LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 19

2020

Bate Stamp Numbers
00981425 – 00983139

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976–2020

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

VOLUME 19

2020

A. Title: (8f. 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: 00981425 – 00982013

B. Title: (8g.) 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: 00982014 – 00983054

C. Title: Minutes – Final Monthly Managers' Meeting (MMM), Longhorn Army Ammunition Plant (LHAAP), August 19, 2020
Author(s): Department of the Army
Recipient: All Parties
Date: August 31, 2020
Bate Stamp: 00983055 – 00983086

D. Title: Transmittal Letter – Draft Remedial Action Completion Report, LHAAP-16 Landfill, Longhorn Army Ammunition Plant, Karnack, Texas, September 2020
Author(s): Department of the Army
Recipient: Environmental Protection Agency
Date: September 2, 2020
Bate Stamp: 00983087 – 00983087

E. Title: Transmittal Letter – Draft Remedial Action Completion Report, LHAAP-16 Landfill, Longhorn Army Ammunition Plant, Karnack, Texas, September 2020
Author(s): Department of the Army
Recipient: Texas Commission on Environmental Quality
Date: September 2, 2020
Bate Stamp: 00983088 – 00983088

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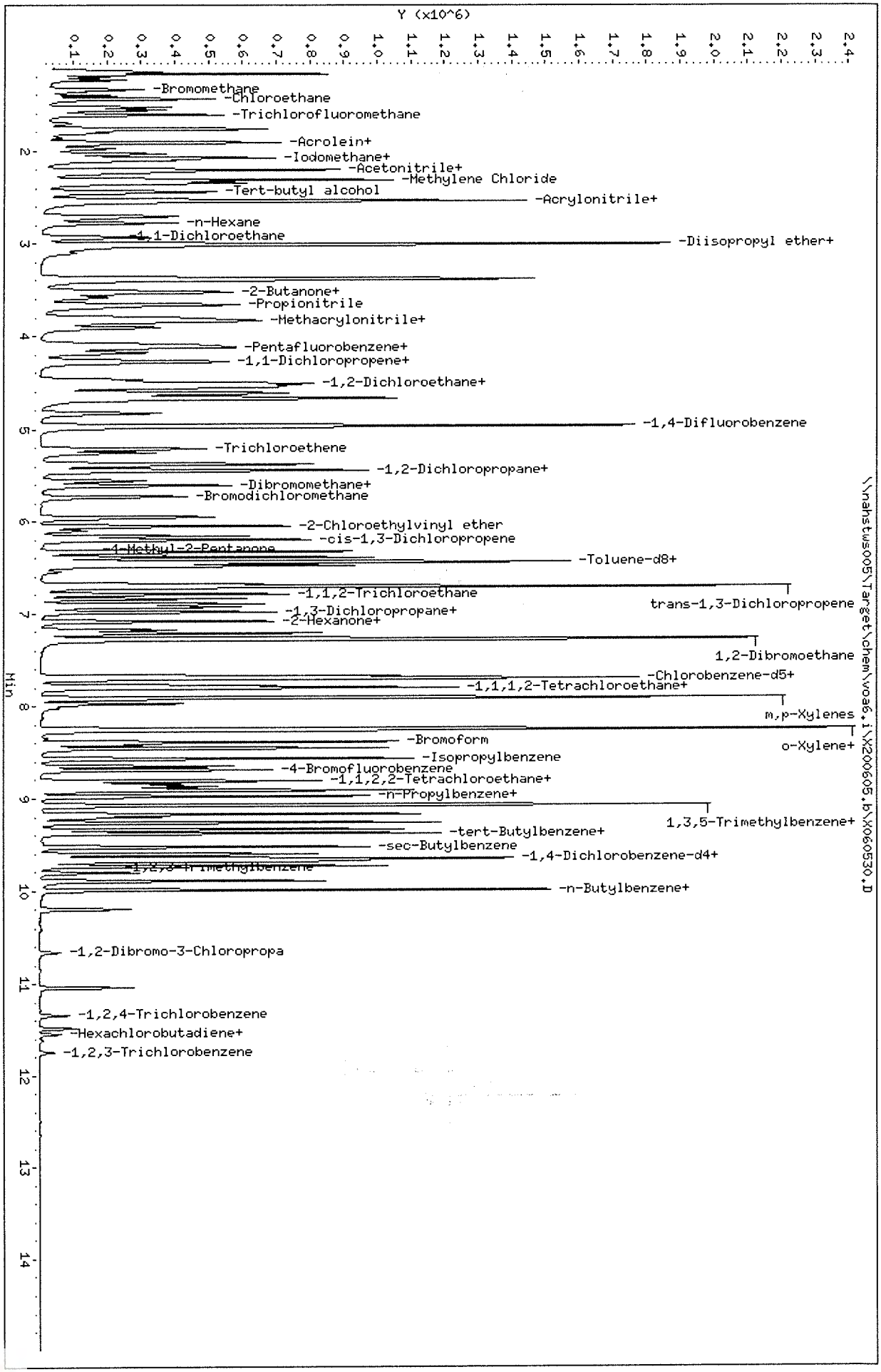
F. Title: Transmittal Letter – Draft Remedial Action Completion Report for Contingency Remedy, LHAAP-50 Former Sump Water Tank, Longhorn Army Ammunition Plant, Karnack, Texas, September 2020
Author(s): Department of the Army
Recipient: Environmental Protection Agency
Date: September 16, 2020
Bate Stamp: 00983089 – 00983089

G. Title: Transmittal Letter – Draft Remedial Action Completion Report for Contingency Remedy, LHAAP-50 Former Sump Water Tank, Longhorn Army Ammunition Plant, Karnack, Texas, September 2020
Author(s): Department of the Army
Recipient: Texas Commission on Environmental Quality
Date: September 16, 2020
Bate Stamp: 00983090 – 00983090

H. Title: Log – Comprehensive LUC & Notification Management Plan Revision Log, Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Department of the Army
Recipient: All Parties
Date: September 17, 2020
Bate Stamp: 00983091 – 00983092

I. Title: Report – Final Sixth Annual Remedial Action Operation Report, LHAAP-67 (Aboveground Storage Tank Farm), Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Department of the Army
Recipient: Environmental Protection Agency and Texas Commission on Environmental Quality
Date: September 30, 2020
Bate Stamp: 00983093 – 00983139



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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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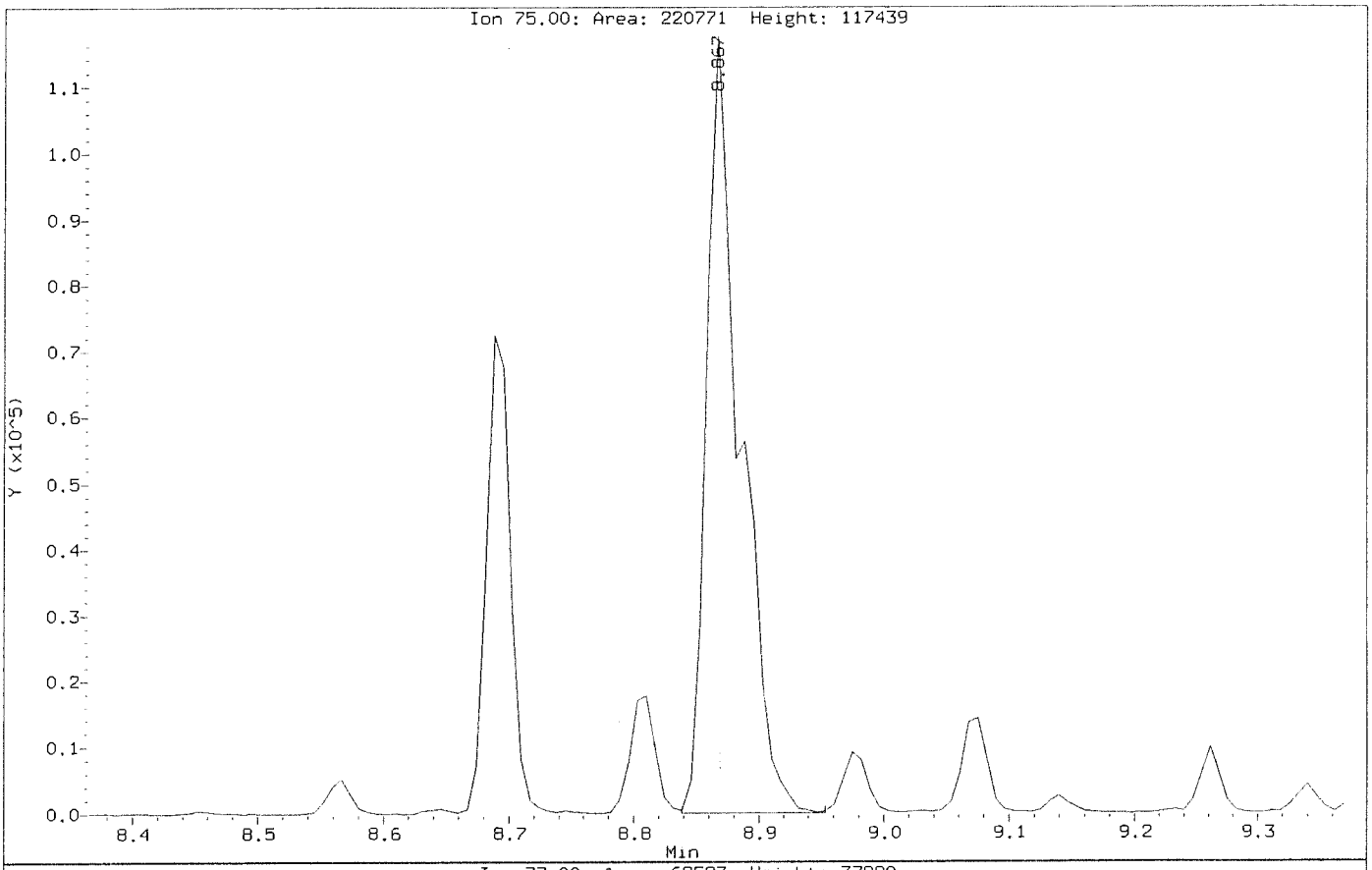
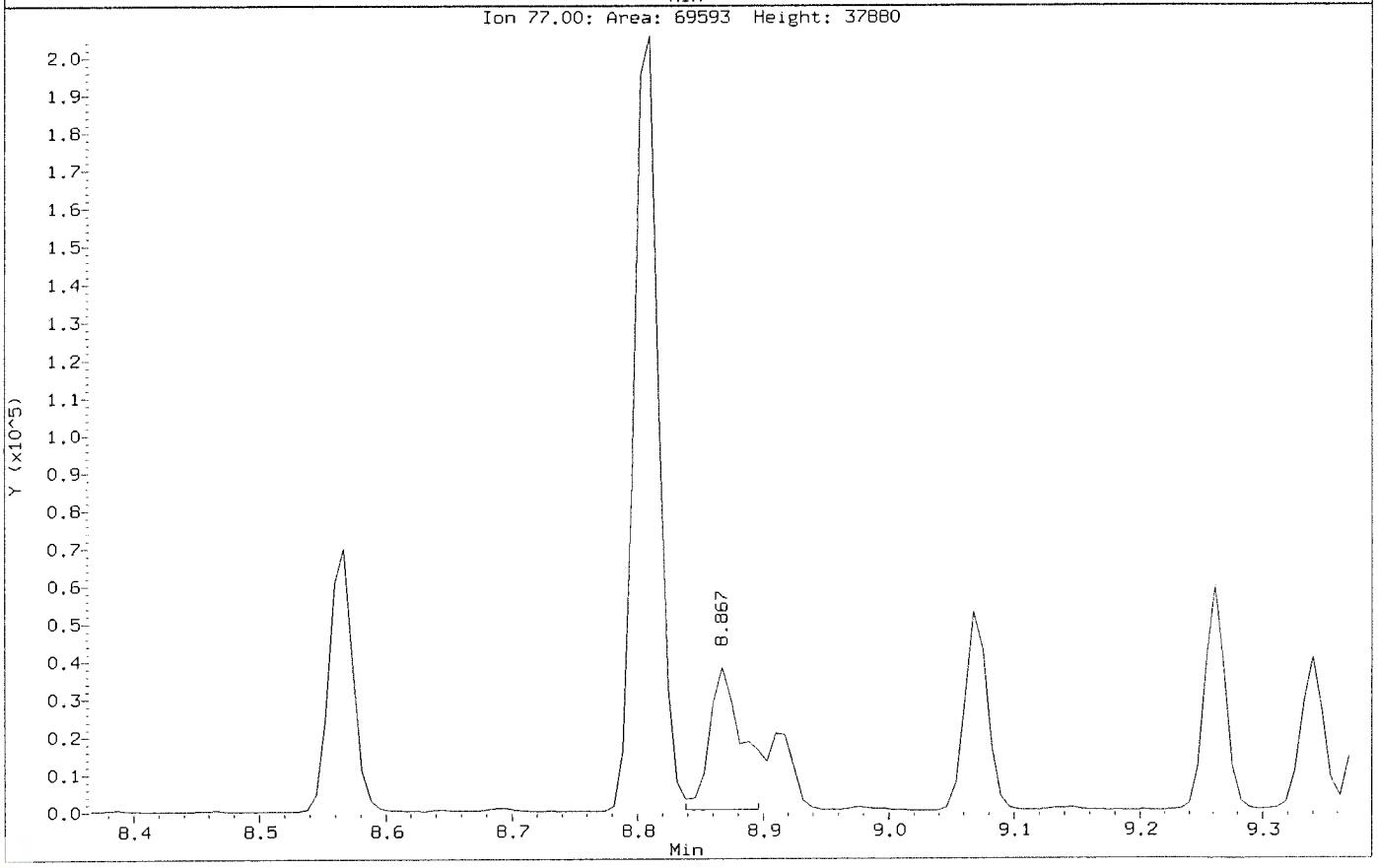
Instrument: voa6.i
Client Sample ID: CCV-END

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Injection Date: 05-JUN-2020 21:25
Instrument: voa6.i
Client Sample ID: CCV-END

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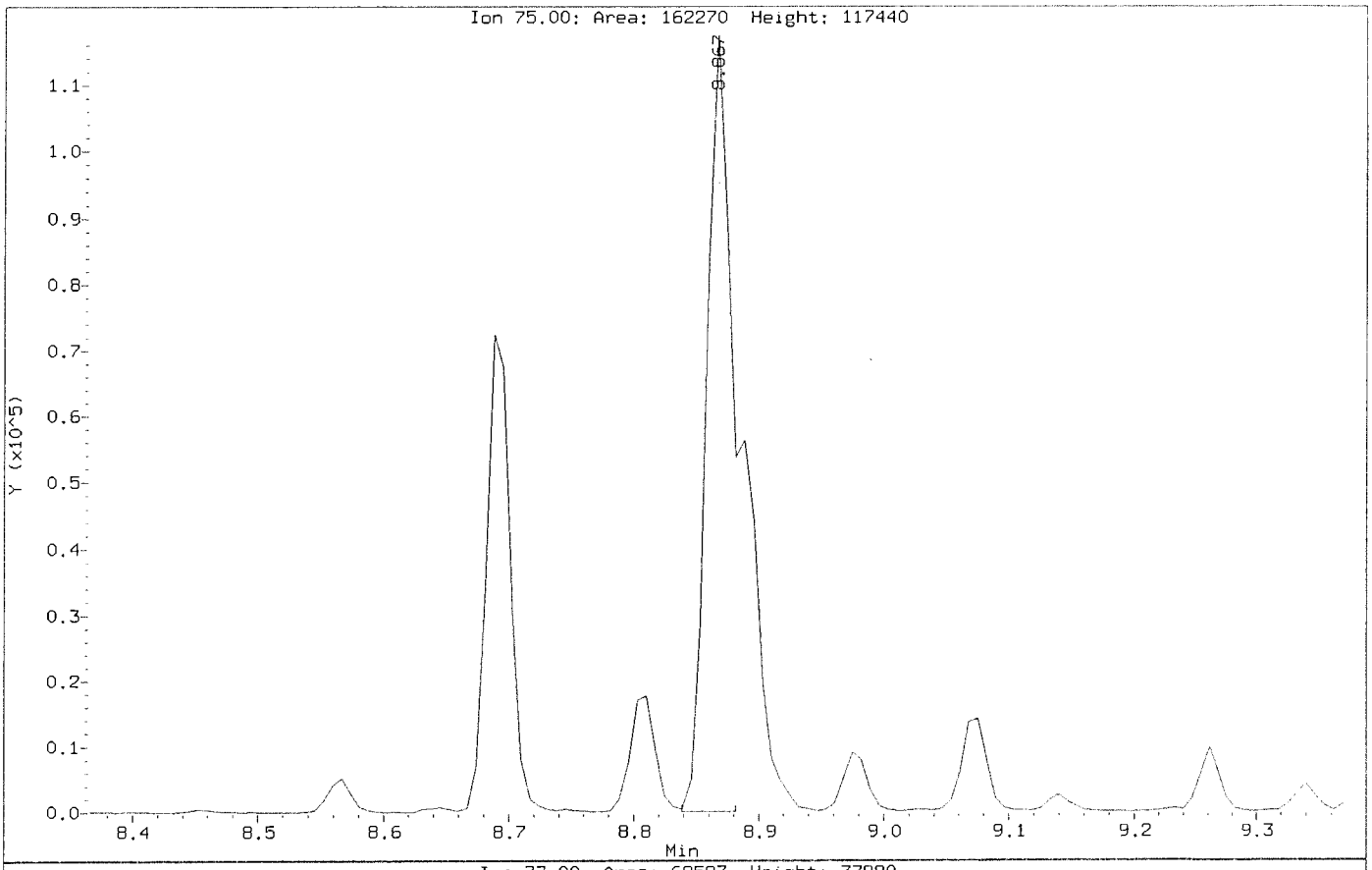
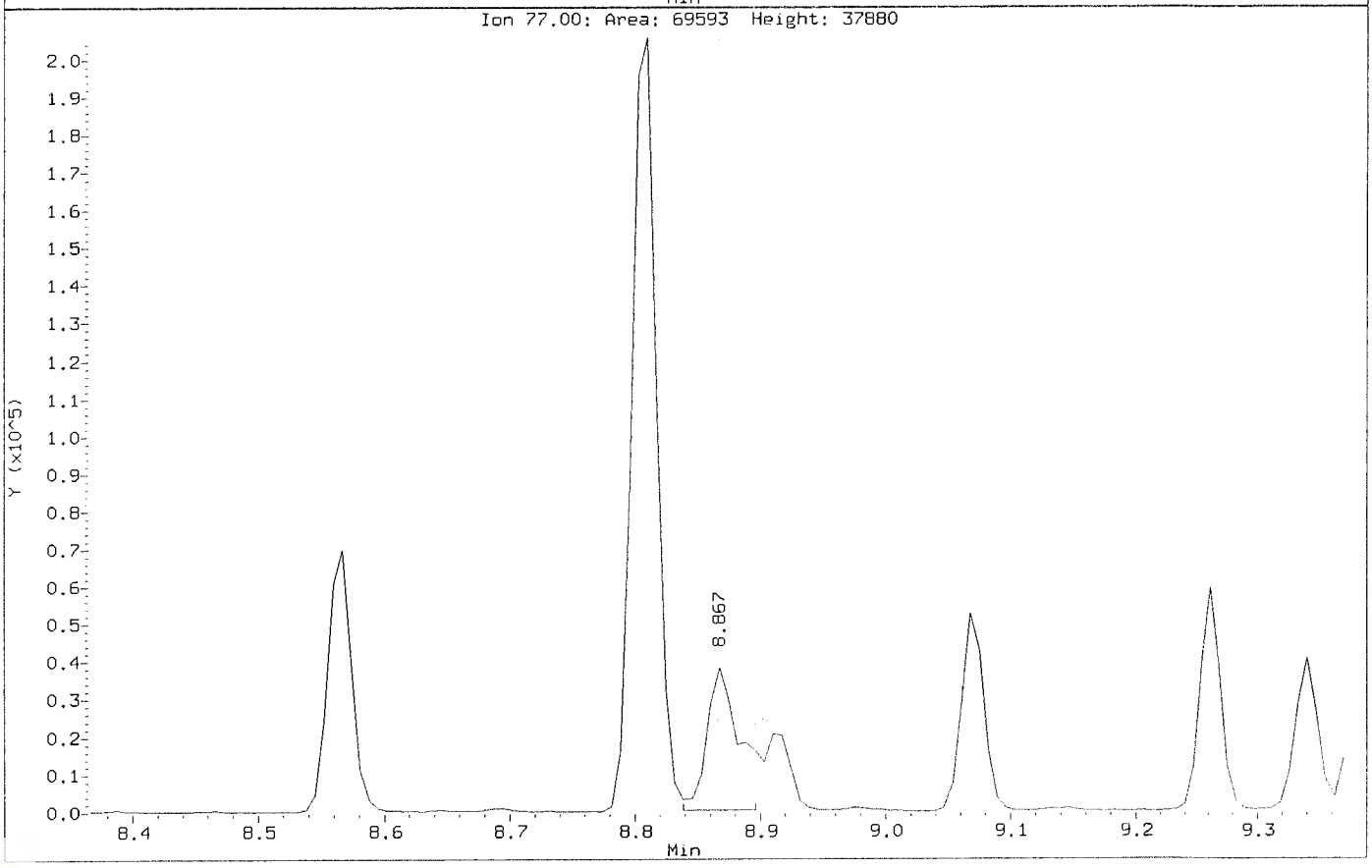
CAS Number: 96-18-4





HS20060114 8270 Raw Data

ALS WO# HS20060114

PREP BATCH REPORT

Batch ID: **154059**

Prep Code: **3510_B_SIM**

InitSampWt/Vol 0

FinSampVol: 1

Start Date: **03-Jun-20 10:30 am**

End Date: **03-Jun-20 03:00 pm**

OriginalFac: 0.001

Technician:

PrepUnitFac: 1

SampID	Frac	Matrix	pH	Init Wt/Vol	FinalVol (mL)	PrepFac	SpkFac	Failsafe	TestDueDate	Comments
HS20060114-01	C	Water	7	1000	1	0.001	1	06-12-20	06-17-20	ph adj 1/13
LCS-154059	A		5	1000	1	0.001	1			ph adj 1/13
LCSD-154059	A		5	1000	1	0.001	1			ph adj 1/13
MBLK-154059	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.: HS20060114

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.: HS20060114

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					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

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.: HS2006011

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

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\001.D

Date : 20-AUG-2019 08:34

Client ID: DFTPP02

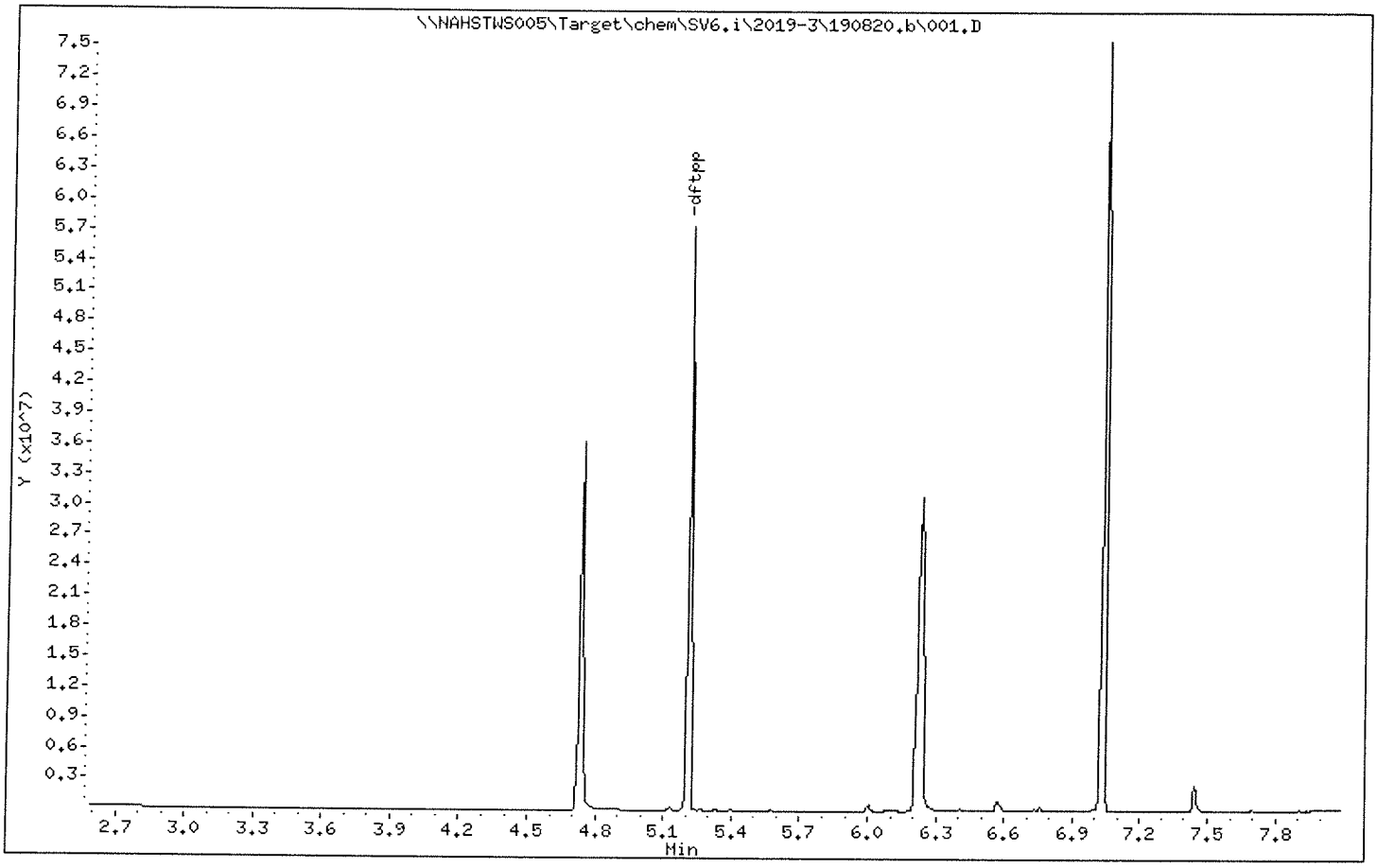
Instrument: SV6.i

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

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Instrument: SV6.i

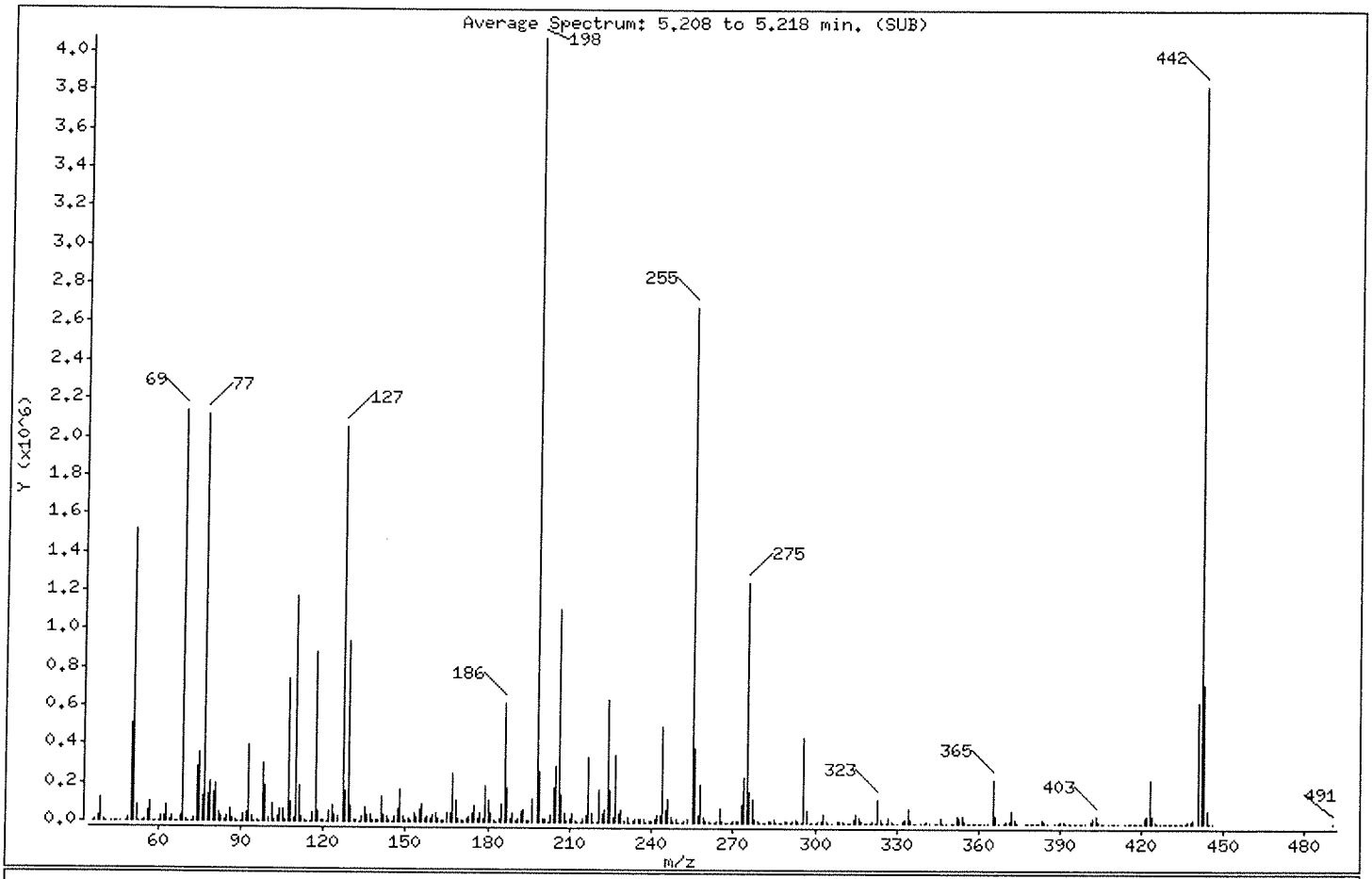
Sample Info: DFTPP;DFTPP;3;;DFTPP

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

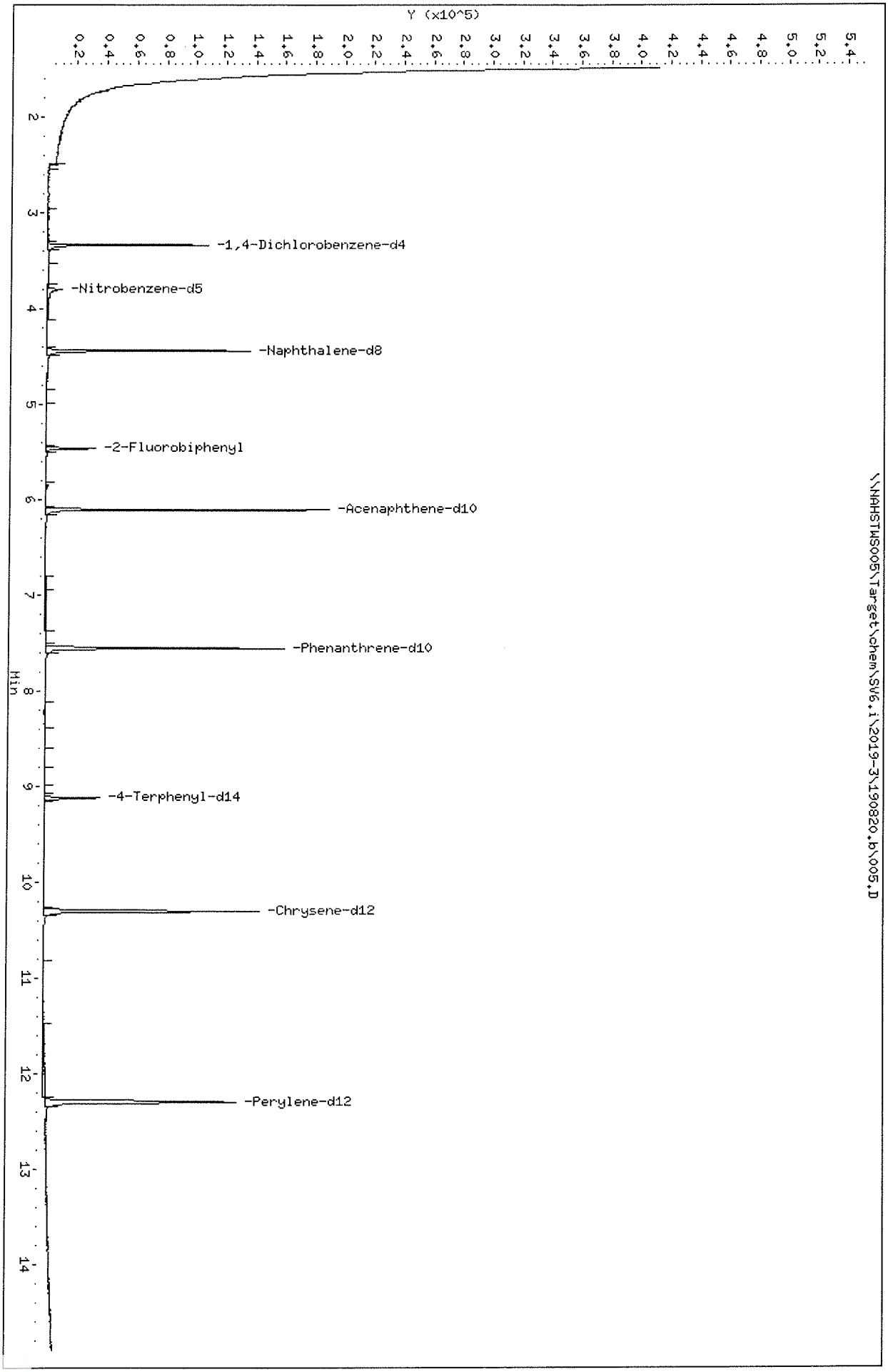
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

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)	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

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

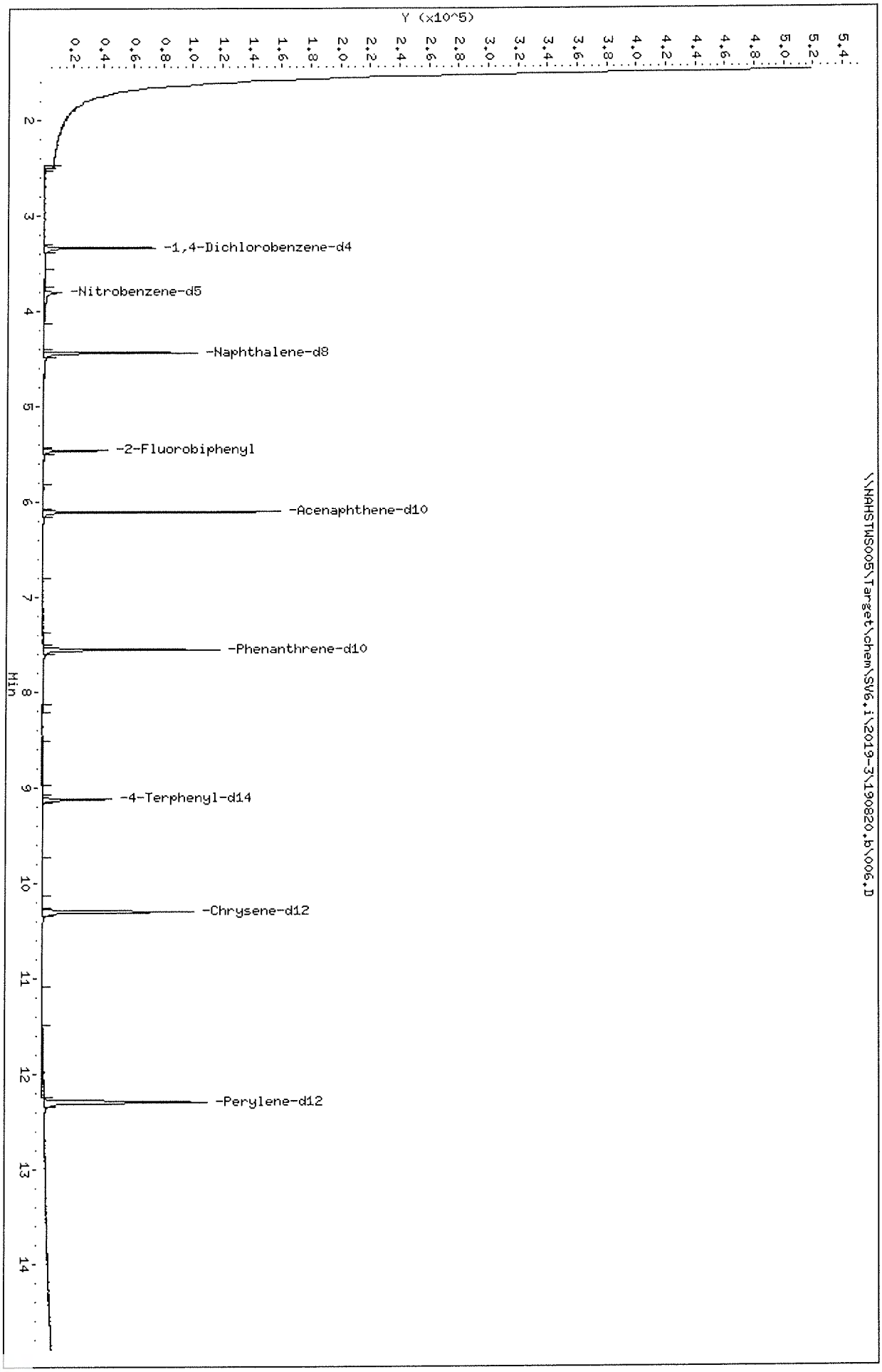
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

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

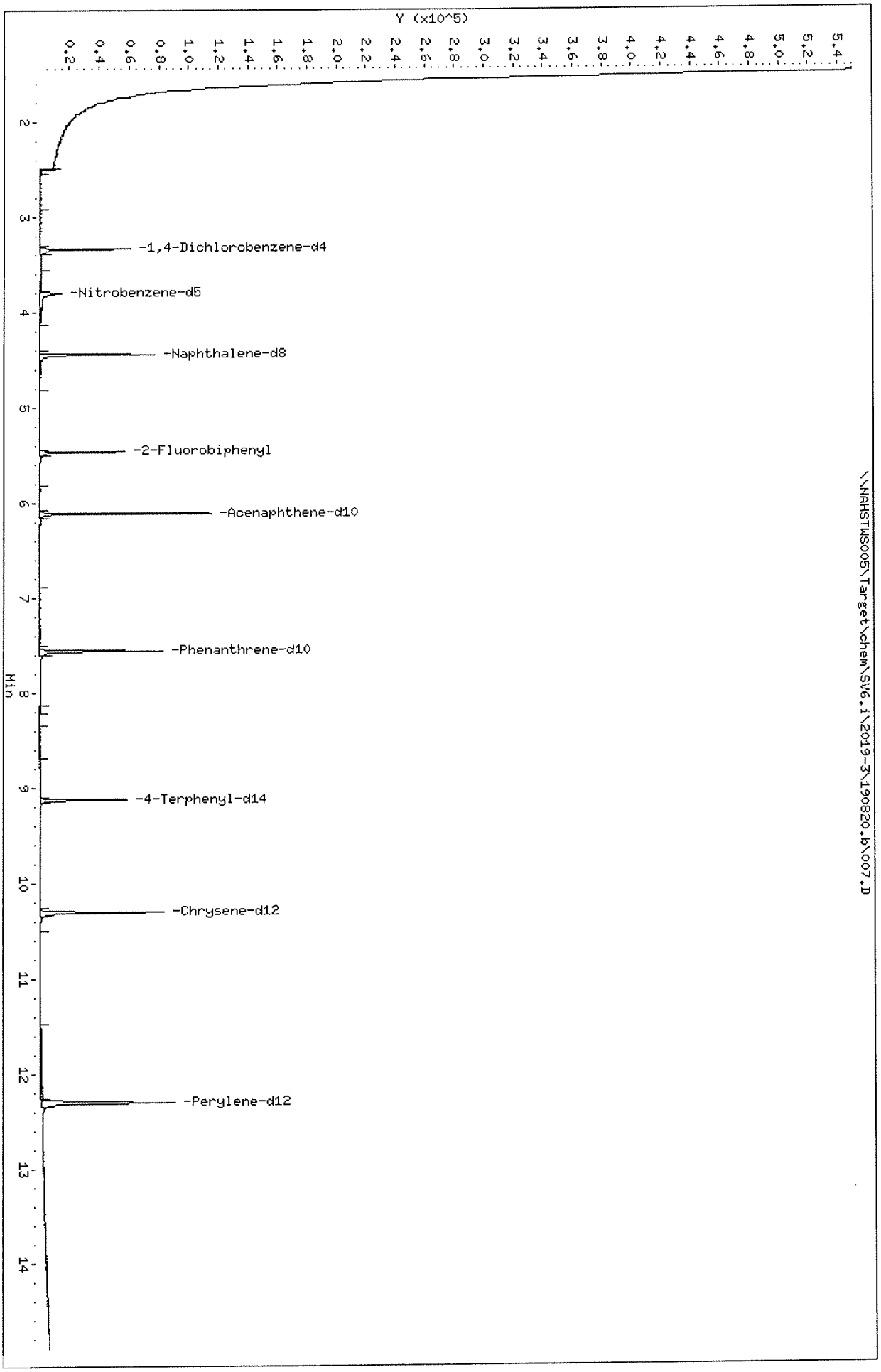
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.334	3.334	(1.000)	21258	0.10000	(a)
* 45 Naphthalene-d8	136	4.442	4.442	(1.000)	78809	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	14821	0.08000	0.07202(M)
* 86 Acenaphthene-d10	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



ALS Laboratory Group

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

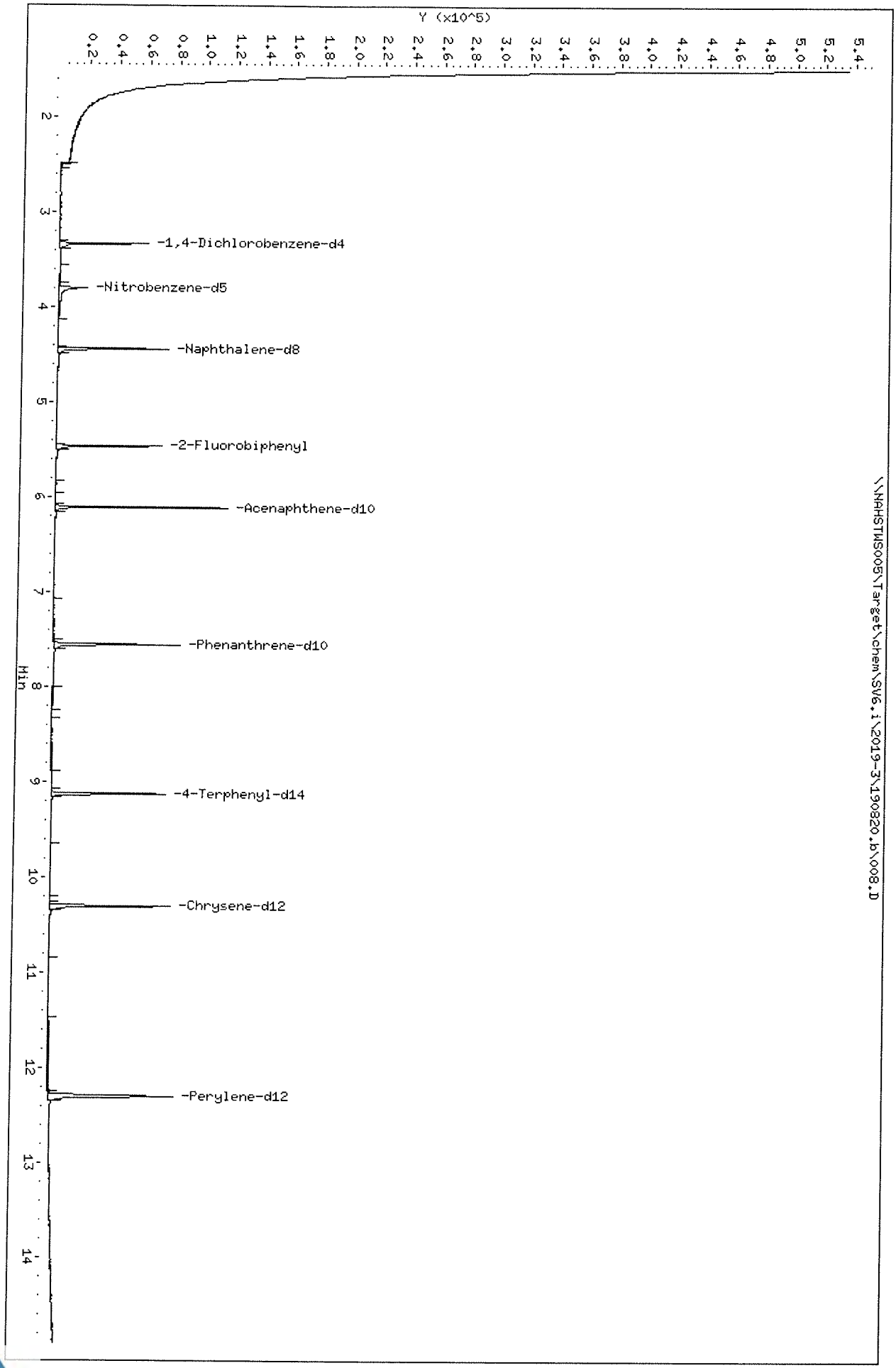
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.334	3.334	(1.000)	18520	0.10000	(a)
* 45 Naphthalene-d8	136	4.443	4.442	(1.000)	77644	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	19915	0.10000	0.1045(M)
* 86 Acenaphthene-d10	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



ALS Laboratory Group

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

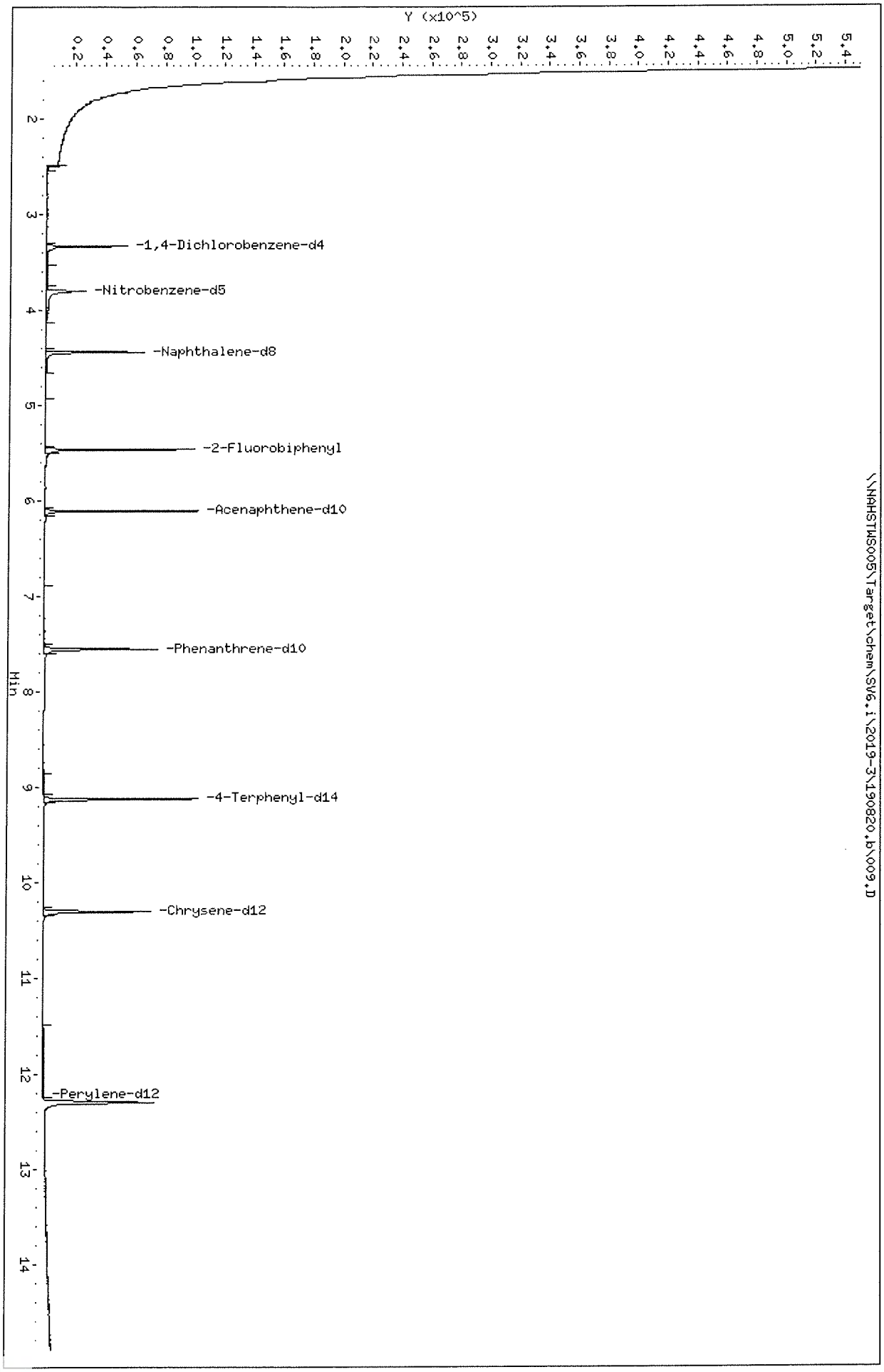
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.334	3.334	(1.000)	18250	0.10000	(a)
* 45 Naphthalene-d8	136	4.443	4.442	(1.000)	69930	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	26336	0.15000	0.1518(AM)
* 86 Acenaphthene-d10	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



ALS Laboratory Group

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

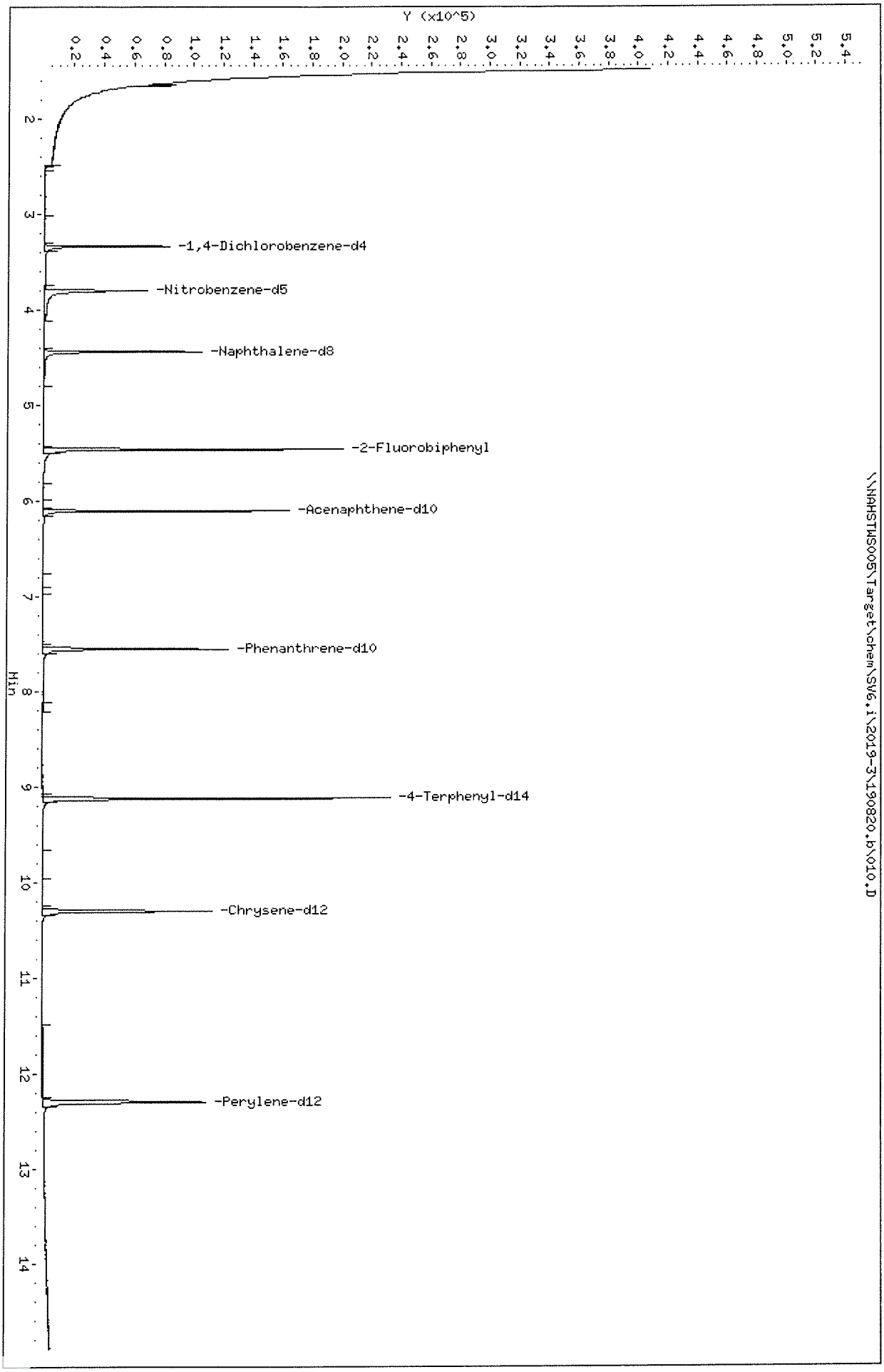
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

