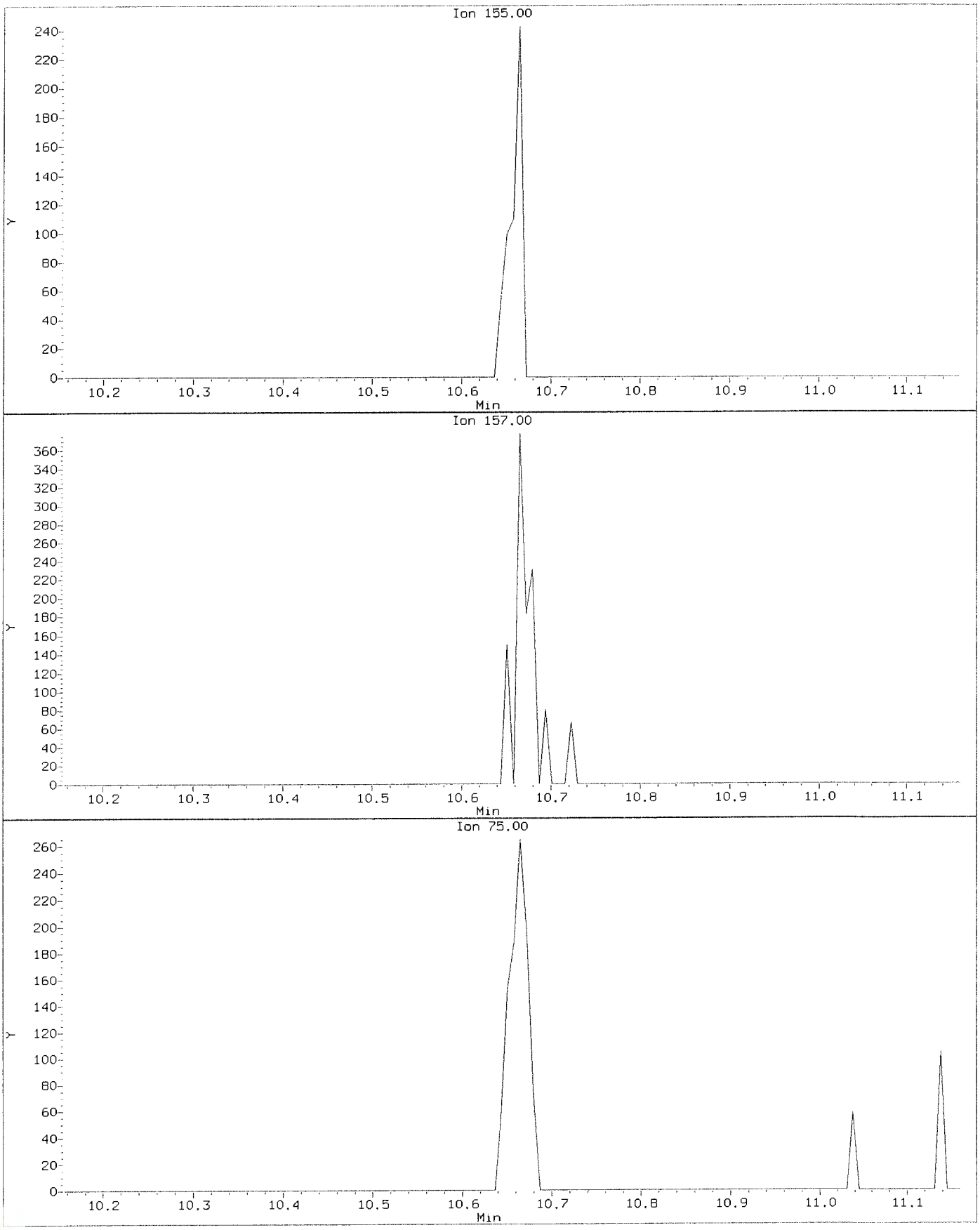
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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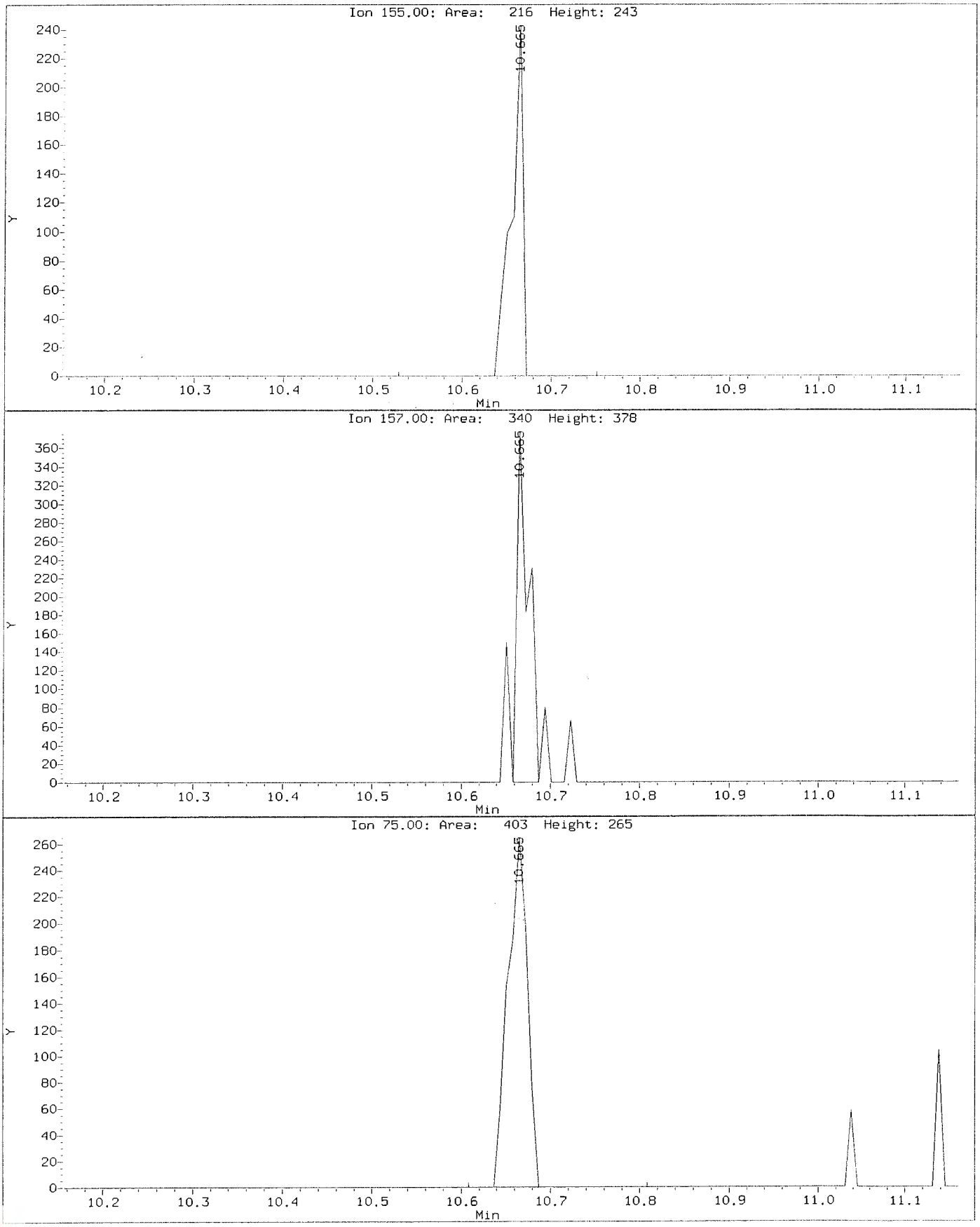
Client Sample ID: VSTD002

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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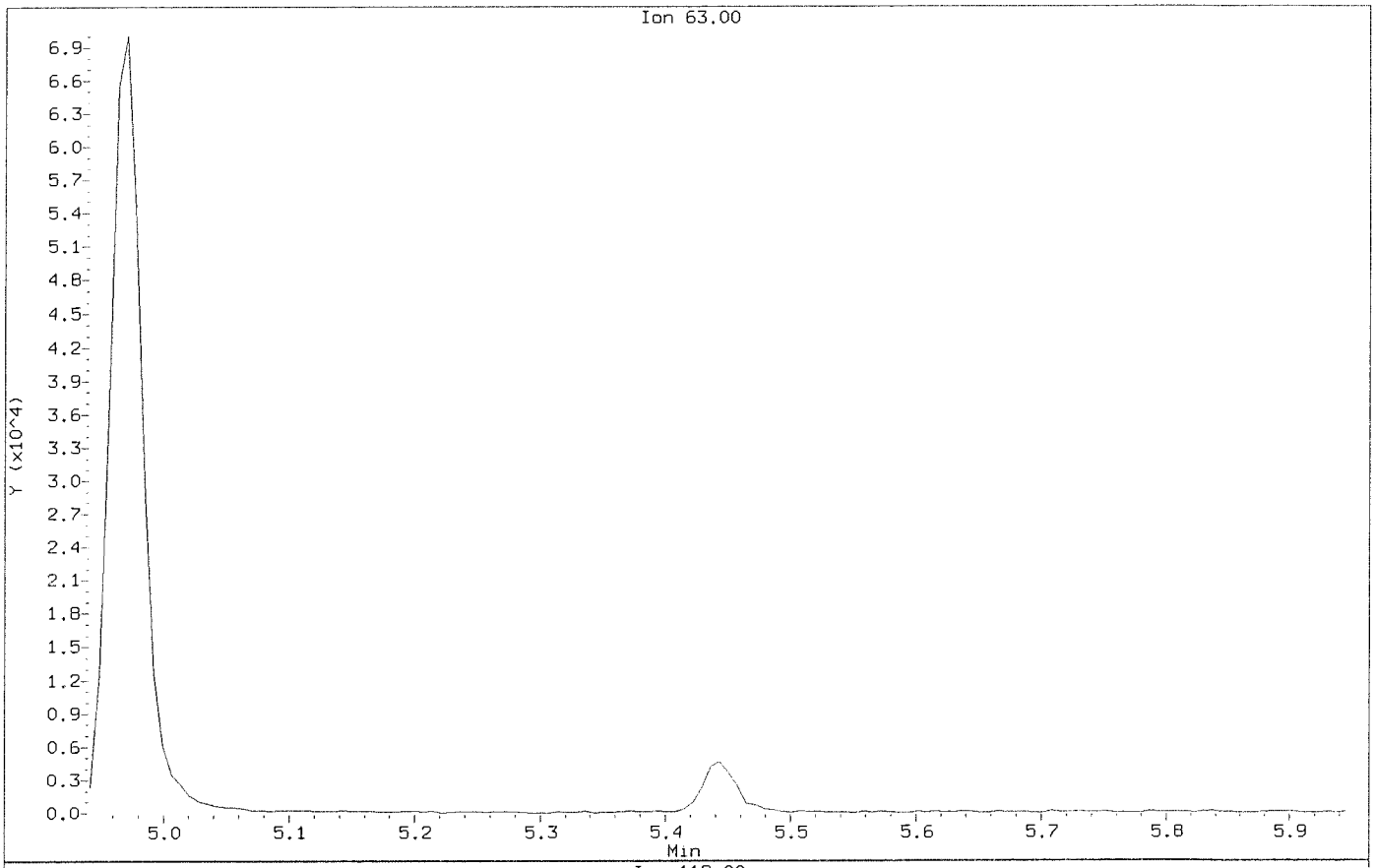
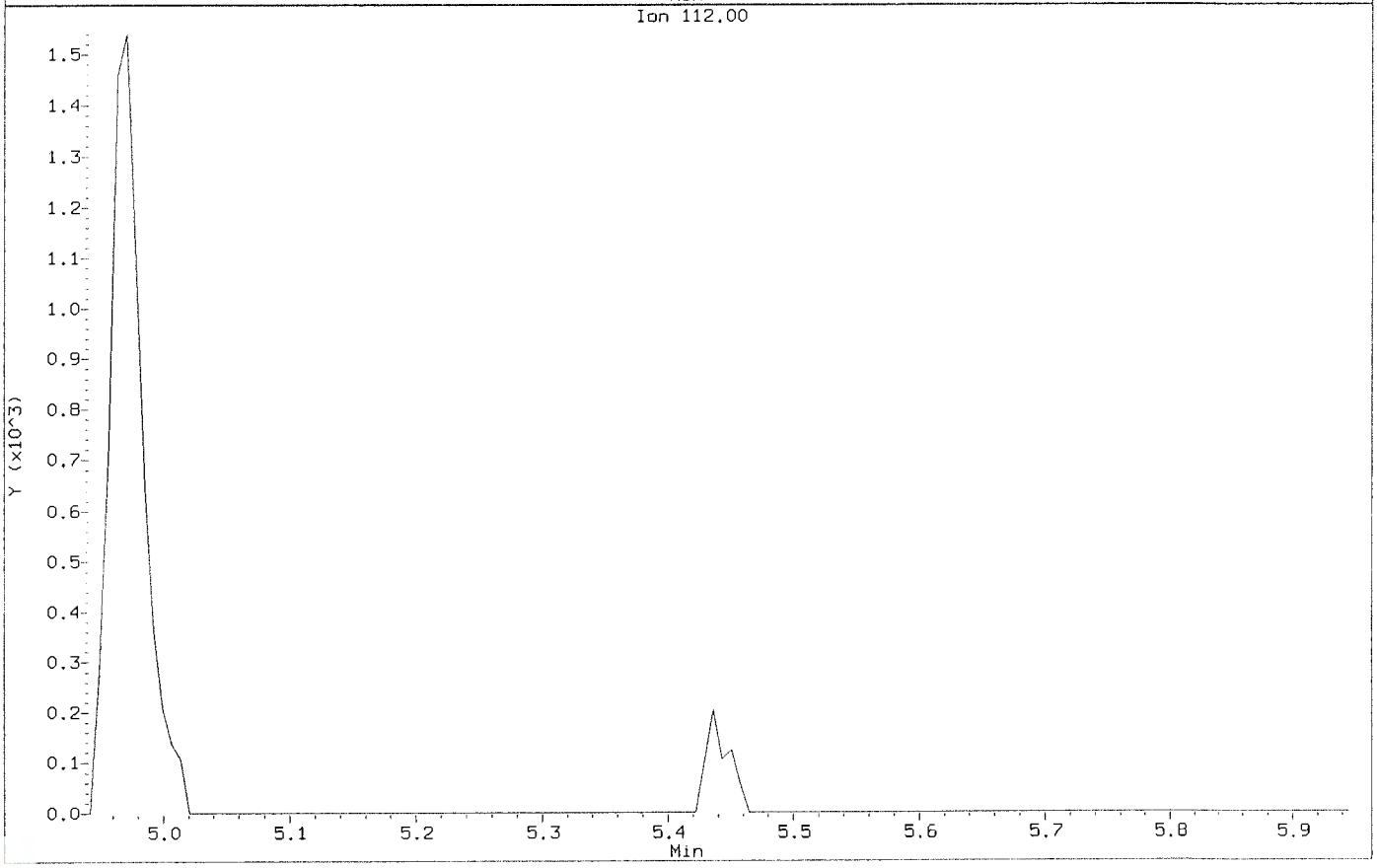
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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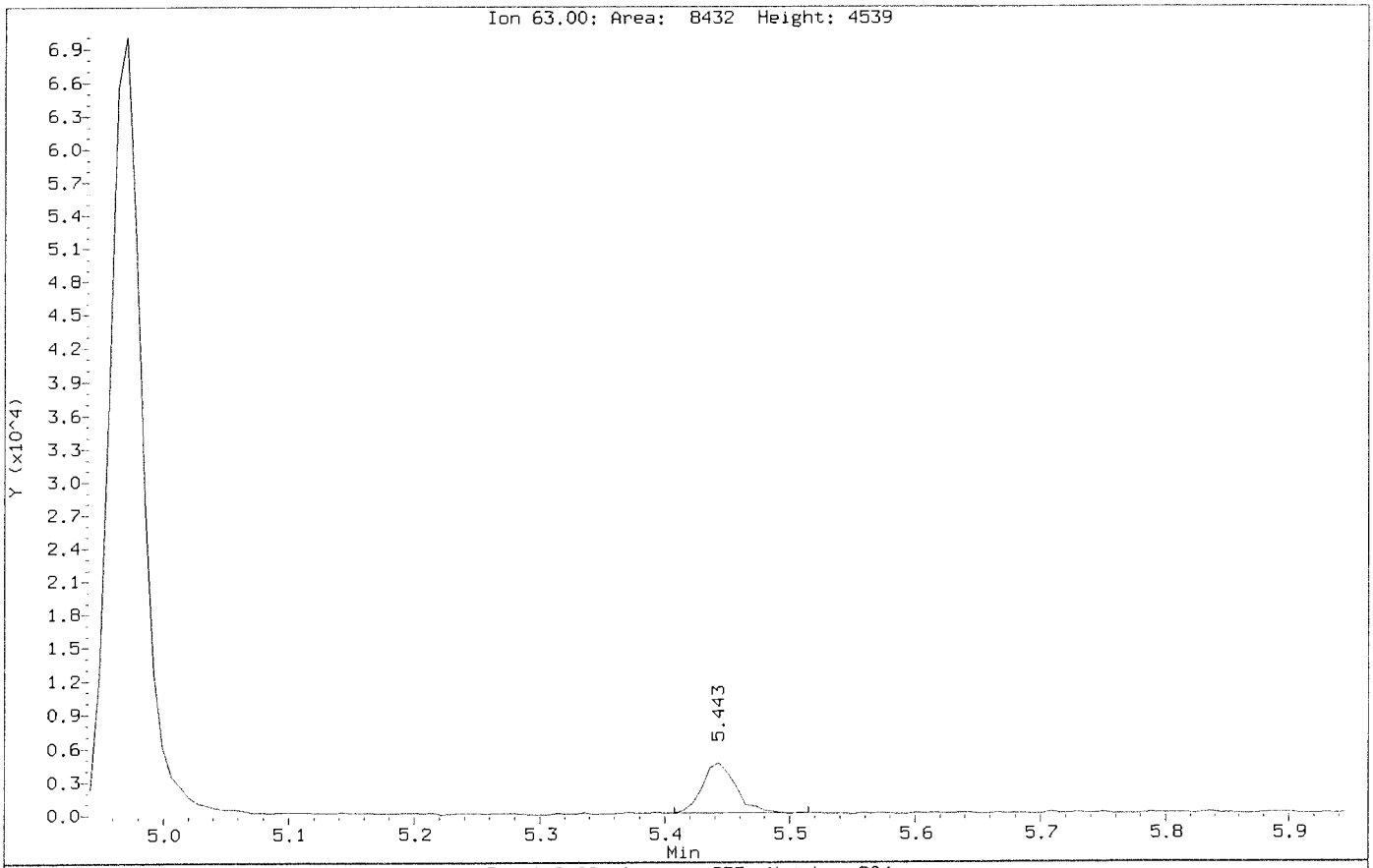
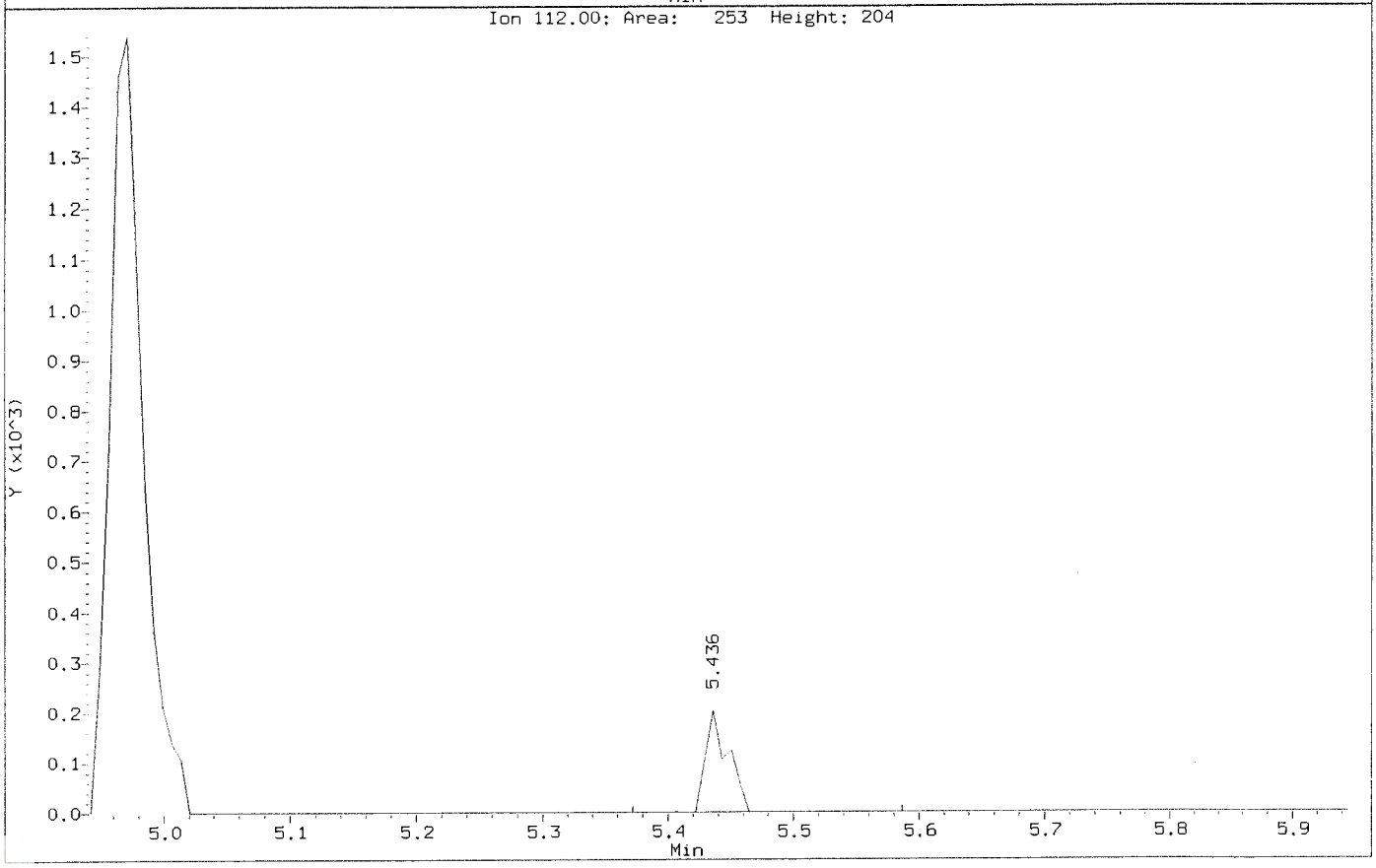
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1.2-Dichloropropane
CAS Number: 78-87-5





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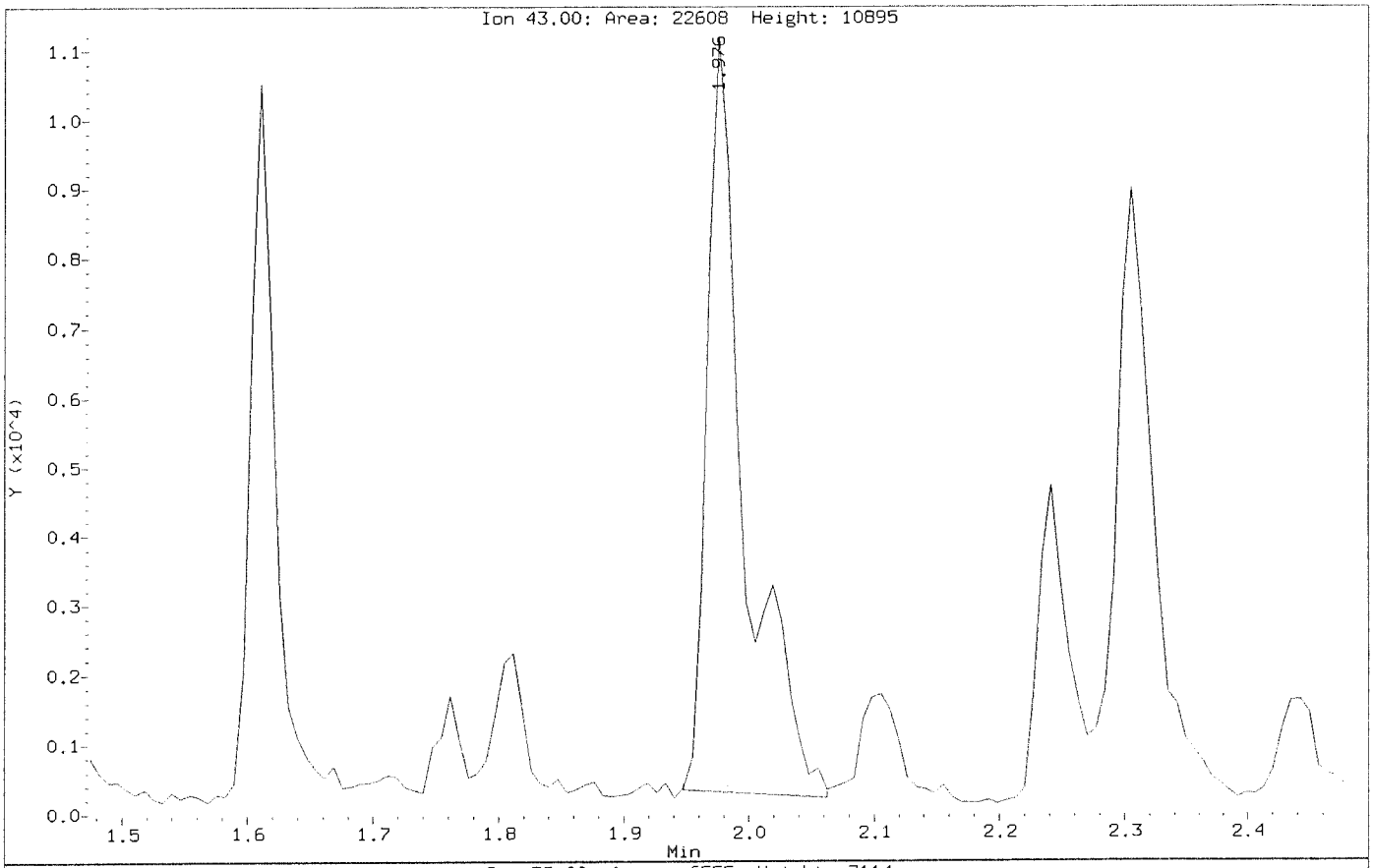
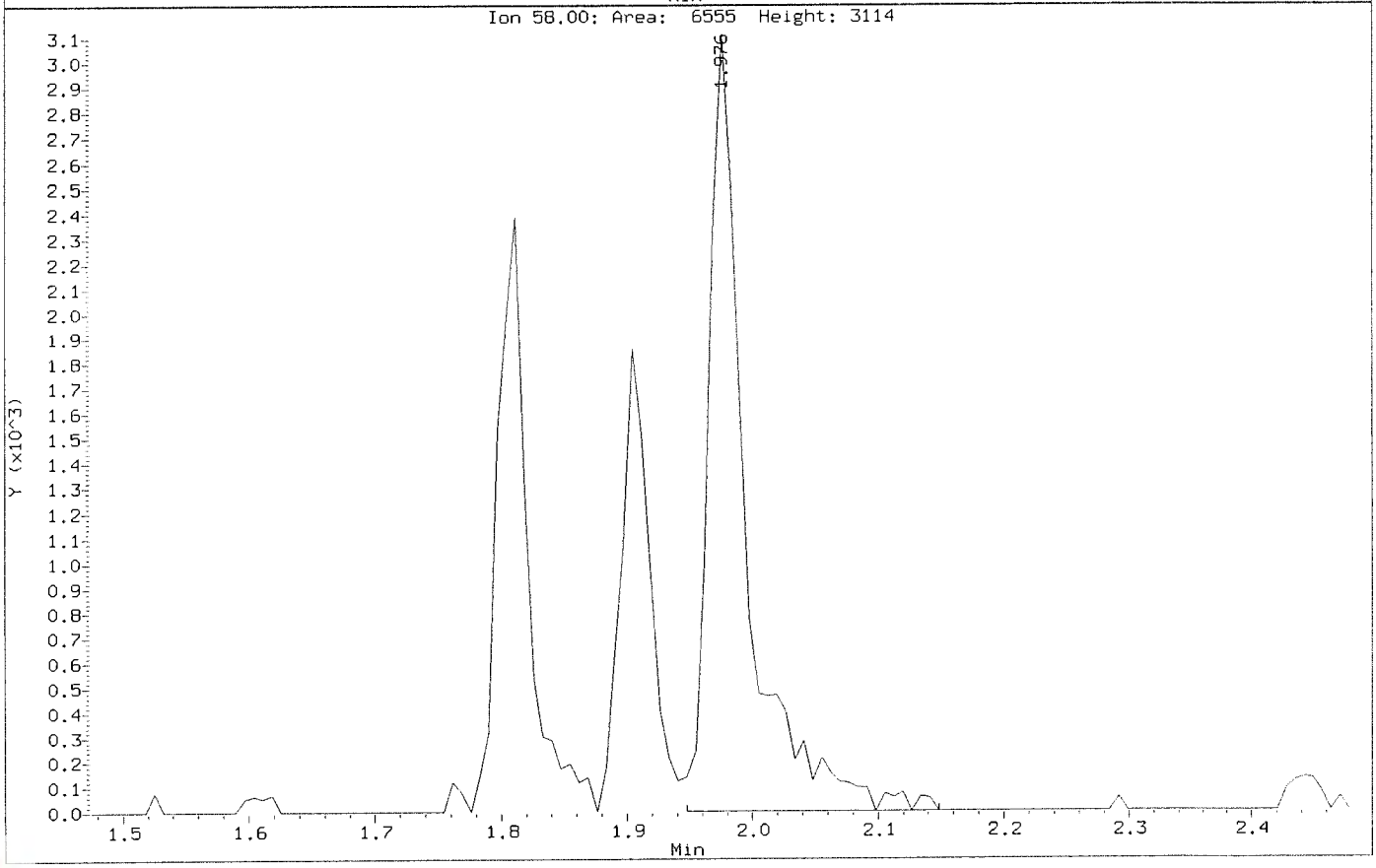
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Acetone
CAS Number: 67-64-1





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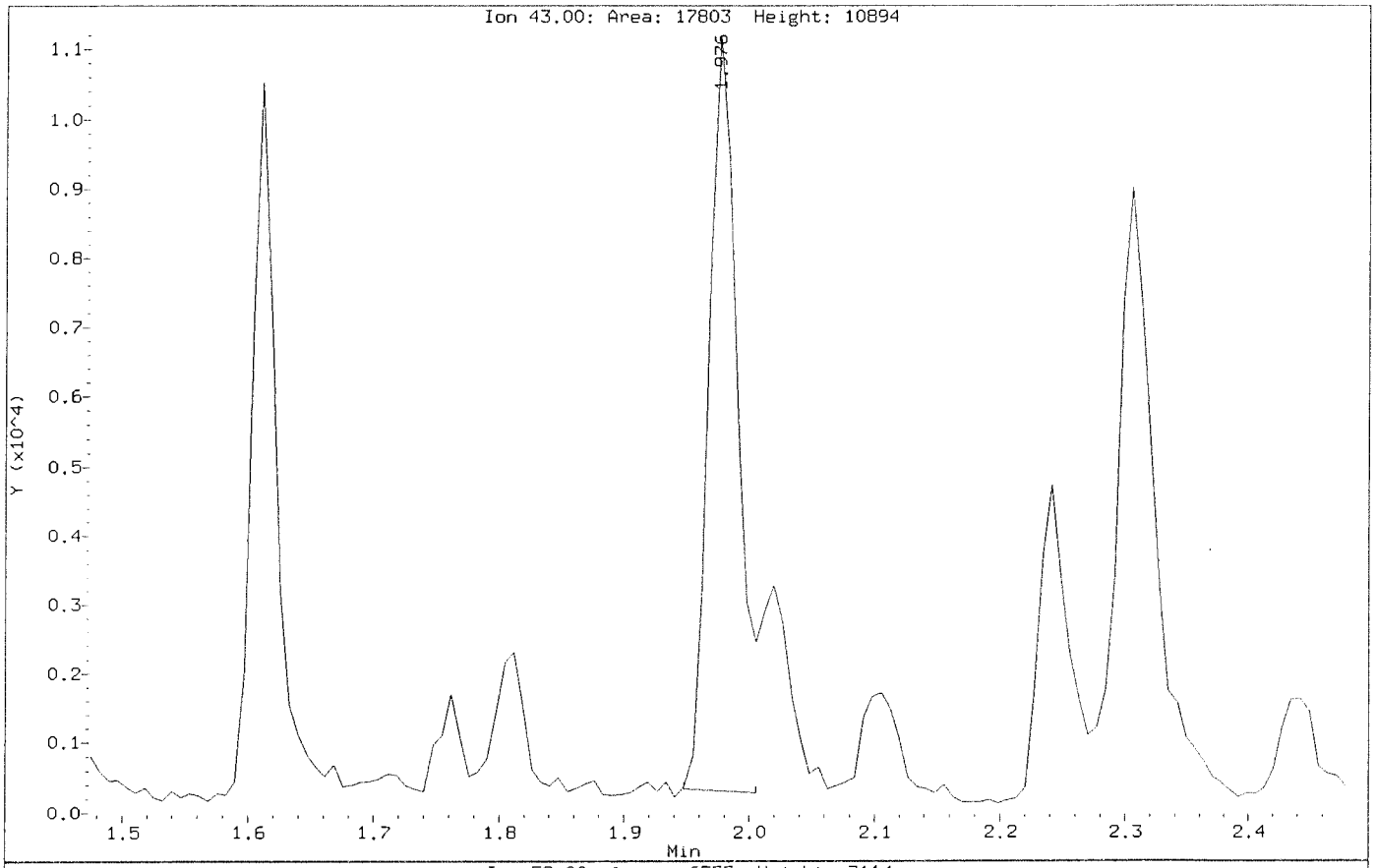
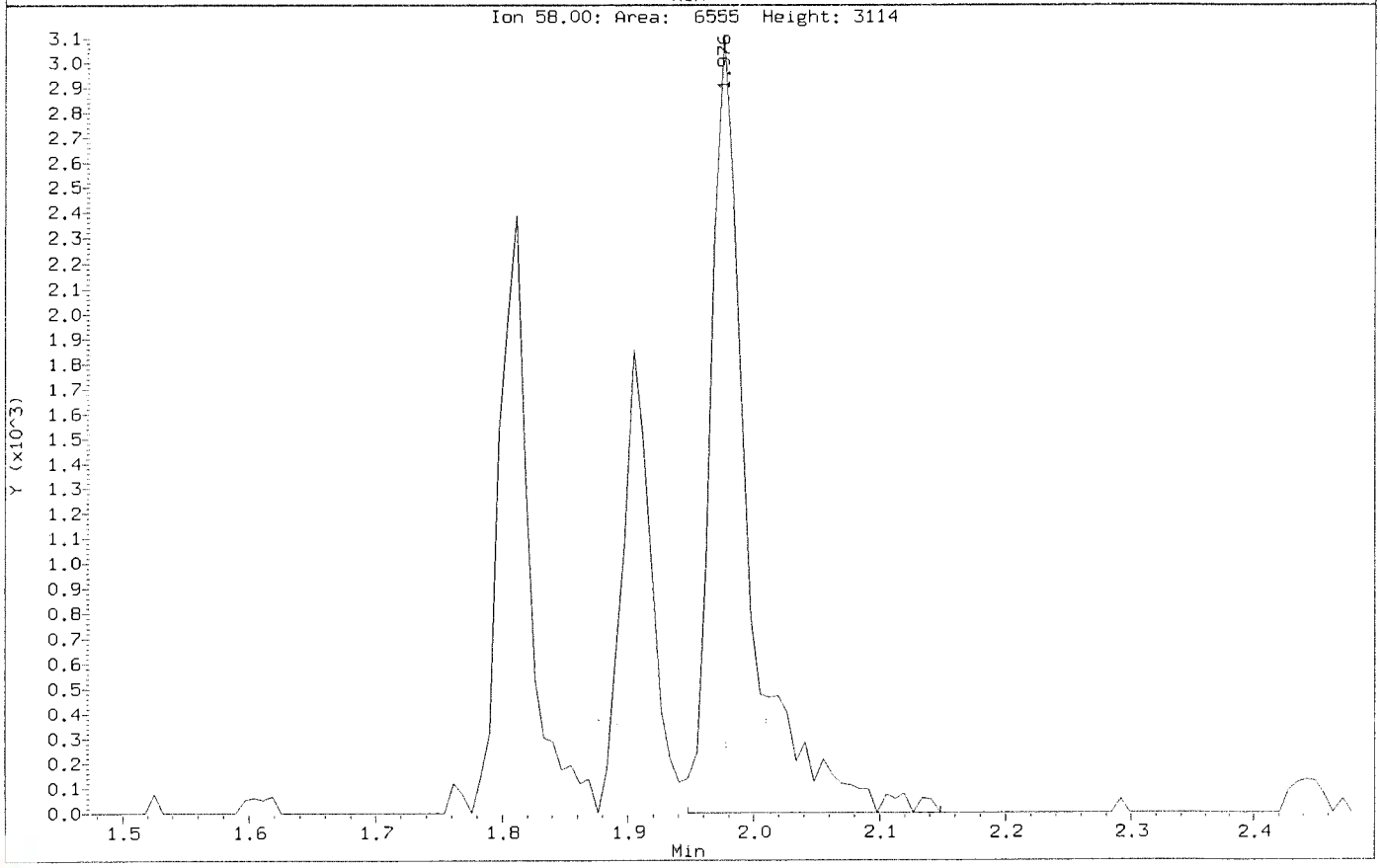
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Acetone
CAS Number: 67-64-1





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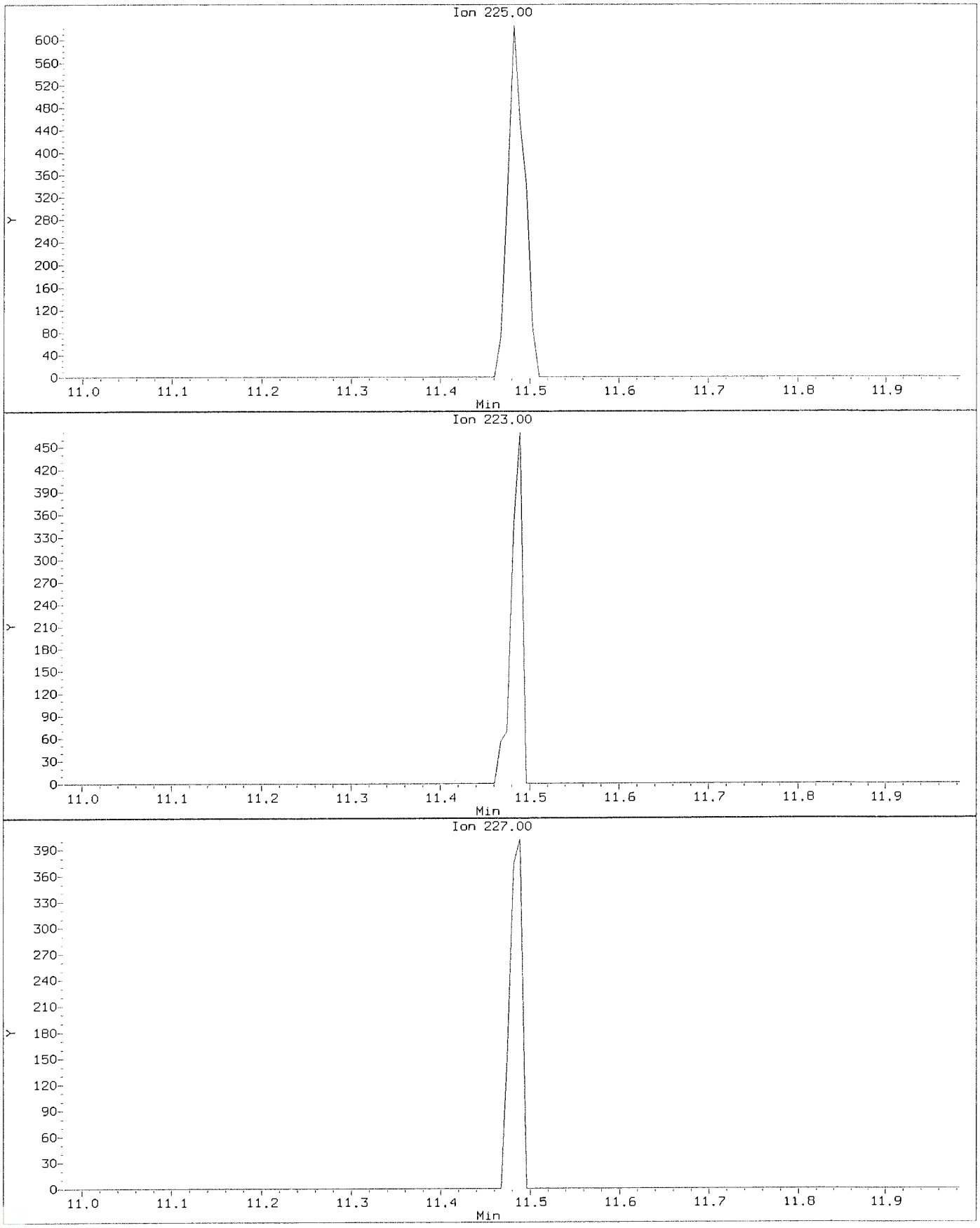
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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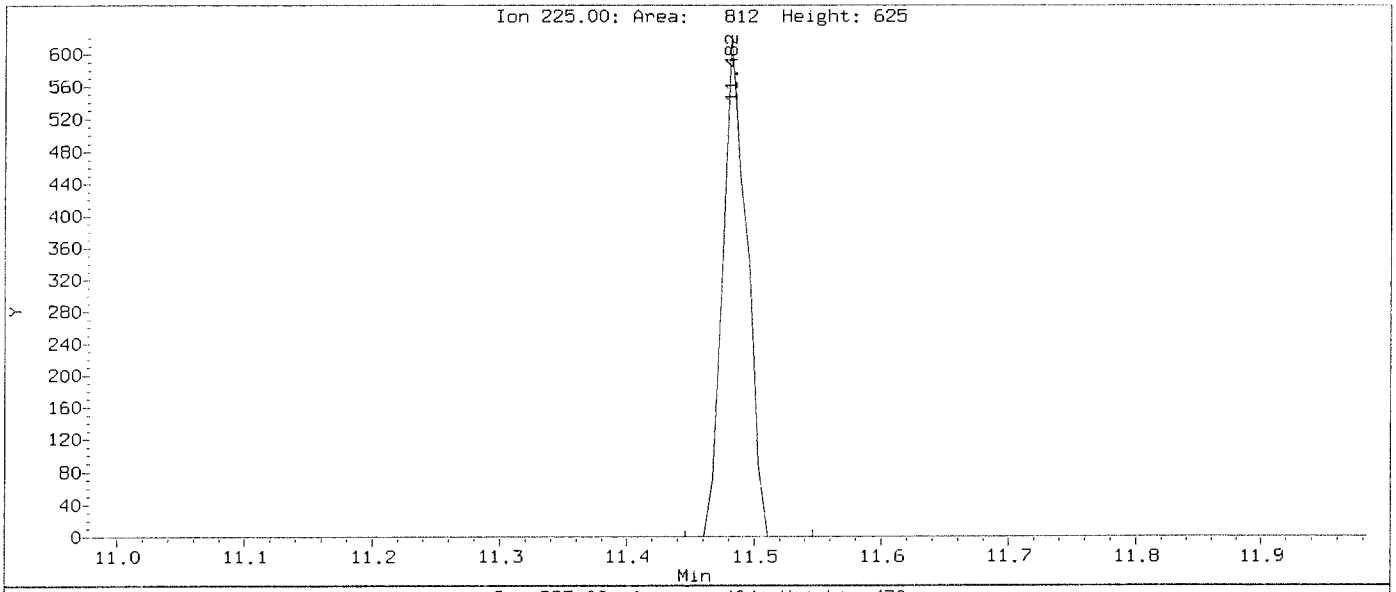
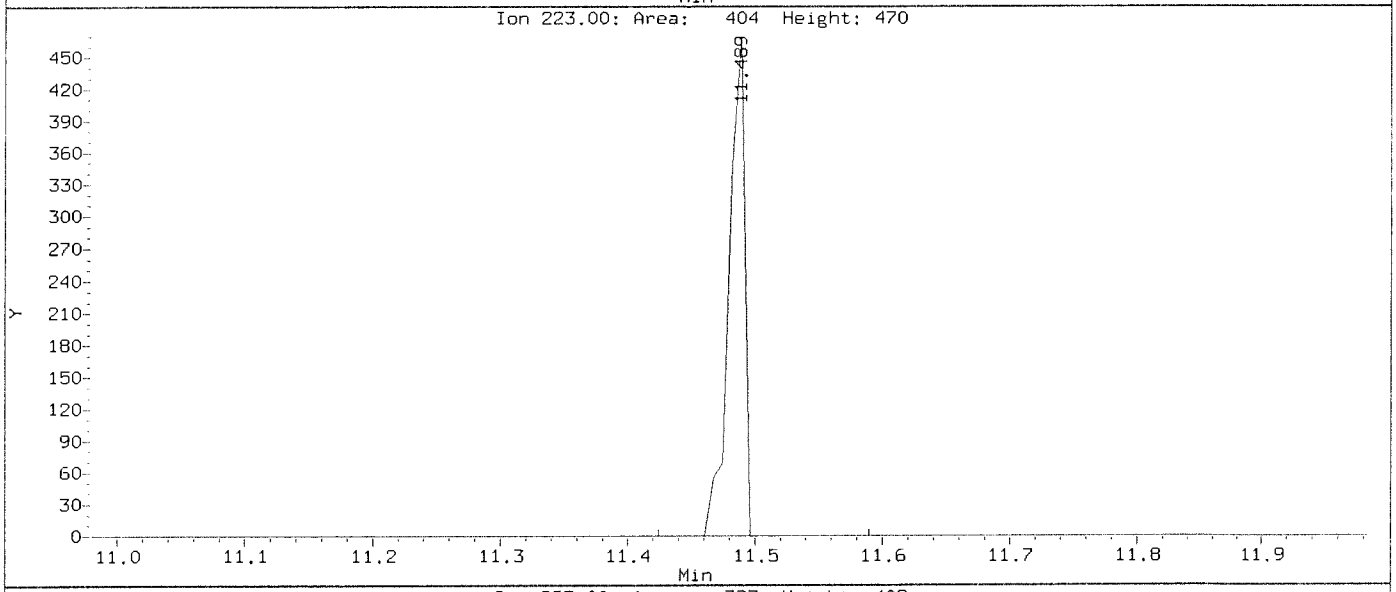
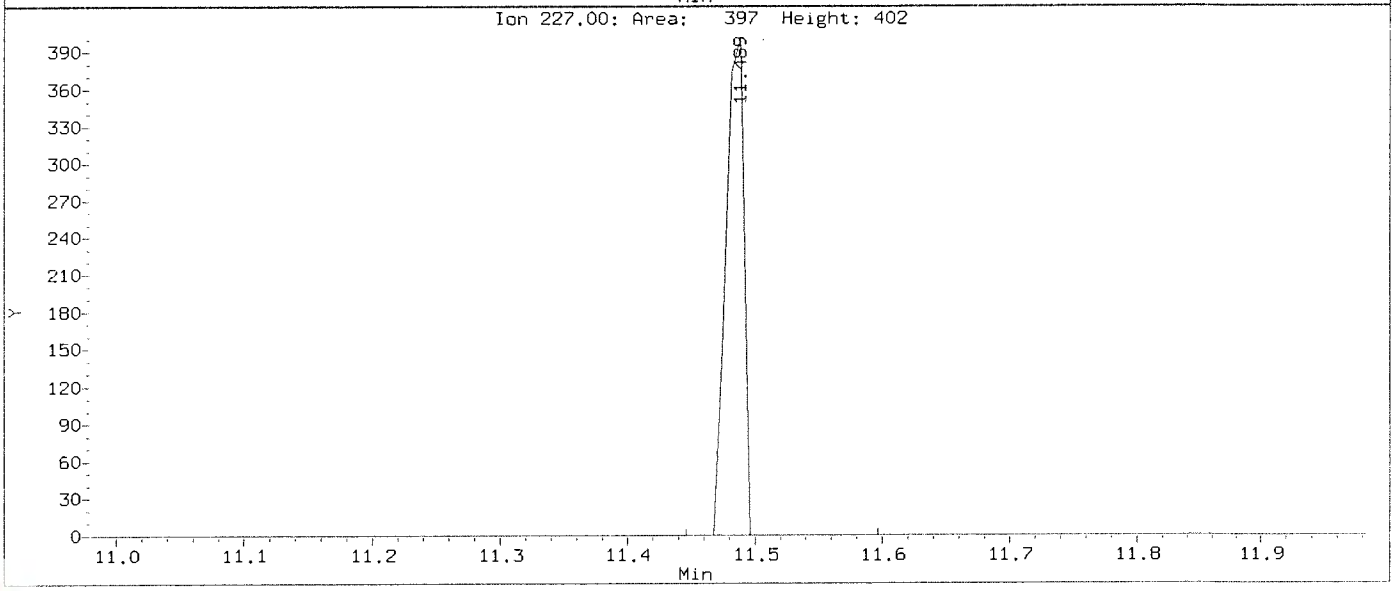
Injection Date: 02-JUN-2020 12:34
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Hexachlorobutadiene
CAS Number: 87-68-3







ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060206.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 02-JUN-2020 12:58
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 12:58 Cal File: X060206.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	4.182	(1.000)	243229	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	460290	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	418273	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	172551	50.0000	
$	30 Dibromofluoromethane	113	4.111	4.103	(0.983)	17413	5.00000	5.28
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	24513	5.00000	4.77(a)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	56528	5.00000	5.15
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	21510	5.00000	4.53(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	14582	5.00000	4.85(a)
	31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	23775	5.00000	5.07
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	17754	5.00000	5.14
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	13865	5.00000	5.20
	22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	37002	5.00000	4.91(a)
	11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	11659	5.00000	4.67(a)
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	20990	5.00000	4.83(a)
	93 1,2,3-Trichlorobenzene	180	11.754	11.746	(1.216)	803	5.00000	4.83(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	17689	5.00000	5.56(M)
	90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	1808	5.00000	5.78(M)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	47204	5.00000	4.65(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.103)	975	5.00000	5.64
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	15959	5.00000	4.97(a)
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	21405	5.00000	4.65(a)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	31129	5.00000	5.08

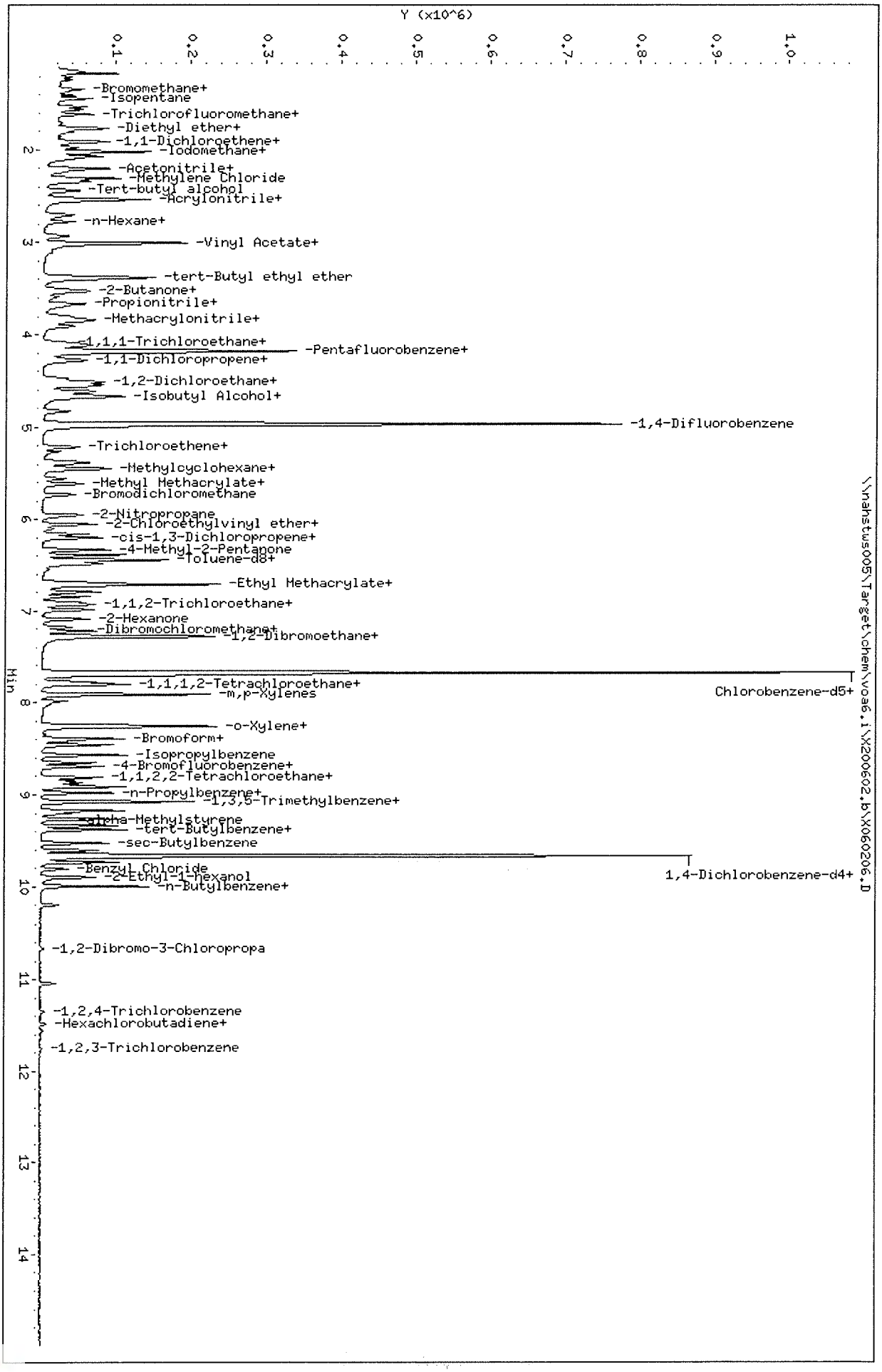
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	20742	5.00000	4.77(aM)
75	1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	46388	5.00000	4.62(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	24992	5.00000	4.62(a)
54	1,3-Dichloropropane	76	6.990	6.983	(0.911)	28643	5.00000	5.09
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	25136	5.00000	4.58(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	24097	5.00000	4.94(a)
24	2-Butanone	43	3.588	3.580	(0.858)	24636	10.0000	9.18
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	43953	5.00000	4.76(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	42008	10.0000	9.98
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	50974	5.00000	4.77(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	40850	5.00000	4.44(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	62932	10.0000	10.10
10	Acetone	43	1.976	1.976	(0.473)	29949	10.0000	8.37(M)
37	Benzene	78	4.519	4.519	(0.909)	64767	5.00000	4.91(a)
74	Bromobenzene	156	8.810	8.809	(0.911)	16525	5.00000	4.89(a)
29	Bromochloromethane	128	3.803	3.803	(0.909)	8643	5.00000	5.04
39	Bromodichloromethane	83	5.729	5.729	(1.153)	23590	5.00000	4.96(a)
66	Bromoform	173	8.416	8.416	(1.097)	10194	5.00000	4.87(Ta)
6	Bromomethane	94	1.338	1.331	(0.320)	14311	5.00000	5.56
19	Carbon Disulfide	76	2.069	2.069	(0.495)	78650	10.0000	9.80
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	18968	5.00000	4.55(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	41130	5.00000	4.98(a)
7	Chloroethane	64	1.403	1.396	(0.336)	12596	5.00000	4.85(a)
28	Chloroform	83	3.910	3.910	(0.935)	30258	5.00000	5.07
3	Chloromethane	50	1.081	1.081	(0.258)	29358	5.00000	4.90(a)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	17673	5.00000	5.11
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	27541	5.00000	4.90(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	16371	5.00000	4.91(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	11608	5.00000	4.96(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	13417	5.00000	4.63(a)
61	Ethylbenzene	106	7.807	7.807	(1.018)	21014	5.00000	4.95(a)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	1277	5.00000	5.49
67	Isopropylbenzene	105	8.566	8.566	(1.117)	57075	5.00000	4.53(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	47514	10.0000	9.28
17	Methylene Chloride	84	2.305	2.305	(0.551)	18494	5.00000	4.65(a)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	33797	5.00000	4.12(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	66977	5.00000	4.64(a)
92	Naphthalene	128	11.553	11.546	(1.195)	3430	5.00000	4.85(a)
63	o-Xylene	106	8.244	8.244	(1.075)	24450	5.00000	4.84(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	49738	5.00000	4.44(a)
64	Styrene	104	8.265	8.265	(1.078)	43239	5.00000	4.80(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	35038	5.00000	4.46(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	10447	5.00000	4.70(a)
50	Toluene	91	6.453	6.453	(0.841)	65142	5.00000	4.97(a)
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	14241	5.00000	4.99(a)
51	trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	24714	5.00000	4.87(a)
38	Trichloroethene	130	5.214	5.206	(1.049)	14497	5.00000	4.65(a)
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	21124	5.00000	4.66(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	22914	5.00000	4.48(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.