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

ALS Laboratory Group

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

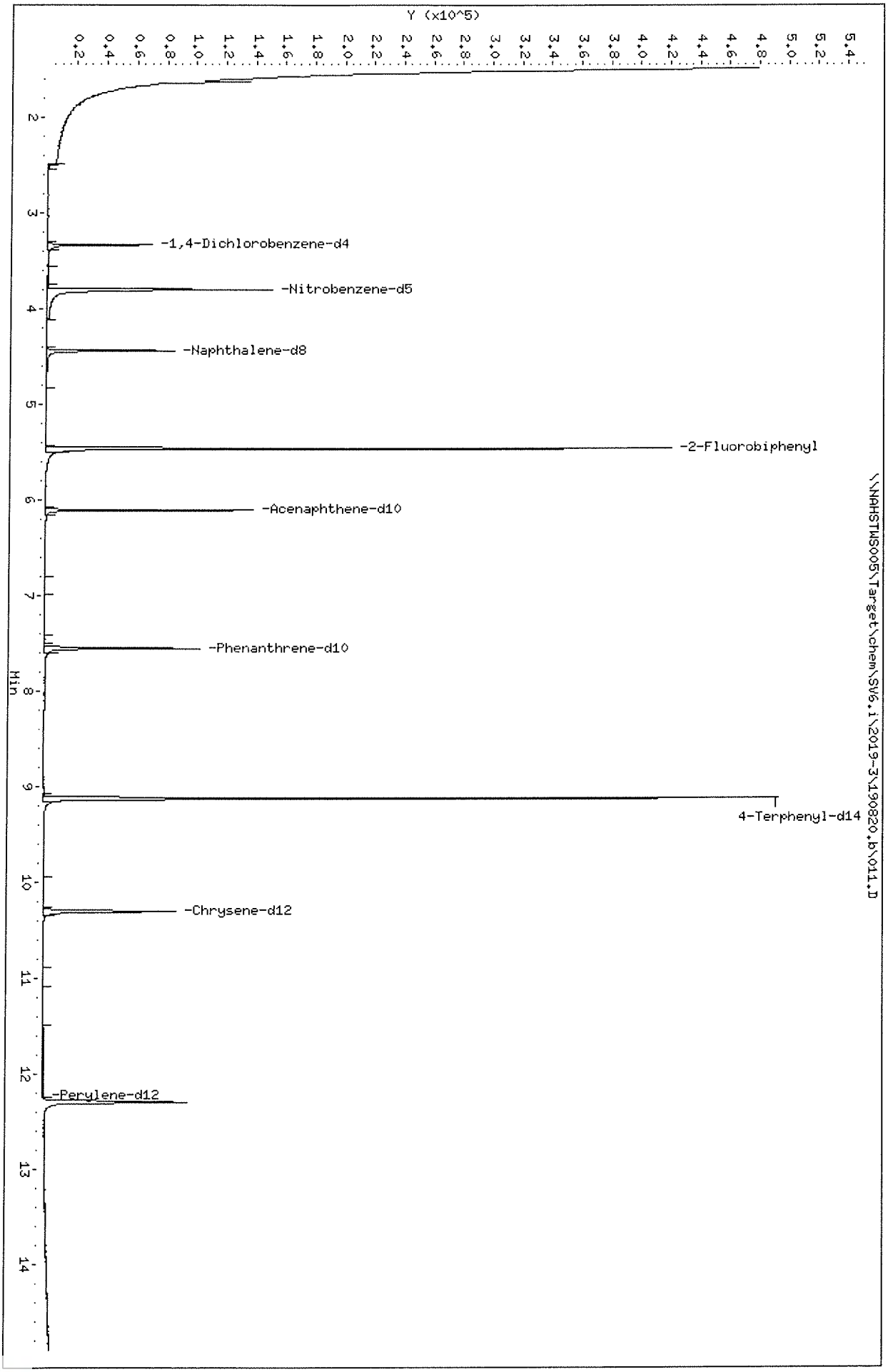
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

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)	AMOUNTS 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

ALS Laboratory Group

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

Instrument: SV6.i

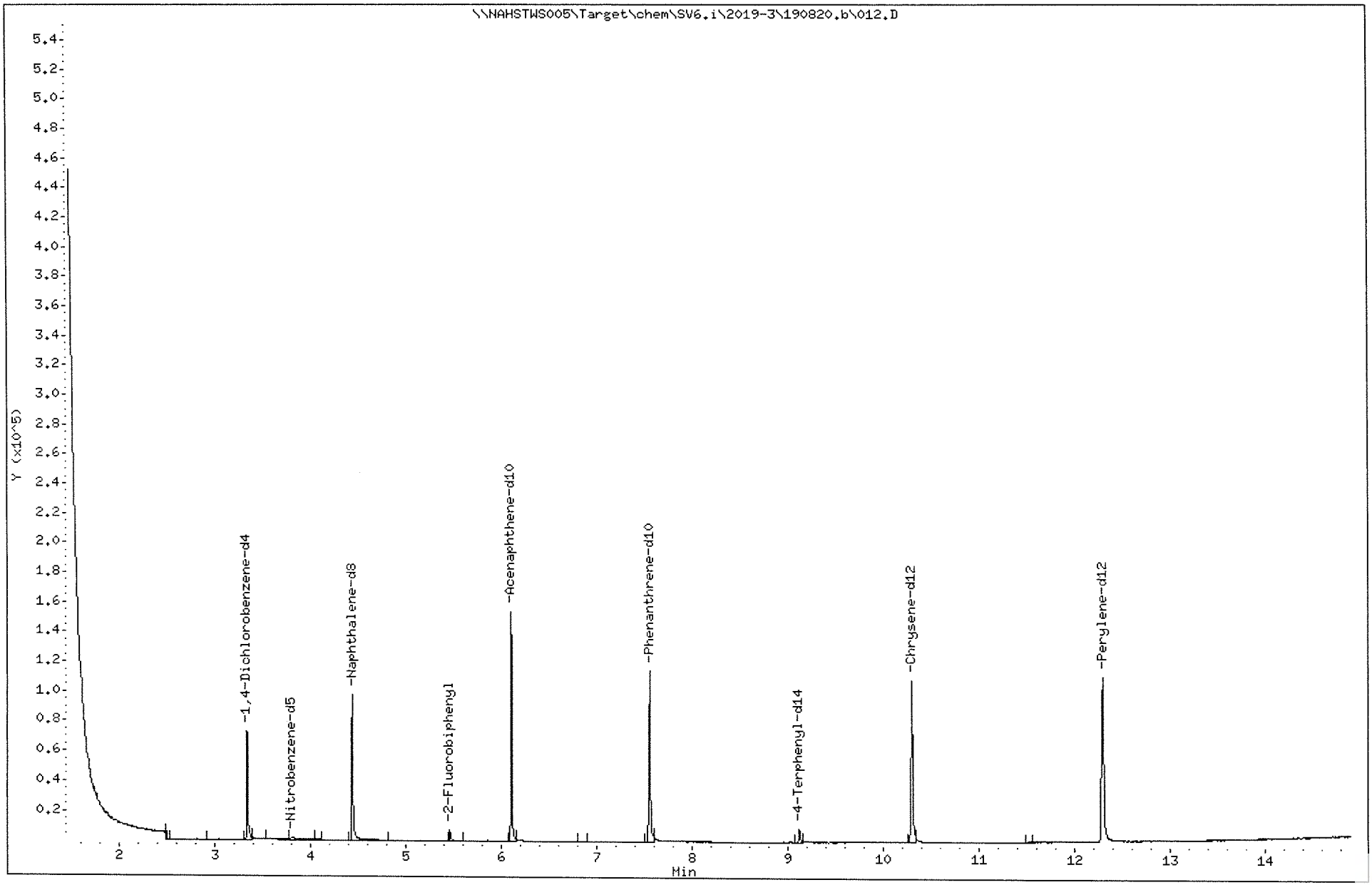
Sample Info: SIMDX-0.01;SIMDX-0.01

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\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

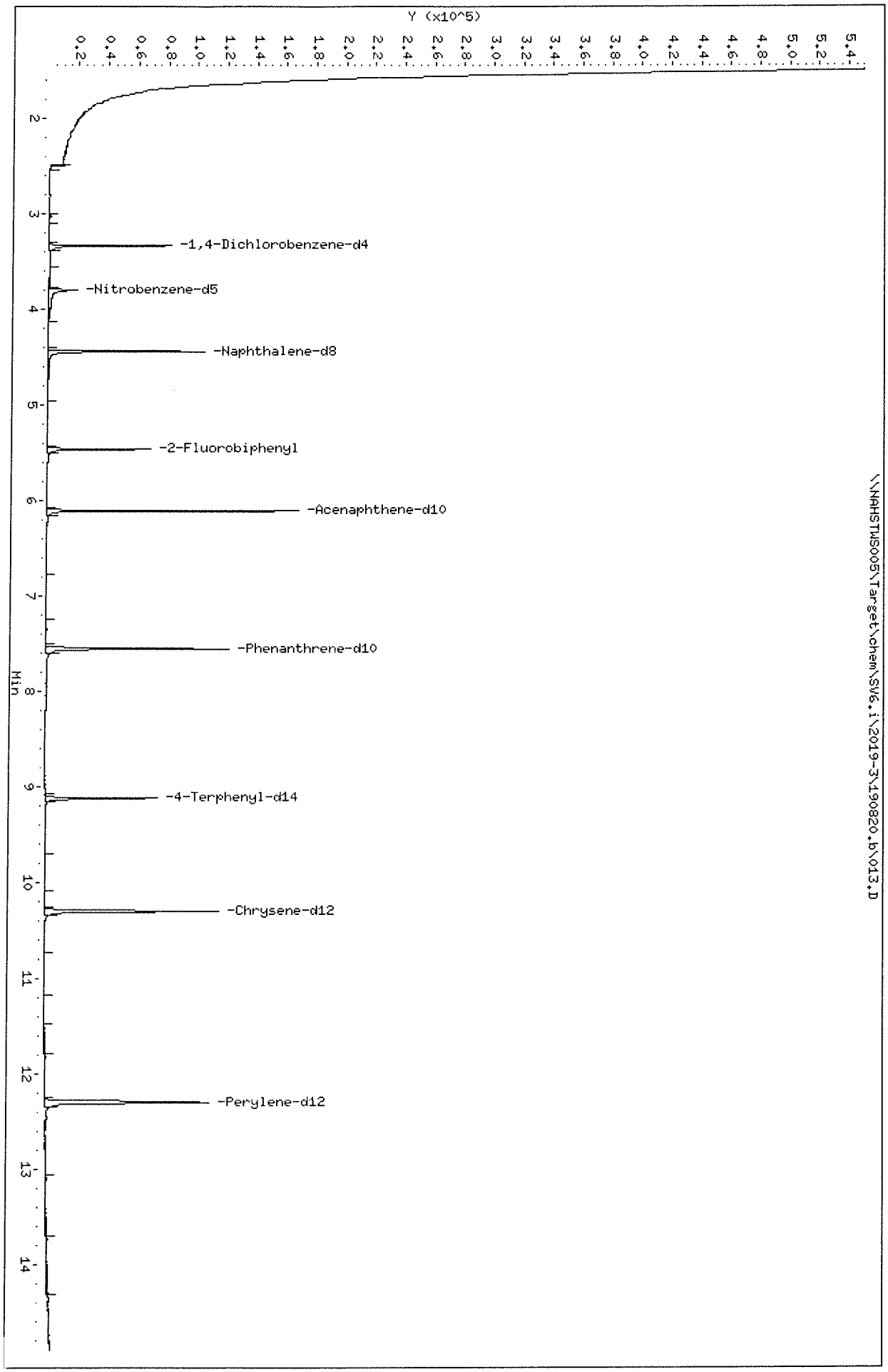
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.339	3.334	(1.000)	28781	0.10000		(a)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	106230	0.10000		
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	21420	0.07722	0.07722	(M)
* 86 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: 40812 **Analyst:** Andrew Neir

Date: 06-17-2020 **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	DFTPP	TUNE	06-17-2020 11:08 am	1.00			001.D		Y	NA
2	SLSTD-2.5	CCV	06-17-2020 11:19 am	1.00			002.D		Y	NA
3	DXSIM-0.08	CCV	06-17-2020 11:45 am	1.00			003.D		Y	NA
4	PAHSIM-0.08	CCV	06-17-2020 12:11 pm	1.00			004.D		Y	NA
5	LVISIM-0.025	SAMP	06-17-2020 12:30 pm	1.00			005.D		Y	NA
6	CCB	SAMP	06-17-2020 12:49 pm	1.00			006.D		Y	NA
7	MBLK-154059	MBLK	06-17-2020 01:06 pm	1.00	1000.00 mL	1.00 mL	007.D	Liquid	Y	NA
8	LCS-154059	LCS	06-17-2020 01:26 pm	1.00	1000.00 mL	1.00 mL	008.D	Liquid	Y	NA
9	LCSD-154059	LCSD	06-17-2020 01:46 pm	1.00	1000.00 mL	1.00 mL	009.D	Liquid	Y	NA
10	MBLK-154162	MBLK	06-17-2020 02:05 pm	1.00	1000.00 mL	1.00 mL	010.D	Liquid	Y	NA
11	LCS-154162	LCS	06-17-2020 02:25 pm	1.00	1000.00 mL	1.00 mL	011.D	Liquid	Y	NA
12	LCSD-154162	LCSD	06-17-2020 02:44 pm	1.00	1000.00 mL	1.00 mL	012.D	Liquid	Y	NA
13	HS20060114-01	SAMP	06-17-2020 03:04 pm	1.00	1000.00 mL	1.00 mL	013.D	Liquid	Y	NA
14	HS20060133-01	SAMP	06-17-2020 03:23 pm	10.00	1000.00 mL	1.00 mL	014.D	Liquid	Y	NA
15	HS20060133-03	SAMP	06-17-2020 03:43 pm	5.00	1000.00 mL	1.00 mL	015.D	Liquid	Y	NA
16	HS20060133-04	SAMP	06-17-2020 04:02 pm	5.00	1000.00 mL	1.00 mL	016.D	Liquid	Y	NA
17	HS20060133-05	SAMP	06-17-2020 04:22 pm	10.00	1000.00 mL	1.00 mL	017.D	Liquid	Y	NA
18	HS20060133-06	SAMP	06-17-2020 04:42 pm	10.00	1000.00 mL	1.00 mL	018.D	Liquid	Y	NA
19	HS20060133-07	SAMP	06-17-2020 05:01 pm	5.00	1000.00 mL	1.00 mL	019.D	Liquid	Y	NA
20	HS20060135-01	SAMP	06-17-2020 05:21 pm	5.00	1000.00 mL	1.00 mL	020.D	Liquid	Y	NA
21	HS20060135-02	SAMP	06-17-2020 05:40 pm	10.00	1000.00 mL	1.00 mL	021.D	Liquid	Y	NA
22	HS20060135-03	SAMP	06-17-2020 06:00 pm	100.0(	1000.00 mL	1.00 mL	022.D	Liquid	Y	NA
23	HS20060135-04	SAMP	06-17-2020 06:20 pm	1.00	1000.00 mL	1.00 mL	023.D	Liquid	Y	NA
24	HS20060135-05	SAMP	06-17-2020 06:39 pm	10.00	1000.00 mL	1.00 mL	024.D	Liquid	Y	NA
25	HS20060135-06	SAMP	06-17-2020 06:59 pm	100.0(	1000.00 mL	1.00 mL	025.D	Liquid	Y	NA
26	HS20060284-01	SAMP	06-17-2020 07:20 pm	1.00	30.00 gm	1.00 mL	026.D	Solid	Y	NA
27	HS20060284-02	SAMP	06-17-2020 07:40 pm	1.00	30.00 gm	1.00 mL	027.D	Solid	Y	NA
28	HS20060284-03	SAMP	06-17-2020 07:59 pm	1.00	30.00 gm	1.00 mL	028.D	Solid	Y	NA
29	HS20060284-04	SAMP	06-17-2020 08:18 pm	1.00	30.00 gm	1.00 mL	029.D	Solid	Y	NA
30	HS20060284-06	SAMP	06-17-2020 08:37 pm	1.00	30.00 gm	1.00 mL	030.D	Solid	Y	NA
31	HS20060223-07	SAMP	06-17-2020 08:56 pm	10.00	30.00 gm	1.00 mL	031.D	Solid	Y	NA
32	HS20060223-07	SAMP	06-17-2020 09:15 pm	100.0(	30.00 gm	1.00 mL	032.D	Solid	Y	NA
33	HS20060223-09	SAMP	06-17-2020 09:34 pm	10.00	30.00 gm	1.00 mL	033.D	Solid	Y	NA
34	HS20060223-10	SAMP	06-17-2020 09:53 pm	1.00	30.00 gm	1.00 mL	034.D	Solid	Y	NA
35	HS20060223-10	SAMP	06-17-2020 10:13 pm	10.00	30.00 gm	1.00 mL	035.D	Solid	Y	NA
36	HS20060202-02	SAMP	06-17-2020 10:30 pm	1.00	1000.00 mL	1.00 mL	036.D	Liquid	Y	NA
37	HS20060202-03	SAMP	06-17-2020 10:49 pm	1.00	1000.00 mL	1.00 mL	037.D	Liquid	Y	NA
38	HS20060202-04	SAMP	06-17-2020 11:09 pm	1.00	1000.00 mL	1.00 mL	038.D	Liquid	Y	NA
39	HS20060202-05	SAMP	06-17-2020 11:28 pm	1.00	1000.00 mL	1.00 mL	039.D	Liquid	Y	NA
40	HS20060202-06	SAMP	06-17-2020 11:48 pm	1.00	1000.00 mL	1.00 mL	040.D	Liquid	Y	NA
41	HS20060202-07	SAMP	06-18-2020 12:07 am	1.00	1000.00 mL	1.00 mL	041.D	Liquid	Y	NA

SV06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS20060208-02	SAMP	06-18-2020 12:27 am	1.00	1000.00 mL	1.00 mL	042.D	Liquid	Y	NA
43	HS20060208-03	SAMP	06-18-2020 12:46 am	1.00	1000.00 mL	1.00 mL	043.D	Liquid	Y	NA
44	HS20060208-04	SAMP	06-18-2020 01:06 am	1.00	1000.00 mL	1.00 mL	044.D	Liquid	Y	NA
45	HS20060251-01	SAMP	06-18-2020 01:26 am	1.00	1000.00 mL	1.00 mL	045.D	Liquid	Y	NA
46	HS20060251-02	SAMP	06-18-2020 01:45 am	1.00	1000.00 mL	1.00 mLL	046.D	Liquid	Y	NA
47	HS20060251-03	SAMP	06-18-2020 02:05 am	1.00	1000.00 mL	1.00 mL	047.D	Liquid	Y	NA
48	HS20060251-04	SAMP	06-18-2020 02:24 am	1.00	1000.00 mL	1.00 mL	048.D	Liquid	Y	NA

FORM 2
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

	CLIENT SAMPLE NO.	S1 (NBZ)#	S2 #	S3 (FBP)#	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	MBLK-154059	82	98	98						0
02	LCS-154059	128	101	102						0
03	LCSD-154059	132	102	106						0
04	HS20060114-01	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.: HS20060114

Lab File ID: 001 DFTPP Injection Date: 06/17/20

Instrument ID: SV6 DFTPP Injection Time: 1108

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	44.6
68	Less than 2.0% of mass 69	0.6 (1.3)1
69	Mass 69 relative abundance	46.4
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	10.0 - 80.0% of mass 198	58.5
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	28.1
365	1.0 - 100.0% of mass 198	4.2
441	Present, but less than mass 443	23.3
442	50.0 - 150.0% of mass 198	143.1
443	15.0 - 24.0% of mass 442	27.6 (19.3)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	DXSIM-0.08	DXSIM-0.08	003	06/17/20	1145
02	MBLK-154059	MBLK-154059	007	06/17/20	1306
03	LCS-154059	LCS-154059	008	06/17/20	1326
04	LCSD-154059	LCSD-154059	009	06/17/20	1346
05	HS20060114-0	HS20060114-01	013	06/17/20	1504
06	DXSIM-0.08	DXSIM-0.08	003	06/18/20	1045
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.: HS20060114

Instrument ID: SV6 Calibration Date: 06/17/20 Time: 1145

Lab File ID: 003 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	5.93e-002	0.01	-5.87	20.00	AVRG
Nitrobenzene-d5	0.2610000	0.2511797	0.01	-3.76	20.00	AVRG
4-Terphenyl-d14	0.8250000	0.7552859	0.01	-8.45	20.00	AVRG
2-Fluorobiphenyl	1.1870000	1.1145990	0.01	-6.10	20.00	AVRG

FORM VII SV

FORM 7B

SEMIVOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20060114

Instrument ID: SV6 Calibration Date: 06/18/20 Time: 1045

Lab File ID: 003 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	6.39e-002	0.01	1.43	50.00	AVRG
Nitrobenzene-d5	0.2610000	0.2530988	0.01	-3.03	50.00	AVRG
4-Terphenyl-d14	0.8250000	0.7342609	0.01	-11.00	50.00	AVRG
2-Fluorobiphenyl	1.1870000	1.1303649	0.01	-4.77	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.: HS20060114

Lab File ID (Standard): 003 Date Analyzed: 06/17/20

Instrument ID: SV6 Time Analyzed: 1145

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	32274	3.20	81376	4.30	39780	5.96
	UPPER LIMIT	64548	3.70	162752	4.80	79560	6.46
	LOWER LIMIT	16137	2.70	40688	3.80	19890	5.46
	CLIENT SAMPLE NO.						
01	MBLK-154059	18276	3.20	55117	4.30	26199	5.96
02	LCS-154059	17177	3.20	63538	4.30	31406	5.96
03	LCSD-154059	17586	3.20	57620	4.30	29275	5.96
04	HS20060114-01	18364	3.20	67417	4.30	33696	5.96
05	DXSIM-0.08	21079	3.18	71721	4.28	31105	5.95
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.: HS20060114

Lab File ID (Standard): 003 Date Analyzed: 06/17/20

Instrument ID: SV6 Time Analyzed: 1145

		IS4(PHN) AREA	#	RT	#	IS5(CRY) AREA	#	RT	#	IS6(PRY) AREA	#	RT	#
	12 HOUR STD	66030		7.40		56755		10.12		68060		12.06	
	UPPER LIMIT	132060		7.90		113510		10.62		136120		12.56	
	LOWER LIMIT	33015		6.90		28378		9.62		34030		11.56	
	CLIENT SAMPLE NO.												
01	MBLK-154059	48290		7.40		40269		10.12		44789		12.06	
02	LCS-154059	56298		7.40		45963		10.11		51609		12.06	
03	LCSD-154059	53551		7.40		43868		10.12		53441		12.06	
04	HS20060114-01	60340		7.40		50897		10.12		57133		12.06	
05	DXSIM-0.08	54218		7.38		44761		10.11		52788		12.05	
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\200617.b\001.D

Date : 17-JUN-2020 11:08

Client ID: DFTPP

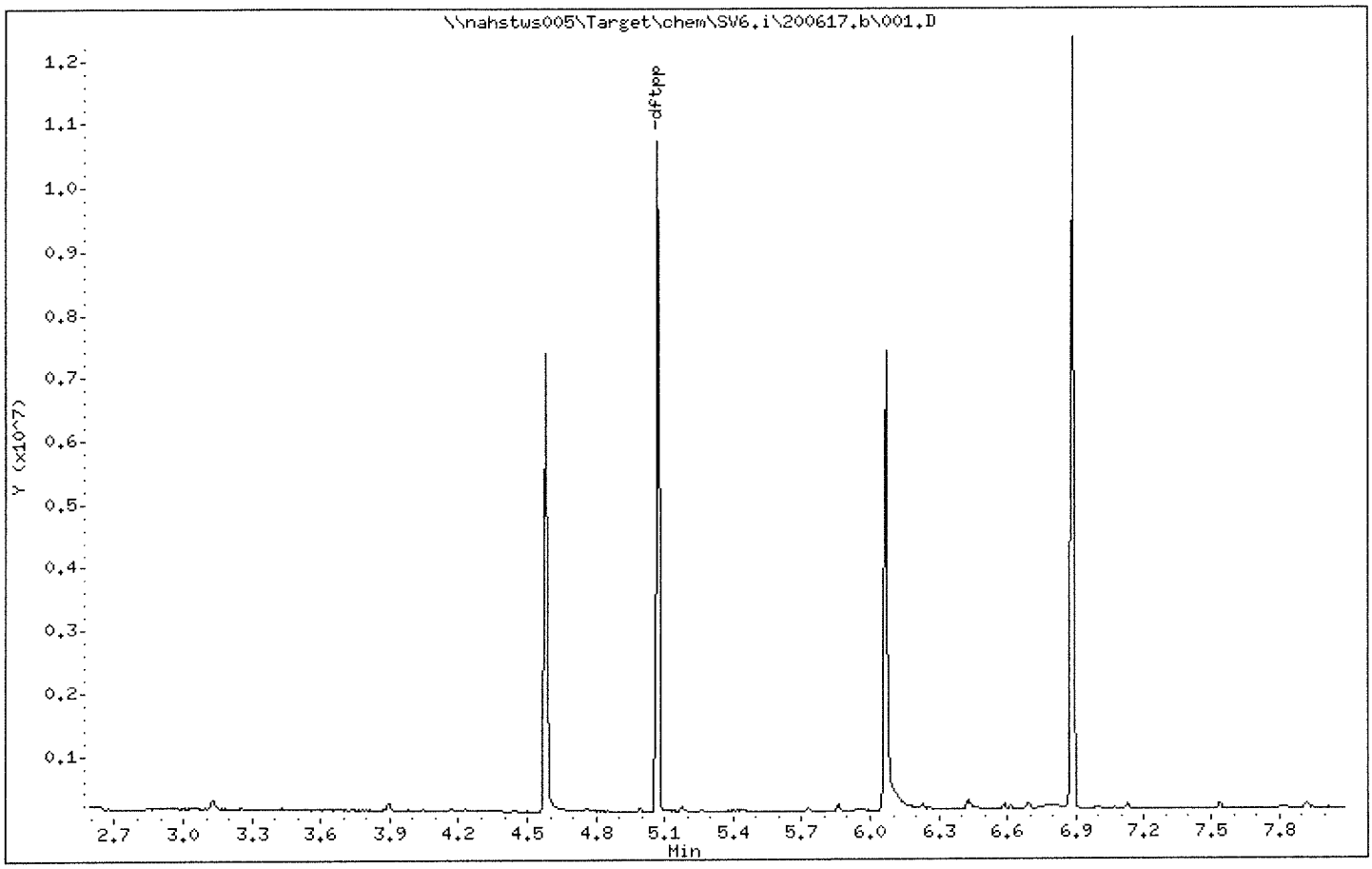
Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\SV6.i\200617.b\001.D

Date : 17-JUN-2020 11:08

Client ID: DFTPP

Instrument: SV6.i

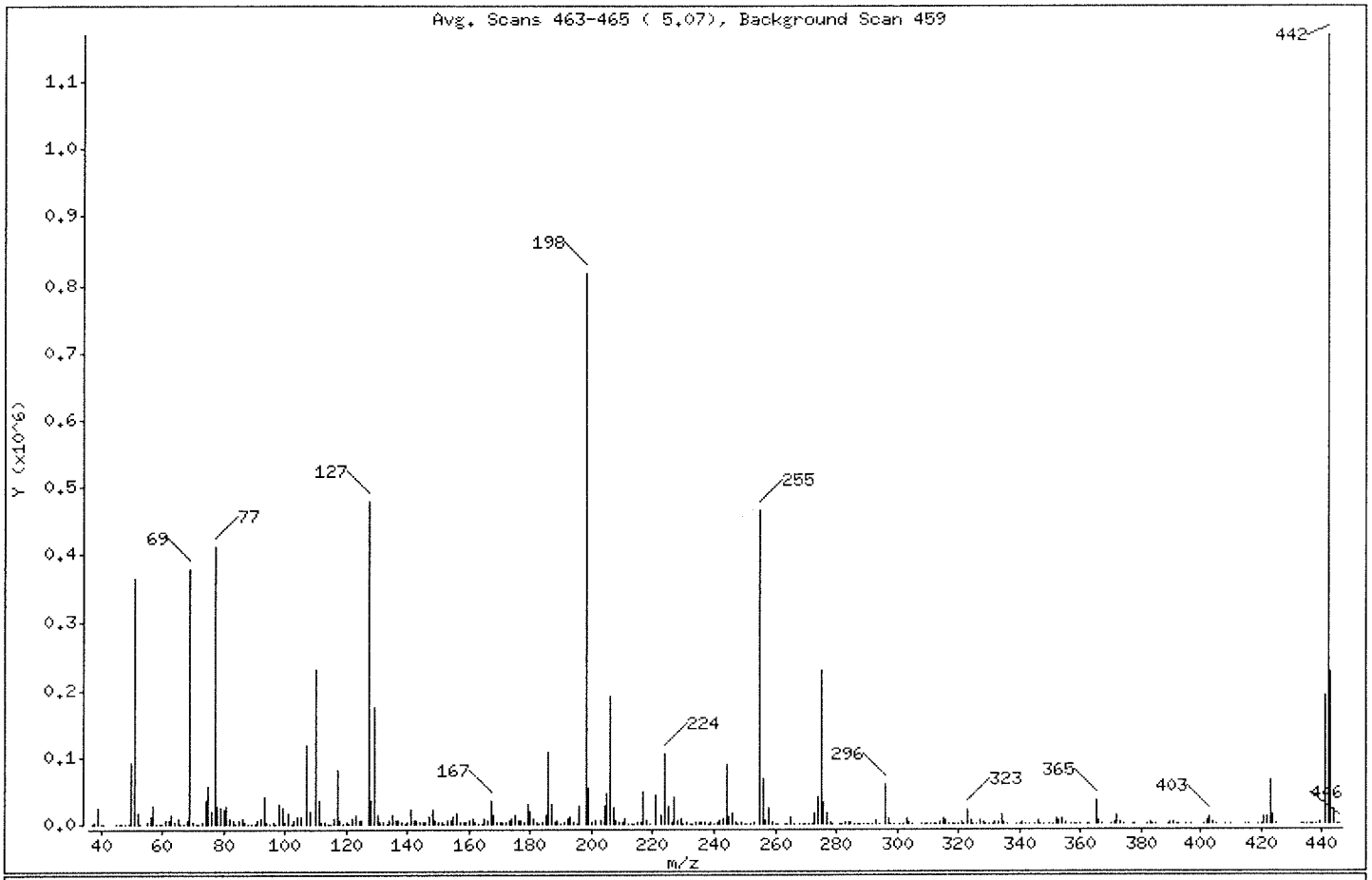
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

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	44.61
68	Less than 2.00% of mass 69	0.61 (1.31)
69	Mass 69 relative abundance	46.45
70	Less than 2.00% of mass 69	0.23 (0.50)
127	10.00 - 80.00% of mass 198	58.47
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.53
275	10.00 - 60.00% of mass 198	28.07
365	1.00 - 100.00% of mass 198	4.18
441	Present, but less than mass 443	23.25
442	50.00 - 150.00% of mass 198	143.11
443	15.00 - 24.00% of mass 442	27.64 (19.32)

Data File: \\nahstws005\Target\chem\SV6.i\200617.b\001.D

Date : 17-JUN-2020 11:08

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: Avg. Scans 463-465 (5.07), Background Scan 459

Location of Maximum: 442.00

Number of points: 352

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	1112	133.00	505	226.00	1842	323.00	22440
38.00	4019	134.00	4853	227.00	41424	324.00	4444
39.00	25280	135.00	13454	228.00	6043	325.00	577
40.00	1137	136.00	5381	229.00	8816	326.00	573
41.00	949	137.00	6320	230.00	1289	327.00	4102
45.00	720	138.00	1523	231.00	3993	328.00	2100
46.00	51	139.00	728	232.00	841	329.00	448
47.00	135	140.00	2074	233.00	934	330.00	64
48.00	13	141.00	21088	234.00	2697	331.00	91
49.00	66	142.00	6682	235.00	3168	332.00	2176
50.00	90760	143.00	4453	236.00	1826	333.00	2565
51.00	364672	144.00	1443	237.00	3411	334.00	14121
52.00	17064	145.00	1483	238.00	430	335.00	3321
53.00	761	146.00	3841	239.00	1807	336.00	479
55.00	1570	147.00	10110	240.00	1343	339.00	482
56.00	11393	148.00	21048	241.00	2701	340.00	272
57.00	26264	149.00	4225	242.00	5873	341.00	2846
58.00	1168	150.00	1430	243.00	6960	342.00	1004
59.00	548	151.00	3993	244.00	89448	343.00	130
60.00	92	152.00	810	245.00	12070	345.00	76
61.00	4359	153.00	6550	246.00	16374	346.00	4594
62.00	4905	154.00	4956	247.00	3316	347.00	802
63.00	14446	155.00	10945	248.00	970	348.00	154
64.00	1866	156.00	16992	249.00	3518	350.00	442
65.00	7362	157.00	3821	250.00	789	351.00	710
66.00	420	158.00	3780	251.00	866	352.00	7855
67.00	285	159.00	2862	252.00	796	353.00	5321
68.00	4977	160.00	6208	253.00	2839	354.00	7992
69.00	379712	161.00	9204	255.00	464064	355.00	1719
70.00	1905	162.00	2503	256.00	66616	357.00	66
71.00	416	163.00	1104	257.00	5634	358.00	266
72.00	343	164.00	1307	258.00	25112	359.00	542
73.00	2331	165.00	7146	259.00	4033	360.00	137
74.00	33824	166.00	6082	260.00	659	362.00	69
75.00	56216	167.00	36128	261.00	993	363.00	216

Data File: \\nahstws005\Target\chem\SV6.i\200617.b\001.D

Date : 17-JUN-2020 11:08

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: Avg. Scans 463-465 (5.07), Background Scan 459
Location of Maximum: 442.00
Number of points: 352

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	19600	168.00	13697	263.00	111	365.00	34184
77.00	412416	169.00	3281	264.00	670	366.00	4945
78.00	26952	170.00	1376	265.00	9487	367.00	312
79.00	23560	171.00	1545	266.00	1289	370.00	1226
80.00	20400	172.00	3500	268.00	209	371.00	2570
81.00	28088	173.00	4223	269.00	179	372.00	14285
82.00	6830	174.00	8615	270.00	850	373.00	3547
83.00	6448	175.00	14582	271.00	1210	374.00	438
84.00	256	176.00	4677	272.00	1116	377.00	343
85.00	4723	177.00	6574	273.00	16552	378.00	53
86.00	7727	178.00	1662	274.00	40928	382.00	52
87.00	3265	179.00	28656	275.00	229440	383.00	3545
88.00	924	180.00	18720	276.00	31336	384.00	1207
89.00	655	181.00	9211	277.00	16488	385.00	353
90.00	174	182.00	1662	278.00	2935	389.00	273
91.00	6219	183.00	652	279.00	630	390.00	2295
92.00	7307	184.00	2411	281.00	169	391.00	1485
93.00	40296	185.00	14419	282.00	466	392.00	1075
94.00	2963	186.00	106896	283.00	2373	393.00	173
95.00	751	187.00	29936	284.00	1569	395.00	115
96.00	1957	188.00	2981	285.00	3206	397.00	242
97.00	835	189.00	6272	286.00	635	401.00	1044
98.00	30000	190.00	1239	287.00	66	402.00	6036
99.00	24152	191.00	3420	288.00	221	403.00	9932
100.00	2444	192.00	8049	289.00	757	404.00	3678
101.00	16512	193.00	10174	290.00	983	405.00	338
102.00	1047	194.00	1979	291.00	548	408.00	61
103.00	5012	195.00	1249	292.00	1069	410.00	229
104.00	10447	196.00	25888	293.00	4276	415.00	367
105.00	9569	198.00	817472	294.00	1246	416.00	123
107.00	118480	199.00	53368	296.00	60184	419.00	93
108.00	18752	200.00	4011	297.00	8610	420.00	111
110.00	231296	201.00	4409	298.00	682	421.00	9549
111.00	34216	203.00	5149	299.00	146	422.00	9776
112.00	3900	204.00	27848	301.00	748	423.00	65784

Data File: \\nahstws005\Target\chem\SV6.i\200617.b\001.D

Date : 17-JUN-2020 11:08

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: Avg. Scans 463-465 (5.07), Background Scan 459
Location of Maximum: 442.00
Number of points: 352

m/z	Y	m/z	Y	m/z	Y	m/z	Y
113.00	1390	205.00	44384	302.00	656	424.00	12540
114.00	502	206.00	190528	303.00	7778	425.00	1191
115.00	669	207.00	24464	304.00	2036	433.00	80
116.00	6794	208.00	6335	305.00	363	434.00	264
117.00	79680	209.00	1828	308.00	1008	435.00	325
118.00	5332	210.00	2103	309.00	1205	436.00	447
119.00	978	211.00	7575	310.00	700	437.00	813
120.00	1704	212.00	81	311.00	110	438.00	568
121.00	597	213.00	544	312.00	313	439.00	1563
122.00	7330	214.00	355	313.00	794	441.00	190080
123.00	12271	215.00	2146	314.00	3213	442.00	1169920
124.00	5510	216.00	2809	315.00	7395	443.00	225984
125.00	5011	217.00	49232	316.00	4105	444.00	20656
127.00	478016	218.00	6119	317.00	756	445.00	1249
128.00	35272	219.00	873	318.00	73	446.00	53
129.00	175744	221.00	43944	319.00	233		
130.00	14460	223.00	13211	320.00	296		
131.00	2982	224.00	105088	321.00	2091		
132.00	1493	225.00	26496	322.00	259		

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200617.b\003.D
Lab Smp Id: DXSIM-0.08 Client Smp ID: DXSIM-0.08
Inj Date : 17-JUN-2020 11:45 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.08;DXSIM-0.08
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200617.b\DXSIM.m
Meth Date : 16-Jul-2020 17:32 SV6.i Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

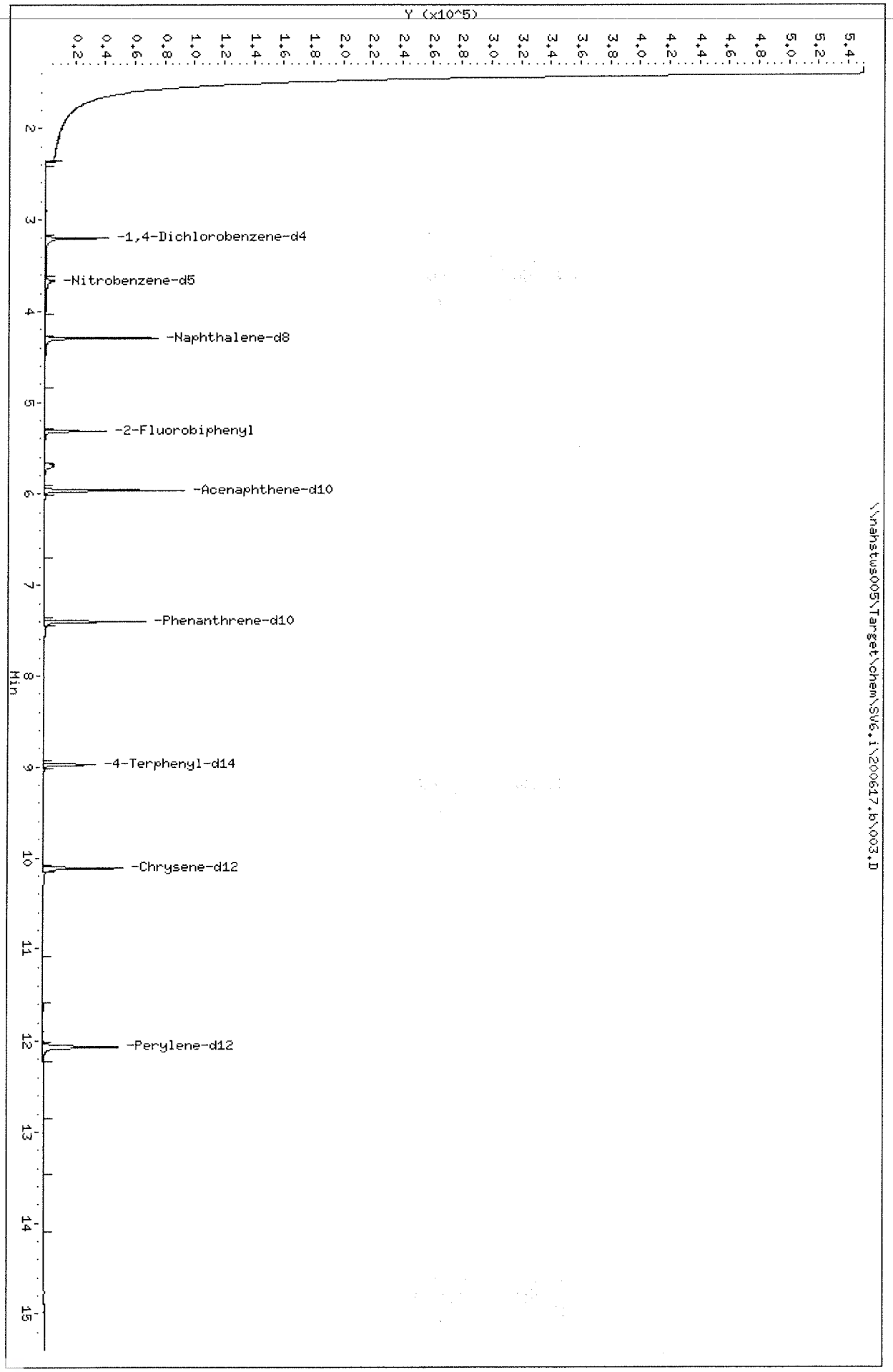
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

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	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.199	3.199	(1.000)	32274	0.10000	(aQM)
* 45 Naphthalene-d8	136	4.297	4.297	(1.000)	81376	0.10000	
$ 33 Nitrobenzene-d5	82	3.665	3.665	(0.853)	16352	0.08000	0.07696(QM)
* 86 Acenaphthene-d10	164	5.961	5.961	(1.000)	39780	0.10000	
$ 69 2-Fluorobiphenyl	172	5.318	5.318	(0.892)	35471	0.08000	0.07512
* 126 Phenanthrene-d10	188	7.400	7.400	(1.000)	66030	0.10000	
* 182 Chrysene-d12	240	10.117	10.117	(1.000)	56755	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.976	8.976	(0.887)	34293	0.08000	0.07327(M)
* 198 Perylene-d12	264	12.061	12.061	(1.000)	68060	0.10000	
1 1,4-Dioxane	58	1.513	1.513	(0.473)	1530	0.08000	0.07470(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\200617.b\003.D
Date : 17-JUN-2020 11:45
Client ID: DXSIM-0.08
Sample Info: DXSIM-0.08;DXSIM-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\200617.b\007.D
Lab Smp Id: MBLK-154059 Client Smp ID: MBLK-154059
Inj Date : 17-JUN-2020 13:06 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : MBLK-154059;MBLK-154059;3;;BLANK
Misc Info : HS20060114;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200617.b\DXSIM.m
Meth Date : 16-Jul-2020 17:32 SV6.i Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

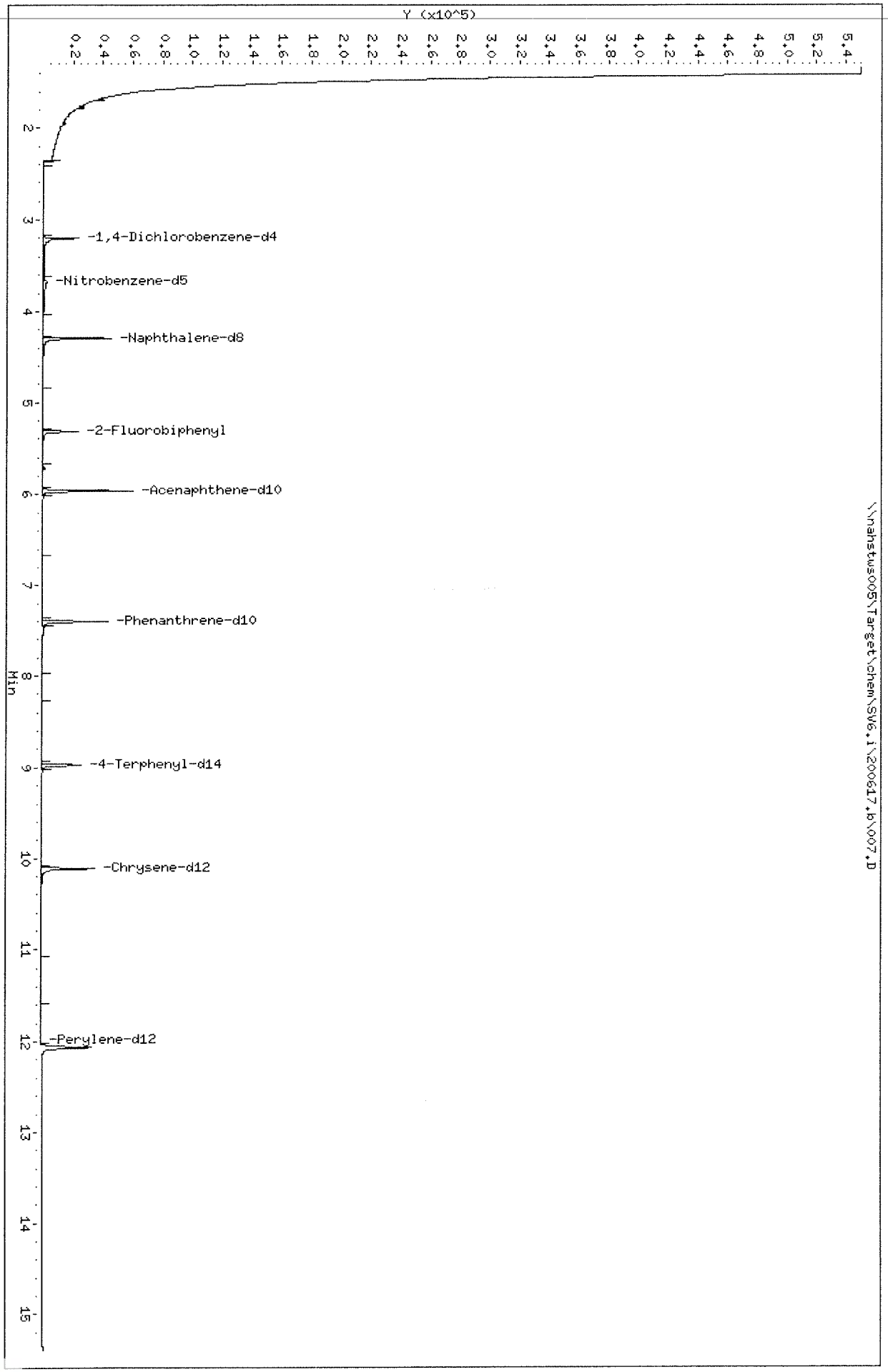
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

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)	CONCENTRATIONS FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.198	3.199	(1.000)	18276	0.10000	(aM)
* 45 Naphthalene-d8	136	4.297	4.297	(1.000)	55117	0.10000	
$ 33 Nitrobenzene-d5	82	3.671	3.665	(0.854)	9398	0.06530	0.06530(M)
* 86 Acenaphthene-d10	164	5.961	5.961	(1.000)	26199	0.10000	
$ 69 2-Fluorobiphenyl	172	5.318	5.318	(0.892)	24377	0.07838	0.07838
* 126 Phenanthrene-d10	188	7.400	7.400	(1.000)	48290	0.10000	
* 182 Chrysene-d12	240	10.116	10.117	(1.000)	40269	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.970	8.976	(0.887)	26098	0.07859	0.07859(M)
* 198 Perylene-d12	264	12.061	12.061	(1.000)	44789	0.10000	

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\200617.b\007.D
Date : 17-JUN-2020 13:06
Client ID: MBLK-154059
Sample Info: MBLK-154059;MBLK-154059;3;;BLANK
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\200617.b\008.D
Lab Smp Id: LCS-154059 Client Smp ID: LCS-154059
Inj Date : 17-JUN-2020 13:26 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : LCS-154059;LCS-154059;3;;LCS
Misc Info : HS20060114;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200617.b\DXSIM.m
Meth Date : 16-Jul-2020 17:32 SV6.i Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 8 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

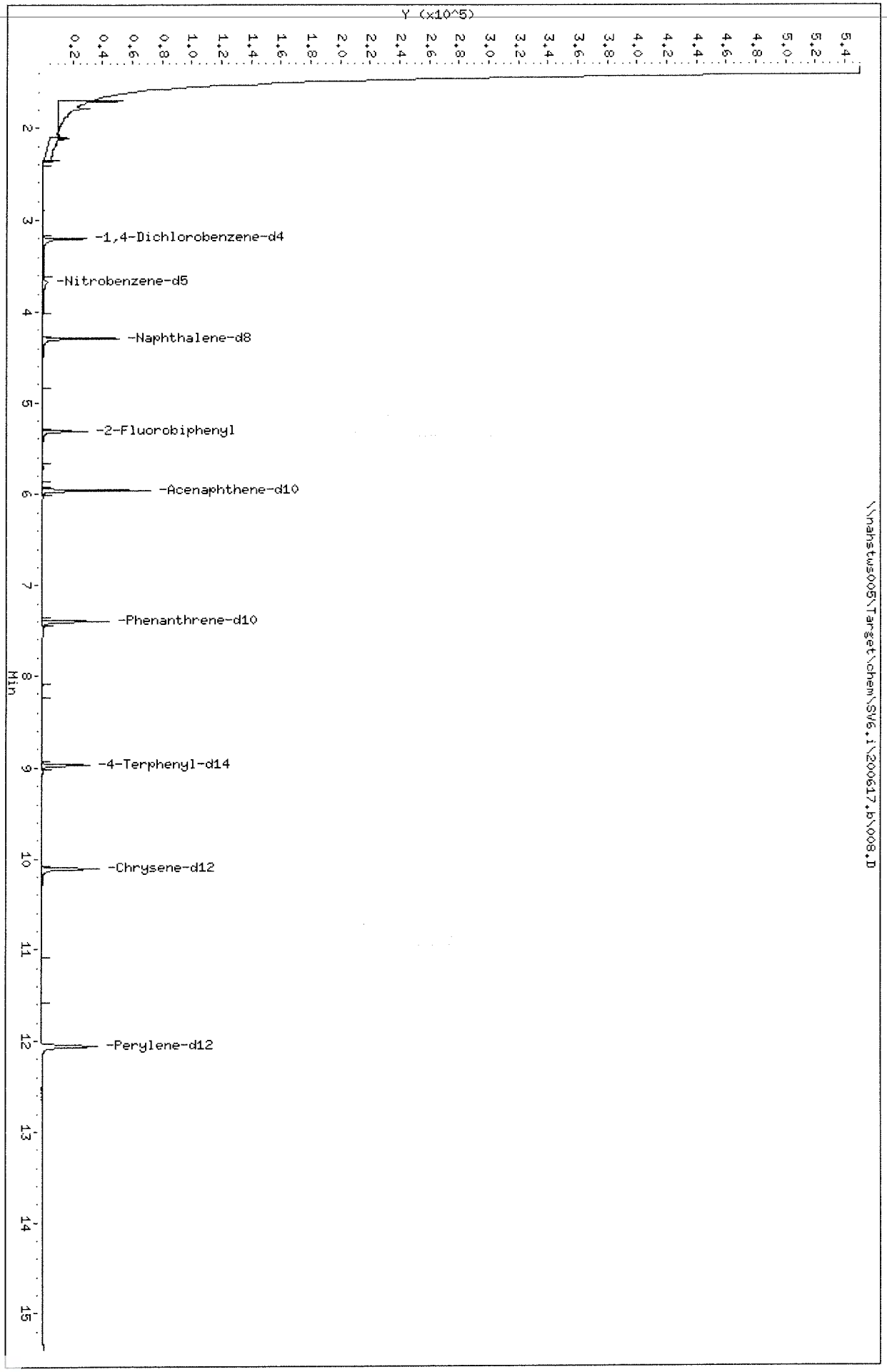
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

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	3.204	3.199	(1.000)	17177	0.10000	(aM)
* 45 Naphthalene-d8	136	4.297	4.297	(1.000)	63538	0.10000	
$ 33 Nitrobenzene-d5	82	3.665	3.665	(0.853)	17044	0.10273	0.1027(Q)
* 86 Acenaphthene-d10	164	5.956	5.961	(1.000)	31406	0.10000	(QM)
$ 69 2-Fluorobiphenyl	172	5.318	5.318	(0.932)	30516	0.08186	0.08186
* 126 Phenanthrene-d10	188	7.400	7.400	(1.000)	56298	0.10000	
* 182 Chrysene-d12	240	10.111	10.117	(1.000)	45963	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.970	8.976	(0.887)	30603	0.08074	0.08074(M)
* 198 Perylene-d12	264	12.055	12.061	(1.000)	51609	0.10000	
1 1,4-Dioxane	58	1.480	1.513	(0.462)	817	0.07495	0.07495(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\200617.b\008.D
Date : 17-JUN-2020 13:26
Client ID: LCS-154059
Sample Info: LCS-154059;LCS-154059;3;;LCS
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\200617.b\009.D
Lab Smp Id: LCSD-154059 Client Smp ID: LCSD-154059
Inj Date : 17-JUN-2020 13:46 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : LCSD-154059;LCSD-154059;3;;LCSD
Misc Info : HS20060114;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200617.b\DXSIM.m
Meth Date : 16-Jul-2020 17:32 SV6.i Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 9 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

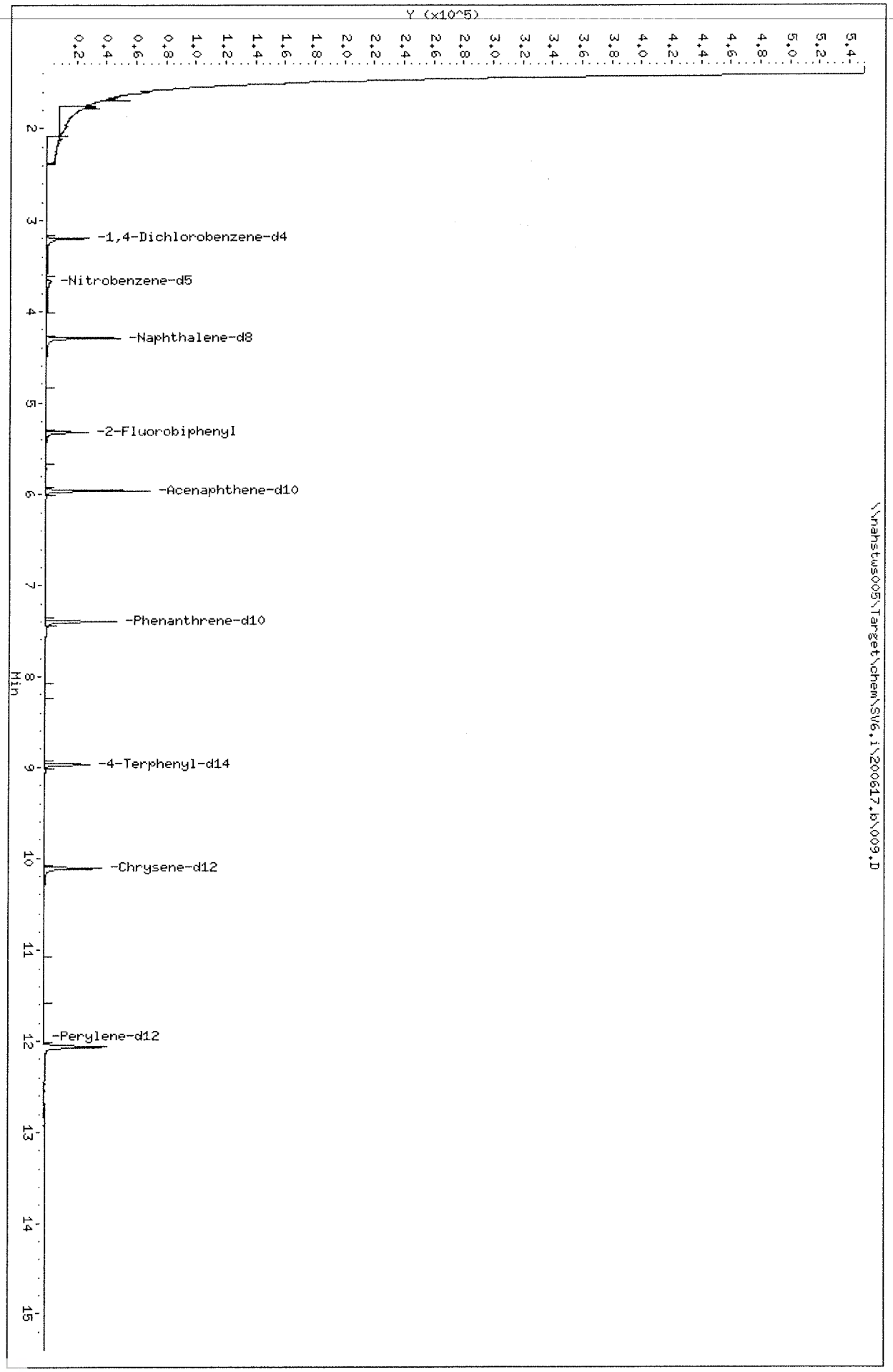
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

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	3.198	3.199	(1.000)	17586	0.10000		(aM)
* 45 Naphthalene-d8	136	4.297	4.297	(1.000)	57620	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.665	3.665	(0.880)	15955	0.10605	0.1060	(Q)
* 86 Acenaphthene-d10	164	5.961	5.961	(1.000)	29275	0.10000		(Q)
$ 69 2-Fluorobiphenyl	172	5.318	5.318	(0.892)	29352	0.08446	0.08446	
* 126 Phenanthrene-d10	188	7.400	7.400	(1.000)	53551	0.10000		
* 182 Chrysene-d12	240	10.116	10.117	(1.000)	43868	0.10000		(M)
$ 158 4-Terphenyl-d14	244	8.970	8.976	(0.887)	29478	0.08149	0.08149	(M)
* 198 Perylene-d12	264	12.061	12.061	(1.000)	53441	0.10000		
1 1,4-Dioxane	58	1.473	1.513	(0.460)	753	0.06747	0.06747	(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\200617.b\009.D
Date : 17-JUN-2020 13:46
Client ID: LCSD-154059
Sample Info: LCSD-154059;LCSD-154059;3;;LCSD
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\200617.b\013.D
Lab Smp Id: HS20060114-01 Client Smp ID: HS20060114-01
Inj Date : 17-JUN-2020 15:04 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : HS20060114-01;HS20060114-01
Misc Info : HS20060114;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200617.b\DXSIM.m
Meth Date : 16-Jul-2020 17:19 Luke.Targe Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

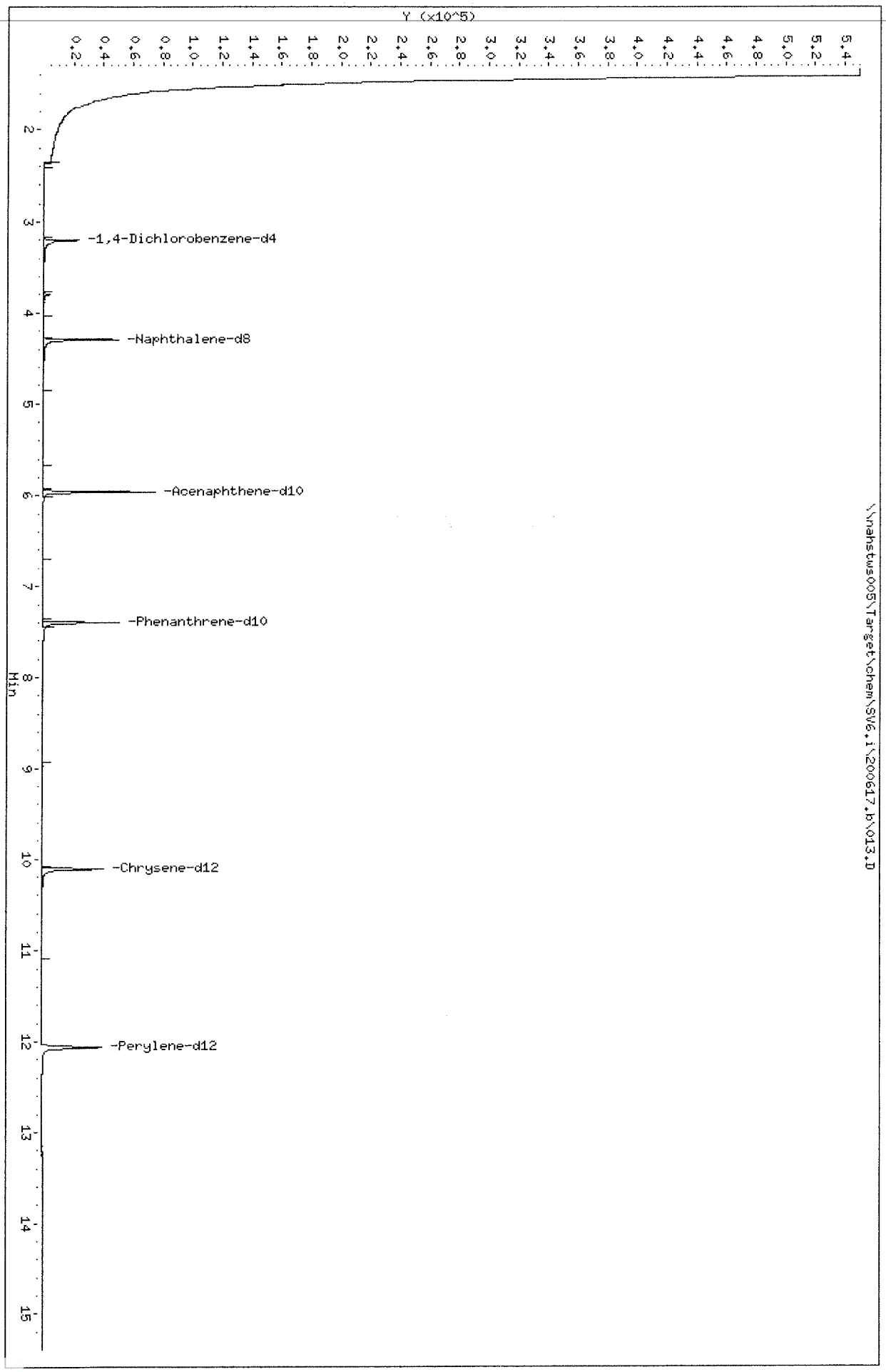
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

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	3.204	3.199	(1.000)	18364	0.10000		(aM)
* 45 Naphthalene-d8	136	4.297	4.297	(1.000)	67417	0.10000		(M)
* 86 Acenaphthene-d10	164	5.961	5.961	(1.000)	33696	0.10000		(QM)
* 126 Phenanthrene-d10	188	7.400	7.400	(1.000)	60340	0.10000		
* 182 Chrysene-d12	240	10.117	10.117	(1.000)	50897	0.10000		(M)
* 198 Perylene-d12	264	12.061	12.061	(1.000)	57133	0.10000		
1 1,4-Dioxane	58	1.517	1.513	(0.474)	5594	0.48000	0.4800	

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\200617.b\013.D
Date : 17-JUN-2020 15:04
Client ID: HS200601l4-01
Sample Info: HS200601l4-01;HS200601l4-01
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\200617.b\013.D

Date : 17-JUN-2020 15:04

Client ID: HS20060114-01

Instrument: SV6.i

Sample Info: HS20060114-01;HS20060114-01

Purge Volume: 1000.0

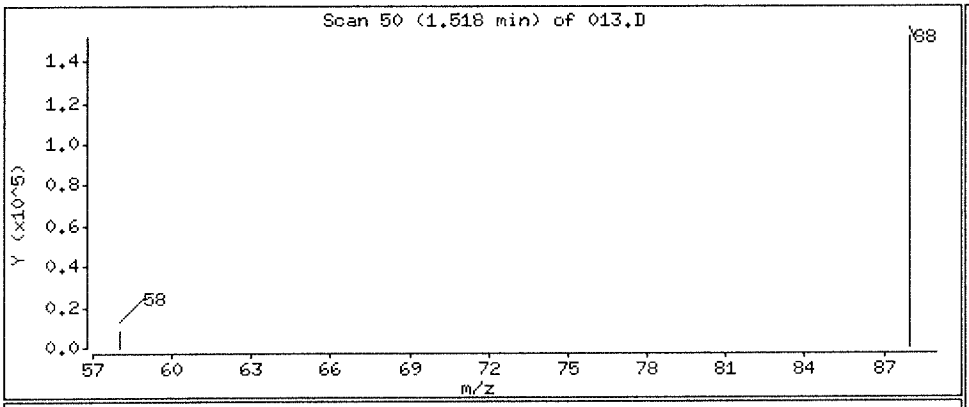
Operator: LG

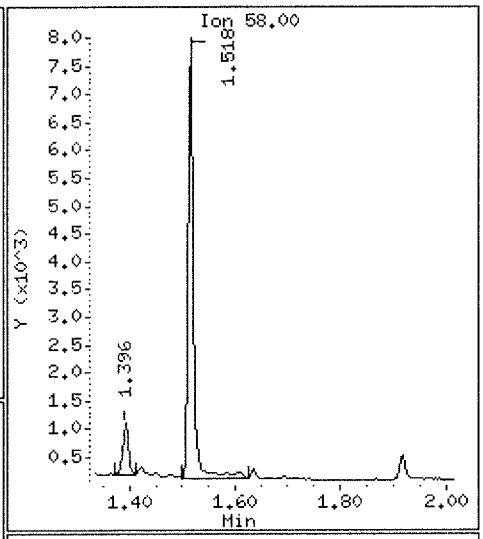
Column phase: RTX-5SIL MS

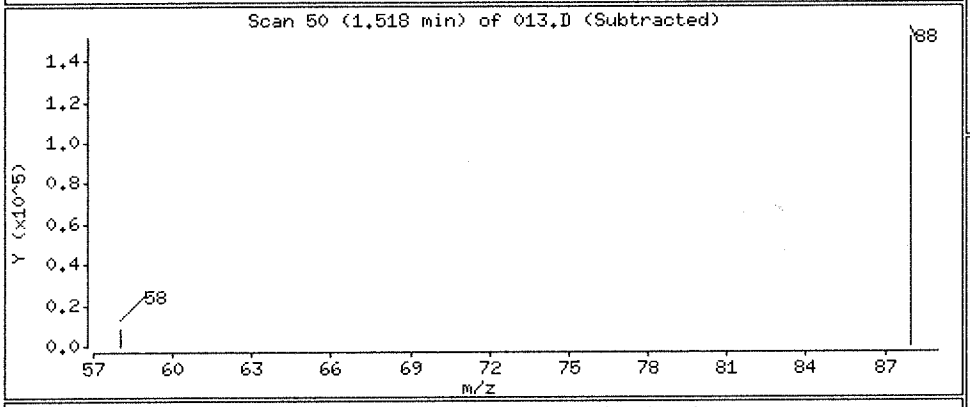
Column diameter: 0.28

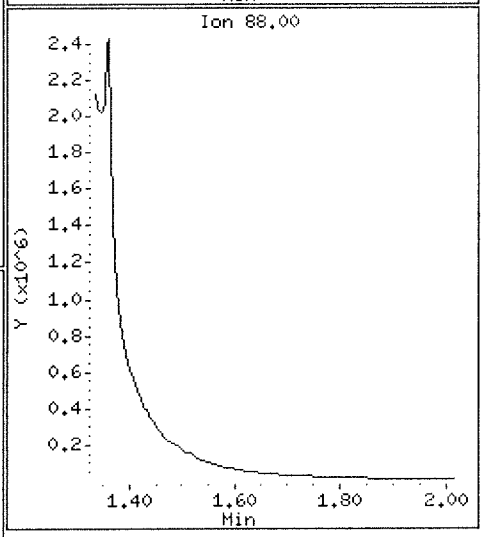
1 1,4-Dioxane

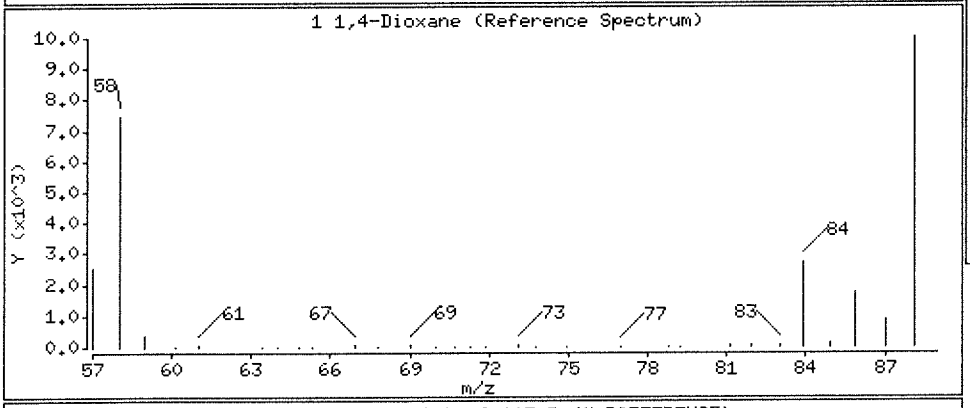
Concentration: 0.4800 ug/L

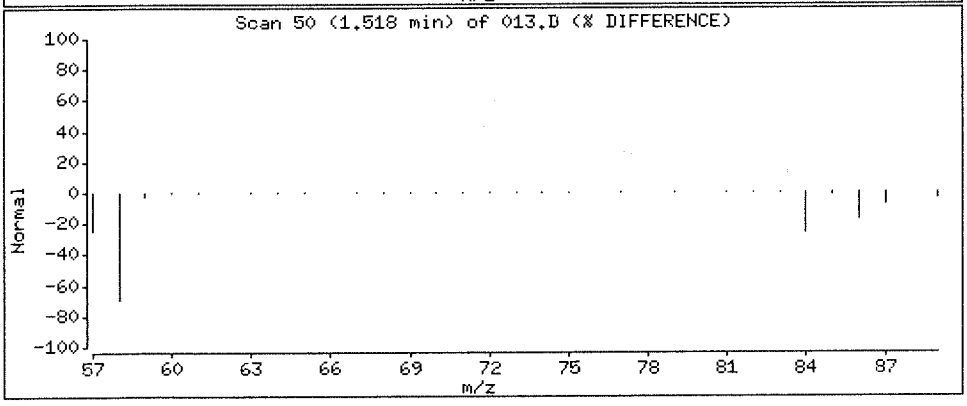












ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200618.b\003.D
Lab Smp Id: DXSIM-0.08 Client Smp ID: DXSIM-0.08
Inj Date : 18-JUN-2020 10:45 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.08;DXSIM-0.08
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200618.b\DXSIM.m
Meth Date : 16-Jul-2020 17:47 SV6.i Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

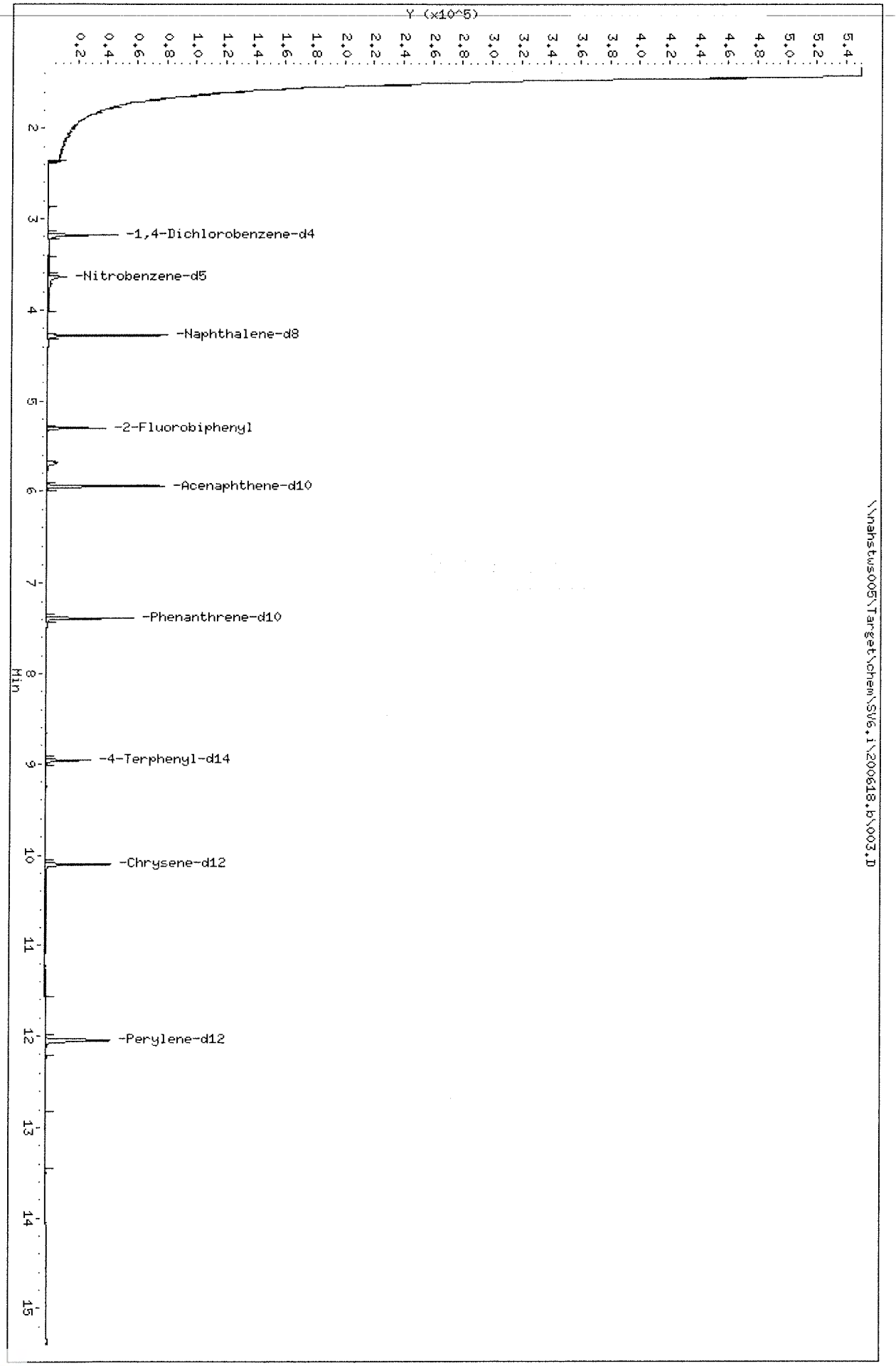
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

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	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.182	3.182	(1.000)	21079	0.10000	(aM)
* 45 Naphthalene-d8	136	4.278	4.278	(1.000)	71721	0.10000	
$ 33 Nitrobenzene-d5	82	3.644	3.644	(0.852)	14522	0.08000	0.07754(QM)
* 86 Acenaphthene-d10	164	5.945	5.945	(1.000)	31105	0.10000	
$ 69 2-Fluorobiphenyl	172	5.303	5.303	(0.892)	28128	0.08000	0.07618
* 126 Phenanthrene-d10	188	7.384	7.384	(1.000)	54218	0.10000	(M)
* 182 Chrysene-d12	240	10.106	10.106	(1.000)	44761	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.965	8.965	(0.887)	26293	0.08000	0.07123(M)
* 198 Perylene-d12	264	12.045	12.045	(1.000)	52788	0.10000	
1 1,4-Dioxane	58	1.487	1.487	(0.467)	1078	0.08000	0.08058(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\200618.b\003.D
Date : 18-JUN-2020 10:45
Client ID: DXSIM-0.08
Sample Info: DXSIM-0.08;DXSIM-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28

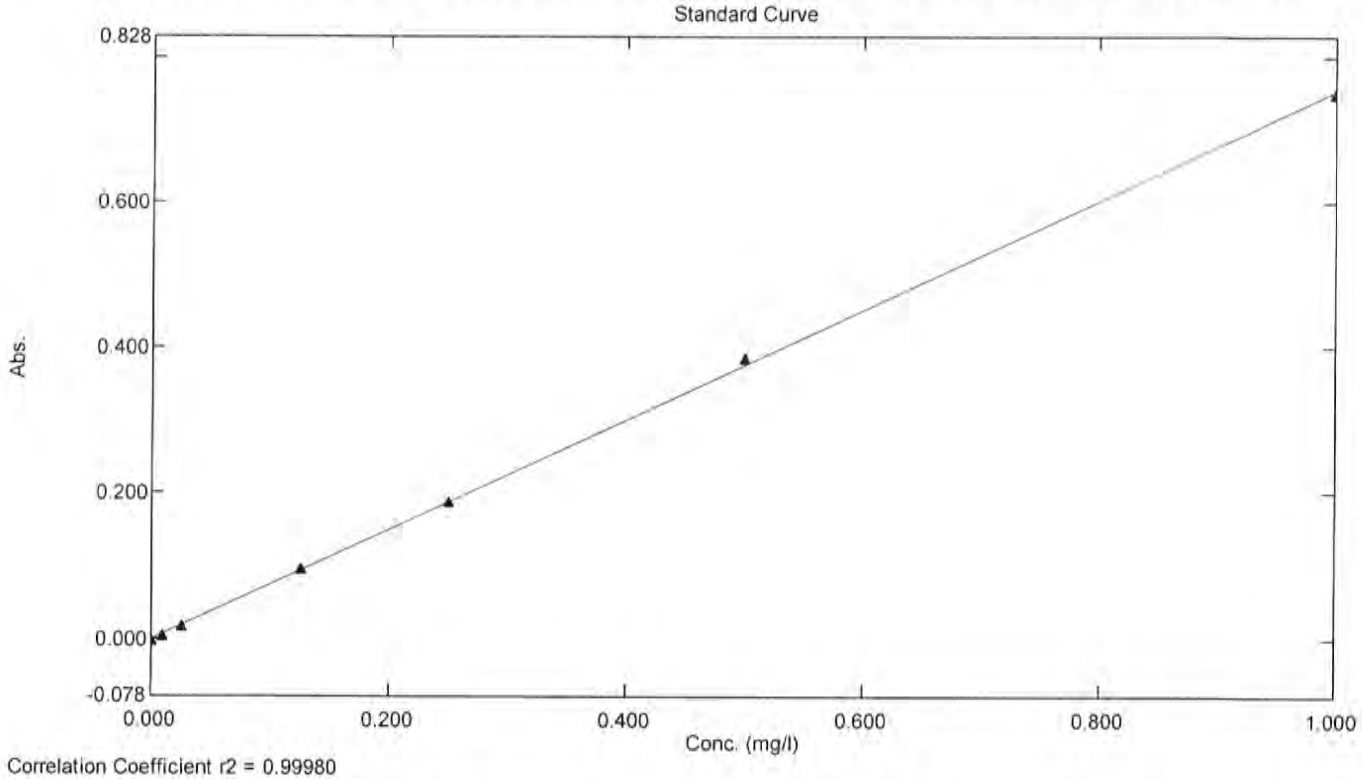
HS20060114 Wet Chem Raw Data (CR_6)

ALS WO# HS20060114

Standard Table Report

07/06/2020 02:48:04 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2020\06032020-CR6 W_.pho



Correlation Coefficient r2 = 0.99980

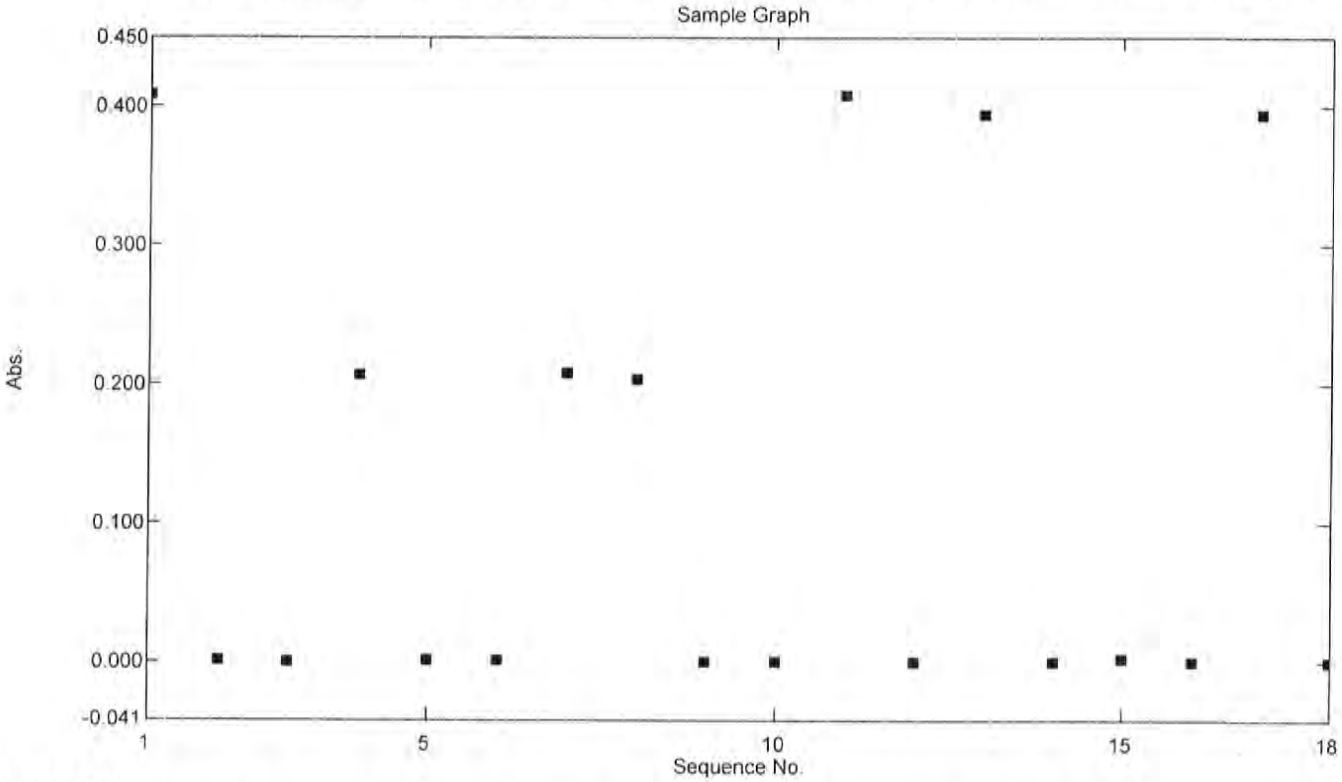
Standard Table

	Sample ID	Type	Ex	Conc	WL540.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.002	1.000	
2	STD2	Standard		0.010	0.004	1.000	
3	STD3	Standard		0.025	0.017	1.000	
4	STD4	Standard		0.125	0.095	1.000	
5	STD5	Standard		0.250	0.187	1.000	
6	STD6	Standard		0.500	0.384	1.000	
7	STD7	Standard		1.000	0.749	1.000	
8							

Sample Table Report

07/06/2020 02:47:56 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2020\06032020-CR6 W_.pho



Sample Table

	Sample ID	Type	Ex	Conc	WL540.0	Comments
1	CCV	Unknown		0.544	0.409	313104808 WC-14
2	CCB	Unknown		0.002	0.001	313105502 WC-13
3	MBLK	Unknown		0.001	0.000	313105501 WC-13
4	LCS	Unknown		0.276	0.207	313104807 WC-14
5	20060114.01	Unknown		0.003	0.001	12:55PM SAMP-BKG=TOTAL
6	20060114.01BKG	Unknown		0.003	0.001	12:56PM,0
7	20060114.01MS	Unknown		0.277	0.208	12:57PM
8	20060114.01MSD	Unknown		0.272	0.204	12:57PM
9	20060116.01	Unknown		0.002	0.000	1:02PM,0
10	20060116.01BKG	Unknown		0.002	0.001	1:02PM
11	CCV2	Unknown		0.543	0.409	
12	CCB2	Unknown		0.001	-0.000	
13	CCV3	Unknown		0.525	0.395	
14	CCB3	Unknown		0.001	0.000	
15	HS20060125.01	Unknown		0.004	0.002	4:27PM,0.003
16	HS20060125.01BKG	Unknown		0.001	-0.000	4:27PM
17	CCV4	Unknown		0.525	0.395	
18	CCB4	Unknown		0.001	0.000	
19						

HS20060114 - ME - ICP_W_DOD

ALS WO# HS20060114

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc.

Instrument:ICPMS05

Project: Longhorn GW Treatment Plant Monthly Effluent Samples

WorkOrder: HS20060114

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: 01-Jul-20

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114
Start Date: 05-Jun-2020 10:00 End Date: 05-Jun-2020 14:00

Batch ID: 154157
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS20060114-01	LH18/24-SP650_060220	Water		10	10	1
HS20060114-01MS				10	10	1
HS20060114-01MSD				10	10	1
HS20060114-01PDS				10	10	1
HS20060114-01SD				10	10	1
LCS-154157				10	10	1
MBLK-154157				10	10	1

ALS Houston, US Date: 01-Jul-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114
Start Date: 10-Jun-2020 End Date: 10-Jun-2020

Run ID:ICPMS05_362980
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_362980_Tune	1	10-Jun-2020 00:00	ICPMS05_362980_Tune_1	
CAL BLK	1	10-Jun-2020 12:20	012CALB.d_5613256	AG BA PB SE
2/10/200	1	10-Jun-2020 12:23	013CALS.d_5613257	AG BA PB SE
5/25/500	1	10-Jun-2020 12:25	014CALS.d_5613258	AG BA PB SE
10/50/1000	1	10-Jun-2020 12:28	015CALS.d_5613259	AG BA PB SE
100/500/10K	1	10-Jun-2020 12:30	016CALS.d_5613260	AG BA PB SE
200/1000/20K	1	10-Jun-2020 12:32	017CALS.d_5613261	AG BA PB SE
LLICV2	1	10-Jun-2020 12:42	020LCV2.d_5613264	AG BA PB SE
LLICV5	1	10-Jun-2020 12:44	021LCV5.d_5613265	AG BA PB SE
ICB	1	10-Jun-2020 12:47	022_ICB.d_5613266	AG BA PB SE
ICV	1	10-Jun-2020 12:49	023_ICV.d_5613267	AG BA PB SE
ICSA	1	10-Jun-2020 12:54	025ICSA.d_5613269	AG BA PB SE
ICSAB	1	10-Jun-2020 12:56	026ICSB.d_5613270	AG BA PB SE
CCV 1	1	10-Jun-2020 14:27	053_CCV.d_5613658	AG BA PB SE
CCB 1	1	10-Jun-2020 14:29	054_CCB.d_5613659	AG BA PB SE
MBLK-154157	1	10-Jun-2020 14:34	055SMPL.d_5613660	AG BA PB SE
LCS-154157	1	10-Jun-2020 14:40	057SMPL.d_5613662	AG BA PB SE
CCV 2	1	10-Jun-2020 15:25	065_CCV.d_5613664	AG BA PB SE
CCB 2	1	10-Jun-2020 15:27	066_CCB.d_5613665	AG BA PB SE
CCV 3	1	10-Jun-2020 16:02	077_CCV.d_5613902	AG BA PB SE
CCB 3	1	10-Jun-2020 16:04	078_CCB.d_5613903	AG BA PB SE
LH18/24-SP650_060220	1	10-Jun-2020 16:14	082SMPL.d_5613907	AG BA PB SE
LH18/24-SP650_060220SD	5	10-Jun-2020 16:16	083SMPL.d_5613908	AG BA PB SE
LH18/24-SP650_060220MS	1	10-Jun-2020 16:19	084SMPL.d_5613909	AG BA PB SE
LH18/24-SP650_060220MSD	1	10-Jun-2020 16:21	085SMPL.d_5613910	AG BA PB SE
LH18/24-SP650_060220PDS	1	10-Jun-2020 16:23	086SMPL.d_5613911	BA PB SE
CCB 4	1	10-Jun-2020 16:31	089_CCB.d_5613914	AG BA PB SE
CCV 4	1	10-Jun-2020 16:38	091_CCV.d_5613916	AG BA PB SE
CCV 5	1	10-Jun-2020 16:41	092_CCV.d_5613917	AG BA PB SE
LH18/24-SP650_060220SD	50	10-Jun-2020 16:52	096SMPL.d_5613921	
LH18/24-SP650_060220PDS	10	10-Jun-2020 16:54	097SMPL.d_5613922	
CCV 6	1	10-Jun-2020 16:59	099_CCV.d_5613924	AG BA PB SE
CCB 5	1	10-Jun-2020 17:01	100_CCB.d_5613925	AG BA PB SE

ALS Houston, US Date: 01-Jul-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114
Start Date: 15-Jun-2020 End Date: 15-Jun-2020

Run ID:ICPMS05_363235
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_363235_Tune	1	15-Jun-2020 00:00	ICPMS05_363235_Tune_1	
CAL BLK	1	15-Jun-2020 12:06	015CALB.d_5619417	AG
2/10/200	1	15-Jun-2020 12:08	016CALS.d_5619418	AG
5/25/500	1	15-Jun-2020 12:11	017CALS.d_5619419	AG
10/50/1000	1	15-Jun-2020 12:13	018CALS.d_5619420	AG
100/500/10K	1	15-Jun-2020 12:16	019CALS.d_5619421	AG
200/1000/20K	1	15-Jun-2020 12:18	020CALS.d_5619422	AG
ICV	1	15-Jun-2020 12:24	022_ICV.d_5619424	AG BA PB SE
LLICV2	1	15-Jun-2020 12:26	023LCV2.d_5619425	AG
LLICV5	1	15-Jun-2020 12:28	024LCV5.d_5619426	AG
ICB	1	15-Jun-2020 12:31	025_ICB.d_5619427	AG BA PB SE
ICV	1	15-Jun-2020 12:34	026_ICV.d_5619428	AG BA PB SE
ICSA	1	15-Jun-2020 12:46	028ICSA.d_5619430	AG
ICSAB	1	15-Jun-2020 12:49	029ICSB.d_5619431	AG
CCV 1	1	15-Jun-2020 14:14	055_CCV.d_5619464	AG
CCB 1	1	15-Jun-2020 14:17	056_CCB.d_5619465	AG
CCV 2	1	15-Jun-2020 15:00	068_CCV.d_5619458	AG
CCB 2	1	15-Jun-2020 15:03	069_CCB.d_5619459	AG
CCV 3	1	15-Jun-2020 15:50	081_CCV.d_5619460	AG
CCB 3	1	15-Jun-2020 15:52	082_CCB.d_5619461	AG
LH18/24-SP650_060220PDS	1	15-Jun-2020 16:23	092SMPL.d_5619462	AG
CCV 4	1	15-Jun-2020 16:25	093_CCV.d_5619463	AG
CCB 4	1	15-Jun-2020 16:28	094_CCB.d_5619476	AG
CAL BLK	1	15-Jun-2020 16:41	098CALB.d_5619480	AG
2/10/200	1	15-Jun-2020 16:43	099CALS.d_5619481	AG
5/25/500	1	15-Jun-2020 16:45	100CALS.d_5619482	AG
10/50/1000	1	15-Jun-2020 16:48	101CALS.d_5619483	AG
100/500/10K	1	15-Jun-2020 16:50	102CALS.d_5619484	AG
200/1000/20K	1	15-Jun-2020 16:53	103CALS.d_5619485	AG
ICV	1	15-Jun-2020 16:58	105_ICV.d_5619487	AG BA PB SE
LLCCV2	1	15-Jun-2020 17:00	106LCV2.d_5619488	AG
LLCCV5	1	15-Jun-2020 17:02	107LCV5.d_5619489	AG
ICCB 5	1	15-Jun-2020 17:05	108_ICB.d_5619490	AG BA PB SE
LLCCV5	1	15-Jun-2020 17:14	110LCV5.d_5619492	AG
CAL BLK	1	15-Jun-2020 20:06	169CALB.d_5620078	AG
2/10/200	1	15-Jun-2020 20:09	170CALS.d_5620079	AG
5/25/500	1	15-Jun-2020 20:11	171CALS.d_5620080	AG
10/50/1000	1	15-Jun-2020 20:14	172CALS.d_5620081	AG
100/500/10K	1	15-Jun-2020 20:16	173CALS.d_5620082	AG
200/1000/20K	1	15-Jun-2020 20:18	174CALS.d_5620083	AG
ICCV 5	1	15-Jun-2020 20:23	176_ICV.d_5620085	AG
LLCCV2	1	15-Jun-2020 20:26	177LCV2.d_5620086	AG
LLCCV5	1	15-Jun-2020 20:28	178LCV5.d_5620087	AG
ICCV 6	1	15-Jun-2020 20:31	179_ICV.d_5620088	AG
ICCB 6	1	15-Jun-2020 20:33	180_ICB.d_5620089	AG
CCV 7	1	15-Jun-2020 21:47	208_CCV.d_5620127	AG
CCB 7	1	15-Jun-2020 21:50	209_CCB.d_5620128	AG
CCV 8	1	15-Jun-2020 22:25	221_CCV.d_5620107	AG
CCB 8	1	15-Jun-2020 22:27	222_CCB.d_5620108	AG
CCV 9	1	15-Jun-2020 22:35	225_CCV.d_5620111	AG
CCB 9	1	15-Jun-2020 22:37	226_CCB.d_5620112	AG

ALS Houston, US Date: 01-Jul-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114
Start Date: 15-Jun-2020 End Date: 15-Jun-2020

Run ID:ICPMS05_363235
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
CCV 10	1	15-Jun-2020 22:39	227_CCV.d_5620113	AG
CCV 11	1	15-Jun-2020 22:56	234_CCV.d_5620120	AG
CCB 10	1	15-Jun-2020 22:58	235_CCB.d_5620121	AG
CCV 12	1	15-Jun-2020 23:08	239_CCV.d_5620125	AG
CCB 11	1	15-Jun-2020 23:10	240_CCB.d_5620126	AG

ALS Houston, US

Date: 01-Jul-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

Run ID: ICPMS05_362980
Instrument: ICPMS05
Method: SW6020

ICV | Date: 10-Jun-2020 12:49 | Seq: 5613267 | ICV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	102.704	103	90-110	
Lead	100	96.745	97	90-110	
Selenium	100	98.836	99	90-110	
Silver	100	102.552	103	90-110	

CCV1 | Date: 10-Jun-2020 14:27 | Seq: 5613658 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	105.235	105	90-110	
Lead	100	99.598	100	90-110	
Selenium	100	99.171	99	90-110	
Silver	100	108.094	108	90-110	

CCV2 | Date: 10-Jun-2020 15:25 | Seq: 5613664 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	107.888	108	90-110	
Lead	100	99.687	100	90-110	
Selenium	100	102.443	102	90-110	
Silver	100	107.737	108	90-110	

CCV3 | Date: 10-Jun-2020 16:02 | Seq: 5613902 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	103.769	104	90-110	
Lead	100	101.51	102	90-110	
Selenium	100	101.711	102	90-110	
Silver	100	100.915	101	90-110	

CCV4 | Date: 10-Jun-2020 16:38 | Seq: 5613916 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	100.326	100	90-110	
Lead	100	99.911	100	90-110	
Selenium	100	96.915	97	90-110	
Silver	100	100.922	101	90-110	

CCV5 | Date: 10-Jun-2020 16:41 | Seq: 5613917 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	101.327	101	90-110	
Lead	100	99.859	100	90-110	
Selenium	100	98.399	98	90-110	
Silver	100	101.845	102	90-110	

CCV6 | Date: 10-Jun-2020 16:59 | Seq: 5613924 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	101.373	101	90-110	
Lead	100	99.741	100	90-110	
Selenium	100	99.616	100	90-110	
Silver	100	101.636	102	90-110	

ALS Houston, US Date: 01-Jul-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

Run ID: ICPMS05_363235
Instrument: ICPMS05
Method: SW6020

ICV	Date: 15-Jun-2020 12:24		Seq: 5619424	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	93.324	93	90-110	

ICV	Date: 15-Jun-2020 12:34		Seq: 5619428	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	97.274	97	90-110	

CCV1	Date: 15-Jun-2020 14:14		Seq: 5619464	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	100.066	100	90-110	

CCV2	Date: 15-Jun-2020 15:00		Seq: 5619458	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	101.046	101	90-110	

CCV3	Date: 15-Jun-2020 15:50		Seq: 5619460	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	96.919	97	90-110	

CCV4	Date: 15-Jun-2020 16:25		Seq: 5619463	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	98.904	99	90-110	

ICV	Date: 15-Jun-2020 16:58		Seq: 5619487	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	99.879	100	90-110	

ICCV5	Date: 15-Jun-2020 20:23		Seq: 5620085	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	92.296	92	90-110	

ICCV6	Date: 15-Jun-2020 20:31		Seq: 5620088	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	92.22	92	90-110	

CCV7	Date: 15-Jun-2020 21:47		Seq: 5620127	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	93.287	93	90-110	

CCV8	Date: 15-Jun-2020 22:25		Seq: 5620107	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	91.441	91	90-110	

CCV9	Date: 15-Jun-2020 22:35		Seq: 5620111	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	96.906	97	90-110	

CCV10	Date: 15-Jun-2020 22:39		Seq: 5620113	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	98.452	99	90-110	

CCV11	Date: 15-Jun-2020 22:56		Seq: 5620120	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	95.271	95	90-110	

ALS Houston, US Date: 01-Jul-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

Run ID: ICPMS05_363235
Instrument: ICPMS05
Method: SW6020

CCV12 Date: 15-Jun-2020 23:08 Seq: 5620125 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Silver	100	96.657	97	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

Run ID: ICPMS05_362980
Instrument: ICPMS05
Method: SW6020

ICB	Date: 10-Jun-2020 12:47		Seq: 5613266	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	5	1.9	5	U	
Lead	5	0.6	5	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB1	Date: 10-Jun-2020 14:29		Seq: 5613659	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

MBLK-154157	Date: 10-Jun-2020 14:34		Seq: 5613660	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	5	1.9	5	U	
Lead	5	0.6	5	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB2	Date: 10-Jun-2020 15:27		Seq: 5613665	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB3	Date: 10-Jun-2020 16:04		Seq: 5613903	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB4	Date: 10-Jun-2020 16:31		Seq: 5613914	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB5	Date: 10-Jun-2020 17:01		Seq: 5613925	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ALS Houston, US Date: 01-Jul-20

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

Run ID: ICPMS05_363235
Instrument: ICPMS05
Method: SW6020

ICB	Date: 15-Jun-2020 12:31		Seq: 5619427	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	5	0.2	5	U	
CCB1	Date: 15-Jun-2020 14:17		Seq: 5619465	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	
CCB2	Date: 15-Jun-2020 15:03		Seq: 5619459	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	
CCB3	Date: 15-Jun-2020 15:52		Seq: 5619461	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	
CCB4	Date: 15-Jun-2020 16:28		Seq: 5619476	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	
ICCB5	Date: 15-Jun-2020 17:05		Seq: 5619490	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	5	0.2	5	U	
ICCB6	Date: 15-Jun-2020 20:33		Seq: 5620089	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	
CCB7	Date: 15-Jun-2020 21:50		Seq: 5620128	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	
CCB8	Date: 15-Jun-2020 22:27		Seq: 5620108	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	
CCB9	Date: 15-Jun-2020 22:37		Seq: 5620112	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	
CCB10	Date: 15-Jun-2020 22:58		Seq: 5620121	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	
CCB11	Date: 15-Jun-2020 23:10		Seq: 5620126	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	

ALS Houston, US Date: 01-Jul-20

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS05_362980

Project: Longhorn GW Treatment Plant Monthly Effluent Samples Instrument:ICPMS05

WorkOrder: HS20060114 Method:SW6020

ICSA	Date: 10-Jun-2020 12:54	Seq: 5613269	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium		-0.009	0	
Lead		0.022	0	
Selenium		-0.036	0	
Silver		0.016	0	

ICSAB	Date: 10-Jun-2020 12:56	Seq: 5613270	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium	100	100.3	100	
Lead	100	97.69	97.7	
Selenium	100	101.8	102	
Silver	100	93.76	93.8	

ALS Houston, US Date: 01-Jul-20

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS05_363235
Project: Longhorn GW Treatment Plant Monthly Effluent Samples Instrument: ICPMS05
WorkOrder: HS20060114 Method: SW6020

ICSA	Date: 15-Jun-2020 12:46	Seq: 5619430	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Silver		0.019	0	

ICSAB	Date: 15-Jun-2020 12:49	Seq: 5619431	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Silver	100	96.38	96.4	

ALS Houston, US Date: 01-Jul-20

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

Date Analyzed: 10-Jun-2020 16:21
Date Extracted: 05-Jun-2020 14:00
Units: ug/L

Matrix Spike: HS20060114-01MS
Client Sample ID: LH18/24-SP650_060220

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Barium	143.6	198.3	50.00	109	200.2	50.00	113	86-114	0.971	20
Lead	5.000	50.12	50.00	100	48.16	50.00	96.3	88-115	3.99	20
Selenium	5.000	48.60	50.00	97.2	49.11	50.00	98.2	80-120	1.06	20
Silver	5.000	42.54	50.00	85.1	42.25	50.00	84.5	85-116	0.686	20

ALS Houston, US Date: 01-Jul-20

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

Date Analyzed: 10-Jun-2020 16:23
Date Extracted: 05-Jun-2020 14:00
Units: ug/L

Lab Sample ID: HS20060114-01PDS
Client Sample ID: LH18/24-SP650_060220

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Barium	143.6	249.8	100	106	80-120
Lead	0	98.26	100	98	80-120
Selenium	0	100.8	100	100	80-120

ALS Houston, US Date: 01-Jul-20

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

Date Analyzed: 15-Jun-2020 16:23
Date Extracted: 05-Jun-2020 14:00
Units: ug/L

Lab Sample ID: HS20060114-01PDS
Client Sample ID: LH18/24-SP650_060220

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Silver	0	88.38	100	88	80-120

ALS Houston, US Date: 01-Jul-20

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

Date Analyzed: 10-Jun-2020 14:40
Date Extracted: 05-Jun-2020 14:00
Units: ug/L

Lab Sample ID: LCS-154157 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Barium	50	48.84	98	86-114
Lead	50	48.04	96	88-115
Selenium	50	53.3	107	80-120
Silver	50	44.52	89	85-116

ALS Houston, US Date: 01-Jul-20

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

Date Analyzed: 10-Jun-2020 16:16
Date Extracted: 05-Jun-2020 14:00
Units: ug/L

Lab Sample ID: HS20060114-01SD
Client Sample ID:LH18/24-SP650_060220

Analysis Method: SW6020

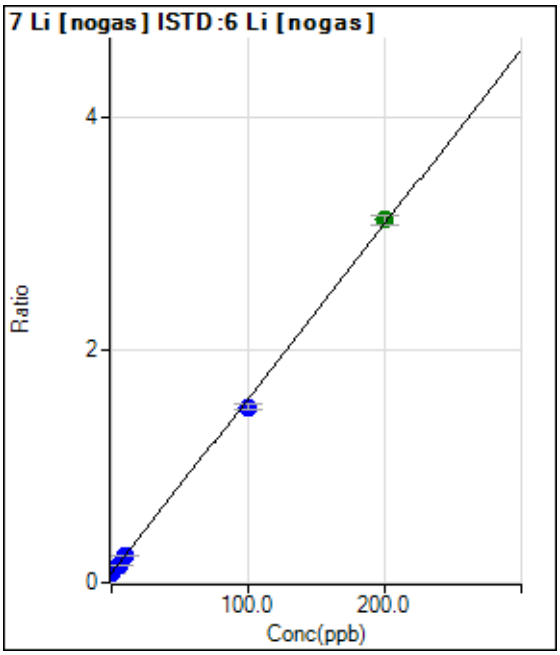
Analyte	Sample Result	C	SD Result	C	RPD	Q
Barium	143.6		136.9		5	
Lead	0	U	0	U	0	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	

Calibration for 140_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\061020A.b\
Analysis File: 061020A.batch.bin
DA Date-Time: 6/10/2020 7:58:46 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	130CALB.d	CAL BLK	6/10/2020 7:34:14 PM
2	131CALS.d	2/10/200	6/10/2020 7:36:37 PM
3	132CALS.d	5/25/500	6/10/2020 7:39:01 PM
4	133CALS.d	10/50/1000	6/10/2020 7:41:24 PM
5	134CALS.d	100/500/10K	6/10/2020 7:43:47 PM
6	135CALS.d	200/1000/20K	6/10/2020 7:46:07 PM
7			