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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

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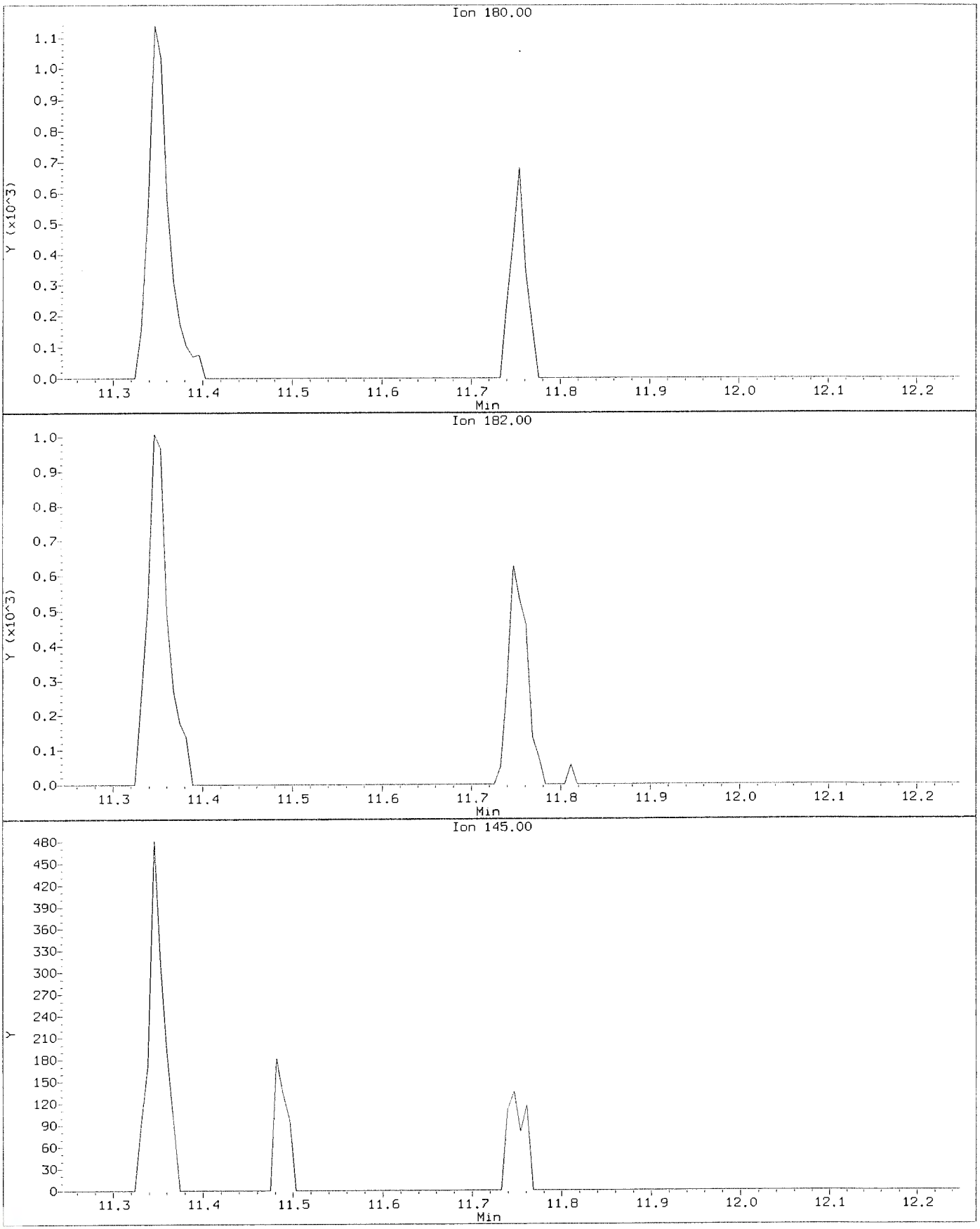
Injection Date: 02-JUN-2020 12:58
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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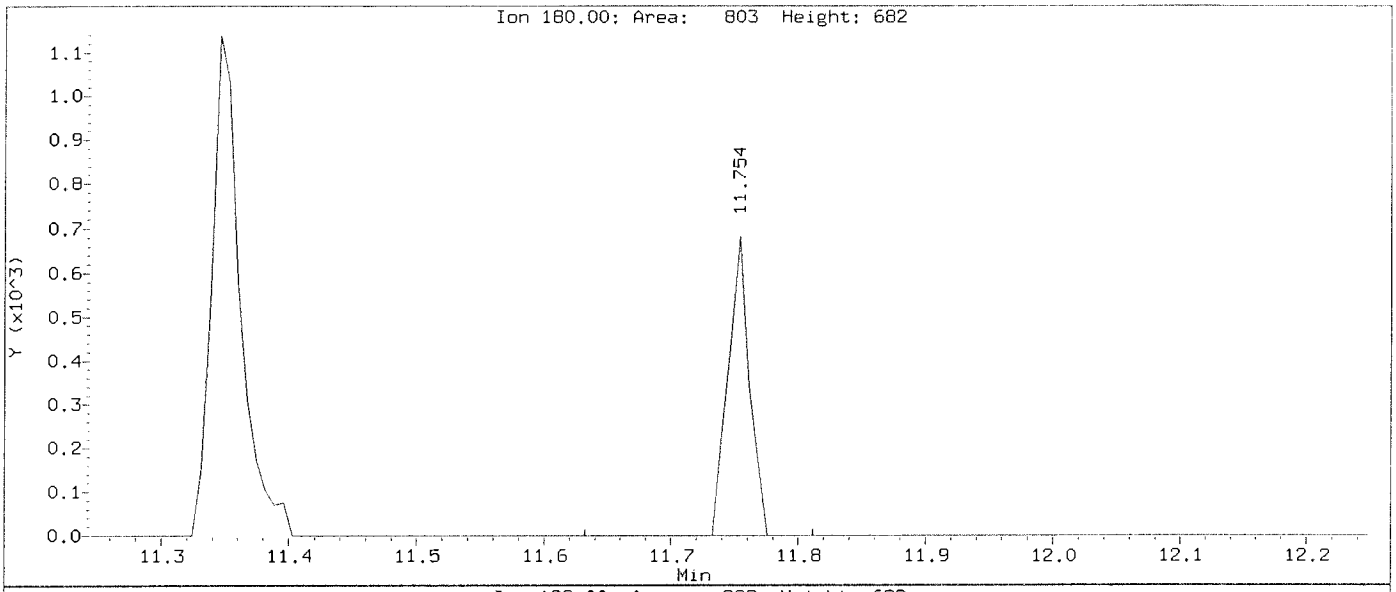
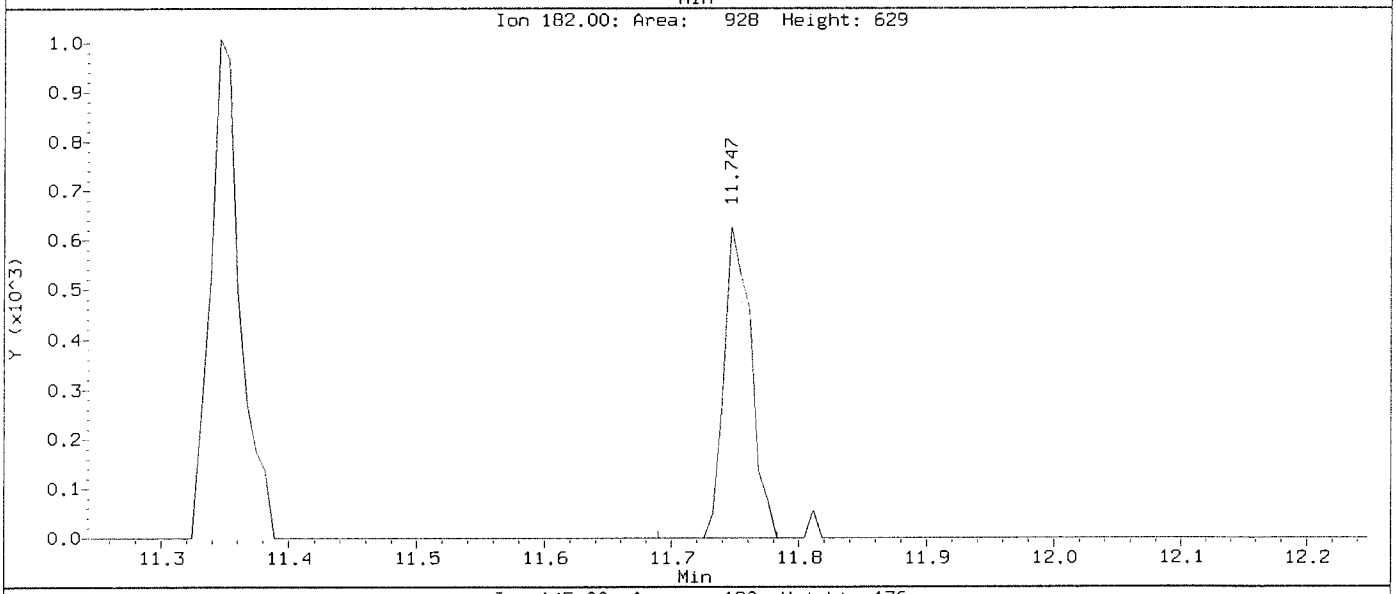
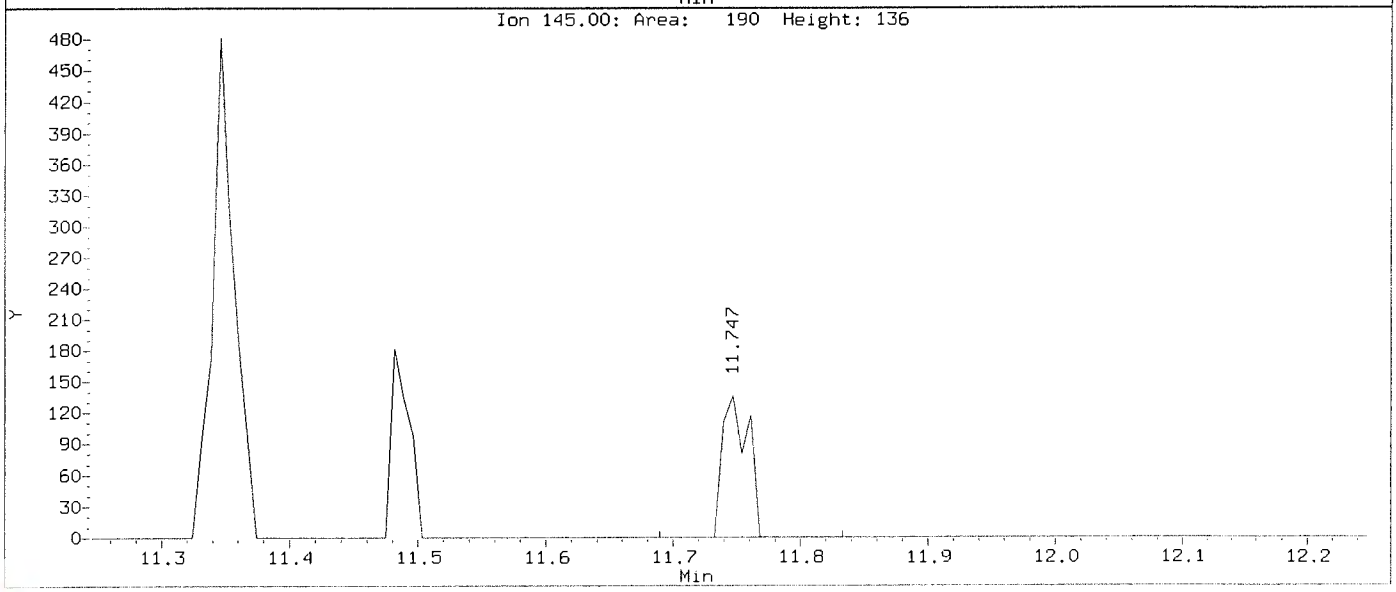
Client Sample ID: VSTD005

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6







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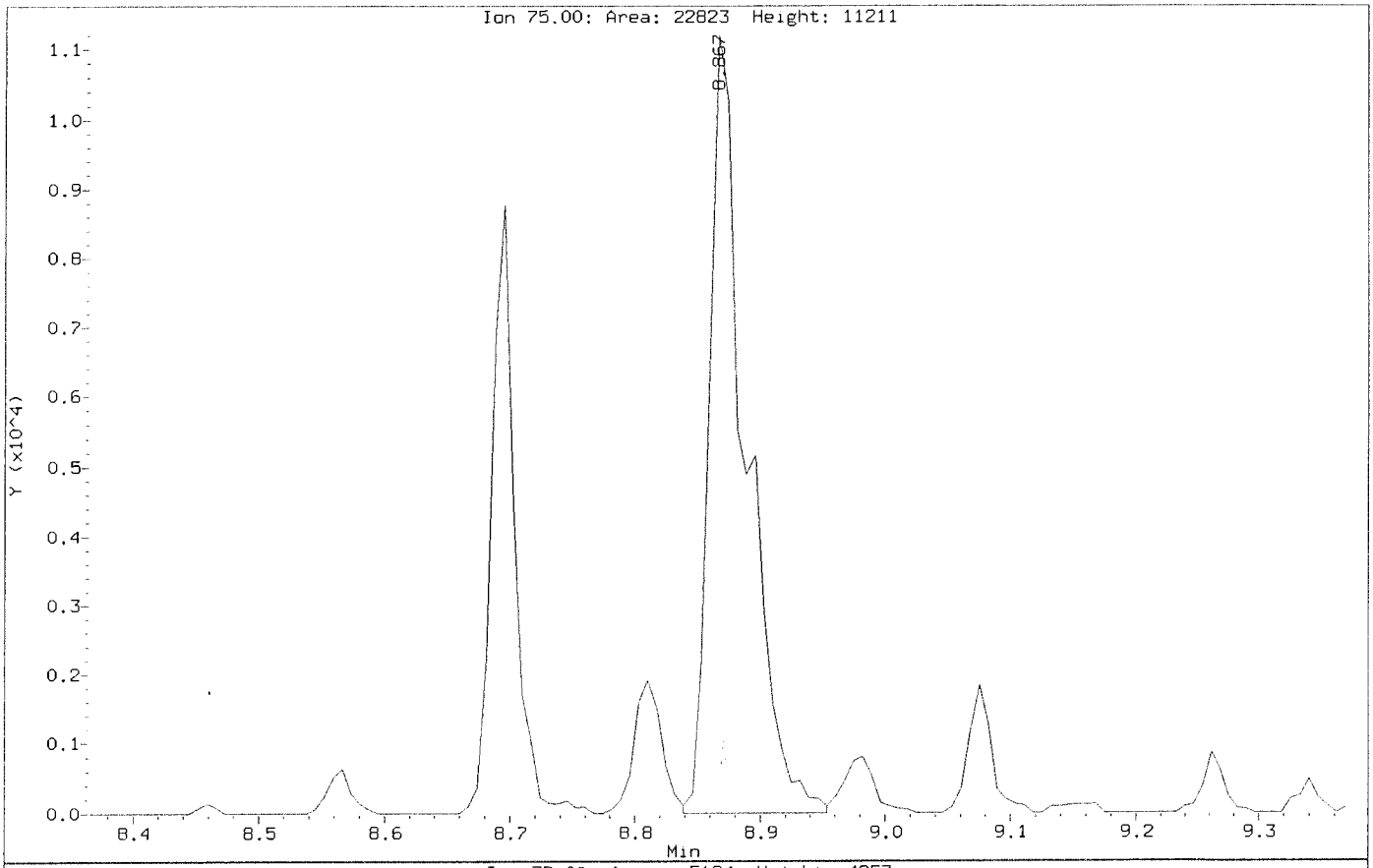
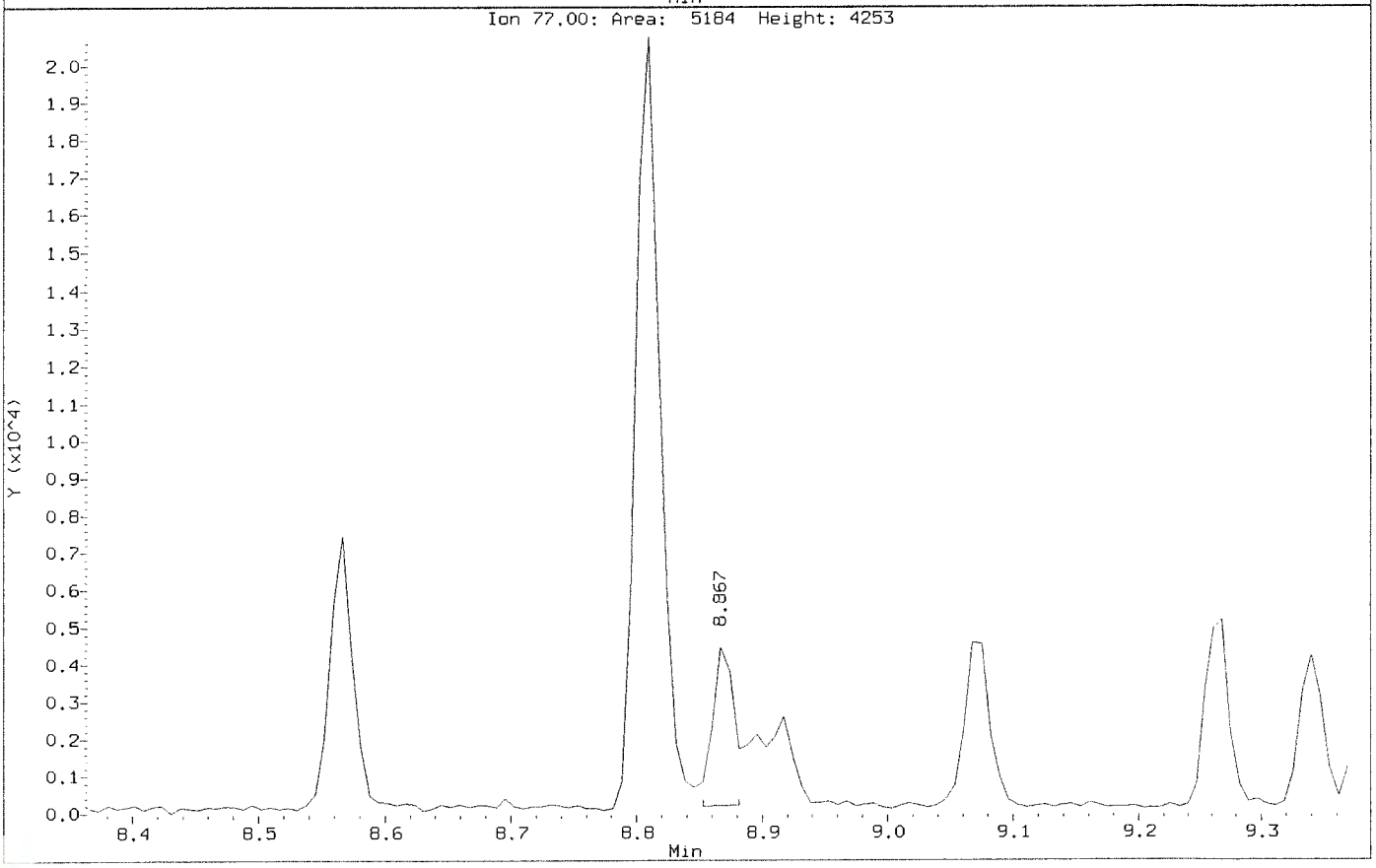
Injection Date: 02-JUN-2020 12:58
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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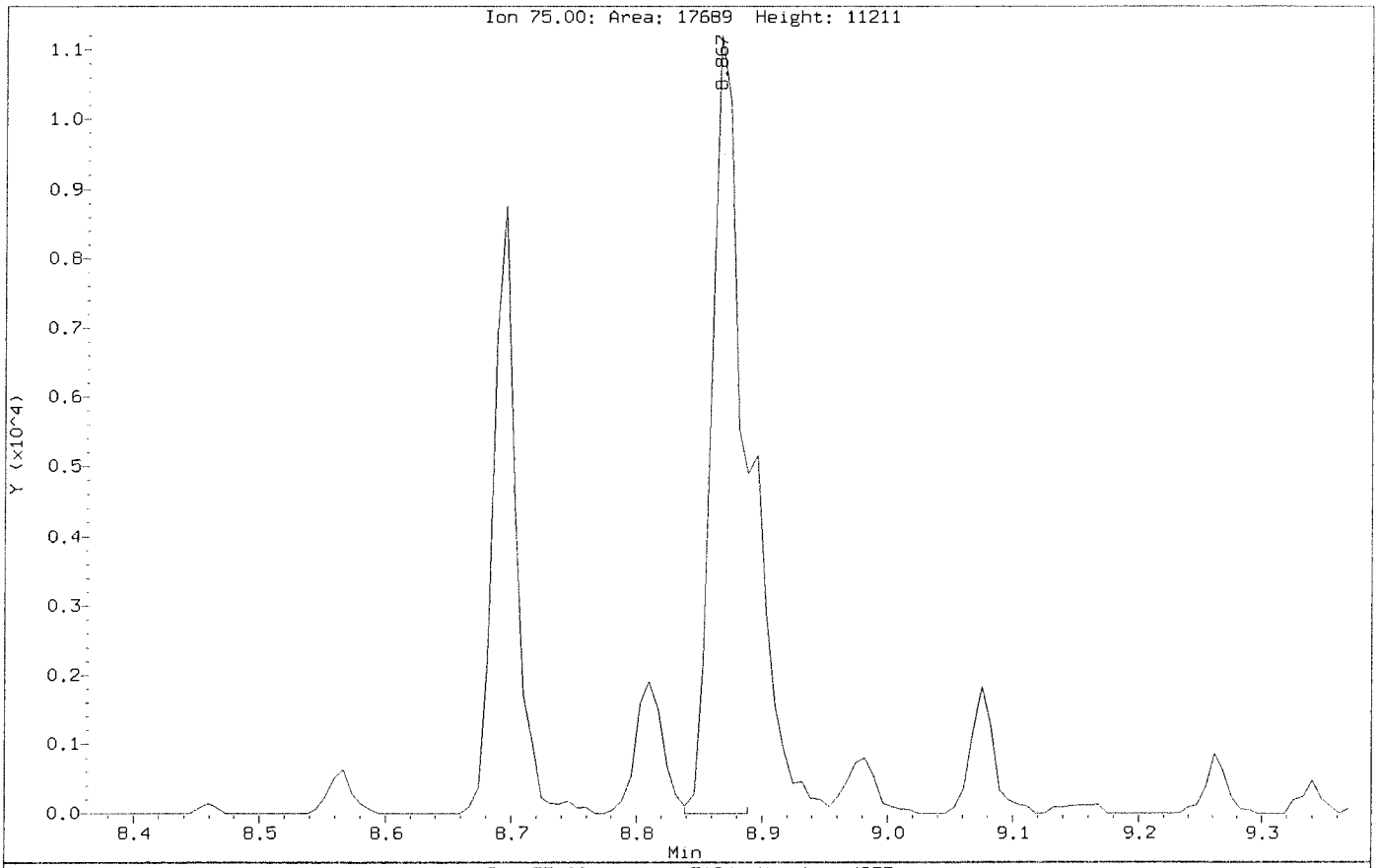
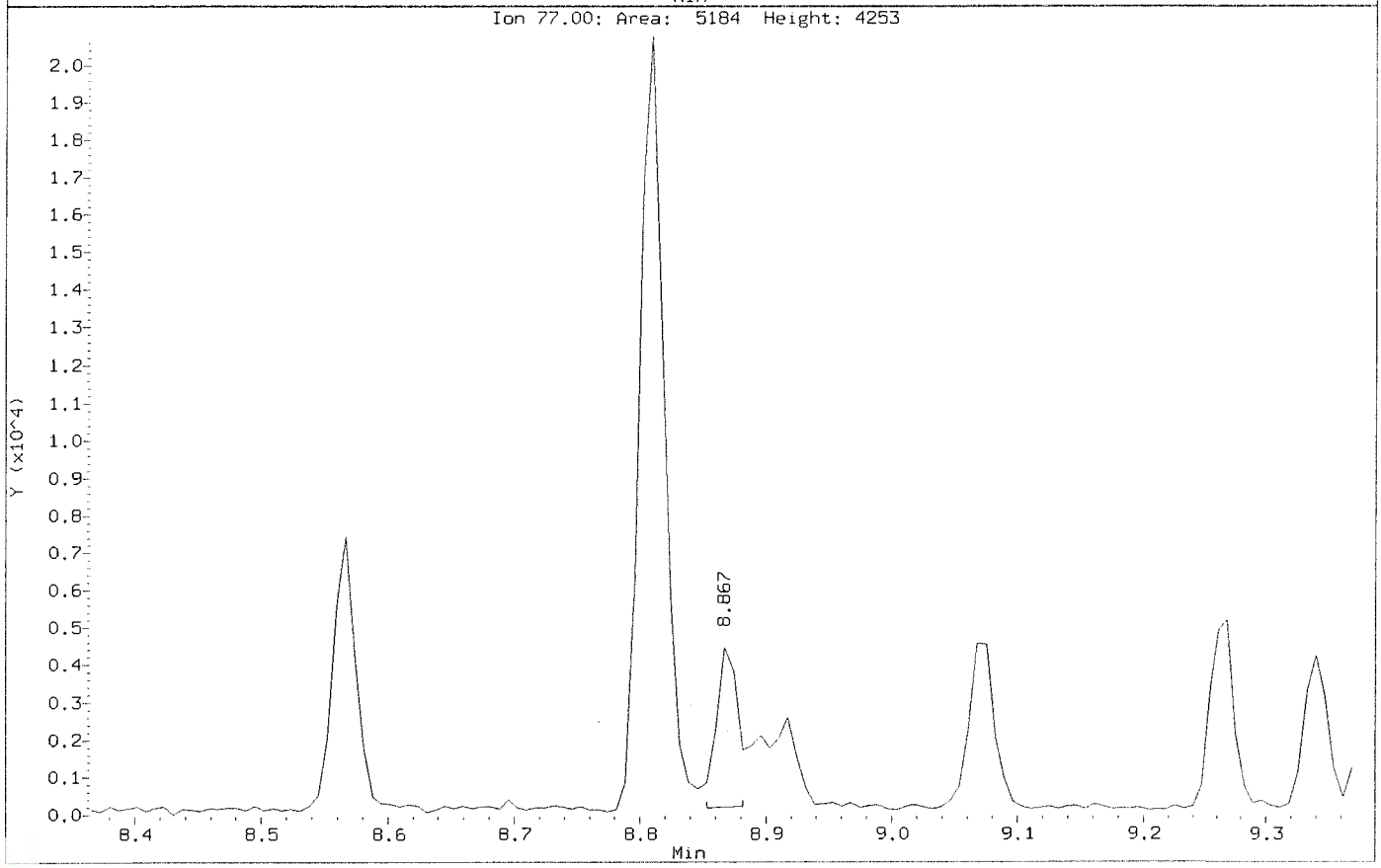
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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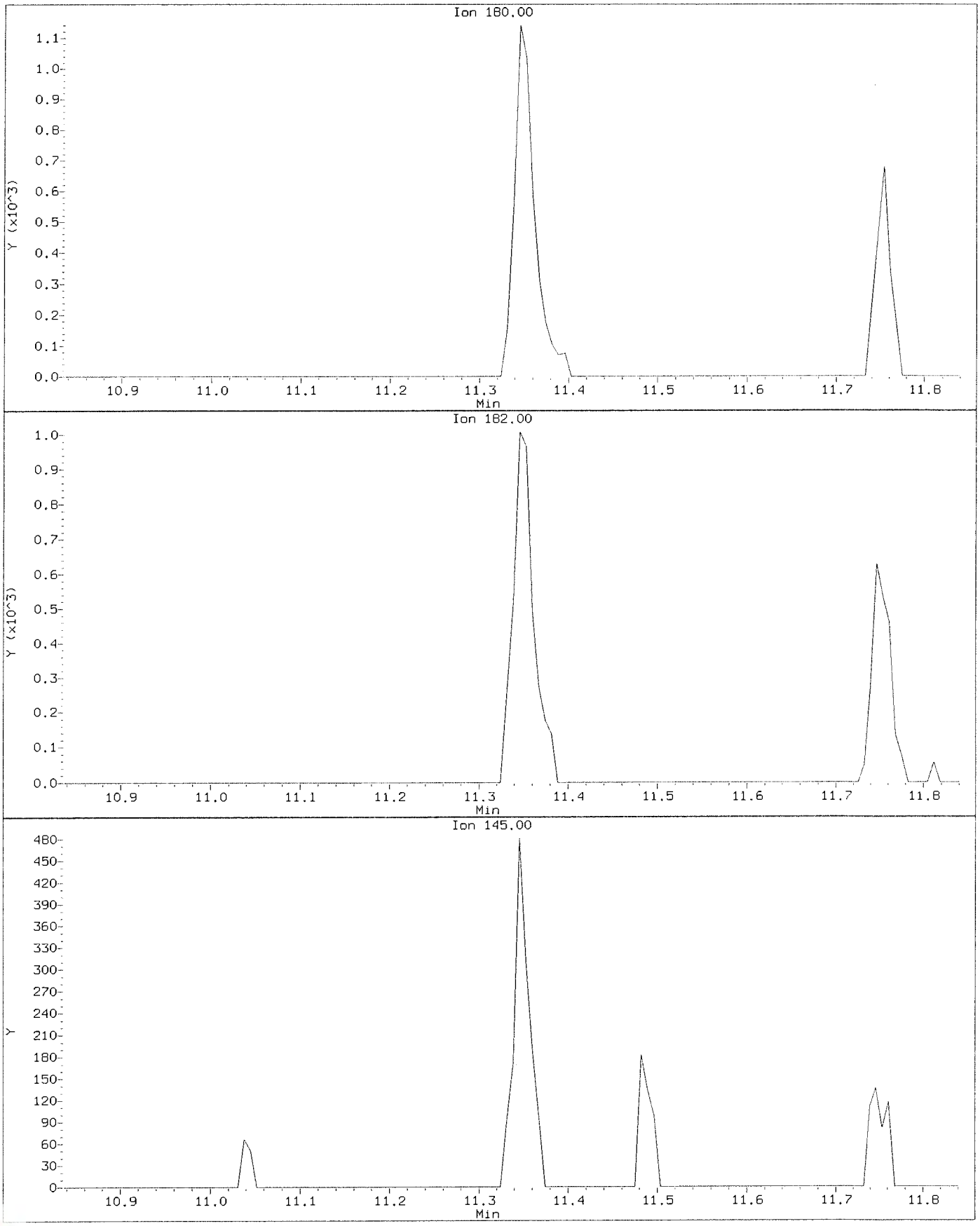
Injection Date: 02-JUN-2020 12:58
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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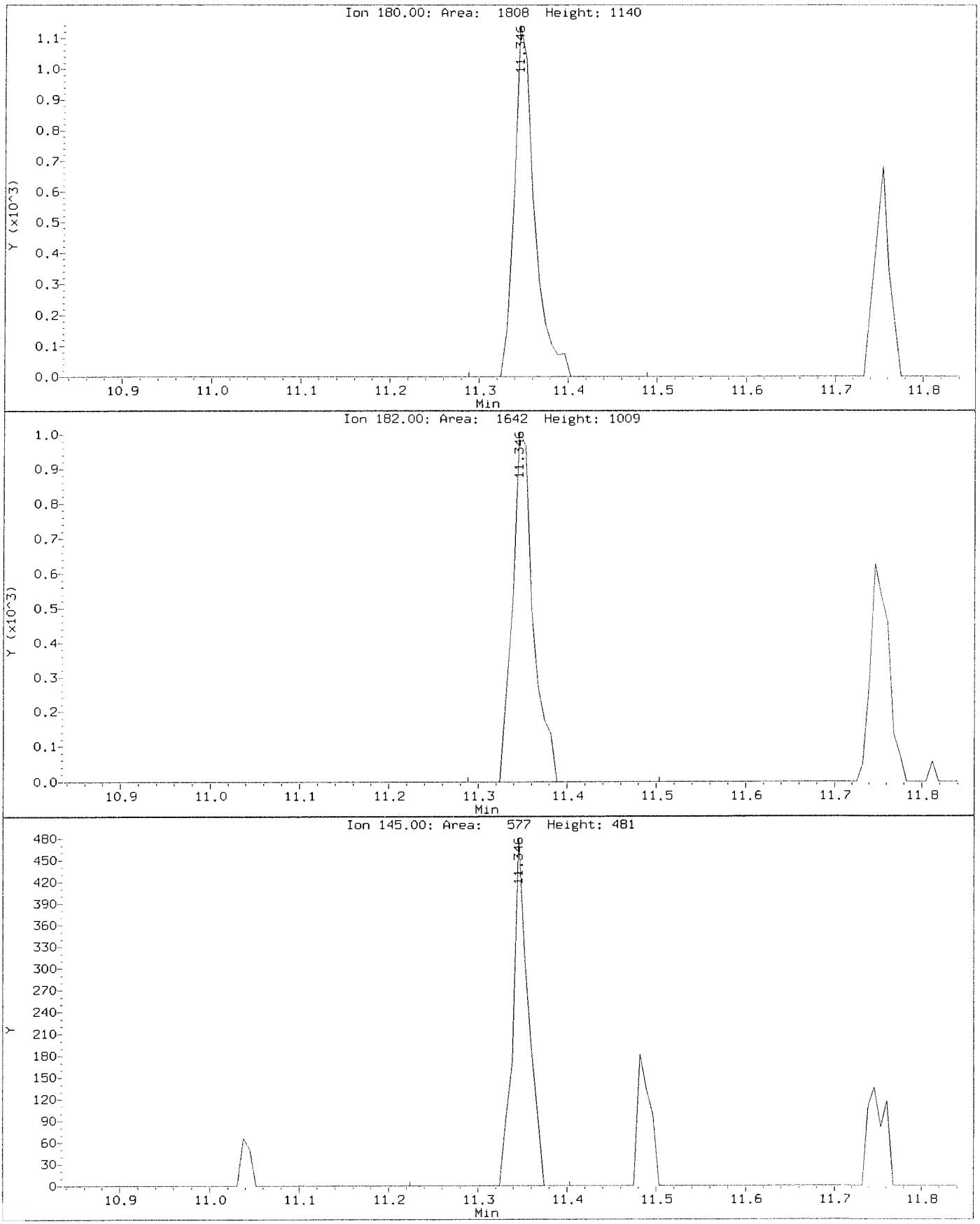
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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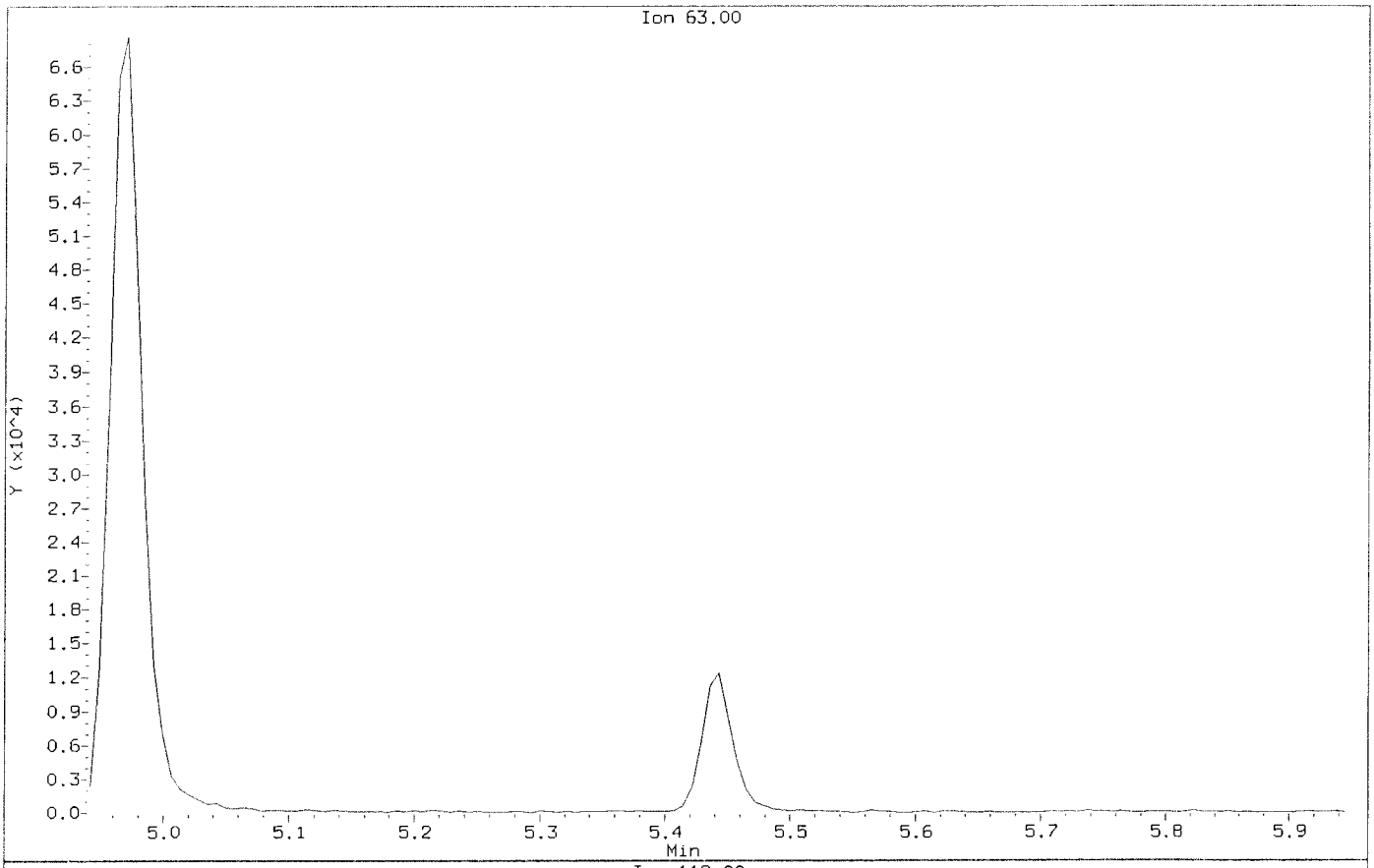
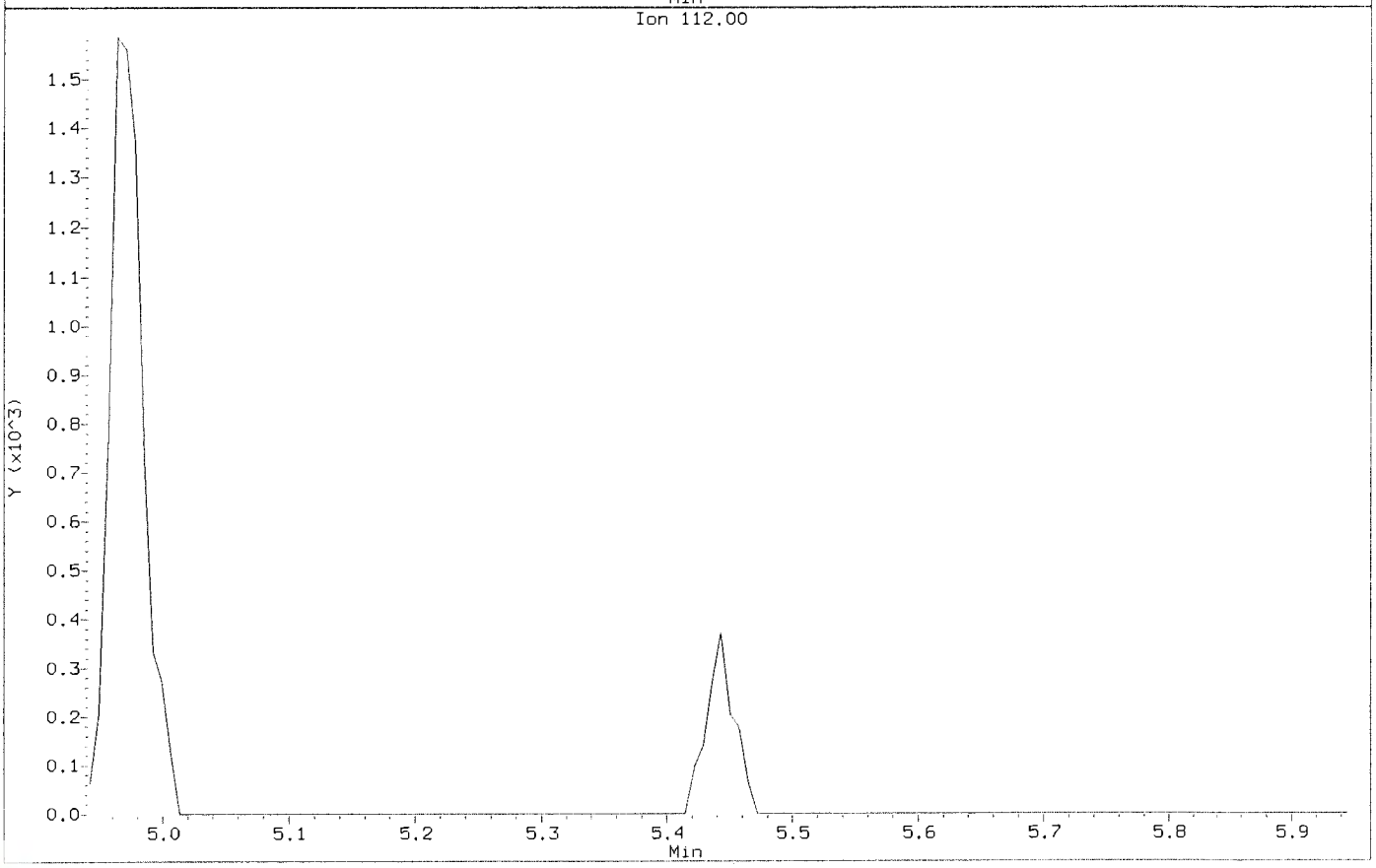
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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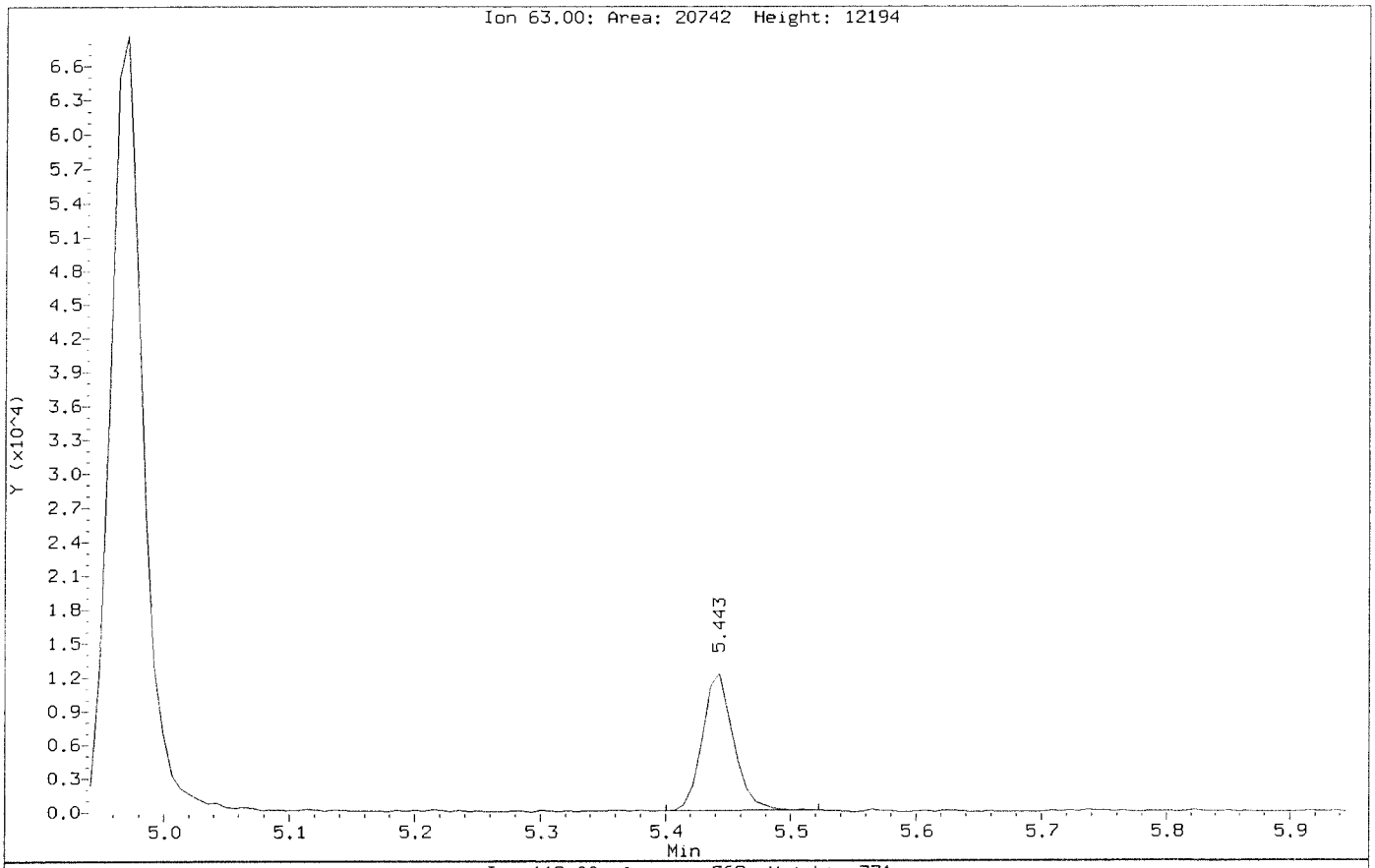
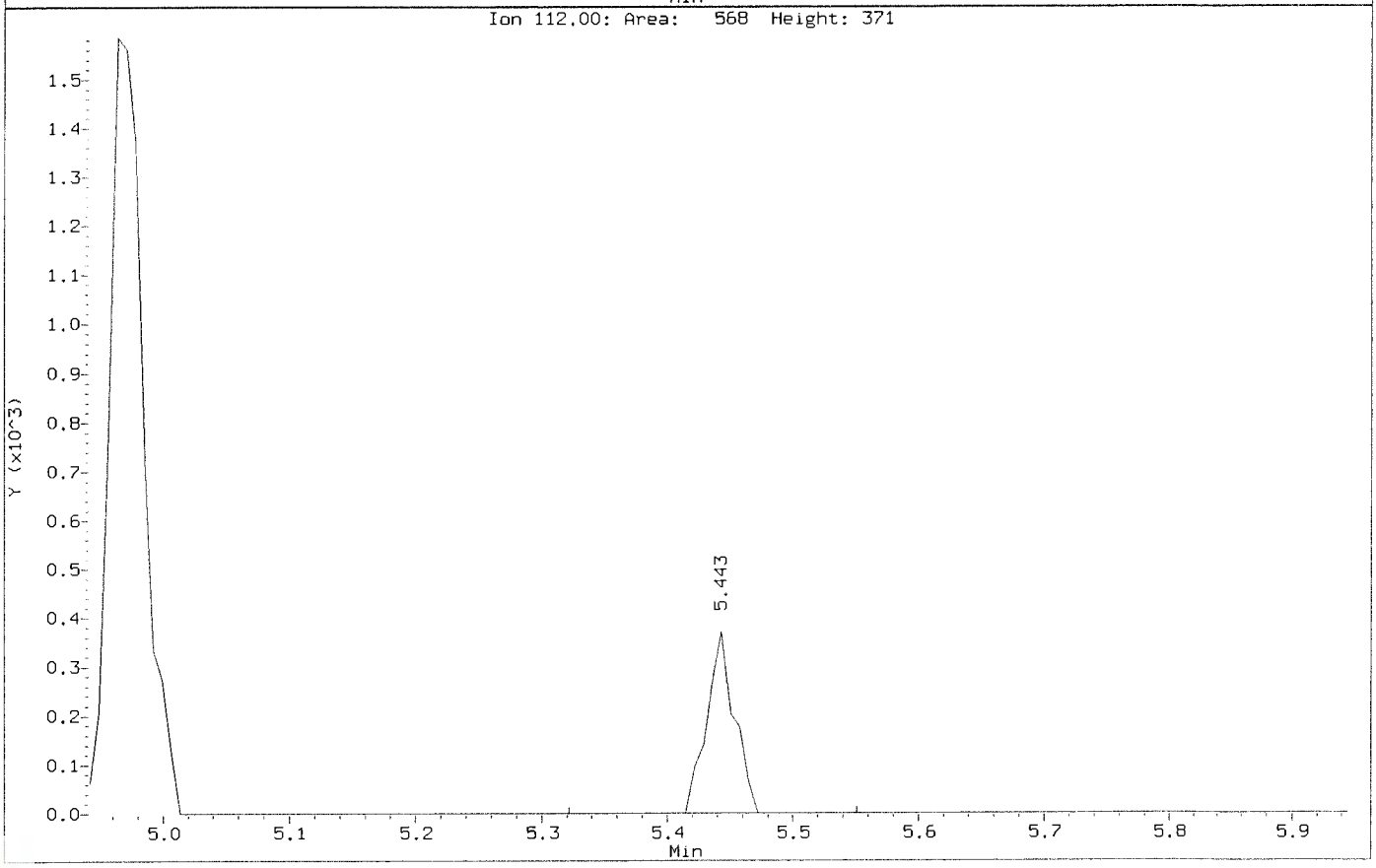
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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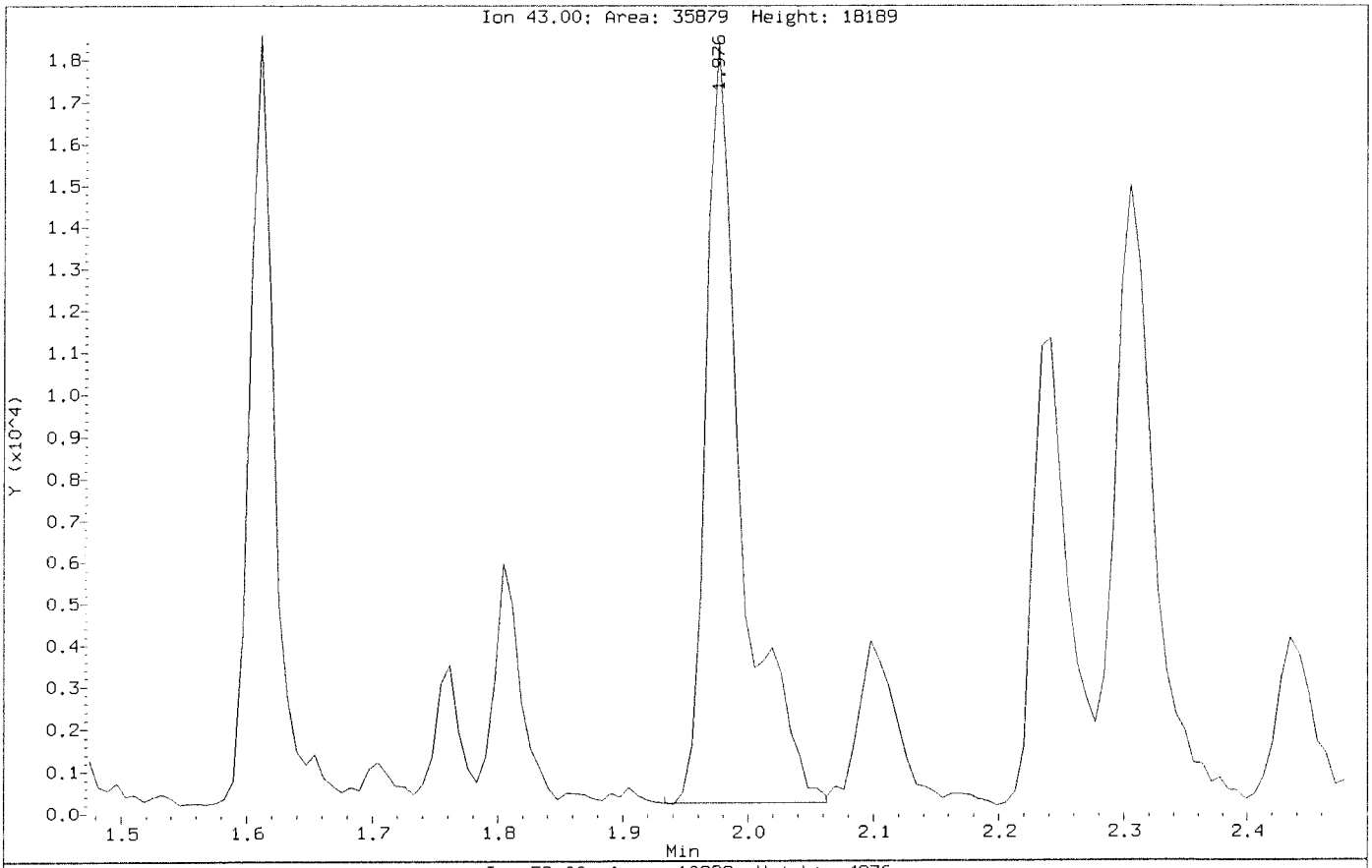
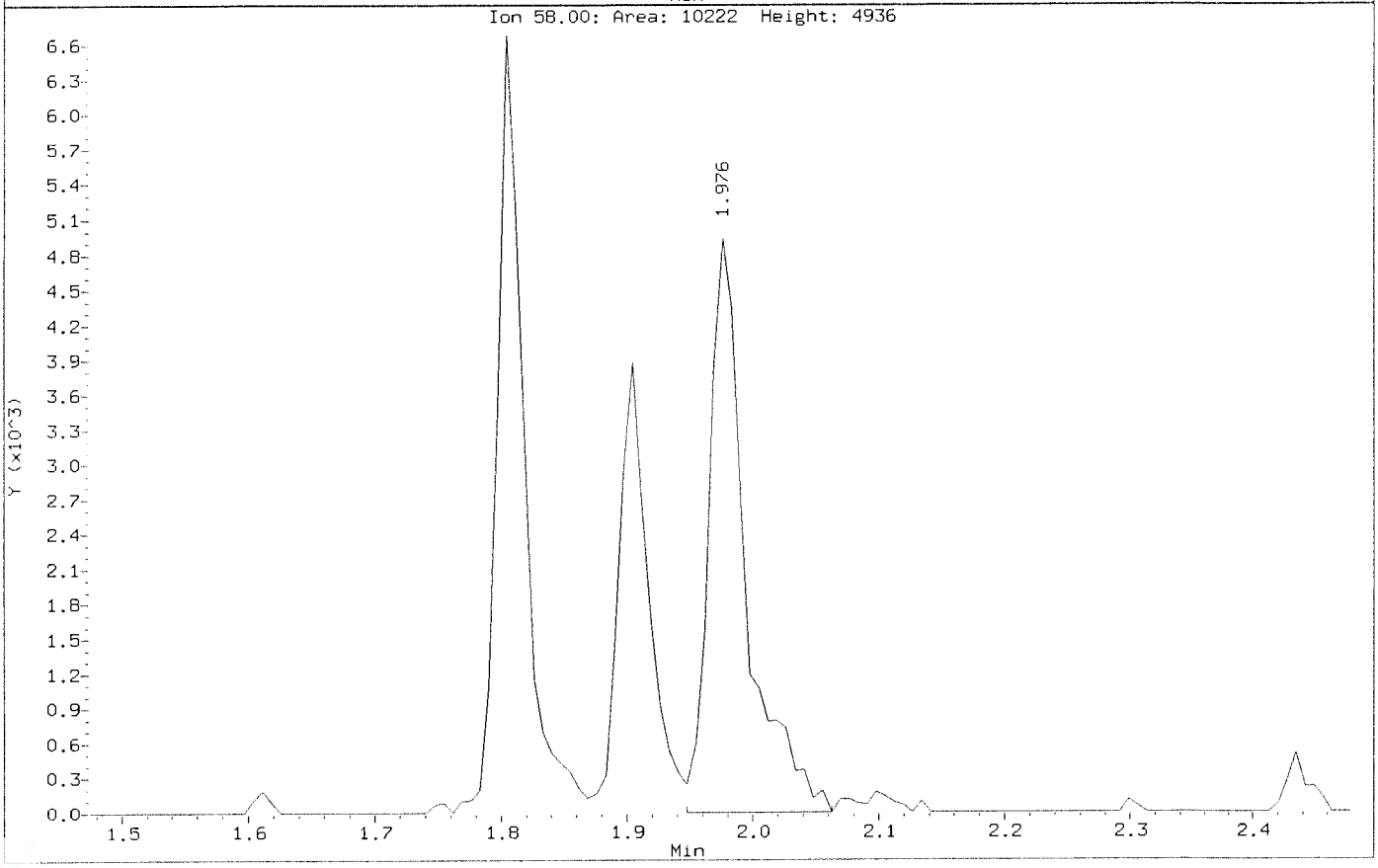
Injection Date: 02-JUN-2020 12:58
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Acetone
CAS Number: 67-64-1