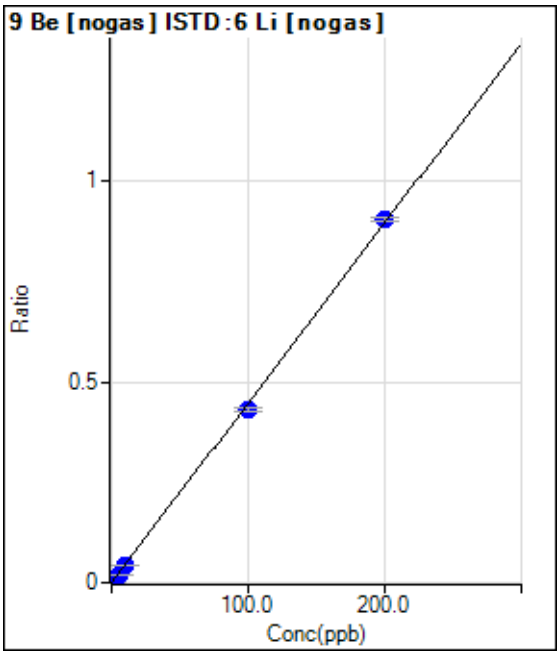
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38150.93	0.0821	P	0.3
2	☐	2.000	1.828	50841.45	0.1095	P	0.4
3	☐	5.000	4.609	70148.10	0.1512	P	0.7
4	☐	10.000	9.626	103918.35	0.2264	P	1.3
5	☐	100.000	95.285	658525.04	1.5101	P	2.9
6	☐	200.000	202.388	1270761.93	3.1153	A	2.8
7	☐	1.000					

y = 0.0150 * x + 0.0821
R = 0.9996
DL = 0.05488
BEC = 5.48

Weight: <None>
Min Conc: <None>

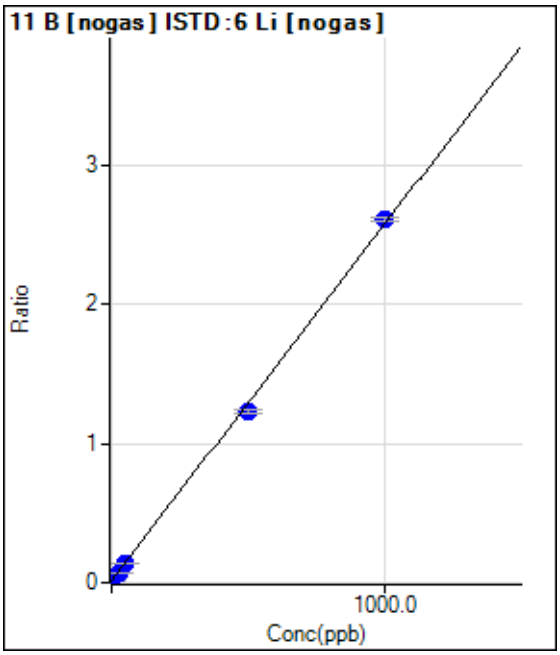


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	25.00	0.0001	P	52.5
2	☐	2.000	1.833	3833.74	0.0083	P	2.8
3	☐	5.000	4.589	9555.77	0.0206	P	0.3
4	☐	10.000	9.783	20127.26	0.0439	P	3.5
5	☐	100.000	96.159	187755.45	0.4305	P	2.5
6	☐	200.000	201.943	368761.36	0.9041	P	1.0
7	☐	1.000					

y = 0.0045 * x + 5.3746E-005
R = 0.9997
DL = 0.0189
BEC = 0.01201

Weight: <None>
Min Conc: <None>

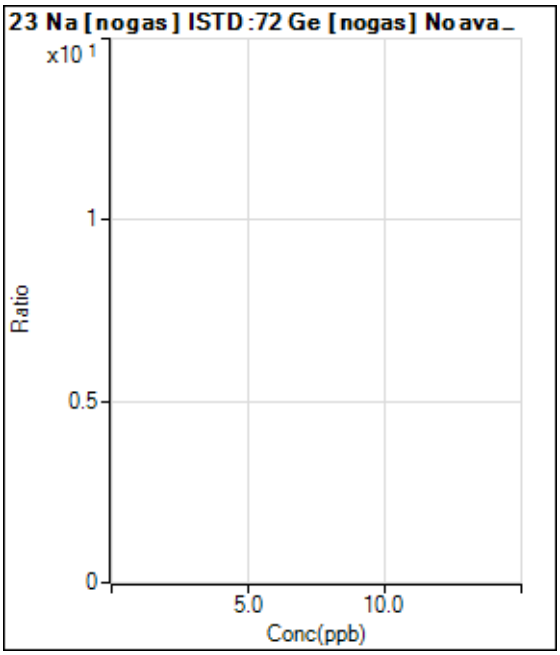
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6344.42	0.0137	P	4.3
2	☐	10.000	9.016	17059.32	0.0368	P	3.3
3	☐	25.000	22.420	32979.88	0.0711	P	0.7
4	☐	50.000	48.012	62719.88	0.1366	P	0.1
5	☐	500.000	474.935	536594.81	1.2303	P	1.2
6	☐	1000.000	1012.706	1063652.90	2.6078	P	1.1
7	☐	5.000					

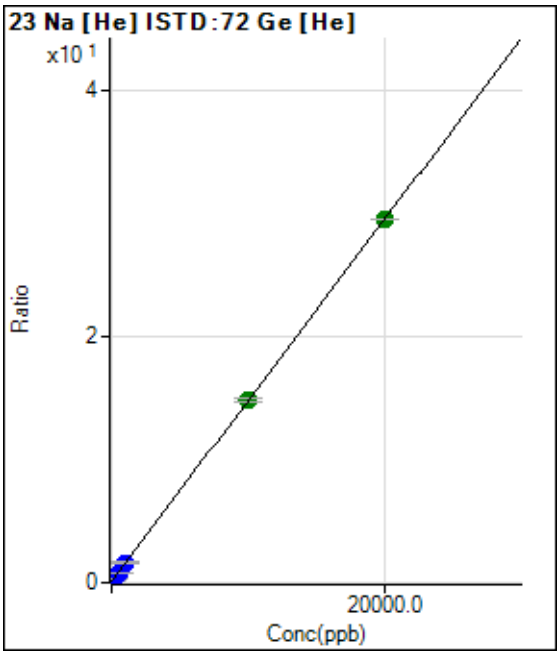
y = 0.0026 * x + 0.0137
R = 0.9996
DL = 0.6862
BEC = 5.332

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					

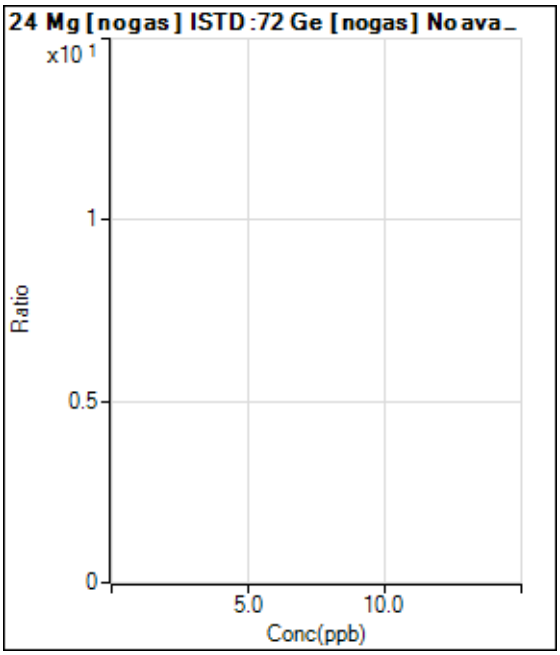
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	35226.62	0.0978	P	2.8
2	☐	200.000	199.080	140966.17	0.3906	P	2.8
3	☐	500.000	499.262	301420.02	0.8321	P	1.2
4	☐	1000.000	1042.572	586992.66	1.6311	P	1.5
5	☐	10000.00	10042.70	5144991.07	14.8678	A	1.6
6	☐	20000.00	19976.54	9940296.31	29.4778	A	0.2
7	☐	100.000					

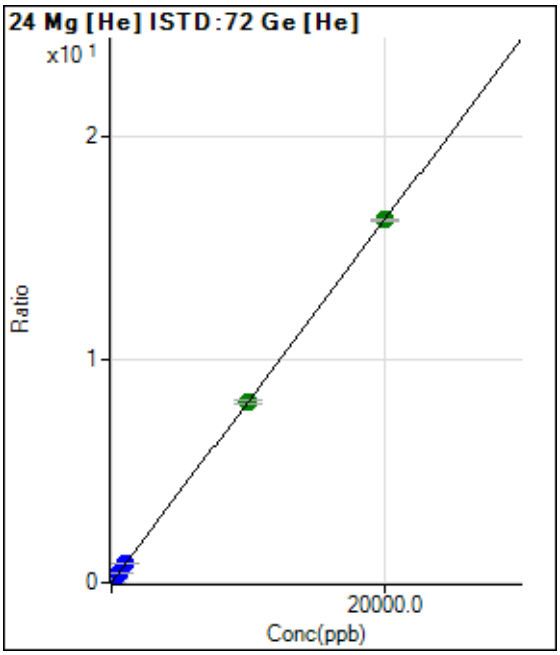
y = 0.0015 * x + 0.0978
R = 1.0000
DL = 5.64
BEC = 66.48

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					

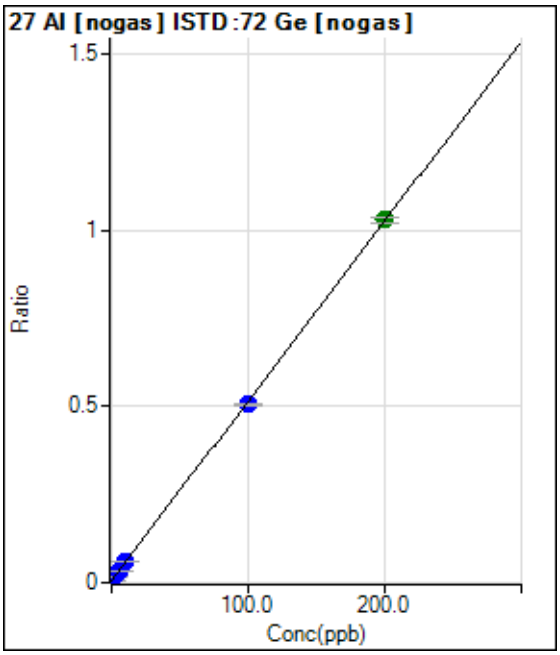
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	690.02	0.0019	P	3.0
2	☐	200.000	198.342	58954.61	0.1633	P	1.1
3	☐	500.000	497.383	147307.77	0.4066	P	0.7
4	☐	1000.000	1033.640	303363.64	0.8430	P	1.8
5	☐	10000.00	9955.131	2803697.15	8.1022	A	2.3
6	☐	20000.00	20020.83	5493987.83	16.2924	A	0.3
7	☐	100.000					

y = 8.1368E-004 * x + 0.0019
R = 1.0000
DL = 0.2153
BEC = 2.354

Weight: <None>
Min Conc: <None>

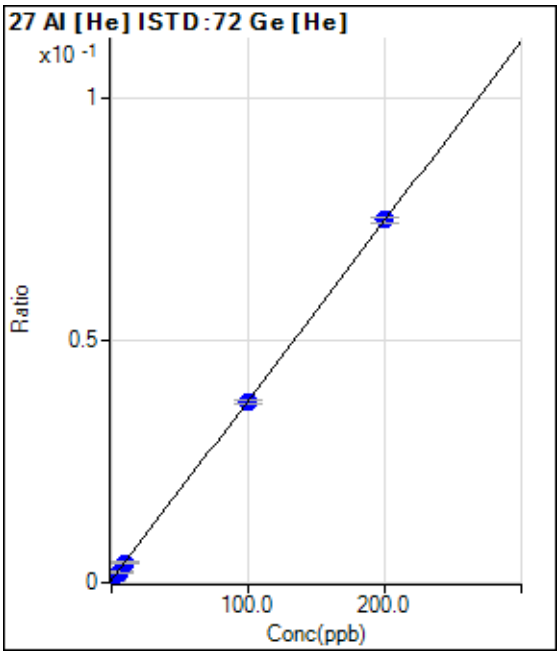


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8415.32	0.0057	P	4.6
2	☐	2.000	2.079	24269.38	0.0163	P	1.7
3	☐	5.000	5.018	46991.62	0.0313	P	1.3
4	☐	10.000	10.685	89496.54	0.0603	P	2.7
5	☐	100.000	98.229	734026.60	0.5070	P	1.1
6	☐	200.000	200.850	1472708.99	1.0307	A	1.4
7	☐	1.000					

y = 0.0051 * x + 0.0057
R = 0.9999
DL = 0.1562
BEC = 1.123

Weight: <None>
Min Conc: <None>

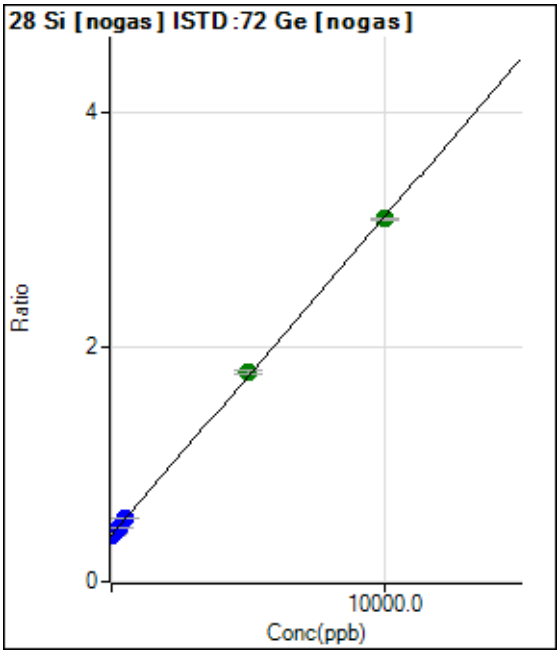
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.00	0.0005	P	15.6
2	☐	2.000	1.601	403.35	0.0011	P	22.2
3	☐	5.000	4.239	760.03	0.0021	P	12.6
4	☐	10.000	9.706	1483.42	0.0041	P	6.8
5	☐	100.000	99.007	12874.59	0.0372	P	2.7
6	☐	200.000	200.534	25230.32	0.0748	P	1.5
7	☐	1.000					

y = 3.7048E-004 * x + 5.2726E-004
R = 1.0000
DL = 0.6661
BEC = 1.423

Weight: <None>
Min Conc: <None>

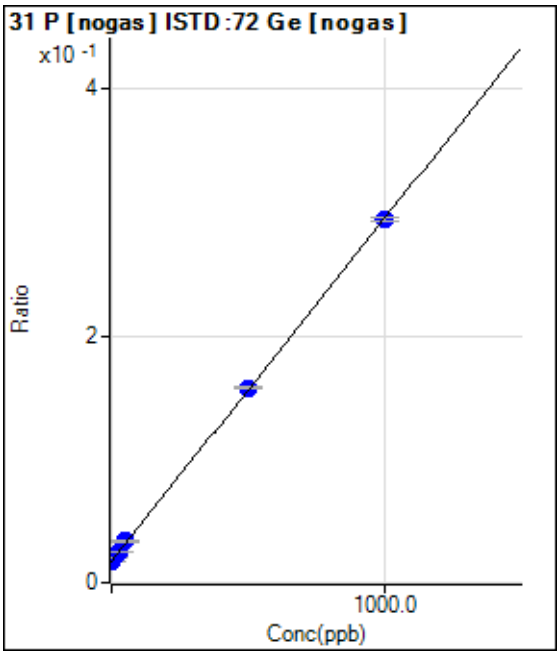


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	584992.23	0.3982	P	1.0
2	☐	100.000	56.664	614134.09	0.4136	P	2.5
3	☐	250.000	235.852	692904.86	0.4622	P	1.7
4	☐	500.000	522.682	802075.64	0.5400	P	1.7
5	☐	5000.000	5123.425	2588102.62	1.7879	A	2.6
6	☐	10000.00	9937.940	4420838.79	3.0938	A	0.3
7	☐	50.000					

y = 2.7124E-004 * x + 0.3982
R = 0.9999
DL = 45.57
BEC = 1468

Weight: <None>
Min Conc: <None>

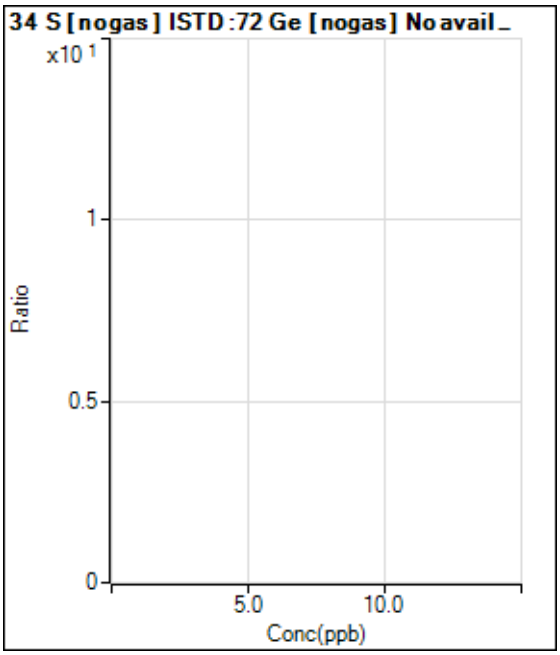
Calibration for 140_ICV.d



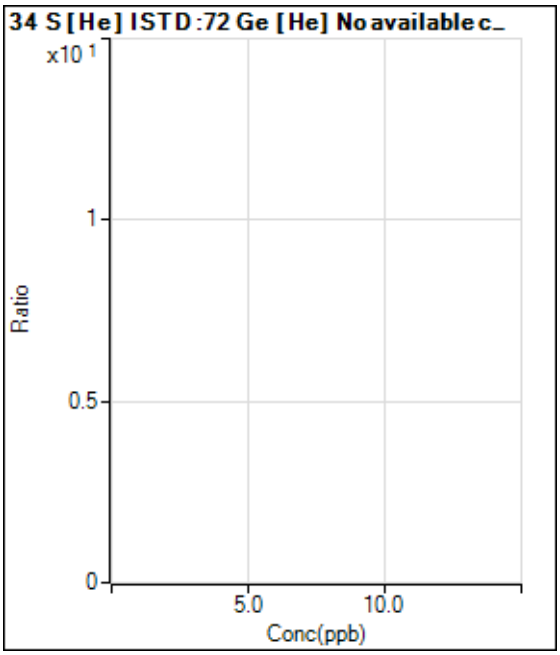
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	25634.31	0.0175	P	1.8
2	☐	10.000	12.191	30945.63	0.0208	P	3.0
3	☐	25.000	28.694	38118.72	0.0254	P	0.5
4	☐	50.000	58.504	50063.09	0.0337	P	1.5
5	☐	500.000	506.651	228968.98	0.1582	P	1.6
6	☐	1000.000	996.135	420228.03	0.2941	P	0.9
7	☐	5.000					

y = 2.7772E-004 * x + 0.0175
R = 1.0000
DL = 3.397
BEC = 62.84

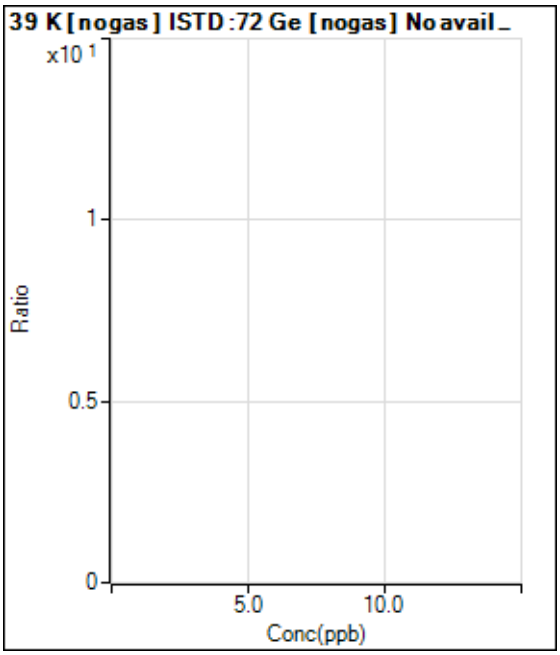
Weight: <None>
Min Conc: <None>



	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					

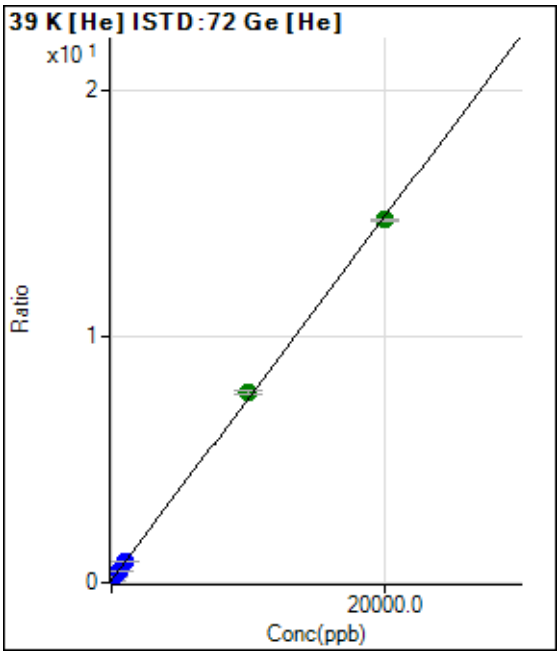


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.00					
6	☐	40000.00					
7	☐	200.000					



	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 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36212.12	0.1005	P	4.8
2	☐	200.000	195.779	88507.63	0.2452	P	1.7
3	☐	500.000	490.164	167618.72	0.4627	P	1.2
4	☐	1000.000	1034.958	311395.29	0.8652	P	0.6
5	☐	10000.00	10321.48	2674376.78	7.7268	A	2.0
6	☐	20000.00	19837.79	4976763.36	14.7581	A	0.8
7	☐	100.000					

y = 7.3887E-004 * x + 0.1005

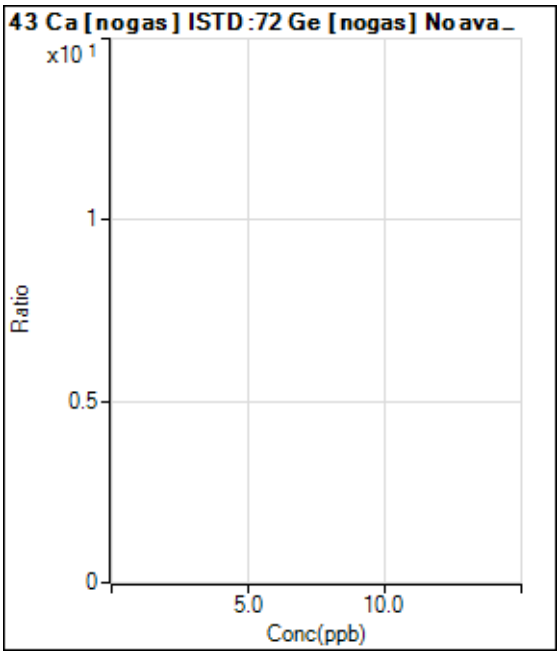
R = 0.9998

DL = 19.5

BEC = 136

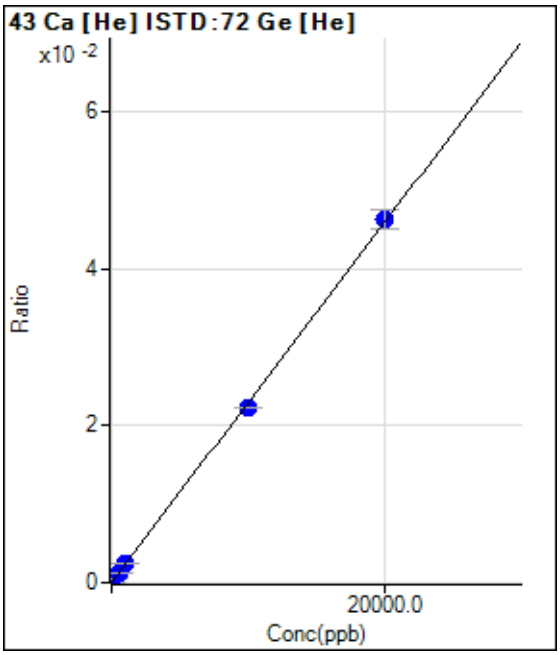
Weight: <None>

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					

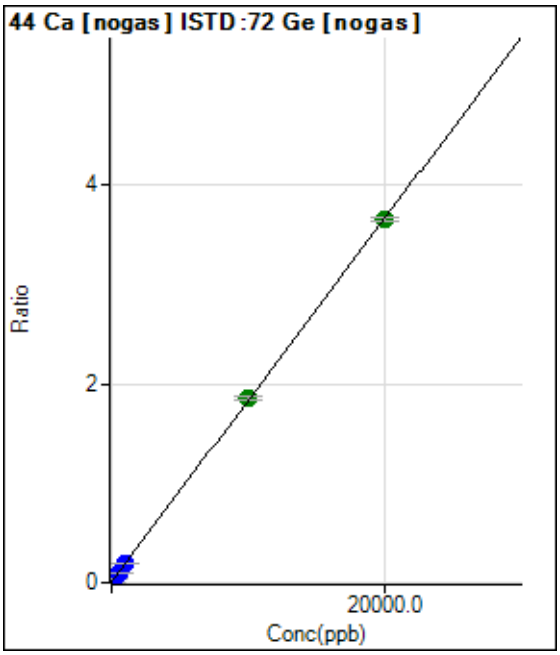
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	86.6
2	☐	200.000	264.770	226.67	0.0006	P	25.6
3	☐	500.000	508.805	430.01	0.0012	P	9.2
4	☐	1000.000	1092.878	910.04	0.0025	P	3.7
5	☐	10000.00	9699.619	7715.03	0.0223	P	0.1
6	☐	20000.00	20144.67	15606.66	0.0463	P	5.2
7	☐	100.000					

y = 2.2964E-006 * x + 1.8520E-005
R = 0.9998
DL = 20.95
BEC = 8.065

Weight: <None>
Min Conc: <None>

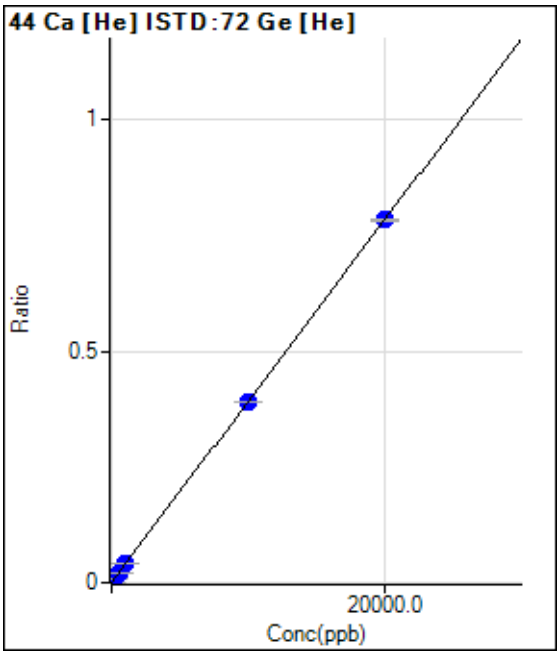


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11560.46	0.0079	P	3.2
2	☐	200.000	198.875	65594.26	0.0442	P	0.9
3	☐	500.000	499.471	148457.12	0.0990	P	1.6
4	☐	1000.000	1045.548	295136.05	0.1987	P	1.4
5	☐	10000.00	10122.67	2685635.06	1.8551	A	1.6
6	☐	20000.00	19936.41	5209711.07	3.6460	A	0.9
7	☐	100.000					

y = 1.8249E-004 * x + 0.0079
R = 1.0000
DL = 4.088
BEC = 43.14

Weight: <None>
Min Conc: <None>

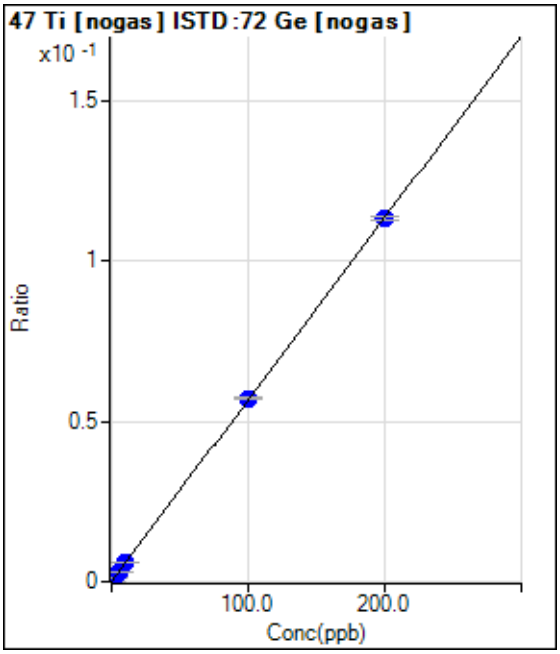
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	210.00	0.0006	P	25.3
2	☐	200.000	204.694	3096.97	0.0086	P	6.2
3	☐	500.000	525.413	7651.70	0.0211	P	6.5
4	☐	1000.000	1030.444	14709.32	0.0409	P	1.8
5	☐	10000.00	9959.687	134955.89	0.3900	P	0.4
6	☐	20000.00	20017.95	264097.44	0.7832	P	0.4
7	☐	100.000					

y = 3.9095E-005 * x + 5.8297E-004
R = 1.0000
DL = 11.31
BEC = 14.91

Weight: <None>
Min Conc: <None>

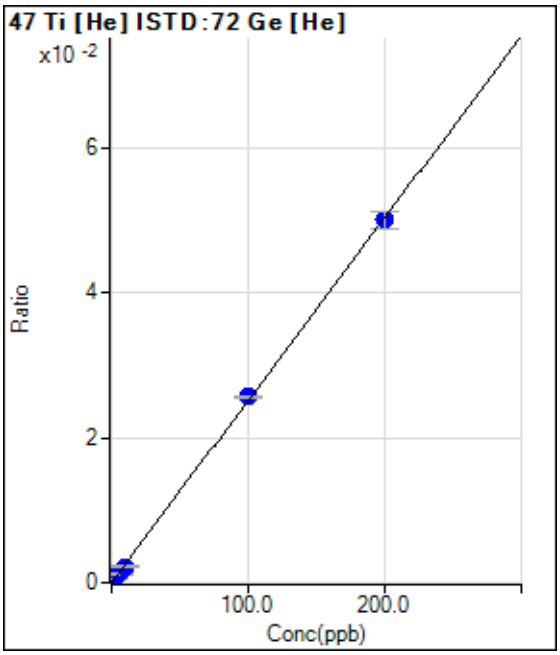


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96.67	0.0001	P	38.3
2	☐	2.000	2.062	1836.78	0.0012	P	5.3
3	☐	5.000	5.164	4493.94	0.0030	P	2.7
4	☐	10.000	10.257	8745.49	0.0059	P	1.4
5	☐	100.000	100.899	82994.04	0.0573	P	1.0
6	☐	200.000	199.533	161892.69	0.1133	P	1.0
7	☐	1.000					

y = 5.6749E-004 * x + 6.6132E-005
R = 1.0000
DL = 0.1339
BEC = 0.1165

Weight: <None>
Min Conc: <None>

Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	2.087	190.00	0.0005	P	22.5
3	☐	5.000	4.901	446.68	0.0012	P	23.2
4	☐	10.000	8.836	800.03	0.0022	P	11.4
5	☐	100.000	101.969	8882.20	0.0257	P	1.4
6	☐	200.000	199.075	16897.91	0.0501	P	4.5
7	☐	1.000					

y = 2.5168E-004 * x + 0.0000E+000

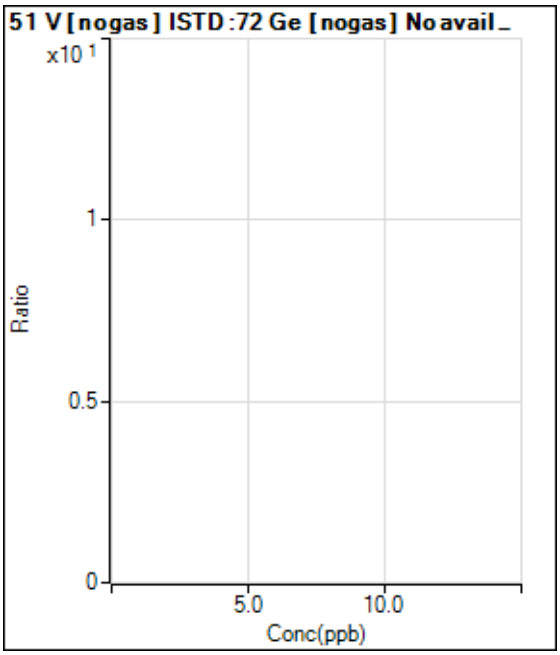
R = 0.9999

DL = 0

BEC = 0

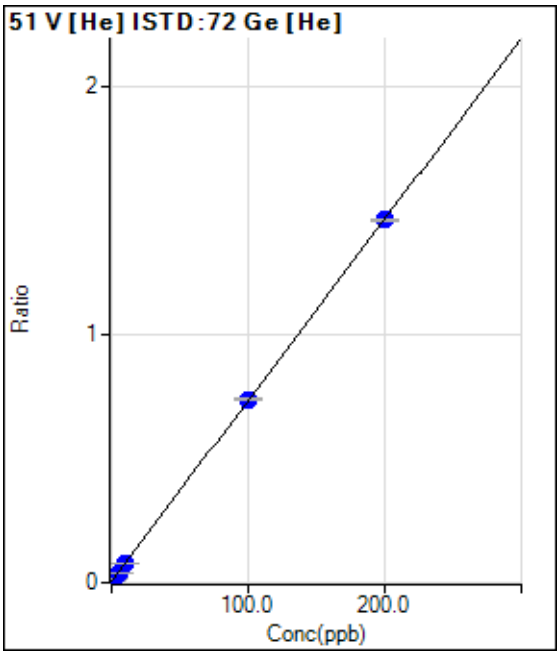
Weight: <None>

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					

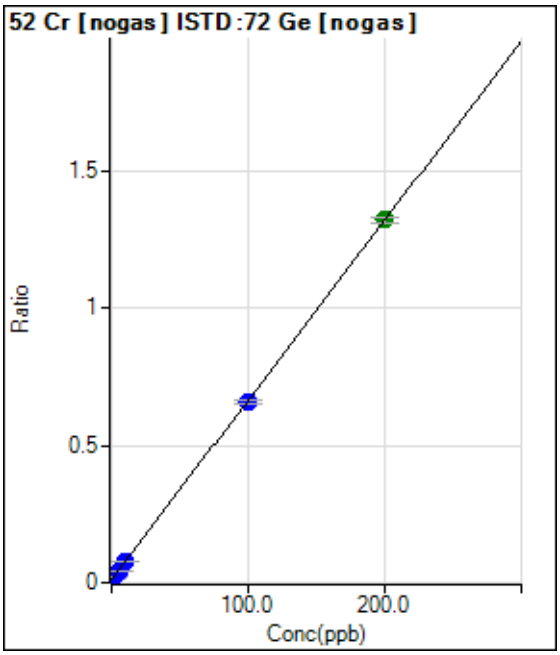
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1792.32	0.0050	P	3.9
2	☐	2.000	1.964	6960.22	0.0193	P	4.0
3	☐	5.000	4.996	14990.49	0.0414	P	3.2
4	☐	10.000	10.290	28772.20	0.0799	P	0.9
5	☐	100.000	100.397	254883.03	0.7365	P	0.8
6	☐	200.000	199.787	492567.62	1.4607	P	0.4
7	☐	1.000					

y = 0.0073 * x + 0.0050
R = 1.0000
DL = 0.08039
BEC = 0.6827

Weight: <None>
Min Conc: <None>

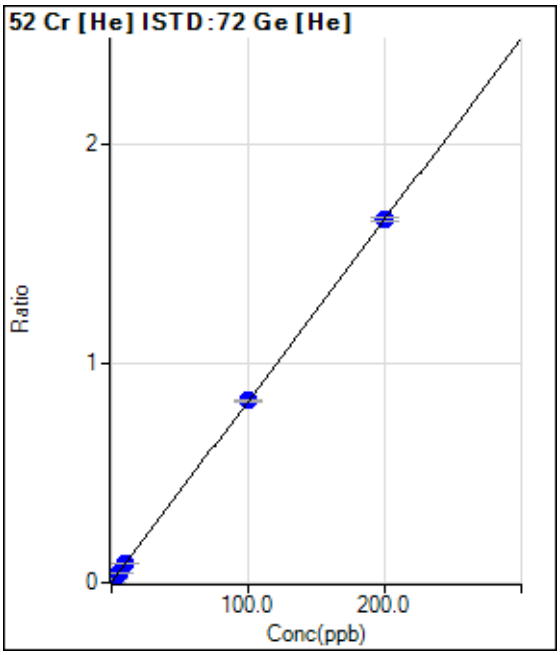


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15947.01	0.0109	P	4.0
2	☐	2.000	1.977	35313.77	0.0238	P	1.1
3	☐	5.000	4.991	65187.39	0.0435	P	2.0
4	☐	10.000	10.580	118850.37	0.0800	P	1.0
5	☐	100.000	99.207	954276.89	0.6592	P	2.0
6	☐	200.000	200.368	1886365.75	1.3203	A	1.7
7	☐	1.000					

y = 0.0065 * x + 0.0109
R = 1.0000
DL = 0.1969
BEC = 1.662

Weight: <None>
Min Conc: <None>

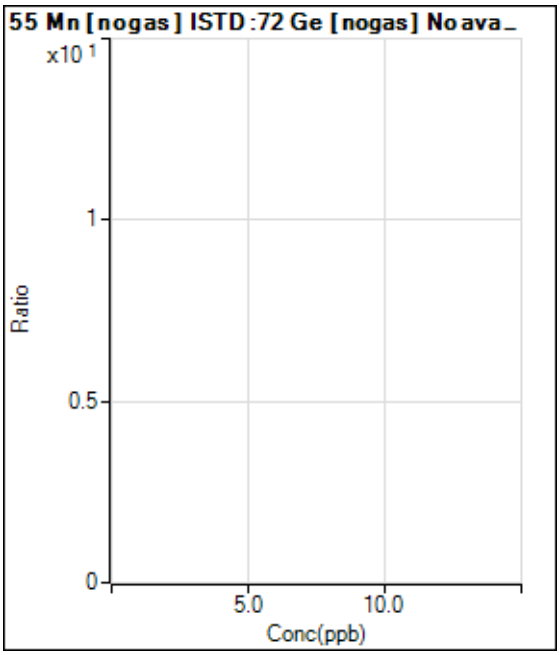
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	500.01	0.0014	P	12.1
2	☐	2.000	1.939	6291.14	0.0174	P	3.4
3	☐	5.000	4.991	15453.28	0.0427	P	1.3
4	☐	10.000	10.616	32087.86	0.0892	P	3.6
5	☐	100.000	100.073	286889.70	0.8289	P	0.5
6	☐	200.000	199.933	558017.17	1.6547	P	1.0
7	☐	1.000					

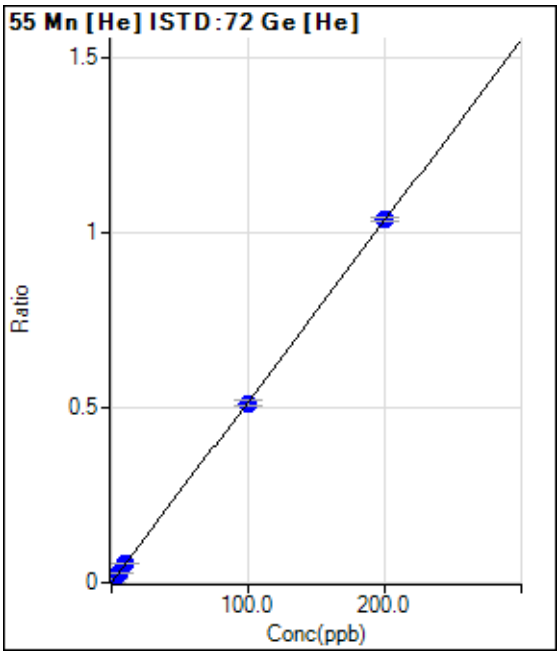
y = 0.0083 * x + 0.0014
R = 1.0000
DL = 0.06105
BEC = 0.1678

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					

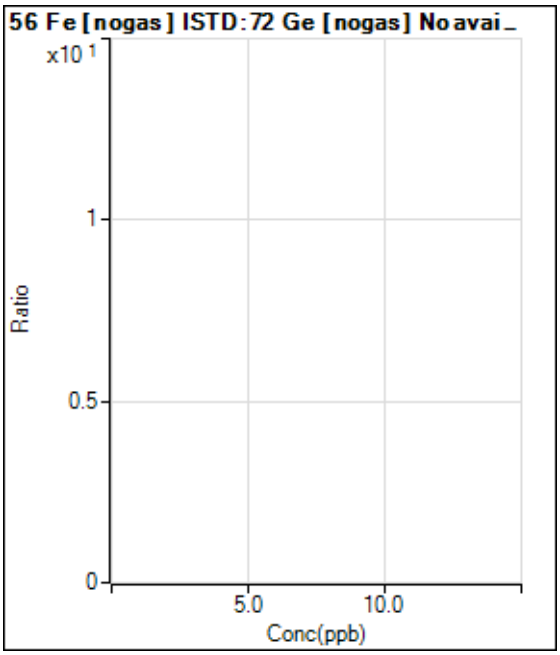
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	140.00	0.0004	P	7.2
2	☐	2.000	2.002	3880.46	0.0108	P	8.4
3	☐	5.000	4.946	9415.85	0.0260	P	3.1
4	☐	10.000	10.403	19520.54	0.0542	P	2.3
5	☐	100.000	99.016	177505.16	0.5130	P	2.8
6	☐	200.000	200.473	350103.99	1.0382	P	1.0
7	☐	1.000					

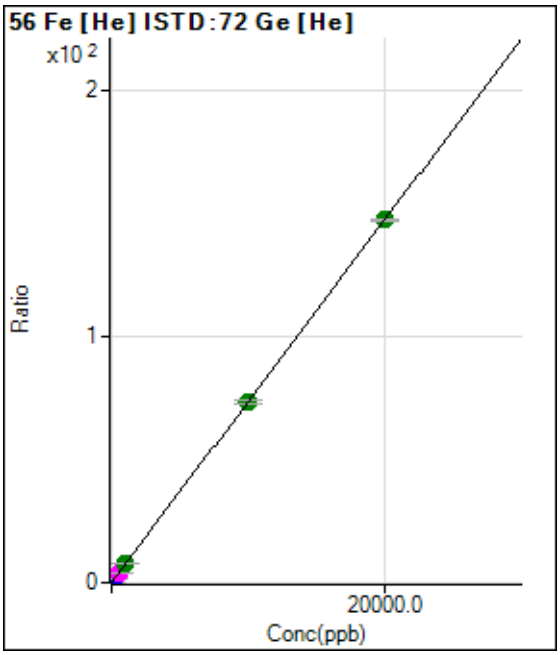
y = 0.0052 * x + 3.8860E-004
R = 1.0000
DL = 0.01619
BEC = 0.07507

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					

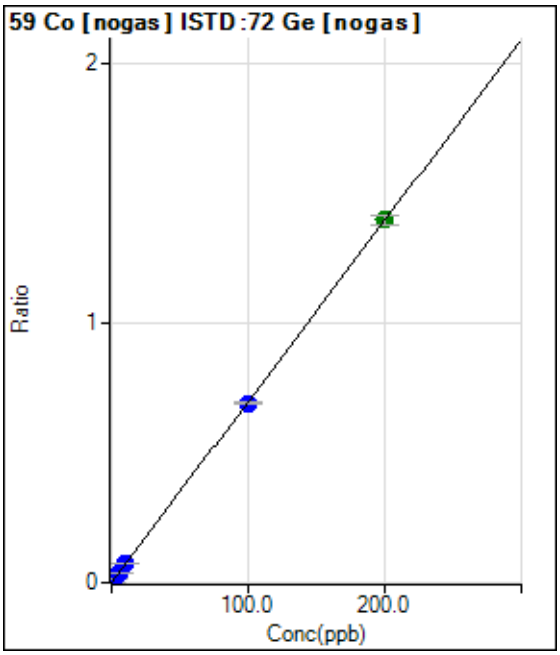
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4023.83	0.0112	P	5.8
2	☐	200.000	195.698	524931.71	1.4543	P	2.3
3	☐	500.000	505.431	1354455.92	3.7385	M	3.1
4	☐	1000.000	1083.796	2880453.60	8.0036	A	1.2
5	☐	10000.00	9966.696	25438390.4	73.5102	A	1.5
6	☐	20000.00	20012.37	49770745.9	147.591	A	0.6
7	☐	100.000					

y = 0.0074 * x + 0.0112
R = 1.0000
DL = 0.2616
BEC = 1.515

Weight: <None>
Min Conc: <None>

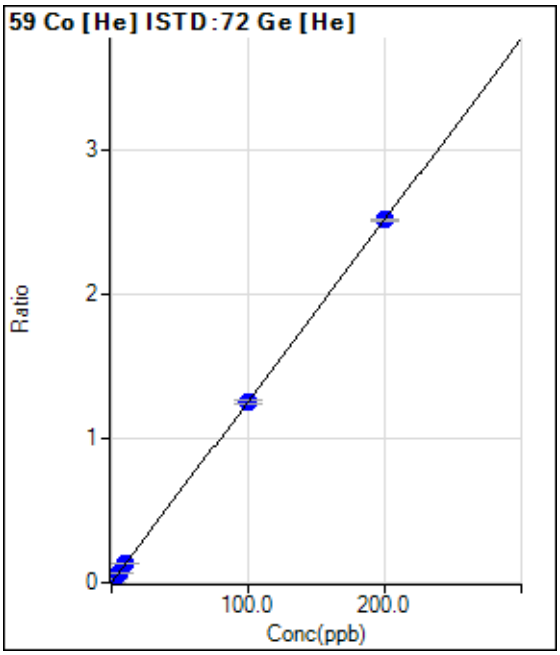


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0002	P	25.7
2	☐	2.000	1.978	20691.76	0.0139	P	3.1
3	☐	5.000	4.967	52120.20	0.0348	P	2.2
4	☐	10.000	10.392	107739.12	0.0725	P	2.9
5	☐	100.000	98.984	998371.34	0.6896	P	0.9
6	☐	200.000	200.490	1995241.64	1.3966	A	2.4
7	☐	1.000					

y = 0.0070 * x + 1.5936E-004
R = 1.0000
DL = 0.01765
BEC = 0.02288

Weight: <None>
Min Conc: <None>

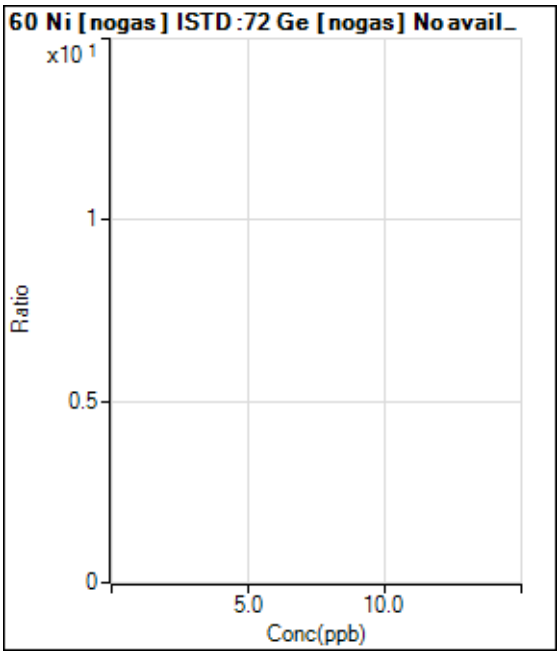
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	76.67	0.0002	P	42.1
2	☐	2.000	2.117	9669.29	0.0268	P	1.5
3	☐	5.000	5.134	23418.48	0.0646	P	2.2
4	☐	10.000	10.846	49058.64	0.1363	P	3.1
5	☐	100.000	99.743	433241.13	1.2520	P	1.5
6	☐	200.000	200.082	846811.42	2.5112	P	0.5
7	☐	1.000					

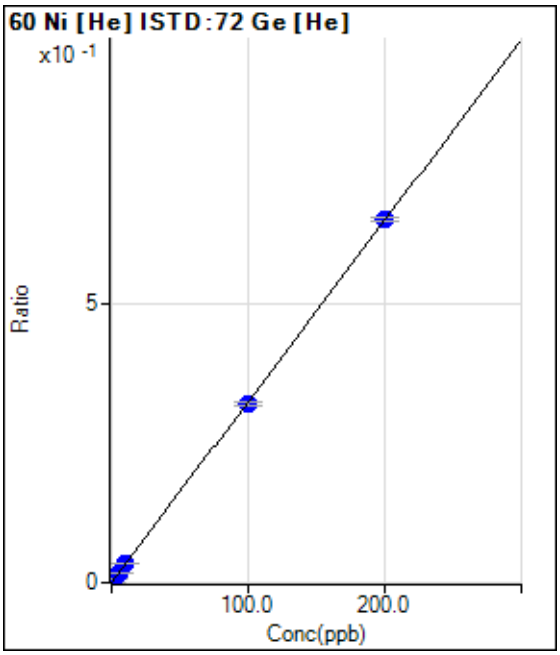
y = 0.0125 * x + 2.1290E-004
R = 1.0000
DL = 0.0214
BEC = 0.01696

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					

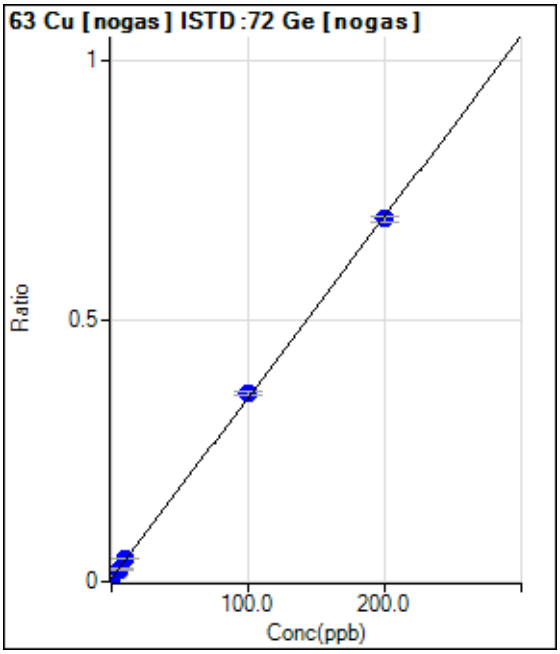
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0001	P	32.7
2	☐	2.000	1.923	2303.51	0.0064	P	6.0
3	☐	5.000	5.064	6014.40	0.0166	P	3.3
4	☐	10.000	10.530	12374.31	0.0344	P	1.4
5	☐	100.000	99.022	111511.13	0.3222	P	1.6
6	☐	200.000	200.461	219918.62	0.6522	P	0.9
7	☐	1.000					

y = 0.0033 * x + 1.2952E-004
R = 1.0000
DL = 0.03905
BEC = 0.03982

Weight: <None>
Min Conc: <None>

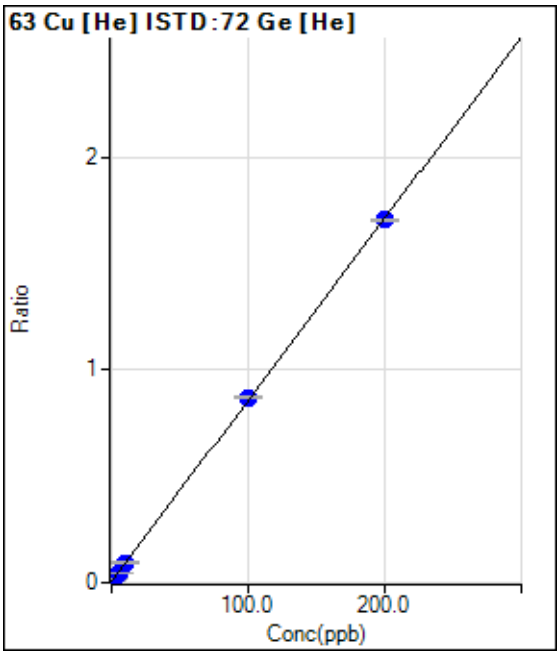


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8378.70	0.0057	P	5.2
2	☐	2.000	2.078	19176.95	0.0129	P	6.7
3	☐	5.000	5.176	35470.98	0.0237	P	3.5
4	☐	10.000	11.084	65566.55	0.0442	P	4.2
5	☐	100.000	102.335	522128.09	0.3607	P	1.7
6	☐	200.000	198.773	993233.55	0.6952	P	1.5
7	☐	1.000					

y = 0.0035 * x + 0.0057
R = 0.9999
DL = 0.2566
BEC = 1.645

Weight: <None>
Min Conc: <None>

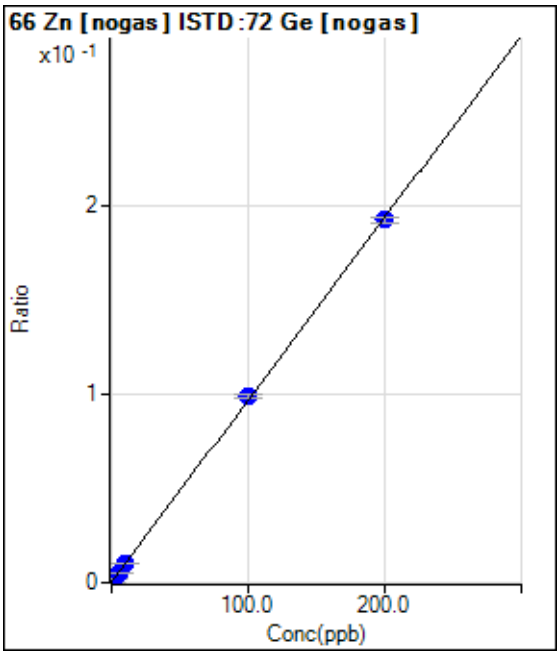
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1823.45	0.0051	P	9.9
2	☐	2.000	1.910	7721.74	0.0214	P	5.0
3	☐	5.000	5.131	17698.65	0.0489	P	3.2
4	☐	10.000	10.462	33958.12	0.0944	P	2.7
5	☐	100.000	101.198	300691.86	0.8689	P	1.0
6	☐	200.000	199.376	575593.33	1.7069	P	0.6
7	☐	1.000					

y = 0.0085 * x + 0.0051
R = 1.0000
DL = 0.1768
BEC = 0.593

Weight: <None>
Min Conc: <None>

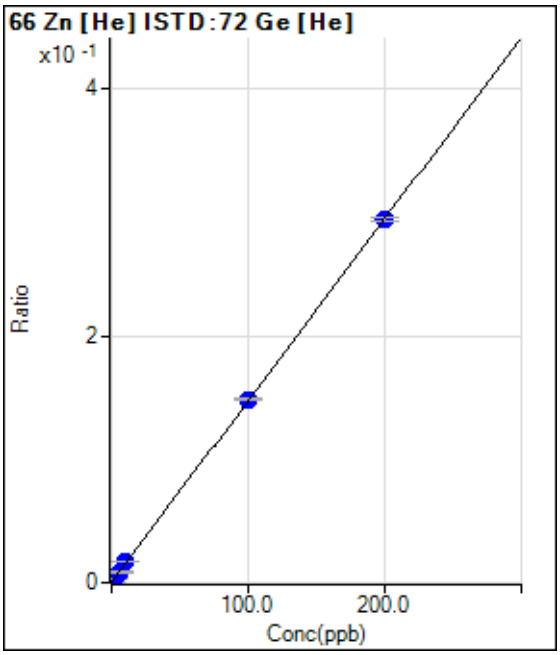


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0003	P	4.7
2	☐	2.000	2.151	3467.06	0.0023	P	1.0
3	☐	5.000	5.242	7975.19	0.0053	P	7.4
4	☐	10.000	10.632	15623.50	0.0105	P	2.5
5	☐	100.000	102.185	143102.68	0.0989	P	2.5
6	☐	200.000	198.868	274532.93	0.1921	P	1.3
7	☐	1.000					

y = 9.6487E-004 * x + 2.5882E-004
R = 0.9999
DL = 0.03801
BEC = 0.2682

Weight: <None>
Min Conc: <None>

Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0004	P	27.5
2	☐	2.000	2.218	1313.41	0.0036	P	6.3
3	☐	5.000	5.410	3020.29	0.0083	P	7.3
4	☐	10.000	11.126	6027.73	0.0167	P	4.4
5	☐	100.000	100.688	51385.18	0.1485	P	1.0
6	☐	200.000	199.587	99125.91	0.2940	P	0.9
7	☐	1.000					

y = 0.0015 * x + 3.7922E-004

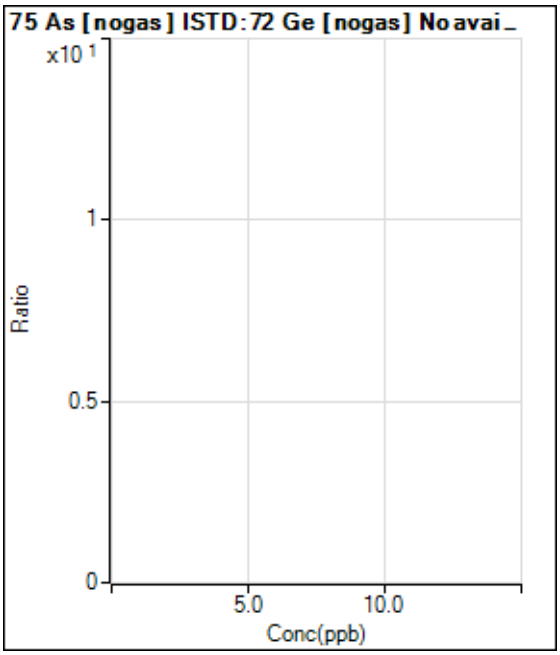
R = 1.0000

DL = 0.2129

BEC = 0.2578

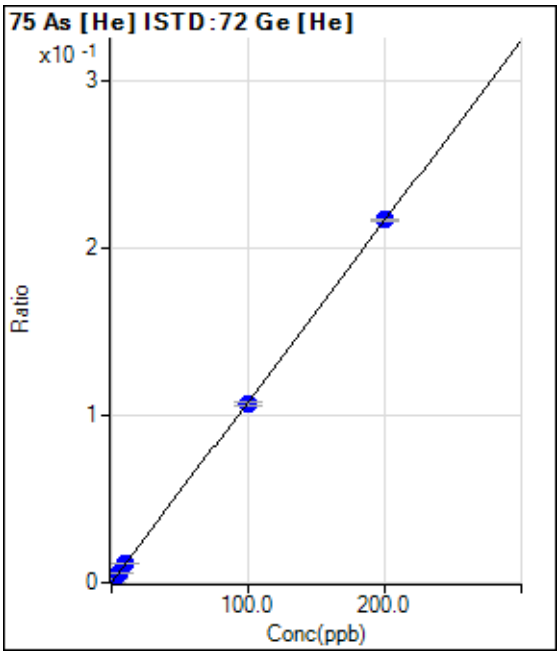
Weight: <None>

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					

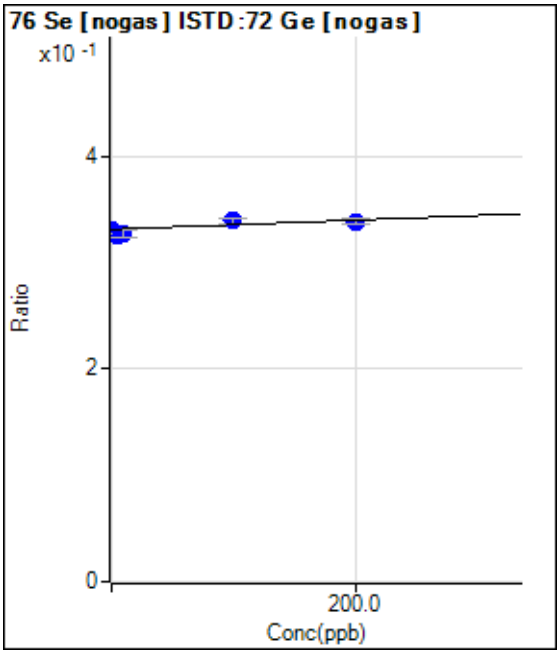
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	35.55	0.0001	P	38.0
2	☐	2.000	1.861	761.13	0.0021	P	12.0
3	☐	5.000	4.797	1910.11	0.0053	P	1.3
4	☐	10.000	10.365	4059.36	0.0113	P	5.8
5	☐	100.000	98.753	36892.69	0.1066	P	1.4
6	☐	200.000	200.612	72991.56	0.2165	P	0.5
7	☐	1.000					

y = 0.0011 * x + 9.8718E-005
R = 1.0000
DL = 0.1043
BEC = 0.09154

Weight: <None>
Min Conc: <None>

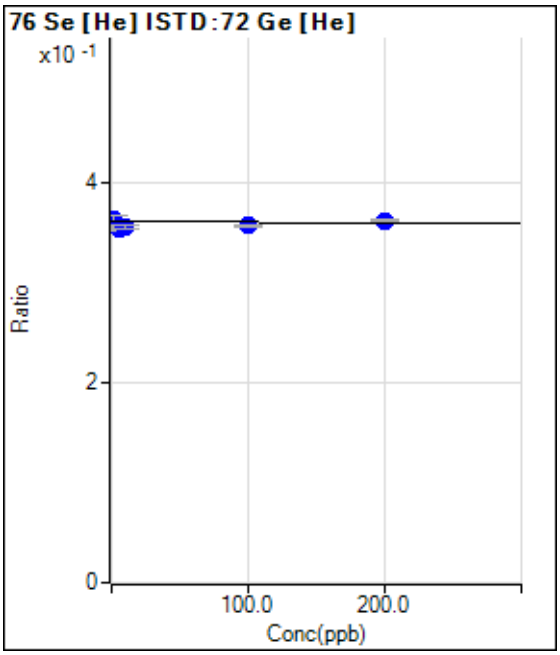


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	486251.48	0.3310	P	1.8
2	☐	2.000	-68.520	487221.91	0.3281	P	1.2
3	☐	5.000	-142.700	487071.42	0.3249	P	0.8
4	☐	10.000	-108.936	484698.49	0.3263	P	2.1
5	☐	100.000	178.152	490456.41	0.3388	P	1.4
6	☐	200.000	171.268	483614.54	0.3385	P	1.4
7	☐	1.000					

y = 4.3408E-005 * x + 0.3310
R = 0.8501
DL = 415.5
BEC = 7626

Weight: <None>
Min Conc: <None>

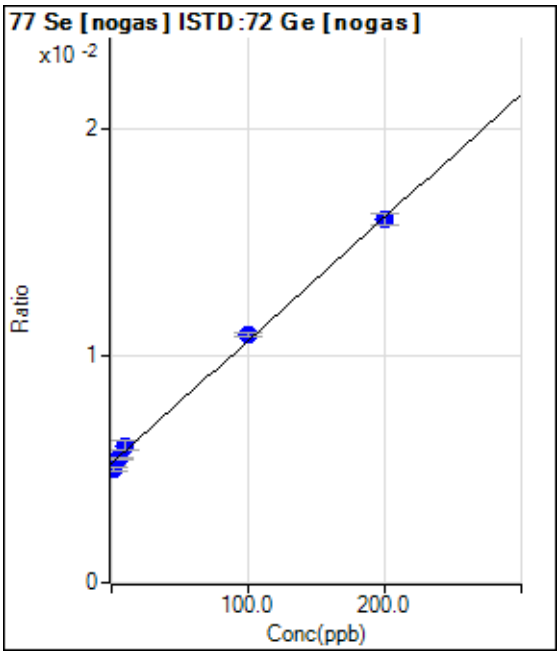
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	129916.60	0.3606	P	0.8
2	☐	2.000	-248.855	130719.40	0.3622	P	2.4
3	☐	5.000	1194.431	127915.53	0.3531	P	1.4
4	☐	10.000	820.036	127922.59	0.3554	P	0.8
5	☐	100.000	669.788	123345.00	0.3564	P	0.7
6	☐	200.000	-152.623	121924.62	0.3616	P	0.5
7	☐	1.000					

y = -6.2839E-006 * x + 0.3606
R = 0.2904
DL = -1320
BEC = -5.739E+04

Weight: <None>
Min Conc: <None>

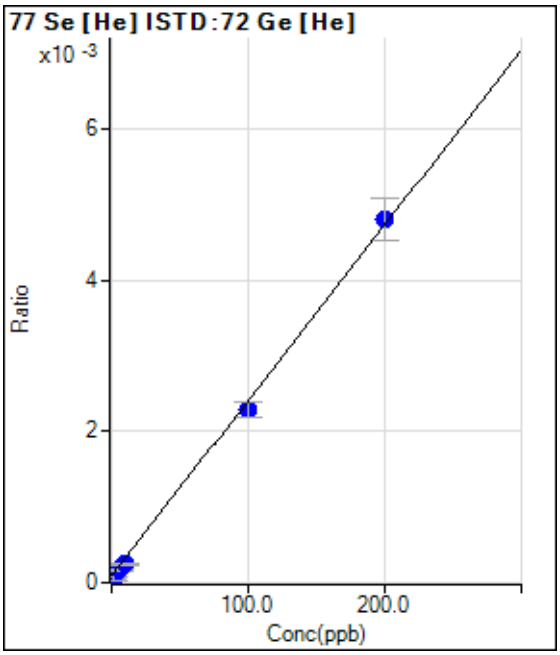


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7741.81	0.0053	P	4.8
2	☐	2.000	-4.454	7461.64	0.0050	P	2.5
3	☐	5.000	3.835	8208.63	0.0055	P	1.7
4	☐	10.000	14.165	8962.35	0.0060	P	6.8
5	☐	100.000	104.305	15833.78	0.0109	P	1.3
6	☐	200.000	197.733	22878.02	0.0160	P	3.1
7	☐	1.000					

y = 5.4347E-005 * x + 0.0053
R = 0.9988
DL = 13.9
BEC = 96.91

Weight: <None>
Min Conc: <None>

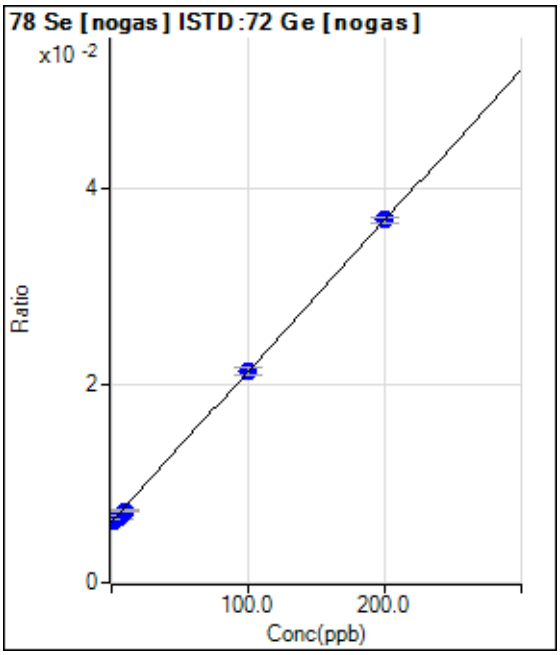
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0001	P	69.1
2	☐	2.000	-1.620	20.00	0.0001	P	100.7
3	☐	5.000	3.549	63.33	0.0002	P	18.3
4	☐	10.000	6.795	90.00	0.0003	P	11.9
5	☐	100.000	94.411	790.03	0.0023	P	8.9
6	☐	200.000	203.027	1620.10	0.0048	P	11.8
7	☐	1.000					

y = 2.3215E-005 * x + 9.2459E-005
R = 0.9995
DL = 8.259
BEC = 3.983

Weight: <None>
Min Conc: <None>

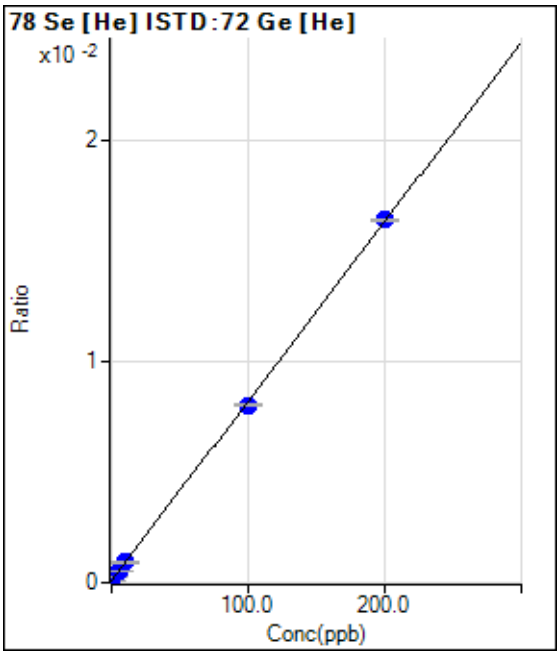


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9052.42	0.0062	P	2.8
2	☐	2.000	0.758	9319.17	0.0063	P	2.8
3	☐	5.000	3.144	9959.50	0.0066	P	4.8
4	☐	10.000	7.345	10816.67	0.0073	P	2.5
5	☐	100.000	99.919	31030.03	0.0214	P	3.3
6	☐	200.000	200.232	52539.31	0.0368	P	1.4
7	☐	1.000					

y = 1.5288E-004 * x + 0.0062
R = 0.9999
DL = 3.443
BEC = 40.29

Weight: <None>
Min Conc: <None>

Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	35.33	0.0001	P	34.0
2	☐	2.000	2.675	113.33	0.0003	P	18.1
3	☐	5.000	4.880	178.67	0.0005	P	4.5
4	☐	10.000	10.316	336.00	0.0009	P	5.1
5	☐	100.000	97.752	2773.55	0.0080	P	1.3
6	☐	200.000	201.104	5524.18	0.0164	P	0.3
7	☐	1.000					

y = 8.0972E-005 * x + 9.8043E-005

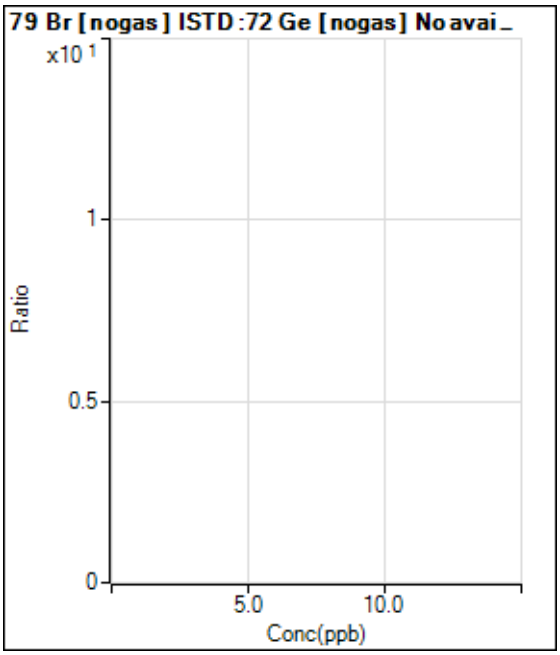
R = 0.9999

DL = 1.236

BEC = 1.211

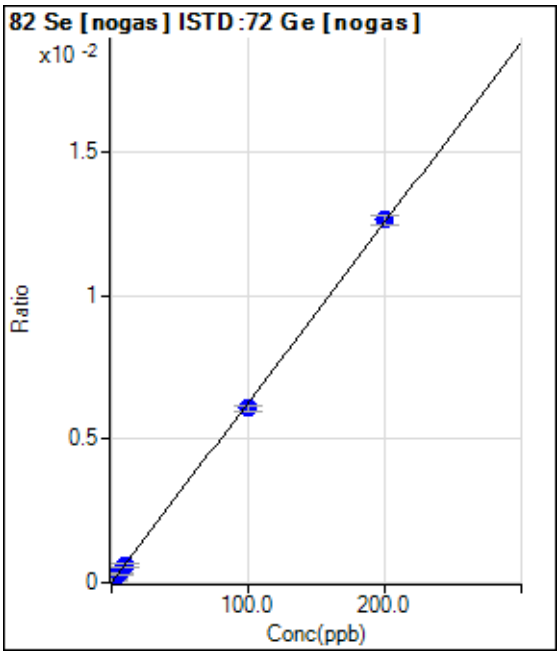
Weight: <None>

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					

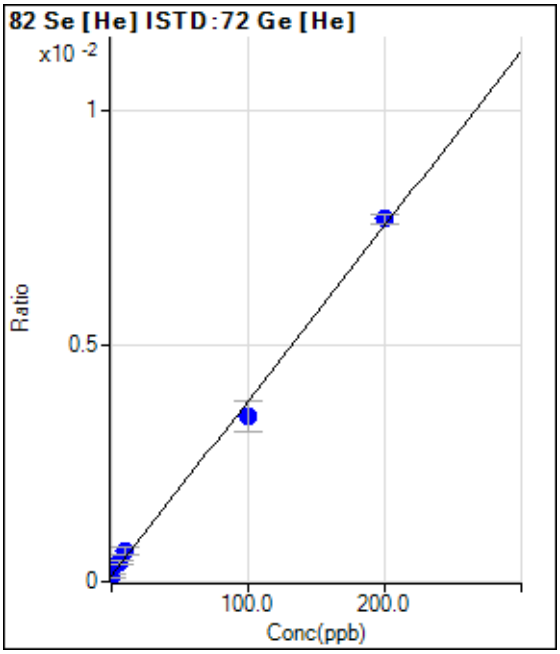
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-3.24	0.0000	P	-3552.
2	☐	2.000	1.983	180.34	0.0001	P	42.6
3	☐	5.000	5.008	467.08	0.0003	P	18.8
4	☐	10.000	9.598	889.88	0.0006	P	11.8
5	☐	100.000	97.092	8819.82	0.0061	P	3.4
6	☐	200.000	201.474	18069.73	0.0126	P	2.3
7	☐	1.000					

y = 6.2783E-005 * x - 2.8167E-006
R = 0.9999
DL = 4.781
BEC = -0.04486

Weight: <None>
Min Conc: <None>

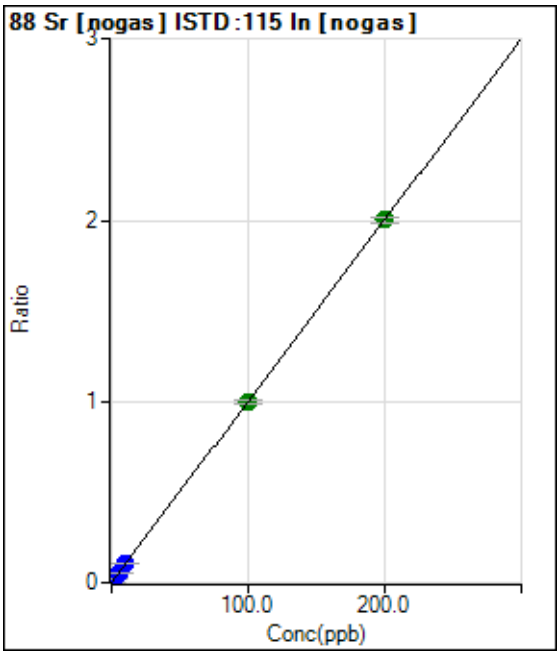


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0001	P	81.0
2	☐	2.000	5.713	123.33	0.0003	P	19.0
3	☐	5.000	7.440	146.67	0.0004	P	26.3
4	☐	10.000	13.990	233.34	0.0006	P	20.6
5	☐	100.000	91.353	1216.72	0.0035	P	18.5
6	☐	200.000	204.026	2593.55	0.0077	P	2.6
7	☐	1.000					

y = 3.7062E-005 * x + 1.2941E-004
R = 0.9982
DL = 8.484
BEC = 3.492

Weight: <None>
Min Conc: <None>

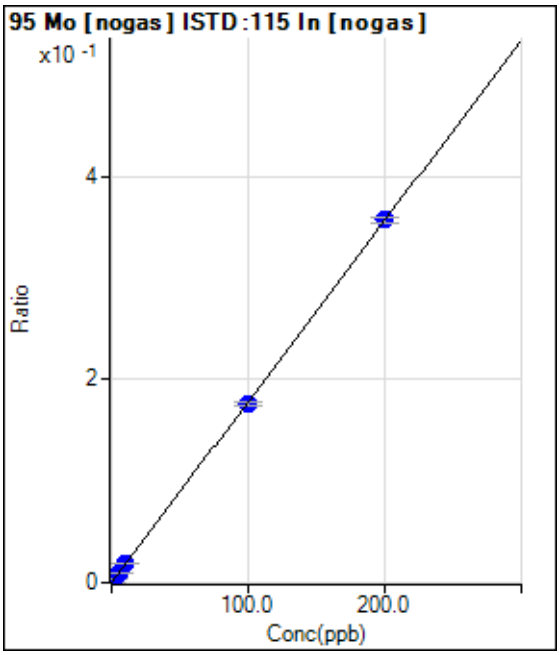
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1383.41	0.0009	P	10.7
2	☐	2.000	1.882	32279.29	0.0197	P	2.3
3	☐	5.000	4.812	80020.88	0.0490	P	2.4
4	☐	10.000	10.360	167888.72	0.1045	P	0.7
5	☐	100.000	99.833	1588671.33	1.0001	A	2.1
6	☐	200.000	200.071	3083717.35	2.0033	A	1.6
7	☐	1.000					

y = 0.0100 * x + 8.5326E-004
R = 1.0000
DL = 0.02744
BEC = 0.08525

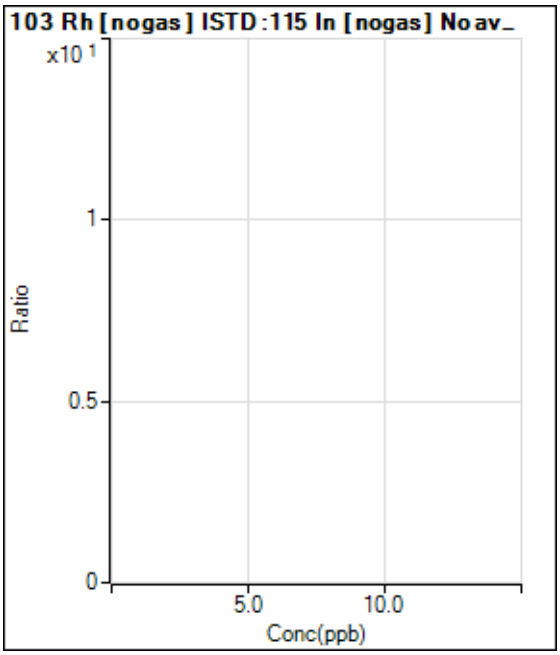
Weight: <None>
Min Conc: <None>



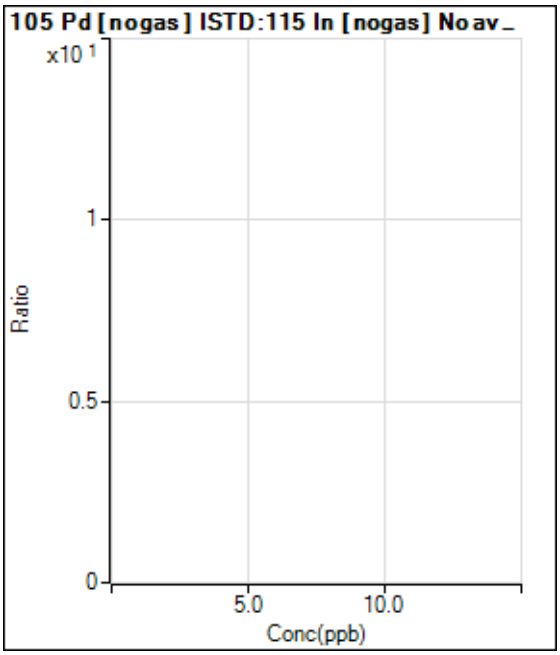
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0000	P	48.7
2	☐	2.000	1.859	5487.57	0.0033	P	6.0
3	☐	5.000	4.977	14529.40	0.0089	P	4.6
4	☐	10.000	10.557	30249.12	0.0188	P	2.6
5	☐	100.000	98.673	279173.82	0.1757	P	2.2
6	☐	200.000	200.638	550066.72	0.3573	P	1.3
7	☐	1.000					

y = 0.0018 * x + 3.8753E-005
R = 1.0000
DL = 0.03182
BEC = 0.02176

Weight: <None>
Min Conc: <None>

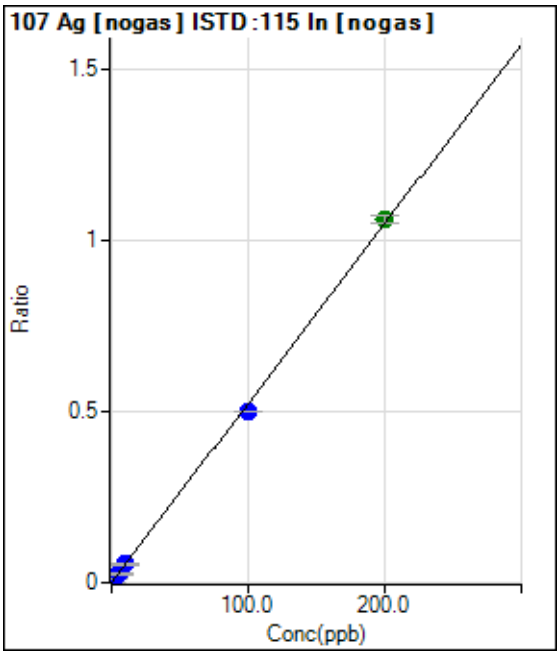


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	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					

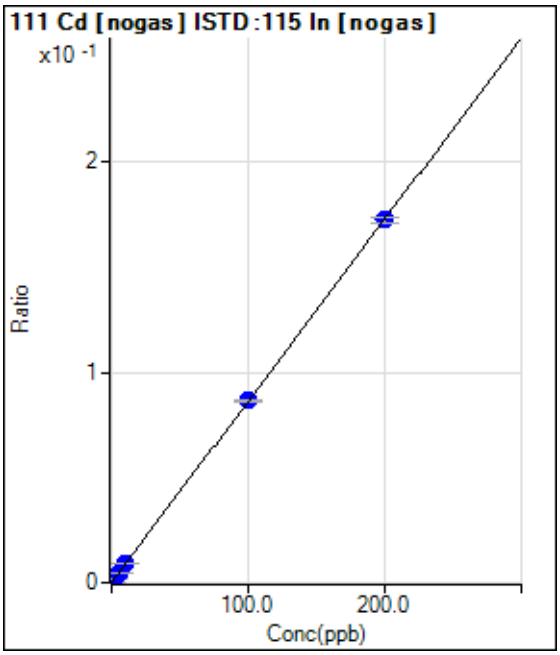
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0000	P	73.6
2	☐	2.000	1.878	16154.20	0.0099	P	2.7
3	☐	5.000	4.890	41822.84	0.0256	P	3.6
4	☐	10.000	10.190	85702.91	0.0534	P	1.1
5	☐	100.000	95.382	793372.93	0.4993	P	0.3
6	☐	200.000	202.304	1630167.94	1.0590	A	2.2
7	☐	1.000					

y = 0.0052 * x + 2.4573E-005
R = 0.9996
DL = 0.01036
BEC = 0.004694

Weight: <None>
Min Conc: <None>

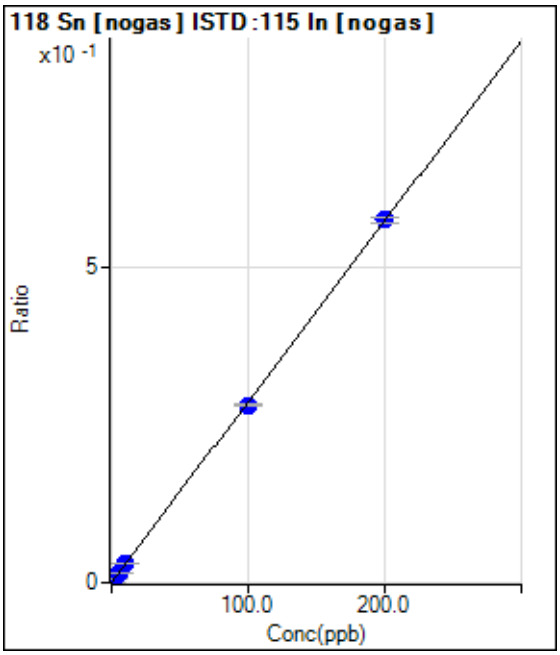


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	86.6
2	☐	2.000	1.940	2753.58	0.0017	P	0.4
3	☐	5.000	5.166	7284.95	0.0045	P	5.9
4	☐	10.000	10.762	14929.82	0.0093	P	0.9
5	☐	100.000	100.184	137446.18	0.0865	P	0.9
6	☐	200.000	199.867	265672.02	0.1726	P	1.3
7	☐	1.000					

y = 8.6345E-004 * x + 4.1496E-006
R = 1.0000
DL = 0.01249
BEC = 0.004806

Weight: <None>
Min Conc: <None>

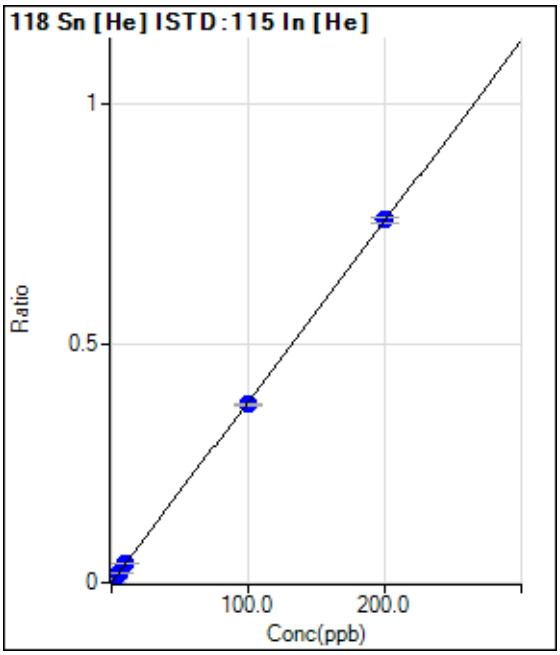
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	550.02	0.0003	P	3.5
2	☐	2.000	1.997	9929.63	0.0061	P	4.6
3	☐	5.000	4.863	23268.95	0.0143	P	2.9
4	☐	10.000	10.506	48818.21	0.0304	P	3.6
5	☐	100.000	98.362	447659.77	0.2818	P	1.6
6	☐	200.000	200.797	884876.86	0.5749	P	1.5
7	☐	1.000					

y = 0.0029 * x + 3.3892E-004
R = 0.9999
DL = 0.0123
BEC = 0.1185

Weight: <None>
Min Conc: <None>

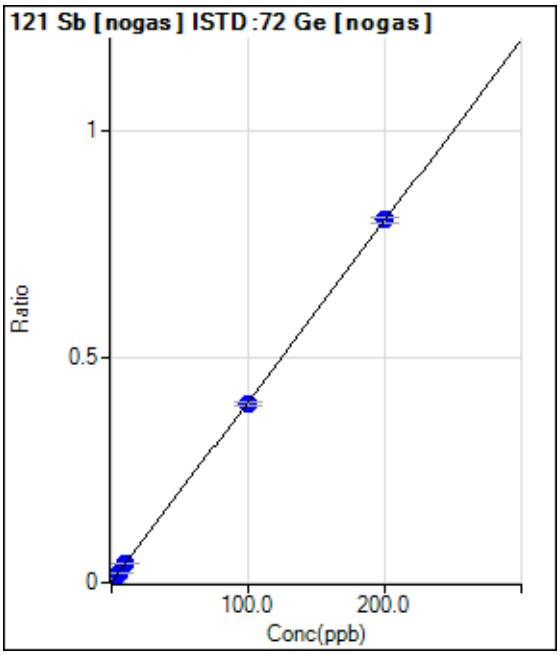


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	270.01	0.0005	P	22.2
2	☐	2.000	2.000	4644.00	0.0080	P	5.0
3	☐	5.000	5.015	11203.73	0.0194	P	1.9
4	☐	10.000	10.219	22281.09	0.0391	P	2.0
5	☐	100.000	98.441	202228.38	0.3723	P	0.3
6	☐	200.000	200.768	405924.13	0.7588	P	1.9
7	☐	1.000					

y = 0.0038 * x + 4.6635E-004
R = 1.0000
DL = 0.08222
BEC = 0.1235

Weight: <None>
Min Conc: <None>

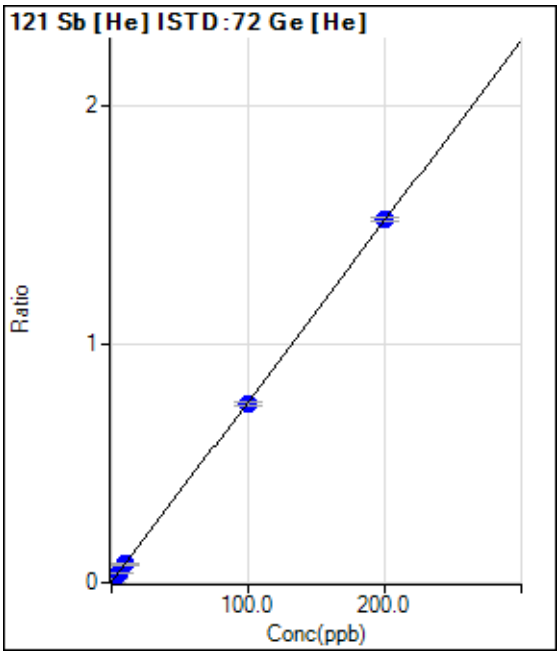
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1176.72	0.0008	P	4.8
2	☐	2.000	1.837	12127.65	0.0082	P	2.4
3	☐	5.000	4.760	29815.65	0.0199	P	2.6
4	☐	10.000	10.140	61548.04	0.0414	P	3.8
5	☐	100.000	99.059	575998.85	0.3979	P	2.3
6	☐	200.000	200.471	1149213.19	0.8044	P	1.9
7	☐	1.000					

y = 0.0040 * x + 8.0090E-004
R = 1.0000
DL = 0.0289
BEC = 0.1998

Weight: <None>
Min Conc: <None>

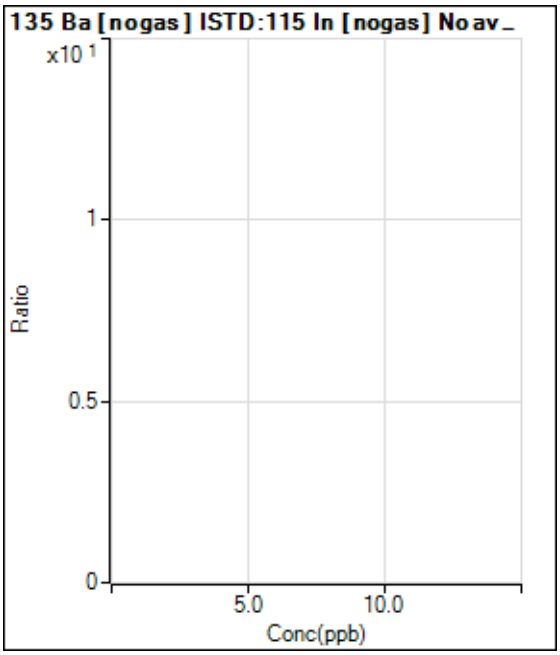


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	556.68	0.0015	P	25.1
2	☐	2.000	1.991	6011.11	0.0166	P	1.1
3	☐	5.000	4.753	13615.47	0.0376	P	1.4
4	☐	10.000	10.098	28106.09	0.0781	P	3.7
5	☐	100.000	98.789	259712.16	0.7506	P	2.7
6	☐	200.000	200.607	513424.43	1.5226	P	1.2
7	☐	1.000					

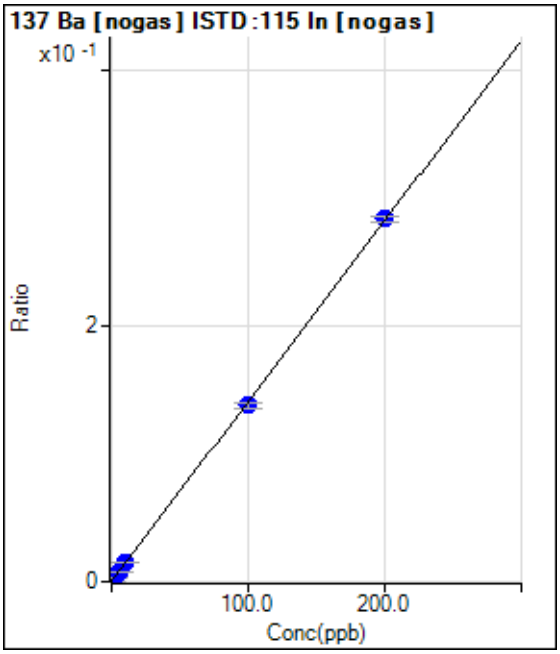
y = 0.0076 * x + 0.0015
R = 1.0000
DL = 0.1533
BEC = 0.2038

Weight: <None>
Min Conc: <None>

Calibration for 140_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	430.01	0.0003	P	11.3
2	☐	2.000	1.914	4860.77	0.0030	P	6.3
3	☐	5.000	4.899	11707.50	0.0072	P	1.8
4	☐	10.000	10.407	23983.57	0.0149	P	1.9
5	☐	100.000	97.582	218897.42	0.1378	P	2.4
6	☐	200.000	201.192	436889.06	0.2838	P	1.6
7	☐	1.000					

y = 0.0014 * x + 2.6469E-004

R = 0.9999

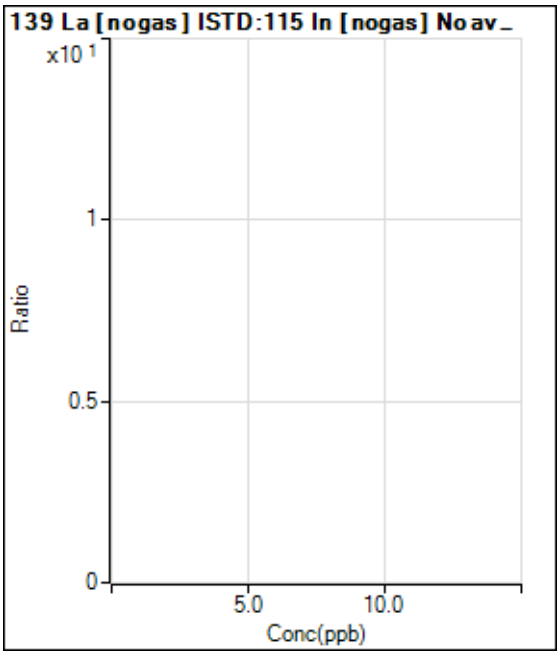
DL = 0.06384

BEC = 0.1878

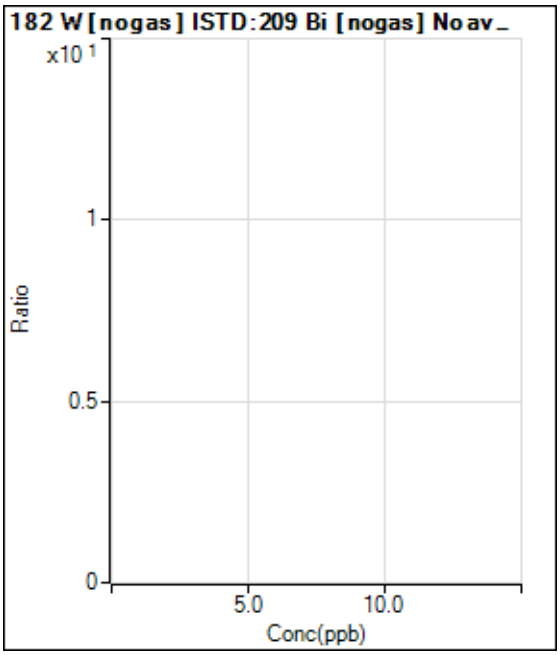
Weight: <None>

Min Conc: <None>

Calibration for 140_ICV.d

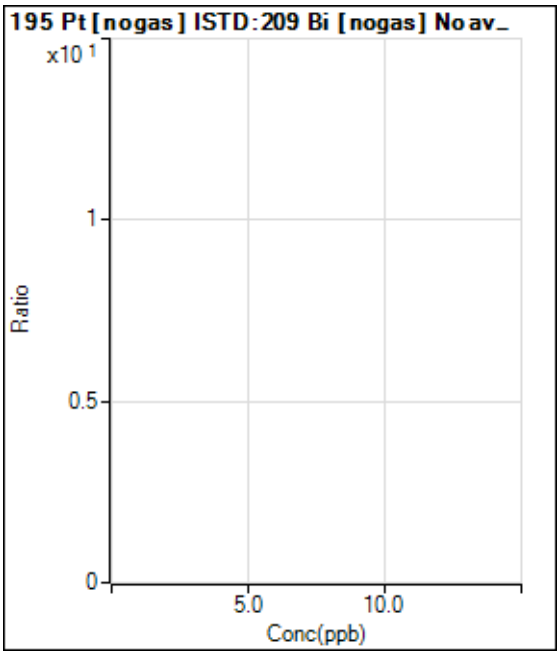


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

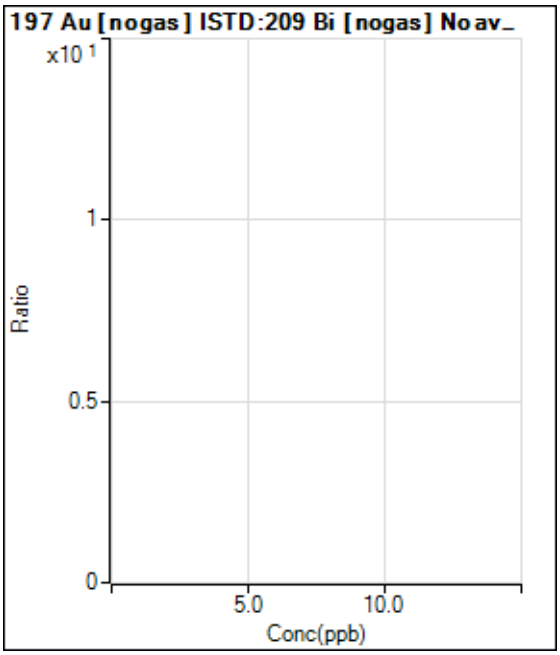


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

Calibration for 140_ICV.d

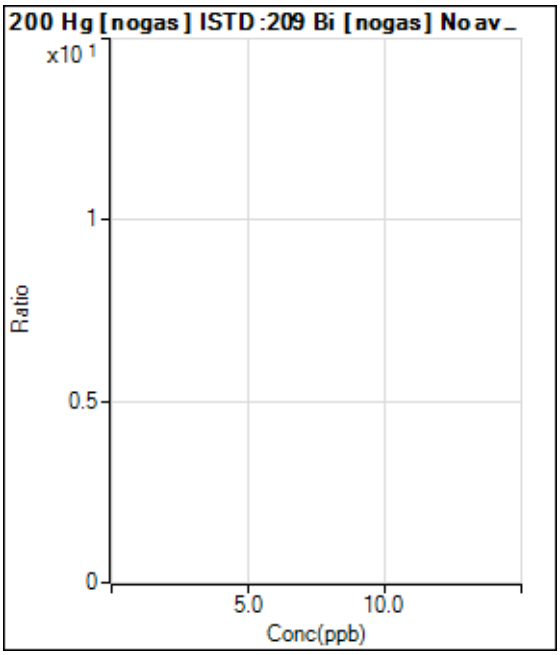


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

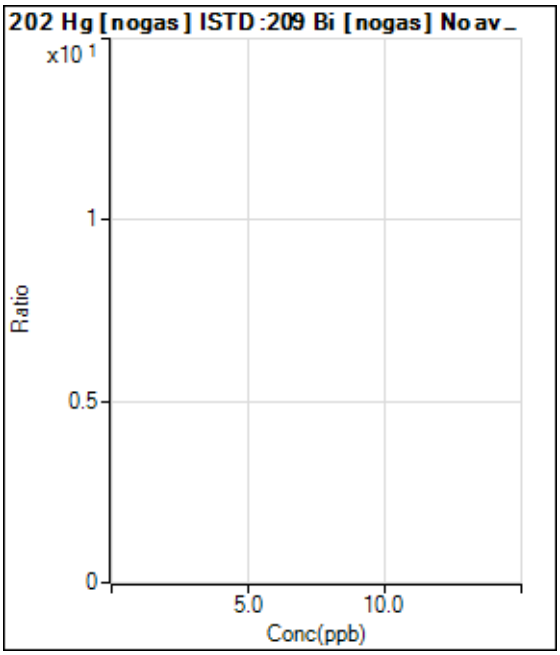


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

Calibration for 140_ICV.d

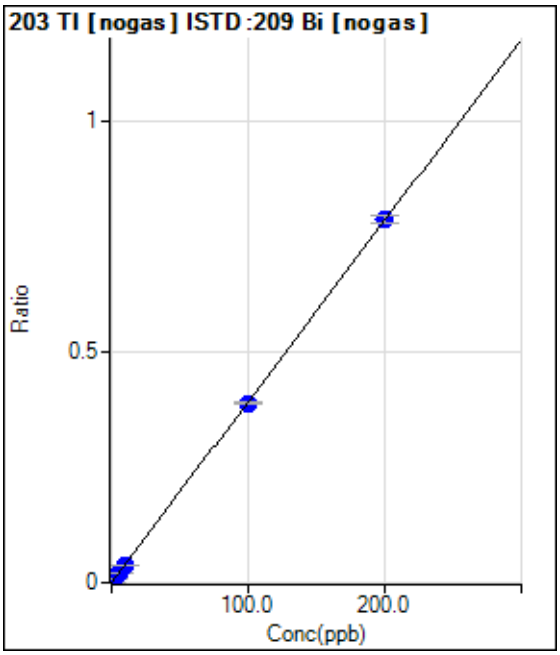


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	2.000					
6	☐	5.000					
7	☐	10.000					