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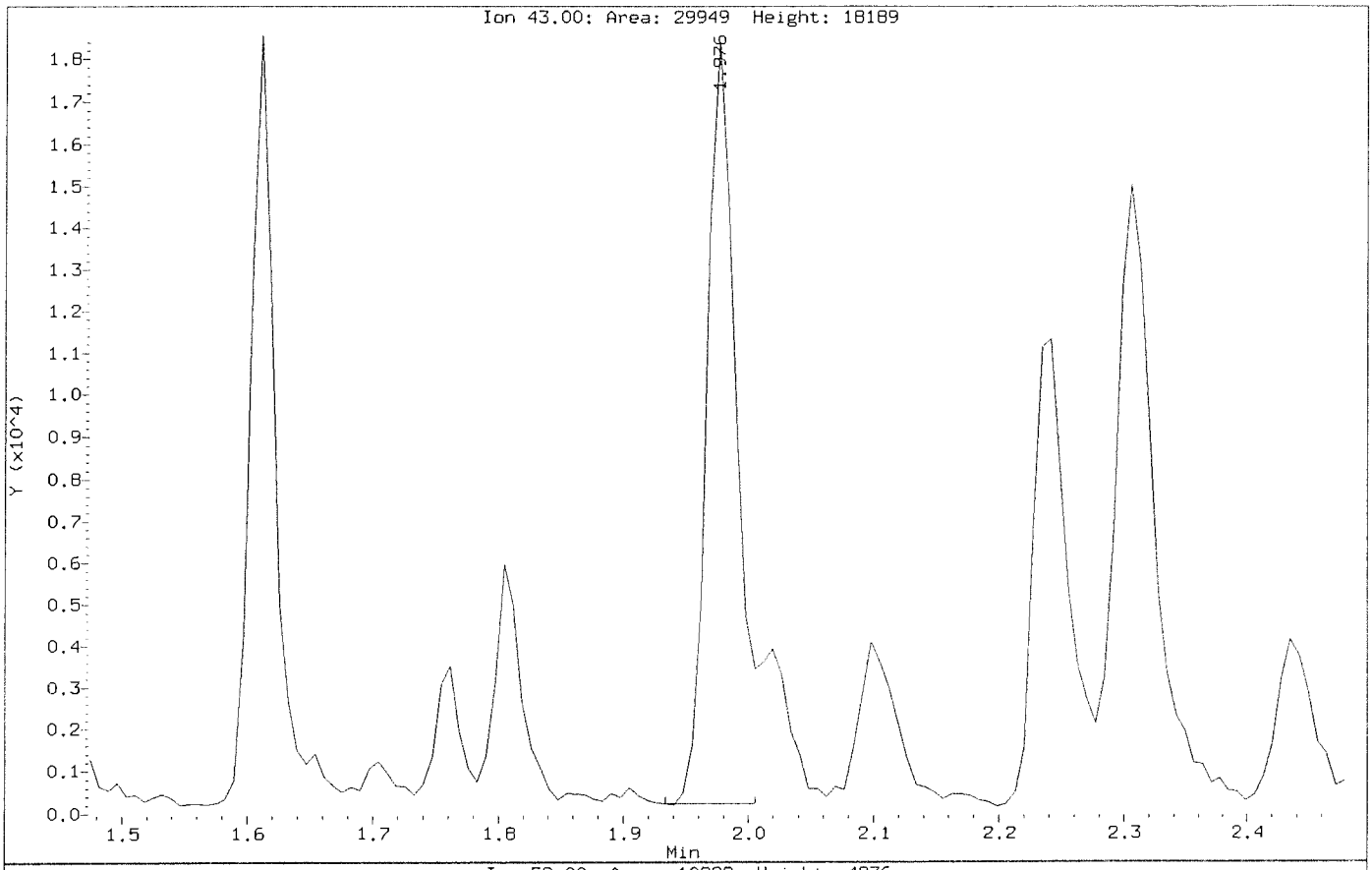
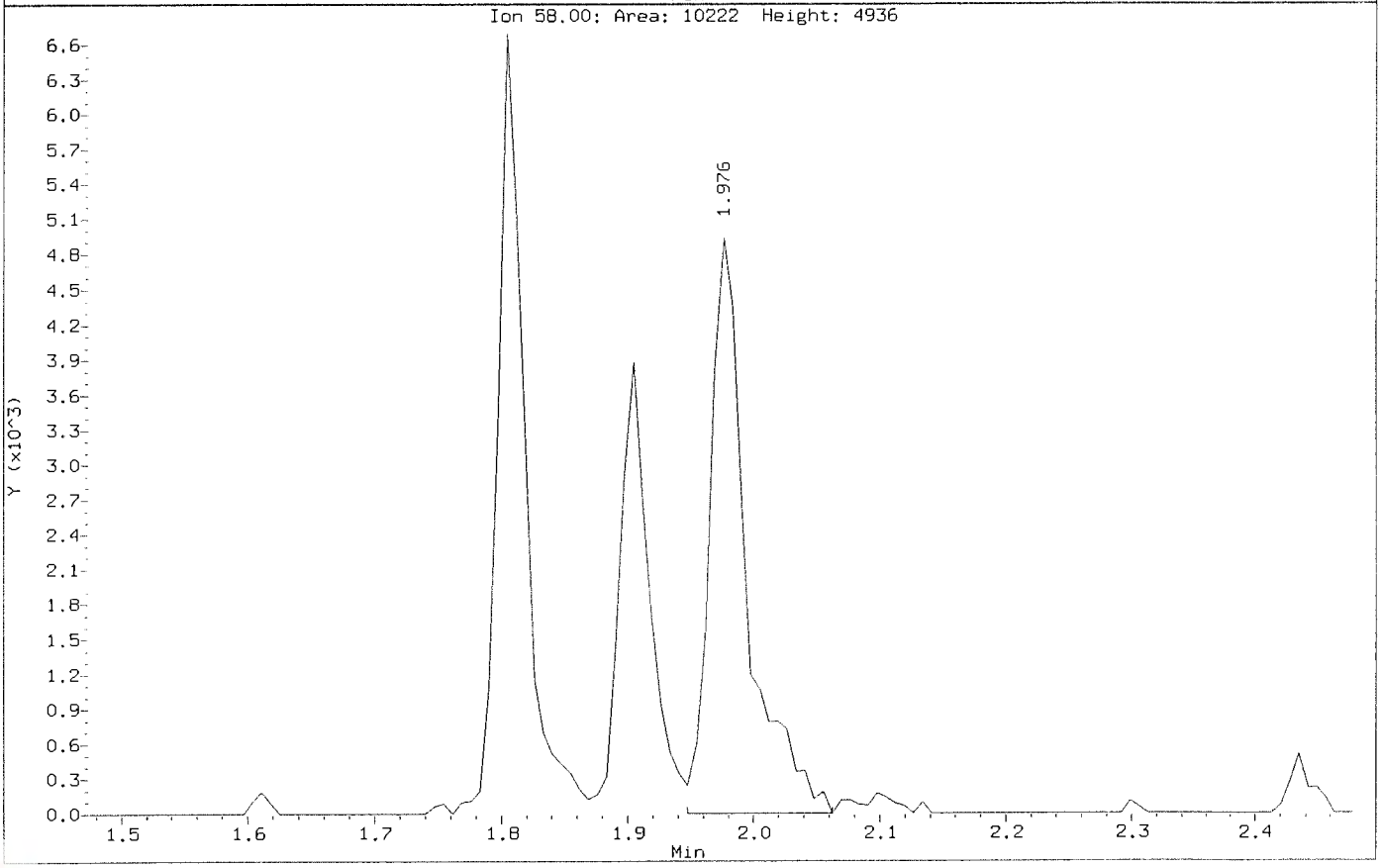
Injection Date: 02-JUN-2020 12:58
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Acetone
CAS Number: 67-64-1





ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060207.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 02-JUN-2020 13:21
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 13:21 Cal File: X060207.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

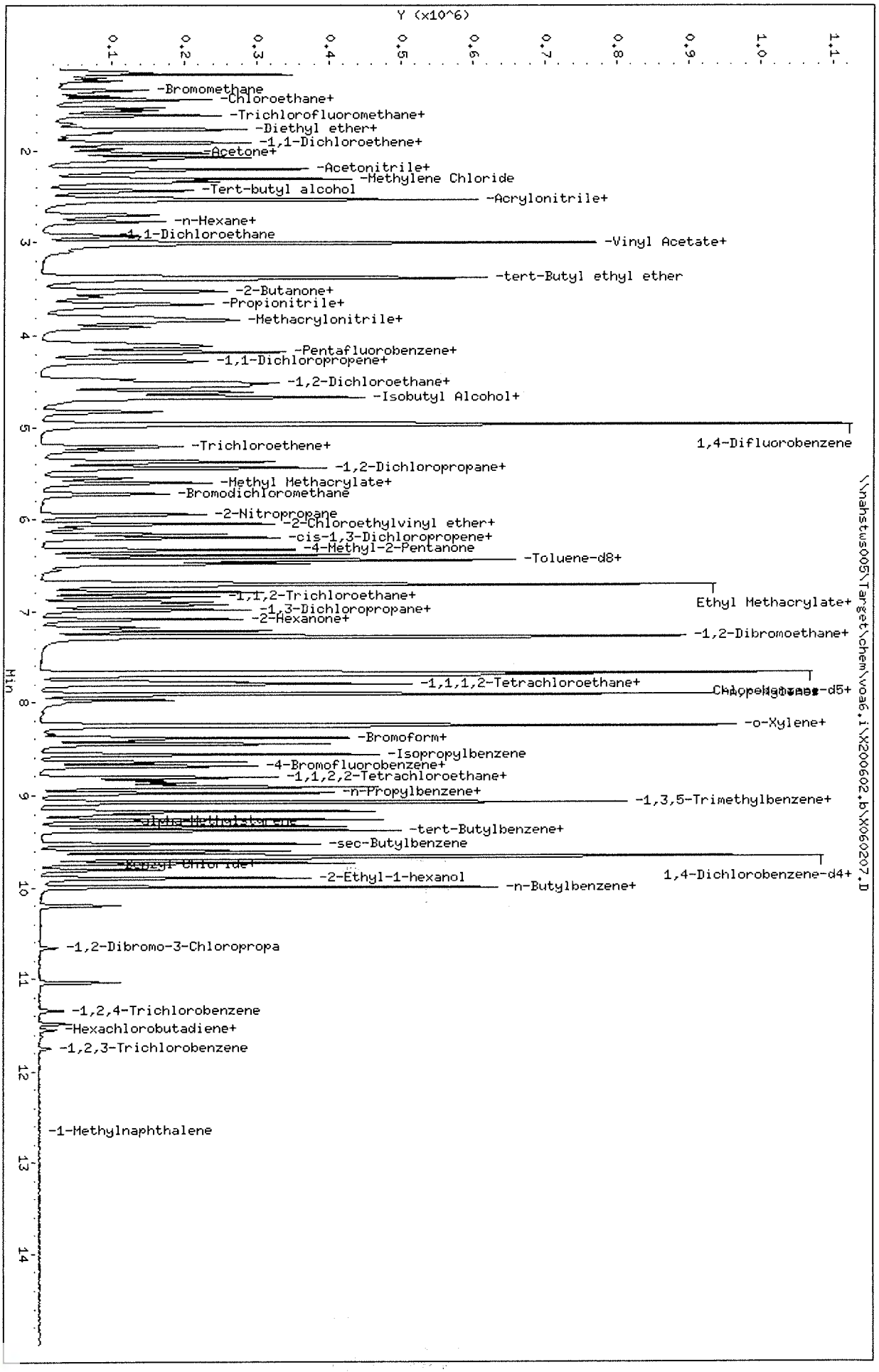
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.182	4.182	(1.000)	241358	50.0000	
* 36	1,4-Difluorobenzene	114	4.970	4.970	(1.000)	441207	50.0000	
* 47	Chlorobenzene-d5	117	7.671	7.671	(1.000)	404923	50.0000	
* 70	1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	174548	50.0000	
$ 30	Dibromofluoromethane	113	4.103	4.103	(0.981)	60981	20.0000	20.23
$ 35	1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	91293	20.0000	20.46
$ 48	Toluene-d8	98	6.388	6.388	(0.833)	210081	20.0000	19.80
$ 69	4-Bromofluorobenzene	95	8.695	8.695	(1.134)	81314	20.0000	19.88
60	1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	59462	20.0000	20.46
31	1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	91562	20.0000	19.69
68	1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.914)	69268	20.0000	19.85
53	1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	52986	20.0000	20.56
22	1,1-Dichloroethane	63	2.929	2.921	(0.700)	148994	20.0000	19.96
11	1,1-Dichloroethene	96	1.911	1.911	(0.457)	46426	20.0000	18.77
32	1,1-Dichloropropene	75	4.282	4.282	(0.862)	78962	20.0000	18.96
93	1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	4004	20.0000	19.44
71	1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	65906	20.0000	20.48(M)
90	1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	8997	20.0000	19.52
79	1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	202687	20.0000	19.73
89	1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	3937	20.0000	20.85
57	1,2-Dibromoethane	107	7.262	7.262	(0.947)	63726	20.0000	20.51
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	93613	20.0000	20.11
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	121042	20.0000	20.63

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	85410	20.0000	20.52
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	198283	20.0000	19.54
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	106214	20.0000	19.44
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	108221	20.0000	19.87
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	105953	20.0000	19.10
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	91645	20.0000	18.94
24	2-Butanone	43	3.580	3.580	(0.856)	110665	40.0000	41.60
76	2-Chlorotoluene	91	8.974	8.981	(0.928)	179240	20.0000	19.22
52	2-Hexanone	43	7.090	7.090	(0.924)	173460	40.0000	42.60
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	207609	20.0000	19.22
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	177678	20.0000	19.11
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	248538	40.0000	41.22
10	Acetone	43	1.976	1.976	(0.473)	97902	40.0000	45.50
37	Benzene	78	4.519	4.519	(0.909)	251950	20.0000	19.93
74	Bromobenzene	156	8.809	8.809	(0.911)	66831	20.0000	19.57
29	Bromochloromethane	128	3.795	3.803	(0.908)	33735	20.0000	19.85
39	Bromodichloromethane	83	5.729	5.729	(1.153)	90767	20.0000	19.93
66	Bromoform	173	8.415	8.416	(1.097)	42677	20.0000	21.07
6	Bromomethane	94	1.338	1.331	(0.320)	47538	20.0000	21.05
19	Carbon Disulfide	76	2.069	2.069	(0.495)	306205	40.0000	38.45
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	71886	20.0000	18.01
59	Chlorobenzene	112	7.699	7.699	(1.004)	156980	20.0000	19.66
7	Chloroethane	64	1.403	1.396	(0.336)	50942	20.0000	19.80
28	Chloroform	83	3.910	3.910	(0.935)	118902	20.0000	20.08
3	Chloromethane	50	1.081	1.081	(0.258)	114951	20.0000	19.36
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	70177	20.0000	20.46
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	107588	20.0000	19.99
55	Dibromochloromethane	129	7.176	7.183	(0.936)	63060	20.0000	19.54
44	Dibromomethane	93	5.557	5.557	(1.118)	44721	20.0000	19.95
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	53282	20.0000	18.54
61	Ethylbenzene	106	7.799	7.807	(1.017)	81049	20.0000	19.73
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	6003	20.0000	17.84
67	Isopropylbenzene	105	8.566	8.566	(1.117)	233089	20.0000	19.14
62	m,p-Xylenes	106	7.907	7.907	(1.031)	192408	40.0000	38.83
17	Methylene Chloride	84	2.305	2.305	(0.551)	70232	20.0000	20.92
87	n-Butylbenzene	91	9.999	9.999	(1.034)	157076	20.0000	18.96
73	n-Propylbenzene	91	8.917	8.917	(0.922)	285781	20.0000	19.57
92	Naphthalene	128	11.546	11.546	(1.194)	16228	20.0000	20.44
63	o-Xylene	106	8.244	8.244	(1.075)	96779	20.0000	19.79
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	207288	20.0000	18.32
64	Styrene	104	8.265	8.265	(1.078)	175384	20.0000	20.13
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	148992	20.0000	18.77
56	Tetrachloroethene	164	6.933	6.933	(0.904)	41967	20.0000	19.53
50	Toluene	91	6.446	6.453	(0.840)	252348	20.0000	19.92
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	56613	20.0000	20.01
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	98679	20.0000	20.30
38	Trichloroethene	130	5.206	5.206	(1.048)	58403	20.0000	19.54
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	85873	20.0000	19.10
5	Vinyl Chloride	62	1.138	1.138	(0.272)	91071	20.0000	17.94

QC Flag Legend

M - Compound response manually integrated.



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Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

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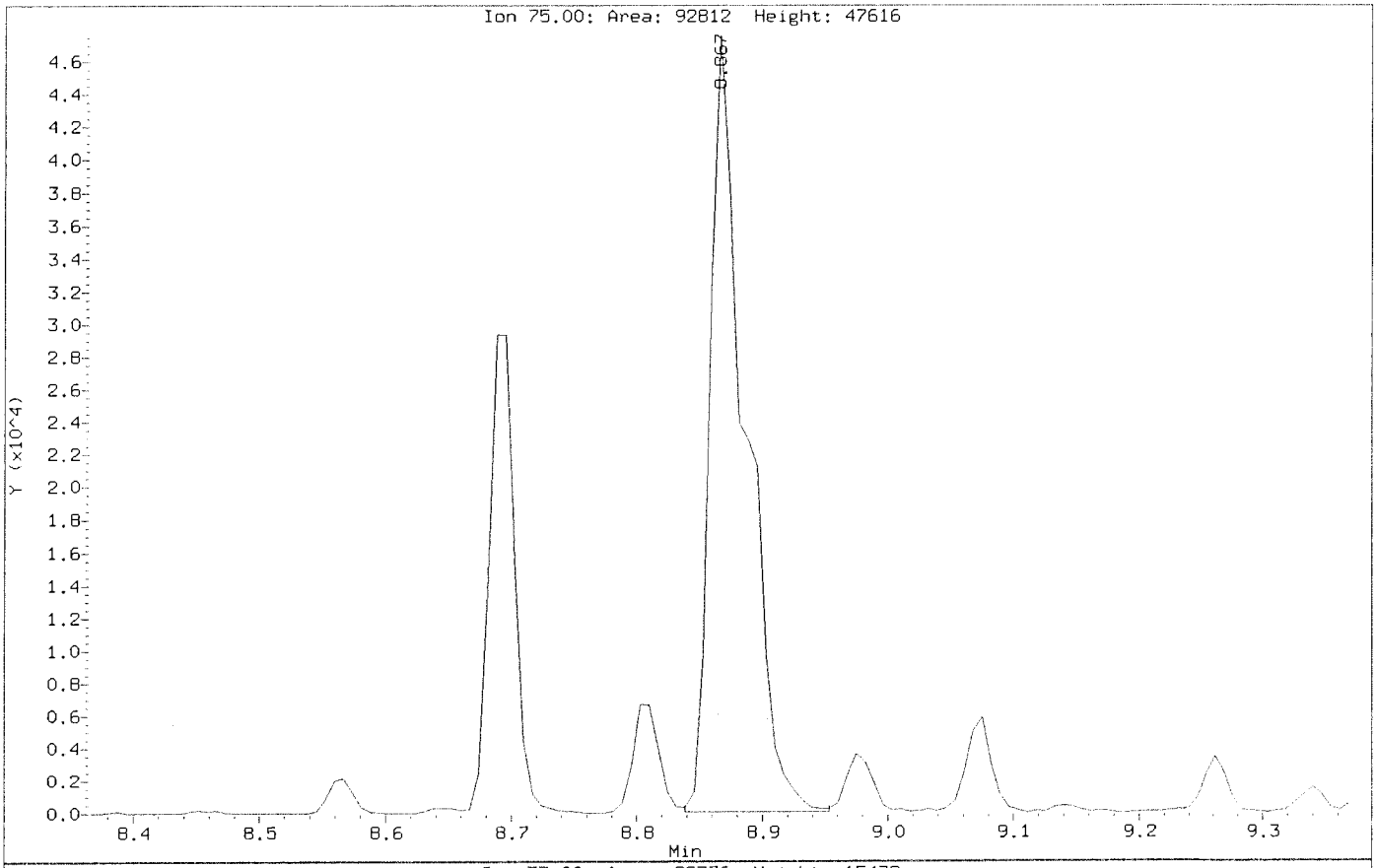
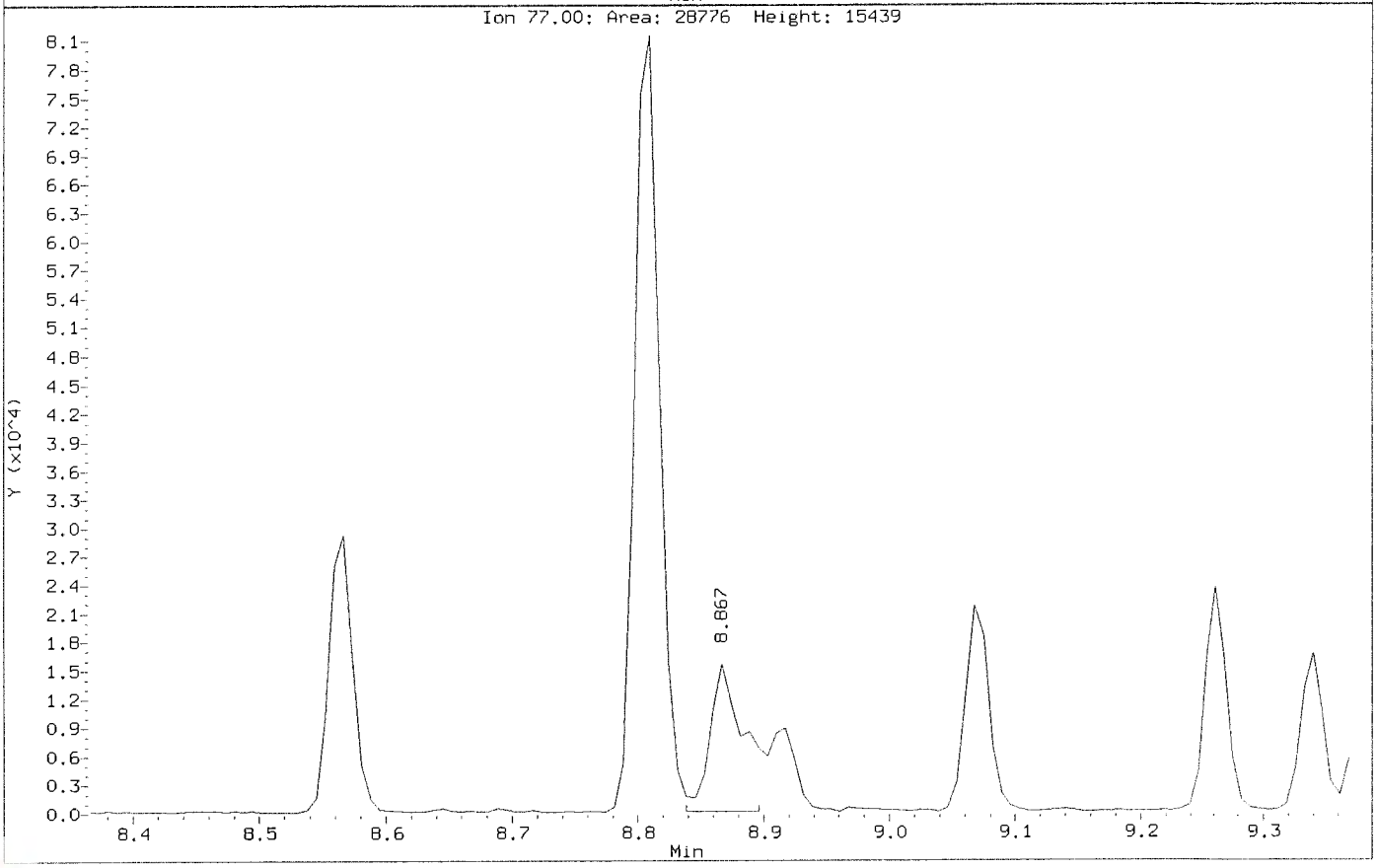
Injection Date: 02-JUN-2020 13:21
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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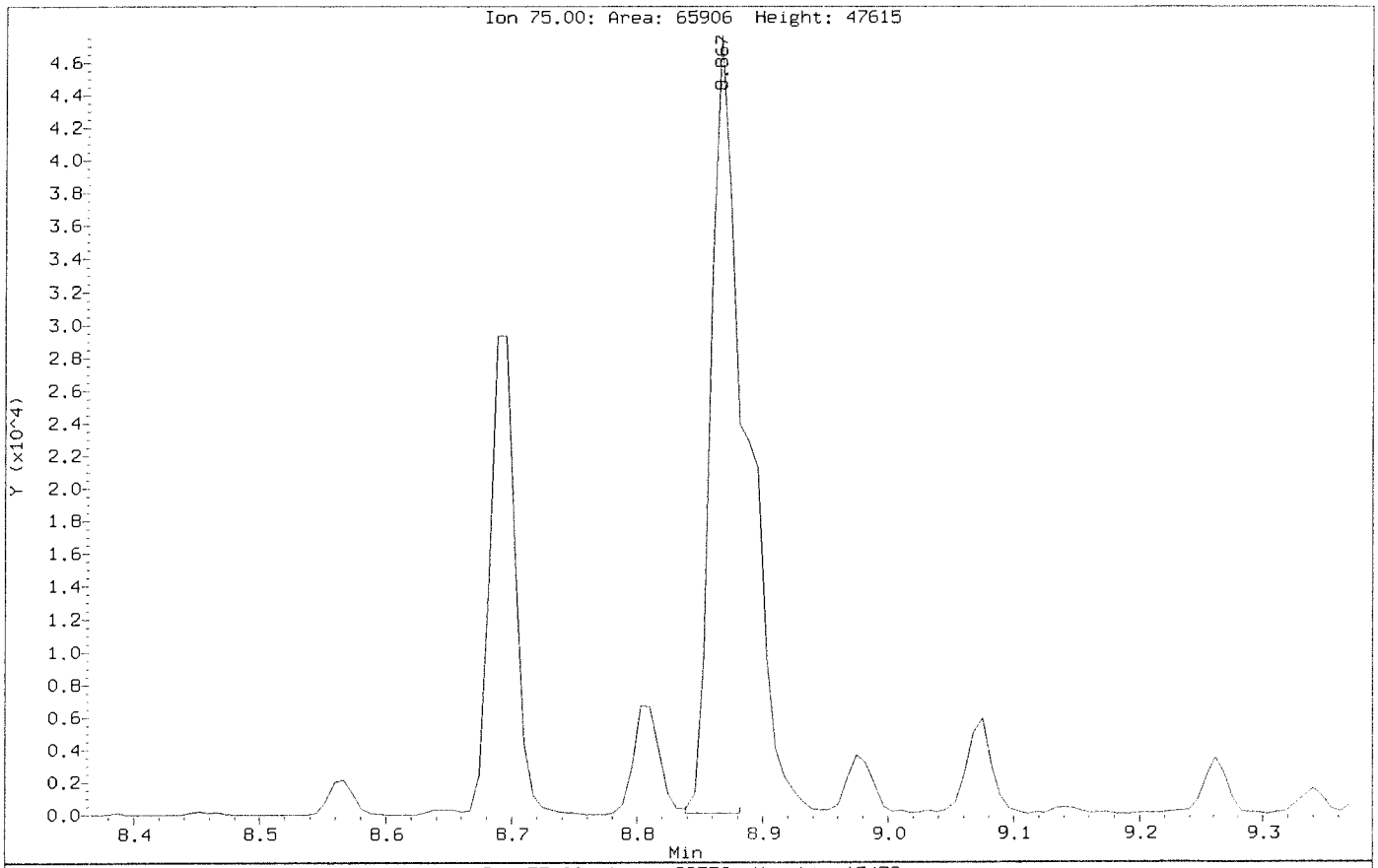
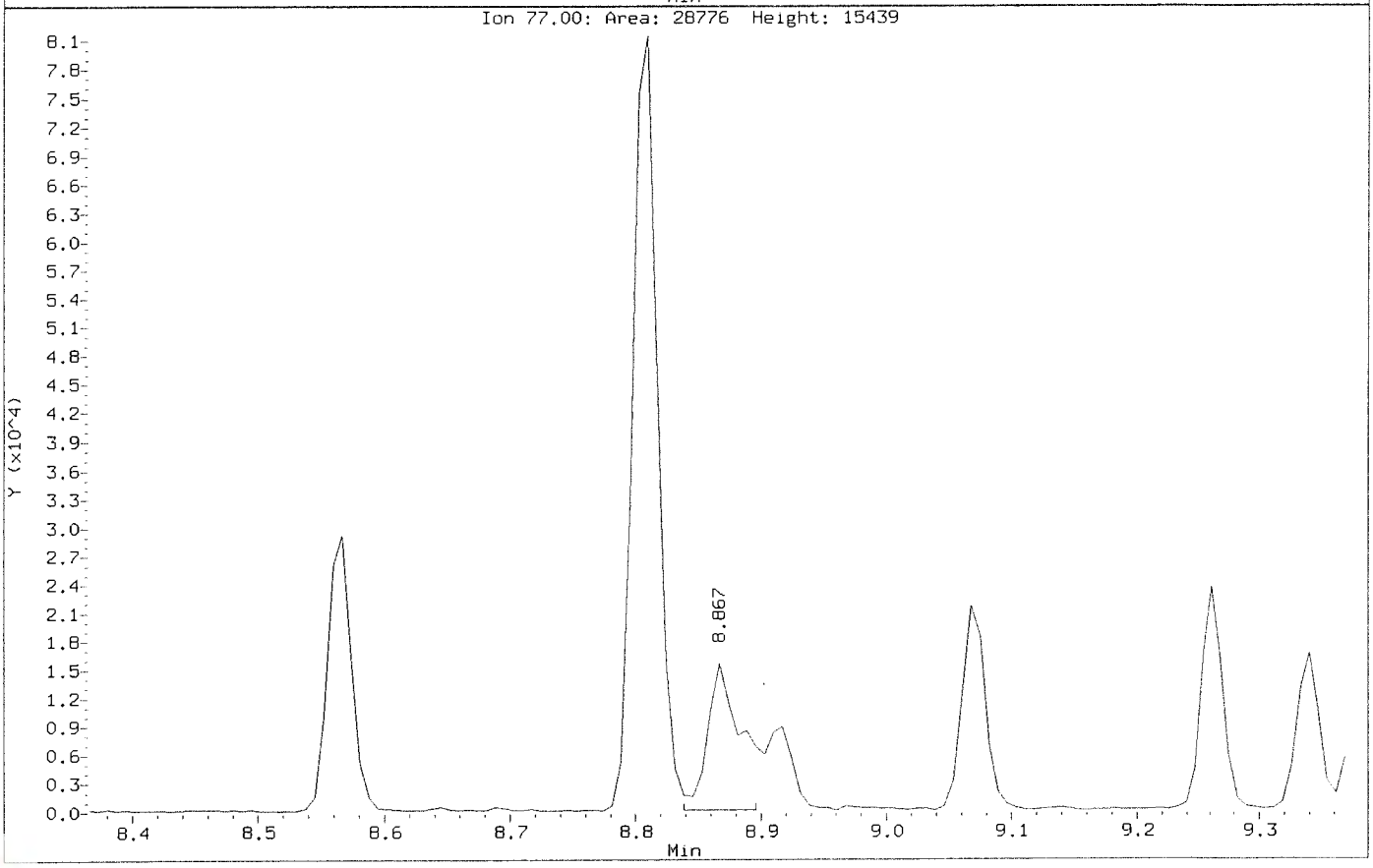
Client Sample ID: VSTD020

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060208.D
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Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 13:45 Cal File: X060208.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

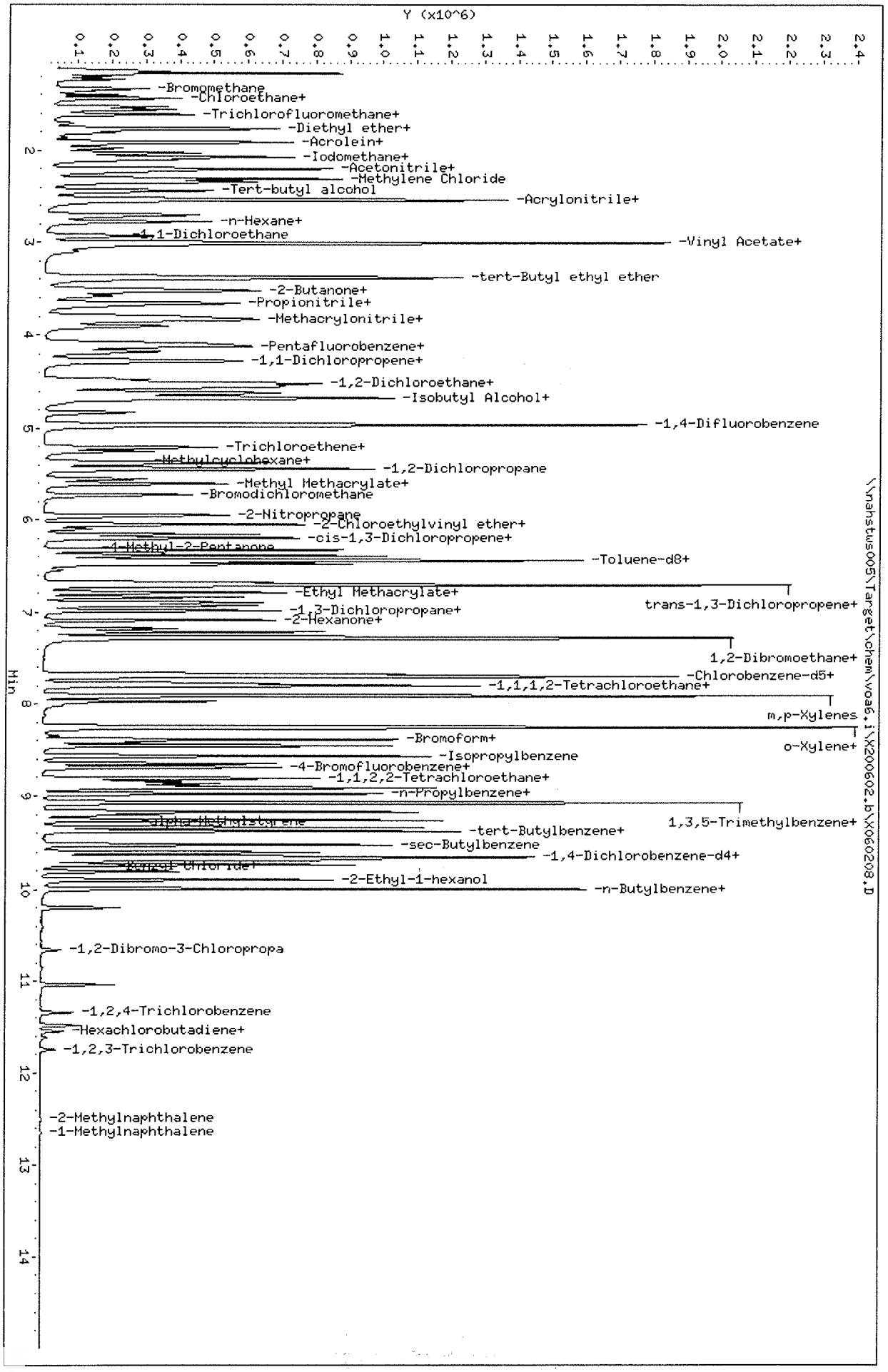
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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	4.182	(1.000)	234603	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	419955	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	391664	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	170314	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.979)	144483	50.0000	50.22
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	213560	50.0000	50.55
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	494135	50.0000	48.15
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	195210	50.0000	50.46
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	143356	50.0000	51.00
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	228181	50.0000	50.48
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.914)	169111	50.0000	49.68
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	125584	50.0000	50.39
22 1,1-Dichloroethane	63	2.922	2.921	(0.697)	358957	50.0000	49.47
11 1,1-Dichloroethene	96	1.912	1.911	(0.456)	118872	50.0000	49.44
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	195632	50.0000	49.35
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	10729	50.0000	50.47
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	158661	50.0000	50.53(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	22734	50.0000	46.93
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	507897	50.0000	50.69
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	9084	50.0000	48.54
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	153274	50.0000	51.02
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	227692	50.0000	50.13
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	284224	50.0000	50.90

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	205150	50.0000	51.79
75	1,3,5-Trimethylbenzene	105	9.068	9.075	(0.938)	494398	50.0000	49.95
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	258679	50.0000	48.54
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	264613	50.0000	50.24
84	1,4-Dichlorobenzene	146	9.684	9.683	(1.001)	260533	50.0000	48.14
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	226555	50.0000	48.18
24	2-Butanone	43	3.581	3.580	(0.855)	259472	100.000	100.34
76	2-Chlorotoluene	91	8.974	8.981	(0.928)	437515	50.0000	48.08
52	2-Hexanone	43	7.091	7.090	(0.924)	412059	100.000	104.62
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	512871	50.0000	48.67
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	464322	50.0000	51.18
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	601394	100.000	103.13
10	Acetone	43	1.976	1.976	(0.472)	208678	100.000	109.11
37	Benzene	78	4.519	4.519	(0.909)	613364	50.0000	50.99
74	Bromobenzene	156	8.810	8.809	(0.911)	163962	50.0000	49.20
29	Bromochloromethane	128	3.803	3.803	(0.908)	80815	50.0000	48.93
39	Bromodichloromethane	83	5.730	5.729	(1.153)	222948	50.0000	51.45
66	Bromoform	173	8.416	8.416	(1.097)	101324	50.0000	51.73
6	Bromomethane	94	1.339	1.331	(0.320)	108118	50.0000	50.66
19	Carbon Disulfide	76	2.069	2.069	(0.494)	793560	100.000	102.53
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	185909	50.0000	48.95
59	Chlorobenzene	112	7.699	7.699	(1.004)	381692	50.0000	49.42
7	Chloroethane	64	1.403	1.396	(0.335)	127746	50.0000	51.08
28	Chloroform	83	3.910	3.910	(0.933)	287833	50.0000	50.03
3	Chloromethane	50	1.081	1.081	(0.258)	275527	50.0000	47.74
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	166623	50.0000	49.98
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	262781	50.0000	51.31
55	Dibromochloromethane	129	7.176	7.183	(0.936)	156839	50.0000	50.26
44	Dibromomethane	93	5.558	5.557	(1.118)	108245	50.0000	50.74
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	146094	50.0000	52.29
61	Ethylbenzene	106	7.800	7.807	(1.017)	198335	50.0000	49.91
91	Hexachlorobutadiene	225	11.489	11.481	(1.188)	17167	50.0000	48.22
67	Isopropylbenzene	105	8.566	8.566	(1.117)	582641	50.0000	49.48
62	m,p-Xylenes	106	7.907	7.907	(1.031)	478295	100.000	99.80
17	Methylene Chloride	84	2.306	2.305	(0.550)	166214	50.0000	52.51
87	n-Butylbenzene	91	9.999	9.999	(1.034)	421379	50.0000	52.13
73	n-Propylbenzene	91	8.917	8.917	(0.922)	715248	50.0000	50.21
92	Naphthalene	128	11.546	11.546	(1.194)	39390	50.0000	48.99
63	o-Xylene	106	8.244	8.244	(1.075)	237782	50.0000	50.28
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	558584	50.0000	50.60
64	Styrene	104	8.258	8.265	(1.077)	429325	50.0000	50.96
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	383782	50.0000	49.57
56	Tetrachloroethene	164	6.933	6.933	(0.904)	103604	50.0000	49.85
50	Toluene	91	6.446	6.453	(0.840)	609164	50.0000	49.71
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.603)	140656	50.0000	51.15
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	242389	50.0000	52.39
38	Trichloroethene	130	5.207	5.206	(1.048)	145681	50.0000	51.21
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	227995	50.0000	52.17
5	Vinyl Chloride	62	1.138	1.138	(0.272)	235666	50.0000	47.78

QC Flag Legend

M - Compound response manually integrated.



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Instrument: voa6_i
Operator: PC
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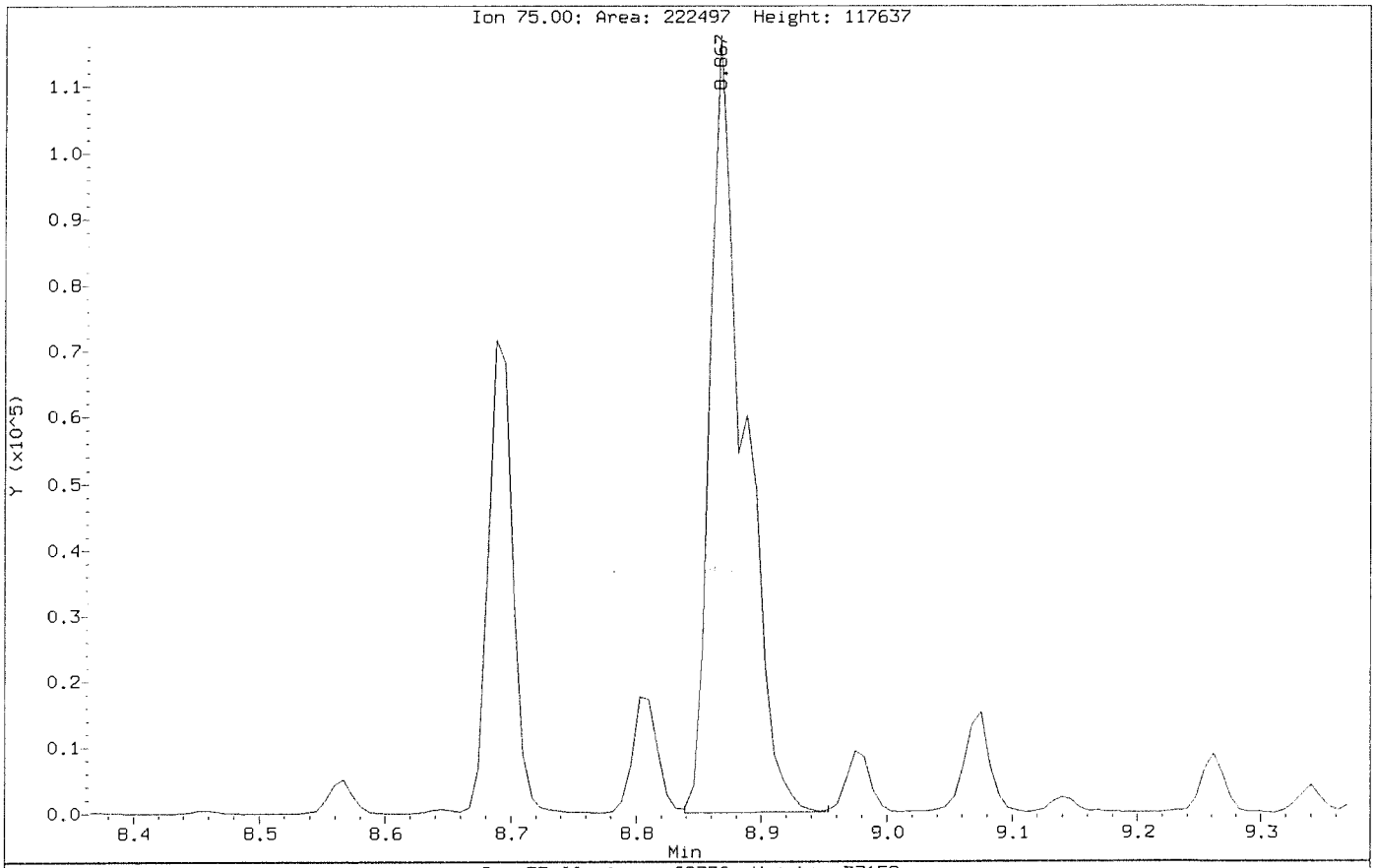
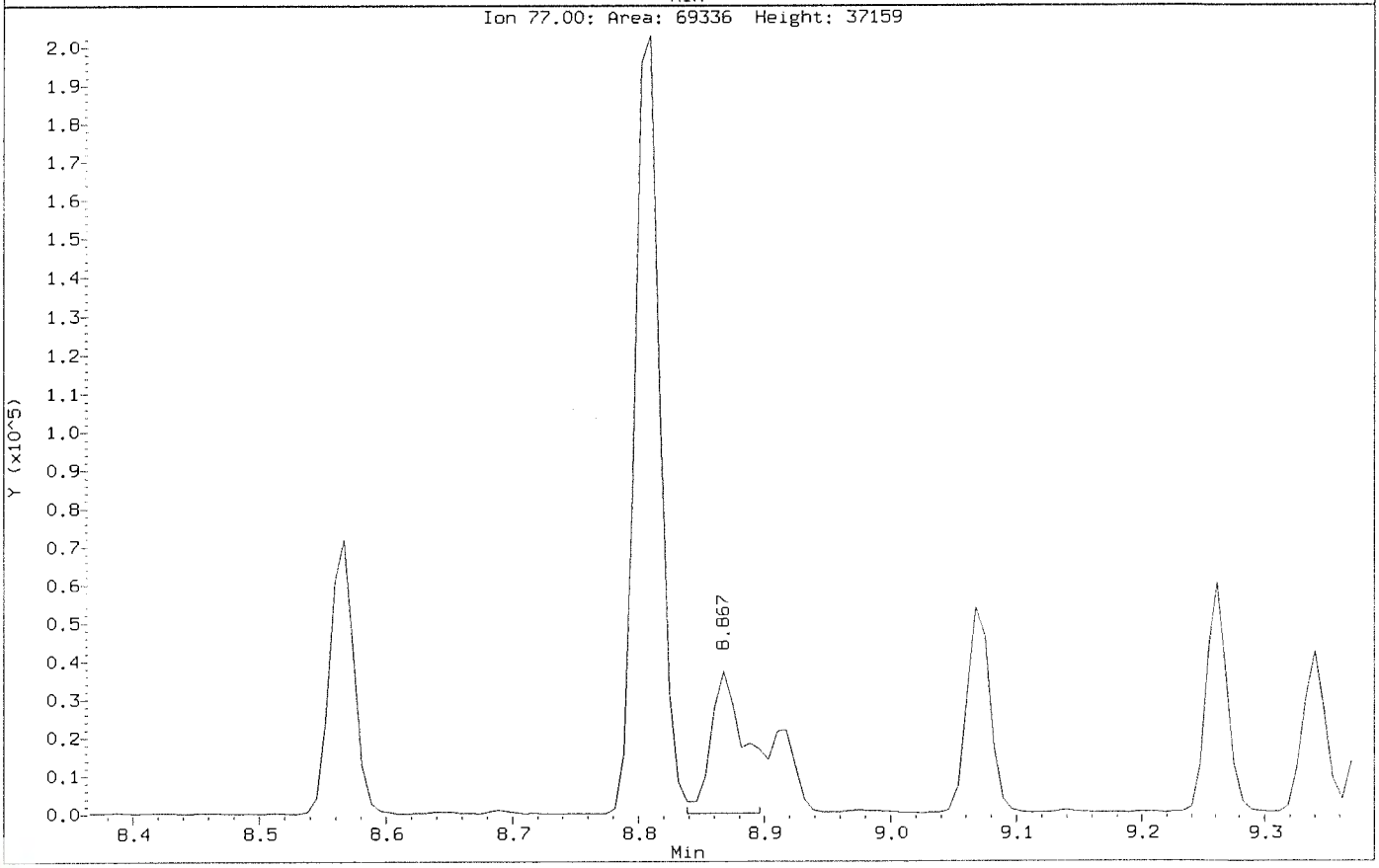
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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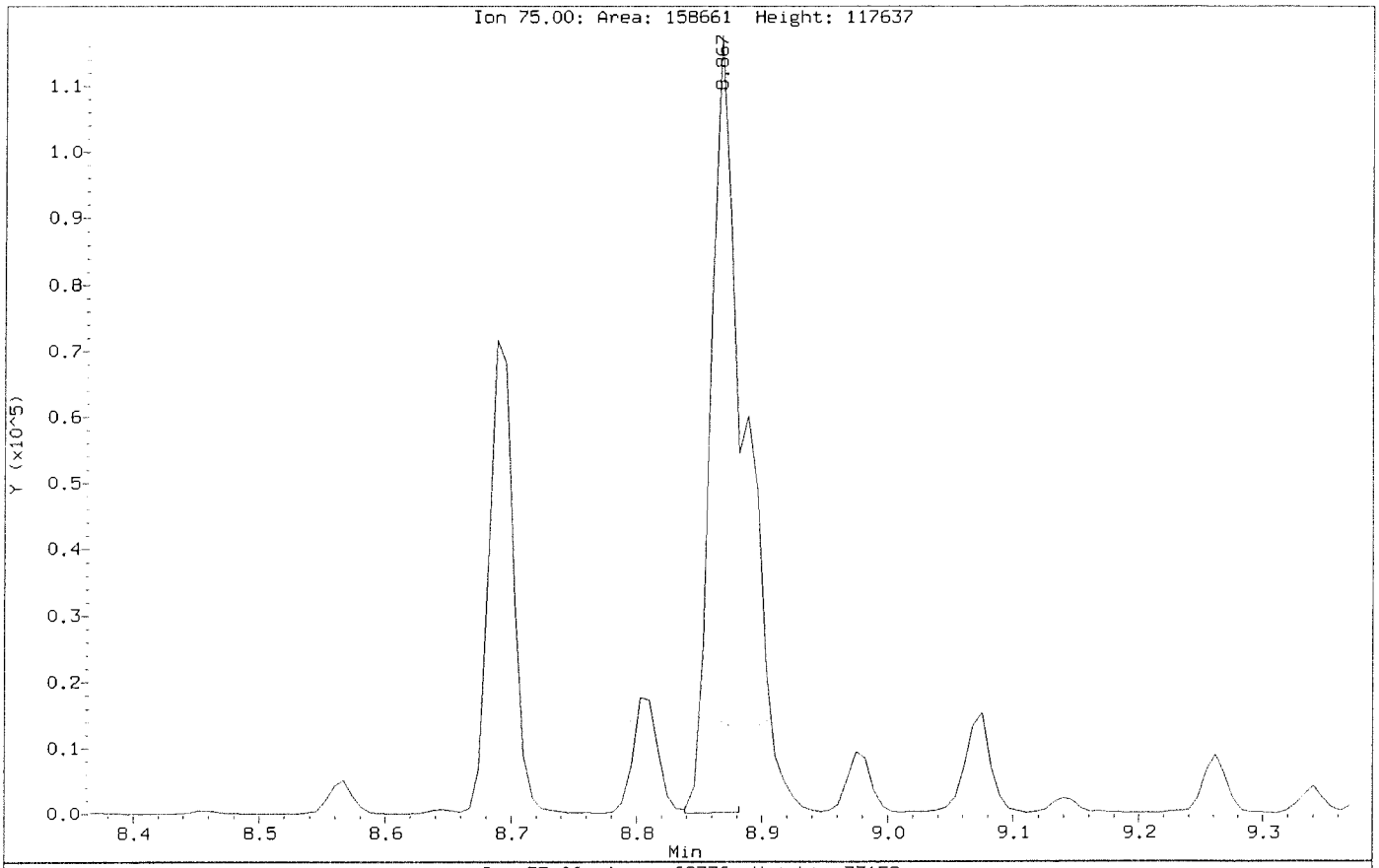
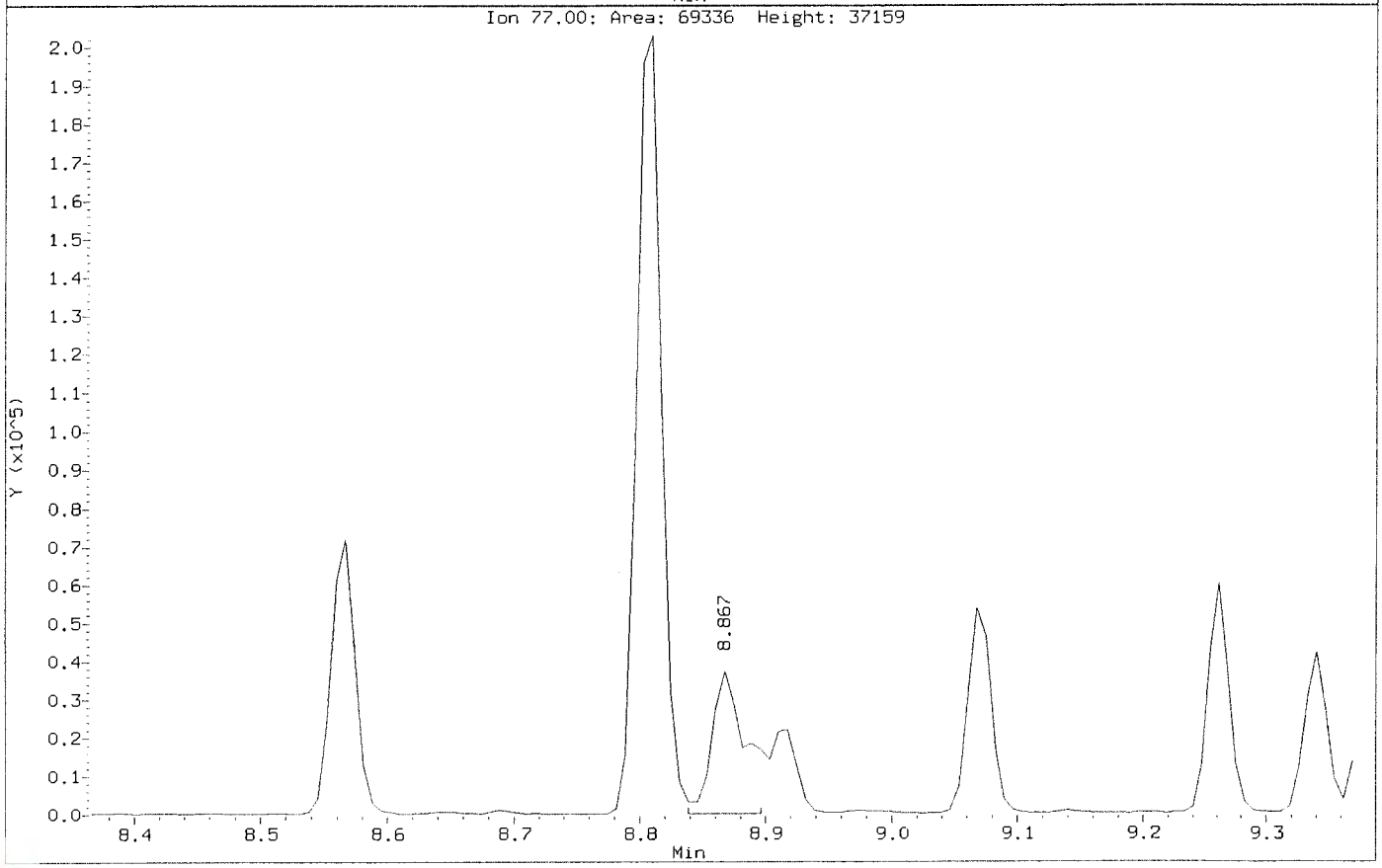
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Inj Date : 02-JUN-2020 14:09
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:09 Cal File: X060209.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	(1.000)	233294	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	413603	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	388529	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	170872	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	285402	100.000	100.38
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	422784	100.000	101.55
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	989422	100.000	97.19
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	388425	100.000	101.98
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	276409	100.000	99.13
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	440726	100.000	98.06
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	321579	100.000	94.17
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	237631	100.000	96.12
22 1,1-Dichloroethane	63	2.922	2.921	(0.697)	676971	100.000	93.82
11 1,1-Dichloroethene	96	1.912	1.911	(0.456)	231458	100.000	96.81
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	375197	100.000	96.10
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	20684	100.000	93.06
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	303593	100.000	96.38(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	44957	100.000	90.30
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	981945	100.000	97.68
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	18276	100.000	96.77
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	295050	100.000	99.00
88 1,2-Dichlorobenzene	146	9.991	9.999	(1.034)	438084	100.000	96.14
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	533975	100.000	97.09