	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					

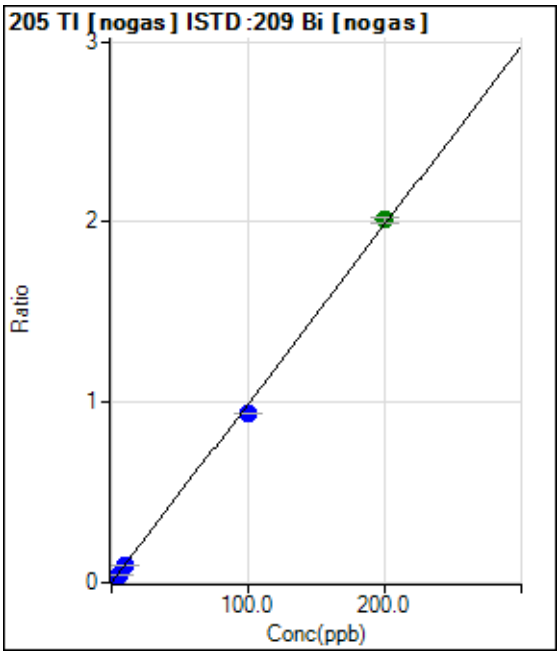
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	49.5
2	☐	2.000	1.913	9372.81	0.0075	P	5.3
3	☐	5.000	4.863	23797.51	0.0191	P	2.3
4	☐	10.000	10.038	49204.20	0.0394	P	0.9
5	☐	100.000	99.105	464590.85	0.3890	P	0.7
6	☐	200.000	200.450	913579.13	0.7867	P	2.1
7	☐	1.000					

y = 0.0039 * x + 1.8995E-005
R = 1.0000
DL = 0.007181
BEC = 0.00484

Weight: <None>
Min Conc: <None>

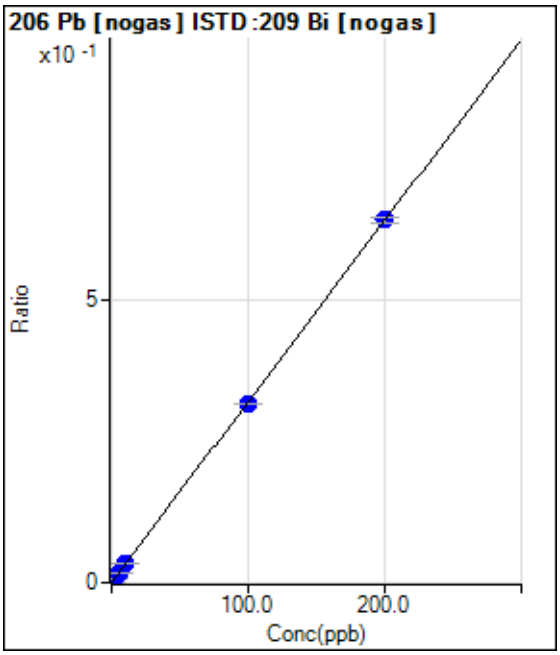


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0001	P	48.2
2	☐	2.000	1.831	22679.26	0.0182	P	2.0
3	☐	5.000	4.641	57400.41	0.0461	P	0.4
4	☐	10.000	9.676	119851.79	0.0960	P	1.6
5	☐	100.000	94.459	1118883.11	0.9367	P	0.6
6	☐	200.000	202.797	2335467.62	2.0110	A	1.6
7	☐	1.000					

y = 0.0099 * x + 5.4271E-005
R = 0.9995
DL = 0.007911
BEC = 0.005473

Weight: <None>
Min Conc: <None>

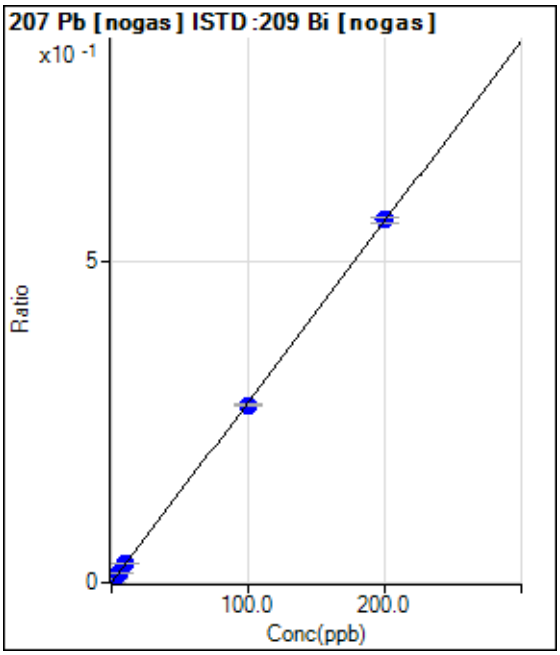
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	166.67	0.0001	P	19.3
2	☐	2.000	1.991	8085.45	0.0065	P	3.2
3	☐	5.000	4.900	19655.31	0.0158	P	1.6
4	☐	10.000	10.308	41248.83	0.0330	P	0.8
5	☐	100.000	98.933	377391.70	0.3160	P	0.7
6	☐	200.000	200.521	743533.37	0.6402	P	1.5
7	☐	1.000					

y = 0.0032 * x + 1.3571E-004
R = 1.0000
DL = 0.02465
BEC = 0.04251

Weight: <None>
Min Conc: <None>

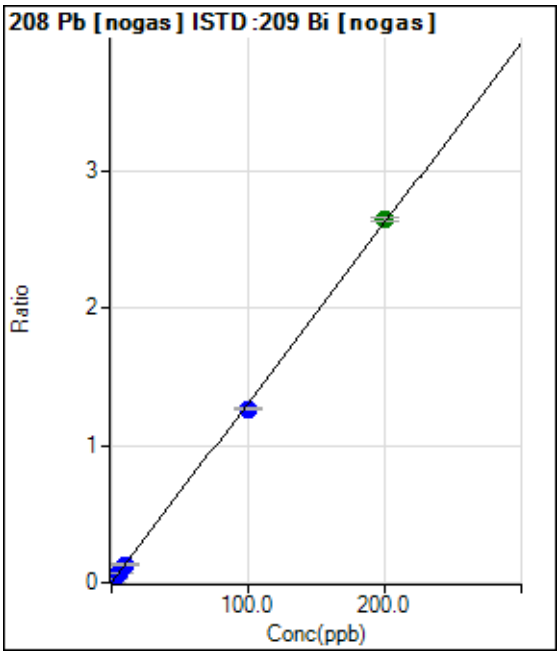


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	140.00	0.0001	P	12.4
2	☐	2.000	2.028	7245.04	0.0058	P	1.3
3	☐	5.000	4.911	17342.70	0.0139	P	1.6
4	☐	10.000	10.234	36063.26	0.0289	P	1.7
5	☐	100.000	98.254	330088.97	0.2764	P	1.0
6	☐	200.000	200.863	655984.92	0.5649	P	1.5
7	☐	1.000					

y = 0.0028 * x + 1.1400E-004
R = 0.9999
DL = 0.01512
BEC = 0.04055

Weight: <None>
Min Conc: <None>

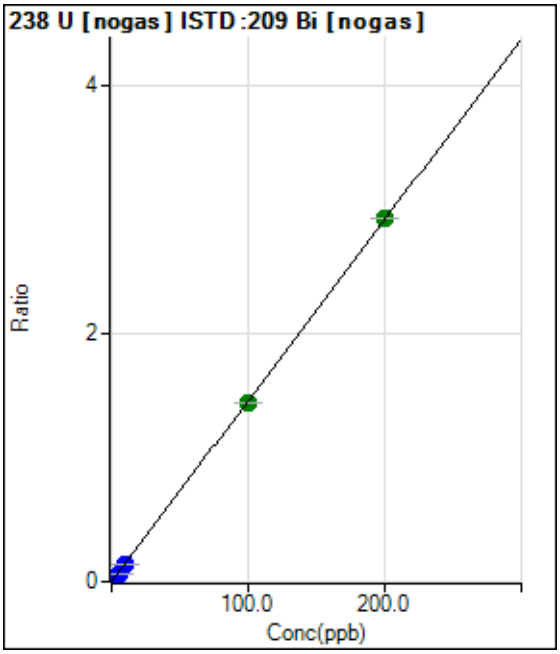
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	686.68	0.0006	P	10.0
2	☐	2.000	1.953	32596.43	0.0262	P	1.9
3	☐	5.000	4.824	79503.40	0.0638	P	1.6
4	☐	10.000	10.097	166004.91	0.1330	P	1.4
5	☐	100.000	96.587	1513571.41	1.2672	P	0.5
6	☐	200.000	201.706	3072647.65	2.6457	A	1.0
7	☐	1.000					

y = 0.0131 * x + 5.5913E-004
R = 0.9998
DL = 0.01275
BEC = 0.04264

Weight: <None>
Min Conc: <None>

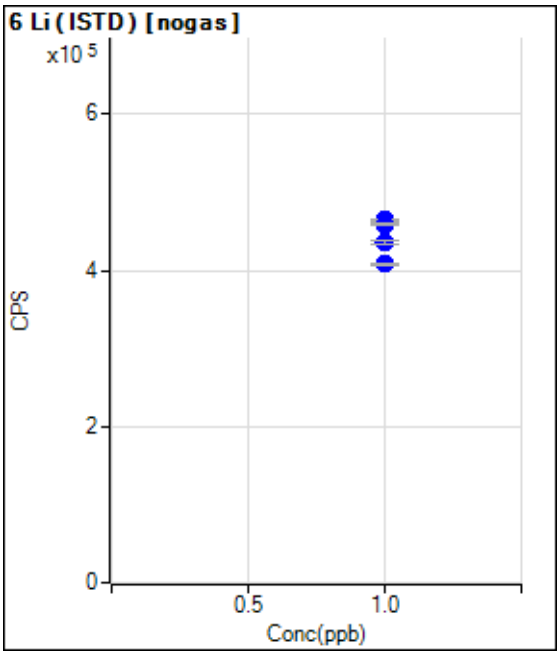


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	173.2
2	☐	2.000	1.772	32162.65	0.0258	P	1.5
3	☐	5.000	4.545	82461.67	0.0662	P	0.8
4	☐	10.000	9.457	171969.83	0.1377	P	1.5
5	☐	100.000	98.766	1718163.10	1.4384	A	0.4
6	☐	200.000	200.658	3394275.05	2.9224	A	0.1
7	☐	1.000					

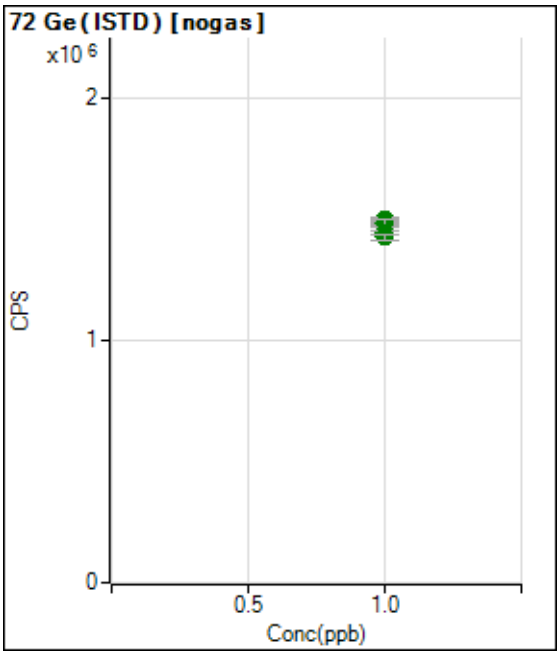
y = 0.0146 * x + 5.4249E-006
R = 1.0000
DL = 0.001935
BEC = 0.0003725

Weight: <None>
Min Conc: <None>

Calibration for 140_ICV.d

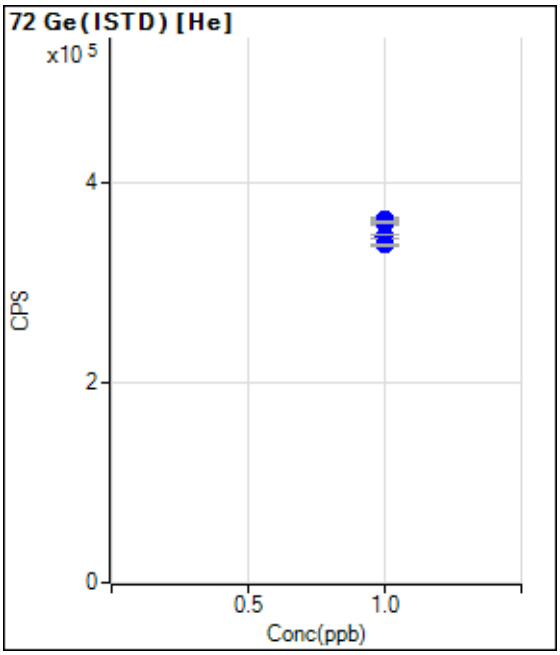


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		464528.68		P	0.5
2	☐	1.000		464217.96		P	1.0
3	☐	1.000		463896.72		P	0.7
4	☐	1.000		458990.63		P	0.7
5	☐	1.000		436174.64		P	1.3
6	☐	1.000		407897.41		P	0.9
7	☐	1.000					

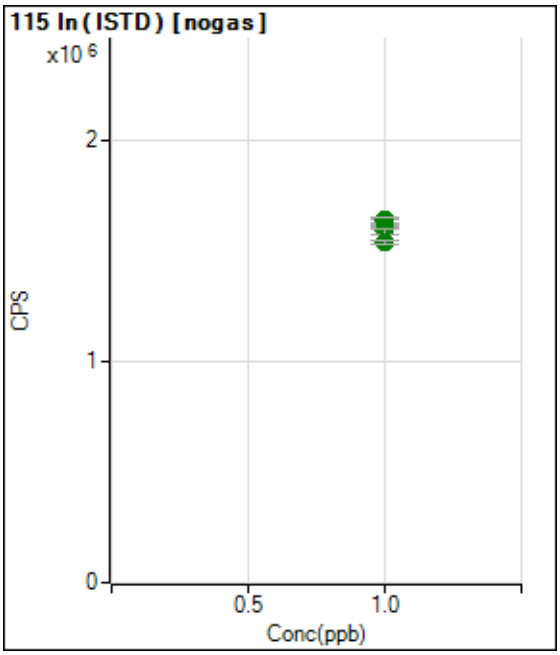


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1469236.80		A	2.3
2	☐	1.000		1485210.19		A	0.8
3	☐	1.000		1499452.16		A	1.0
4	☐	1.000		1485780.03		A	2.0
5	☐	1.000		1447857.06		A	1.1
6	☐	1.000		1428980.91		A	1.5
7	☐	1.000					

Calibration for 140_ICV.d

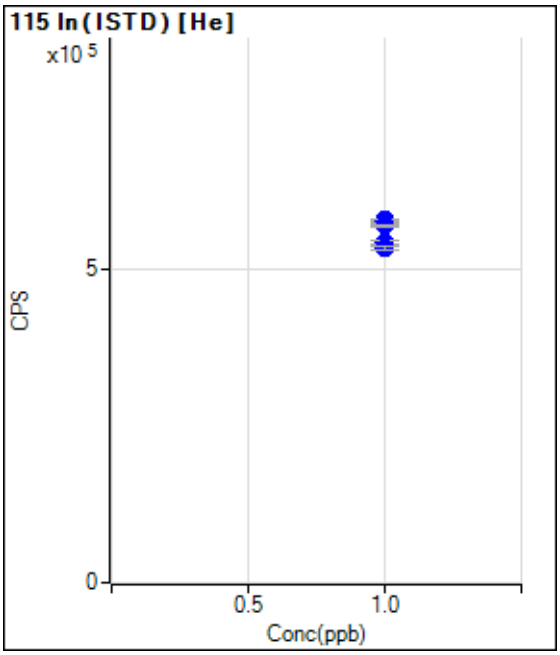


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		360281.52		P	0.2
2	☐	1.000		361083.12		P	2.5
3	☐	1.000		362274.03		P	0.4
4	☐	1.000		359906.51		P	0.9
5	☐	1.000		346088.94		P	1.1
6	☐	1.000		337214.12		P	0.5
7	☐	1.000					

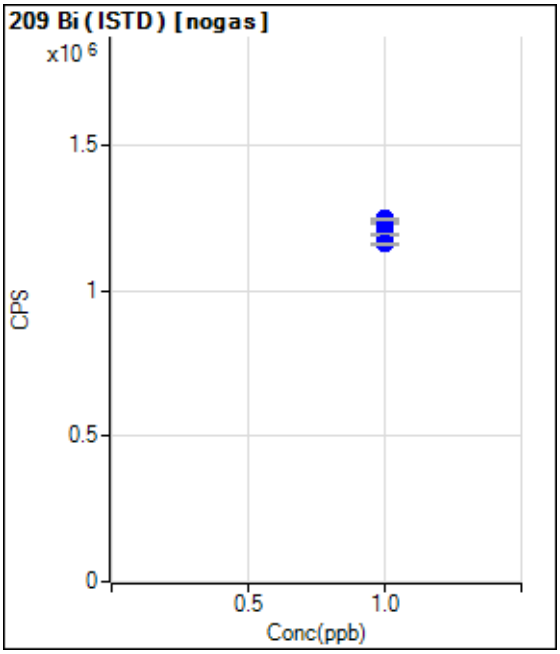


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1623713.00		A	2.6
2	☐	1.000		1639893.41		A	1.5
3	☐	1.000		1633020.10		A	2.3
4	☐	1.000		1605998.55		A	0.7
5	☐	1.000		1588892.33		A	1.5
6	☐	1.000		1539502.90		A	1.4
7	☐	1.000					

Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		578631.13		P	0.8
2	☐	1.000		578969.77		P	0.8
3	☐	1.000		577295.33		P	1.1
4	☐	1.000		570375.78		P	0.4
5	☐	1.000		543205.49		P	0.7
6	☐	1.000		535020.36		P	1.2
7	☐	1.000					



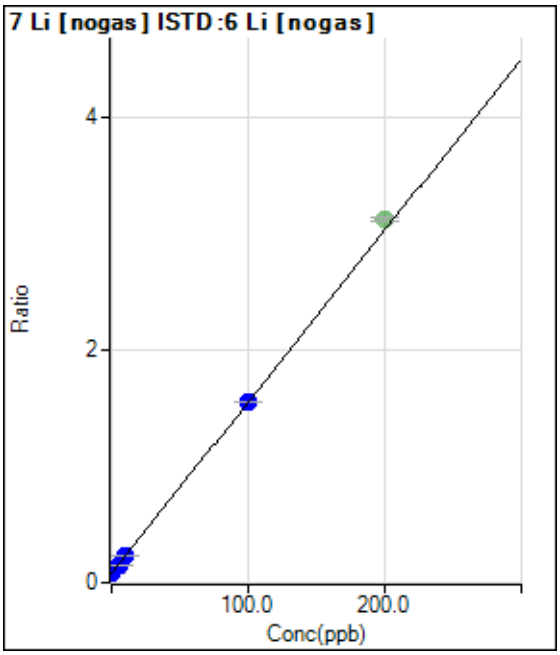
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1228158.68		P	0.1
2	☐	1.000		1245791.70		P	1.0
3	☐	1.000		1245704.07		P	0.5
4	☐	1.000		1248452.61		P	0.6
5	☐	1.000		1194465.30		P	0.7
6	☐	1.000		1161462.61		P	1.1
7	☐	1.000					

Calibration for 023_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\061020A.b\
Analysis File: 061020A.batch.bin
DA Date-Time: 6/10/2020 2:52:52 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	012CALB.d	CAL BLK	6/10/2020 12:20:59 PM
2	013CALS.d	2/10/200	6/10/2020 12:23:21 PM
3	014CALS.d	5/25/500	6/10/2020 12:25:45 PM
4	015CALS.d	10/50/1000	6/10/2020 12:28:09 PM
5	016CALS.d	100/500/10K	6/10/2020 12:30:30 PM
6	017CALS.d	200/1000/20K	6/10/2020 12:32:50 PM
7			

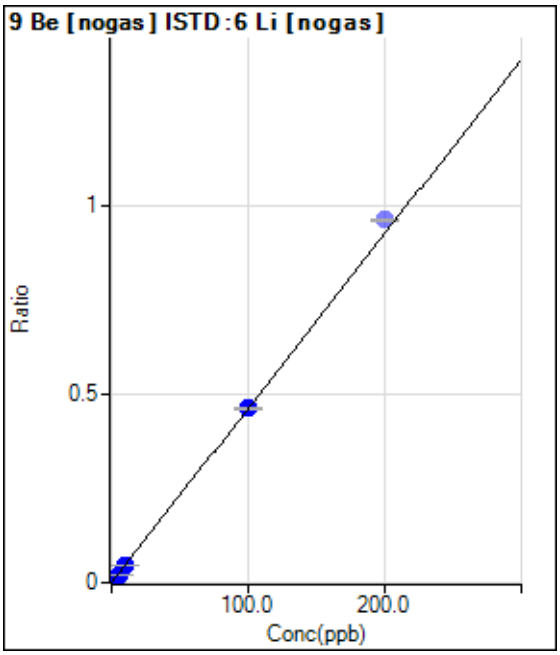
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40903.22	0.0802	P	0.6
2	☐	2.000	1.895	55378.86	0.1081	P	1.0
3	☐	5.000	4.753	77278.31	0.1502	P	1.1
4	☐	10.000	10.175	117097.81	0.2300	P	1.2
5	☐	100.000	99.997	737869.21	1.5522	P	0.6
6	☑	200.000		1370873.15	3.1163	A	1.1
7	☐	1.000					

y = 0.0147 * x + 0.0802
R = 1.0000
DL = 0.09536
BEC = 5.448

Weight: <None>
Min Conc: <None>

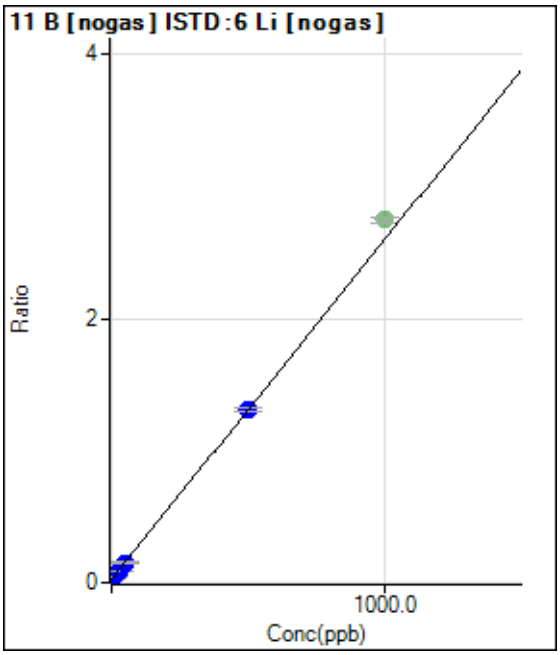


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	100.00	0.0002	P	13.2
2	☐	2.000	1.887	4565.59	0.0089	P	3.2
3	☐	5.000	4.778	11455.14	0.0223	P	1.8
4	☐	10.000	9.974	23551.06	0.0463	P	1.3
5	☐	100.000	100.016	219611.78	0.4620	P	1.2
6	☑	200.000		422772.55	0.9611	P	0.6
7	☐	1.000					

y = 0.0046 * x + 1.9605E-004
R = 1.0000
DL = 0.01676
BEC = 0.04246

Weight: <None>
Min Conc: <None>

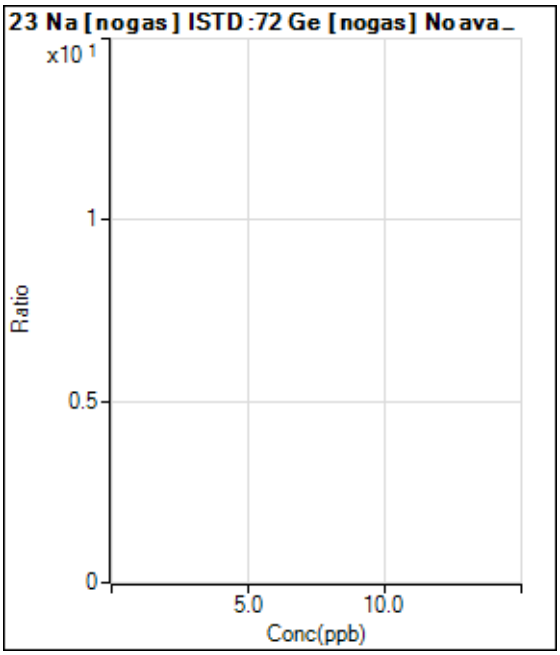
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12872.73	0.0252	P	3.0
2	☐	10.000	9.179	25017.99	0.0488	P	0.9
3	☐	25.000	22.462	42695.57	0.0830	P	1.0
4	☐	50.000	49.452	77561.80	0.1523	P	0.7
5	☐	500.000	500.198	622982.78	1.3106	P	2.0
6	☑	1000.000		1207726.00	2.7456	A	1.9
7	☐	5.000					

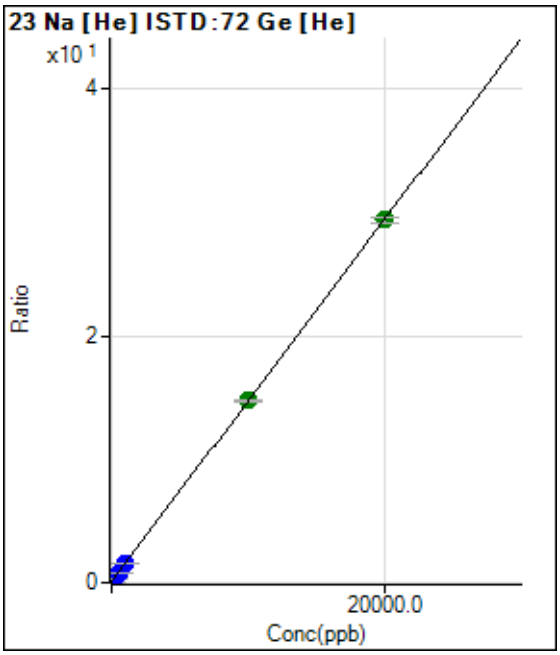
y = 0.0026 * x + 0.0252
R = 1.0000
DL = 0.8704
BEC = 9.822

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					

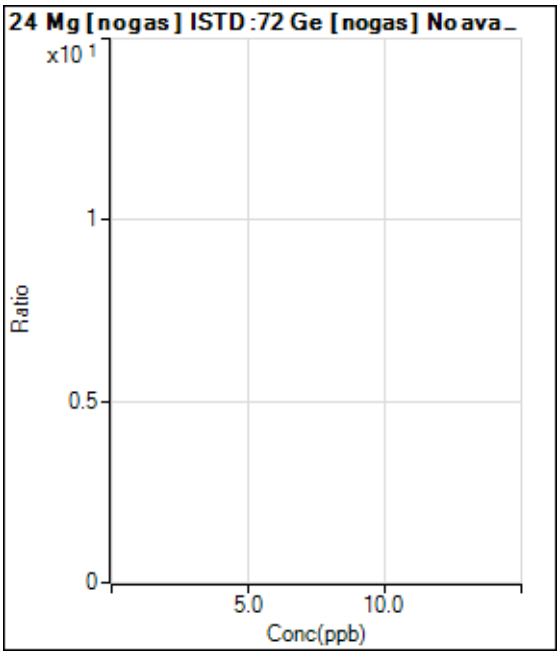
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	32274.75	0.0765	P	0.4
2	☐	200.000	200.773	156660.65	0.3710	P	1.8
3	☐	500.000	507.650	344725.48	0.8211	P	0.3
4	☐	1000.000	1050.995	684699.52	1.6180	P	1.0
5	☐	10000.00	10014.67	5904691.58	14.7651	A	0.7
6	☐	20000.00	19989.91	11309853.1	29.3959	A	1.8
7	☐	100.000					

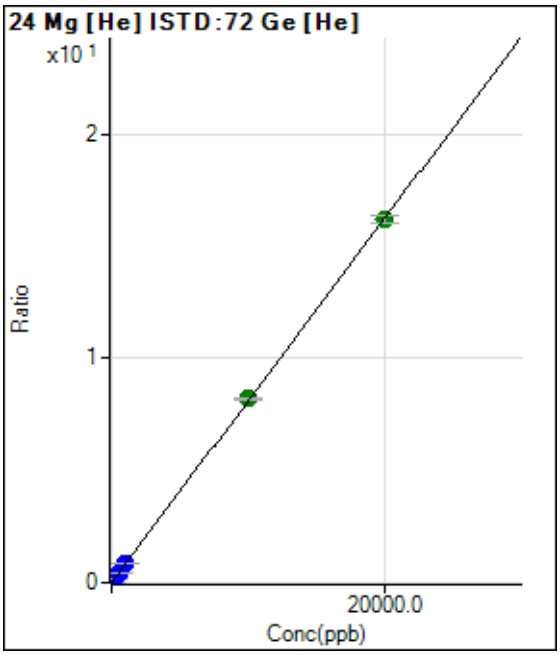
y = 0.0015 * x + 0.0765
R = 1.0000
DL = 0.5829
BEC = 52.16

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					

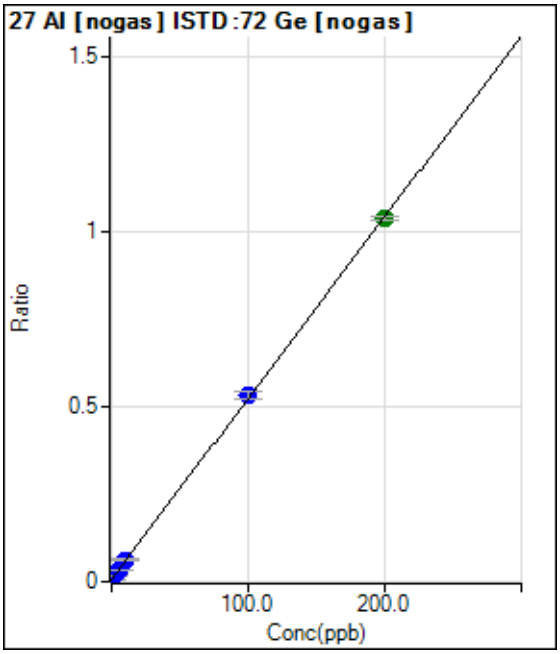
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	216.67	0.0005	P	10.1
2	☐	200.000	202.314	69506.62	0.1646	P	0.5
3	☐	500.000	509.656	173731.03	0.4138	P	1.0
4	☐	1000.000	1052.306	361332.60	0.8538	P	0.6
5	☐	10000.00	10118.72	3281600.16	8.2059	A	0.7
6	☐	20000.00	19937.75	6220514.28	16.1682	A	2.1
7	☐	100.000					

y = 8.1091E-004 * x + 5.1302E-004
R = 1.0000
DL = 0.1924
BEC = 0.6326

Weight: <None>
Min Conc: <None>

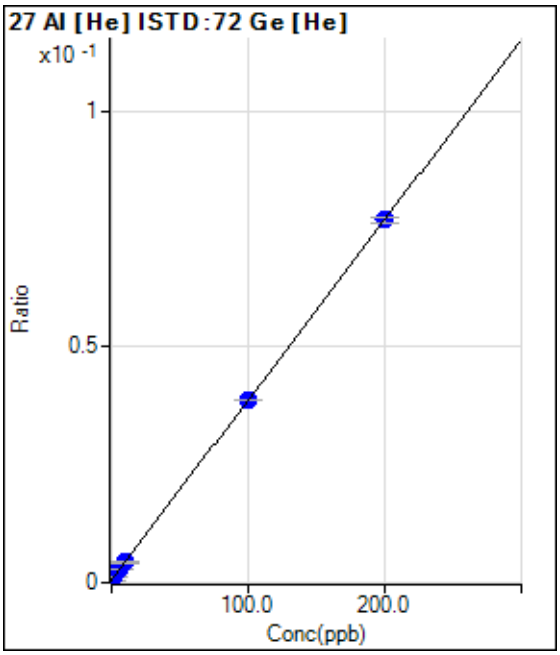


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9832.73	0.0062	P	0.8
2	☐	2.000	2.112	27050.30	0.0171	P	1.4
3	☐	5.000	5.332	53715.81	0.0338	P	1.1
4	☐	10.000	10.927	99985.06	0.0627	P	3.3
5	☐	100.000	101.825	813809.89	0.5334	P	3.3
6	☐	200.000	199.032	1565837.84	1.0367	A	1.2
7	☐	1.000					

y = 0.0052 * x + 0.0062
R = 0.9999
DL = 0.02939
BEC = 1.188

Weight: <None>
Min Conc: <None>

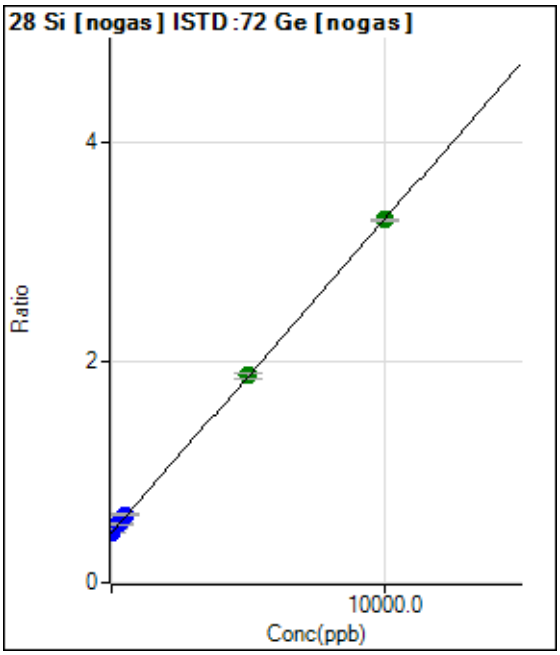
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0006	P	14.0
2	☐	2.000	1.899	540.01	0.0013	P	17.5
3	☐	5.000	5.670	1140.05	0.0027	P	4.1
4	☐	10.000	9.827	1820.12	0.0043	P	9.0
5	☐	100.000	99.767	15439.78	0.0386	P	0.4
6	☐	200.000	200.110	29580.00	0.0769	P	1.6
7	☐	1.000					

y = 3.8144E-004 * x + 5.5268E-004
R = 1.0000
DL = 0.6105
BEC = 1.449

Weight: <None>
Min Conc: <None>

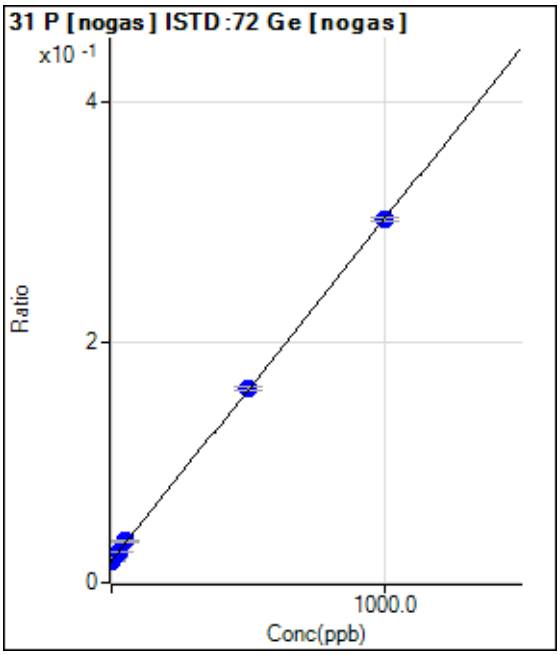


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	722477.70	0.4521	P	1.4
2	☐	100.000	159.994	787639.73	0.4976	P	2.8
3	☐	250.000	292.096	851381.55	0.5352	P	2.1
4	☐	500.000	587.377	986432.25	0.6191	P	4.8
5	☐	5000.000	5015.907	2866521.10	1.8784	A	2.5
6	☐	10000.00	9986.025	4971400.65	3.2917	A	0.7
7	☐	50.000					

y = 2.8436E-004 * x + 0.4521
R = 1.0000
DL = 65.76
BEC = 1590

Weight: <None>
Min Conc: <None>

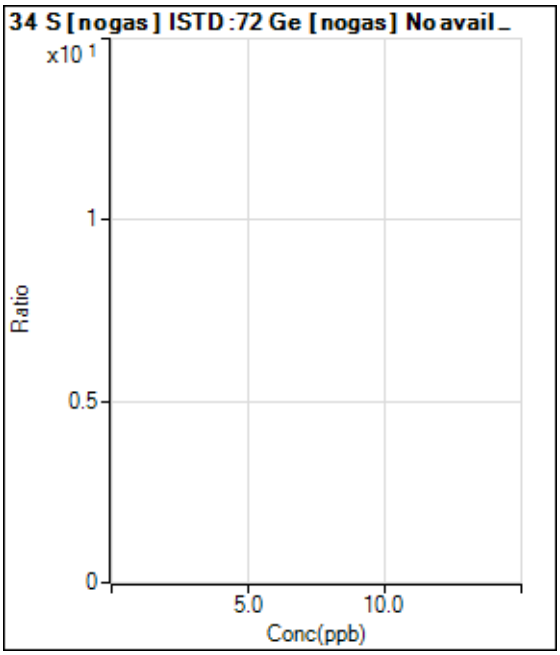
Calibration for 023_ICV.d



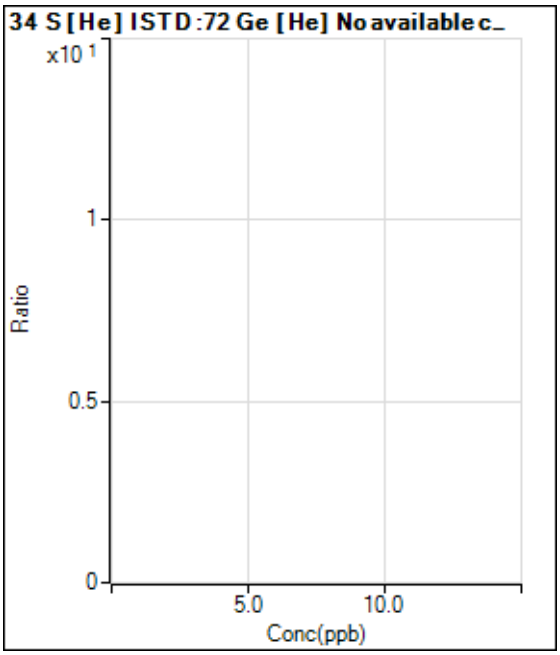
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29299.56	0.0183	P	1.5
2	☐	10.000	7.024	32187.81	0.0203	P	2.9
3	☐	25.000	25.970	40934.59	0.0257	P	2.7
4	☐	50.000	57.213	55177.48	0.0346	P	4.9
5	☐	500.000	504.941	247494.72	0.1622	P	2.1
6	☐	1000.000	997.175	456665.41	0.3024	P	1.1
7	☐	5.000					

y = 2.8486E-004 * x + 0.0183
R = 1.0000
DL = 2.922
BEC = 64.36

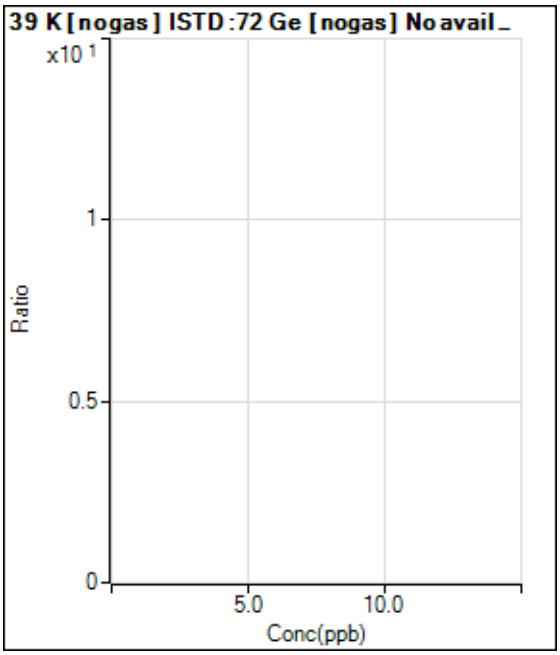
Weight: <None>
Min Conc: <None>



	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					

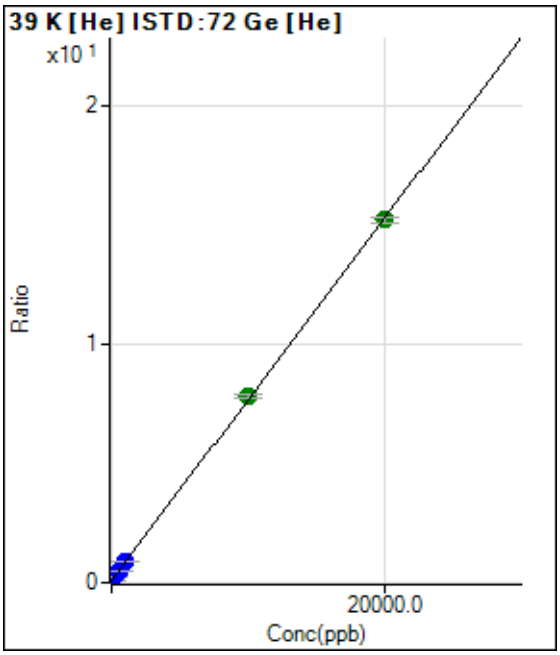


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.00					
6	☐	40000.00					
7	☐	200.000					



	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					

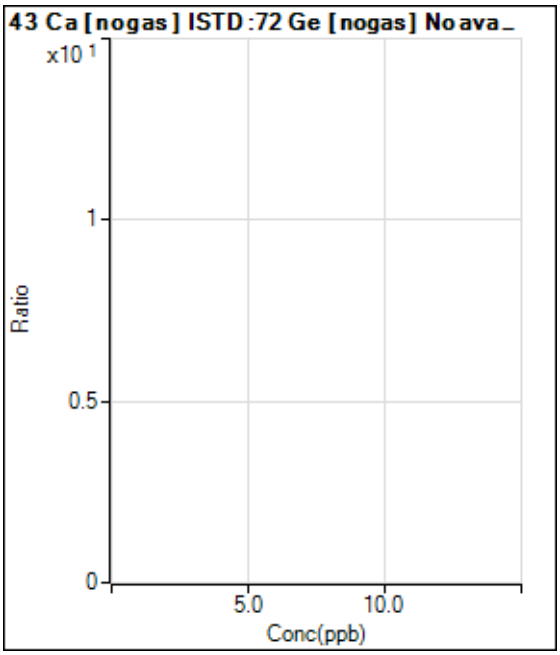
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38072.69	0.0903	P	5.2
2	☐	200.000	201.899	102929.62	0.2438	P	2.0
3	☐	500.000	509.612	200530.25	0.4776	P	1.0
4	☐	1000.000	1044.882	374282.08	0.8844	P	0.9
5	☐	10000.00	10146.16	3119912.97	7.8017	A	2.2
6	☐	20000.00	19924.41	5861032.00	15.2336	A	1.5
7	☐	100.000					

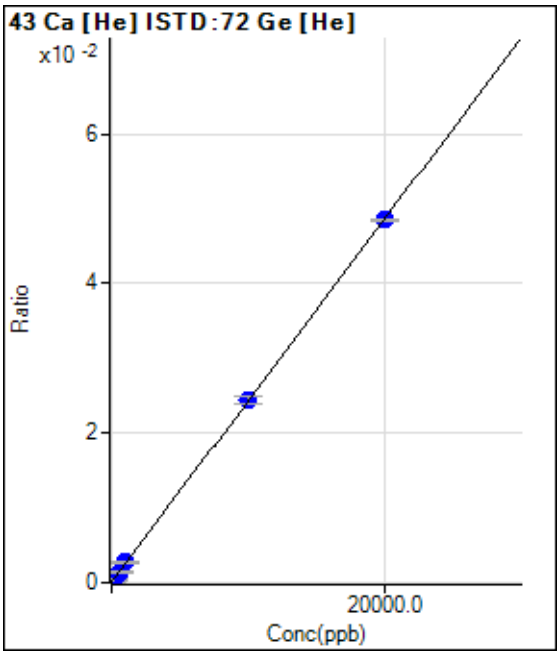
y = 7.6004E-004 * x + 0.0903
R = 1.0000
DL = 18.56
BEC = 118.8

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					

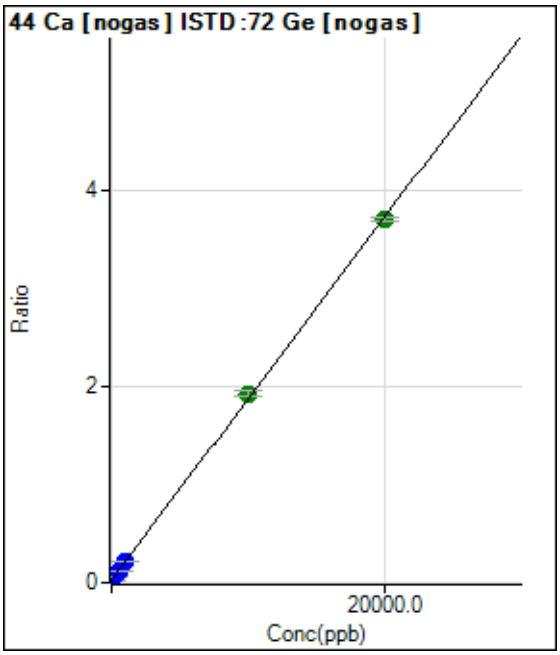
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0001	P	41.2
2	☐	200.000	150.113	180.00	0.0004	P	21.6
3	☐	500.000	520.553	556.68	0.0013	P	18.0
4	☐	1000.000	1127.303	1183.39	0.0028	P	9.6
5	☐	10000.00	10061.31	9786.03	0.0245	P	4.0
6	☐	20000.00	19962.96	18659.53	0.0485	P	0.4
7	☐	100.000					

y = 2.4261E-006 * x + 6.2891E-005
R = 1.0000
DL = 32.07
BEC = 25.92

Weight: <None>
Min Conc: <None>

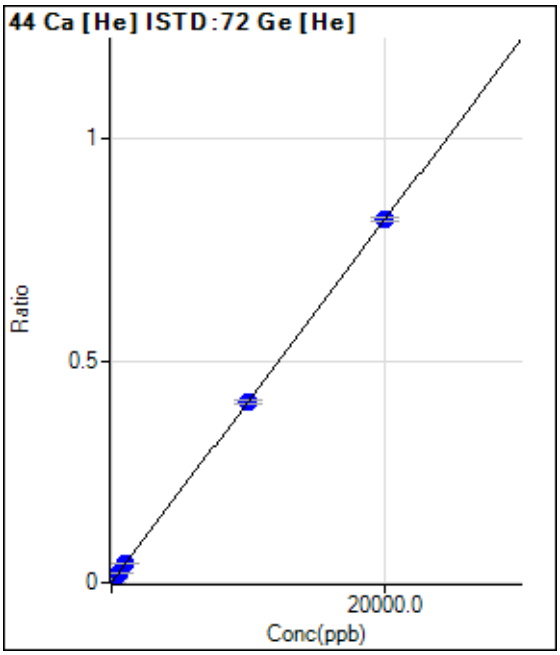


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	42483.24	0.0266	P	5.2
2	☐	200.000	201.878	101061.92	0.0638	P	1.6
3	☐	500.000	507.142	191226.22	0.1202	P	0.6
4	☐	1000.000	1059.926	354178.58	0.2222	P	2.5
5	☐	10000.00	10278.13	2934970.17	1.9236	A	3.4
6	☐	20000.00	19857.74	5575208.04	3.6917	A	1.0
7	☐	100.000					

y = 1.8457E-004 * x + 0.0266
R = 0.9999
DL = 22.61
BEC = 144

Weight: <None>
Min Conc: <None>

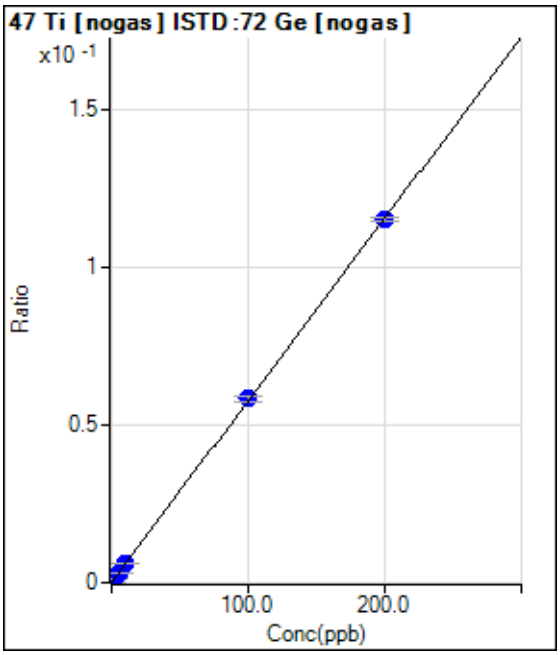
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	246.67	0.0006	P	39.5
2	☐	200.000	202.813	3740.42	0.0089	P	5.1
3	☐	500.000	498.145	8778.84	0.0209	P	4.2
4	☐	1000.000	1048.736	18355.85	0.0434	P	1.8
5	☐	10000.00	9950.677	162610.11	0.4066	P	1.9
6	☐	20000.00	20022.24	314594.79	0.8176	P	1.0
7	☐	100.000					

y = 4.0807E-005 * x + 5.8117E-004
R = 1.0000
DL = 16.87
BEC = 14.24

Weight: <None>
Min Conc: <None>

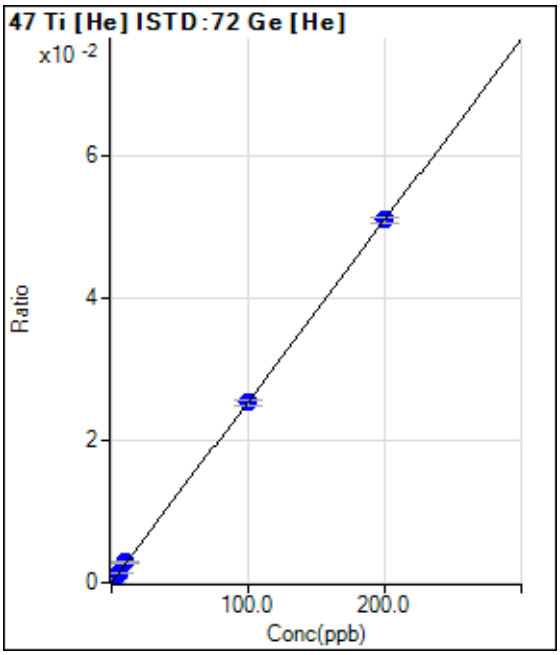


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	100.00	0.0001	P	43.9
2	☐	2.000	2.016	1943.47	0.0012	P	9.4
3	☐	5.000	5.207	4884.06	0.0031	P	5.1
4	☐	10.000	10.569	9836.05	0.0062	P	1.3
5	☐	100.000	101.194	89296.24	0.0585	P	2.8
6	☐	200.000	199.369	174033.41	0.1152	P	1.2
7	☐	1.000					

y = 5.7768E-004 * x + 6.2651E-005
R = 1.0000
DL = 0.1429
BEC = 0.1085

Weight: <None>
Min Conc: <None>

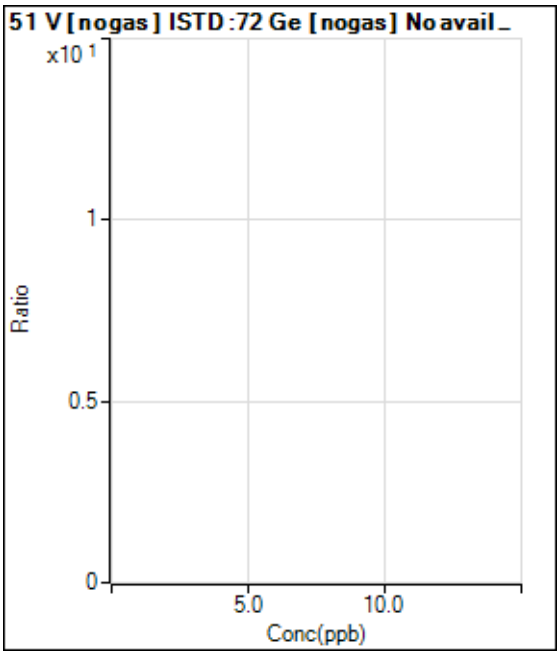
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	2.137	233.34	0.0006	P	19.5
3	☐	5.000	5.450	586.69	0.0014	P	8.1
4	☐	10.000	11.315	1223.40	0.0029	P	15.2
5	☐	100.000	99.342	10129.60	0.0253	P	2.8
6	☐	200.000	200.251	19643.89	0.0511	P	1.5
7	☐	1.000					

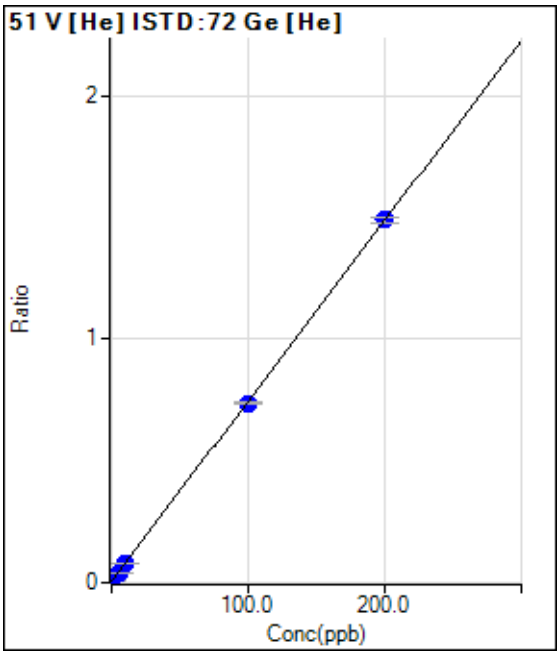
y = 2.5491E-004 * x + 8.1101E-006
R = 1.0000
DL = 0.1653
BEC = 0.03182

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					

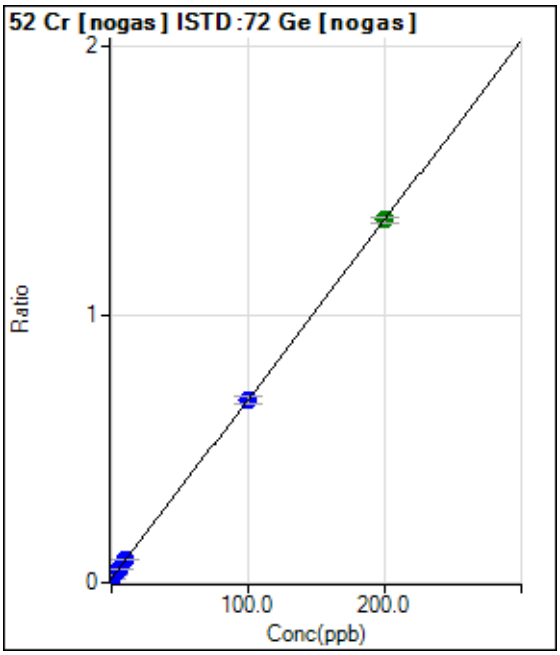
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2530.18	0.0060	P	2.2
2	☐	2.000	1.970	8688.73	0.0206	P	3.8
3	☐	5.000	4.985	18013.18	0.0429	P	2.0
4	☐	10.000	10.318	34865.91	0.0824	P	1.4
5	☐	100.000	98.838	295040.41	0.7378	P	0.4
6	☐	200.000	200.566	573625.08	1.4909	P	1.3
7	☐	1.000					

y = 0.0074 * x + 0.0060
R = 1.0000
DL = 0.05438
BEC = 0.8102

Weight: <None>
Min Conc: <None>

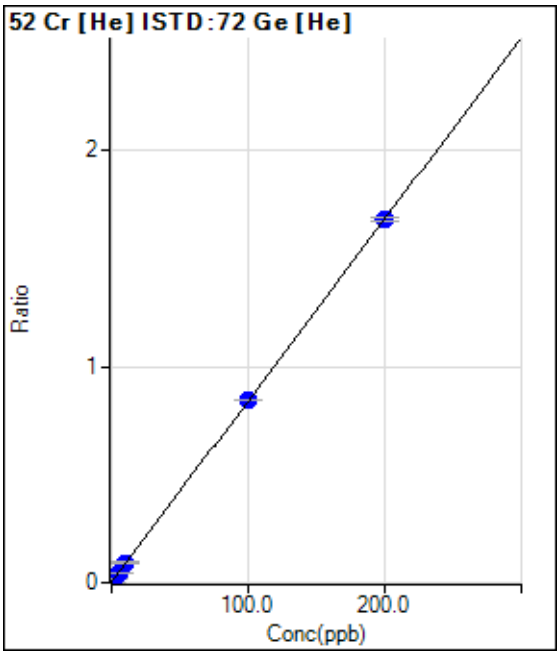


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22921.18	0.0143	P	1.4
2	☐	2.000	2.123	45185.03	0.0285	P	1.7
3	☐	5.000	5.034	76386.54	0.0480	P	2.3
4	☐	10.000	10.640	136283.76	0.0855	P	2.6
5	☐	100.000	99.778	1039901.34	0.6817	P	4.0
6	☐	200.000	200.077	2042767.78	1.3525	A	1.3
7	☐	1.000					

y = 0.0067 * x + 0.0143
R = 1.0000
DL = 0.09208
BEC = 2.144

Weight: <None>
Min Conc: <None>

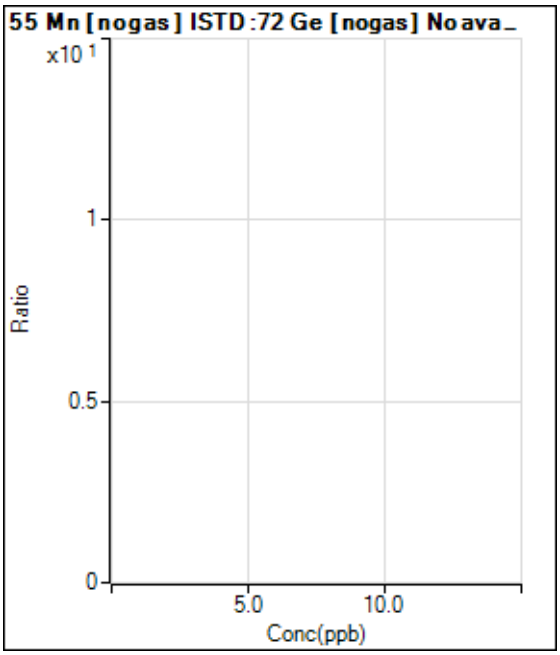
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	670.03	0.0016	P	17.9
2	☐	2.000	1.982	7688.35	0.0182	P	11.7
3	☐	5.000	4.869	17825.44	0.0425	P	1.5
4	☐	10.000	10.836	39158.13	0.0925	P	1.8
5	☐	100.000	100.482	337909.63	0.8449	P	0.7
6	☐	200.000	199.721	645531.54	1.6778	P	1.2
7	☐	1.000					