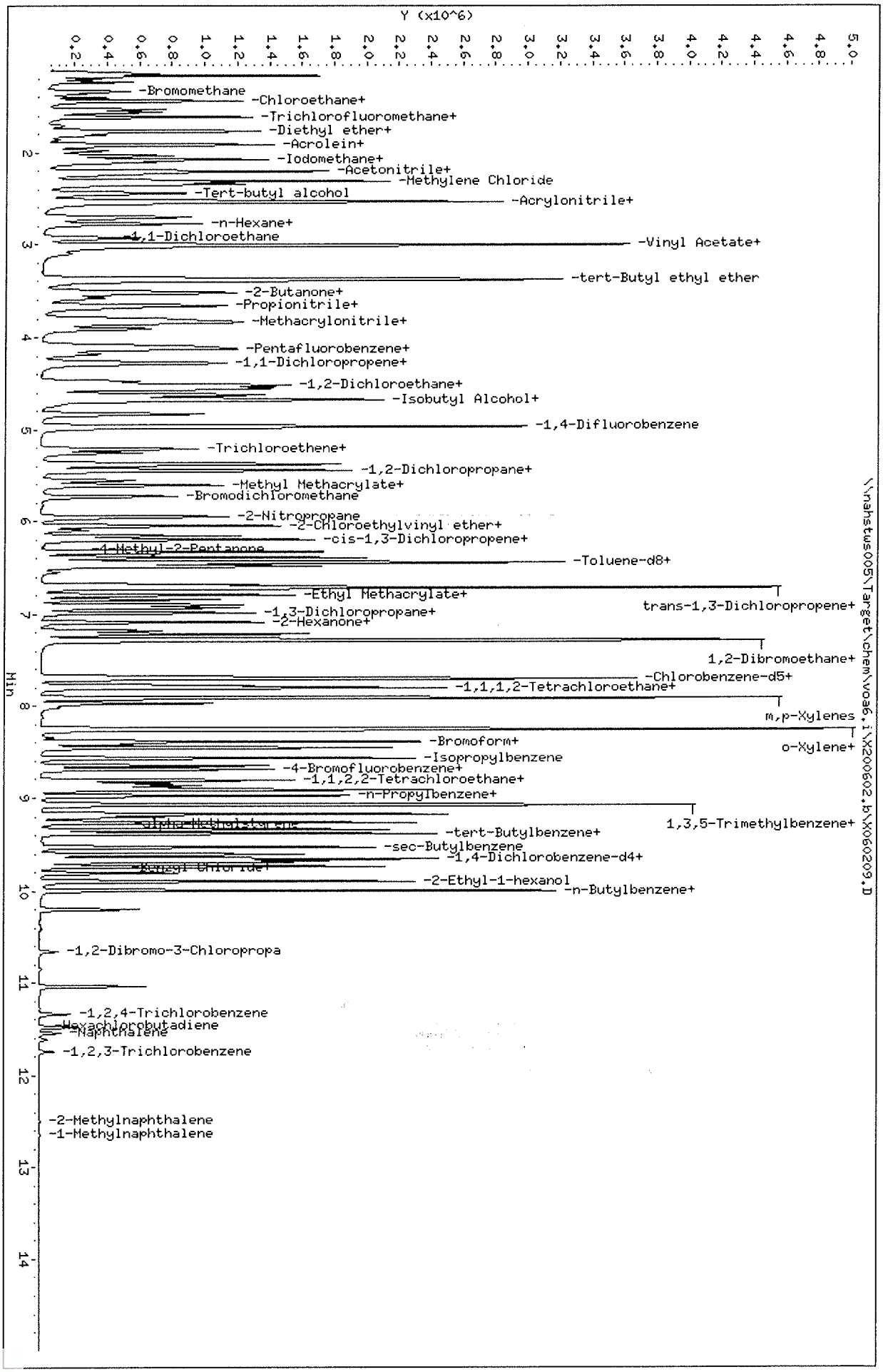
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	389073	100.000	99.73
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	964248	100.000	97.11
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	507374	100.000	94.89
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	493307	100.000	94.42
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	503088	100.000	92.67
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	424507	100.000	90.79
24	2-Butanone	43	3.581	3.580	(0.855)	498738	200.000	193.96
76	2-Chlorotoluene	91	8.974	8.981	(0.929)	842984	100.000	92.34
52	2-Hexanone	43	7.090	7.090	(0.924)	804543	200.000	205.92(A)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	995039	100.000	94.13
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	910019	100.000	99.98
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	1163467	200.000	201.13(A)
10	Acetone	43	1.976	1.976	(0.472)	380505	200.000	206.59(A)
37	Benzene	78	4.519	4.519	(0.909)	1149009	100.000	97.00
74	Bromobenzene	156	8.810	8.809	(0.912)	314160	100.000	93.97
29	Bromochloromethane	128	3.795	3.803	(0.906)	153551	100.000	93.50
39	Bromodichloromethane	83	5.729	5.729	(1.153)	425617	100.000	99.74
66	Bromoform	173	8.416	8.416	(1.097)	200947	100.000	103.42
6	Bromomethane	94	1.339	1.331	(0.320)	203862	100.000	96.98
19	Carbon Disulfide	76	2.069	2.069	(0.494)	1503885	200.000	195.41
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	362514	100.000	96.93
59	Chlorobenzene	112	7.699	7.699	(1.004)	729094	100.000	95.17
7	Chloroethane	64	1.403	1.396	(0.335)	236627	100.000	95.15
28	Chloroform	83	3.910	3.910	(0.933)	541282	100.000	94.61
3	Chloromethane	50	1.081	1.081	(0.258)	550488	100.000	95.93
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	314827	100.000	94.97
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	502784	100.000	99.68
55	Dibromochloromethane	129	7.176	7.183	(0.936)	303236	100.000	97.96
44	Dibromomethane	93	5.558	5.557	(1.118)	206480	100.000	98.27
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	287026	100.000	103.32
61	Ethylbenzene	106	7.800	7.807	(1.017)	388510	100.000	98.56
91	Hexachlorobutadiene	225	11.489	11.481	(1.189)	33315	100.000	91.31
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1140795	100.000	97.66
62	m,p-Xylenes	106	7.907	7.907	(1.031)	930274	200.000	195.69
17	Methylene Chloride	84	2.306	2.305	(0.550)	304409	100.000	97.63
87	n-Butylbenzene	91	9.999	9.999	(1.035)	831577	100.000	102.54
73	n-Propylbenzene	91	8.917	8.917	(0.923)	1409410	100.000	98.61
92	Naphthalene	128	11.546	11.546	(1.195)	79452	100.000	94.38
63	o-Xylene	106	8.244	8.244	(1.075)	461781	100.000	98.44
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	1092289	100.000	98.63
64	Styrene	104	8.265	8.265	(1.078)	813156	100.000	97.30
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	748134	100.000	96.32
56	Tetrachloroethene	164	6.933	6.933	(0.904)	205578	100.000	99.73
50	Toluene	91	6.453	6.453	(0.841)	1161880	100.000	95.59
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.603)	262593	100.000	96.03
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	464951	100.000	102.05
38	Trichloroethene	130	5.207	5.206	(1.048)	276348	100.000	98.64
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	442095	100.000	101.73
5	Vinyl Chloride	62	1.138	1.138	(0.272)	457490	100.000	93.28

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

QC Flag Legend

M - Compound response manually integrated.



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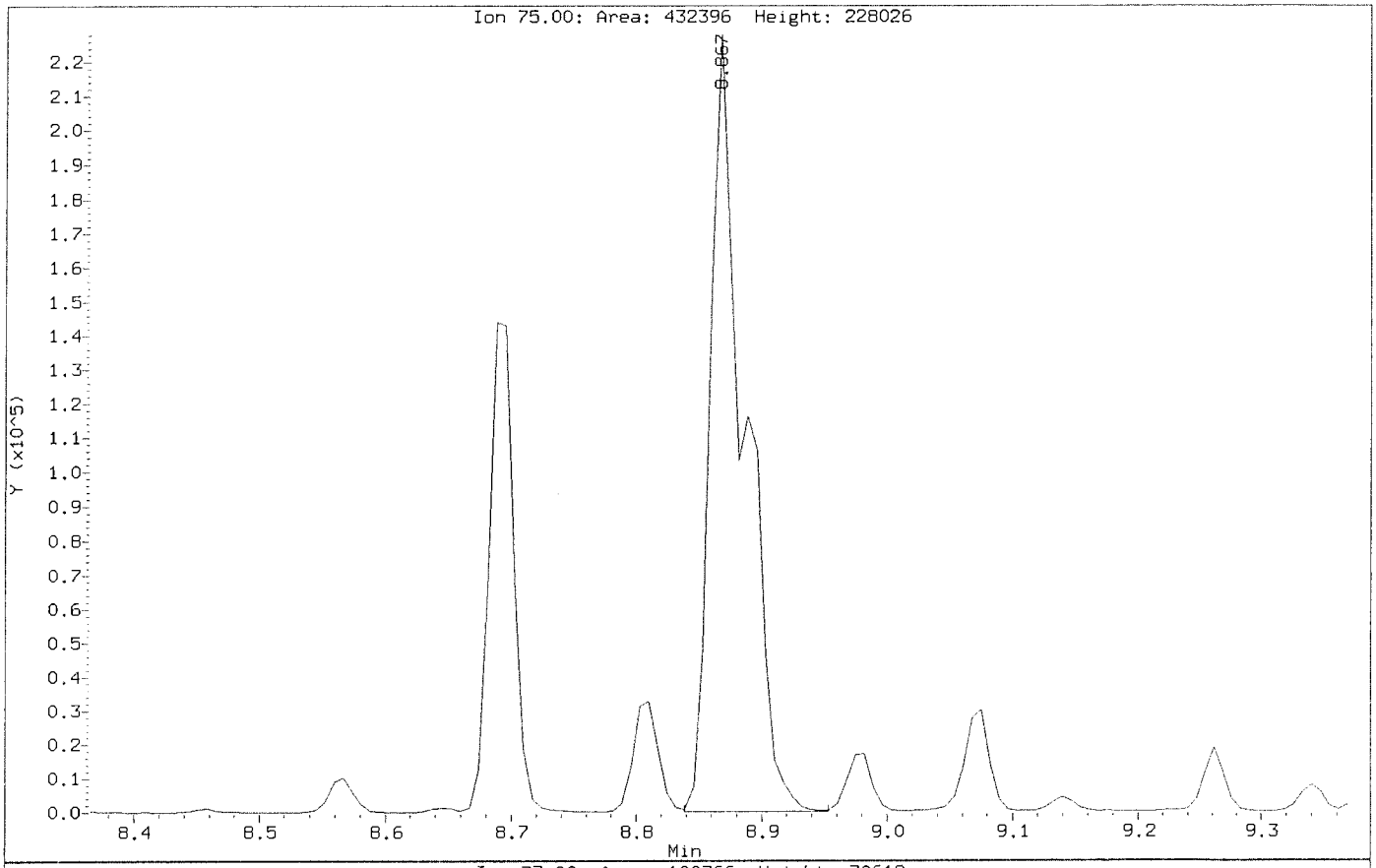
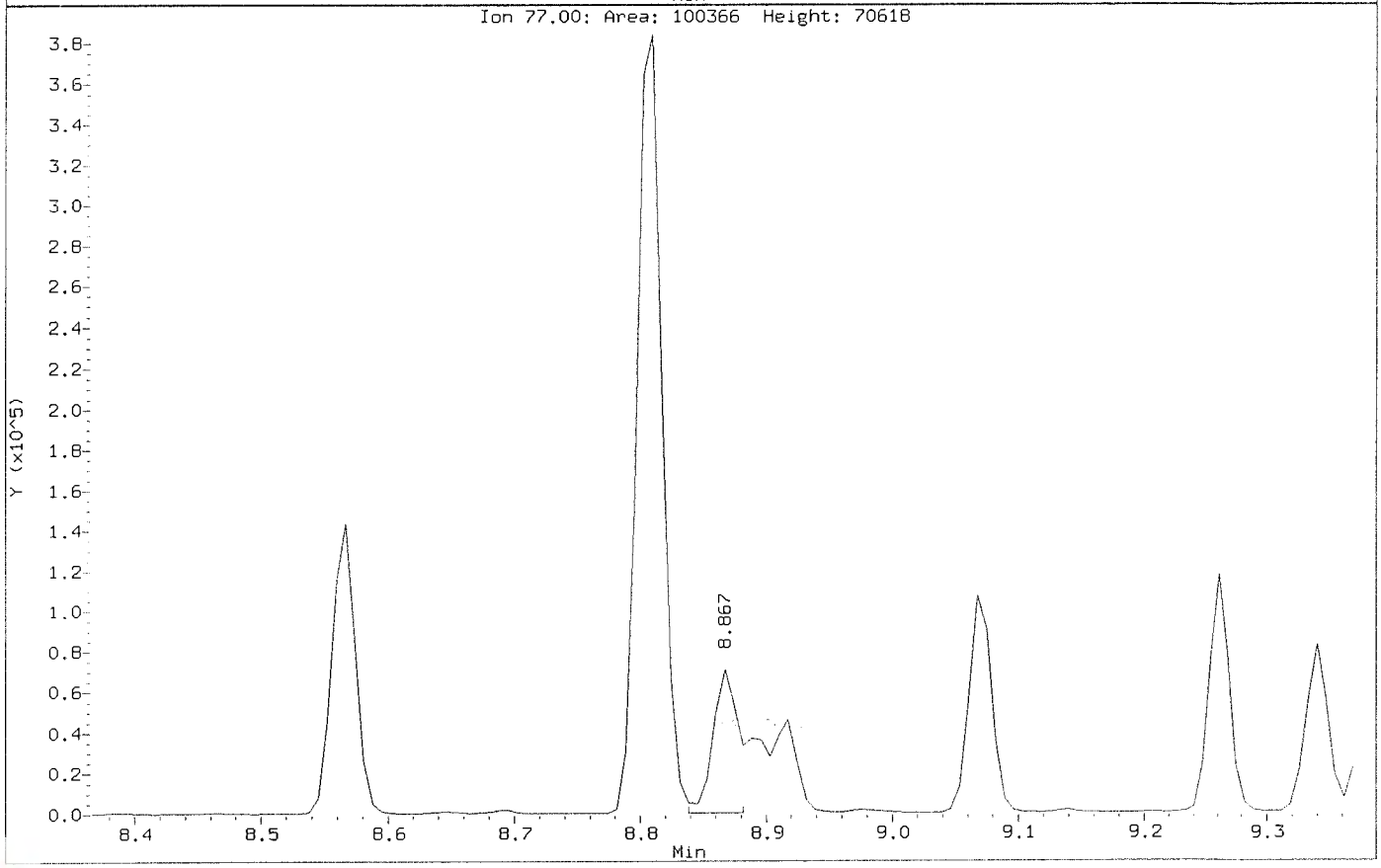
Date : 02-JUN-2020 14:09
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060209.D
Injection Date: 02-JUN-2020 14:09
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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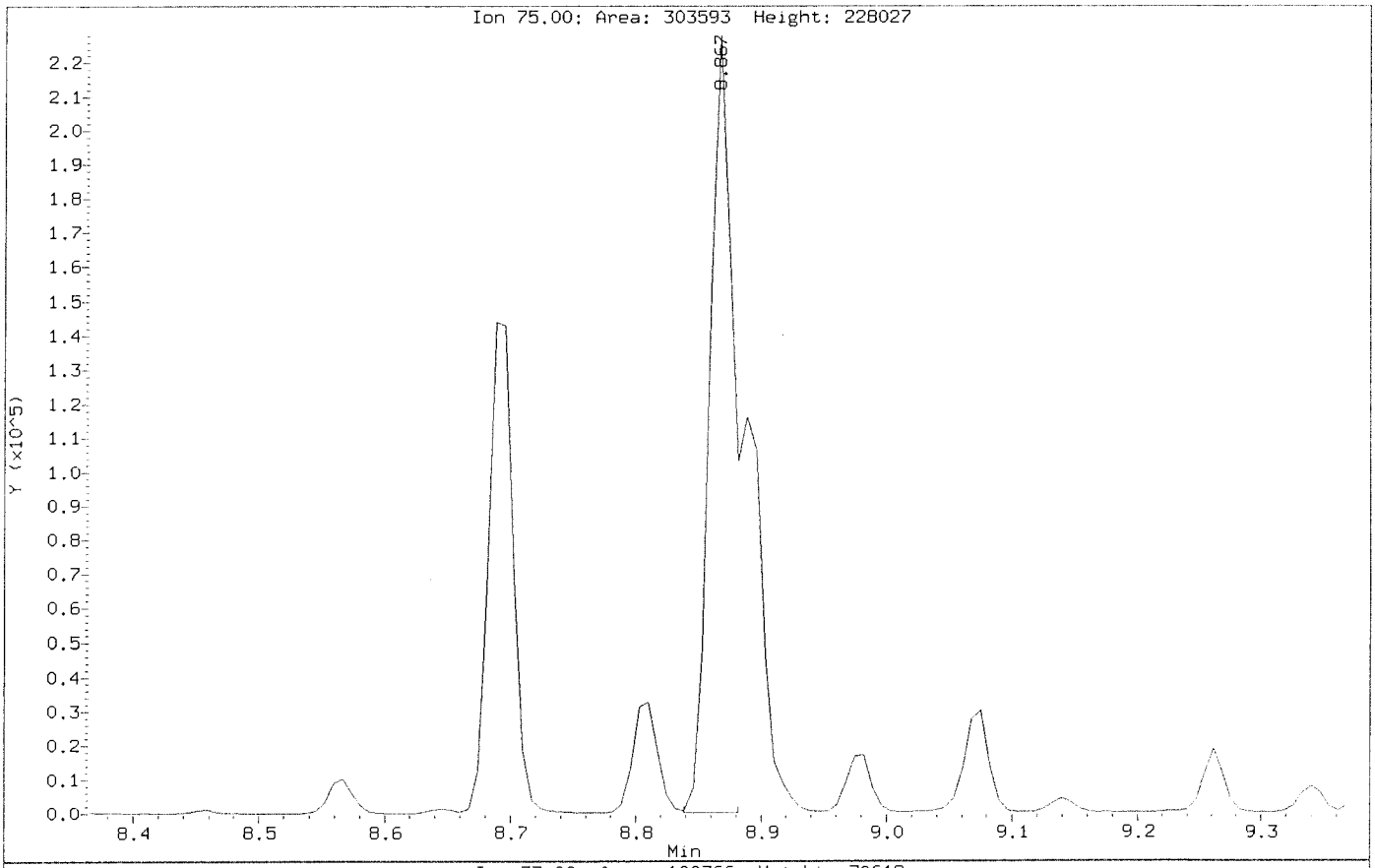
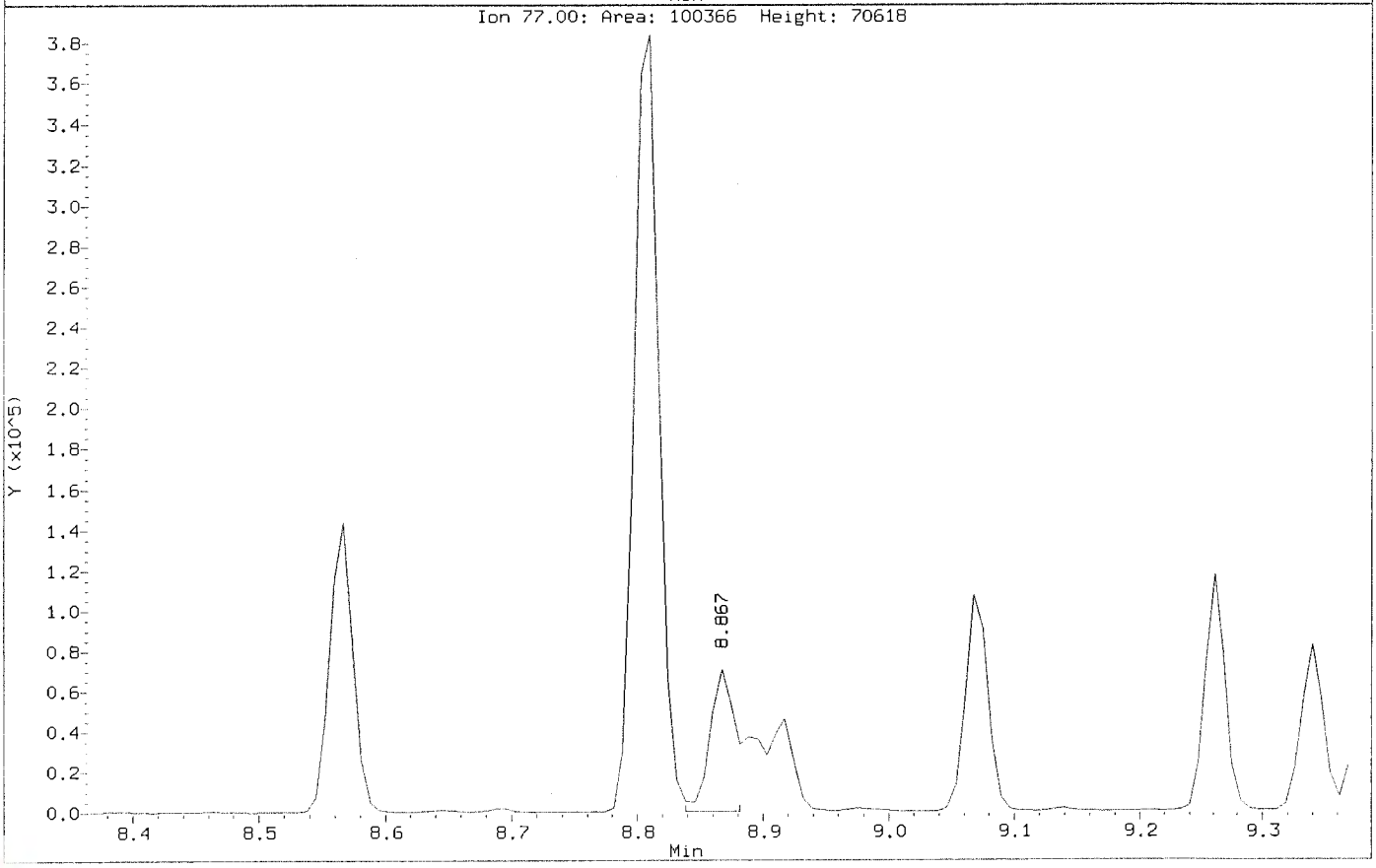
Injection Date: 02-JUN-2020 14:09
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060210.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 02-JUN-2020 14:33
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:33 Cal File: X060210.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	4.182	(1.000)	223718	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	399912	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	379239	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	163411	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	417964	150.000	153.62
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	617702	150.000	155.20
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1460055	150.000	146.94
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	568076	150.000	153.17
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	424056	150.000	155.80
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	684309	150.000	158.78
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	489845	150.000	150.00
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	358806	150.000	148.70
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	1027735	150.000	148.54
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	362036	150.000	157.92
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	593880	150.000	157.33
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	36196	150.000	160.06
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	448560	150.000	148.91(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	75487	150.000	156.83
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	1513006	150.000	157.39
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	27849	150.000	153.86
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	441825	150.000	151.89
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	660070	150.000	151.47
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	797215	150.000	149.92

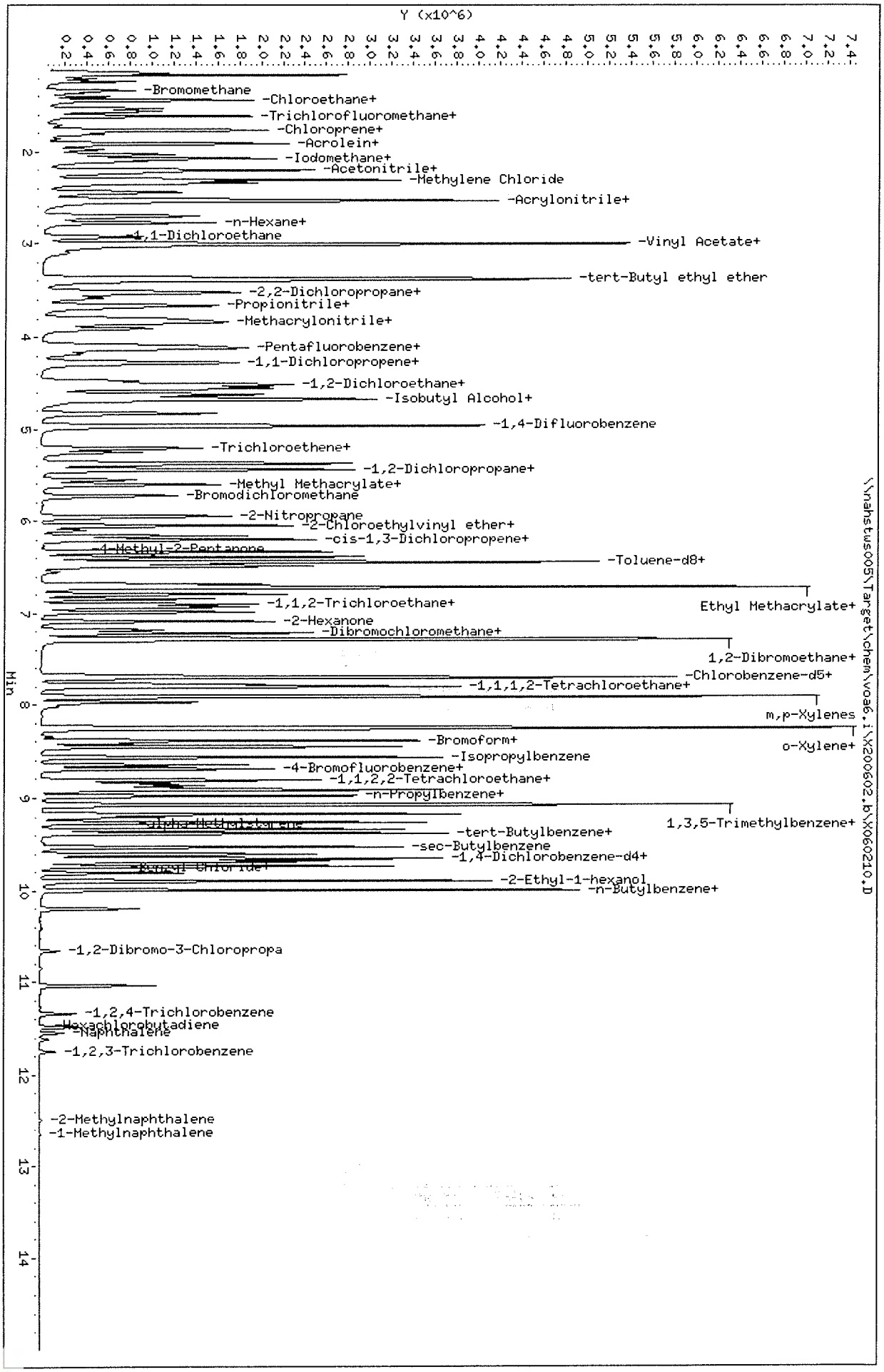
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	593700	150.000	157.39
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	1491164	150.000	157.04
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	779782	150.000	152.50
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	749909	150.000	147.06
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	763813	150.000	147.12
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	653811	150.000	145.82
24	2-Butanone	43	3.580	3.580	(0.856)	736034	300.000	298.50(AH)
76	2-Chlorotoluene	91	8.974	8.981	(0.929)	1290817	150.000	147.86
52	2-Hexanone	43	7.090	7.090	(0.924)	1207558	300.000	316.65(A)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	1519430	150.000	150.30
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1427471	150.000	163.99
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	1737437	300.000	307.71(A)
10	Acetone	43	1.976	1.976	(0.473)	535084	300.000	306.60(A)
37	Benzene	78	4.519	4.519	(0.909)	1765184	150.000	154.12
74	Bromobenzene	156	8.809	8.809	(0.912)	486864	150.000	152.28
29	Bromochloromethane	128	3.803	3.803	(0.909)	229469	150.000	145.71
39	Bromodichloromethane	83	5.729	5.729	(1.153)	643815	150.000	156.03
66	Bromoform	173	8.416	8.416	(1.097)	302191	150.000	159.35
6	Bromomethane	94	1.331	1.331	(0.318)	316905	150.000	157.86
19	Carbon Disulfide	76	2.069	2.069	(0.495)	2352791	300.000	318.80(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	579706	150.000	160.31
59	Chlorobenzene	112	7.699	7.699	(1.004)	1122569	150.000	150.13
7	Chloroethane	64	1.396	1.396	(0.334)	362068	150.000	151.83
28	Chloroform	83	3.910	3.910	(0.935)	813702	150.000	148.32
3	Chloromethane	50	1.081	1.081	(0.258)	879813	150.000	159.89
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	476814	150.000	150.00
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	768121	150.000	157.50
55	Dibromochloromethane	129	7.176	7.183	(0.936)	456764	150.000	151.17
44	Dibromomethane	93	5.557	5.557	(1.118)	310677	150.000	152.93
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	465313	150.000	174.68
61	Ethylbenzene	106	7.800	7.807	(1.017)	600486	150.000	156.08
91	Hexachlorobutadiene	225	11.488	11.481	(1.189)	54291	150.000	154.11
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1790333	150.000	157.02
62	m,p-Xylenes	106	7.907	7.907	(1.031)	1437867	300.000	309.88(A)
17	Methylene Chloride	84	2.305	2.305	(0.551)	458611	150.000	154.01
87	n-Butylbenzene	91	9.999	9.999	(1.035)	1288213	150.000	166.10
73	n-Propylbenzene	91	8.917	8.917	(0.923)	2194189	150.000	160.54
92	Naphthalene	128	11.546	11.546	(1.195)	136164	150.000	158.65
63	o-Xylene	106	8.244	8.244	(1.075)	705728	150.000	154.14
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	1715624	150.000	161.99
64	Styrene	104	8.258	8.265	(1.077)	1247305	150.000	152.90
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	1164111	150.000	156.72
56	Tetrachloroethene	164	6.933	6.933	(0.904)	322120	150.000	160.09
50	Toluene	91	6.446	6.453	(0.840)	1787674	150.000	150.68
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	402178	150.000	153.37
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	709489	150.000	161.06
38	Trichloroethene	130	5.206	5.206	(1.048)	430500	150.000	158.93
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	693525	150.000	166.42
5	Vinyl Chloride	62	1.138	1.138	(0.272)	720944	150.000	153.29

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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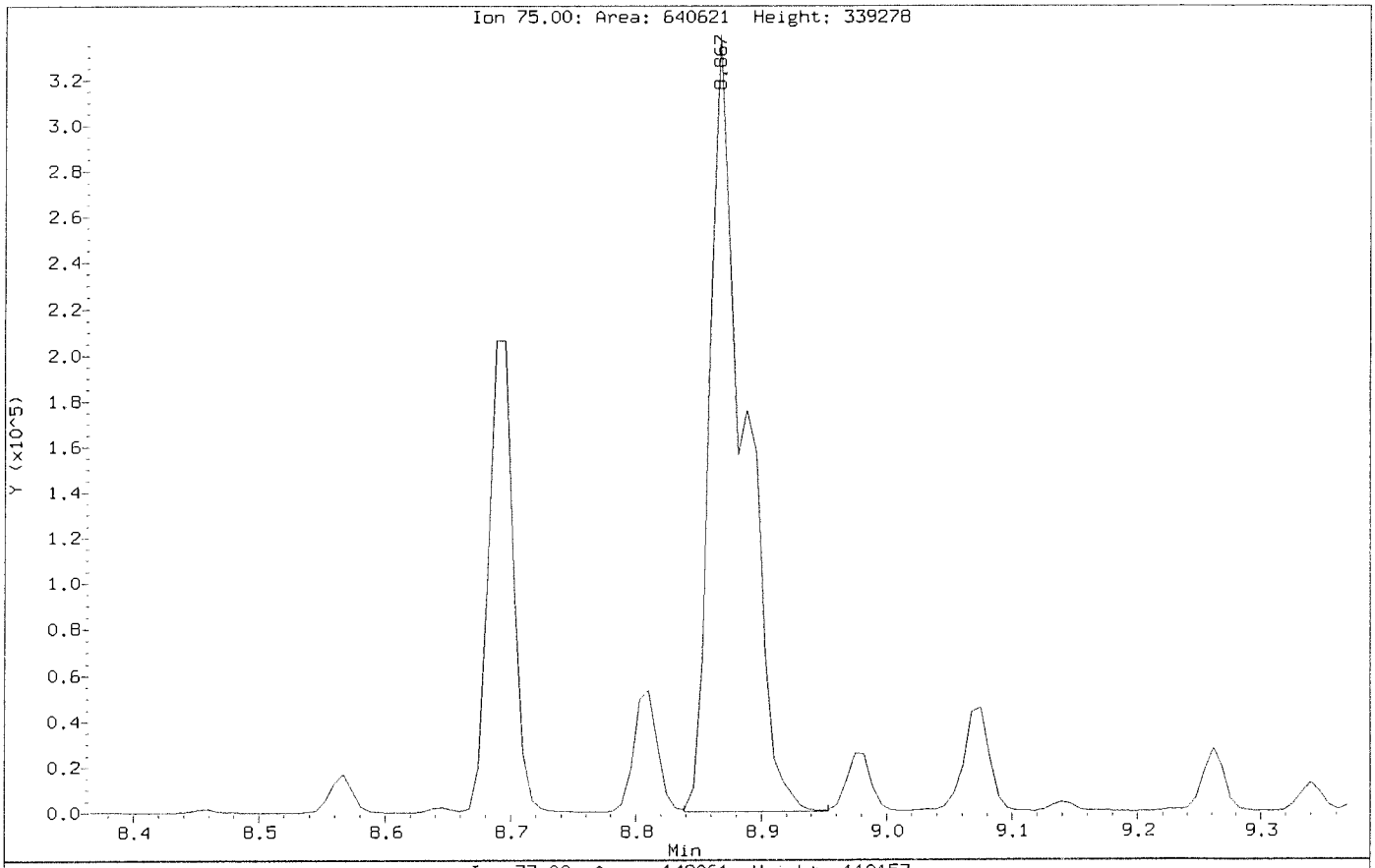
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

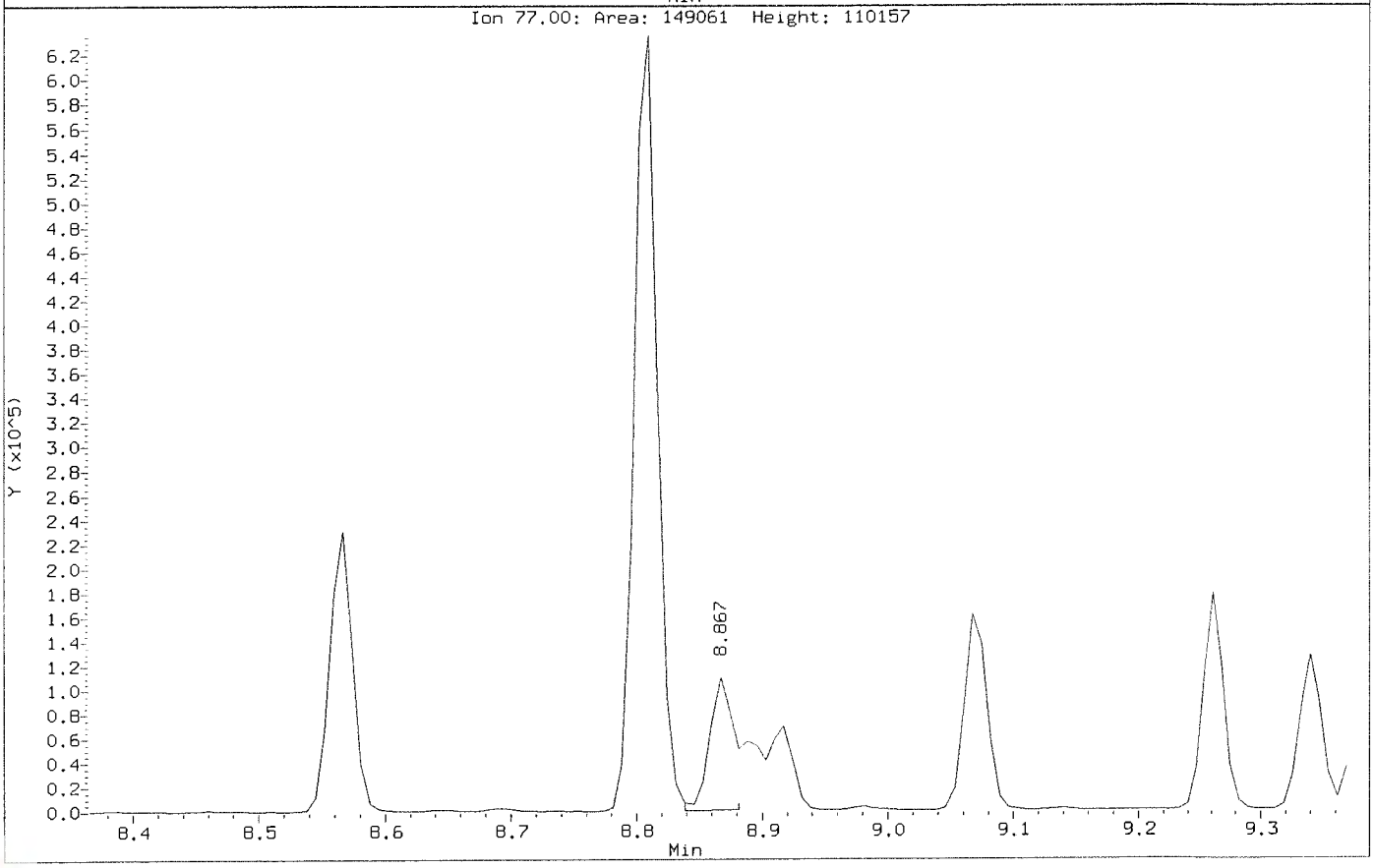
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

\\nahstws005\Target\chem\voa6.i\X200602.b\X060210.D

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060210.D
Injection Date: 02-JUN-2020 14:33
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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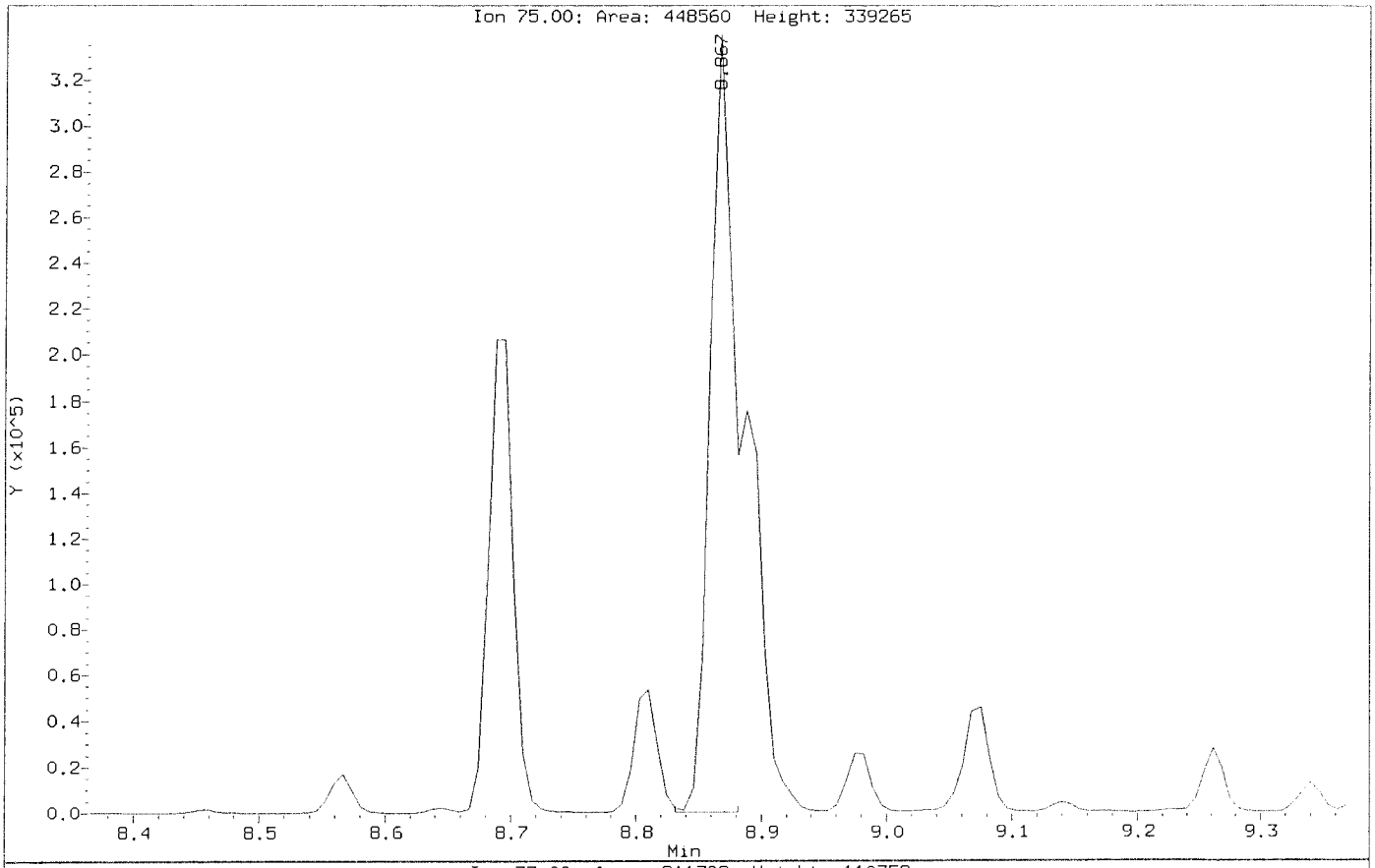
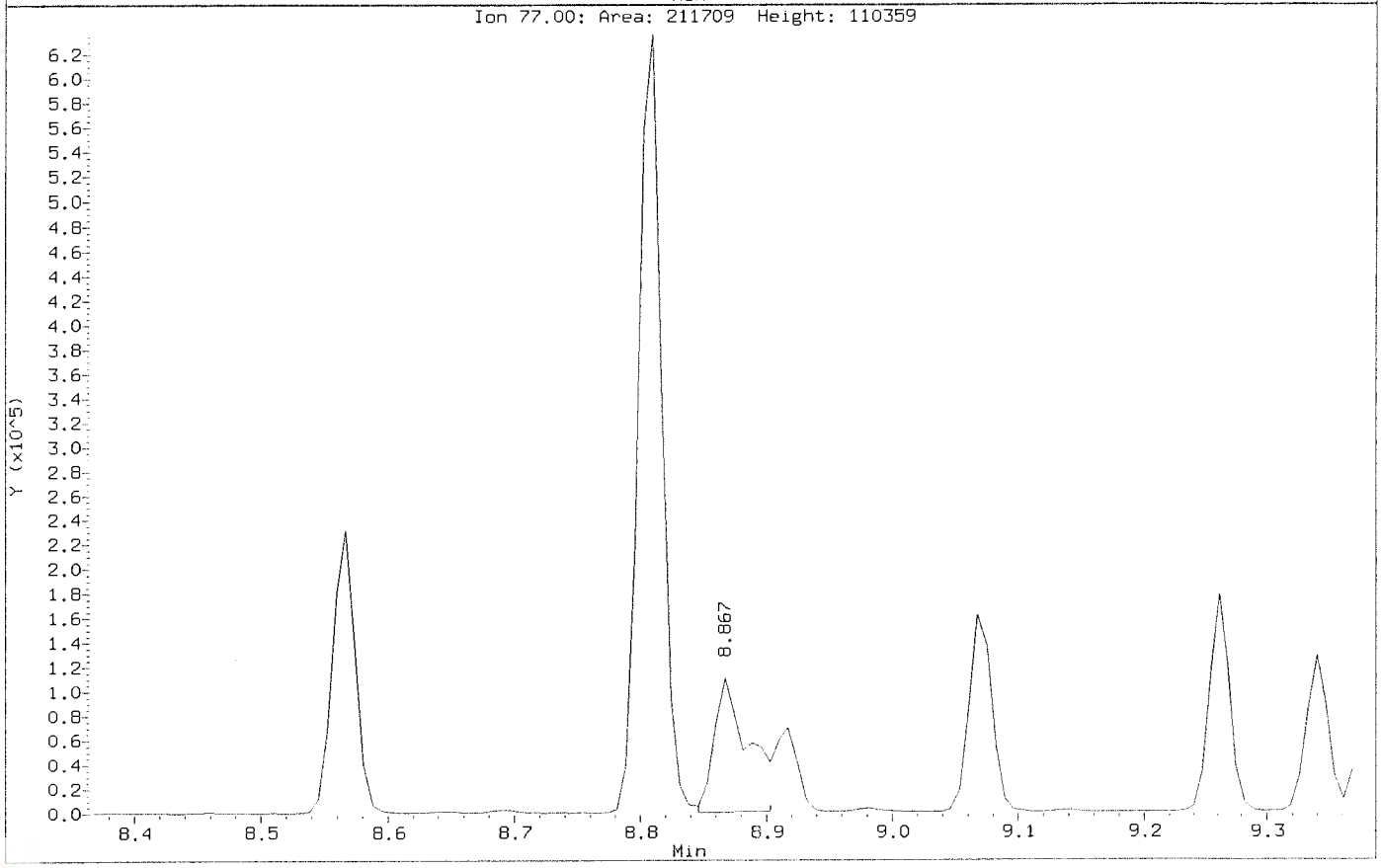
Injection Date: 02-JUN-2020 14:33
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060211.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 02-JUN-2020 14:57
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\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:57 Cal File: X060211.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	229801	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	414202	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	389346	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	167338	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	549750	200.000	196.89
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	795626	200.000	194.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1910853	200.000	187.31
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	746966	200.000	196.39
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	566838	200.000	202.86(A)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	906040	200.000	204.66(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	646876	200.000	193.44
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	470701	200.000	190.01
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	1355545	200.000	190.73
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	469318	200.000	199.30
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	779475	200.000	199.37
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	46791	200.000	194.96
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	572698	200.000	185.66(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	98724	200.000	199.66
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1987721	200.000	201.92(A)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	36884	200.000	198.82
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	579620	200.000	194.09
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	875981	200.000	196.30
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	1048354	200.000	190.35

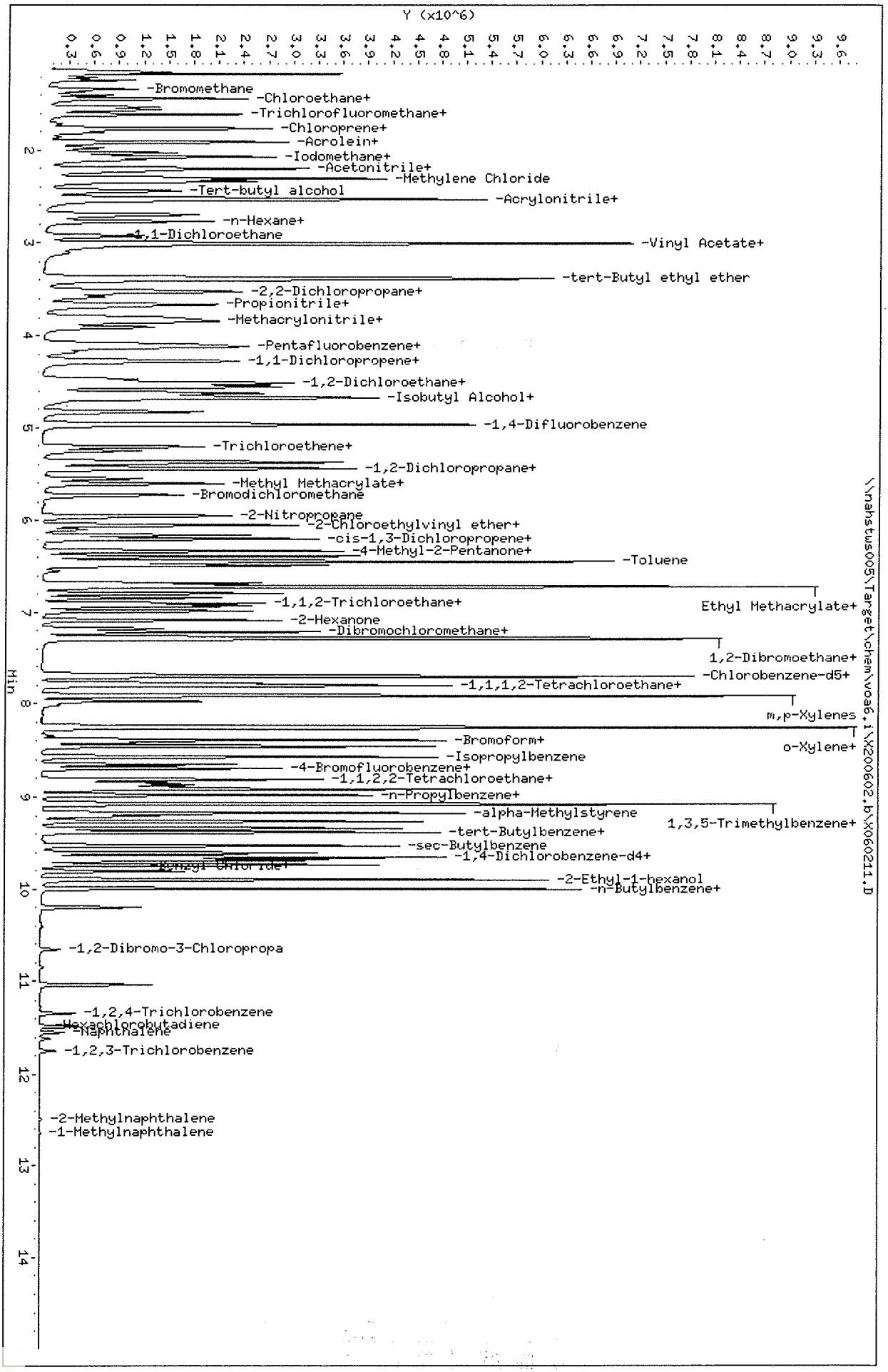
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	776528	200.000	198.76
75 1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	1955782	200.000	201.14(A)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	1031267	200.000	196.95
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	986308	200.000	188.40
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	1016979	200.000	191.29
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	851066	200.000	184.79
24 2-Butanone	43	3.580	3.580	(0.856)	987146	400.000	389.74(AH)
76 2-Chlorotoluene	91	8.981	8.981	(0.929)	1726377	200.000	193.11
52 2-Hexanone	43	7.090	7.090	(0.924)	1606504	400.000	410.33(A)
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	2009120	200.000	194.08
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1860852	200.000	208.76(A)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	2319898	400.000	400.20(A)
10 Acetone	43	1.976	1.976	(0.473)	691876	400.000	387.97(A)
37 Benzene	78	4.519	4.519	(0.909)	2340062	200.000	197.26
74 Bromobenzene	156	8.809	8.809	(0.911)	642845	200.000	196.35
29 Bromochloromethane	128	3.803	3.803	(0.909)	295737	200.000	182.81
39 Bromodichloromethane	83	5.729	5.729	(1.153)	857508	200.000	200.66(A)
66 Bromoform	173	8.416	8.416	(1.097)	403195	200.000	207.09(A)
6 Bromomethane	94	1.331	1.331	(0.318)	401260	200.000	194.83
19 Carbon Disulfide	76	2.069	2.069	(0.495)	3109286	400.000	410.15(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	767193	200.000	204.84(A)
59 Chlorobenzene	112	7.699	7.699	(1.004)	1483251	200.000	193.22
7 Chloroethane	64	1.396	1.396	(0.334)	474857	200.000	193.85
28 Chloroform	83	3.910	3.910	(0.935)	1080164	200.000	191.68
3 Chloromethane	50	1.081	1.081	(0.258)	1194919	200.000	211.40(A)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	630423	200.000	193.07
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	1024803	200.000	202.88(A)
55 Dibromochloromethane	129	7.183	7.183	(0.937)	605575	200.000	195.22
44 Dibromomethane	93	5.557	5.557	(1.118)	411897	200.000	195.76
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	617353	200.000	225.62(A)
61 Ethylbenzene	106	7.807	7.807	(1.018)	789156	200.000	199.79
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	72849	200.000	201.28(A)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	2345338	200.000	200.36(A)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	1891275	400.000	397.01(A)
17 Methylene Chloride	84	2.305	2.305	(0.551)	602460	200.000	197.27
87 n-Butylbenzene	91	9.999	9.999	(1.034)	1686871	200.000	212.40(A)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	2888059	200.000	206.34(A)
92 Naphthalene	128	11.546	11.546	(1.194)	179740	200.000	195.88
63 o-Xylene	106	8.244	8.244	(1.075)	938134	200.000	199.58
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	2247121	200.000	207.20(A)
64 Styrene	104	8.265	8.265	(1.078)	1650721	200.000	197.11
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	1527680	200.000	200.83(A)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	420935	200.000	203.78(A)
50 Toluene	91	6.453	6.453	(0.841)	2360527	200.000	193.81
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	528365	200.000	196.16
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	942487	200.000	206.57(A)
38 Trichloroethene	130	5.206	5.206	(1.048)	570348	200.000	203.30(A)
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	898205	200.000	209.83(A)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	956992	200.000	198.10

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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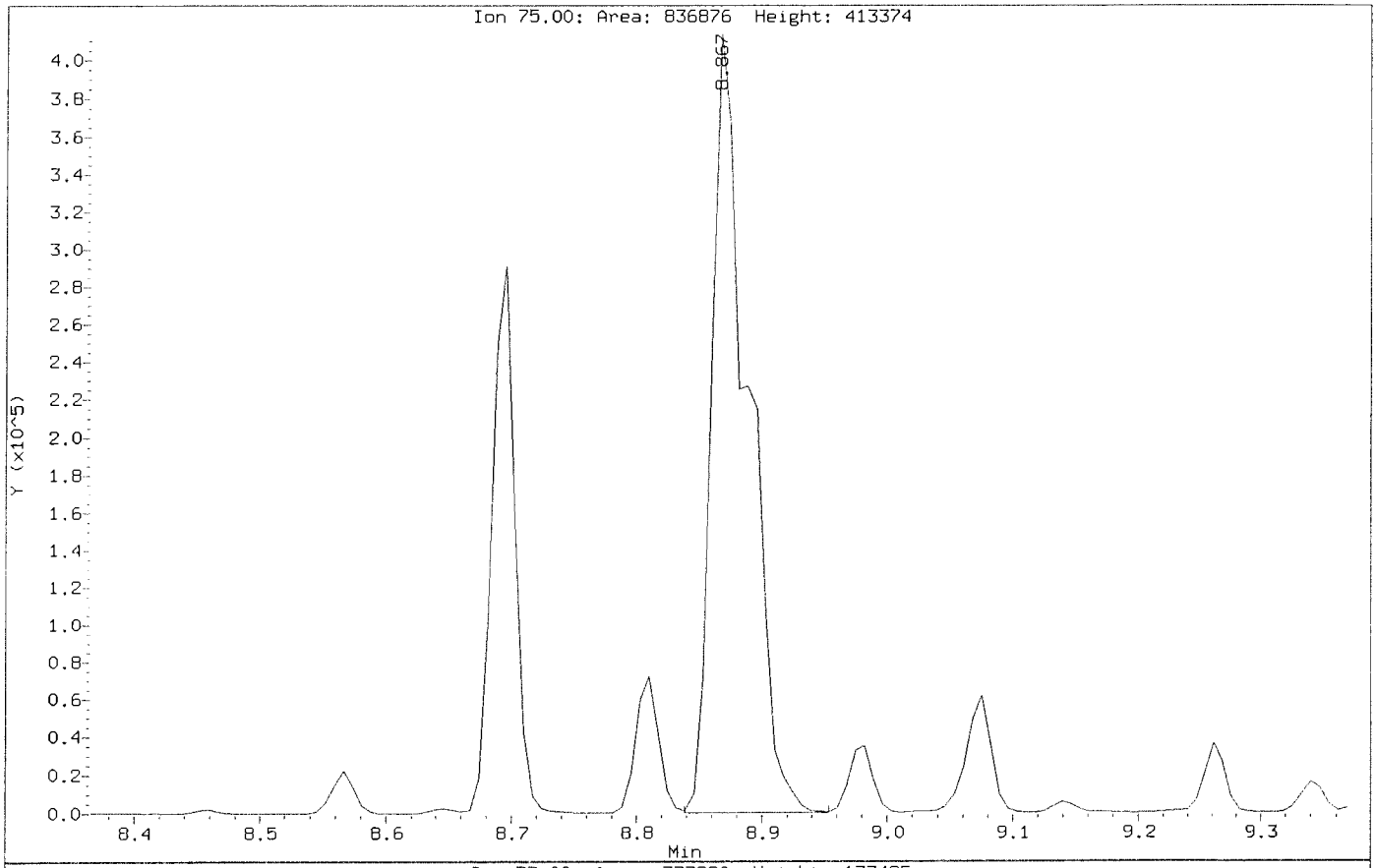
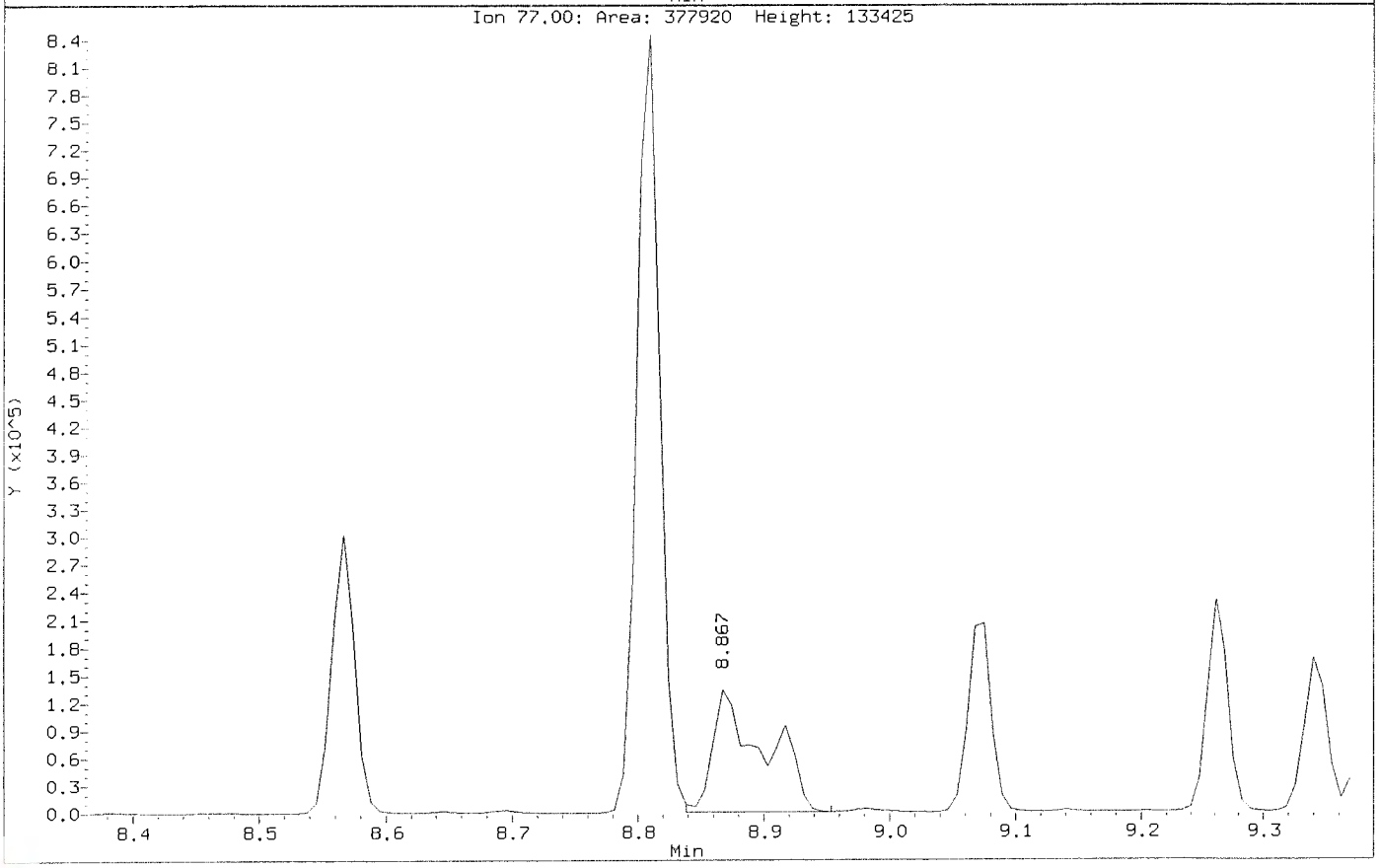
Date : 02-JUN-2020 14:57
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060211.D
Injection Date: 02-JUN-2020 14:57
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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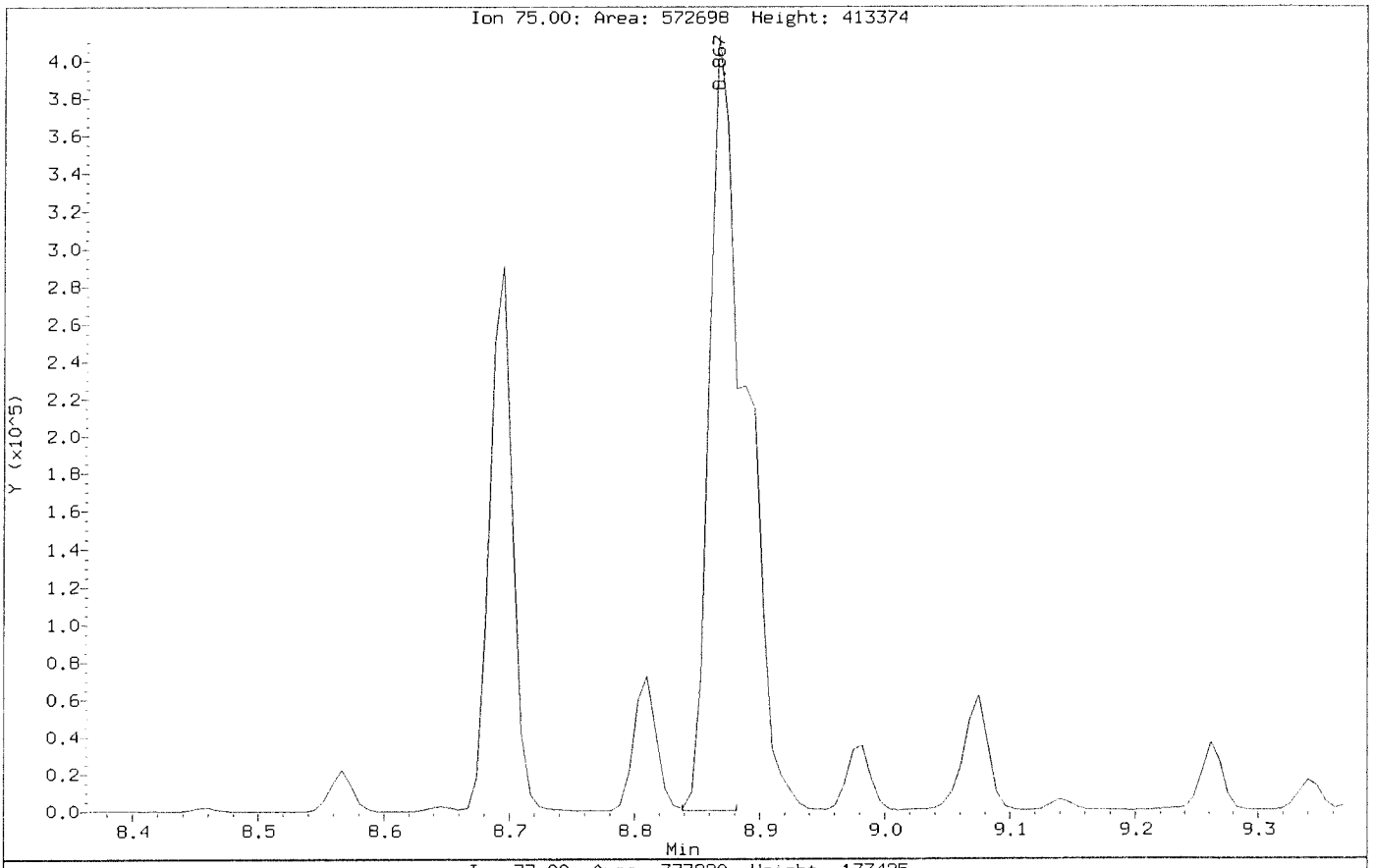
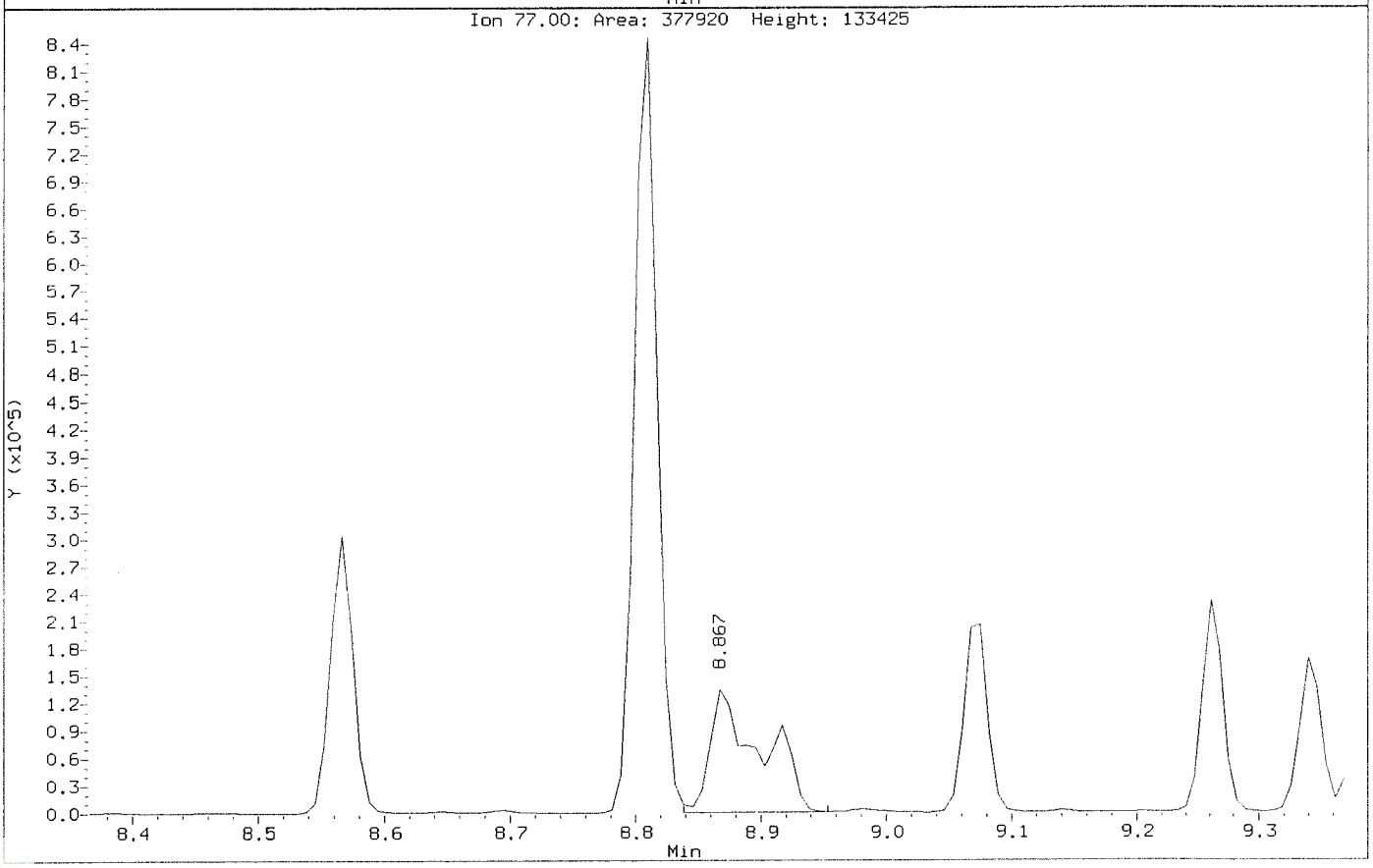
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200602.b\X060213.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 02-JUN-2020 15:45
Operator : PC Inst ID: voa6.i
Smp Info : ICV;ICV;2;;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200602.b\8260W.m
Meth Date : 06-Jul-2020 11:15 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 14:57 Cal File: X060211.D
Als bottle: 14 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

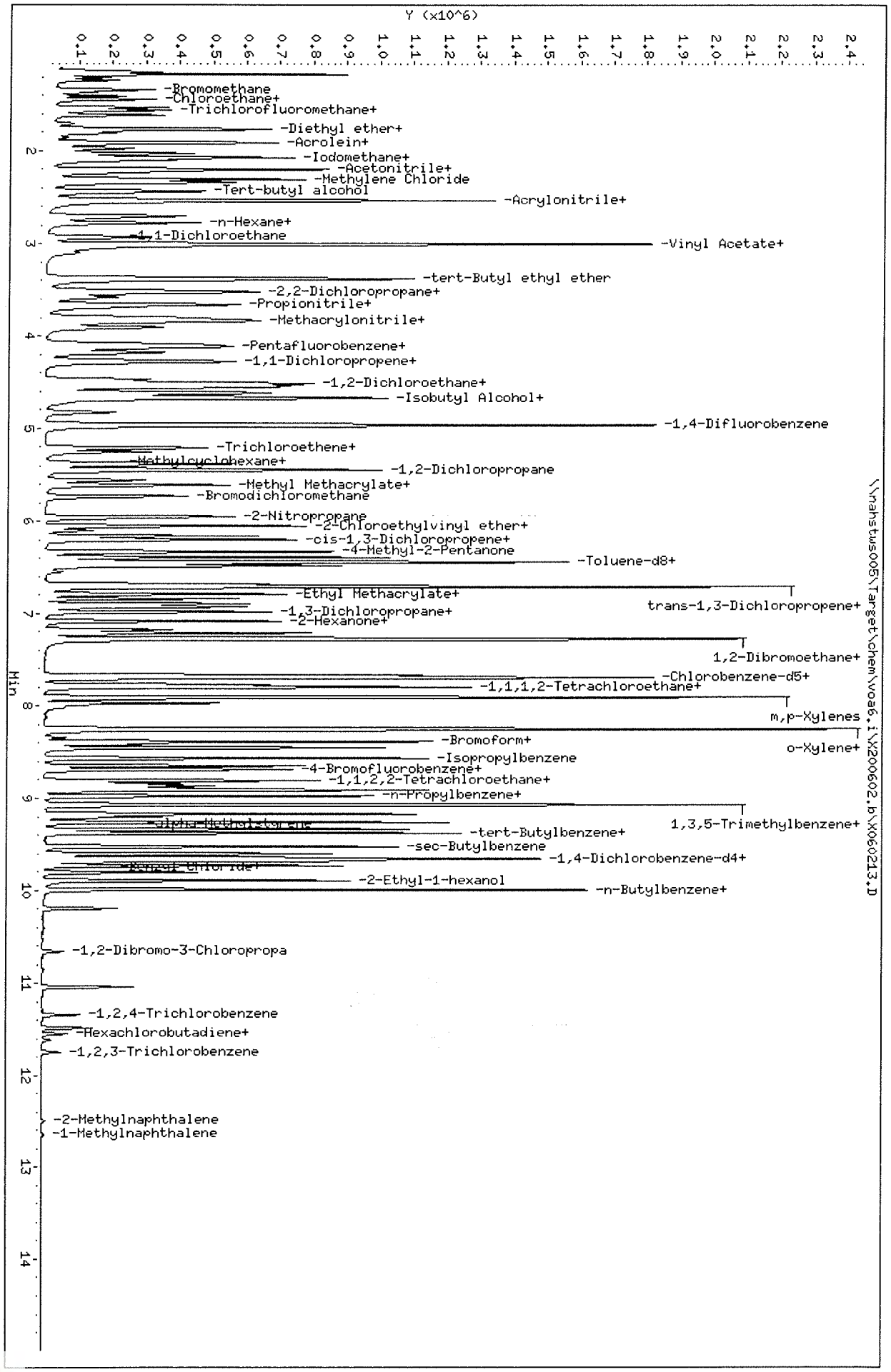
Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% moisture
Vt	5.000	Purge Volume (ml)
Ws	5.000	weight of sample (g)
Va	400.000	Soil Aliquot Volume (uL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
*	1 Pentafluorobenzene	168	4.189	4.182	(1.000)	244530	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	440693	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	409171	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	184148	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	147907	49.3160	49.31
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	216981	49.2561	49.25
$	48 Toluene-d8	98	6.388	6.388	(0.833)	514421	47.9844	47.98
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	203578	50.3801	50.38
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	142553	48.5458	48.54
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	225261	47.8200	47.82
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.914)	169743	46.1276	46.12
	53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	123310	47.3658	47.36
	22 1,1-Dichloroethane	63	2.922	2.921	(0.697)	354899	46.9289	46.92
	11 1,1-Dichloroethene	96	1.919	1.911	(0.458)	118664	47.3565	47.35
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	190346	45.7606	45.76
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	13919	59.9536	59.95
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	157061	46.2689	46.26(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	26347	50.1479	50.14
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	512715	47.3305	47.33
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	9900	48.9240	48.92
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	150489	47.9513	47.95

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/Kg)
88	1,2-Dichlorobenzene	146	9.991	9.999	(1.033)	232515	47.3489	47.34
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	278277	47.4917	47.49
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	203696	49.0045	49.00
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	492708	46.0467	46.04
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	270794	46.9964	46.99
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	253330	46.0455	46.04
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	265882	45.4464	45.44
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	237974	48.5608	48.56
24	2-Butanone	43	3.581	3.580	(0.855)	280736	104.165	104.16(H)
76	2-Chlorotoluene	91	8.974	8.981	(0.928)	436373	44.3567	44.35
52	2-Hexanone	43	7.090	7.090	(0.924)	417040	101.359	101.35
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	518291	45.4972	45.49
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	467024	47.6125	47.61
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	586782	96.3208	96.32
10	Acetone	43	1.976	1.976	(0.472)	236397	119.272	119.27(M)
37	Benzene	78	4.519	4.519	(0.909)	601092	47.6256	47.62
74	Bromobenzene	156	8.810	8.809	(0.911)	165529	45.9457	45.94
29	Bromochloromethane	128	3.803	3.803	(0.908)	80092	46.5290	46.52
39	Bromodichloromethane	83	5.729	5.729	(1.153)	220237	48.4385	48.43
66	Bromoform	173	8.416	8.416	(1.097)	101951	49.8278	49.82
6	Bromomethane	94	1.338	1.331	(0.320)	113895	51.2122	51.21
19	Carbon Disulfide	76	2.069	2.069	(0.494)	797670	98.8842	98.88
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	178972	44.9145	44.91
59	Chlorobenzene	112	7.699	7.699	(1.004)	378170	46.8769	46.87
7	Chloroethane	64	1.403	1.396	(0.335)	125430	48.1220	48.12
28	Chloroform	83	3.910	3.910	(0.933)	283061	47.2054	47.20
3	Chloromethane	50	1.081	1.081	(0.258)	295900	49.1978	49.19
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	165573	47.6554	47.65
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	263187	48.9723	48.97
55	Dibromochloromethane	129	7.176	7.183	(0.936)	154296	47.3311	47.33
44	Dibromomethane	93	5.558	5.557	(1.118)	106567	47.6045	47.60
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	142608	48.9793	48.97
61	Ethylbenzene	106	7.800	7.807	(1.017)	198362	47.7872	47.78
91	Hexachlorobutadiene	225	11.489	11.481	(1.188)	20856	53.9244	53.92
67	Isopropylbenzene	105	8.566	8.566	(1.117)	572074	46.5051	46.50
62	m,p-Xylenes	106	7.907	7.907	(1.031)	474786	94.8382	94.83
17	Methylene Chloride	84	2.305	2.305	(0.550)	162504	49.1904	49.19
87	n-Butylbenzene	91	9.999	9.999	(1.034)	431593	49.3839	49.38
73	n-Propylbenzene	91	8.917	8.917	(0.922)	713185	46.3049	46.30
92	Naphthalene	128	11.546	11.546	(1.194)	46766	53.5588	53.55
63	o-Xylene	106	8.244	8.244	(1.075)	238280	48.2374	48.23
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	552454	46.2913	46.29
64	Styrene	104	8.258	8.265	(1.077)	424000	48.1764	48.17
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	378006	45.1589	45.15
56	Tetrachloroethene	164	6.933	6.933	(0.904)	102115	47.0401	47.04
50	Toluene	91	6.446	6.453	(0.840)	600177	46.8902	46.89
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.603)	140289	48.9473	48.94
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	238163	49.0630	49.06
38	Trichloroethene	130	5.214	5.206	(1.049)	143233	47.9878	47.98
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	219343	48.1551	48.15
5	Vinyl Chloride	62	1.145	1.138	(0.273)	232212	45.1738	45.17

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060213.D
Date : 02-JUN-2020 15:45
Client ID: ICV
Sample Info: ICV;ICV;2;;;ICV

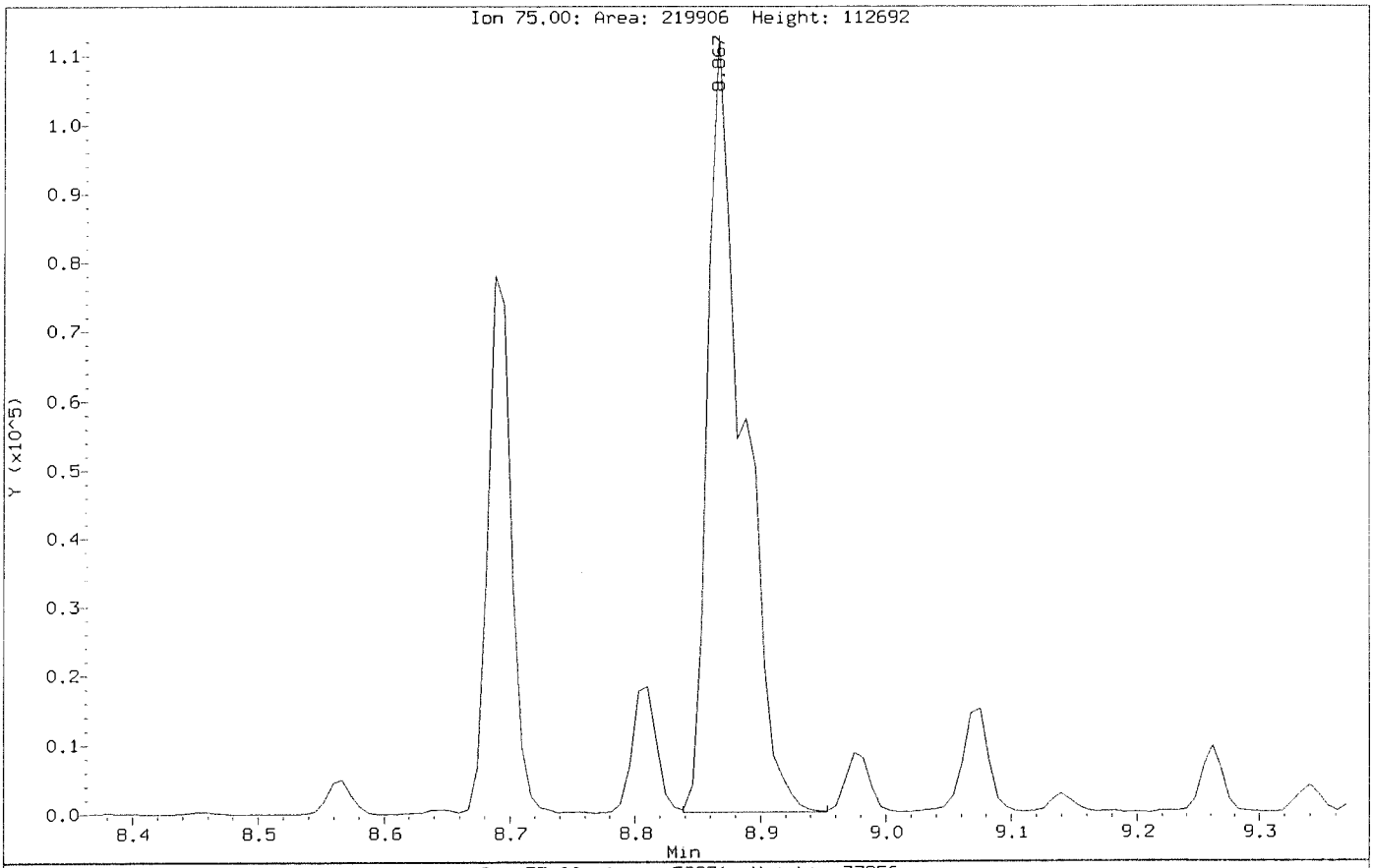
Column phase: DB624

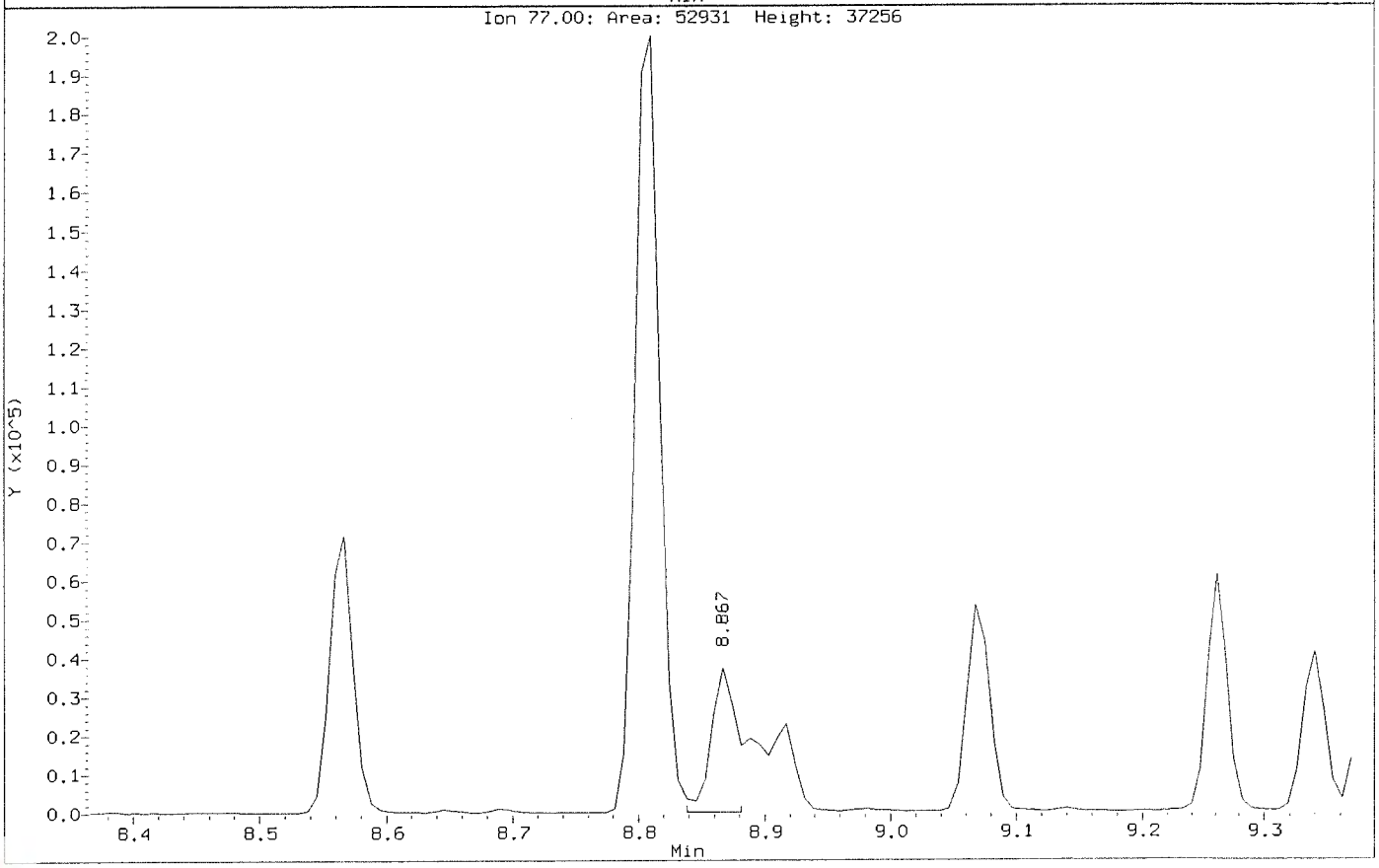
Instrument: voa6.i

Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060213.D
Injection Date: 02-JUN-2020 15:45
Instrument: voa6.i
Client Sample ID: ICV

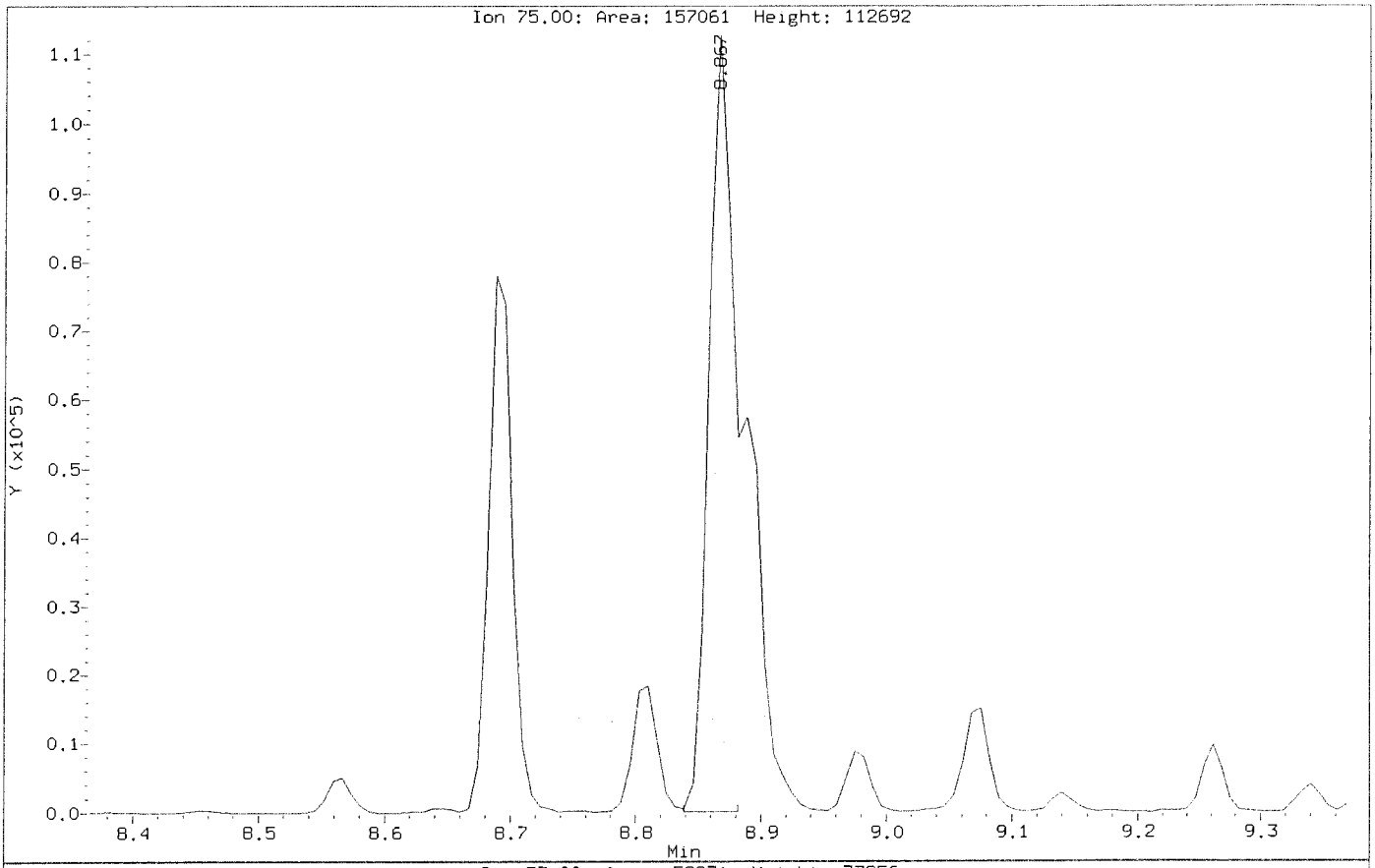
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

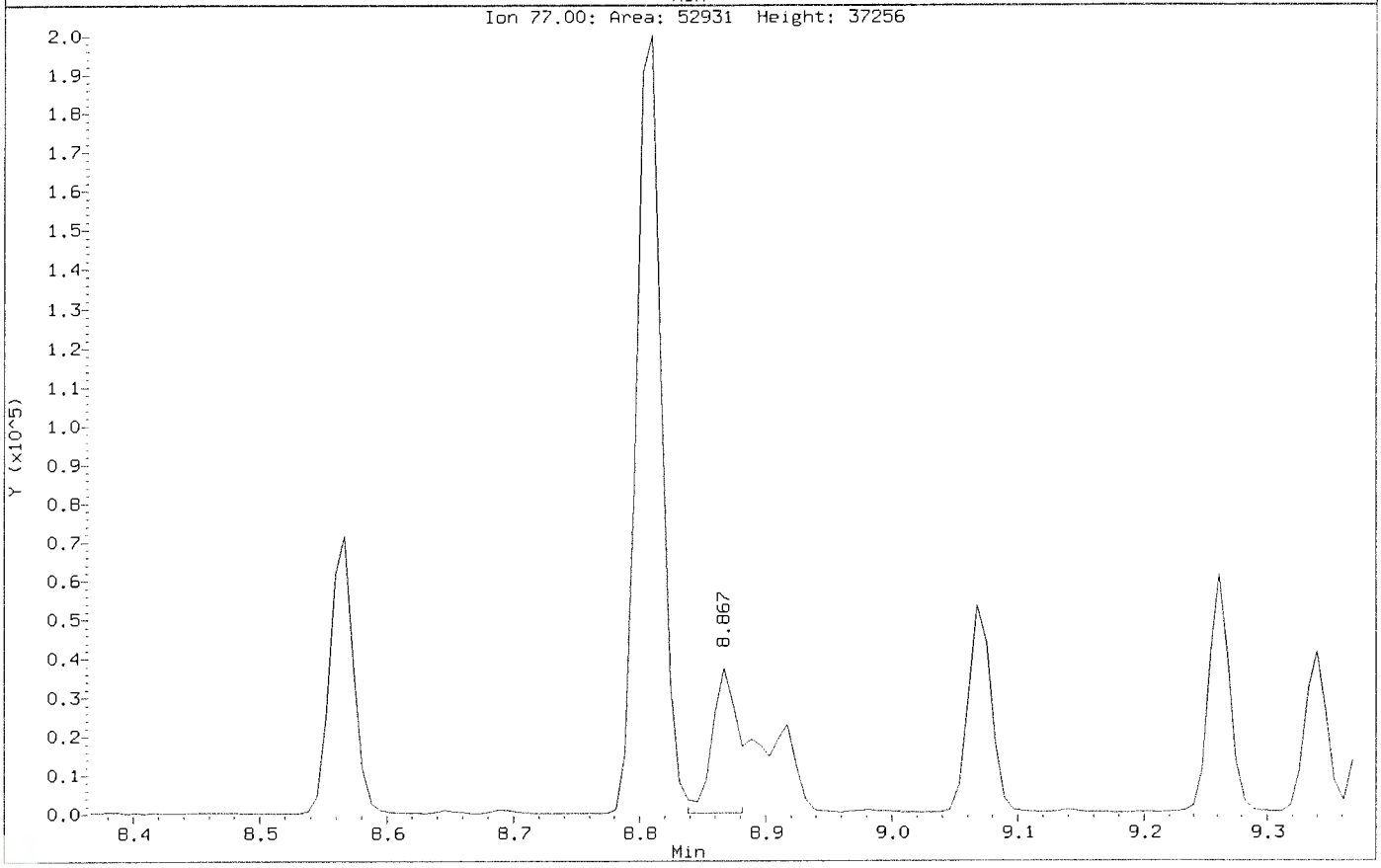




Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060213.D
Injection Date: 02-JUN-2020 15:45
Instrument: voa6.i
Client Sample ID: ICV

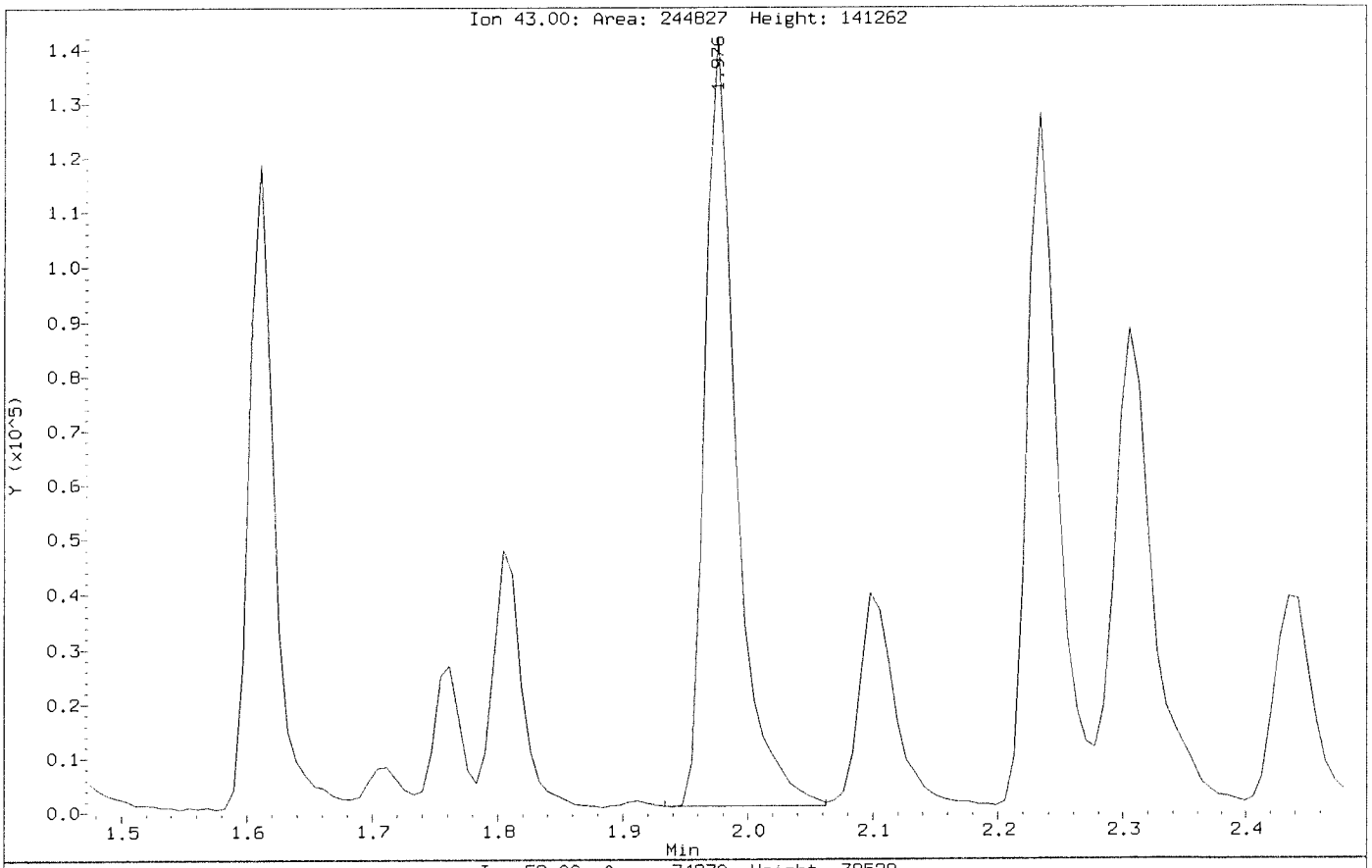
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

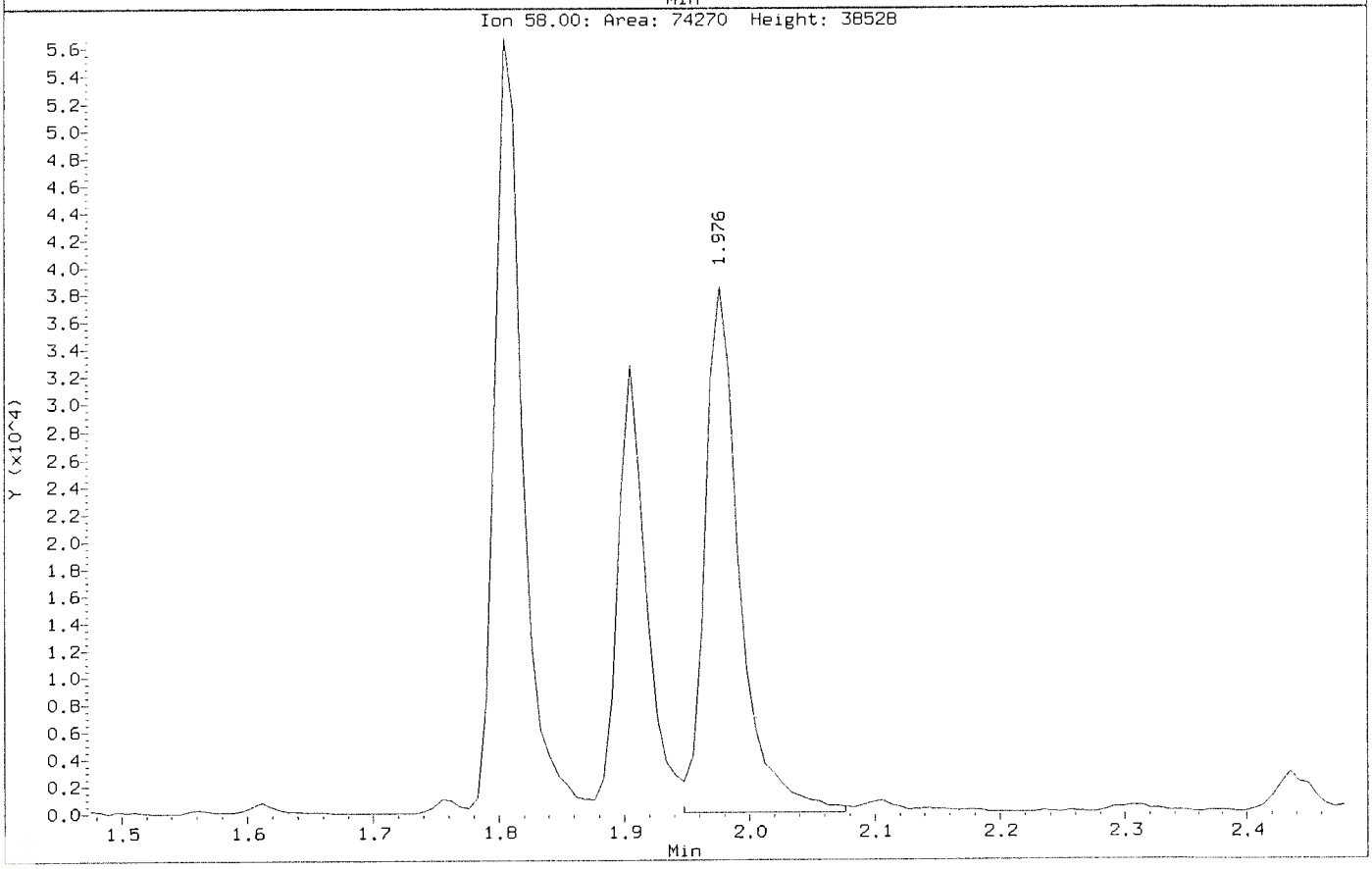




Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\Before\X060213.D
Injection Date: 02-JUN-2020 15:45
Instrument: voa6.i
Client Sample ID: ICV

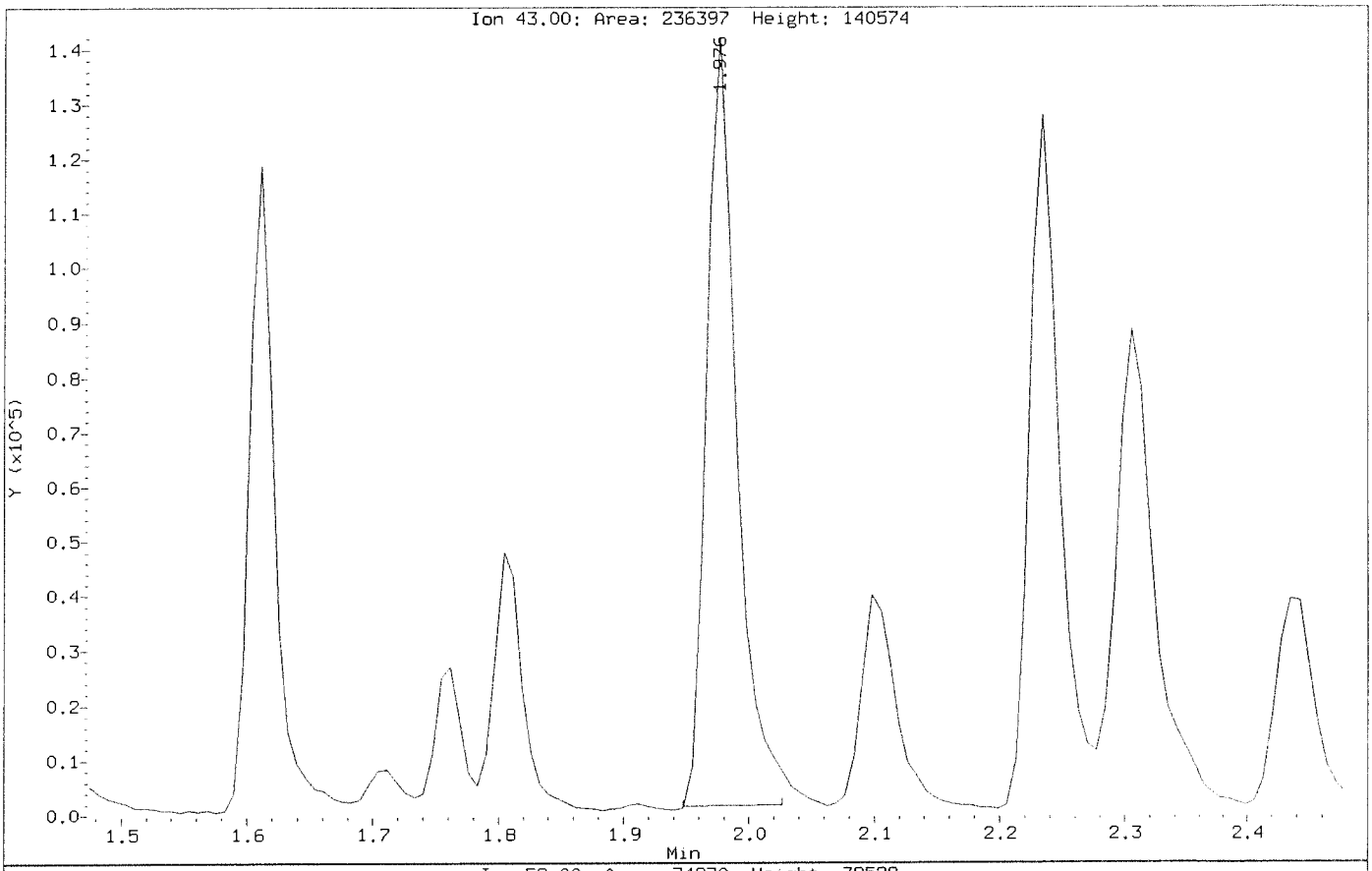
Compound: Acetone
CAS Number: 67-64-1

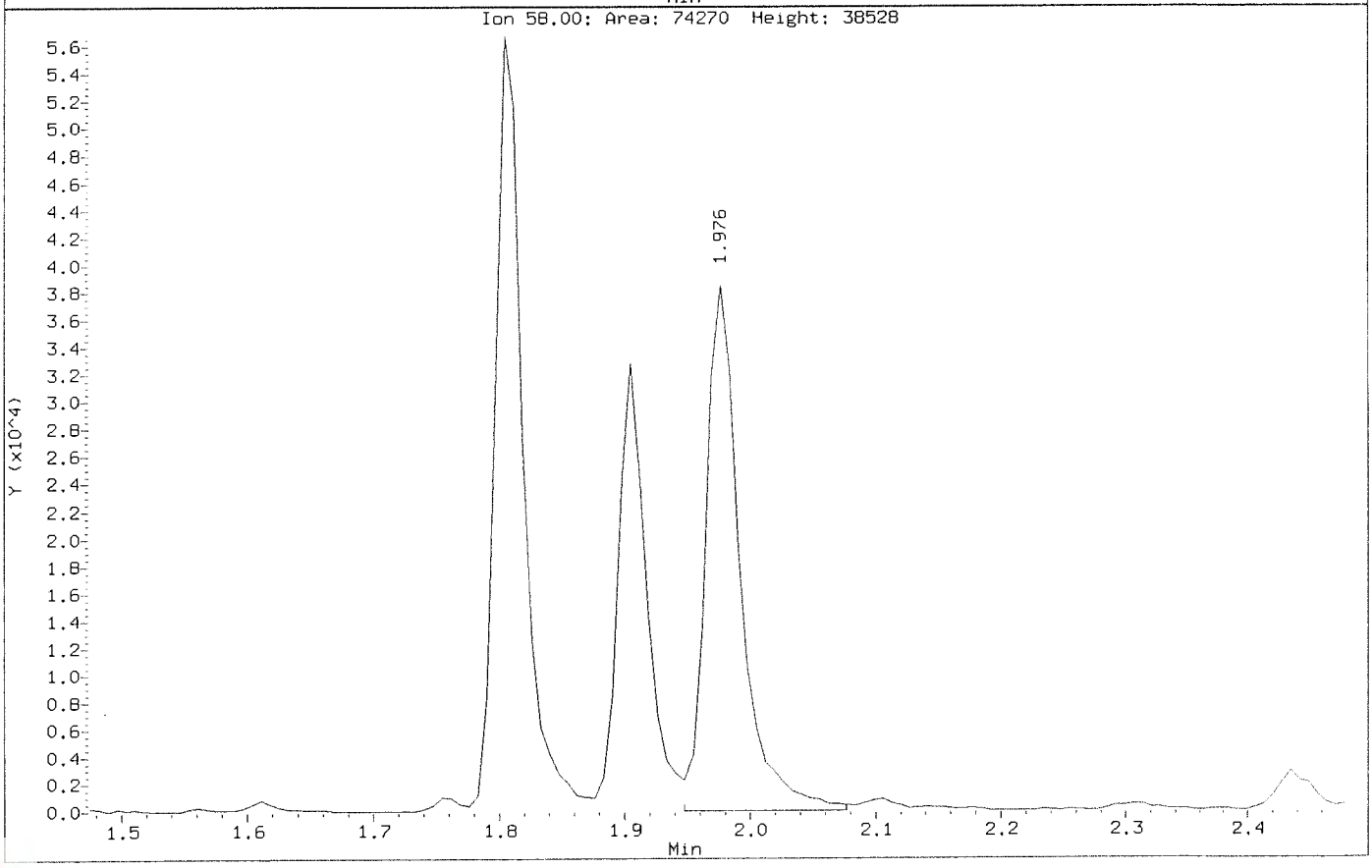




Data File: \\nahstws005\Target\chem\voa6.i\X200602.b\X060213.D
Injection Date: 02-JUN-2020 15:45
Instrument: voa6.i
Client Sample ID: ICV