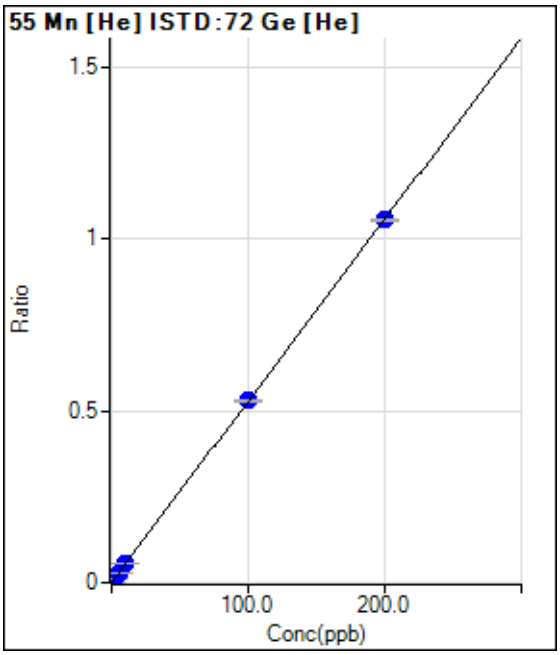
y = 0.0084 * x + 0.0016
R = 1.0000
DL = 0.1016
BEC = 0.1894

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					

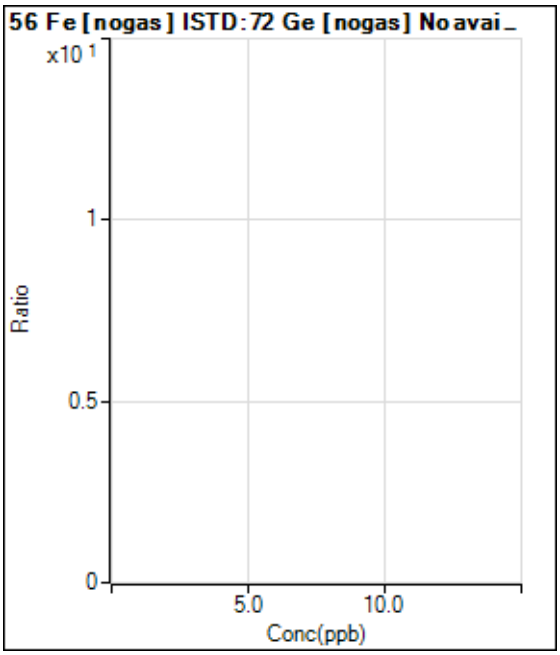
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	173.34	0.0004	P	39.5
2	☐	2.000	1.952	4527.29	0.0107	P	5.5
3	☐	5.000	5.160	11617.17	0.0277	P	3.6
4	☐	10.000	10.301	23198.06	0.0548	P	4.1
5	☐	100.000	100.286	212031.74	0.5302	P	0.9
6	☐	200.000	199.838	406340.49	1.0561	P	0.3
7	☐	1.000					

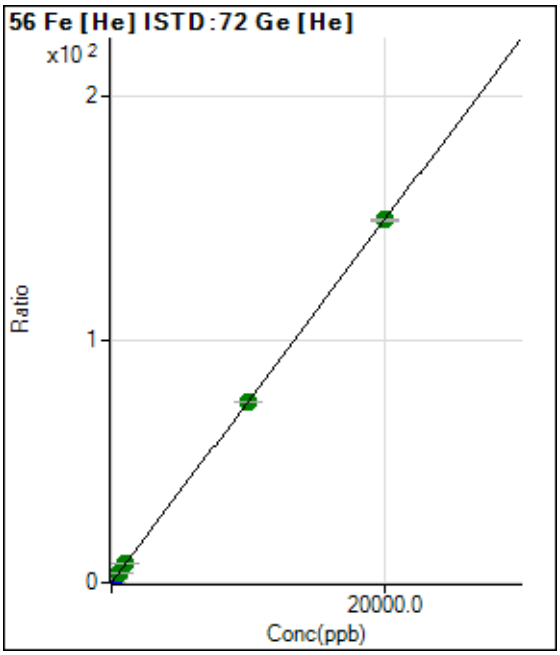
y = 0.0053 * x + 4.1266E-004
R = 1.0000
DL = 0.09256
BEC = 0.07812

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					

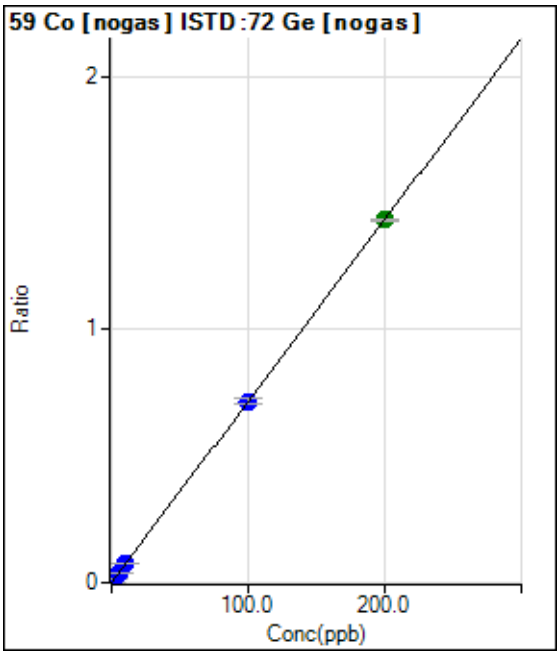
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4527.30	0.0107	P	2.3
2	☐	200.000	194.714	617769.21	1.4629	P	1.7
3	☐	500.000	526.952	1654529.04	3.9408	A	1.1
4	☐	1000.000	1059.427	3348148.80	7.9120	A	1.2
5	☐	10000.00	9983.770	29782600.3	74.4703	A	0.4
6	☐	20000.00	20004.52	57408269.1	149.205	A	0.8
7	☐	100.000					

y = 0.0075 * x + 0.0107
R = 1.0000
DL = 0.1002
BEC = 1.438

Weight: <None>
Min Conc: <None>

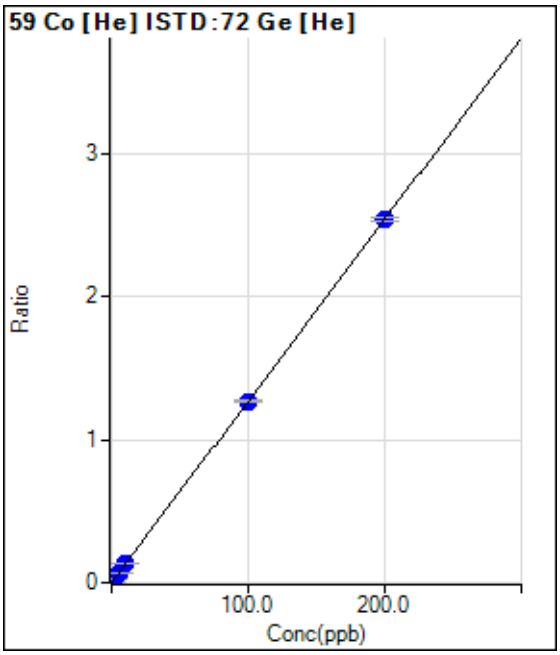


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	366.68	0.0002	P	16.6
2	☐	2.000	1.969	22680.86	0.0143	P	2.7
3	☐	5.000	4.995	57268.79	0.0360	P	0.5
4	☐	10.000	10.644	121866.52	0.0764	P	2.3
5	☐	100.000	99.859	1091251.03	0.7152	P	3.1
6	☐	200.000	200.039	2163427.99	1.4325	A	0.8
7	☐	1.000					

y = 0.0072 * x + 2.2924E-004
R = 1.0000
DL = 0.01591
BEC = 0.03202

Weight: <None>
Min Conc: <None>

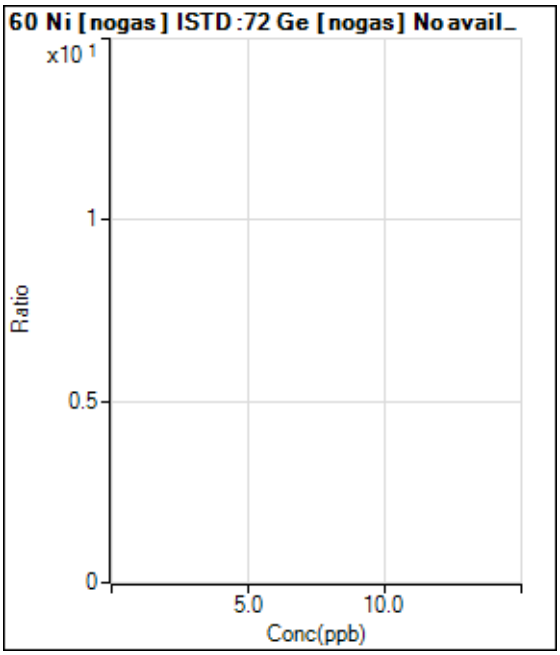
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0002	P	4.5
2	☐	2.000	1.995	10763.29	0.0255	P	6.6
3	☐	5.000	5.062	27023.36	0.0644	P	1.5
4	☐	10.000	10.454	56148.83	0.1327	P	2.4
5	☐	100.000	100.112	507407.11	1.2688	P	0.8
6	☐	200.000	199.920	974813.94	2.5336	P	0.9
7	☐	1.000					

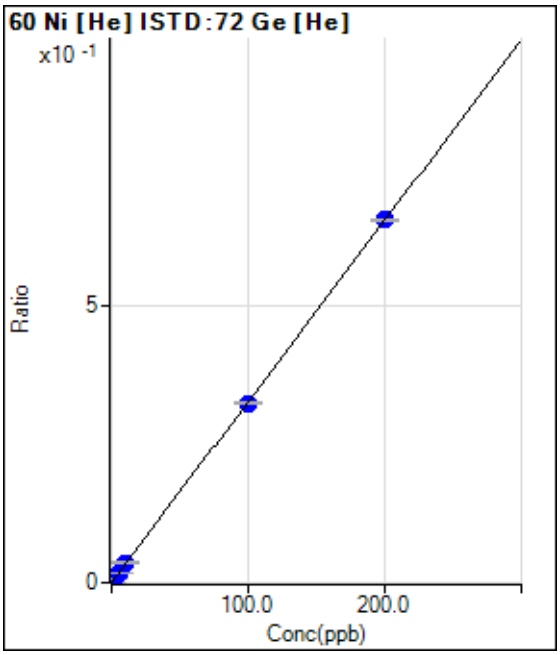
y = 0.0127 * x + 2.2112E-004
R = 1.0000
DL = 0.002379
BEC = 0.01745

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					

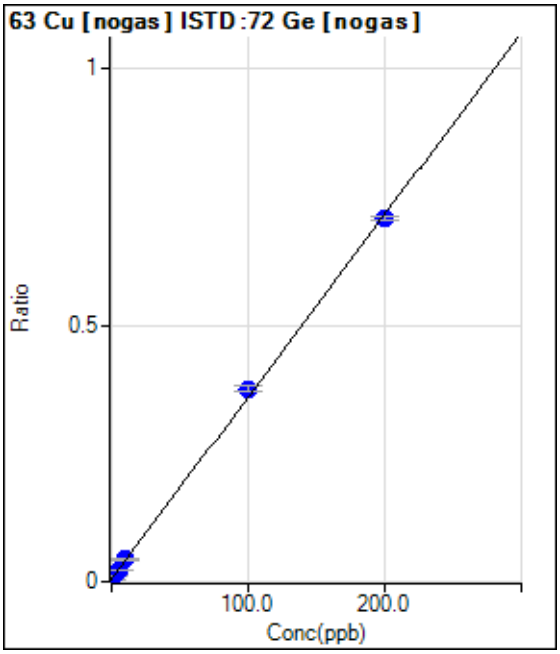
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0002	P	34.0
2	☐	2.000	2.046	2876.93	0.0068	P	9.0
3	☐	5.000	5.008	6914.75	0.0165	P	7.6
4	☐	10.000	10.962	15183.19	0.0359	P	2.9
5	☐	100.000	99.024	129101.64	0.3228	P	0.7
6	☐	200.000	200.439	251375.44	0.6533	P	0.8
7	☐	1.000					

y = 0.0033 * x + 1.5049E-004
R = 1.0000
DL = 0.04713
BEC = 0.04618

Weight: <None>
Min Conc: <None>

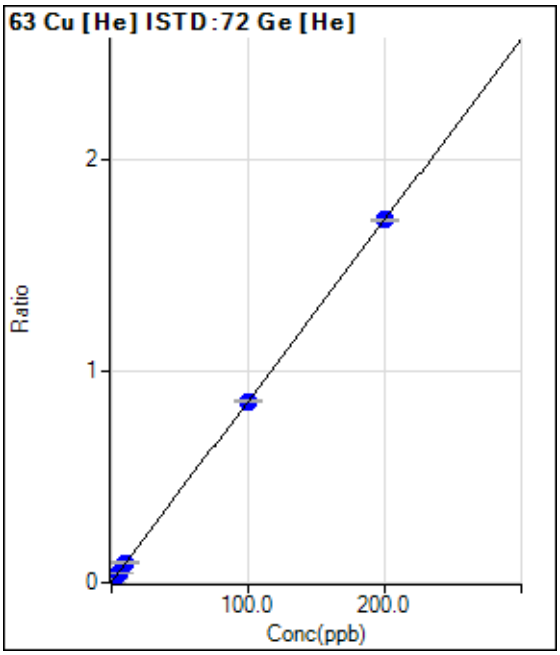


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8178.62	0.0051	P	3.1
2	☐	2.000	2.108	19947.69	0.0126	P	0.4
3	☐	5.000	5.214	37588.51	0.0236	P	4.0
4	☐	10.000	10.886	69748.52	0.0438	P	3.6
5	☐	100.000	104.289	572695.30	0.3753	P	2.8
6	☐	200.000	197.805	1068144.12	0.7073	P	0.9
7	☐	1.000					

y = 0.0035 * x + 0.0051
R = 0.9997
DL = 0.1353
BEC = 1.442

Weight: <None>
Min Conc: <None>

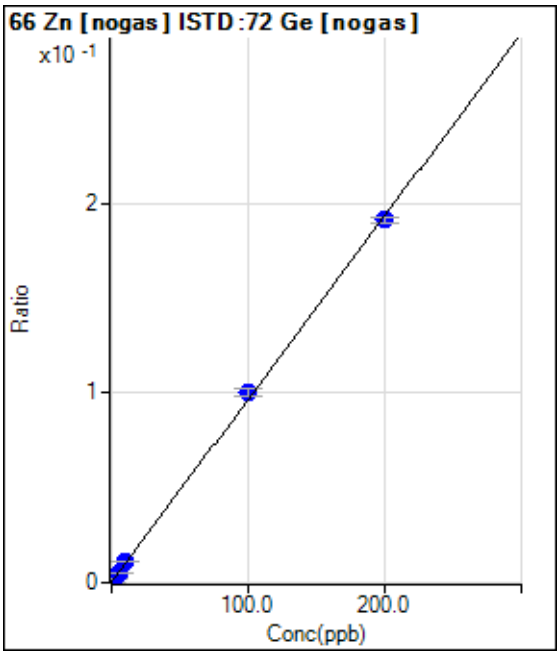
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1293.40	0.0031	P	7.6
2	☐	2.000	2.073	8802.23	0.0208	P	4.3
3	☐	5.000	5.302	20374.88	0.0485	P	2.5
4	☐	10.000	10.715	40177.33	0.0949	P	1.7
5	☐	100.000	99.779	343340.10	0.8586	P	1.4
6	☐	200.000	200.066	661195.04	1.7184	P	0.5
7	☐	1.000					

y = 0.0086 * x + 0.0031
R = 1.0000
DL = 0.08108
BEC = 0.3579

Weight: <None>
Min Conc: <None>

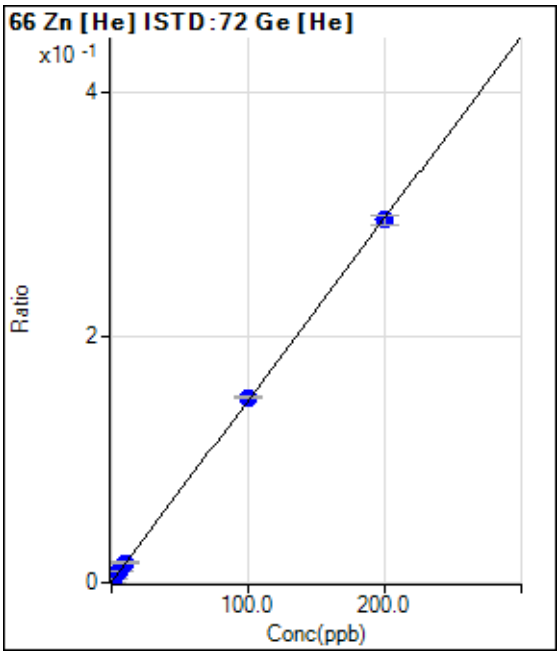


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	426.68	0.0003	P	3.3
2	☐	2.000	2.116	3653.75	0.0023	P	8.8
3	☐	5.000	5.273	8512.09	0.0054	P	4.0
4	☐	10.000	11.000	17331.70	0.0109	P	2.7
5	☐	100.000	103.830	153160.14	0.1004	P	3.3
6	☐	200.000	198.027	288772.45	0.1912	P	1.4
7	☐	1.000					

y = 9.6427E-004 * x + 2.6701E-004
R = 0.9997
DL = 0.02747
BEC = 0.2769

Weight: <None>
Min Conc: <None>

Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	163.33	0.0004	P	28.7
2	☐	2.000	1.873	1333.41	0.0032	P	11.9
3	☐	5.000	5.670	3690.43	0.0088	P	2.3
4	☐	10.000	10.638	6834.71	0.0162	P	5.5
5	☐	100.000	101.590	60379.32	0.1510	P	1.5
6	☐	200.000	199.157	113740.66	0.2956	P	2.4
7	☐	1.000					

y = 0.0015 * x + 3.8535E-004

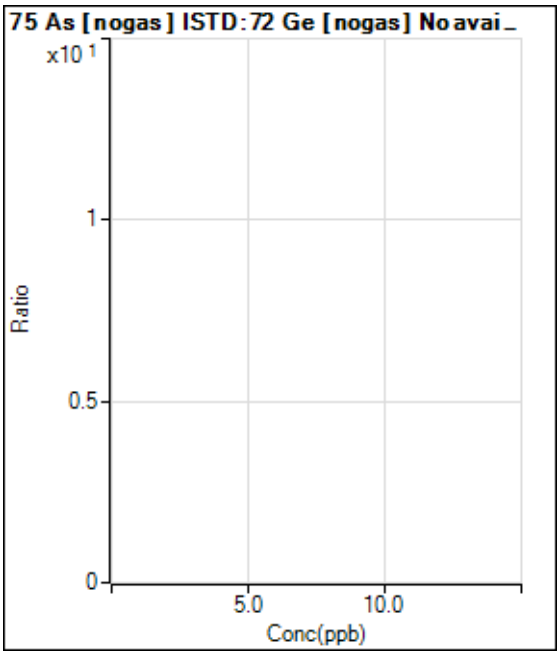
R = 1.0000

DL = 0.224

BEC = 0.26

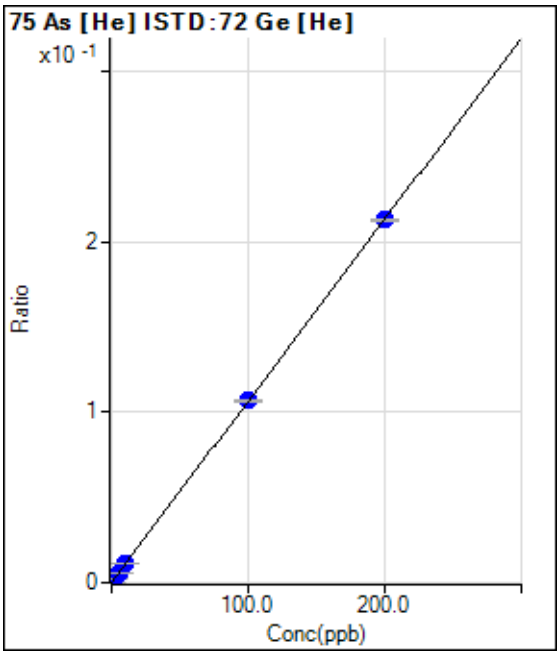
Weight: <None>

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					

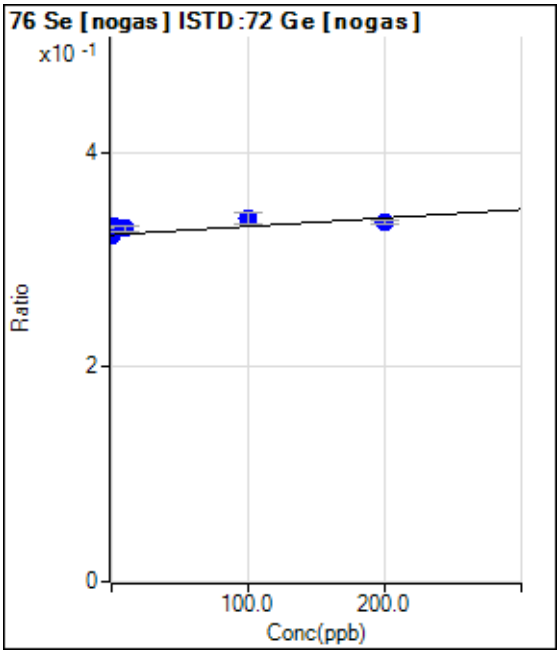
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	51.11	0.0001	P	15.7
2	☐	2.000	2.072	982.26	0.0023	P	3.7
3	☐	5.000	5.067	2314.60	0.0055	P	2.0
4	☐	10.000	10.508	4783.99	0.0113	P	4.2
5	☐	100.000	100.179	42681.91	0.1067	P	1.7
6	☐	200.000	199.883	81883.50	0.2128	P	0.4
7	☐	1.000					

y = 0.0011 * x + 1.2142E-004
R = 1.0000
DL = 0.0537
BEC = 0.1141

Weight: <None>
Min Conc: <None>

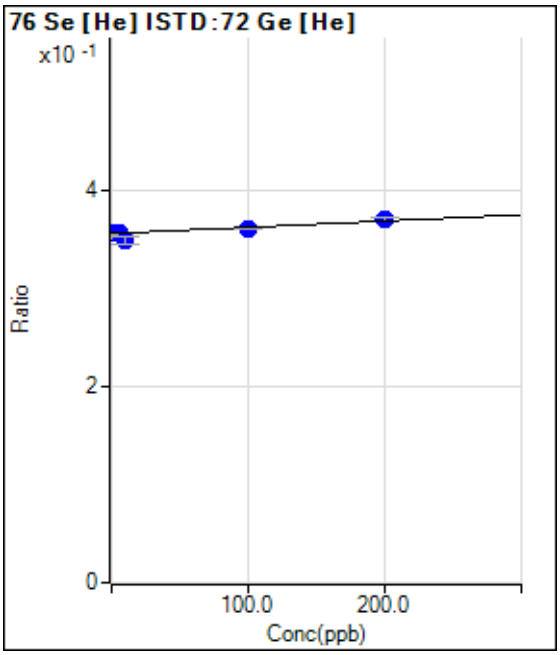


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	516958.96	0.3235	P	0.5
2	☐	2.000	108.999	525667.96	0.3321	P	0.5
3	☐	5.000	80.649	524812.09	0.3298	P	0.2
4	☐	10.000	72.661	524829.09	0.3292	P	1.3
5	☐	100.000	188.158	516124.19	0.3383	P	3.2
6	☐	200.000	149.827	506311.79	0.3353	P	1.2
7	☐	1.000					

y = 7.8489E-005 * x + 0.3235
R = 0.6880
DL = 64.94
BEC = 4122

Weight: <None>
Min Conc: <None>

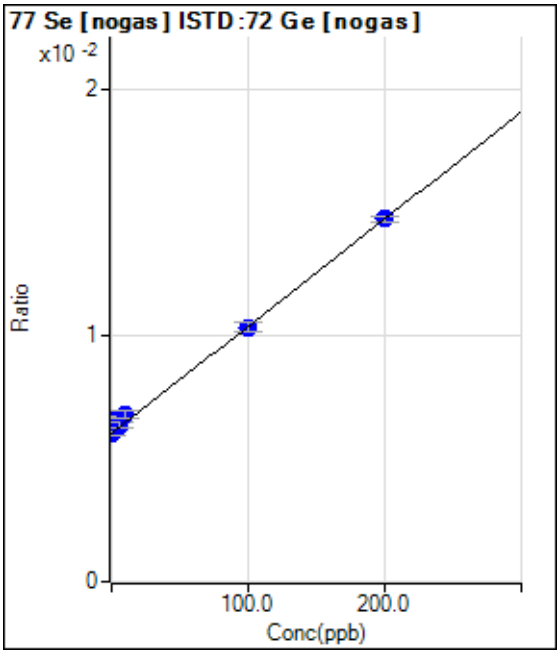
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	150429.10	0.3566	P	2.5
2	☐	2.000	1.847	150642.08	0.3568	P	2.7
3	☐	5.000	-1.662	149693.67	0.3565	P	0.4
4	☐	10.000	-102.363	148153.59	0.3501	P	2.2
5	☐	100.000	78.215	144635.91	0.3617	P	0.4
6	☐	200.000	216.679	142560.33	0.3705	P	1.1
7	☐	1.000					

y = 6.4030E-005 * x + 0.3566
R = 0.9129
DL = 423.3
BEC = 5570

Weight: <None>
Min Conc: <None>

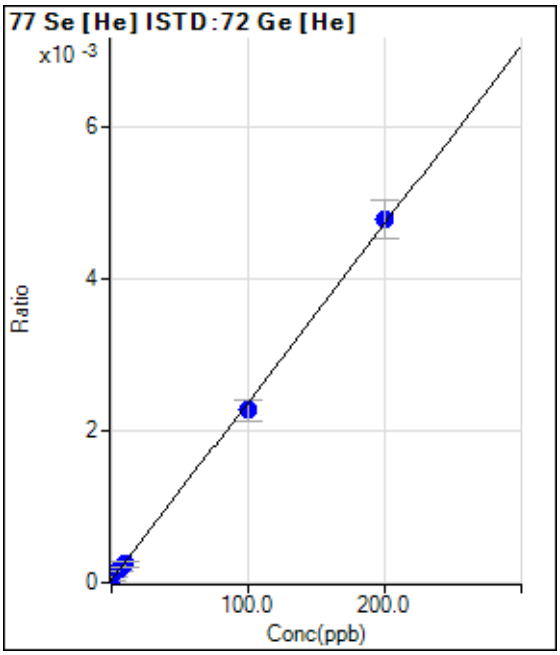


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9646.06	0.0060	P	3.7
2	☐	2.000	11.837	10373.16	0.0066	P	4.6
3	☐	5.000	7.486	10126.34	0.0064	P	3.5
4	☐	10.000	17.757	10856.78	0.0068	P	4.1
5	☐	100.000	98.711	15773.76	0.0103	P	3.8
6	☐	200.000	200.096	22287.19	0.0148	P	1.7
7	☐	1.000					

y = 4.3575E-005 * x + 0.0060
R = 0.9988
DL = 15.18
BEC = 138.5

Weight: <None>
Min Conc: <None>

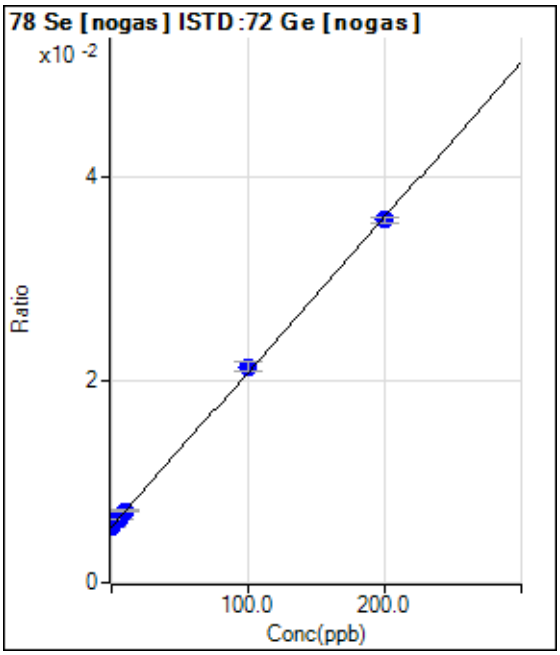
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	41.2
2	☐	2.000	4.086	53.33	0.0001	P	79.7
3	☐	5.000	6.446	76.67	0.0002	P	20.0
4	☐	10.000	9.417	106.67	0.0003	P	30.6
5	☐	100.000	95.358	906.71	0.0023	P	12.9
6	☐	200.000	202.293	1836.80	0.0048	P	10.5
7	☐	1.000					

y = 2.3450E-005 * x + 3.1445E-005
R = 0.9995
DL = 1.659
BEC = 1.341

Weight: <None>
Min Conc: <None>

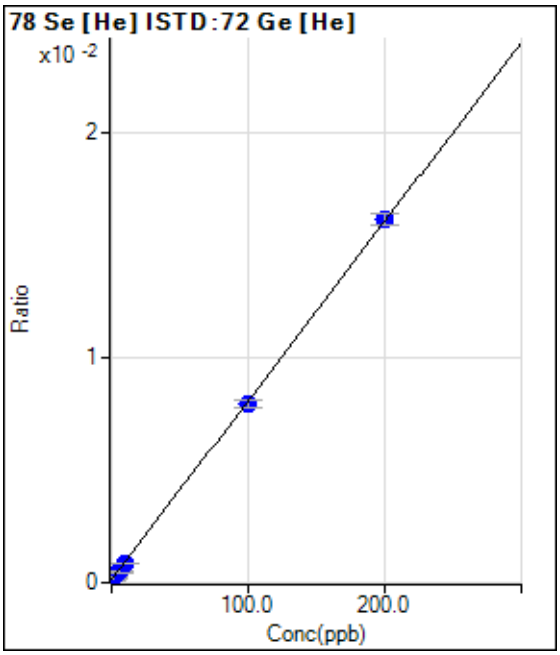


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8798.89	0.0055	P	3.4
2	☐	2.000	3.441	9549.29	0.0060	P	3.7
3	☐	5.000	4.822	9936.16	0.0062	P	2.1
4	☐	10.000	10.411	11313.67	0.0071	P	3.8
5	☐	100.000	103.568	32559.44	0.0213	P	3.9
6	☐	200.000	198.185	54087.19	0.0358	P	1.9
7	☐	1.000					

y = 1.5291E-004 * x + 0.0055
R = 0.9998
DL = 3.626
BEC = 36.01

Weight: <None>
Min Conc: <None>

Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	55.33	0.0001	P	12.2
2	☐	2.000	1.252	97.33	0.0002	P	21.1
3	☐	5.000	4.649	210.67	0.0005	P	12.8
4	☐	10.000	9.259	368.00	0.0009	P	4.1
5	☐	100.000	98.074	3179.62	0.0080	P	4.0
6	☐	200.000	201.016	6217.74	0.0162	P	3.3
7	☐	1.000					

y = 7.9734E-005 * x + 1.3112E-004

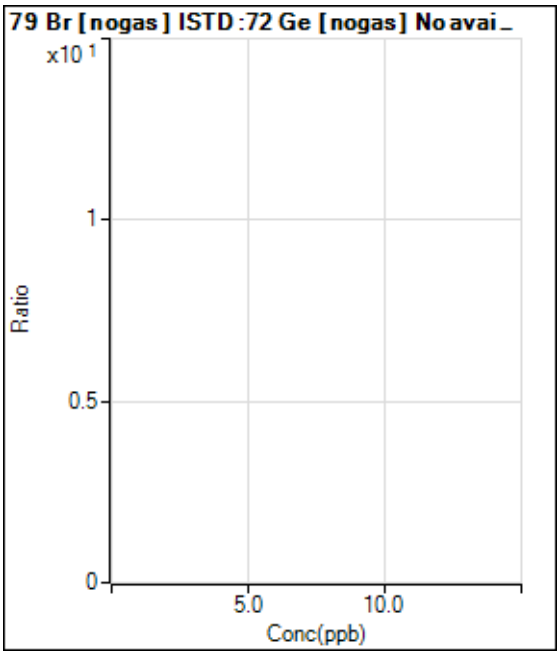
R = 0.9999

DL = 0.6002

BEC = 1.645

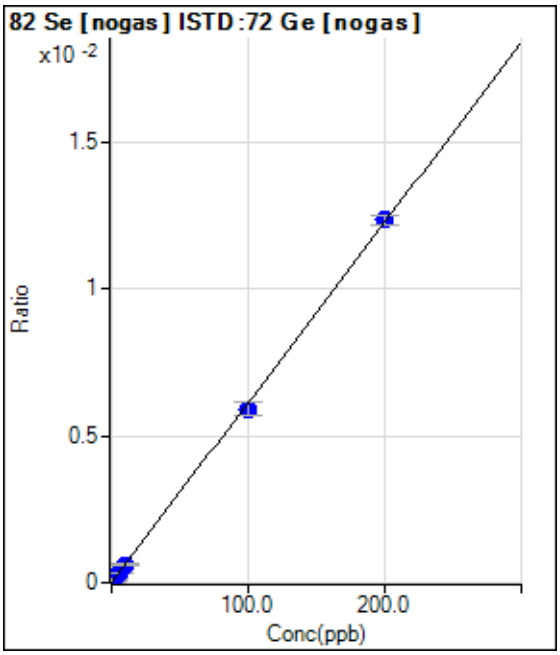
Weight: <None>

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					

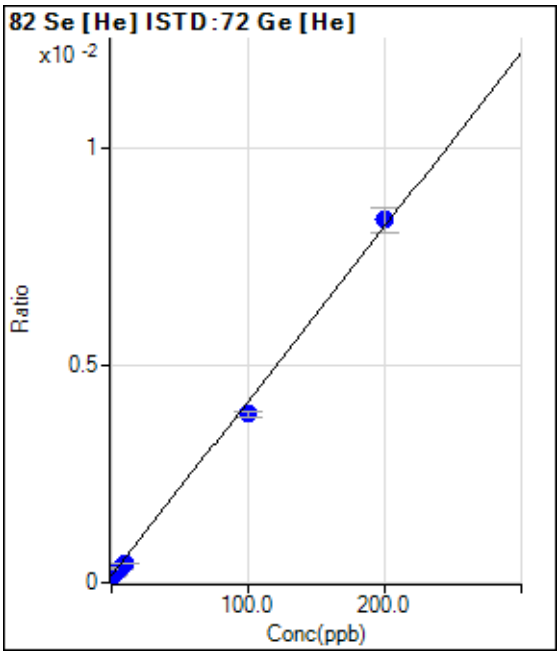
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-43.42	0.0000	P	-141.2
2	☐	2.000	1.850	136.50	0.0001	P	91.7
3	☐	5.000	5.392	483.84	0.0003	P	16.6
4	☐	10.000	9.830	919.72	0.0006	P	8.2
5	☐	100.000	96.649	9025.21	0.0059	P	6.8
6	☐	200.000	201.676	18699.83	0.0124	P	2.5
7	☐	1.000					

y = 6.1535E-005 * x - 2.7332E-005
R = 0.9998
DL = 1.881
BEC = -0.4442

Weight: <None>
Min Conc: <None>

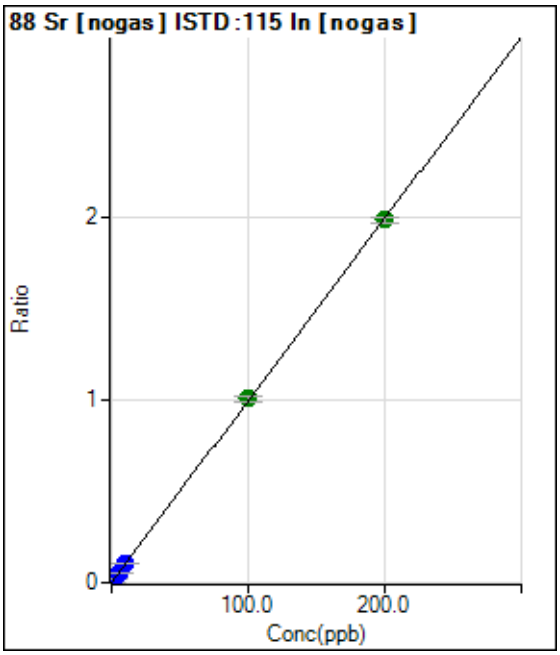


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0002	P	50.0
2	☐	2.000	0.413	76.67	0.0002	P	18.4
3	☐	5.000	4.009	136.67	0.0003	P	16.8
4	☐	10.000	7.090	190.00	0.0004	P	6.2
5	☐	100.000	92.478	1550.09	0.0039	P	2.7
6	☐	200.000	203.947	3213.67	0.0083	P	6.9
7	☐	1.000					

y = 4.0131E-005 * x + 1.6460E-004
R = 0.9991
DL = 6.148
BEC = 4.101

Weight: <None>
Min Conc: <None>

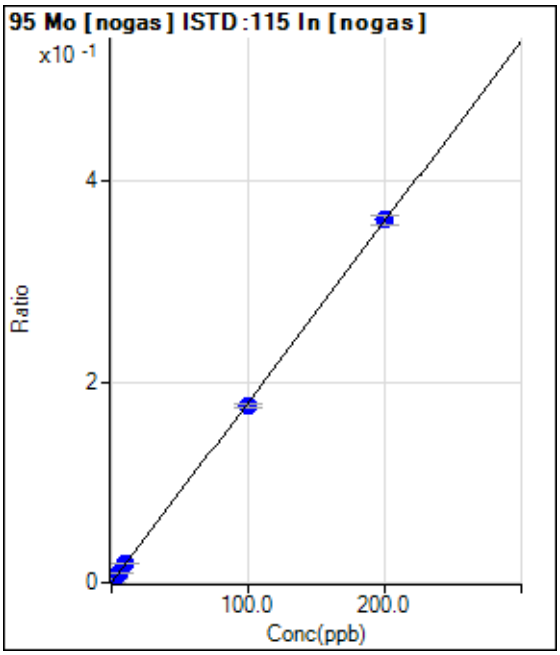
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1170.07	0.0007	P	14.3
2	☐	2.000	1.932	33264.25	0.0199	P	2.5
3	☐	5.000	4.980	84082.57	0.0503	P	1.3
4	☐	10.000	10.551	176793.90	0.1057	P	1.9
5	☐	100.000	101.104	1690637.27	1.0069	A	3.5
6	☐	200.000	199.422	3154504.54	1.9853	A	1.3
7	☐	1.000					

y = 0.0100 * x + 7.1040E-004
R = 1.0000
DL = 0.03055
BEC = 0.07138

Weight: <None>
Min Conc: <None>

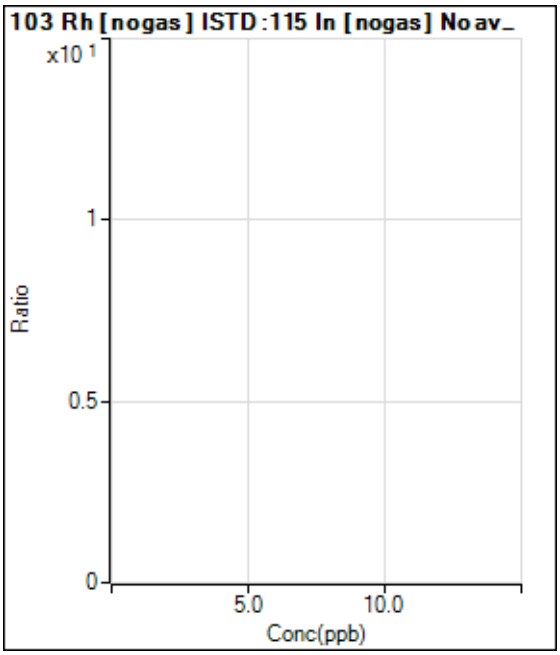


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.00	0.0001	P	28.2
2	☐	2.000	1.922	5857.70	0.0035	P	2.8
3	☐	5.000	4.973	15056.54	0.0090	P	3.9
4	☐	10.000	10.806	32606.66	0.0195	P	2.0
5	☐	100.000	98.154	296629.30	0.1767	P	2.3
6	☐	200.000	200.884	574229.83	0.3615	P	2.9
7	☐	1.000					

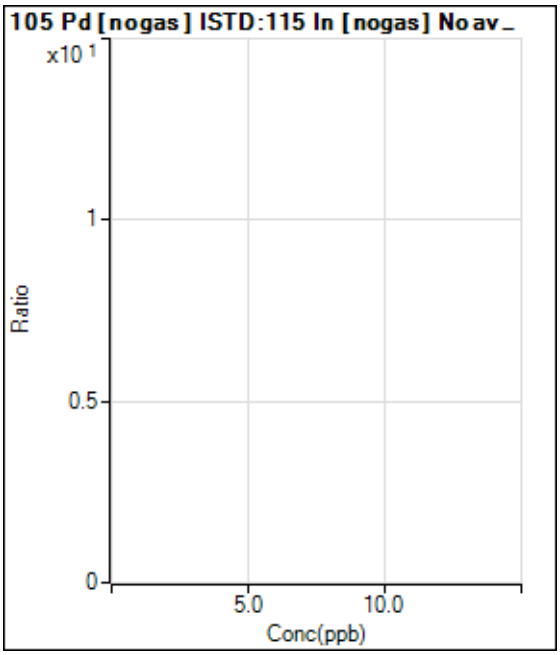
y = 0.0018 * x + 5.4557E-005
R = 0.9999
DL = 0.02565
BEC = 0.03032

Weight: <None>
Min Conc: <None>

Calibration for 023_ICV.d

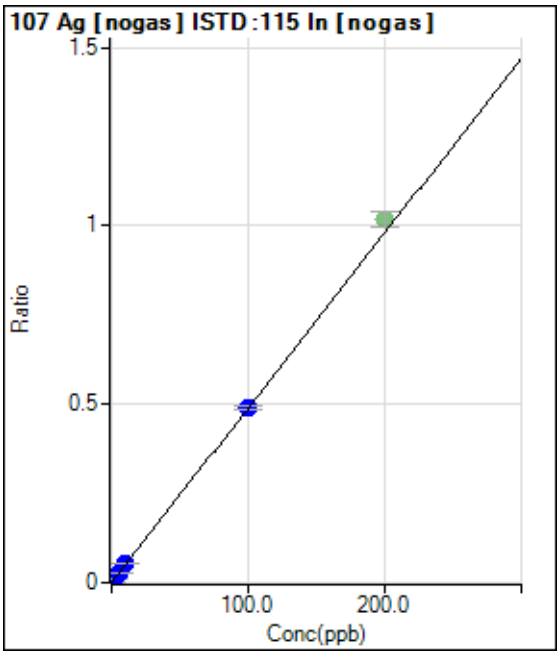


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	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					

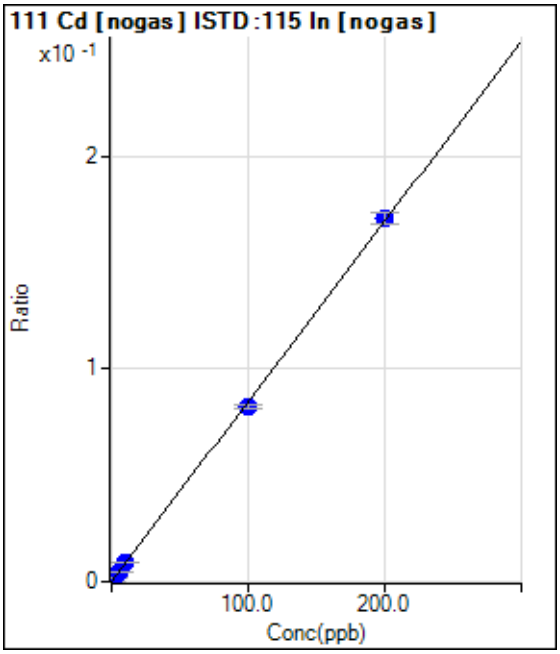
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0000	P	34.2
2	☐	2.000	2.093	17178.58	0.0103	P	1.3
3	☐	5.000	5.299	43450.19	0.0260	P	4.3
4	☐	10.000	11.180	91599.52	0.0548	P	1.4
5	☐	100.000	99.865	820902.18	0.4889	P	2.3
6	☑	200.000		1614169.51	1.0164	A	4.2
7	☐	1.000					

y = 0.0049 * x + 4.8781E-005
R = 0.9999
DL = 0.01022
BEC = 0.009966

Weight: <None>
Min Conc: <None>

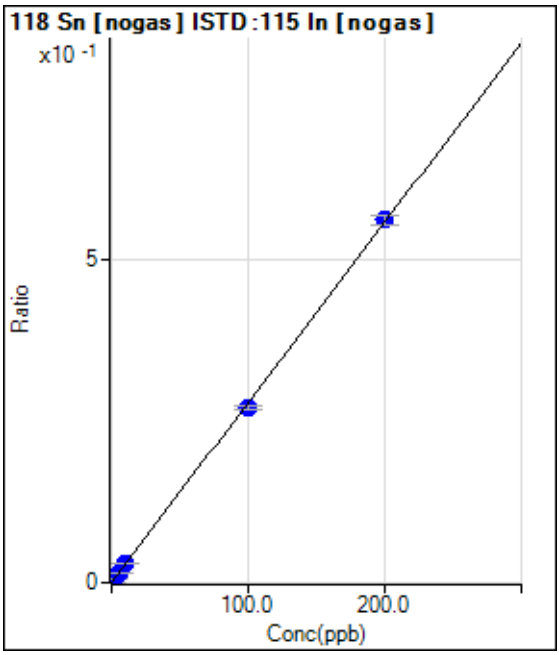


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	21.9
2	☐	2.000	2.011	2863.61	0.0017	P	5.5
3	☐	5.000	5.208	7398.32	0.0044	P	2.4
4	☐	10.000	10.886	15430.24	0.0092	P	1.7
5	☐	100.000	96.931	137726.74	0.0820	P	2.1
6	☐	200.000	201.485	270743.38	0.1704	P	3.2
7	☐	1.000					

y = 8.4589E-004 * x + 1.6216E-005
R = 0.9998
DL = 0.01258
BEC = 0.01917

Weight: <None>
Min Conc: <None>

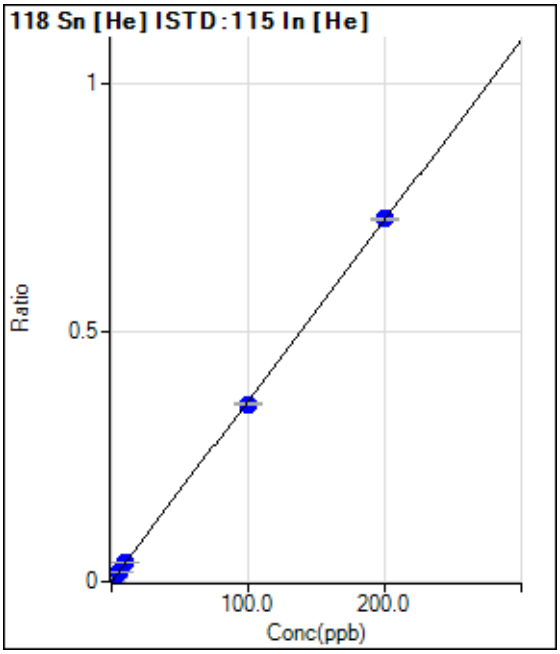
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	656.69	0.0004	P	12.4
2	☐	2.000	2.154	10686.74	0.0064	P	1.7
3	☐	5.000	4.989	23933.26	0.0143	P	3.8
4	☐	10.000	10.611	50148.64	0.0300	P	2.3
5	☐	100.000	96.798	453992.14	0.2703	P	2.1
6	☐	200.000	201.569	893584.39	0.5625	P	2.9
7	☐	1.000					

y = 0.0028 * x + 3.9874E-004
R = 0.9998
DL = 0.05338
BEC = 0.143

Weight: <None>
Min Conc: <None>

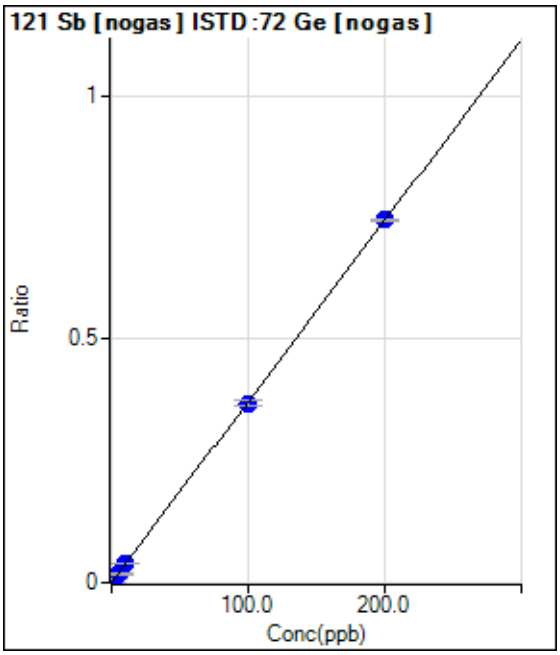


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	346.67	0.0005	P	37.2
2	☐	2.000	2.041	5207.50	0.0079	P	3.7
3	☐	5.000	4.991	12414.59	0.0186	P	1.3
4	☐	10.000	10.524	25398.64	0.0386	P	2.0
5	☐	100.000	98.332	226717.34	0.3567	P	1.2
6	☐	200.000	200.807	449902.00	0.7279	P	0.9
7	☐	1.000					

y = 0.0036 * x + 5.2043E-004
R = 0.9999
DL = 0.1603
BEC = 0.1437

Weight: <None>
Min Conc: <None>

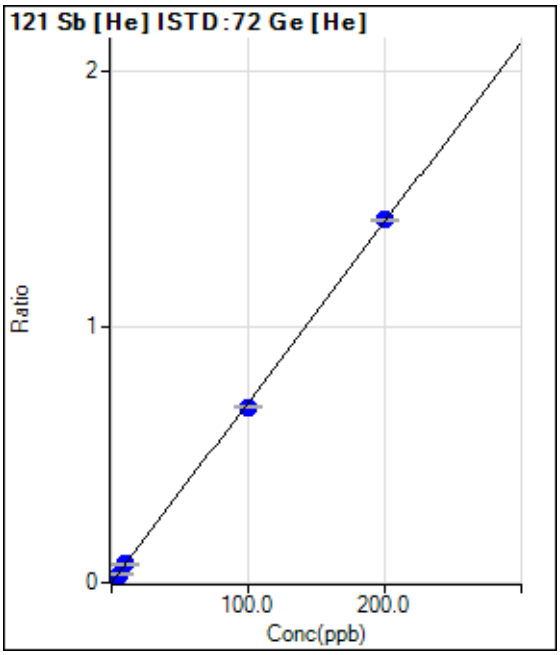
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	550.02	0.0003	P	13.1
2	☐	2.000	1.888	11644.05	0.0074	P	3.8
3	☐	5.000	4.730	28493.41	0.0179	P	2.7
4	☐	10.000	10.130	60534.48	0.0380	P	1.2
5	☐	100.000	99.070	561869.88	0.3683	P	3.7
6	☐	200.000	200.466	1124940.19	0.7449	P	0.7
7	☐	1.000					

y = 0.0037 * x + 3.4430E-004
R = 1.0000
DL = 0.03634
BEC = 0.0927

Weight: <None>
Min Conc: <None>

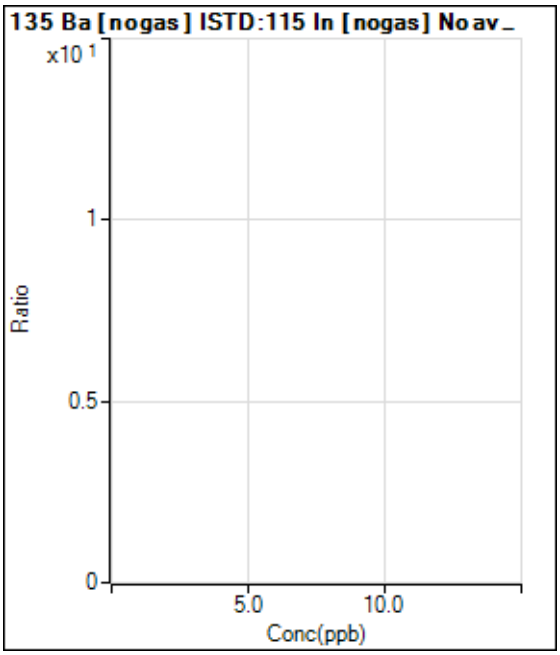


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	300.01	0.0007	P	31.3
2	☐	2.000	1.766	5557.63	0.0132	P	4.1
3	☐	5.000	4.675	14132.51	0.0337	P	2.1
4	☐	10.000	10.107	30443.28	0.0719	P	1.6
5	☐	100.000	97.357	274705.75	0.6869	P	1.2
6	☐	200.000	201.326	546214.37	1.4196	P	0.8
7	☐	1.000					