Compound: Acetone
CAS Number: 67-64-1





MSVOA06 -Logbook

Batch: 40748 **Analyst:** Presenta Cabascango

Date: 06-05-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	06-05-2020 09:49 am	1.00	50 mL	50 mL	X060501.D	Liquid	Y	NA
	Auto find/ purged									
2	CCV	CCV	06-05-2020 10:12 am	1.00	50 mL	50 mL	X060502a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCV	CCV	06-05-2020 10:36 am	1.00	50 mL	50 mL	X060503.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	06-05-2020 11:00 am	1.00	50 mL	50 mL	X060504.D	Liquid	Y	NA
5	VLCSW-200605	LCS	06-05-2020 11:24 am	1.00	50 mL	50 mL	X060505.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLANK	SAMP	06-05-2020 11:48 am	1.00	50 mL	50 mL	X060506.D	Liquid	Y	NA
7	VBLKW-200605	MBLK	06-05-2020 12:12 pm	1.00	50 mL	50 mL	X060507.D	Liquid	Y	NA
8	HS20060114-03	SAMP	06-05-2020 12:36 pm	1.00	50 mL	50 mL	X060508.D	Liquid	Y	<2
9	HS20060114-01	SAMP	06-05-2020 01:00 pm	1.00	50 mL	50 mL	X060509.D	Liquid	Y	<2
10	HS20060133-08	SAMP	06-05-2020 01:25 pm	1.00	50 mL	50 mL	X060510.D	Liquid	Y	<2
11	HS20060133-09	SAMP	06-05-2020 01:49 pm	1.00	50 mL	50 mL	X060511.D	Liquid	Y	<2
12	HS20060133-10	SAMP	06-05-2020 02:13 pm	1.00	50 mL	50 mL	X060512.D	Liquid	Y	<2
13	HS20060133-06	SAMP	06-05-2020 02:37 pm	1.00	50 mL	50 mL	X060513.D	Liquid	Y	<2
14	HS20060135-04	SAMP	06-05-2020 03:01 pm	1.00	50 mL	50 mL	X060514.D	Liquid	Y	<2
15	HS20060135-03	SAMP	06-05-2020 03:25 pm	20.00	2.5 mL	50 mL	X060515.D	Liquid	Y	<2
16	HS20060114-01MS	MS	06-05-2020 03:49 pm	1.00	50 mL	50 mL	X060516.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
17	HS20060114-01MSD	MSD	06-05-2020 04:13 pm	1.00	50 mL	50 mL	X060517.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
18	HS20060135-04	SAMP	06-05-2020 04:37 pm	25.00	2 mL	50 mL	X060518.D	Liquid	Y	<2
19	HS20060133-01	SAMP	06-05-2020 05:01 pm	1.00	50 mL	50 mL	X060519.D	Liquid	Y	<2
20	HS20060133-02	SAMP	06-05-2020 05:25 pm	1.00	50 mL	50 mL	X060520.D	Liquid	Y	<2
21	HS20060133-03	SAMP	06-05-2020 05:49 pm	1.00	50 mL	50 mL	X060521.D	Liquid	Y	<2
22	HS20060133-04	SAMP	06-05-2020 06:13 pm	1.00	50 mL	50 mL	X060522.D	Liquid	Y	<2
23	HS20060133-05	SAMP	06-05-2020 06:37 pm	1.00	50 mL	50 mL	X060523.D	Liquid	Y	<2
24	HS20060133-07	SAMP	06-05-2020 07:01 pm	1.00	50 mL	50 mL	X060524.D	Liquid	Y	<2
25	HS20060135-01	SAMP	06-05-2020 07:25 pm	1.00	50 mL	50 mL	X060525.D	Liquid	Y	<2
26	HS20060135-02	SAMP	06-05-2020 07:49 pm	1.00	50 mL	50 mL	X060526.D	Liquid	Y	<2
27	HS20060135-05	SAMP	06-05-2020 08:13 pm	1.00	50 mL	50 mL	X060527.D	Liquid	Y	<2
28	HS20060135-07	SAMP	06-05-2020 08:37 pm	1.00	50 mL	50 mL	X060528.D	Liquid	Y	<2
29	HS20060135-03	SAMP	06-05-2020 09:01 pm	5.00	10 mL	50 mL	X060529.D	Liquid	Y	<2
30	CCV-END	CCV	06-05-2020 09:25 pm	1.00	50 mL	50 mL	X060530.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
31	BFB	TUNE	06-05-2020 09:49 pm	1.00	50 mL	50 mL	Y060501.D	Liquid	Y	na
	Auto find/ purged									
32	CCV	CCV	06-05-2020 10:13 pm	1.00	50 mL	50 mL	Y060502a.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
33	CCV	CCV	06-05-2020 10:37 pm	1.00	50 mL	50 mL	Y060503.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
34	CCB	SAMP	06-05-2020 11:01 pm	1.00	50 mL	50 mL	Y060504.D	Liquid	Y	na
35	VLCSW-200605	LCS	06-05-2020 11:25 pm	1.00	50 mL	50 mL	Y060505.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
36	BLANK	SAMP	06-05-2020 11:49 pm	1.00	50 mL	50 mL	Y060506.D	Liquid	Y	na
37	VBLKW-200605	MBLK	06-06-2020 12:13 am	1.00	50 mL	50 mL	Y060507.D	Liquid	Y	na
38	HS20060140-06	SAMP	06-06-2020 12:37 am	1.00	50 mL	50 mL	Y060508.D	Liquid	Y	<2
39	HS20060140-07	SAMP	06-06-2020 01:01 am	1.00	50 mL	50 mL	Y060509.D	Liquid	Y	<2
40	HS20060140-10	SAMP	06-06-2020 01:25 am	1.00	50 mL	50 mL	Y060510.D	Liquid	Y	<2
41	HS20060087-01	SAMP	06-06-2020 01:49 am	1.00	50 mL	50 mL	Y060511.D	Liquid	Y	<2
42	HS20060140-08	SAMP	06-06-2020 02:13 am	1.00	50 mL	50 mL	Y060512.D	Liquid	Y	<2
43	HS20060140-09	SAMP	06-06-2020 02:37 am	1.00	50 mL	50 mL	Y060513.D	Liquid	Y	<2
44	HS20060087-01MS	MS	06-06-2020 03:01 am	1.00	50 mL	50 mL	Y060514.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
45	HS20060087-01MSD	MSD	06-06-2020 03:25 am	1.00	50 mL	50 mL	Y060515.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
46	HS20060219-01	SAMP	06-06-2020 03:49 am	1.00	50 mL	50 mL	Y060516.D	Liquid	Y	<2
47	HS20060075-05	SAMP	06-06-2020 04:13 am	1.00	50 mL	50 mL	Y060517.D	Liquid	Y	<2
48	HS20060075-06	SAMP	06-06-2020 04:38 am	1.00	50 mL	50 mL	Y060518.D	Liquid	Y	<2
49	HS20060205-03	SAMP	06-06-2020 05:02 am	1.00	50 mL	50 mL	Y060519.D	Liquid	Y	<2
50	HS20060205-04	SAMP	06-06-2020 05:26 am	1.00	50 mL	50 mL	Y060520.D	Liquid	Y	<2
51	HS20060179-20	SAMP	06-06-2020 05:50 am	1.00	50 mL	50 mL	Y060521.D	Liquid	Y	<2
52	HS20060274-03	SAMP	06-06-2020 06:14 am	1.00	50 mL	50 mL	Y060522.D	Liquid	Y	<2
53	HS20060159-01	SAMP	06-06-2020 06:38 am	1.00	50 mL	50 mL	Y060523.D	Liquid	Y	<2
54	HS20060161-02	SAMP	06-06-2020 07:02 am	1.00	50 mL	50 mL	Y060524.D	Liquid	Y	<2
55	HS20060161-01	SAMP	06-06-2020 07:26 am	5.00	10 mL	50 mL	Y060525.D	Liquid	Y	<2
56	HS20060161-01n/r	SAMP	06-06-2020 07:50 am	25.00	2 mL	50 mL	Y060526.D	Liquid	Y	<2
57	MBLK-154129	MBLK	06-06-2020 08:14 am	20.00	2.5 mL	50 mL	Y060527.D	Liquid	Y	na
	tclps									
58	HS20060211-01	SAMP	06-06-2020 08:38 am	20.00	2.5 mL	50 mL	Y060528.D	Liquid	Y	na
59	HS20060213-01	SAMP	06-06-2020 09:02 am	20.00	2.5 mL	50 mL	Y060529.D	Liquid	Y	na
60	HS20060214-01	SAMP	06-06-2020 09:26 am	20.00	2.5 mL	50 mL	Y060530.D	Liquid	Y	na
61	BLANK	SAMP	06-06-2020 09:50 am	20.00	2.5 mL	50 mL	Y060531.D	Liquid	Y	<2

Chemical	Value
SURR SPK ID	31106-30-06
IS ID	31106-30-06
CAL STD ID	31106-32-01/02
BFB ID	31106-30-06
pH Paper	634-64-11

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-200605	104	103	95	100	0
02	VBLKW-200605	87	90	108	101	0
03	HS20060114-03	87	89	109	101	0
04	HS20060114-01	87	90	108	100	0
05	HS20060114-01	86	90	107	102	0
06	HS20060114-01	85	90	104	101	0
07						
08						
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		QC LIMITS
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(0-130)
SMC2	= Dibromofluoromethane	(0-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER	= 4-Bromofluorobenzene	(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-200605

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

Lab File ID: X060507 Lab Sample ID: VBLKW-200605

Date Analyzed: 06/05/20 Time Analyzed: 1212

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-200605	VLCSW-200605	X060505	1124
02	HS20060114-0	HS20060114-03	X060508	1236
03	HS20060114-0	HS20060114-01	X060509	1300
04	HS20060114-0	HS20060114-01M	X060516	1549
05	HS20060114-0	HS20060114-01M	X060517	1613
06				
07				
08				
09				
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29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

Lab File ID: X060501 BFB Injection Date: 06/05/20

Instrument ID: VOA6 BFB Injection Time: 0949

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	30.2
75	30.0 - 60.0% of mass 95	51.5
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	0.5 (0.8)1
174	Greater than 50.0% of mass 95	67.0
175	5.0 - 9.0% of mass 174	5.5 (8.2)1
176	95.0 - 101.0% of mass 174	66.6 (99.5)1
177	5.0 - 9.0% of mass 176	4.7 (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	CCV	CCV	X060503	06/05/20	1036
02	VLCSW-200605	VLCSW-200605	X060505	06/05/20	1124
03	VBLKW-200605	VBLKW-200605	X060507	06/05/20	1212
04	HS20060114-0	HS20060114-03	X060508	06/05/20	1236
05	HS20060114-0	HS20060114-01	X060509	06/05/20	1300
06	HS20060114-0	HS20060114-01M	X060516	06/05/20	1549
07	HS20060114-0	HS20060114-01M	X060517	06/05/20	1613
08	CCV-END	CCV-END	X060530	06/05/20	2125
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

Instrument ID: VOA6 Calibration Date: 06/05/20 Time: 1036

Lab File ID: X060503 Init. Calib. Date(s): 06/02/20 06/02/20

Init. Calib. Times: 1058 1457

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
cis-1,3-Dichloropropene	0.6100000	0.6345597	0.6345597	0.2	-4.03	20.00	AVRG
trans-1,3-Dichloropropene	0.5500000	0.5806708	0.5806708	0.1	-5.58	20.00	AVRG
1,3-Dichlorobenzene	1.5640000	1.5464756	1.5464756	0.6	1.12	20.00	AVRG
2,2-Dichloropropane	1.0020000	1.0071984	1.0071984	0.1	-0.52	20.00	AVRG
1,1-Dichloropropene	0.4720000	0.4492812	0.4492812	0.1	4.81	20.00	AVRG
Dibromomethane	0.2540000	0.2651140	0.2651140	0.1	-4.38	20.00	AVRG
1,2-Dibromoethane	0.3830000	0.4040927	0.4040927	0.1	-5.51	20.00	AVRG
trans-1,2-Dichloroethene	0.5860000	0.5953811	0.5953811	0.1	-1.60	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3590000	0.3766932	0.3766932	0.1	-4.93	20.00	AVRG
1,1,1-Trichloroethane	0.9630000	0.9588481	0.9588481	0.1	0.43	20.00	AVRG
1,1,2,2-Tetrachloroethane	0.9990000	0.9866660	0.9866660	0.3	1.23	20.00	AVRG
1,1,2-Trichloroethane	0.3180000	0.3309211	0.3309211	0.1	-4.06	20.00	AVRG
1,1-Dichloroethane	1.5460000	1.5251506	1.5251506	0.2	1.35	20.00	AVRG
1,1-Dichloroethene	0.5120000	0.4991671	0.4991671	0.1	2.51	20.00	AVRG
Trichloroethene	0.3390000	0.3421044	0.3421044	0.2	-0.92	20.00	AVRG
1,2,3-Trichlorobenzene	57.670670	50.000000	7.25e-002	0.01	-15.34	20.00	2RDR
Trichlorofluoromethane	0.9310000	0.9245658	0.9245658	0.1	0.69	20.00	AVRG
1,2,4-Trichlorobenzene	54.892842	50.000000	0.1572572	0.1	-9.78	20.00	LINR
1,2,4-Trimethylbenzene	2.9410000	2.9606232	2.9606232	0.1	-0.67	20.00	AVRG
Tetrachloroethene	0.2650000	0.2649045	0.2649045	0.2	0.04	20.00	AVRG
1,2-Dichlorobenzene	1.3330000	1.3334108	1.3334108	0.4	-0.03	20.00	AVRG
1,2-Dichloroethane	0.6650000	0.6828508	0.6828508	0.1	-2.68	20.00	AVRG
1,2-Dichloropropane	0.4720000	0.4945977	0.4945977	0.1	-4.79	20.00	AVRG
1,3,5-Trimethylbenzene	2.9050000	2.8479001	2.8479001	0.1	1.96	20.00	AVRG
1,3-Dichloropropane	0.6720000	0.6875517	0.6875517	0.1	-2.31	20.00	AVRG
1,4-Dichlorobenzene	1.5880000	1.5434027	1.5434027	0.4	2.81	20.00	AVRG
Toluene	1.5640000	1.5656316	1.5656316	0.4	-0.10	20.00	AVRG
2-Butanone	0.5800000	0.5597091	0.5597091	0.1	3.50	20.00	AVRG
2-Chlorotoluene	2.6710000	2.5522285	2.5522285	0.1	4.45	20.00	AVRG
2-Hexanone	0.5030000	0.5393974	0.5393974	0.1	-7.24	20.00	AVRG
4-Chlorotoluene	3.0930000	3.0012328	3.0012328	0.1	2.97	20.00	AVRG
tert-Butylbenzene	2.2730000	2.2020236	2.2020236	0.1	3.12	20.00	AVRG
4-Methyl-2-Pentanone	0.7440000	0.7803390	0.7803390	0.1	-4.88	20.00	AVRG
Acetone	97.510966	100.00000	0.4006032	0.1	2.49	20.00	LINR
Benzene	1.4320000	1.4553527	1.4553527	0.5	-1.63	20.00	AVRG
Bromobenzene	0.9780000	0.9785071	0.9785071	0.1	-0.05	20.00	AVRG
Bromochloromethane	0.3520000	0.3554532	0.3554532	0.1	-0.98	20.00	AVRG
Bromodichloromethane	0.5160000	0.5395429	0.5395429	0.2	-4.56	20.00	AVRG
Bromoform	0.2500000	0.2712845	0.2712845	0.1	-8.51	20.00	AVRG
Bromomethane	51.312902	50.000000	0.4666690	0.1	-2.62	20.00	LINR
Carbon Disulfide	1.6490000	1.6527755	1.6527755	0.1	-0.23	20.00	AVRG
Carbon Tetrachloride	0.4520000	0.4287466	0.4287466	0.1	5.14	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006011

Instrument ID: VOA6 Calibration Date: 06/05/20 Time: 1036

Lab File ID: X060503 Init. Calib. Date(s): 06/02/20 06/02/20

Init. Calib. Times: 1058 1457

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
Chlorobenzene	0.9860000	0.9890012	0.9890012	0.5	-0.30	20.00	AVRG
Chloroethane	0.5330000	0.5191665	0.5191665	0.1	2.60	20.00	AVRG
Chloroform	1.2260000	1.2241546	1.2241546	0.2	0.15	20.00	AVRG
Chloromethane	1.2300000	1.2100427	1.2100427	0.1	1.62	20.00	AVRG
cis-1,2-Dichloroethene	0.7100000	0.7204545	0.7204545	0.1	-1.47	20.00	AVRG
Dibromochloromethane	0.3980000	0.4068661	0.4068661	0.1	-2.23	20.00	AVRG
Dichlorodifluoromethane	0.5950000	0.6003656	0.6003656	0.1	-0.90	20.00	AVRG
Ethylbenzene	0.5070000	0.5152670	0.5152670	0.1	-1.63	20.00	AVRG
Hexachlorobutadiene	56.282261	50.000000	0.1184104	0.1	-12.56	20.00	LINR
Isopropylbenzene	1.5030000	1.4774567	1.4774567	0.1	1.70	20.00	AVRG
m,p-Xylenes	0.6120000	0.6153266	0.6153266	0.1	-0.54	20.00	AVRG
Methylene Chloride	55.075614	50.000000	0.7423347	0.1	-10.15	20.00	LINR
n-Butylbenzene	2.3730000	2.5216894	2.5216894	0.5	-6.26	20.00	AVRG
n-Propylbenzene	4.1820000	4.0923617	4.0923617	0.1	2.14	20.00	AVRG
Naphthalene	57.692164	50.000000	0.2746552	0.2	-15.38	20.00	2RDR
o-Xylene	0.6040000	0.6200008	0.6200008	0.3	-2.65	20.00	AVRG
sec-Butylbenzene	3.2400000	3.2001477	3.2001477	0.1	1.23	20.00	AVRG
Styrene	1.0750000	1.1194182	1.1194182	0.3	-4.13	20.00	AVRG
Vinyl Chloride	1.0510000	0.9659062	0.9659062	0.1	8.10	20.00	AVRG
1,2,3-Trichloropropane	0.9220000	0.9442817	0.9442817	0.1	-2.42	20.00	AVRG
p-Isopropyltoluene	2.6630000	2.7194609	2.7194609	0.1	-2.12	20.00	AVRG
1,2-Dibromo-3-Chloropropane	49.361362	50.000000	5.42e-002	0.05	1.28	20.00	LINR
1,2-Dichloroethane-d4	51.148459	50.000000	0.9208044	0.1	-2.30	20.00	LINR
Dibromofluoromethane	51.033899	50.000000	0.6256696	0.1	-2.07	20.00	LINR
Toluene-d8	1.3100000	1.2771213	1.2771213	0.1	2.51	20.00	AVRG
4-Bromofluorobenzene	51.284867	50.000000	0.5063430	0.1	-2.57	20.00	LINR

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

Instrument ID: VOA6 Calibration Date: 06/05/20 Time: 2125

Lab File ID: X060530 Init. Calib. Date(s): 06/02/20 06/02/20

Init. Calib. Times: 1058 1457

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
cis-1,3-Dichloropropene	0.6100000	0.6272373	0.6272373	0.2	-2.82	50.00	AVRG
trans-1,3-Dichloropropene	0.5500000	0.5670519	0.5670519	0.1	-3.10	50.00	AVRG
1,3-Dichlorobenzene	1.5640000	1.5354280	1.5354280	0.6	1.83	50.00	AVRG
2,2-Dichloropropane	1.0020000	0.8066603	0.8066603	0.1	19.49	50.00	AVRG
1,1-Dichloropropene	0.4720000	0.4535150	0.4535150	0.1	3.92	50.00	AVRG
Dibromomethane	0.2540000	0.2728034	0.2728034	0.1	-7.40	50.00	AVRG
1,2-Dibromoethane	0.3830000	0.4041783	0.4041783	0.1	-5.53	50.00	AVRG
trans-1,2-Dichloroethene	0.5860000	0.6191563	0.6191563	0.1	-5.66	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3590000	0.3803247	0.3803247	0.1	-5.94	50.00	AVRG
1,1,1-Trichloroethane	0.9630000	1.0236299	1.0236299	0.1	-6.30	50.00	AVRG
1,1,2,2-Tetrachloroethane	0.9990000	0.9972133	0.9972133	0.3	0.18	50.00	AVRG
1,1,2-Trichloroethane	0.3180000	0.3335720	0.3335720	0.1	-4.90	50.00	AVRG
1,1-Dichloroethane	1.5460000	1.6437975	1.6437975	0.2	-6.32	50.00	AVRG
1,1-Dichloroethene	0.5120000	0.5387591	0.5387591	0.1	-5.23	50.00	AVRG
Trichloroethene	0.3390000	0.3544558	0.3544558	0.2	-4.56	50.00	AVRG
1,2,3-Trichlorobenzene	49.531457	50.000000	6.17e-002	0.01	0.94	50.00	2RDR
Trichlorofluoromethane	0.9310000	1.0019225	1.0019225	0.1	-7.62	50.00	AVRG
1,2,4-Trichlorobenzene	46.874842	50.000000	0.1332925	0.1	6.25	50.00	LINR
1,2,4-Trimethylbenzene	2.9410000	2.9170940	2.9170940	0.1	0.81	50.00	AVRG
Tetrachloroethene	0.2650000	0.2545355	0.2545355	0.2	3.95	50.00	AVRG
1,2-Dichlorobenzene	1.3330000	1.3620877	1.3620877	0.4	-2.18	50.00	AVRG
1,2-Dichloroethane	0.6650000	0.7075614	0.7075614	0.1	-6.40	50.00	AVRG
1,2-Dichloropropane	0.4720000	0.5063582	0.5063582	0.1	-7.28	50.00	AVRG
1,3,5-Trimethylbenzene	2.9050000	2.8325243	2.8325243	0.1	2.49	50.00	AVRG
1,3-Dichloropropane	0.6720000	0.6881780	0.6881780	0.1	-2.41	50.00	AVRG
1,4-Dichlorobenzene	1.5880000	1.5377156	1.5377156	0.4	3.17	50.00	AVRG
Toluene	1.5640000	1.5521221	1.5521221	0.4	0.76	50.00	AVRG
2-Butanone	0.5800000	0.6089654	0.6089654	0.1	-4.99	50.00	AVRG
2-Chlorotoluene	2.6710000	2.5580069	2.5580069	0.1	4.23	50.00	AVRG
2-Hexanone	0.5030000	0.5562697	0.5562697	0.1	-10.59	50.00	AVRG
4-Chlorotoluene	3.0930000	2.9585024	2.9585024	0.1	4.35	50.00	AVRG
tert-Butylbenzene	2.2730000	2.1568340	2.1568340	0.1	5.11	50.00	AVRG
4-Methyl-2-Pentanone	0.7440000	0.8055616	0.8055616	0.1	-8.27	50.00	AVRG
Acetone	108.20034	100.00000	0.4412601	0.1	-8.20	50.00	LINR
Benzene	1.4320000	1.4645576	1.4645576	0.5	-2.27	50.00	AVRG
Bromobenzene	0.9780000	0.9934462	0.9934462	0.1	-1.58	50.00	AVRG
Bromochloromethane	0.3520000	0.3737916	0.3737916	0.1	-6.19	50.00	AVRG
Bromodichloromethane	0.5160000	0.5467793	0.5467793	0.2	-5.96	50.00	AVRG
Bromoform	0.2500000	0.2756784	0.2756784	0.1	-10.27	50.00	AVRG
Bromomethane	55.800343	50.000000	0.5066740	0.1	-11.60	50.00	LINR
Carbon Disulfide	1.6490000	1.7223680	1.7223680	0.1	-4.45	50.00	AVRG
Carbon Tetrachloride	0.4520000	0.4331402	0.4331402	0.1	4.17	50.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006011

Instrument ID: VOA6 Calibration Date: 06/05/20 Time: 2125

Lab File ID: X060530 Init. Calib. Date(s): 06/02/20 06/02/20

Init. Calib. Times: 1058 1457

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	
Chlorobenzene	0.9860000	0.9842005	0.9842005	0.5	0.18	50.00	AVRG	
Chloroethane	0.5330000	0.5638923	0.5638923	0.1	-5.80	50.00	AVRG	
Chloroform	1.2260000	1.3013803	1.3013803	0.2	-6.15	50.00	AVRG	
Chloromethane	1.2300000	1.2521161	1.2521161	0.1	-1.80	50.00	AVRG	
cis-1,2-Dichloroethene	0.7100000	0.7670676	0.7670676	0.1	-8.04	50.00	AVRG	
Dibromochloromethane	0.3980000	0.4162711	0.4162711	0.1	-4.59	50.00	AVRG	
Dichlorodifluoromethane	0.5950000	0.6316295	0.6316295	0.1	-6.16	50.00	AVRG	
Ethylbenzene	0.5070000	0.5031464	0.5031464	0.1	0.76	50.00	AVRG	
Hexachlorobutadiene	45.554138	50.000000	9.5e-002	0.1	8.89	50.00	LINR	<-
Isopropylbenzene	1.5030000	1.4472061	1.4472061	0.1	3.71	50.00	AVRG	
m,p-Xylenes	0.6120000	0.6043025	0.6043025	0.1	1.26	50.00	AVRG	
Methylene Chloride	63.254496	50.000000	0.8504259	0.1	-26.51	50.00	LINR	
n-Butylbenzene	2.3730000	2.2935371	2.2935371	0.5	3.35	50.00	AVRG	
n-Propylbenzene	4.1820000	4.0321986	4.0321986	0.1	3.58	50.00	AVRG	
Naphthalene	50.129577	50.000000	0.2368939	0.2	-0.26	50.00	2RDR	
o-Xylene	0.6040000	0.6151049	0.6151049	0.3	-1.84	50.00	AVRG	
sec-Butylbenzene	3.2400000	3.0993292	3.0993292	0.1	4.34	50.00	AVRG	
Styrene	1.0750000	1.0891969	1.0891969	0.3	-1.32	50.00	AVRG	
Vinyl Chloride	1.0510000	1.0406269	1.0406269	0.1	0.99	50.00	AVRG	
1,2,3-Trichloropropane	0.9220000	0.9641769	0.9641769	0.1	-4.57	50.00	AVRG	
p-Isopropyltoluene	2.6630000	2.6064920	2.6064920	0.1	2.12	50.00	AVRG	
1,2-Dibromo-3-Chloropropane	54.653705	50.000000	6.01e-002	0.05	-9.31	50.00	LINR	
1,2-Dichloroethane-d4	53.017425	50.000000	0.9538563	0.1	-6.03	50.00	LINR	
Dibromofluoromethane	52.854068	50.000000	0.6477154	0.1	-5.71	50.00	LINR	
Toluene-d8	1.3100000	1.2438408	1.2438408	0.1	5.05	50.00	AVRG	
4-Bromofluorobenzene	49.251837	50.000000	0.4865583	0.1	1.50	50.00	LINR	

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

Lab File ID (Standard): X060503 Date Analyzed: 06/05/20

Instrument ID: VOA6 Time Analyzed: 1036

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	379314	7.67	409454	4.97	167916	9.67
	UPPER LIMIT	758628	8.17	818908	5.47	335832	10.17
	LOWER LIMIT	189657	7.17	204727	4.47	83958	9.17
	CLIENT SAMPLE NO.						
01	VLCSW-200605	385994	7.67	415079	4.97	170840	9.67
02	VBLKW-200605	433054	7.67	514631	4.97	178977	9.67
03	HS20060114-03	437811	7.67	518238	4.97	180381	9.67
04	HS20060114-01	434787	7.67	515596	4.97	178678	9.67
05	HS20060114-01	415480	7.67	484107	4.97	182850	9.67
06	HS20060114-01	429953	7.67	484476	4.97	188936	9.66
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

Lab File ID (Standard): X060503 Date Analyzed: 06/05/20

Instrument ID: VOA6 Time Analyzed: 1036

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	228106	4.19				
	UPPER LIMIT	456212	4.69				
	LOWER LIMIT	114053	3.69				
	CLIENT SAMPLE NO.						
01	VLCSW-200605	226777	4.19				
02	VBLKW-200605	311987	4.18				
03	HS20060114-03	313772	4.18				
04	HS20060114-01	314901	4.18				
05	HS20060114-01	297624	4.18				
06	HS20060114-01	294457	4.18				
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\X200605.b\X060501.D

Date : 05-JUN-2020 09:49

Client ID: BFB

Instrument: voa6.i

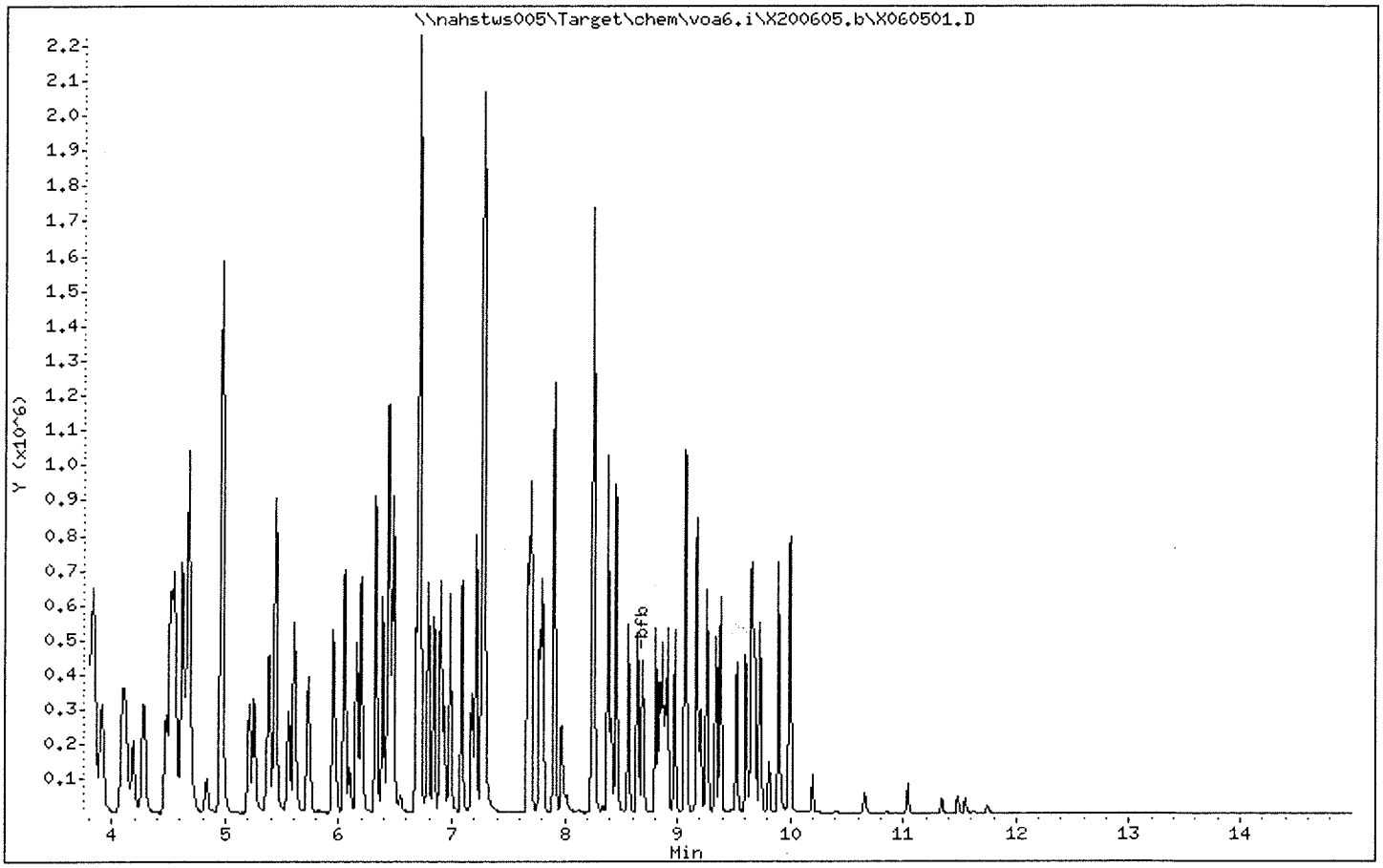
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X200605.b\X060501.D

Date : 05-JUN-2020 09:49

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

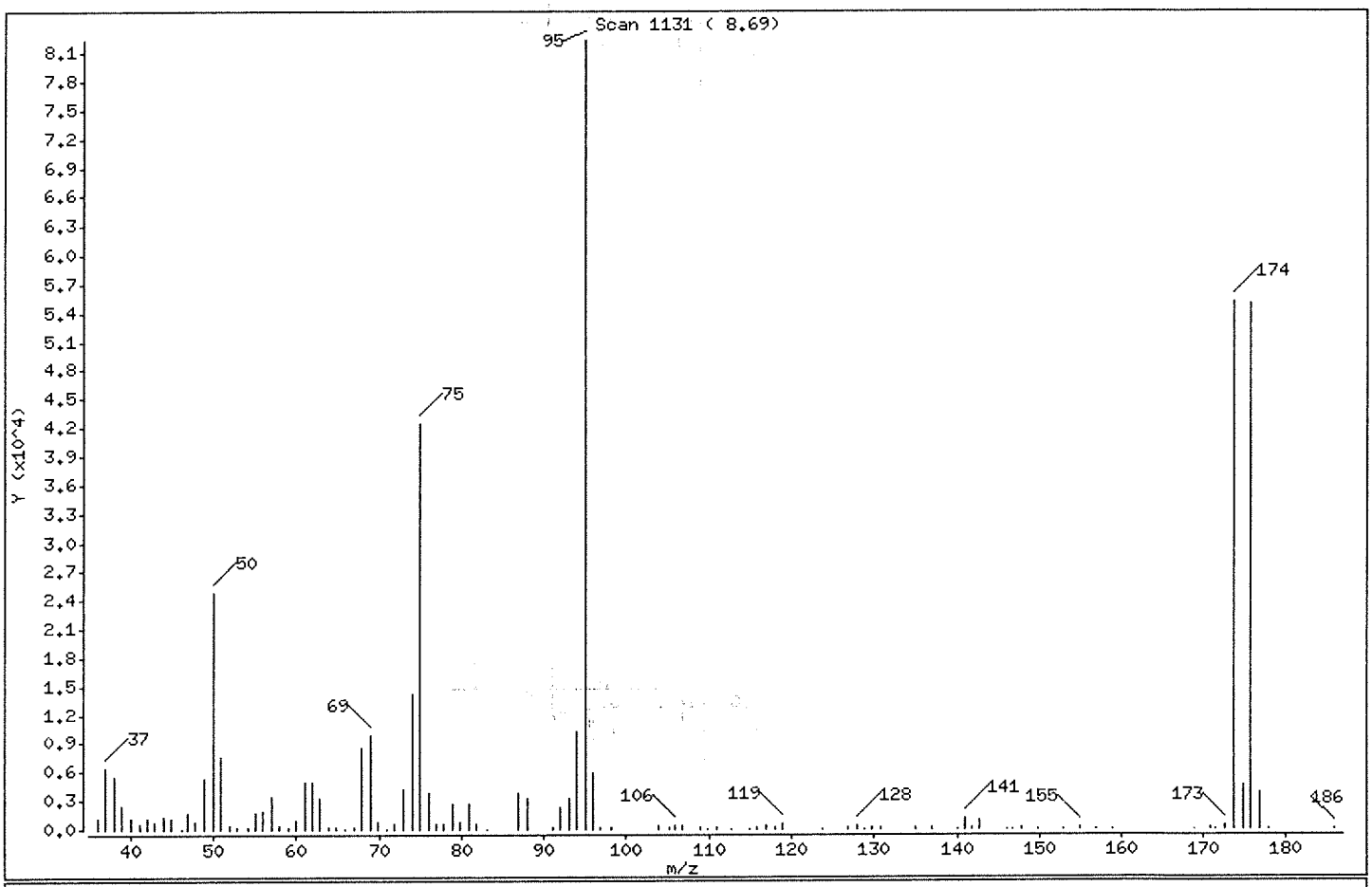
Volume Injected (uL): 2.0

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	30.18
75	30.00 - 60.00% of mass 95	51.55
96	5.00 - 9.00% of mass 95	7.20
173	Less than 2.00% of mass 174	0.53 (0.80)
174	Greater than 50.00% of mass 95	66.95
175	5.00 - 9.00% of mass 174	5.47 (8.17)
176	95.00 - 101.00% of mass 174	66.64 (99.54)
177	5.00 - 9.00% of mass 176	4.65 (6.98)

Data File: \\nahstws005\Target\chem\voa6.i\X200605.b\X060501.D

Date : 05-JUN-2020 09:49

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: X060501.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 101

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1108	62.00	4904	93.00	3155	137.00	103
37.00	6526	62.90	3240	94.00	10282	140.00	76
38.00	5523	63.90	247	95.00	82360	140.90	1104
39.00	2549	64.90	141	96.00	5927	141.80	135
40.00	1104	66.00	94	96.90	204	142.80	910
41.10	656	66.90	224	98.10	255	146.00	68
42.10	1137	68.00	8531	103.80	296	146.80	59
43.00	852	69.00	9799	105.10	219	147.80	239
44.00	1366	69.90	822	105.90	350	149.70	89
44.90	1141	70.90	59	106.80	309	152.80	50
46.20	94	71.90	608	109.00	140	154.90	192
47.00	1675	73.00	4088	109.90	75	156.90	90
47.90	727	74.00	14288	111.00	98	158.90	86
49.00	5310	75.00	42456	112.70	86	168.90	51
50.00	24856	76.00	3701	115.00	55	171.00	131
51.00	7626	76.90	525	115.80	254	171.60	56
51.90	294	77.90	476	116.90	440	172.80	440
52.90	116	78.90	2676	117.90	268	173.90	55144
54.10	133	79.90	783	118.90	480	174.90	4507
55.00	1679	80.90	2577	123.80	53	175.90	54888
56.00	1805	81.80	515	126.80	146	176.90	3831
57.00	3371	83.10	60	128.00	349	178.00	65
58.00	306	86.90	3737	128.80	77	186.10	75
59.10	203	87.90	3170	129.80	171		
60.00	889	91.00	235	130.90	115		
61.00	4975	92.00	2266	135.00	186		

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200605.b\X060503.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 05-JUN-2020 10:36
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200605.b\8260W.m
Meth Date : 06-Jul-2020 13:09 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 13:45 Cal File: X060208.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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

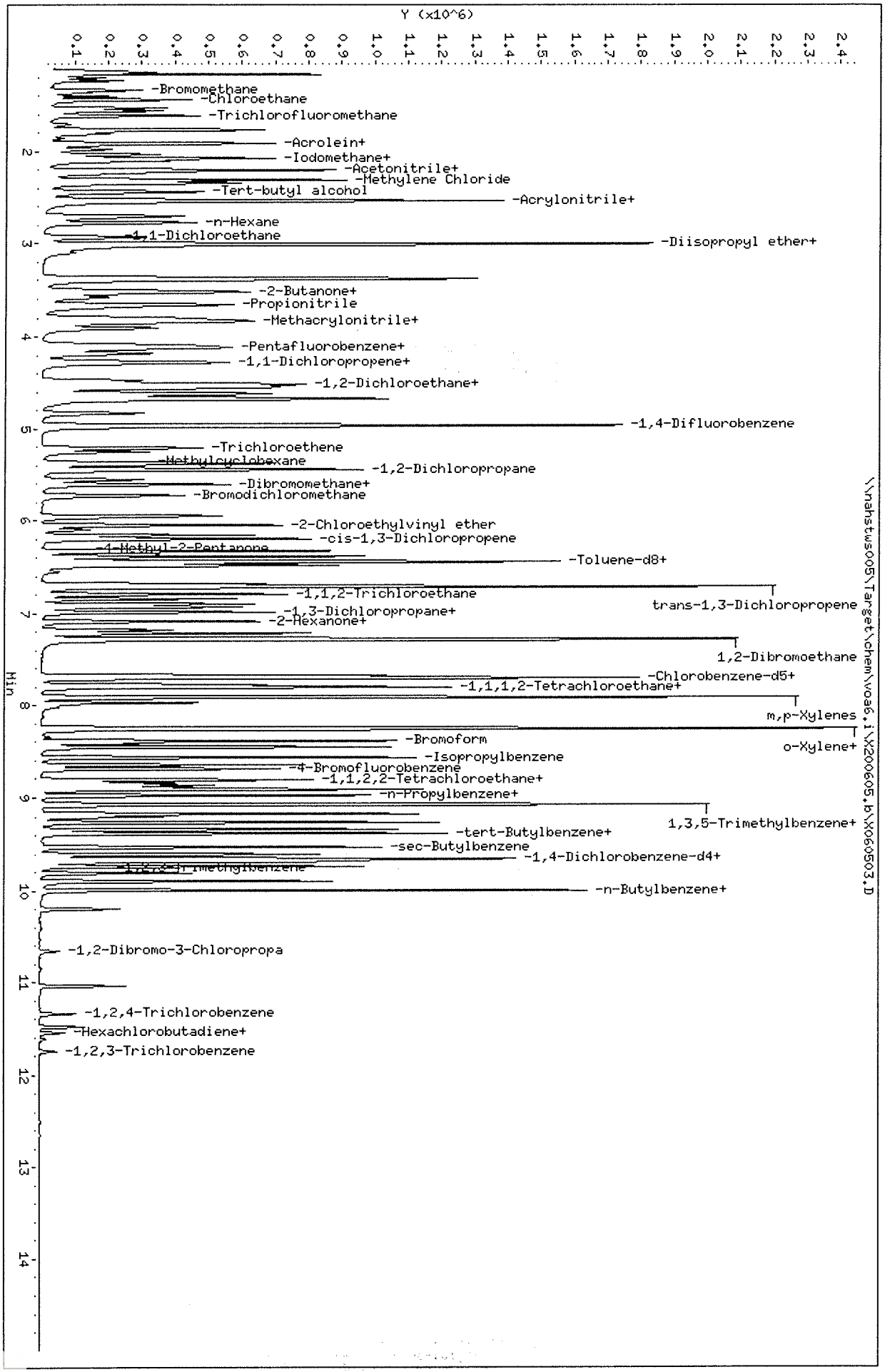
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	228106	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	409454	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	379314	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	167916	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	142719	50.0000	51.03
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	210041	50.0000	51.14
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	484430	50.0000	48.74
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	192063	50.0000	51.28
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	142885	50.0000	52.48
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	218719	50.0000	49.77
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	165677	50.0000	49.37
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	125523	50.0000	52.01
22 1,1-Dichloroethane	63	2.921	2.922	(0.697)	347896	50.0000	49.31
11 1,1-Dichloroethene	96	1.911	1.912	(0.456)	113863	50.0000	48.71
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	183960	50.0000	47.59
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	12180	50.0000	57.67
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	158560	50.0000	51.22(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.345	(1.173)	26406	50.0000	54.89
79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	497136	50.0000	50.32
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.658	(1.102)	9109	50.0000	49.36
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	153278	50.0000	52.68
88 1,2-Dichlorobenzene	146	9.998	9.991	(1.034)	223901	50.0000	50.00
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	279596	50.0000	51.35

Data File: \\nahstws005\Target\chem\voa6.i\X200605.b\X060503.D Page 2
Report Date: 06-Jul-2020 13:09

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	202515	50.0000	52.43
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	478208	50.0000	49.01
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	259678	50.0000	49.42
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	260798	50.0000	51.13
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	259162	50.0000	48.57
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	229748	50.0000	50.25
24	2-Butanone	43	3.580	3.581	(0.855)	255346	100.000	96.48
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	428560	50.0000	47.77
52	2-Hexanone	43	7.090	7.090	(0.924)	409202	100.000	107.28
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	503955	50.0000	48.51
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	456641	50.0000	51.05
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	591987	100.000	104.82
10	Acetone	43	1.976	1.976	(0.472)	182760	100.000	97.51
37	Benzene	78	4.519	4.519	(0.909)	595900	50.0000	50.81
74	Bromobenzene	156	8.809	8.810	(0.911)	164307	50.0000	50.01
29	Bromochloromethane	128	3.802	3.795	(0.908)	81081	50.0000	50.49
39	Bromodichloromethane	83	5.729	5.729	(1.153)	220918	50.0000	52.29
66	Bromoform	173	8.415	8.416	(1.097)	102902	50.0000	54.25
6	Bromomethane	94	1.338	1.339	(0.320)	106450	50.0000	51.31
19	Carbon Disulfide	76	2.069	2.069	(0.494)	754016	100.000	100.20
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	175552	50.0000	47.41
59	Chlorobenzene	112	7.699	7.699	(1.004)	375142	50.0000	50.16
7	Chloroethane	64	1.403	1.403	(0.335)	118425	50.0000	48.70
28	Chloroform	83	3.910	3.910	(0.933)	279237	50.0000	49.92
3	Chloromethane	50	1.081	1.081	(0.258)	276018	50.0000	49.19
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	164340	50.0000	50.70
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	259823	50.0000	52.03
55	Dibromochloromethane	129	7.176	7.176	(0.936)	154330	50.0000	51.06
44	Dibromomethane	93	5.557	5.558	(1.118)	108552	50.0000	52.19
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	136947	50.0000	50.42
61	Ethylbenzene	106	7.799	7.800	(1.017)	195448	50.0000	50.79
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	19883	50.0000	56.28
67	Isopropylbenzene	105	8.566	8.566	(1.117)	560420	50.0000	49.14
62	m,p-Xylenes	106	7.907	7.907	(1.031)	466804	100.000	100.58
17	Methylene Chloride	84	2.305	2.306	(0.550)	169331	50.0000	55.07
87	n-Butylbenzene	91	9.998	9.999	(1.034)	423432	50.0000	53.13
73	n-Propylbenzene	91	8.917	8.917	(0.922)	687173	50.0000	48.92
92	Naphthalene	128	11.546	11.546	(1.194)	46119	50.0000	57.69
63	o-Xylene	106	8.244	8.244	(1.075)	235175	50.0000	51.35
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	537356	50.0000	49.37
64	Styrene	104	8.258	8.258	(1.077)	424611	50.0000	52.04
78	tert-Butylbenzene	119	9.339	9.340	(0.966)	369755	50.0000	48.44
56	Tetrachloroethene	164	6.933	6.933	(0.904)	100482	50.0000	49.93
50	Toluene	91	6.446	6.446	(0.840)	593866	50.0000	50.04
20	trans-1,2-Dichloroethene	96	2.527	2.535	(0.603)	135810	50.0000	50.79
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	237758	50.0000	52.71
38	Trichloroethene	130	5.206	5.207	(1.048)	140076	50.0000	50.51
8	Trichlorofluoromethane	101	1.560	1.561	(0.373)	210899	50.0000	49.63
5	Vinyl Chloride	62	1.138	1.138	(0.272)	220329	50.0000	45.94

QC Flag Legend

M - Compound response manually integrated.



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Instrument: voa6.i
Operator: PC
Column diameter: 0.18

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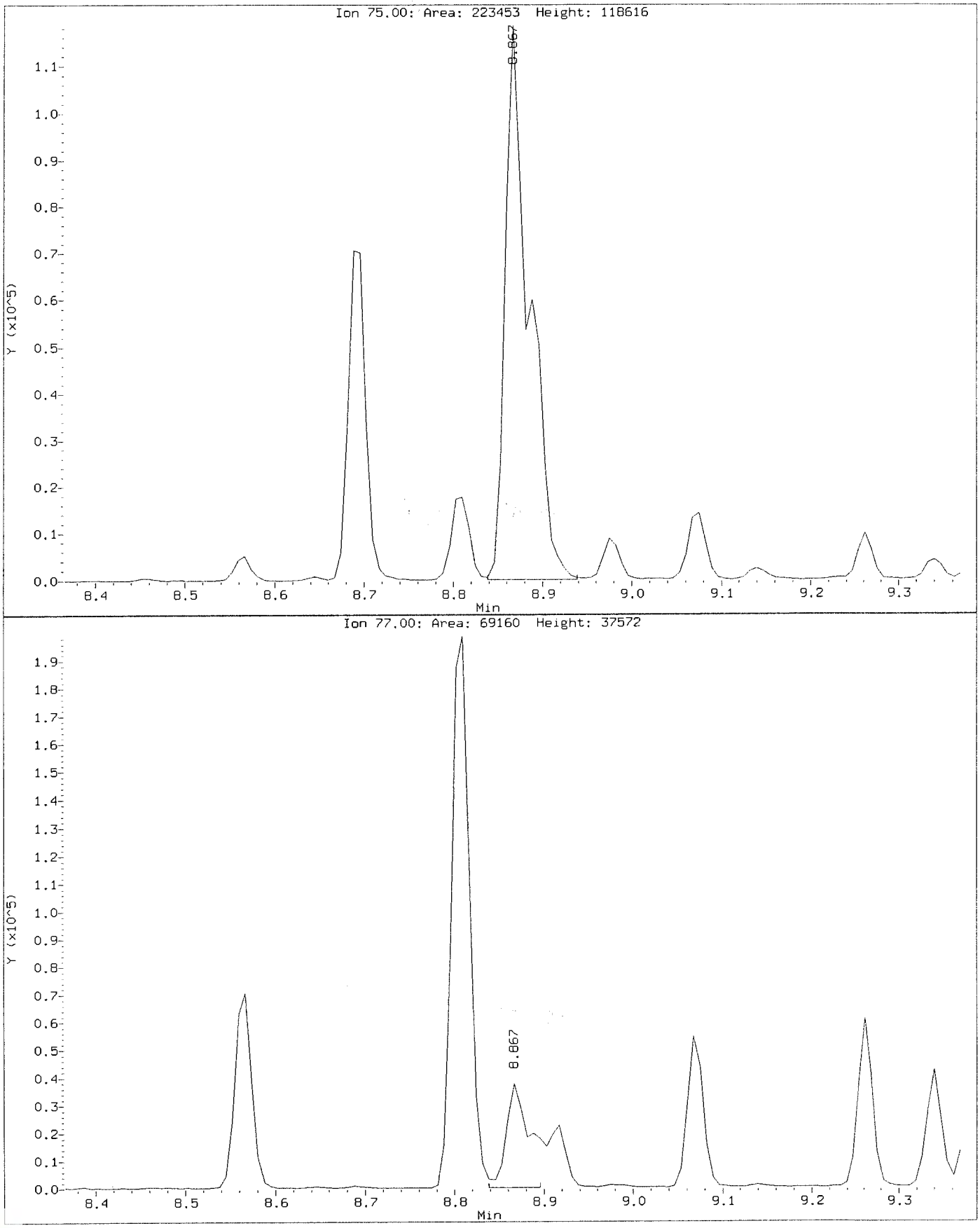
Instrument: voa6.i
Client Sample ID: CCV

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



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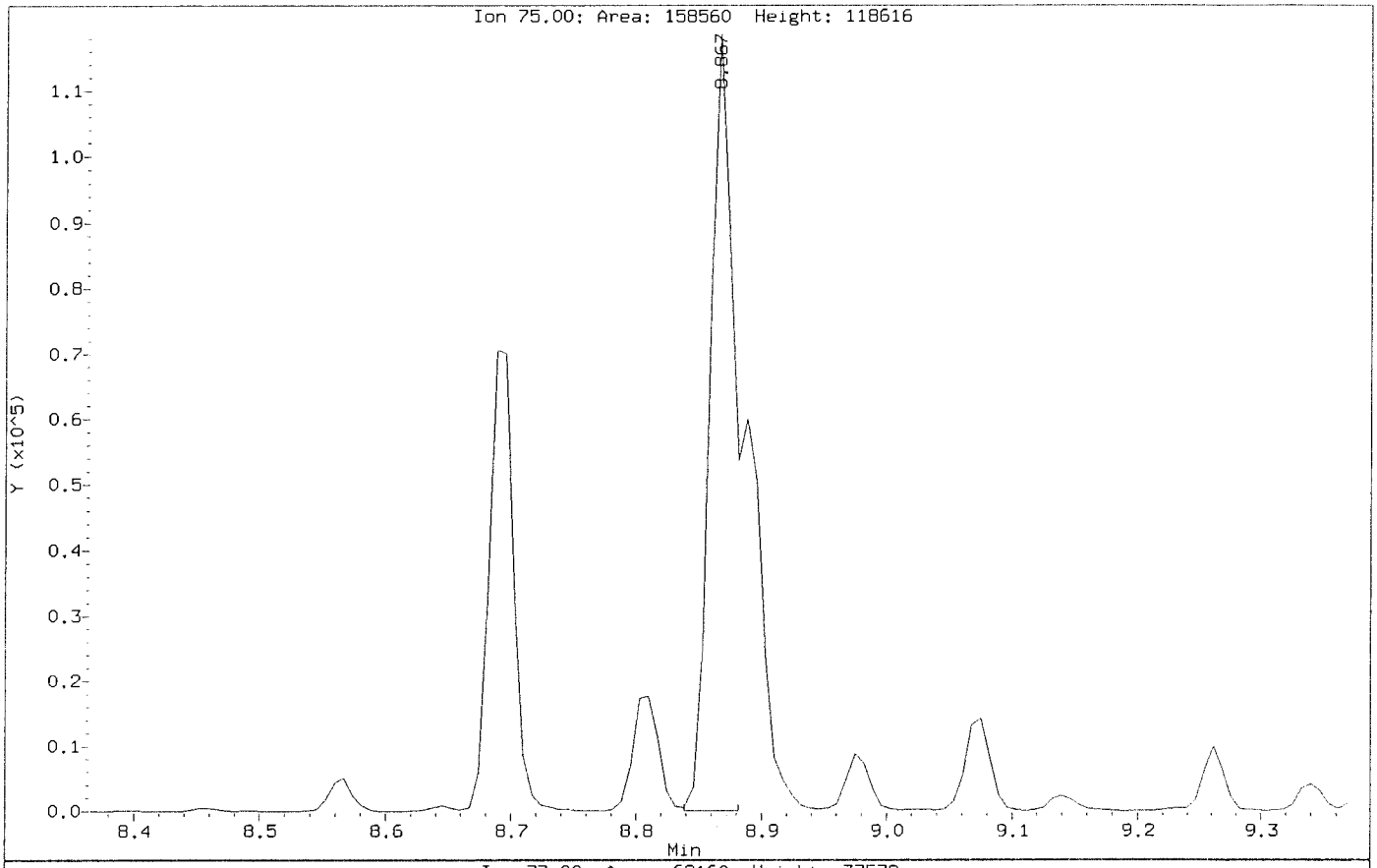
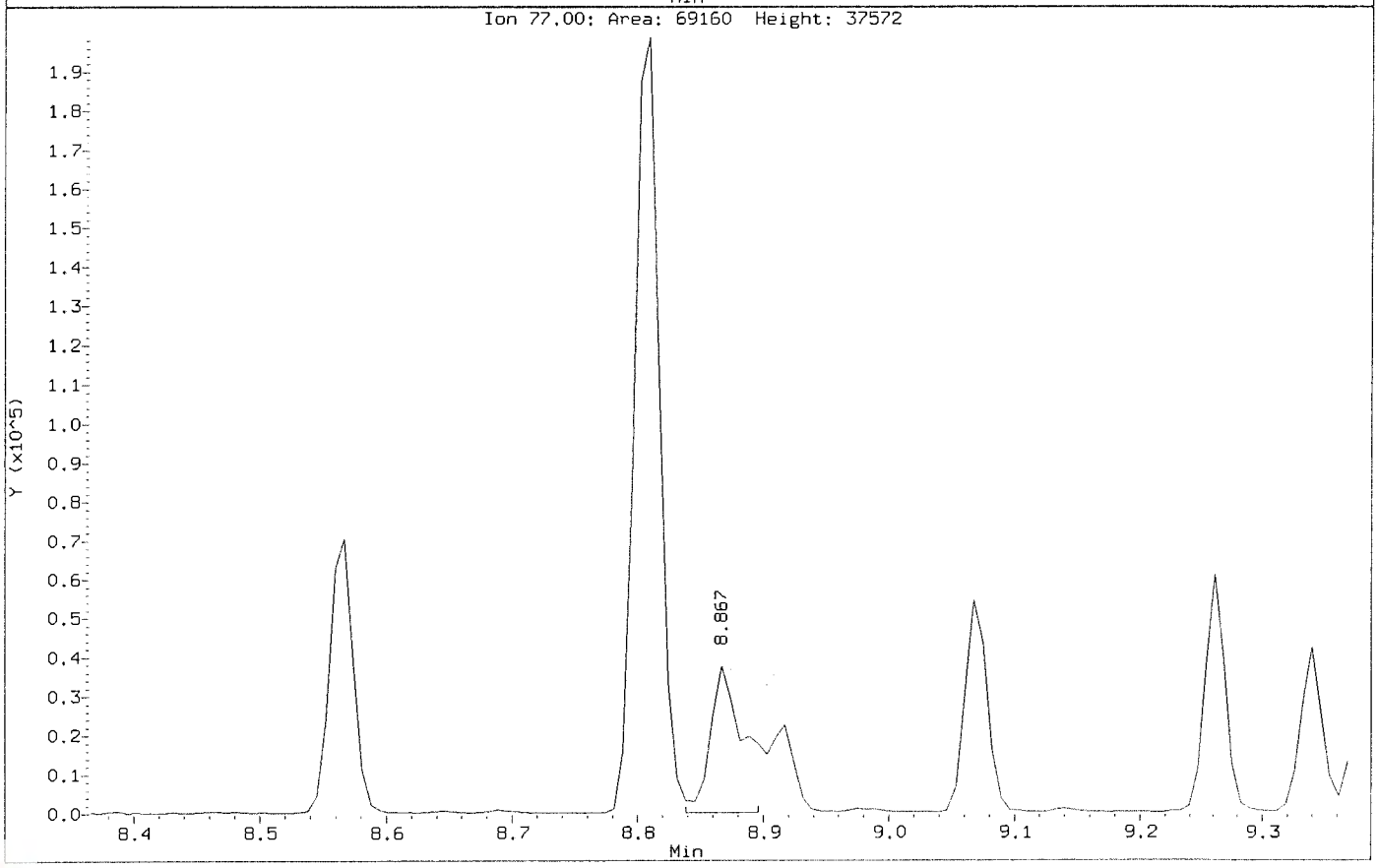
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200605.b\X060505.D
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Inj Date : 05-JUN-2020 11:24
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Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200605.b\8260W.m
Meth Date : 06-Jul-2020 13:09 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 13:45 Cal File: X060208.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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

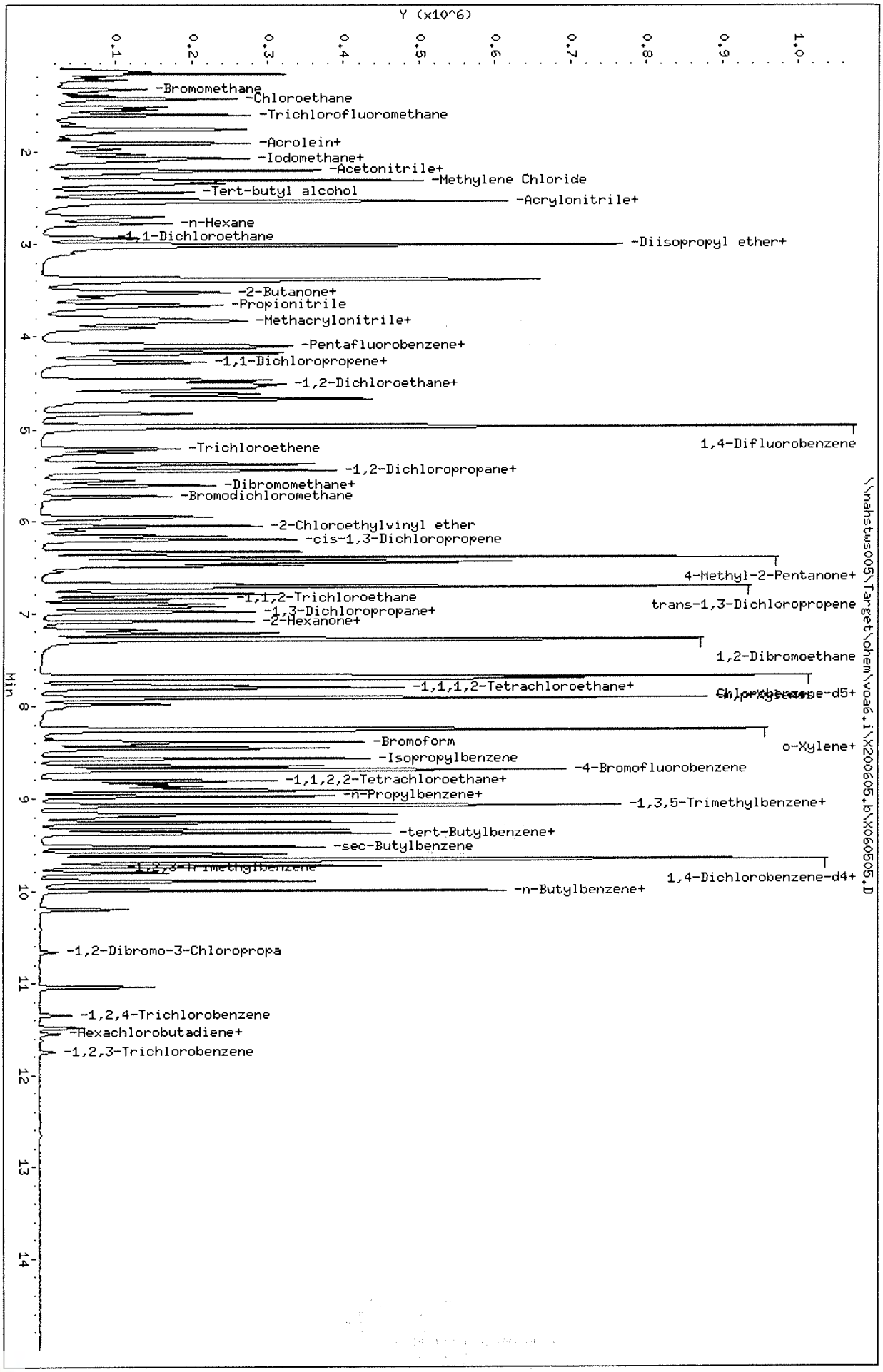
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	226777	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	415079	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	385994	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	170840	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	142872	51.3923	51.39
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	213434	52.2996	52.29
$	48 Toluene-d8	98	6.388	6.388	(0.833)	481343	47.5949	47.59
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	190817	50.0527	50.05
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	55668	20.0958	20.09
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	85534	19.5792	19.57
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	68850	20.1674	20.16
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	51181	20.8401	20.84
	22 1,1-Dichloroethane	63	2.929	2.922	(0.699)	140519	20.0357	20.03
	11 1,1-Dichloroethene	96	1.912	1.912	(0.456)	45008	19.3679	19.36
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	71962	18.3678	18.36
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	5402	26.2865	26.28
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	63024	20.0126	20.01(M)
	90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.173)	10947	23.7172	23.71
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	191472	19.0523	19.05
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	4033	21.8006	21.80
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	60640	20.4823	20.48
	88 1,2-Dichlorobenzene	146	9.999	9.991	(1.034)	90002	19.7555	19.75
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	113960	20.6490	20.64

Data File: \\nahstws005\Target\chem\voa6.i\X200605.b\X060505.D Page 2
Report Date: 06-Jul-2020 13:09

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	82897	21.1738	21.17
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	180883	18.2215	18.22
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	101600	19.0063	19.00
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	106251	20.4719	20.47
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	104898	19.3266	19.32
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	91870	20.2145	20.21
24	2-Butanone	43	3.581	3.581	(0.855)	103537	39.3524	39.35
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	165641	18.1487	18.14
52	2-Hexanone	43	7.090	7.090	(0.924)	167557	43.1691	43.16
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	195324	18.4818	18.48
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	168211	18.4847	18.48
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	240946	41.9264	41.92
10	Acetone	43	1.976	1.976	(0.472)	85305	41.6353	41.63
37	Benzene	78	4.519	4.519	(0.909)	237633	19.9899	19.98
74	Bromobenzene	156	8.810	8.810	(0.911)	65317	19.5422	19.54
29	Bromochloromethane	128	3.803	3.795	(0.908)	32694	20.4803	20.48
39	Bromodichloromethane	83	5.729	5.729	(1.153)	88387	20.6393	20.63
66	Bromoform	173	8.416	8.416	(1.097)	40803	21.1396	21.13
6	Bromomethane	94	1.339	1.339	(0.320)	46442	21.9375	21.93
19	Carbon Disulfide	76	2.069	2.069	(0.494)	296085	39.5780	39.57
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	69265	18.4553	18.45
59	Chlorobenzene	112	7.699	7.699	(1.004)	150870	19.8244	19.82
7	Chloroethane	64	1.403	1.403	(0.335)	46895	19.4000	19.40
28	Chloroform	83	3.910	3.910	(0.933)	112739	20.2730	20.27
3	Chloromethane	50	1.081	1.081	(0.258)	111854	20.0533	20.05
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	65124	20.2114	20.21
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	103931	20.5323	20.53
55	Dibromochloromethane	129	7.176	7.176	(0.936)	61406	19.9677	19.96
44	Dibromomethane	93	5.558	5.558	(1.118)	43430	20.5978	20.59
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	51368	19.0237	19.02
61	Ethylbenzene	106	7.800	7.800	(1.017)	75302	19.2302	19.23
91	Hexachlorobutadiene	225	11.489	11.481	(1.188)	8676	25.3420	25.34
67	Isopropylbenzene	105	8.566	8.566	(1.117)	215498	18.5702	18.57
62	m,p-Xylenes	106	7.907	7.907	(1.031)	182153	38.5697	38.56
17	Methylene Chloride	84	2.306	2.306	(0.550)	85027	27.2759	27.27
87	n-Butylbenzene	91	9.999	9.999	(1.034)	151479	18.6828	18.68
73	n-Propylbenzene	91	8.917	8.917	(0.922)	263580	18.4465	18.44
92	Naphthalene	128	11.546	11.546	(1.194)	17639	22.6139	22.61
63	o-Xylene	106	8.244	8.244	(1.075)	91768	19.6930	19.69
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	197459	17.8344	17.83
64	Styrene	104	8.258	8.258	(1.077)	164562	19.8209	19.82
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	136971	17.6380	17.63
56	Tetrachloroethene	164	6.933	6.933	(0.904)	39355	19.2178	19.21
50	Toluene	91	6.446	6.446	(0.840)	234840	19.4491	19.44
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.605)	54826	20.6265	20.62
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	97134	21.2450	21.24
38	Trichloroethene	130	5.207	5.207	(1.048)	55292	19.6678	19.66
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	81624	19.3228	19.32
5	Vinyl Chloride	62	1.138	1.138	(0.272)	83090	17.4295	17.42

QC Flag Legend

M - Compound response manually integrated.



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Instrument: voa6.i
Operator: PC
Column diameter: 0.18

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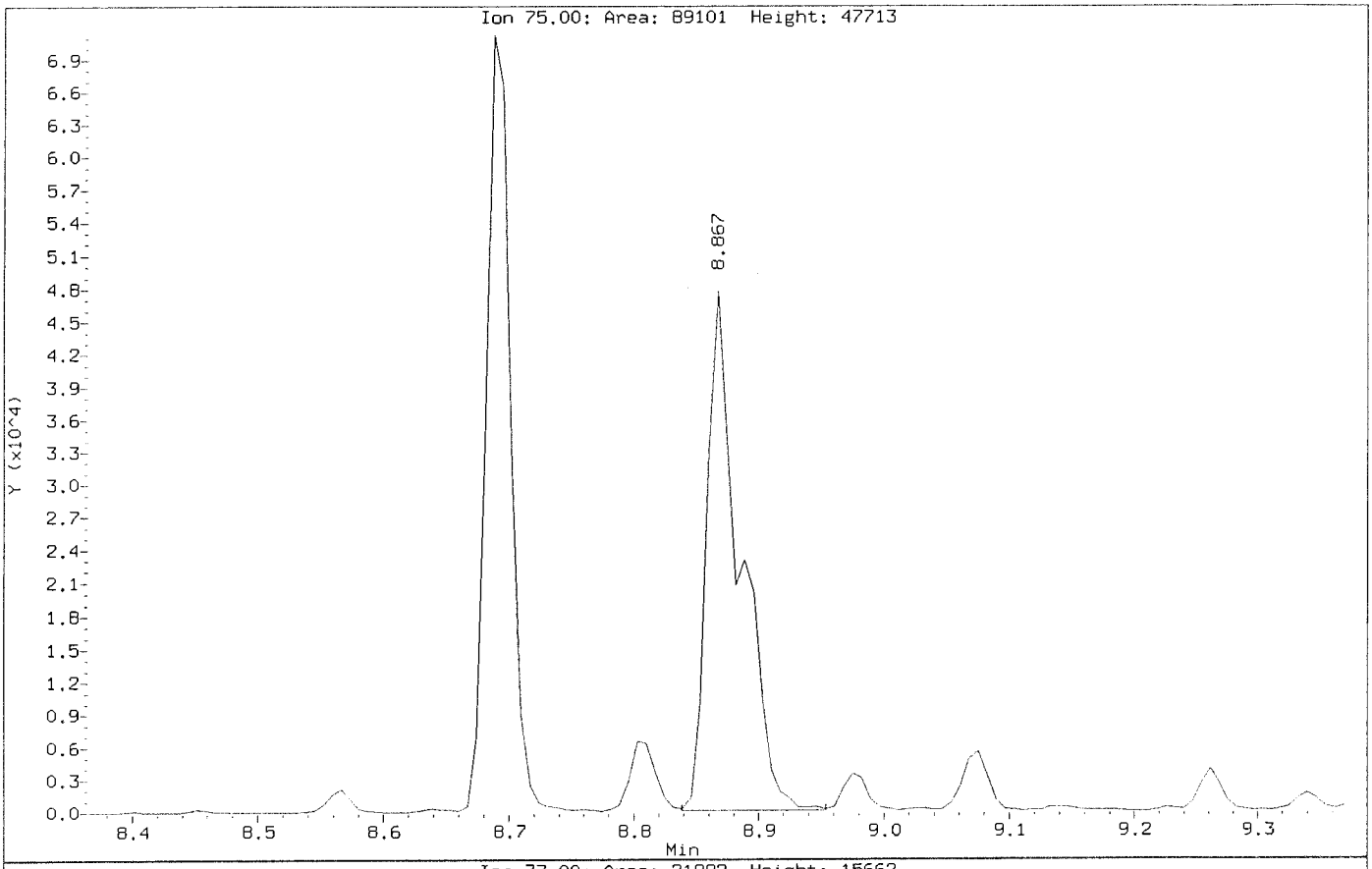
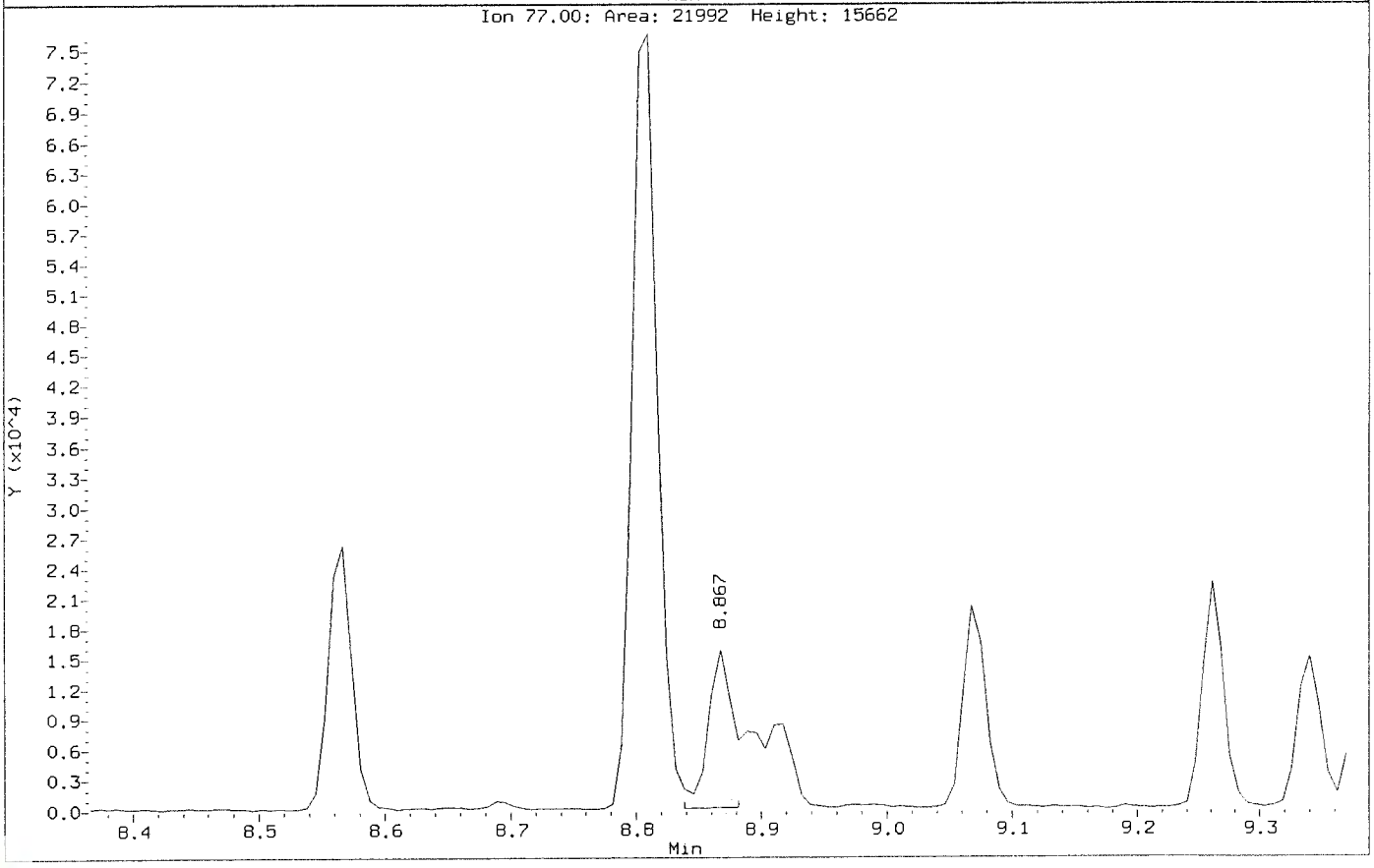
Injection Date: 05-JUN-2020 11:24
Instrument: voa6.i
Client Sample ID: VLCSW-200605

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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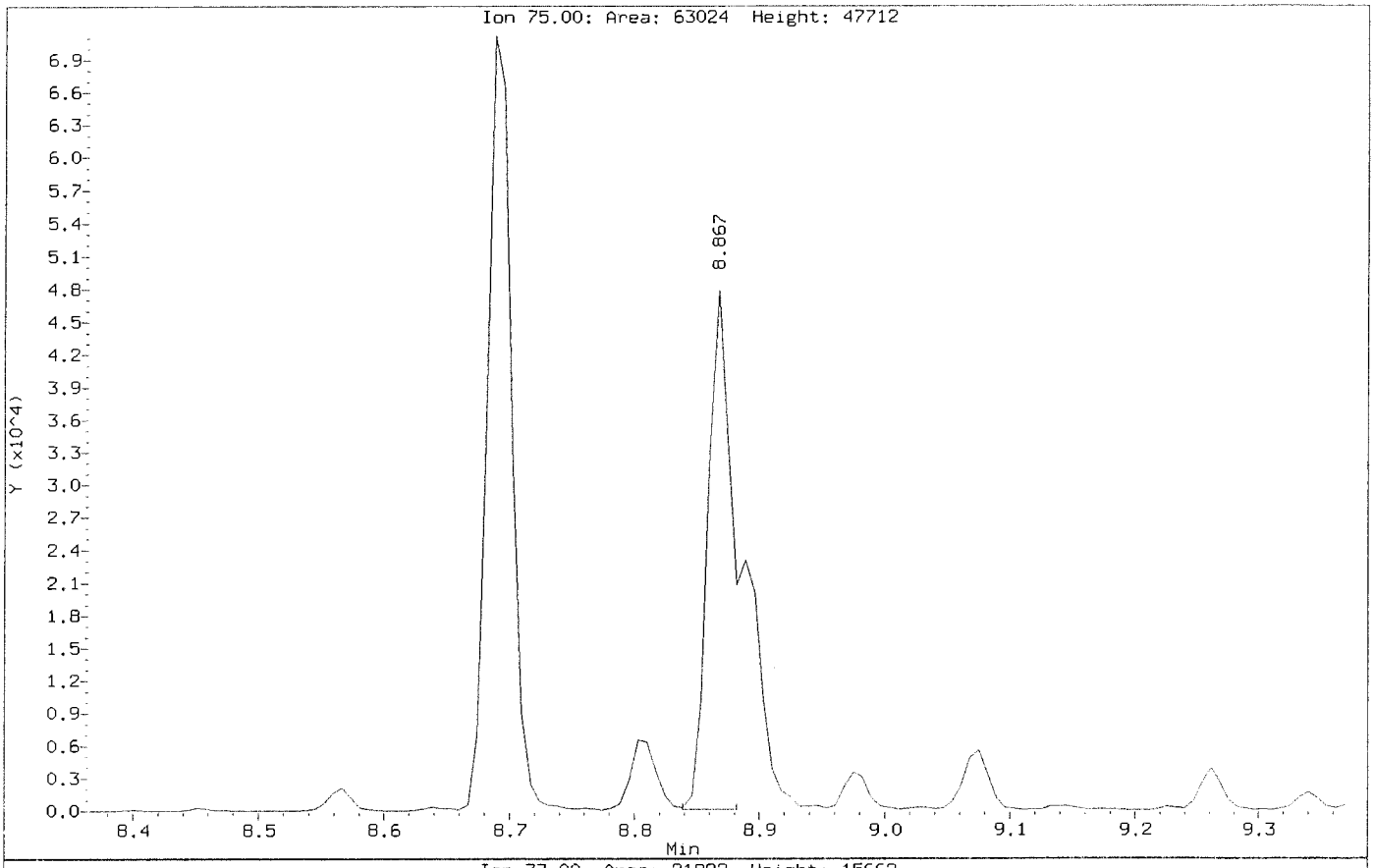
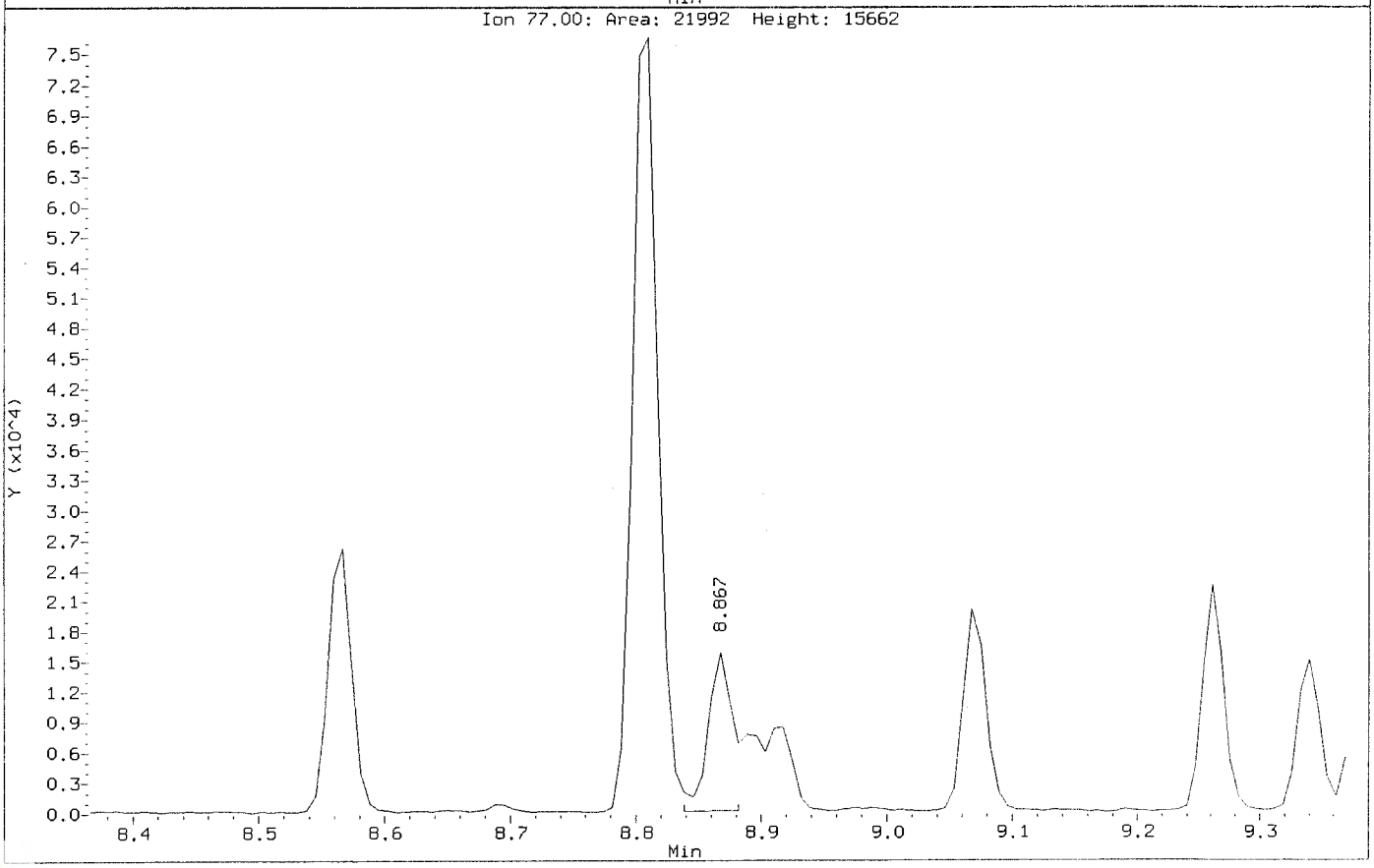
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200605.b\8260W.m
Meth Date : 06-Jul-2020 13:09 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 13:45 Cal File: X060208.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.189	(1.000)	311987	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	514631	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	433054	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	178977	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	172855	45.1204	45.12
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	245575	43.5898	43.58
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	613874	54.1033	54.10
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	216362	50.5939	50.59

00981405

Data File: \\nahstws005\Target\chem\voa6.i\X200605.b\X060507.D

Date : 05-JUN-2020 12:12

Client ID: VBLKW-200605

Instrument: voa6.i

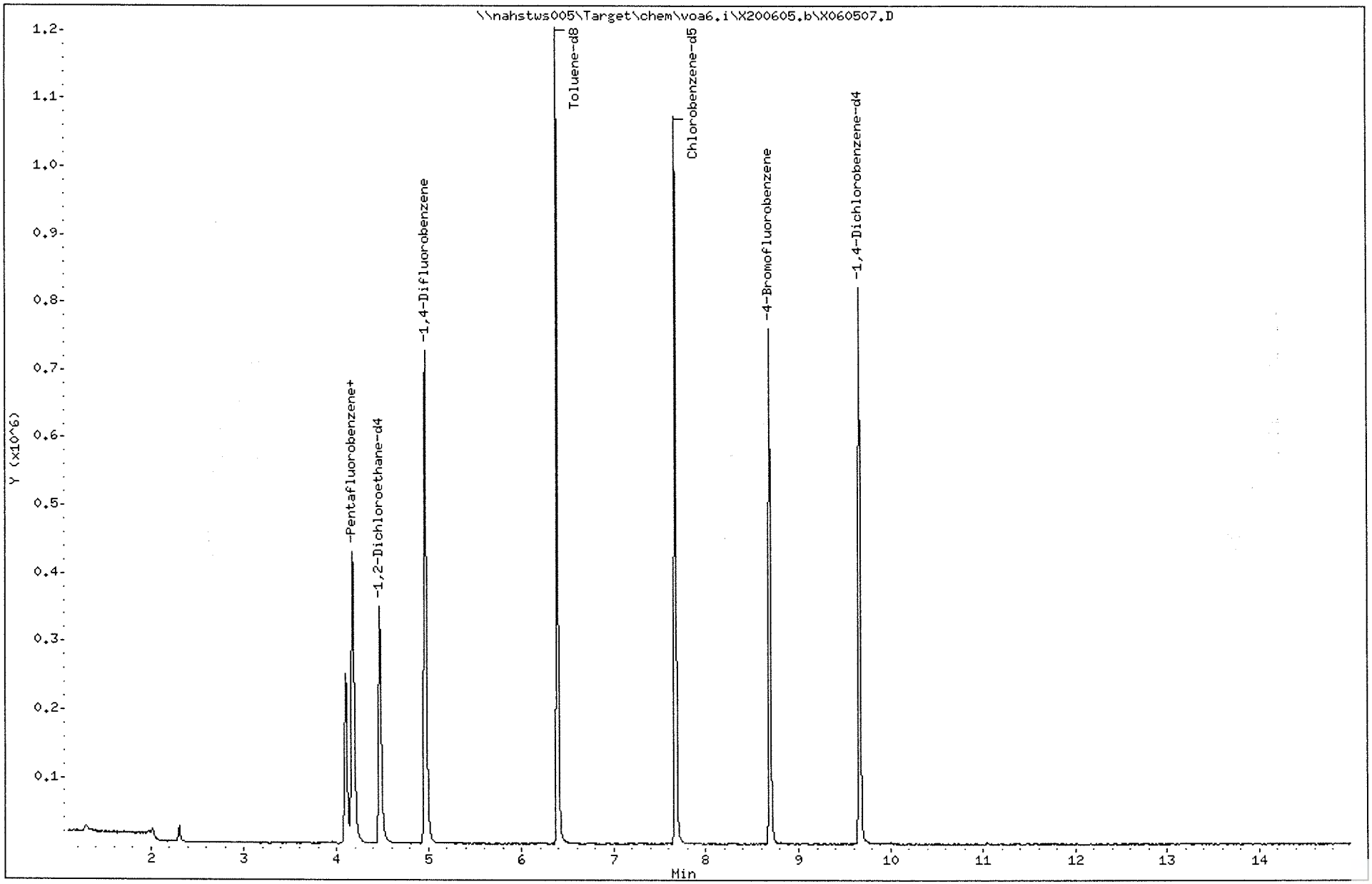
Sample Info: VBLKW-200605;VBLKW-200605;3;;BLANK

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200605.b\X060508.D Page 1
Report Date: 06-Jul-2020 13:08

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200605.b\X060508.D
Lab Smp Id: HS20060114-03 Client Smp ID: HS20060114-03
Inj Date : 05-JUN-2020 12:36
Operator : PC Inst ID: voa6.i
Smp Info : HS20060114-03;HS20060114-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200605.b\8260W.m
Meth Date : 06-Jul-2020 13:06 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 13:45 Cal File: X060208.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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	4.182	4.189	(1.000)	313772	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	518238	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	437811	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	180381	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	171908	44.6110	44.61
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	247266	43.6413	43.64
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	623784	54.3793	54.37
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	218210	50.4698	50.46

Data File: \\nahstws005\Target\chem\voa6.i\X200605.b\X060508.D

Date : 05-JUN-2020 12:36

Client ID: HS20060114-03

Instrument: voa6.i

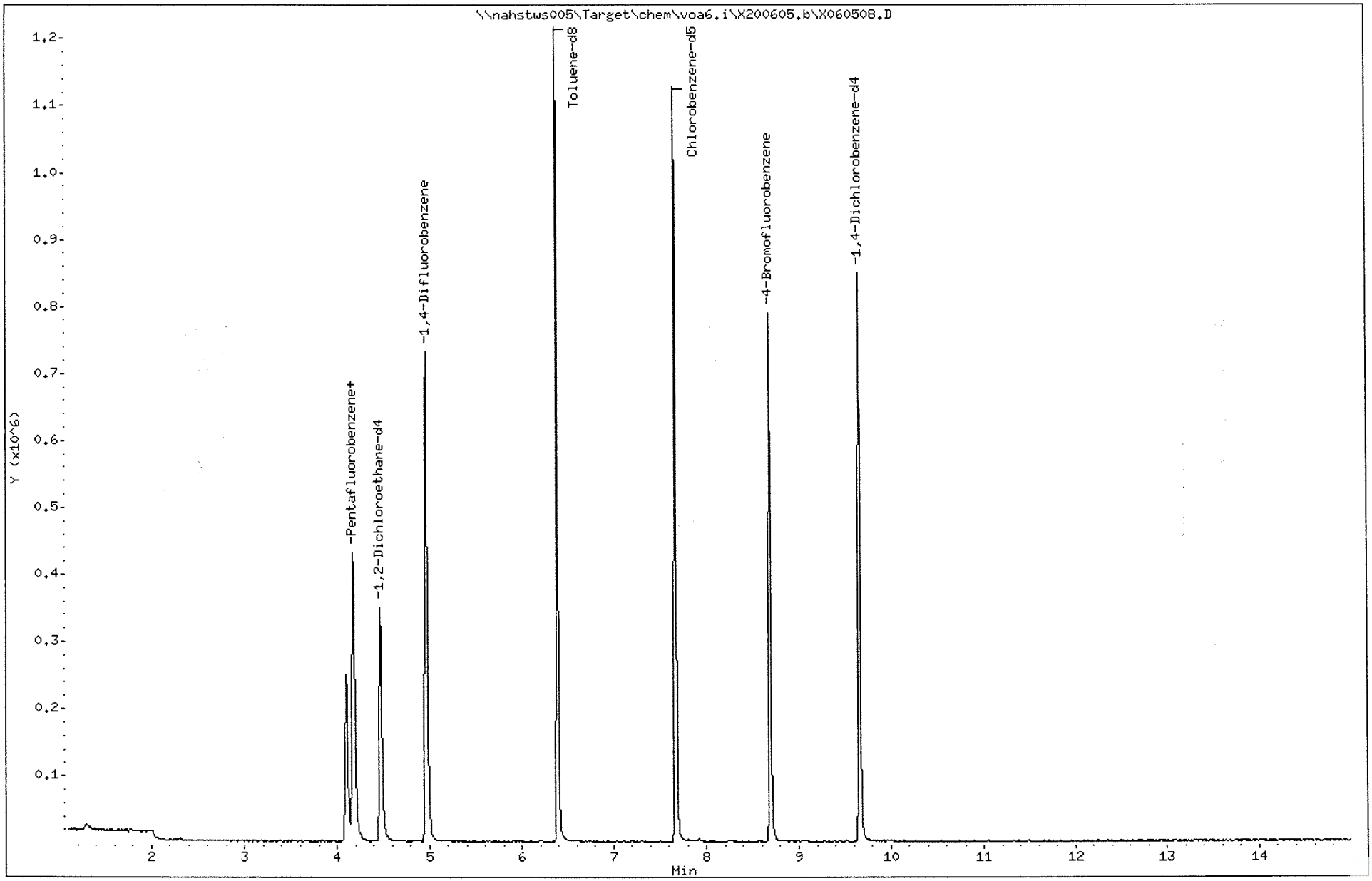
Sample Info: HS20060114-03;HS20060114-03;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



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Data file : \\nahstws005\Target\chem\voa6.i\X200605.b\X060509.D
Lab Smp Id: HS20060114-01 Client Smp ID: HS20060114-01
Inj Date : 05-JUN-2020 13:00
Operator : PC Inst ID: voa6.i
Smp Info : HS20060114-01;HS20060114-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200605.b\8260W.m
Meth Date : 06-Jul-2020 13:06 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 13:45 Cal File: X060208.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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

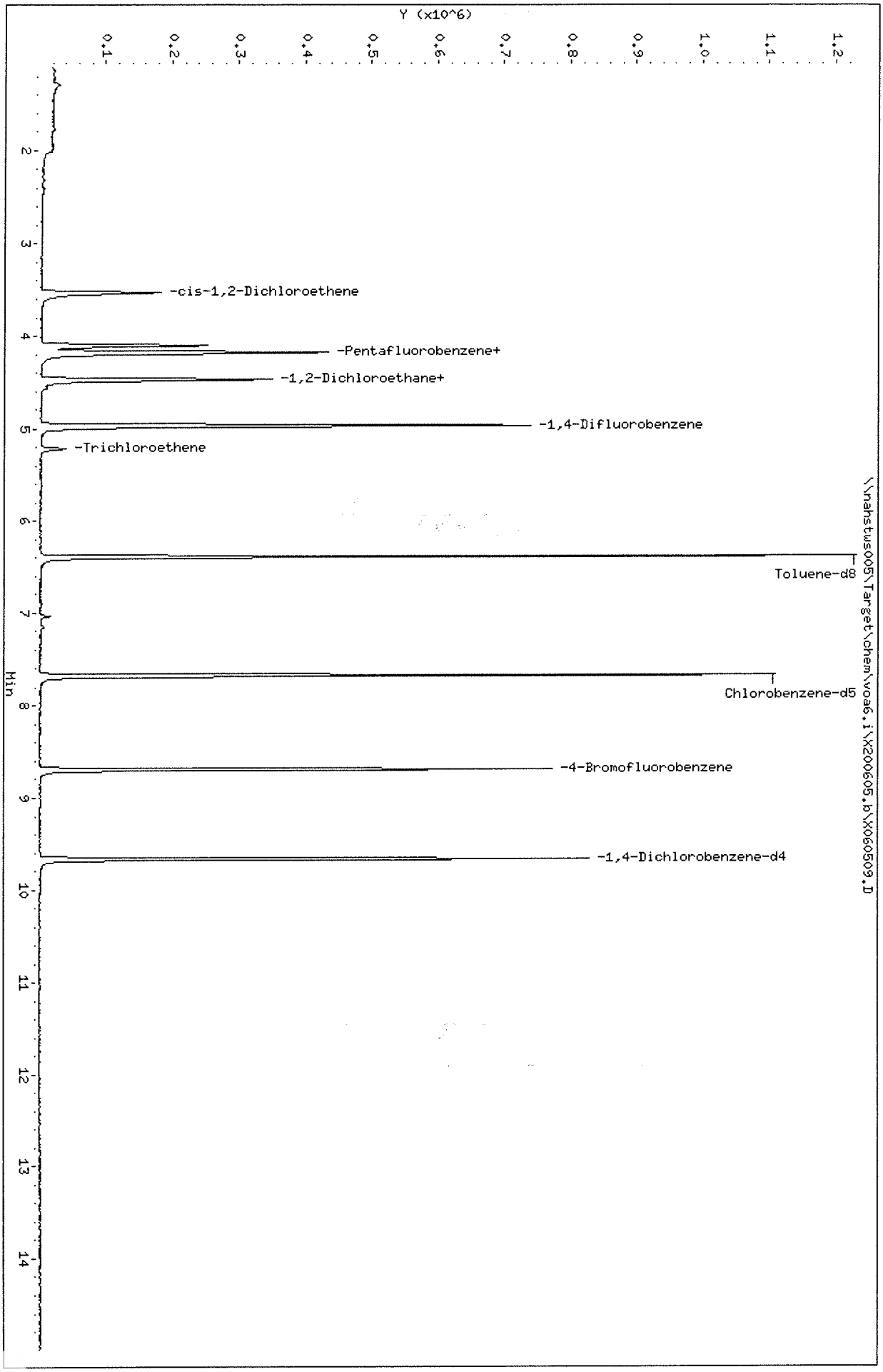
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.189	(1.000)	314901	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	515596	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	434787	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	178678	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	174516	45.1326	45.13
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	247941	43.6028	43.60
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	618350	54.2805	54.28
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	215242	50.1246	50.12
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	5785	0.84386	0.84(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	75388	16.8493	16.84
38 Trichloroethene	130	5.214	5.207	(1.049)	11158	3.19522	3.19(a)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\nahstws005\Target\chem\voa6.i\X200605.b\X060509.D
Date : 05-JUN-2020 13:00
Client ID: HS20060114-01
Sample Info: HS20060114-01,HS20060114-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200605.b\X060509.D

Date : 05-JUN-2020 13:00

Client ID: HS20060114-01

Instrument: voa6.i

Sample Info: HS20060114-01;HS20060114-01;;;

Purge Volume: 5.0

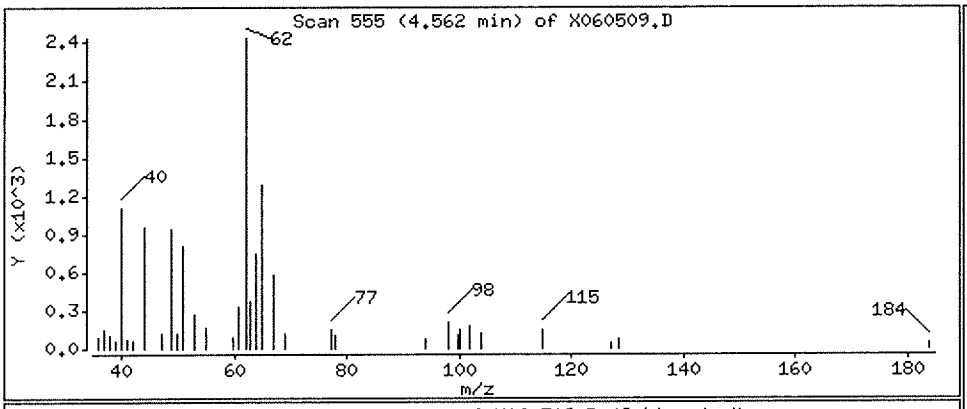
Operator: PC

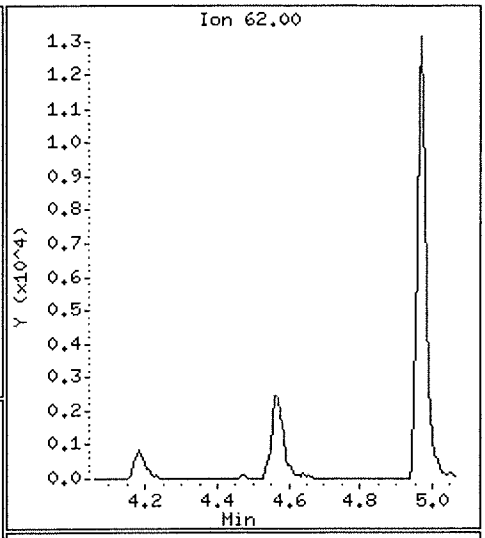
Column phase: DB624

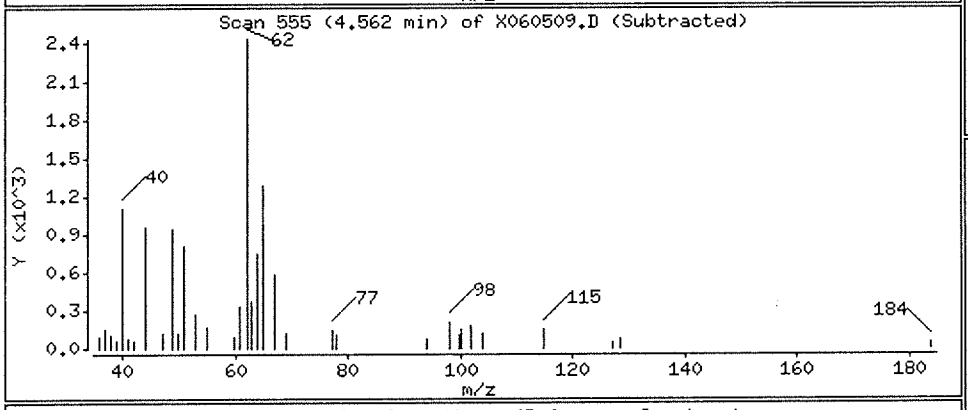
Column diameter: 0.18

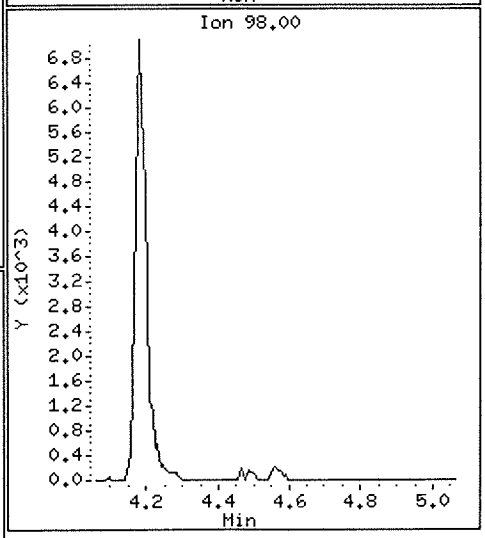
33 1,2-Dichloroethane

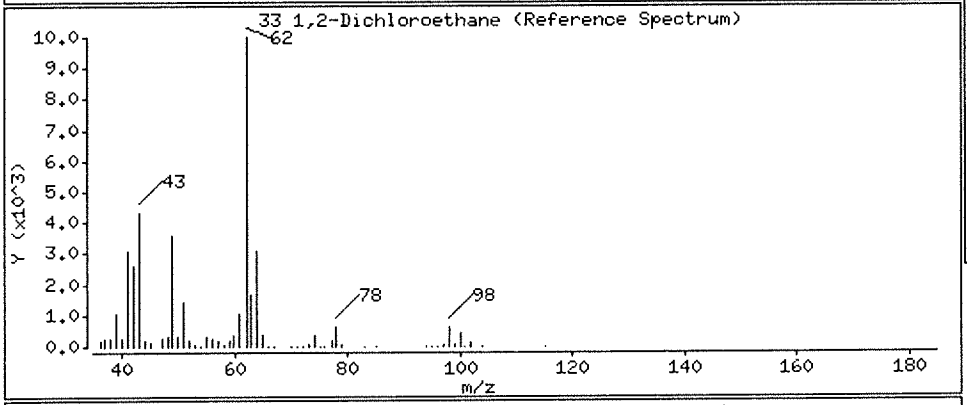
Concentration: 0.84 ug/l

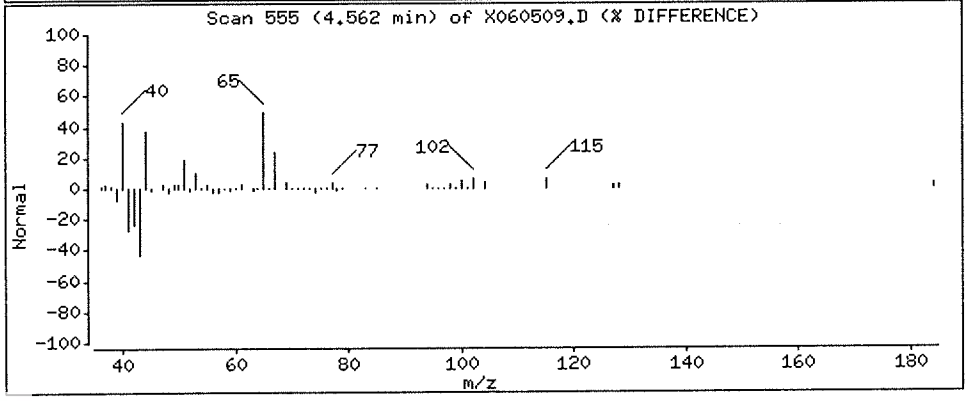












Data File: \\nahstws005\Target\chem\voa6.i\X200605.b\X060509.D

Date : 05-JUN-2020 13:00

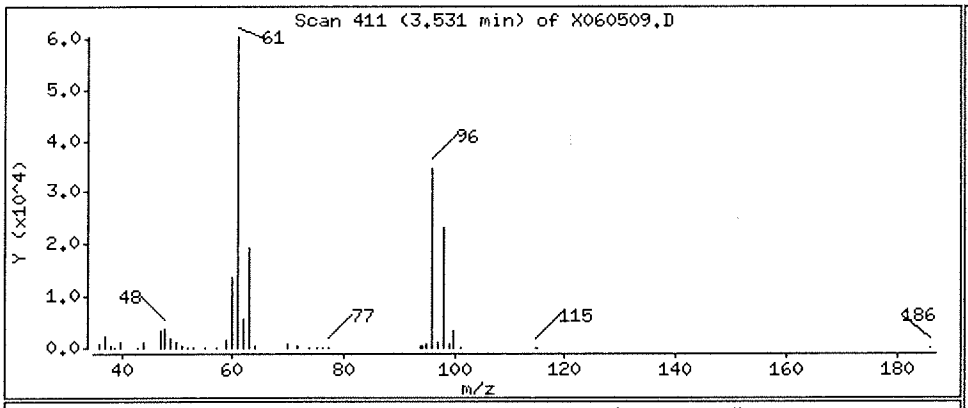
Client ID: HS20060114-01 Instrument: voa6.i

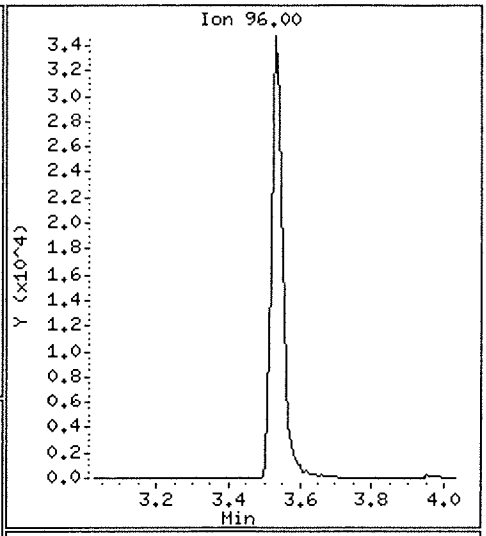
Sample Info: HS20060114-01;HS20060114-01;;;

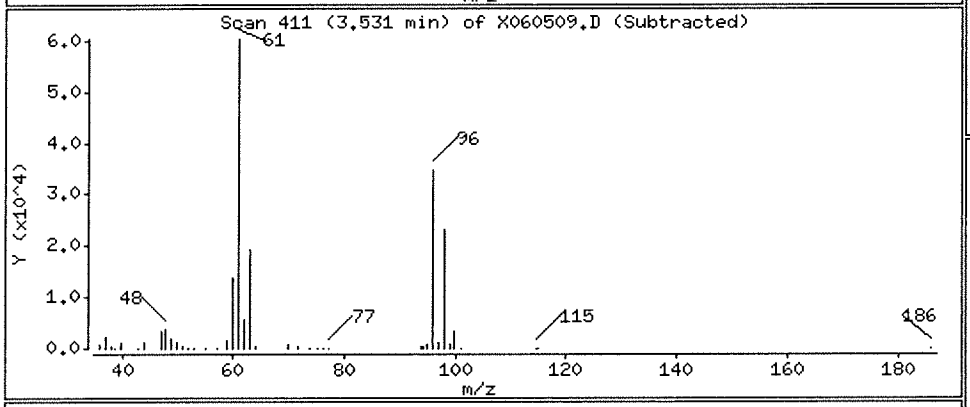
Purge Volume: 5.0 Operator: PC

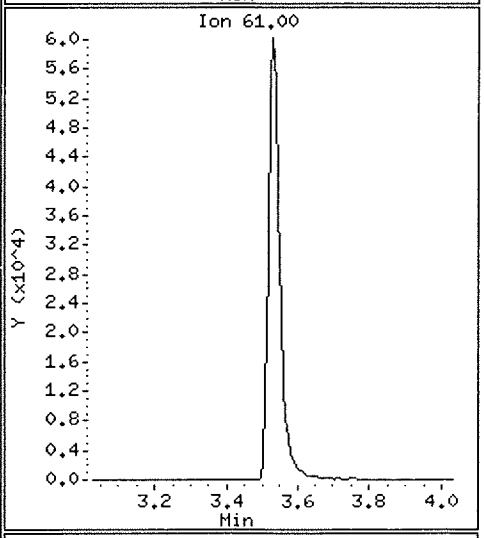
Column phase: DB624 Column diameter: 0.18

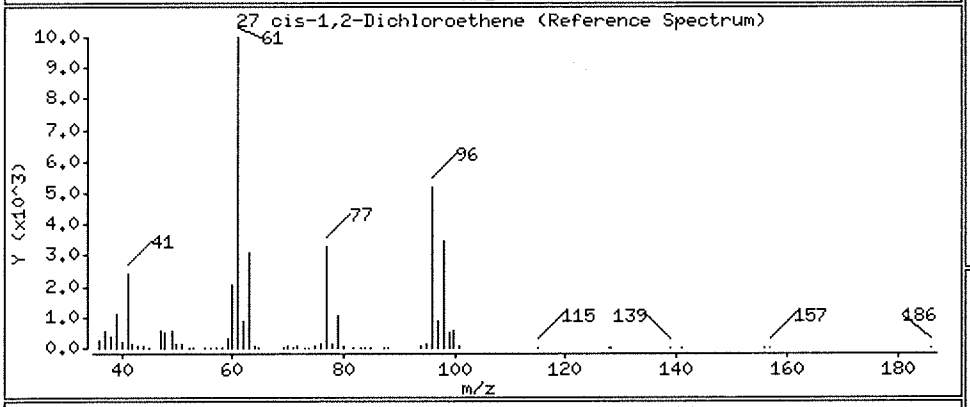
27 cis-1,2-Dichloroethene Concentration: 16.84 ug/l

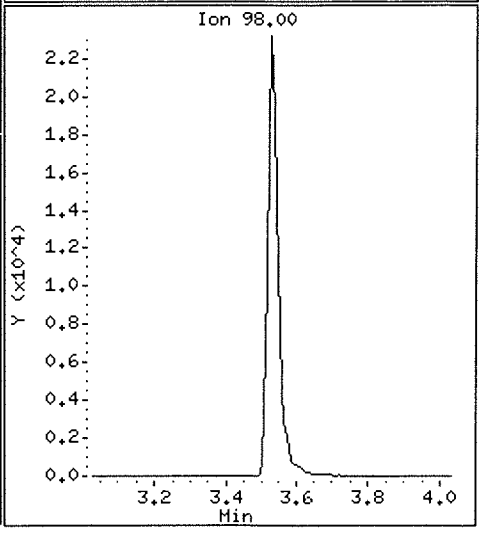


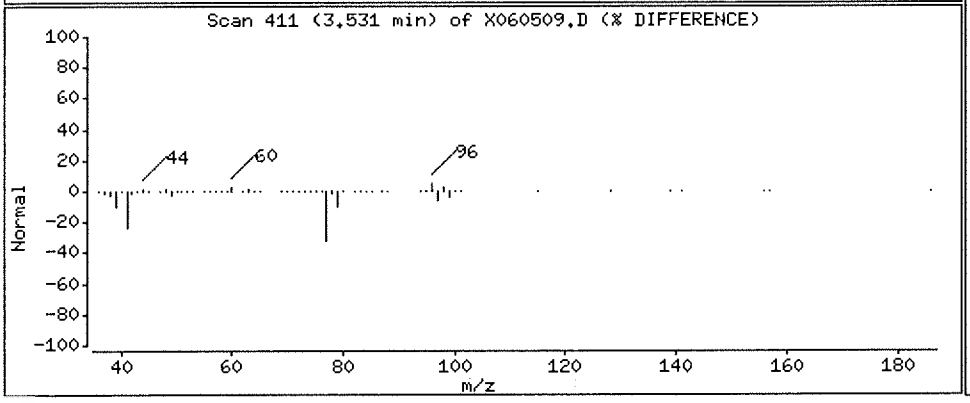












Data File: \\nahstws005\Target\chem\voa6.i\X200605.b\X060509.D

Date : 05-JUN-2020 13:00

Client ID: HS20060114-01

Instrument: voa6.i

Sample Info: HS20060114-01;HS20060114-01;;;

Purge Volume: 5.0

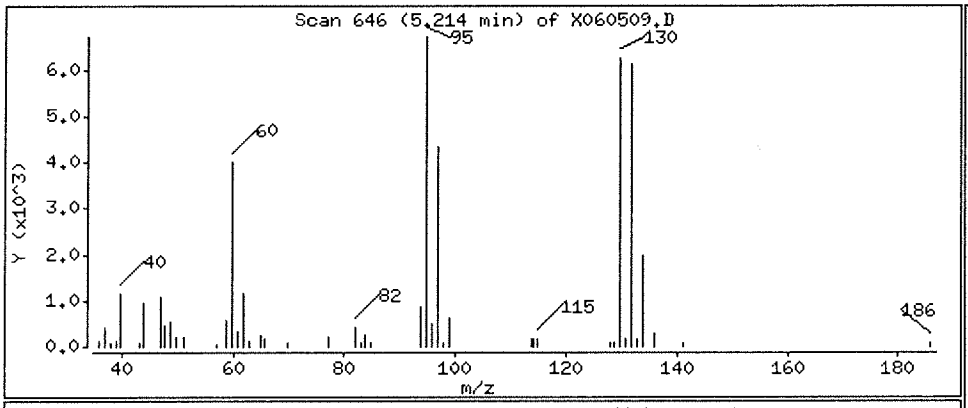
Operator: PC

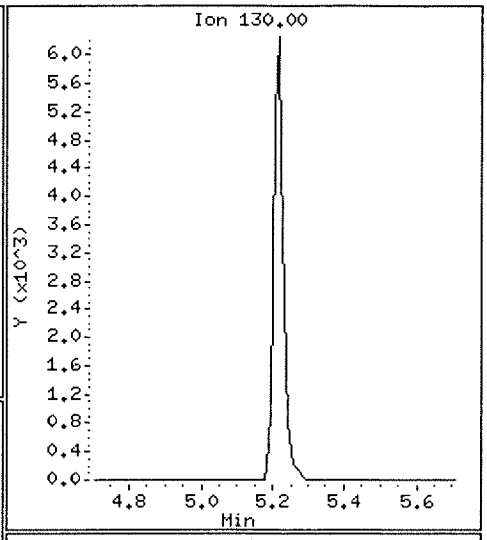
Column phase: DB624

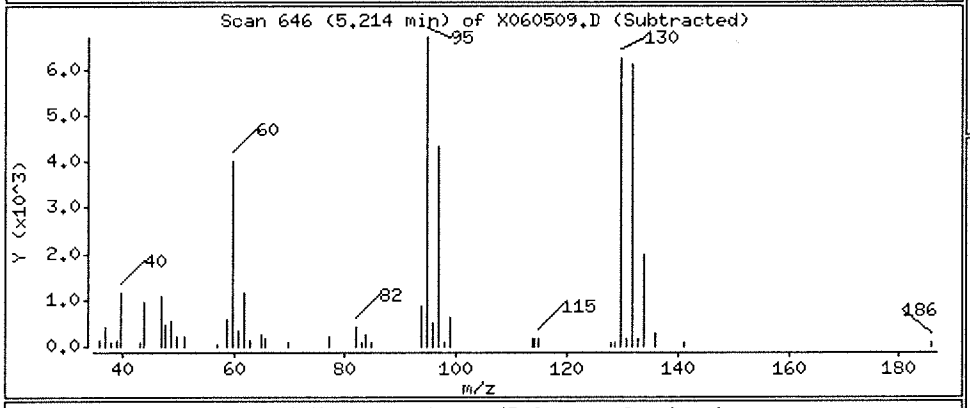
Column diameter: 0.18

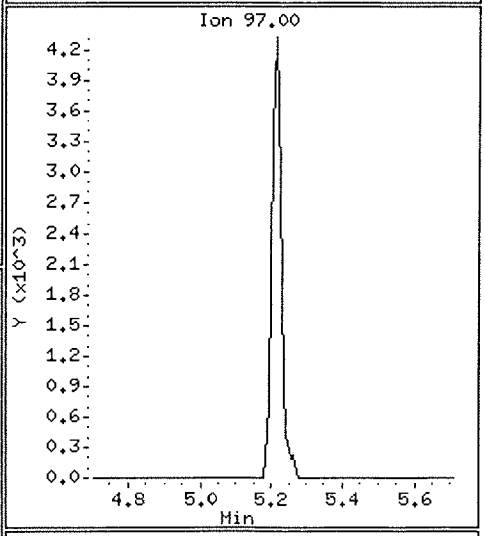
38 Trichloroethene

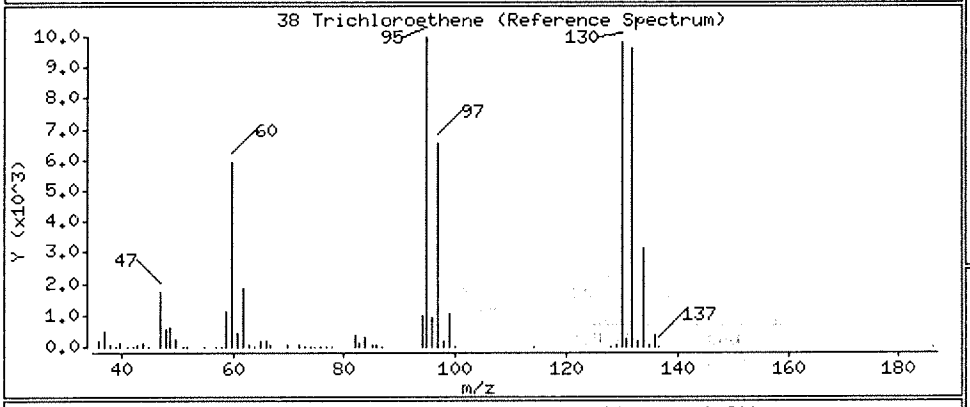
Concentration: 3.19 ug/l

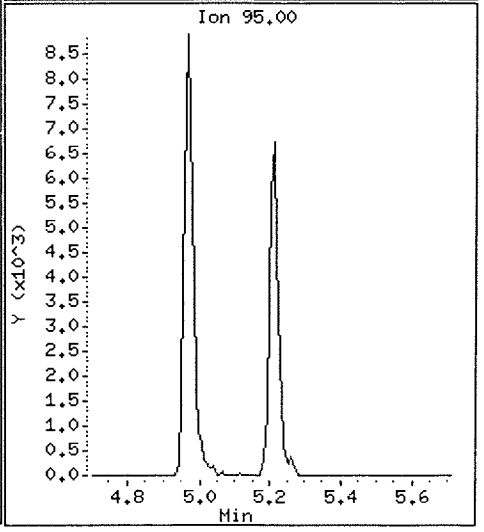


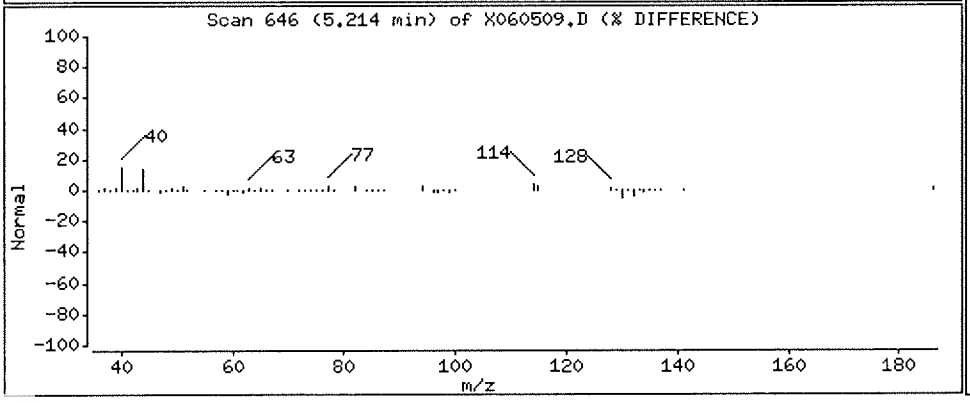












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Data file : \\nahstws005\Target\chem\voa6.i\X200605.b\X060516.D
Lab Smp Id: HS20060114-01MS Client Smp ID: HS20060114-01MS
Inj Date : 05-JUN-2020 15:49
Operator : PC Inst ID: voa6.i
Smp Info : HS20060114-01MS;HS20060114-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200605.b\8260W.m
Meth Date : 06-Jul-2020 13:09 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 13:45 Cal File: X060208.D
Als bottle: 16 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

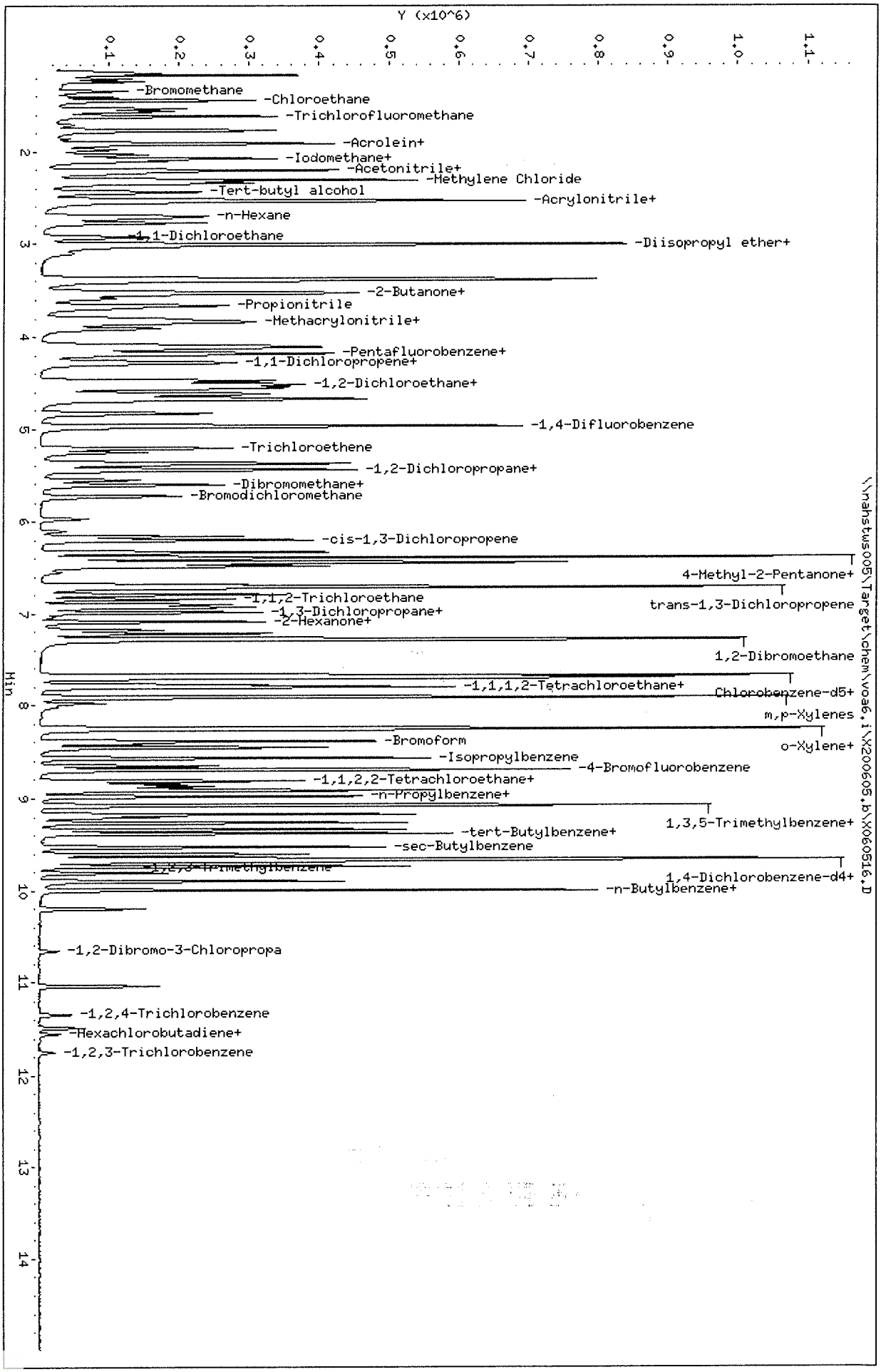
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.189	(1.000)	297624	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	484107	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	415480	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	182850	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	164162	44.9164	44.91
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	232229	43.2021	43.20
$	48 Toluene-d8	98	6.388	6.388	(0.833)	582780	53.5354	53.53
$	69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	208423	50.8020	50.80
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	66666	22.3581	22.35
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	109874	19.1639	19.16
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.838	(0.915)	81518	22.3097	22.30
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	59190	22.3908	22.39
	22 1,1-Dichloroethane	63	2.929	2.922	(0.700)	166747	18.1158	18.11
	11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	56960	18.6765	18.67
	32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	92012	20.1367	20.13
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	5518	25.1544	25.15
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	71639	21.2541	21.25(M)
	90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.173)	11268	22.8964	22.89
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	235942	21.9352	21.93
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	4742	23.8936	23.89
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	72254	22.6732	22.67
	88 1,2-Dichlorobenzene	146	9.999	9.991	(1.034)	108352	22.2212	22.22
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	139048	21.6023	21.60

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	96347	21.1002	21.10
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	225983	21.2695	21.26
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	122158	21.3511	21.35
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	120936	21.6477	21.64
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	122862	21.1495	21.14
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	106462	17.8490	17.84
24	2-Butanone	43	3.580	3.581	(0.856)	118522	34.3246	34.32
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	205653	21.0527	21.05
52	2-Hexanone	43	7.090	7.090	(0.924)	194530	46.5616	46.56
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	238882	21.1187	21.11
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	220245	22.6131	22.61
45	4-Methyl-2-Pentanone	43	6.331	6.324	(0.825)	285696	46.1851	46.18
10	Acetone	43	1.976	1.976	(0.473)	84629	29.5656	29.56
37	Benzene	78	4.519	4.519	(0.909)	283155	20.4229	20.42
74	Bromobenzene	156	8.810	8.810	(0.911)	76719	21.4460	21.44
29	Bromochloromethane	128	3.803	3.795	(0.909)	37830	18.0566	18.05
39	Bromodichloromethane	83	5.729	5.729	(1.153)	102390	20.5000	20.49
66	Bromoform	173	8.416	8.416	(1.097)	47126	22.6828	22.68
6	Bromomethane	94	1.338	1.339	(0.320)	48505	17.2468	17.24
19	Carbon Disulfide	76	2.069	2.069	(0.495)	371054	37.7925	37.79
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	89447	20.4344	20.43
59	Chlorobenzene	112	7.699	7.699	(1.004)	175783	21.4587	21.45
7	Chloroethane	64	1.403	1.403	(0.336)	54868	17.2952	17.29
28	Chloroform	83	3.910	3.910	(0.935)	134549	18.4355	18.43
3	Chloromethane	50	1.081	1.081	(0.258)	108768	14.8582	14.85
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	149263	35.2971	35.29
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	122243	20.7064	20.70
55	Dibromochloromethane	129	7.176	7.176	(0.936)	70610	21.3311	21.33
44	Dibromomethane	93	5.557	5.558	(1.118)	51096	20.7782	20.77
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	41298	11.6536	11.65
61	Ethylbenzene	106	7.800	7.800	(1.017)	94152	22.3376	22.33
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	9305	25.3898	25.38
67	Isopropylbenzene	105	8.566	8.566	(1.117)	278930	22.3305	22.33
62	m,p-Xylenes	106	7.907	7.907	(1.031)	224243	44.1122	44.11
17	Methylene Chloride	84	2.305	2.306	(0.551)	76353	18.3174	18.31
87	n-Butylbenzene	91	9.999	9.999	(1.034)	202680	23.3558	23.35
73	n-Propylbenzene	91	8.917	8.917	(0.922)	335242	21.9208	21.92
92	Naphthalene	128	11.546	11.546	(1.194)	19954	23.8489	23.84
63	o-Xylene	106	8.244	8.244	(1.075)	111616	22.2524	22.25
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	261958	22.1058	22.10
64	Styrene	104	8.265	8.258	(1.078)	193371	21.6379	21.63
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	182497	21.9570	21.95
56	Tetrachloroethene	164	6.933	6.933	(0.904)	51446	23.3392	23.33
50	Toluene	91	6.446	6.446	(0.840)	284573	21.8953	21.89
20	trans-1,2-Dichloroethene	96	2.528	2.535	(0.604)	65221	18.6964	18.69
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	110054	20.6386	20.63
38	Trichloroethene	130	5.214	5.207	(1.049)	80687	24.6086	24.60
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	107258	19.3469	19.34
5	Vinyl Chloride	62	1.138	1.138	(0.272)	97280	15.5485	15.54

QC Flag Legend

M - Compound response manually integrated.



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Sample Info: HS20060114-01MS;HS20060114-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

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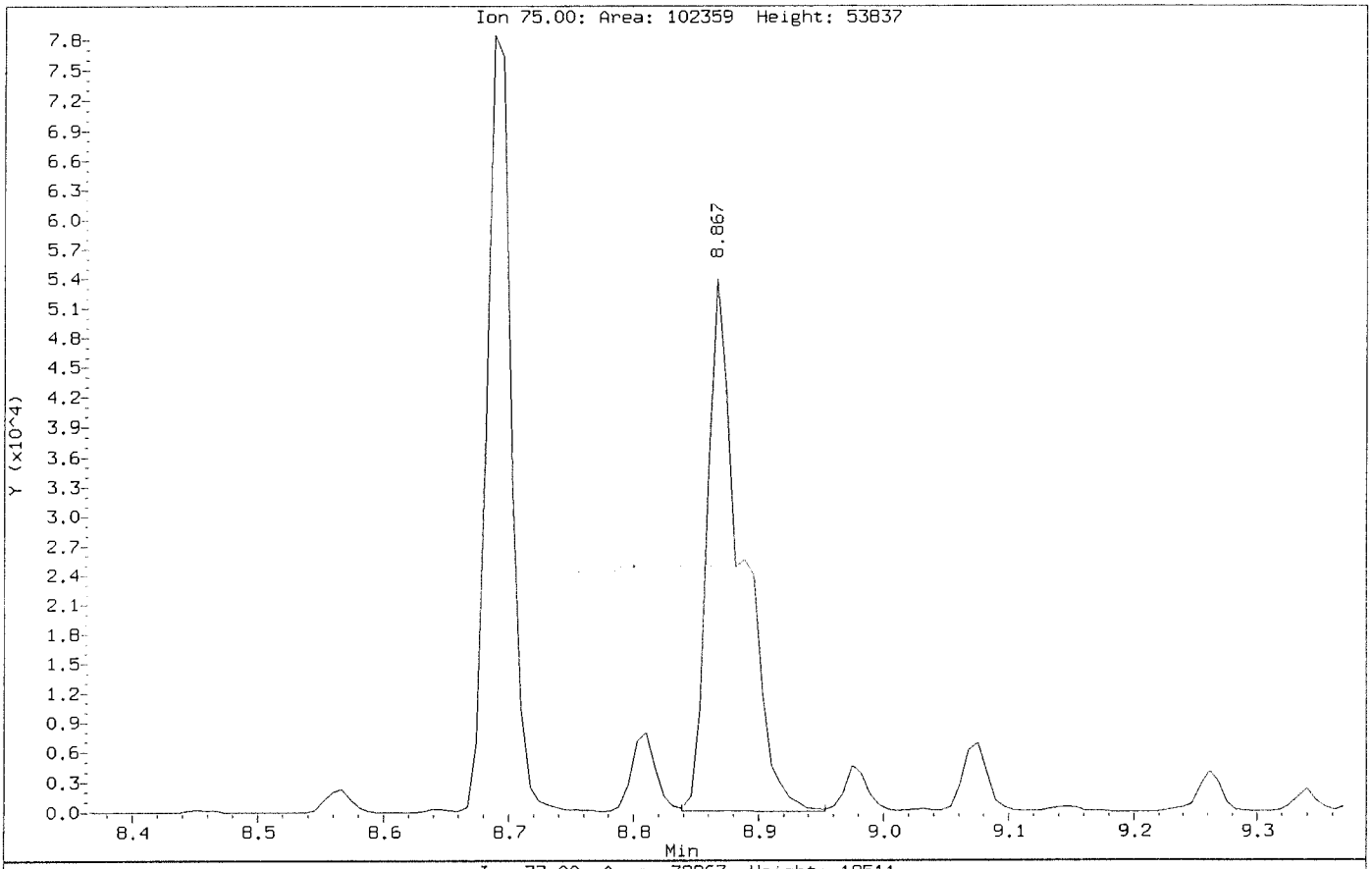
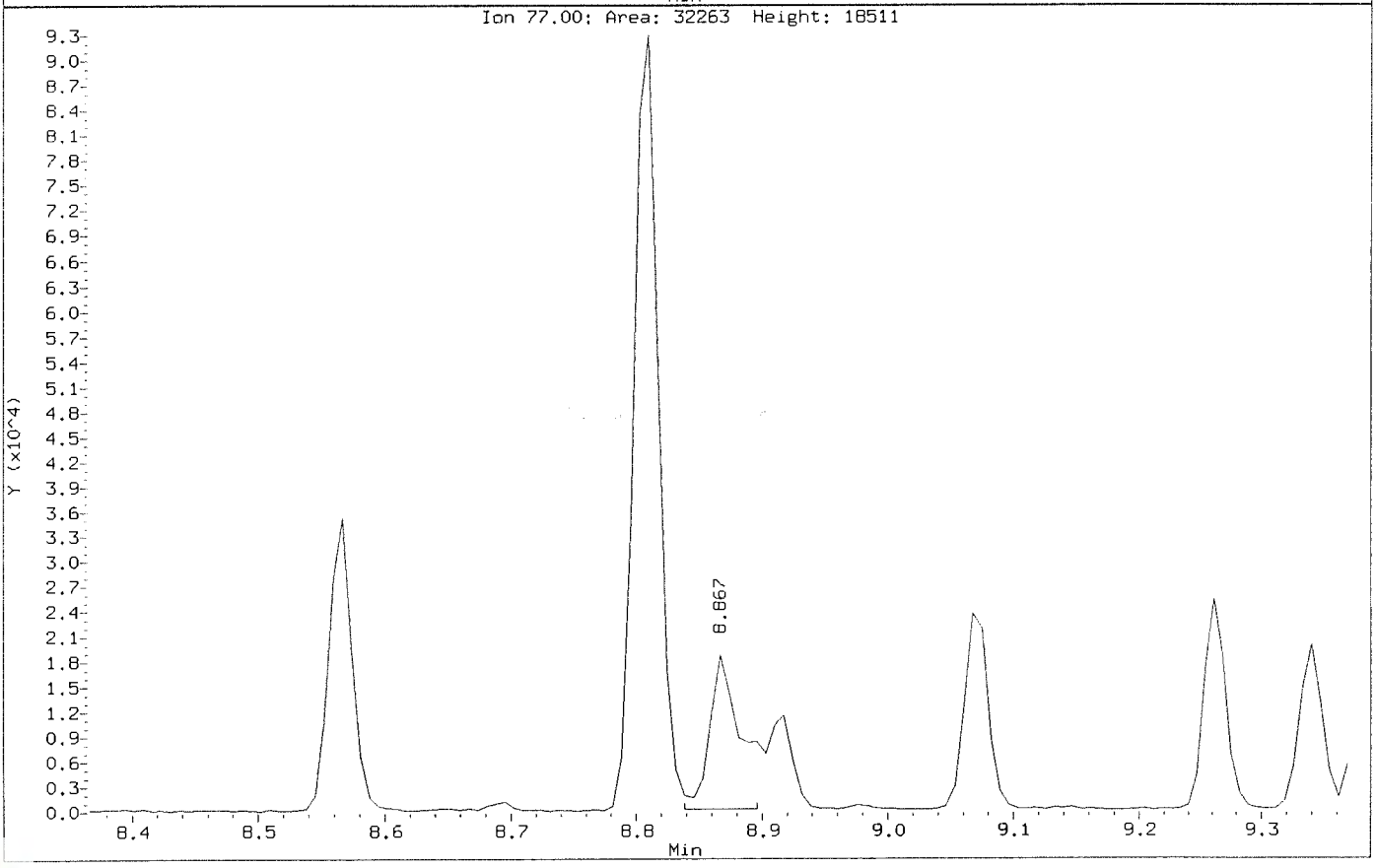
Injection Date: 05-JUN-2020 15:49
Instrument: voa6.i
Client Sample ID: HS20060114-01MS

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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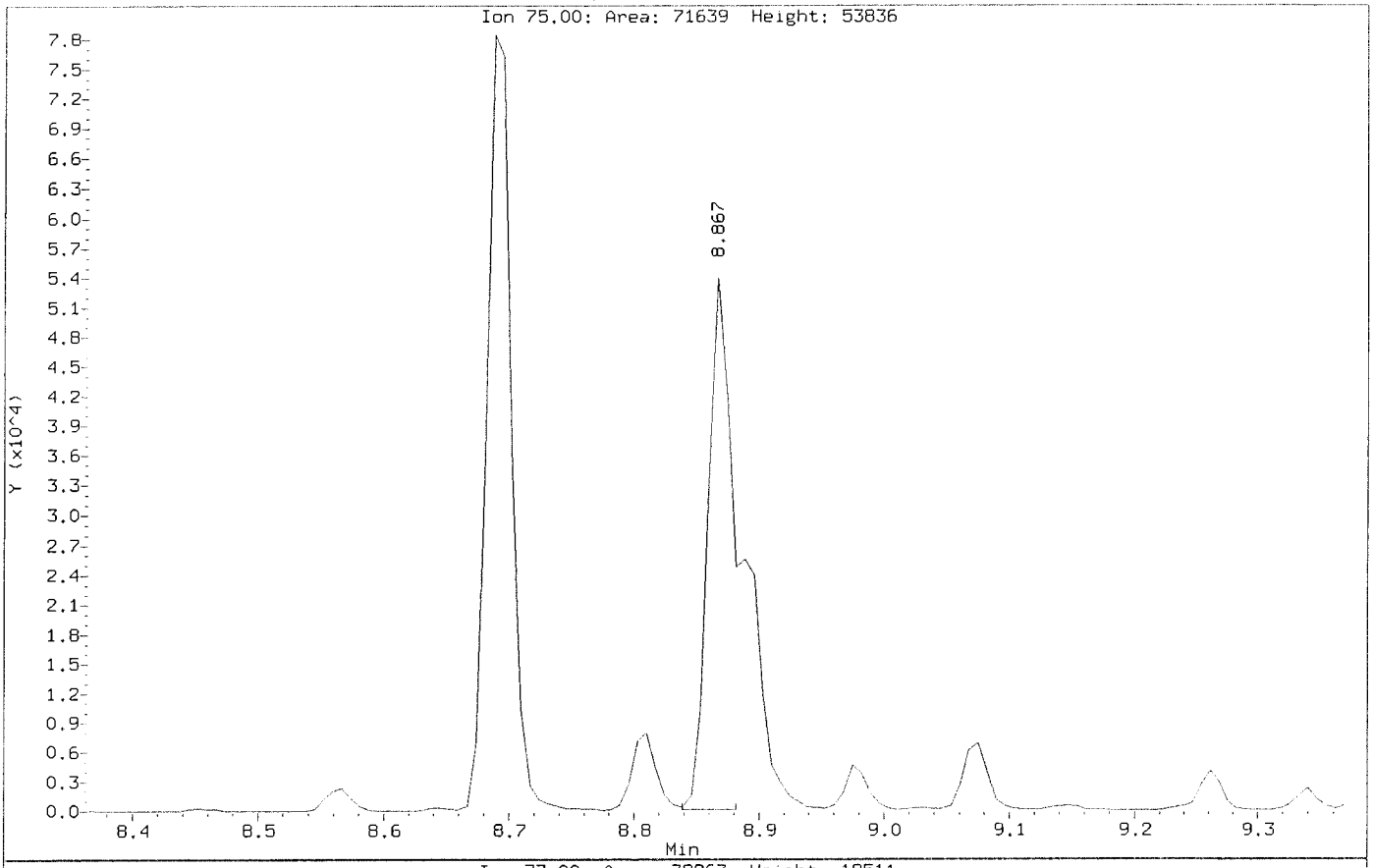
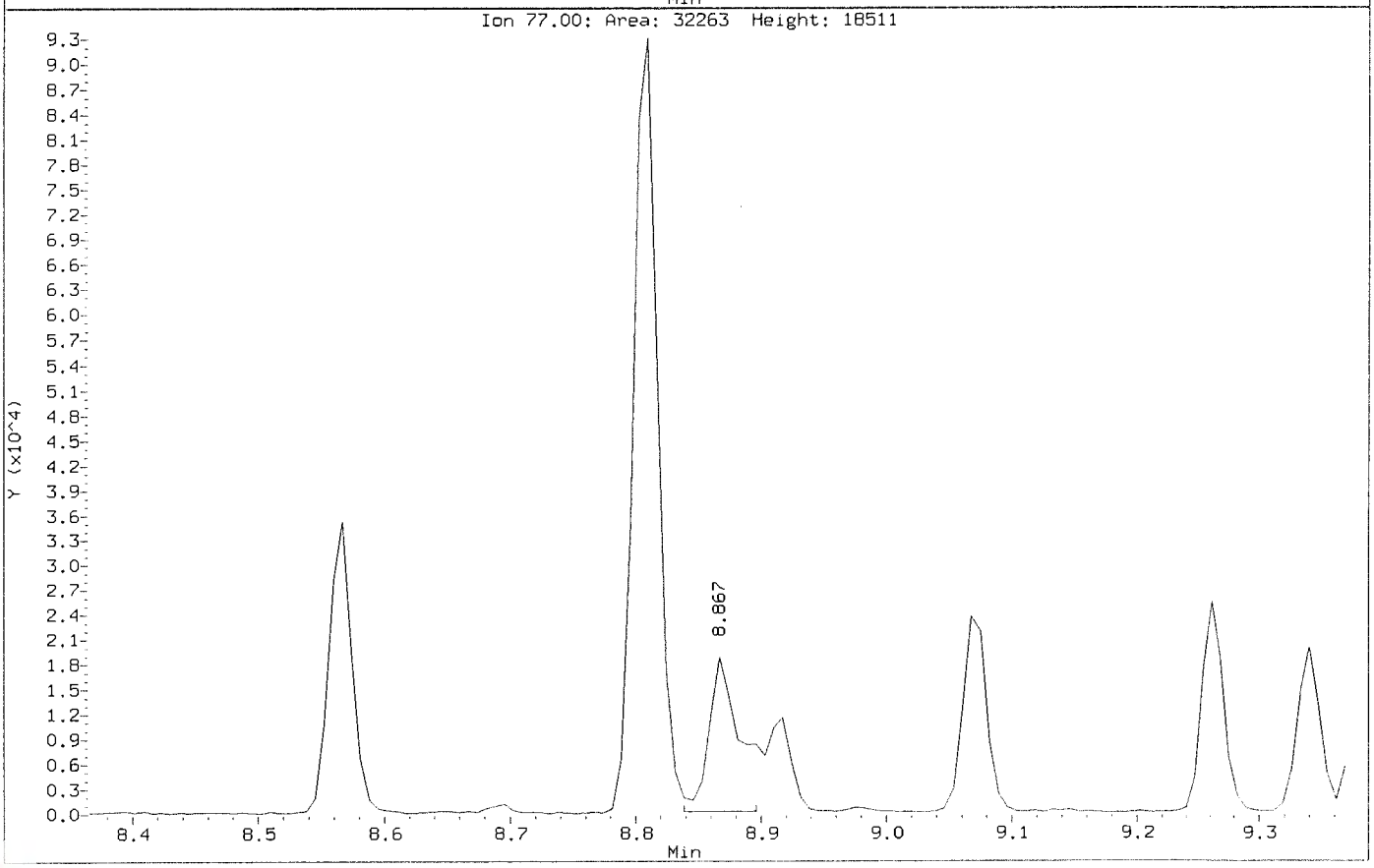
Client Sample ID: HS20060114-01MS

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200605.b\X060517.D
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Inj Date : 05-JUN-2020 16:13
Operator : PC Inst ID: voa6.i
Smp Info : HS20060114-01MSD;HS20060114-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200605.b\8260W.m
Meth Date : 06-Jul-2020 13:09 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 13:45 Cal File: X060208.D
Als bottle: 16 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

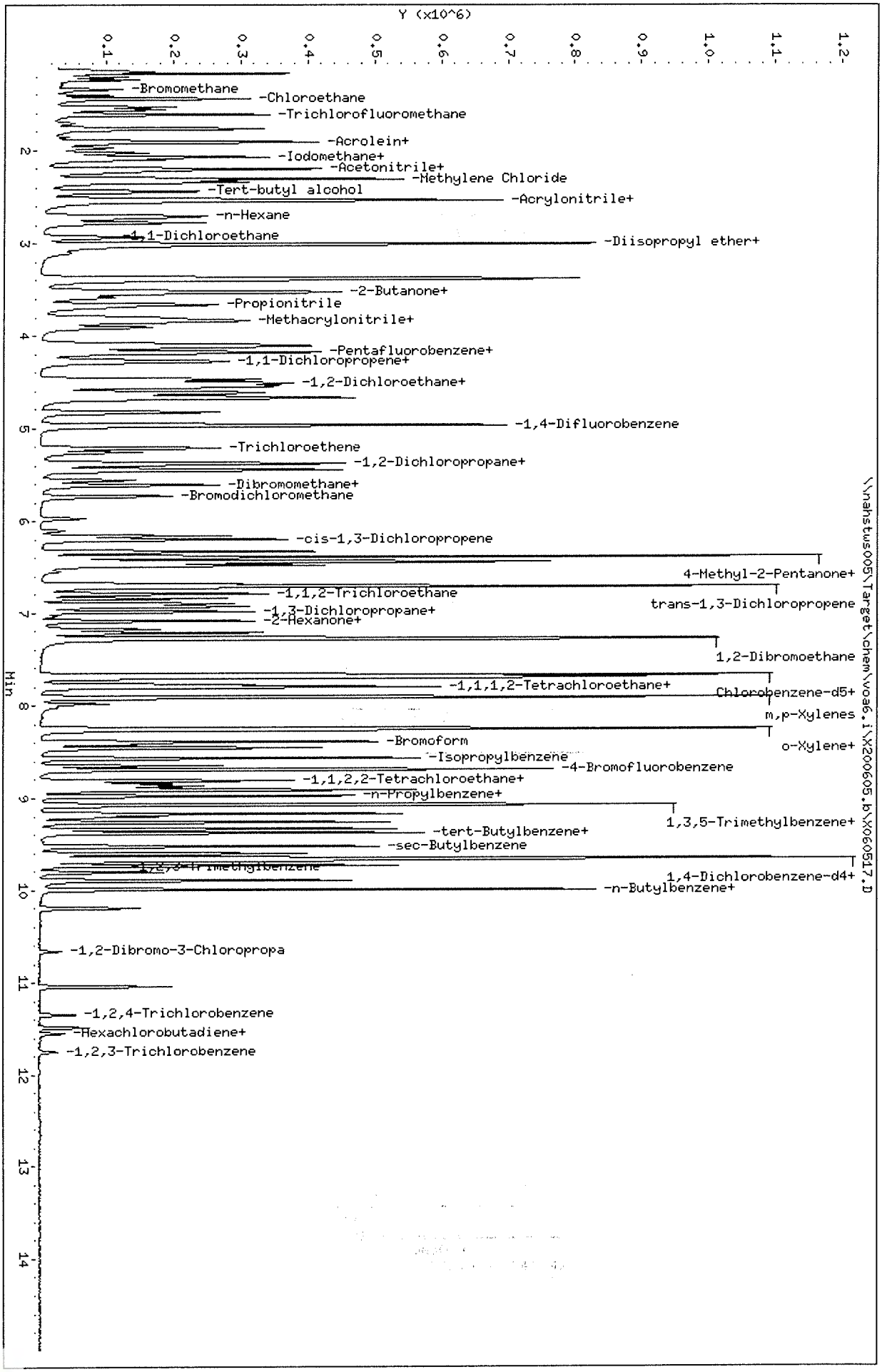
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.189	(1.000)	294457	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	484476	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	429953	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	188936	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	162706	44.9980	44.99
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	226376	42.5527	42.55
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	585723	51.9945	51.99
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	214162	50.4384	50.43
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	65277	21.1553	21.15
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	110044	19.3999	19.39
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	79303	21.0044	21.00
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	57766	21.1165	21.11
22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	166264	18.2576	18.25
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	54874	18.1860	18.18
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	95707	20.9294	20.92
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	7120	31.0269	31.02
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	73181	21.0122	21.01(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	14859	28.5913	28.59
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	242131	21.7855	21.78
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	4965	24.2039	24.20
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	69773	21.1576	21.15
88 1,2-Dichlorobenzene	146	9.999	9.991	(1.035)	109271	21.6878	21.68
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	133892	20.7854	20.78

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	95328	20.8611	20.86
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	235143	21.4187	21.41
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	123833	20.9466	20.94
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	120763	20.8891	20.88
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	125290	20.8727	20.87
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	108767	18.4316	18.43
24	2-Butanone	43	3.580	3.581	(0.856)	117729	34.4617	34.46
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	205916	20.4006	20.40
52	2-Hexanone	43	7.090	7.090	(0.924)	197042	45.5753	45.57
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	239015	20.4498	20.44
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	227533	22.6088	22.60
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	287021	44.8374	44.83
10	Acetone	43	1.976	1.976	(0.473)	84313	29.8266	29.82
37	Benzene	78	4.519	4.519	(0.909)	284727	20.5207	20.52
74	Bromobenzene	156	8.809	8.810	(0.912)	75801	20.5068	20.50
29	Bromochloromethane	128	3.802	3.795	(0.909)	37666	18.1716	18.17
39	Bromodichloromethane	83	5.729	5.729	(1.153)	101475	20.3013	20.30
66	Bromoform	173	8.415	8.416	(1.097)	47671	22.1727	22.17
6	Bromomethane	94	1.338	1.339	(0.320)	45493	16.2960	16.29
19	Carbon Disulfide	76	2.069	2.069	(0.495)	371767	38.2723	38.27
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	89917	20.5261	20.52
59	Chlorobenzene	112	7.699	7.699	(1.004)	175676	20.7238	20.72
7	Chloroethane	64	1.403	1.403	(0.336)	54809	17.4624	17.46
28	Chloroform	83	3.910	3.910	(0.935)	131705	18.2400	18.23
3	Chloromethane	50	1.081	1.081	(0.258)	105767	14.6036	14.60
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	147910	35.3533	35.35
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	118990	20.1401	20.14
55	Dibromochloromethane	129	7.176	7.176	(0.936)	71216	20.7900	20.78
44	Dibromomethane	93	5.557	5.558	(1.118)	49998	20.3162	20.31
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	41626	11.8725	11.87
61	Ethylbenzene	106	7.799	7.800	(1.017)	95637	21.9262	21.92
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	10852	28.3859	28.38
67	Isopropylbenzene	105	8.566	8.566	(1.117)	284312	21.9952	21.99
62	m,p-Xylenes	106	7.907	7.907	(1.031)	225620	42.8891	42.88
17	Methylene Chloride	84	2.305	2.306	(0.551)	76881	18.6618	18.66
87	n-Butylbenzene	91	9.999	9.999	(1.035)	212926	23.7461	23.74
73	n-Propylbenzene	91	8.917	8.917	(0.923)	343173	21.7165	21.71
92	Naphthalene	128	11.546	11.546	(1.195)	25167	28.8829	28.88
63	o-Xylene	106	8.244	8.244	(1.075)	110424	21.2737	21.27
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	274390	22.4091	22.40
64	Styrene	104	8.265	8.258	(1.078)	195073	21.0935	21.09
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	188178	21.9112	21.91
56	Tetrachloroethene	164	6.933	6.933	(0.904)	51828	22.7210	22.72
50	Toluene	91	6.446	6.446	(0.840)	285313	21.2133	21.21
20	trans-1,2-Dichloroethene	96	2.527	2.535	(0.604)	67072	19.4338	19.43
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	111179	20.8337	20.83
38	Trichloroethene	130	5.214	5.207	(1.049)	78719	23.9901	23.99
8	Trichlorofluoromethane	101	1.560	1.561	(0.373)	106469	19.4112	19.41
5	Vinyl Chloride	62	1.138	1.138	(0.272)	96983	15.6678	15.66

QC Flag Legend

M - Compound response manually integrated.



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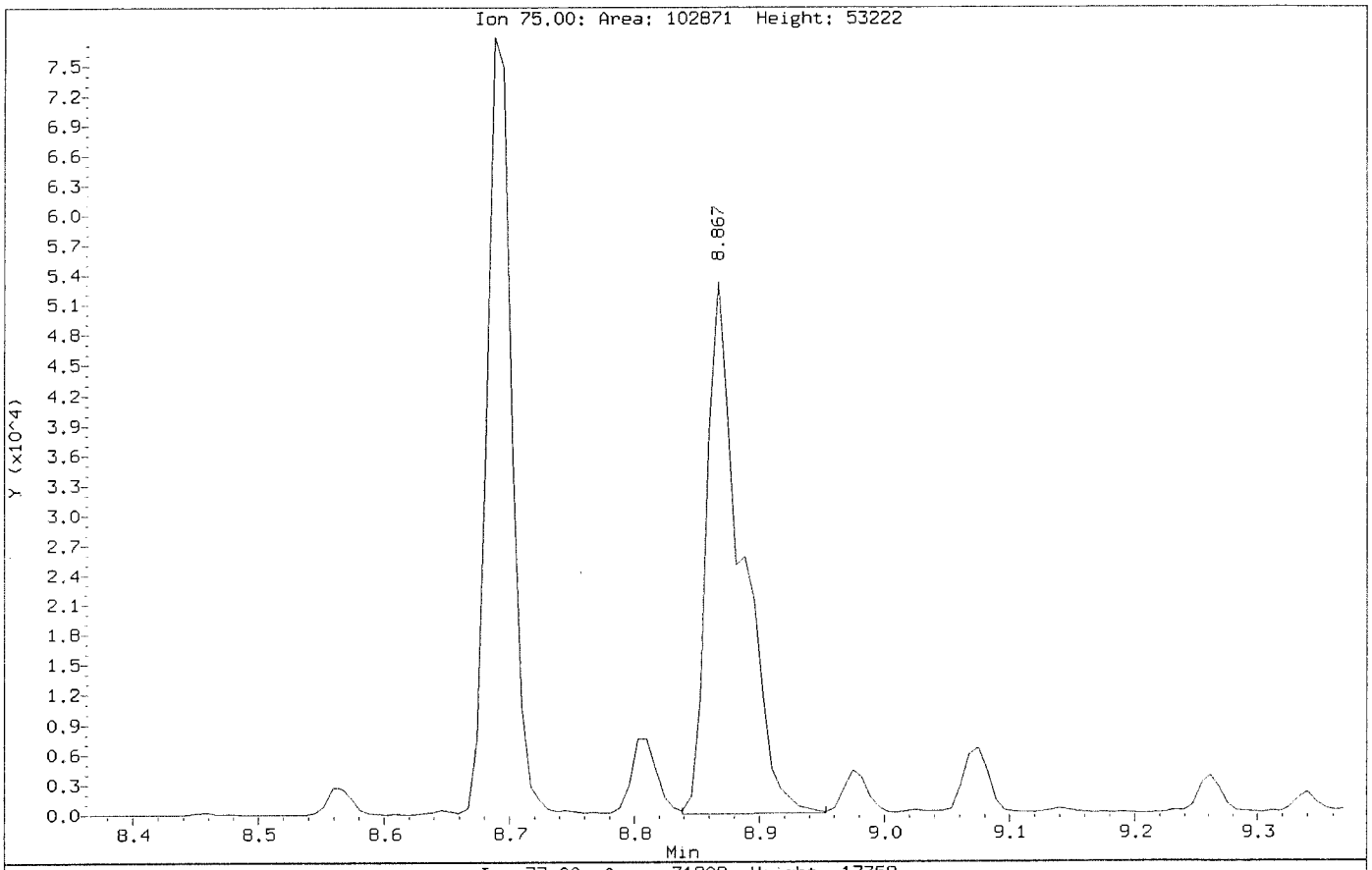
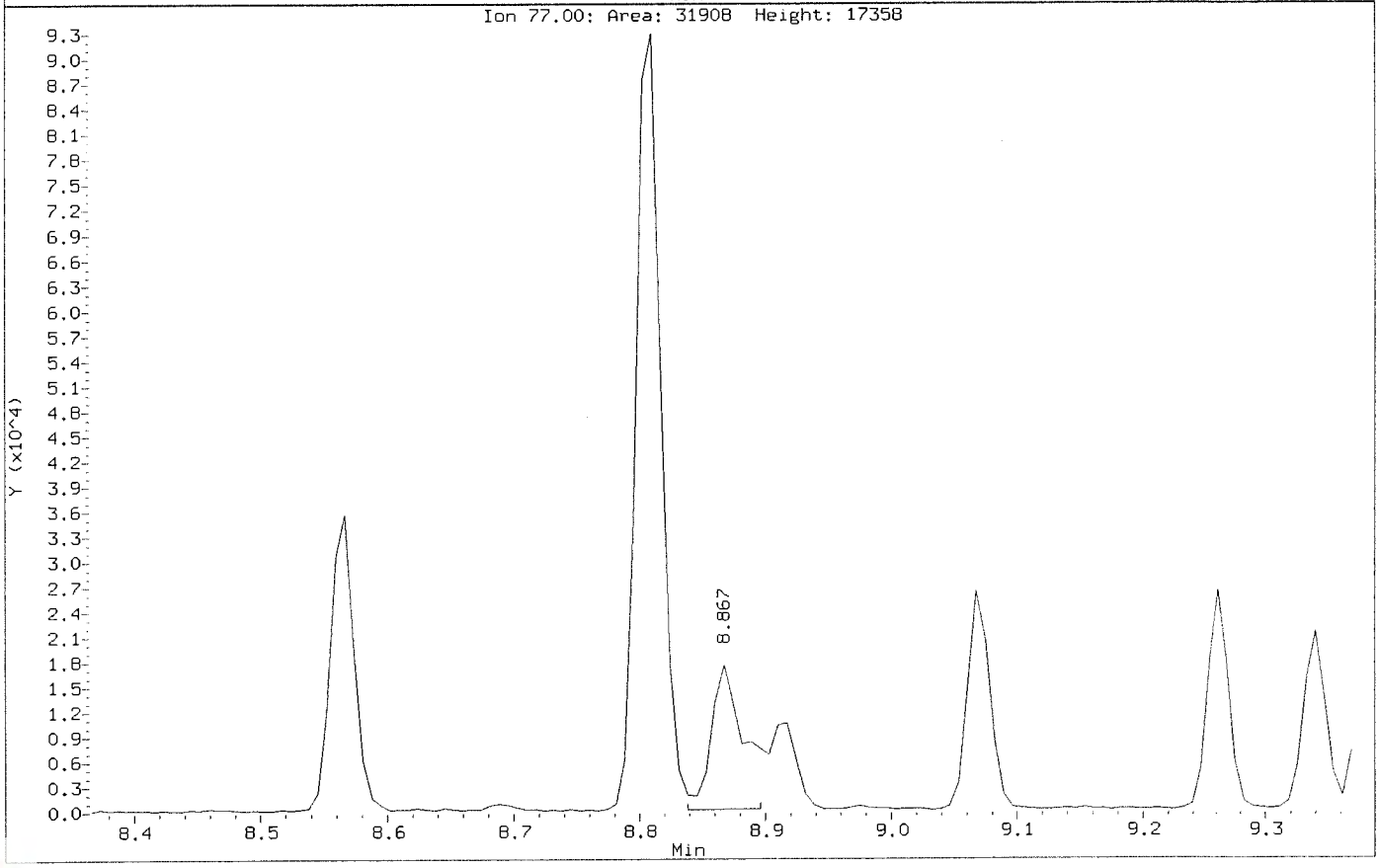
Sample Info: HS20060114-01MSD;HS20060114-01MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200605.b\Before\X060517.D
Injection Date: 05-JUN-2020 16:13
Instrument: voa6.i
Client Sample ID: HS20060114-01MSD

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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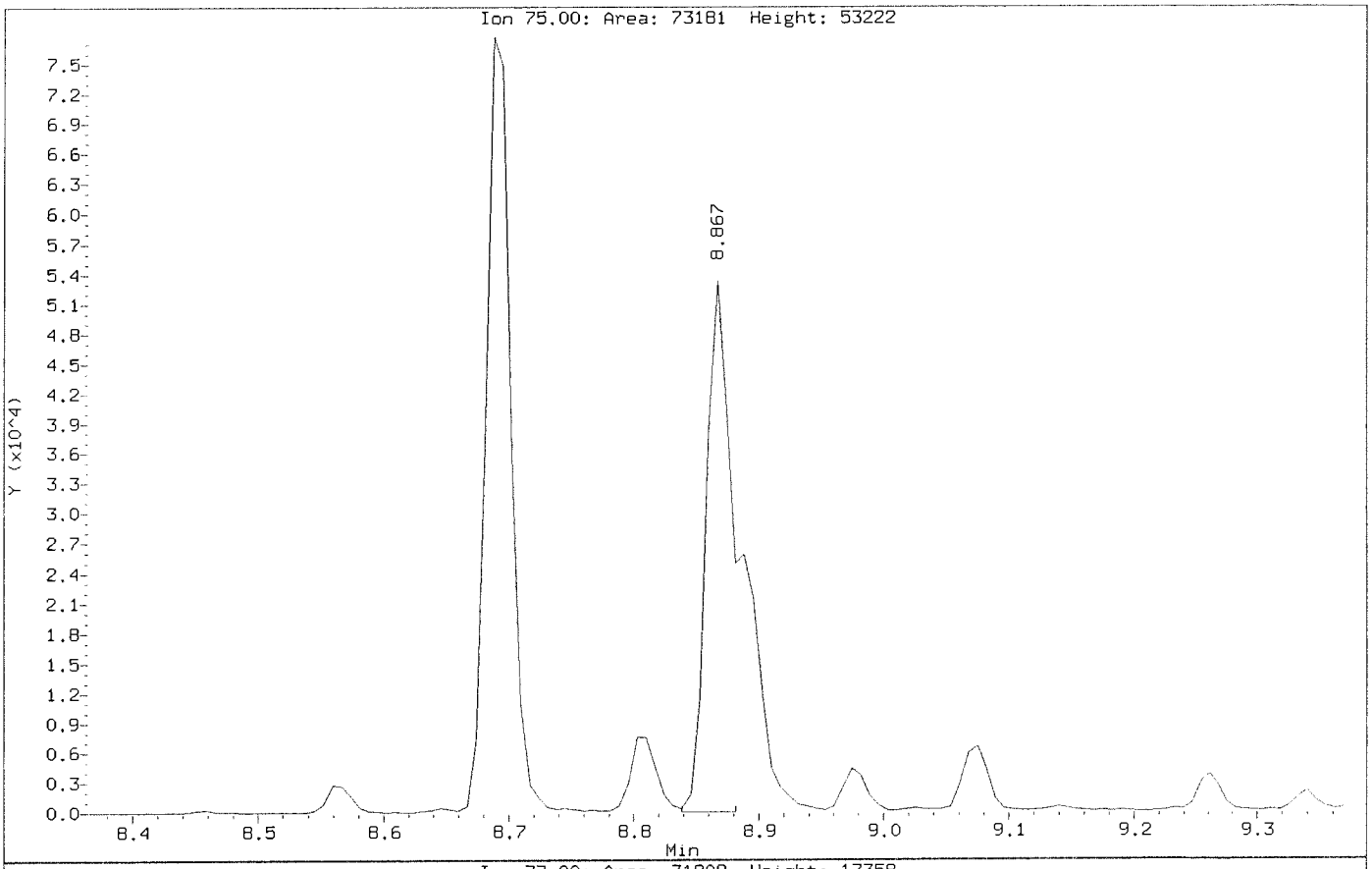
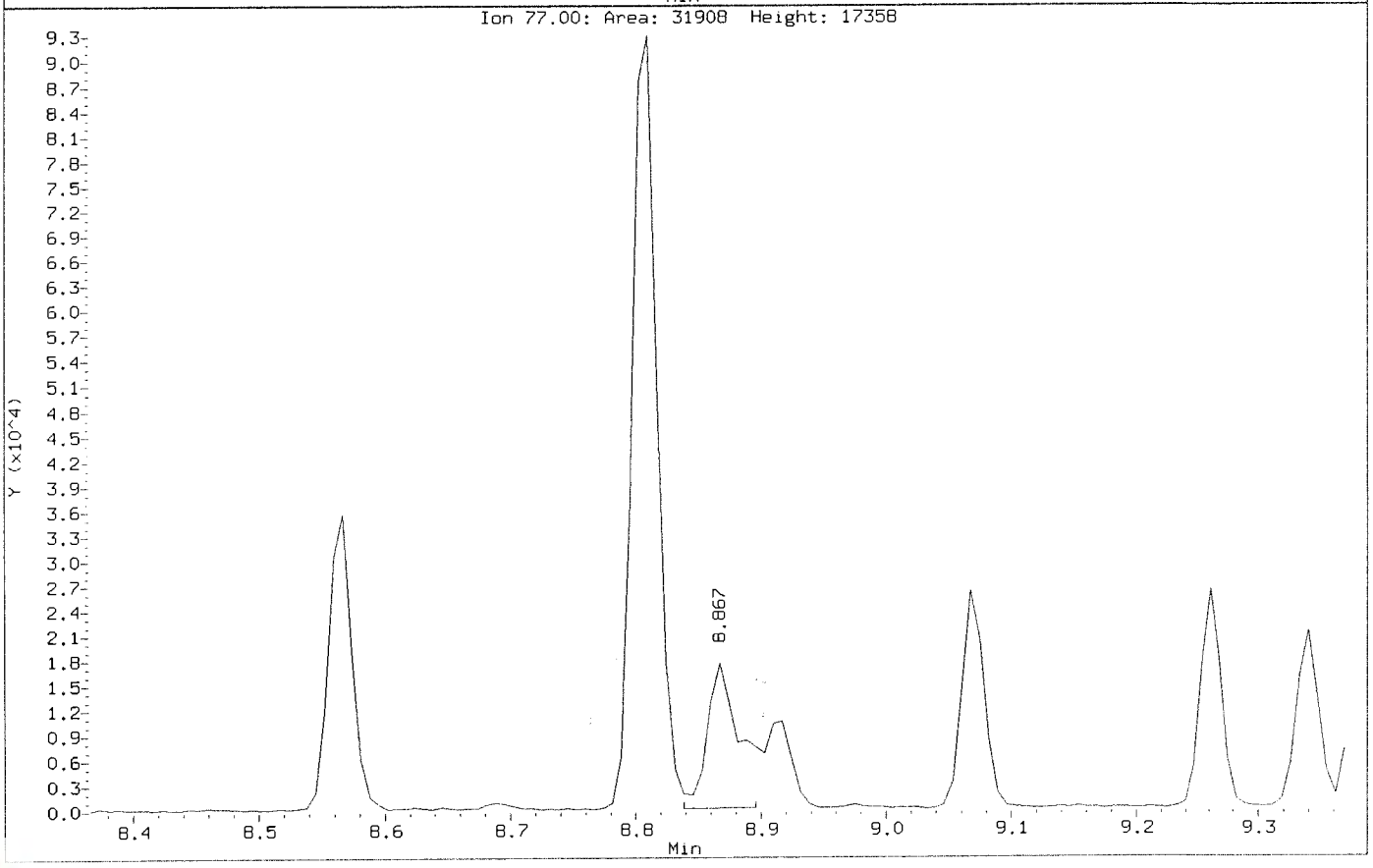
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200605.b\X060530.D
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Inj Date : 05-JUN-2020 21:25
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\X200605.b\8260W.m
Meth Date : 06-Jul-2020 13:09 voa6.i Quant Type: ISTD
Cal Date : 02-JUN-2020 13:45 Cal File: X060208.D
Als bottle: 29 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.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)	219510	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	411047	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	385518	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	168299	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	142180	50.0000	52.85
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	209381	50.0000	53.01
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	479523	50.0000	47.47
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	187577	50.0000	49.25
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	146622	50.0000	52.99
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	224697	50.0000	53.13
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	167830	50.0000	49.90
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	128598	50.0000	52.42
22 1,1-Dichloroethane	63	2.922	2.922	(0.697)	360830	50.0000	53.15
11 1,1-Dichloroethene	96	1.912	1.912	(0.456)	118263	50.0000	52.57
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	186416	50.0000	48.04
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	10392	50.0000	49.53
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	162270	50.0000	52.30(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.173)	22433	50.0000	46.87
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	490944	50.0000	49.58
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	10120	50.0000	54.65
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	155818	50.0000	52.69
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.033)	229238	50.0000	51.07
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	290841	50.0000	53.21

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	208137	50.0000	53.68
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	476711	50.0000	48.74
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	258411	50.0000	49.07
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	265305	50.0000	51.18
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	258796	50.0000	48.40
26 2,2-Dichloropropane	77	3.516	3.516	(0.839)	177070	50.0000	40.25
24 2-Butanone	43	3.581	3.581	(0.855)	267348	100.000	104.97
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	430510	50.0000	47.88
52 2-Hexanone	43	7.090	7.090	(0.924)	428904	100.000	110.63
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	497913	50.0000	47.82
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	438670	50.0000	48.93
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	621117	100.000	108.21
10 Acetone	43	1.976	1.976	(0.472)	193722	100.000	108.20
37 Benzene	78	4.519	4.519	(0.909)	602002	50.0000	51.13
74 Bromobenzene	156	8.810	8.810	(0.911)	167196	50.0000	50.77
29 Bromochloromethane	128	3.795	3.795	(0.906)	82051	50.0000	53.10
39 Bromodichloromethane	83	5.729	5.729	(1.153)	224752	50.0000	52.99
66 Bromoform	173	8.416	8.416	(1.097)	106279	50.0000	55.13
6 Bromomethane	94	1.339	1.339	(0.320)	111220	50.0000	55.80
19 Carbon Disulfide	76	2.069	2.069	(0.494)	756154	100.000	104.42
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	178041	50.0000	47.90
59 Chlorobenzene	112	7.699	7.699	(1.004)	379427	50.0000	49.91
7 Chloroethane	64	1.403	1.403	(0.335)	123780	50.0000	52.90
28 Chloroform	83	3.910	3.910	(0.933)	285666	50.0000	53.06
3 Chloromethane	50	1.081	1.081	(0.258)	274852	50.0000	50.90
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	168379	50.0000	53.98
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	257824	50.0000	51.43
55 Dibromochloromethane	129	7.176	7.176	(0.936)	160480	50.0000	52.24
44 Dibromomethane	93	5.558	5.558	(1.118)	112135	50.0000	53.70
2 Dichlorodifluoromethane	85	0.973	0.973	(0.232)	138649	50.0000	53.04
61 Ethylbenzene	106	7.800	7.800	(1.017)	193972	50.0000	49.59
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	15982	50.0000	45.55
67 Isopropylbenzene	105	8.566	8.566	(1.117)	557924	50.0000	48.13
62 m,p-Xylenes	106	7.907	7.907	(1.031)	465939	100.000	98.78
17 Methylene Chloride	84	2.306	2.306	(0.550)	186677	50.0000	63.25
87 n-Butylbenzene	91	9.999	9.999	(1.034)	386000	50.0000	48.32
73 n-Propylbenzene	91	8.917	8.917	(0.922)	678615	50.0000	48.20
92 Naphthalene	128	11.546	11.546	(1.194)	39869	50.0000	50.12
63 o-Xylene	106	8.244	8.244	(1.075)	237134	50.0000	50.95
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	521614	50.0000	47.82
64 Styrene	104	8.258	8.258	(1.077)	419905	50.0000	50.63
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	362993	50.0000	47.44
56 Tetrachloroethene	164	6.933	6.933	(0.904)	98128	50.0000	47.97
50 Toluene	91	6.446	6.446	(0.840)	598371	50.0000	49.61
20 trans-1,2-Dichloroethene	96	2.535	2.535	(0.605)	135911	50.0000	52.82
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	233085	50.0000	51.48
38 Trichloroethene	130	5.207	5.207	(1.048)	145698	50.0000	52.33
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	219932	50.0000	53.78
5 Vinyl Chloride	62	1.138	1.138	(0.272)	228428	50.0000	49.50

QC Flag Legend

M - Compound response manually integrated.