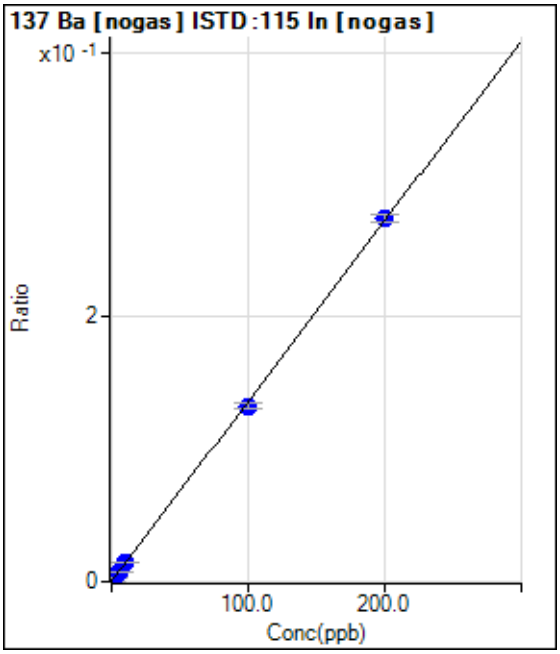
y = 0.0070 * x + 7.1308E-004
R = 0.9999
DL = 0.09514
BEC = 0.1012

Weight: <None>
Min Conc: <None>

Calibration for 023_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	416.68	0.0003	P	2.2
2	☐	2.000	1.961	4870.77	0.0029	P	1.9
3	☐	5.000	4.880	11527.33	0.0069	P	0.6
4	☐	10.000	10.598	24531.08	0.0147	P	1.5
5	☐	100.000	97.387	222832.05	0.1327	P	3.0
6	☐	200.000	201.280	435313.77	0.2740	P	2.2
7	☐	1.000					

y = 0.0014 * x + 2.5332E-004

R = 0.9999

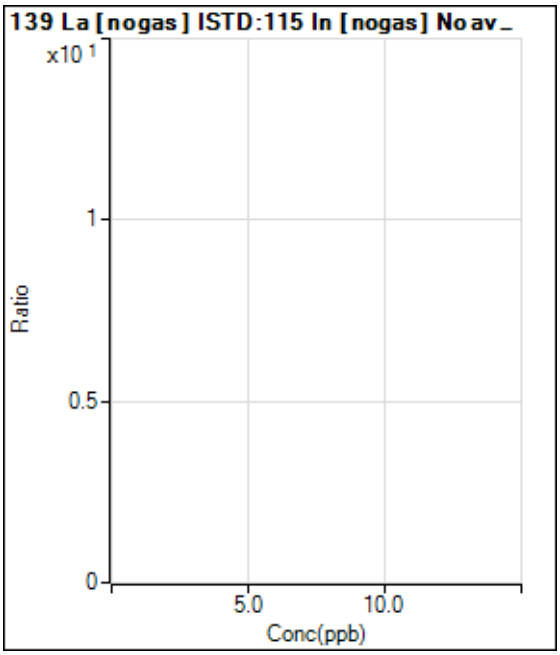
DL = 0.01215

BEC = 0.1863

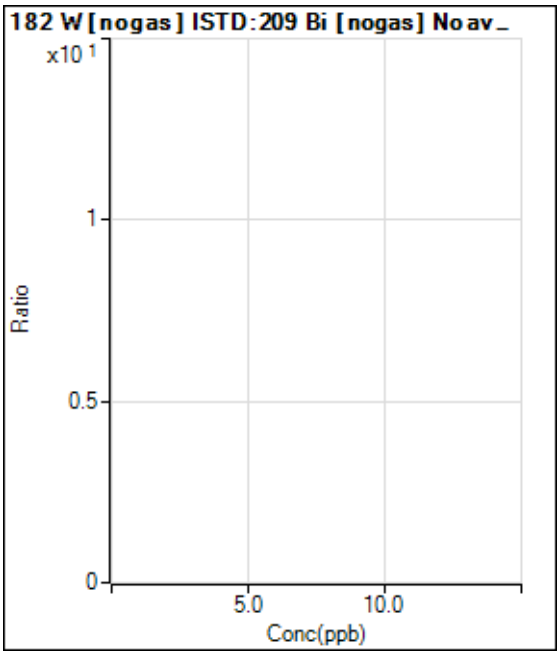
Weight: <None>

Min Conc: <None>

Calibration for 023_ICV.d

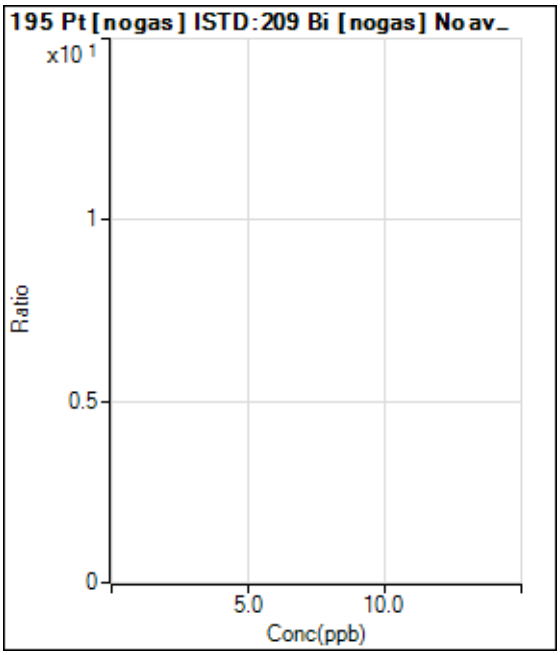


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

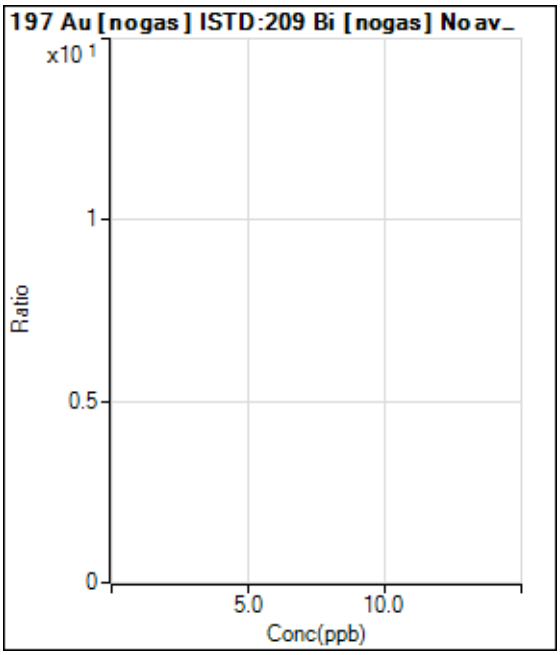


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

Calibration for 023_ICV.d

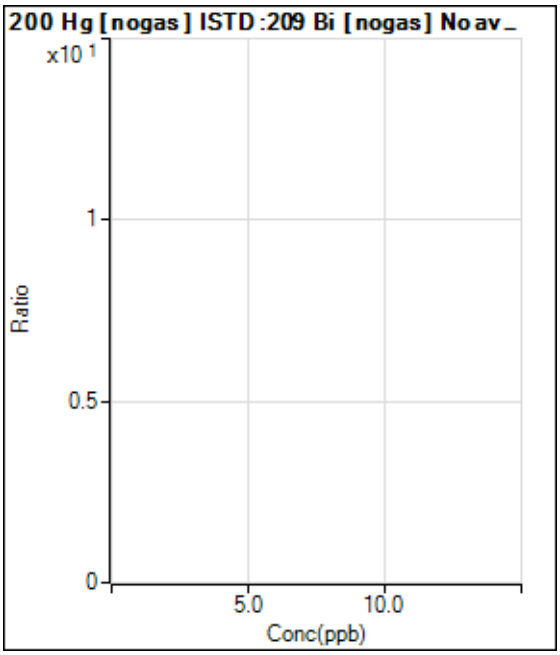


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

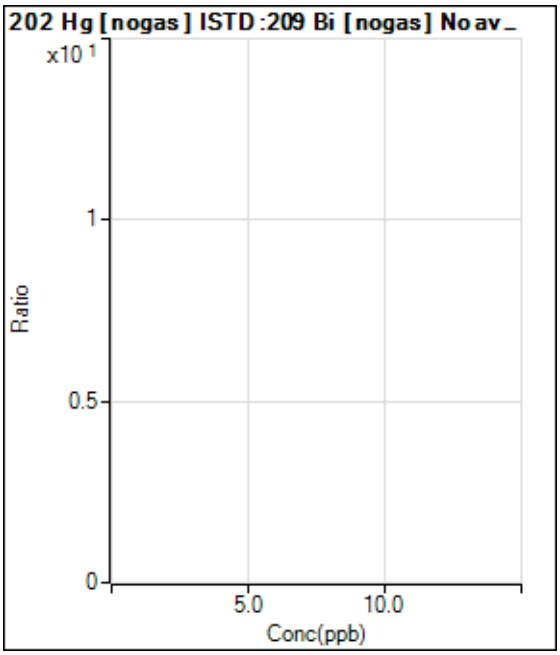


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

Calibration for 023_ICV.d

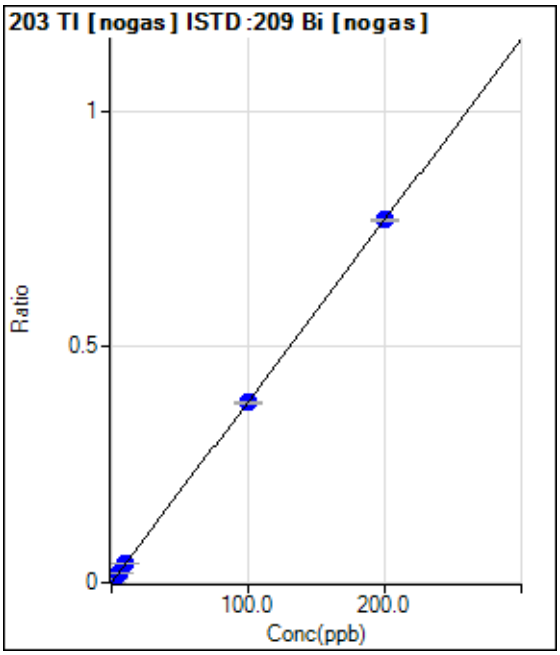


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	2.000					
6	☐	5.000					
7	☐	10.000					



	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					

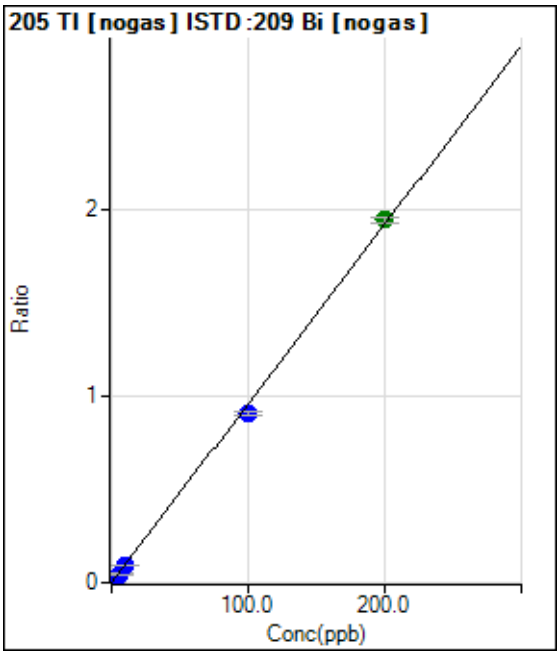
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	73.33	0.0001	P	43.5
2	☐	2.000	1.922	9349.44	0.0075	P	5.1
3	☐	5.000	4.973	24304.86	0.0192	P	1.3
4	☐	10.000	10.359	50695.29	0.0399	P	0.9
5	☐	100.000	99.564	468144.46	0.3830	P	1.4
6	☐	200.000	200.202	906031.21	0.7700	P	0.8
7	☐	1.000					

y = 0.0038 * x + 5.8629E-005
R = 1.0000
DL = 0.0199
BEC = 0.01525

Weight: <None>
Min Conc: <None>

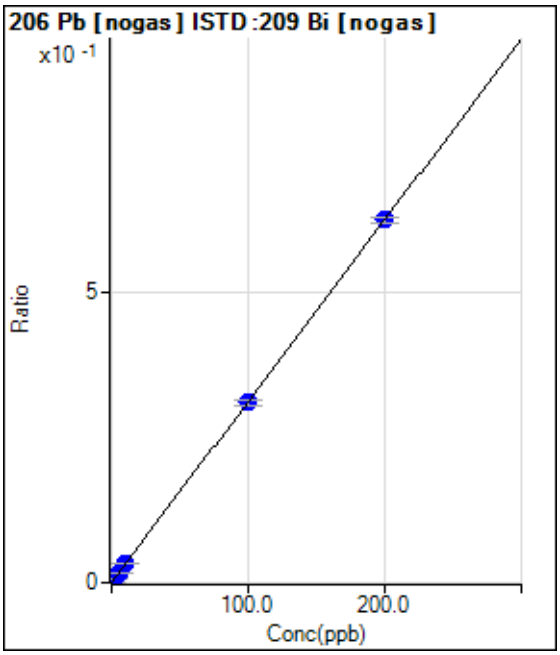


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	196.67	0.0002	P	25.5
2	☐	2.000	1.880	22876.28	0.0182	P	2.2
3	☐	5.000	4.799	58655.11	0.0463	P	2.5
4	☐	10.000	10.029	122716.92	0.0966	P	1.7
5	☐	100.000	94.632	1112144.85	0.9100	P	3.1
6	☐	200.000	202.689	2293098.51	1.9489	A	1.4
7	☐	1.000					

y = 0.0096 * x + 1.5752E-004
R = 0.9995
DL = 0.01251
BEC = 0.01638

Weight: <None>
Min Conc: <None>

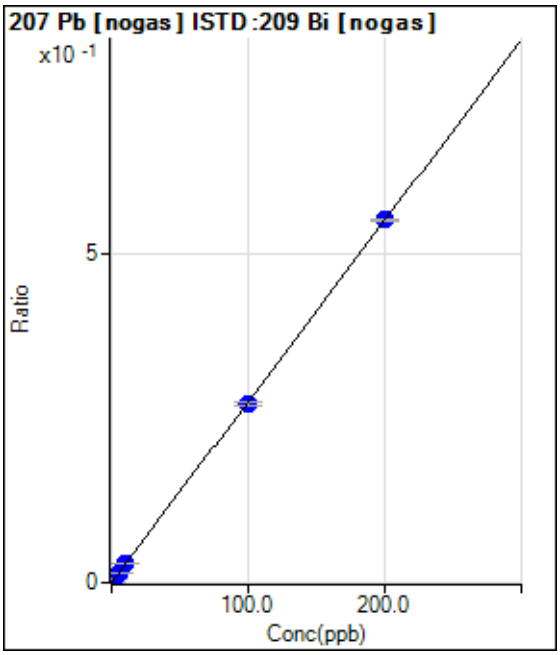
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.68	0.0002	P	15.4
2	☐	2.000	1.923	7798.63	0.0062	P	2.6
3	☐	5.000	4.946	19815.60	0.0156	P	0.6
4	☐	10.000	10.680	42575.56	0.0335	P	1.6
5	☐	100.000	99.486	379180.40	0.3103	P	3.5
6	☐	200.000	200.225	734513.48	0.6242	P	1.7
7	☐	1.000					

y = 0.0031 * x + 2.2166E-004
R = 1.0000
DL = 0.03291
BEC = 0.07113

Weight: <None>
Min Conc: <None>

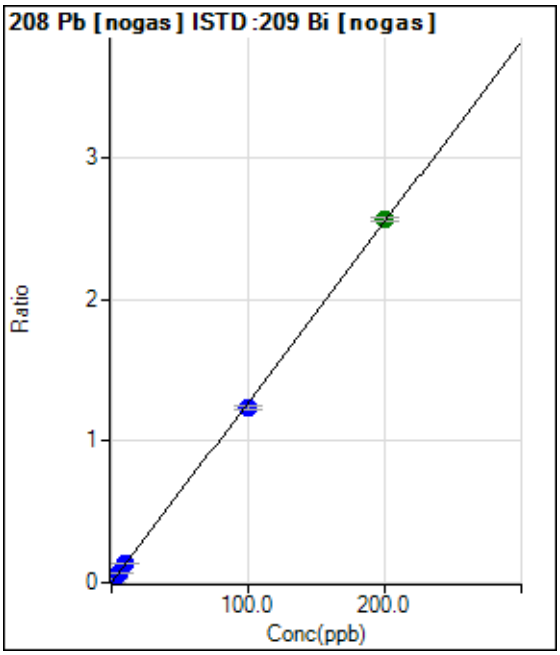


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	293.34	0.0002	P	29.8
2	☐	2.000	2.061	7415.11	0.0059	P	0.7
3	☐	5.000	4.904	17406.18	0.0137	P	2.2
4	☐	10.000	10.492	36998.76	0.0291	P	1.9
5	☐	100.000	98.920	333137.60	0.2726	P	2.1
6	☐	200.000	200.517	649826.18	0.5523	P	0.8
7	☐	1.000					

y = 0.0028 * x + 2.3485E-004
R = 1.0000
DL = 0.07615
BEC = 0.08531

Weight: <None>
Min Conc: <None>

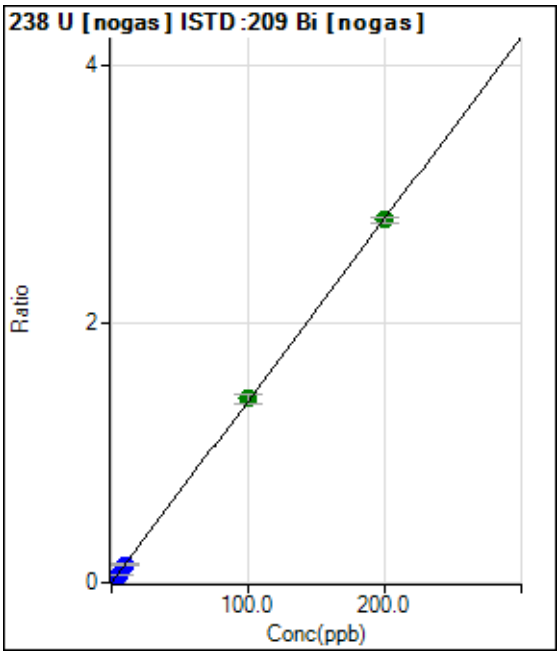
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1146.70	0.0009	P	16.4
2	☐	2.000	1.973	32653.26	0.0260	P	0.9
3	☐	5.000	4.900	80181.70	0.0633	P	1.2
4	☐	10.000	10.415	169550.64	0.1334	P	0.9
5	☐	100.000	97.432	1516285.46	1.2405	P	2.0
6	☐	200.000	201.266	3014316.56	2.5616	A	1.0
7	☐	1.000					

y = 0.0127 * x + 9.1868E-004
R = 0.9999
DL = 0.03551
BEC = 0.07221

Weight: <None>
Min Conc: <None>

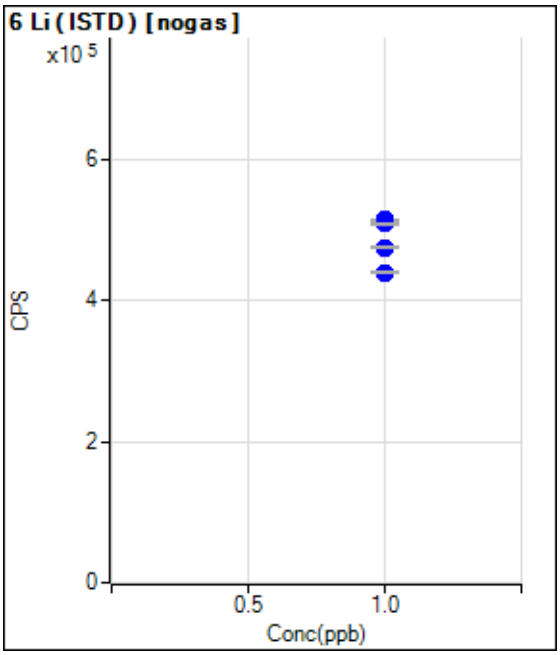


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	86.6
2	☐	2.000	1.899	33482.09	0.0267	P	0.5
3	☐	5.000	4.649	82783.63	0.0653	P	1.4
4	☐	10.000	9.992	178387.63	0.1404	P	1.6
5	☐	100.000	101.000	1734809.35	1.4191	A	4.3
6	☐	200.000	199.510	3298458.60	2.8032	A	1.5
7	☐	1.000					

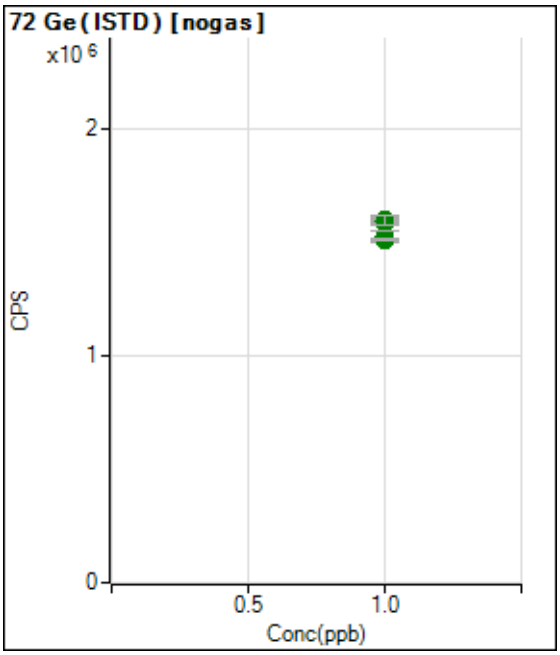
y = 0.0141 * x + 5.3019E-006
R = 1.0000
DL = 0.0009804
BEC = 0.0003773

Weight: <None>
Min Conc: <None>

Calibration for 023_ICV.d

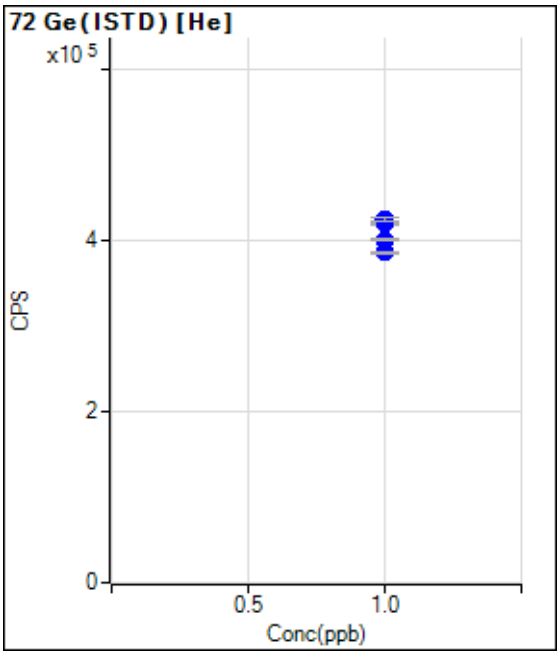


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		510056.29		P	0.5
2	☐	1.000		512387.16		P	0.7
3	☐	1.000		514652.84		P	0.3
4	☐	1.000		509213.39		P	0.4
5	☐	1.000		475376.19		P	0.6
6	☐	1.000		439903.47		P	0.6
7	☐	1.000					

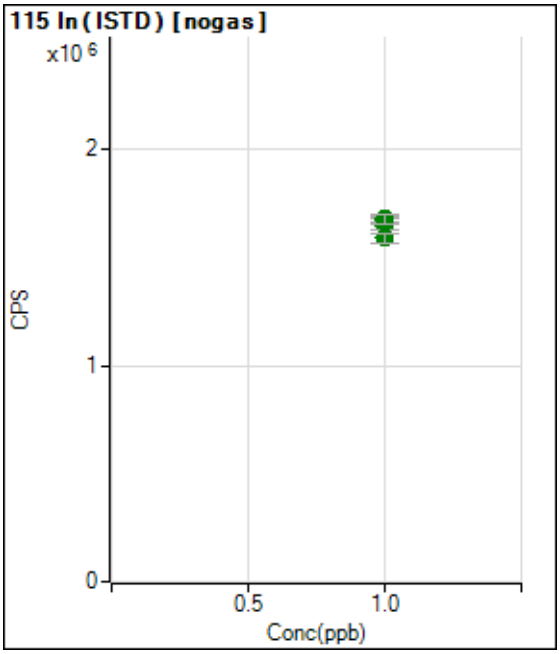


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1597939.30		A	1.0
2	☐	1.000		1583060.96		A	0.6
3	☐	1.000		1591141.38		A	1.2
4	☐	1.000		1594543.83		A	2.5
5	☐	1.000		1526827.53		A	3.4
6	☐	1.000		1510259.61		A	0.7
7	☐	1.000					

Calibration for 023_ICV.d

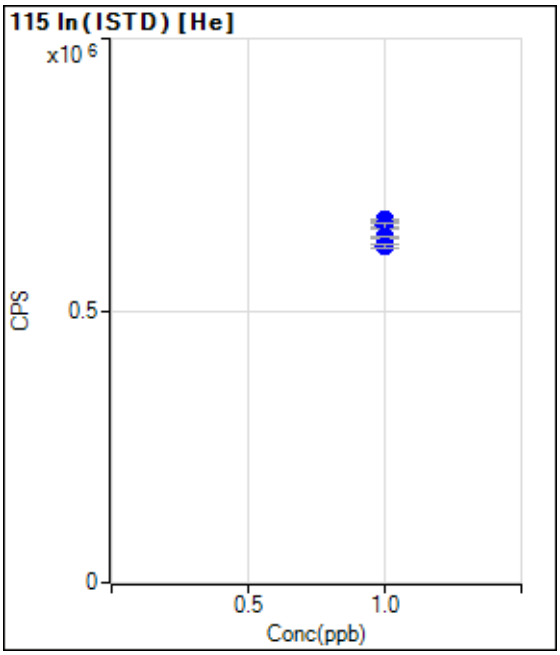


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		421931.39		P	2.4
2	☐	1.000		422361.45		P	1.6
3	☐	1.000		419847.76		P	0.1
4	☐	1.000		423201.13		P	0.9
5	☐	1.000		399920.02		P	0.7
6	☐	1.000		384776.45		P	0.9
7	☐	1.000					

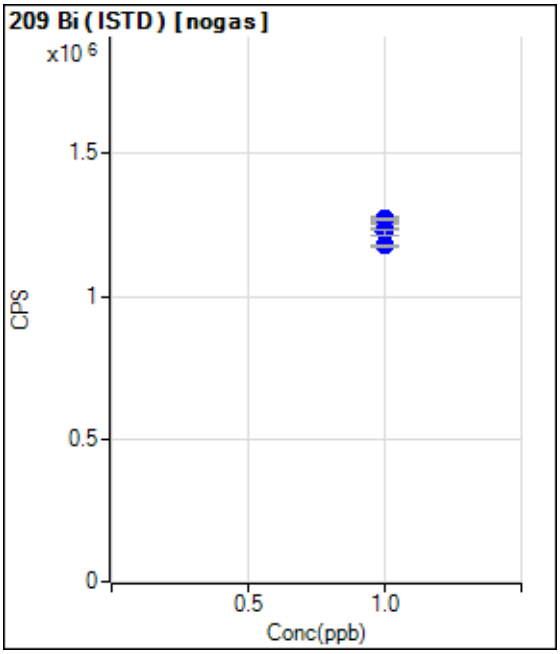


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1645123.59		A	1.5
2	☐	1.000		1668384.99		A	1.2
3	☐	1.000		1673040.12		A	2.2
4	☐	1.000		1672481.69		A	1.2
5	☐	1.000		1679734.55		A	2.3
6	☐	1.000		1589290.63		A	2.7
7	☐	1.000					

Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		666365.56		P	0.2
2	☐	1.000		657975.56		P	1.1
3	☐	1.000		667393.82		P	0.5
4	☐	1.000		657283.83		P	1.5
5	☐	1.000		635498.84		P	0.9
6	☐	1.000		618073.48		P	0.9
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1249408.16		P	1.2
2	☐	1.000		1254658.47		P	0.1
3	☐	1.000		1267253.96		P	1.9
4	☐	1.000		1270660.19		P	0.4
5	☐	1.000		1222470.03		P	1.2
6	☐	1.000		1176677.67		P	0.6
7	☐	1.000					

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	012CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:20:59-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	100	13.23
B	11	1	nogas	12873	0.02
Al	27	1	nogas	9833	0.01
P	31	1	nogas	29300	0.01
Ca	44	1	nogas	42483	0.01
Ti	47	1	nogas	100	43.59
Cr	52	1	nogas	22921	0.01
Co	59	1	nogas	367	4.78
Cu	63	1	nogas	8179	0.05
Zn	66	1	nogas	427	0.84
Se	77	1	nogas	9646	0.04
Sr	88	1	nogas	1170	1.33
Mo	95	1	nogas	90	32.66
Ag	107	1	nogas	80	41.34
Cd	111	1	nogas	27	81.19
Sn	118	1	nogas	657	2.10
Sb	121	1	nogas	550	2.31
Ba	137	1	nogas	417	0.33
Tl	205	1	nogas	197	12.75
Pb	208	1	nogas	1147	1.36
Li	7	1	nogas	40903	0.00
Si	28	1	nogas	722478	0.00
Na	23	2	He	32275	0.01
Mg	24	2	He	217	5.36
Al	27	2	He	233	6.45
K	39	2	He	38073	0.01
Ca	43	2	He	27	162.38
Ca	44	2	He	247	16.63
V	51	2	He	2530	0.04
Cr	52	2	He	670	2.53
Mn	55	2	He	173	21.66
Fe	56	2	He	4527	0.10
Co	59	2	He	93	6.63
Ni	60	2	He	63	51.90
Cu	63	2	He	1293	0.40
Zn	66	2	He	163	18.87
As	75	2	He	51	26.57
Sb	121	2	He	300	10.18

Calibration Blank Report

Se	78	2	He	55	22.94

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	1597939	0.97
In	115	1	nogas	1645124	1.50
Li	6	1	nogas	510056	0.48
Bi	209	1	nogas	1249408	1.17
Ge	72	2	He	421931	2.39
In	115	2	He	666366	0.17

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	013CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:23:21-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	4566	0.08
B	11	1	nogas	25018	0.00
Al	27	1	nogas	27050	0.00
P	31	1	nogas	32188	0.01
Ca	44	1	nogas	101062	0.00
Ti	47	1	nogas	1943	0.49
Cr	52	1	nogas	45185	0.00
Co	59	1	nogas	22681	0.01
Cu	63	1	nogas	19948	0.00
Zn	66	1	nogas	3654	0.25
Se	77	1	nogas	10373	0.04
Se	82	1	nogas	136	67.12
Sr	88	1	nogas	33264	0.01
Mo	95	1	nogas	5858	0.03
Ag	107	1	nogas	17179	0.01
Cd	111	1	nogas	2864	0.15
Sn	118	1	nogas	10687	0.03
Sb	121	1	nogas	11644	0.03
Ba	137	1	nogas	4871	0.02
Tl	205	1	nogas	22876	0.01
Pb	208	1	nogas	32653	0.00
Si	28	1	nogas	787640	0.00
Na	23	2	He	156661	0.00
Mg	24	2	He	69507	0.00
Al	27	2	He	540	3.43
K	39	2	He	102930	0.00
Ca	43	2	He	180	11.13
Ca	44	2	He	3740	0.13
V	51	2	He	8689	0.02
Cr	52	2	He	7688	0.13
Mn	55	2	He	4527	0.09
Fe	56	2	He	617769	0.00
Co	59	2	He	10763	0.05
Ni	60	2	He	2877	0.25
Cu	63	2	He	8802	0.05
Zn	66	2	He	1333	0.76

Calibration Standard Report

As	75	2	He	982	0.33
Sb	121	2	He	5558	0.09
Se	78	2	He	97	20.06

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	1583061	0.56	1597939	99.07	70	120	
In	115	1	nogas	1668385	1.21	1645124	101.41	70	120	
Li	6	1	nogas	512387	0.69	510056	100.46	70	120	
Bi	209	1	nogas	1254658	0.11	1249408	100.42	70	120	
Ge	72	2	He	422361	1.64	421931	100.10	70	120	
In	115	2	He	657976	1.15	666366	98.74	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	014CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:25:45-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	11455	0.02
B	11	1	nogas	42696	0.00
Al	27	1	nogas	53716	0.00
P	31	1	nogas	40935	0.00
Ca	44	1	nogas	191226	0.00
Ti	47	1	nogas	4884	0.08
Cr	52	1	nogas	76387	0.00
Co	59	1	nogas	57269	0.00
Cu	63	1	nogas	37589	0.01
Zn	66	1	nogas	8512	0.03
Se	77	1	nogas	10126	0.04
Se	82	1	nogas	484	3.17
Sr	88	1	nogas	84083	0.00
Mo	95	1	nogas	15057	0.02
Ag	107	1	nogas	43450	0.01
Cd	111	1	nogas	7398	0.05
Sn	118	1	nogas	23933	0.01
Sb	121	1	nogas	28493	0.01
Ba	137	1	nogas	11527	0.02
Tl	205	1	nogas	58655	0.00
Pb	208	1	nogas	80182	0.00
Si	28	1	nogas	851382	0.00
Na	23	2	He	344725	0.00
Mg	24	2	He	173731	0.00
Al	27	2	He	1140	0.35
K	39	2	He	200530	0.00
Ca	43	2	He	557	3.25
Ca	44	2	He	8779	0.05
V	51	2	He	18013	0.01
Cr	52	2	He	17825	0.01
Mn	55	2	He	11617	0.03
Fe	56	2	He	1654529	0.00
Co	59	2	He	27023	0.01
Ni	60	2	He	6915	0.11
Cu	63	2	He	20375	0.01
Zn	66	2	He	3690	0.06

Calibration Standard Report

As	75	2	He	2315	0.08
Sb	121	2	He	14133	0.02
Se	78	2	He	211	6.09

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	1591141	1.19	1597939	99.57	70	120	
In	115	1	nogas	1673040	2.17	1645124	101.70	70	120	
Li	6	1	nogas	514653	0.33	510056	100.90	70	120	
Bi	209	1	nogas	1267254	1.93	1249408	101.43	70	120	
Ge	72	2	He	419848	0.08	421931	99.51	70	120	
In	115	2	He	667394	0.51	666366	100.15	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	015CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:28:09-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	23551	0.01
B	11	1	nogas	77562	0.00
Al	27	1	nogas	99985	0.00
P	31	1	nogas	55177	0.00
Ca	44	1	nogas	354179	0.00
Ti	47	1	nogas	9836	0.03
Cr	52	1	nogas	136284	0.00
Co	59	1	nogas	121867	0.00
Cu	63	1	nogas	69749	0.00
Zn	66	1	nogas	17332	0.00
Se	77	1	nogas	10857	0.03
Se	82	1	nogas	920	0.61
Sr	88	1	nogas	176794	0.00
Mo	95	1	nogas	32607	0.01
Ag	107	1	nogas	91600	0.00
Cd	111	1	nogas	15430	0.02
Sn	118	1	nogas	50149	0.00
Sb	121	1	nogas	60534	0.00
Ba	137	1	nogas	24531	0.01
Tl	205	1	nogas	122717	0.00
Pb	208	1	nogas	169551	0.00
Si	28	1	nogas	986432	0.00
Na	23	2	He	684700	0.00
Mg	24	2	He	361333	0.00
Al	27	2	He	1820	0.49
K	39	2	He	374282	0.00
Ca	43	2	He	1183	0.73
Ca	44	2	He	18356	0.01
V	51	2	He	34866	0.00
Cr	52	2	He	39158	0.00
Mn	55	2	He	23198	0.01
Fe	56	2	He	3348149	0.00
Co	59	2	He	56149	0.00
Ni	60	2	He	15183	0.03
Cu	63	2	He	40177	0.00
Zn	66	2	He	6835	0.07

Calibration Standard Report

As	75	2	He	4784	0.10
Sb	121	2	He	30443	0.00
Se	78	2	He	368	1.35

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	1594544	2.49	1597939	99.79	70	120	
In	115	1	nogas	1672482	1.21	1645124	101.66	70	120	
Li	6	1	nogas	509213	0.42	510056	99.83	70	120	
Bi	209	1	nogas	1270660	0.37	1249408	101.70	70	120	
Ge	72	2	He	423201	0.95	421931	100.30	70	120	
In	115	2	He	657284	1.48	666366	98.64	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	016CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:30:30-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	219612	0.00
B	11	1	nogas	622983	0.00
Al	27	1	nogas	813810	0.00
P	31	1	nogas	247495	0.00
Ca	44	1	nogas	2934970	0.00
Ti	47	1	nogas	89296	0.00
Cr	52	1	nogas	1039901	0.00
Co	59	1	nogas	1091251	0.00
Cu	63	1	nogas	572695	0.00
Zn	66	1	nogas	153160	0.00
Se	77	1	nogas	15774	0.01
Se	82	1	nogas	9025	0.04
Sr	88	1	nogas	1690637	0.00
Mo	95	1	nogas	296629	0.00
Ag	107	1	nogas	820902	0.00
Cd	111	1	nogas	137727	0.00
Sn	118	1	nogas	453992	0.00
Sb	121	1	nogas	561870	0.00
Ba	137	1	nogas	222832	0.00
Tl	205	1	nogas	1112145	0.00
Pb	208	1	nogas	1516285	0.00
Si	28	1	nogas	2866521	0.00
Na	23	2	He	5904692	0.00
Mg	24	2	He	3281600	0.00
Al	27	2	He	15440	0.00
K	39	2	He	3119913	0.00
Ca	43	2	He	9786	0.04
Ca	44	2	He	162610	0.00
V	51	2	He	295040	0.00
Cr	52	2	He	337910	0.00
Mn	55	2	He	212032	0.00
Fe	56	2	He	29782600	0.00
Co	59	2	He	507407	0.00
Ni	60	2	He	129102	0.00
Cu	63	2	He	343340	0.00
Zn	66	2	He	60379	0.00

Calibration Standard Report

As	75	2	He	42682	0.01
Sb	121	2	He	274706	0.00
Se	78	2	He	3180	0.12

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	1526828	3.39	1597939	95.55	70	120	
In	115	1	nogas	1679735	2.31	1645124	102.10	70	120	
Li	6	1	nogas	475376	0.63	510056	93.20	70	120	
Bi	209	1	nogas	1222470	1.21	1249408	97.84	70	120	
Ge	72	2	He	399920	0.69	421931	94.78	70	120	
In	115	2	He	635499	0.92	666366	95.37	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	017CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:32:50-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	422773	0.00
B	11	1	nogas	1207726	0.00
Al	27	1	nogas	1565838	0.00
P	31	1	nogas	456665	0.00
Ca	44	1	nogas	5575208	0.00
Ti	47	1	nogas	174033	0.00
Cr	52	1	nogas	2042768	0.00
Co	59	1	nogas	2163428	0.00
Cu	63	1	nogas	1068144	0.00
Zn	66	1	nogas	288772	0.00
Se	77	1	nogas	22287	0.01
Se	82	1	nogas	18700	0.01
Sr	88	1	nogas	3154505	0.00
Mo	95	1	nogas	574230	0.00
Ag	107	1	nogas	1614170	0.00
Cd	111	1	nogas	270743	0.00
Sn	118	1	nogas	893584	0.00
Sb	121	1	nogas	1124940	0.00
Ba	137	1	nogas	435314	0.00
Tl	205	1	nogas	2293099	0.00
Pb	208	1	nogas	3014317	0.00
Si	28	1	nogas	4971401	0.00
Na	23	2	He	11309853	0.00
Mg	24	2	He	6220514	0.00
Al	27	2	He	29580	0.00
K	39	2	He	5861032	0.00
Ca	43	2	He	18660	0.00
Ca	44	2	He	314595	0.00
V	51	2	He	573625	0.00
Cr	52	2	He	645532	0.00
Mn	55	2	He	406340	0.00
Fe	56	2	He	57408269	0.00
Co	59	2	He	974814	0.00
Ni	60	2	He	251375	0.00
Cu	63	2	He	661195	0.00
Zn	66	2	He	113741	0.00

Calibration Standard Report

As	75	2	He	81884	0.00
Sb	121	2	He	546214	0.00
Se	78	2	He	6218	0.06

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	1510260	0.73	1597939	94.51	70	120	
In	115	1	nogas	1589291	2.67	1645124	96.61	70	120	
Li	6	1	nogas	439903	0.57	510056	86.25	70	120	
Bi	209	1	nogas	1176678	0.58	1249408	94.18	70	120	
Ge	72	2	He	384776	0.93	421931	91.19	70	120	
In	115	2	He	618073	0.93	666366	92.75	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	022_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:47:17-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	-0.012	-79.9	73	32.2	1	
B	11	1	nogas	5.511	8.3	20533	3.6	10	
Al	27	1	nogas	0.074	39.8	10260	4.0	5	
P	31	1	nogas	-5.082	-58.0	26489	3.7	10	
Ca	44	1	nogas	-30.498	-11.6	32873	1.3	100	
Ti	47	1	nogas	0.071	59.8	163	24.7	2.5	
Cr	52	1	nogas	-0.498	-15.4	17272	2.8	2.5	
Co	59	1	nogas	-0.004	-45.9	317	6.6	2.5	
Cu	63	1	nogas	-0.163	-49.8	7121	4.9	1	
Zn	66	1	nogas	-0.007	-796.6	407	20.0	2.5	
Se	77	1	nogas	-26.306	-48.7	7665	9.5	2.5	
Se	82	1	nogas	-0.144	-205.1	-57	-51.3	1	
Sr	88	1	nogas	-0.004	-68.0	1133	2.5	2.5	
Mo	95	1	nogas	0.062	7.6	280	3.6	2.5	
Ag	107	1	nogas	0.006	78.0	133	31.2	2.5	
Cd	111	1	nogas	-0.010	-43.2	13	43.3	1	
Sn	118	1	nogas	0.037	34.6	850	8.9	5	
Sb	121	1	nogas	0.237	10.8	1920	7.9	2.5	
Ba	137	1	nogas	-0.017	-44.7	390	2.6	2.5	
Tl	205	1	nogas	0.014	27.5	363	11.1	1	
Pb	208	1	nogas	-0.007	-62.7	1050	6.7	2.5	
U	238	1	nogas	0.006	21.1	107	19.5	2.5	
Si	28	1	nogas	-32.921	-45.0	694745	0.9	5	
Na	23	2	He	-0.225	-620.8	31557	3.1	100	
Mg	24	2	He	0.527	61.0	390	28.2	100	
Al	27	2	He	-0.245	-96.6	190	19.0	5	
K	39	2	He	-2.062	-52.9	36760	0.6	100	
Ca	43	2	He	-6.016	-165.0	20	50.0	100	
Ca	44	2	He	-1.619	-107.6	213	13.5	100	
V	51	2	He	-0.150	-32.9	2025	7.0	2.5	
Cr	52	2	He	-0.018	-137.4	597	13.5	2.5	
Mn	55	2	He	0.013	57.8	200	8.7	2.5	
Fe	56	2	He	0.278	26.4	5301	3.7	100	
Co	59	2	He	0.000	1399.7	93	27.0	2.5	
Ni	60	2	He	0.016	71.1	83	18.3	2.5	
Cu	63	2	He	-0.050	-100.0	1093	16.5	1	

Initial Calibration Blank (ICB) Report

Zn	66	2	He	0.012	777.7	167	33.0	2.5	
As	75	2	He	0.002	2310.0	51	39.3	2.5	
Sb	121	2	He	0.203	4.4	887	2.6	2.5	
Se	78	2	He	-0.069	-644.7	52	27.7	1	
Ti	47	2	He	-0.032	0.0	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	1569390	1.83	1597939	98.21	70	120	
In	115	1	nogas	1694283	1.90	1645124	102.99	70	120	
Li	6	1	nogas	521040	0.62	510056	102.15	70	120	
Bi	209	1	nogas	1264174	1.40	1249408	101.18	70	120	
Ge	72	2	He	414277	0.73	421931	98.19	70	120	
In	115	2	He	650130	0.31	666366	97.56	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	023_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:49:48-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	98.290	1.280	223902	0.58	100	98.3	90	110	
B	11	1	nogas	495.200	0.767	640020	0.71	500	99.0	90	110	
Al	27	1	nogas	98.832	2.445	835044	1.32	100	98.8	90	110	
P	31	1	nogas	485.111	1.504	252388	0.14	500	97.0	90	110	
Ca	44	1	nogas	9947.522	0.910	3003744	1.79	10000	99.5	90	110	
Ti	47	1	nogas	99.382	2.068	92669	0.67	100	99.4	90	110	
Cr	52	1	nogas	96.877	1.983	1067873	0.72	100	96.9	90	110	
Co	59	1	nogas	97.815	2.127	1129578	0.72	100	97.8	90	110	
Cu	63	1	nogas	100.355	2.280	582635	1.10	100	100.4	90	110	
Zn	66	1	nogas	100.921	2.911	157329	1.65	100	100.9	90	110	
Se	77	1	nogas	80.101	9.048	15360	2.00	100	80.1	90	110	ICV Main CR1 Failed
Se	82	1	nogas	101.702	2.993	10049	3.74	100	101.7	90	110	
Sr	88	1	nogas	103.294	2.597	1709912	1.10	100	103.3	90	110	
Mo	95	1	nogas	101.706	4.053	304164	0.75	100	101.7	90	110	
Ag	107	1	nogas	102.552	3.325	834377	0.96	100	102.6	90	110	
Cd	111	1	nogas	101.043	2.130	142130	2.25	100	101.0	90	110	
Sn	118	1	nogas	102.661	3.925	476456	1.67	100	102.7	90	110	
Sb	121	1	nogas	98.190	2.230	588549	0.81	100	98.2	90	110	
Ba	137	1	nogas	102.704	4.464	232514	1.47	100	102.7	90	110	
Tl	205	1	nogas	93.640	0.926	1145090	0.66	100	93.6	90	110	
Pb	208	1	nogas	96.745	0.571	1566513	0.71	100	96.7	90	110	
U	238	1	nogas	101.490	0.700	1813499	1.11	100	101.5	90	110	
Li	7	1	nogas	100.832	0.510	771536	0.47	100	100.8	90	110	
Si	28	1	nogas	4900.736	3.824	2975688	1.58	5000	98.0	90	110	
Tl	203	1	nogas	98.237	0.250	480530	0.75	100	98.2	90	110	
Na	23	2	He	10099.740	1.273	6043721	0.56	10000	101.0	90	110	
Mg	24	2	He	10046.107	0.824	3306955	0.84	10000	100.5	90	110	
Al	27	2	He	100.410	1.906	15770	1.34	100	100.4	90	110	
K	39	2	He	10096.567	1.754	3151397	1.37	10000	101.0	90	110	
Ca	43	2	He	9857.444	1.599	9733	1.16	10000	98.6	90	110	
Ca	44	2	He	9923.900	0.532	164616	0.33	10000	99.2	90	110	
V	51	2	He	98.895	0.509	299637	0.58	100	98.9	90	110	
Cr	52	2	He	99.904	0.460	340998	0.87	100	99.9	90	110	
Mn	55	2	He	99.441	2.077	213380	1.71	100	99.4	90	110	
Fe	56	2	He	10002.368	1.800	30283629	1.49	10000	100.0	90	110	
Co	59	2	He	100.669	1.947	517859	1.32	100	100.7	90	110	
Ni	60	2	He	101.973	1.119	134940	1.22	100	102.0	90	110	
Cu	63	2	He	100.814	0.914	352110	1.10	100	100.8	90	110	
Zn	66	2	He	101.397	1.318	61165	0.70	100	101.4	90	110	
As	75	2	He	100.590	2.172	43499	2.68	100	100.6	90	110	
Sn	118	2	He	100.672	2.084	233871	1.14	100	100.7	90	110	
Sb	121	2	He	97.927	0.457	280445	1.15	100	97.9	90	110	
Se	78	2	He	98.836	3.453	3252	2.76	100	98.8	90	110	
Ti	47	2	He	102.891	2.839	10650	2.99	100	102.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1612666	1.42	1597939	100.92	70	120	
In	115	1	nogas	1663237	3.48	1645124	101.10	70	120	
Li	6	1	nogas	493181	0.81	510056	96.69	70	120	
Bi	209	1	nogas	1271740	0.71	1249408	101.79	70	120	
Ge	72	2	He	405919	0.73	421931	96.20	70	120	

Initial Calibration Verification (ICV) Report

In	115	2	He	640469	1.05	666366	96.11	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	025ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:54:32-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	-10.8	35	14.3	0	ICSA Main CR1 Failed
B	11	1	nogas	7.360	12.0	18319	5.2	0	ICSA Main CR1 Failed
Al	27	1	nogas	102890.166	0.5	684869643	0.5	0	
P	31	1	nogas	99154.372	0.2	36332189	0.3	0	
Ca	44	1	nogas	102367.099	0.3	24321533	0.4	0	
Ti	47	1	nogas	2168.808	0.3	1610640	0.5	0	
Cr	52	1	nogas	1.562	1.8	31864	0.6	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.466	6.1	4581	5.6	0	ICSA Main CR1 Failed
Cu	63	1	nogas	2.302	6.3	17081	3.7	0	
Zn	66	1	nogas	1.840	5.1	2624	4.6	0	ICSA Main CR1 Failed
Se	77	1	nogas	25.700	64.3	9199	9.9	0	
Se	82	1	nogas	0.201	428.7	-19	-352.6	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.905	5.5	13015	2.5	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2134.817	3.1	5145287	2.1	0	
Ag	107	1	nogas	0.016	63.0	170	36.7	0	ICSA Main CR1 Failed
Cd	111	1	nogas	2.295	7.4	2620	4.5	0	
Sn	118	1	nogas	0.152	14.0	1103	6.9	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.654	20.2	3564	17.6	0	ICSA Main CR1 Failed
Ba	137	1	nogas	-0.009	-263.4	323	12.5	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.015	16.1	310	8.5	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.022	19.6	1223	3.9	0	ICSA Main CR1 Failed
Si	28	1	nogas	320.599	6.6	698354	1.1	0	
Na	23	2	He	101223.048	1.3	53197969	1.3	0	
Mg	24	2	He	99671.556	0.6	28946175	0.4	0	
Al	27	2	He	103766.427	1.5	14174688	0.6	0	
K	39	2	He	101709.987	1.7	27715252	0.8	0	
Ca	43	2	He	96660.002	0.8	84007	0.3	0	
Ca	44	2	He	101818.128	0.8	1488359	1.8	0	
V	51	2	He	0.017	360.6	2192	6.6	0	ICSA Main CR1 Failed
Cr	52	2	He	0.980	6.4	3514	4.7	0	ICSA Main CR1 Failed
Mn	55	2	He	0.126	23.5	387	14.2	0	ICSA Main CR1 Failed
Fe	56	2	He	100455.303	1.3	268307143	0.6	0	
Co	59	2	He	0.216	1.9	1060	1.6	0	ICSA Main CR1 Failed
Ni	60	2	He	0.225	44.6	317	37.7	0	ICSA Main CR1 Failed
Cu	63	2	He	0.199	7.8	1710	2.0	0	ICSA Main CR1 Failed
Zn	66	2	He	0.430	41.6	367	26.5	0	ICSA Main CR1 Failed
As	75	2	He	0.157	9.5	103	5.6	0	ICSA Main CR1 Failed
Sb	121	2	He	0.508	21.9	1540	19.2	0	ICSA Main CR1 Failed
Se	78	2	He	-0.036	-1174.1	46	27.2	0	ICSA Main CR1 Failed
Ti	47	2	He	2026.661	1.1	185018	0.6	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	1285478	0.18	1597939	80.45	70	120	

Interference Check Solution A (ICS-A) Report

In	115	1	nogas	1340154	2.87	1645124	81.46	70	120	
Li	6	1	nogas	414896	0.04	510056	81.34	70	120	
Bi	209	1	nogas	1025244	0.91	1249408	82.06	70	120	
Ge	72	2	He	358146	0.94	421931	84.88	70	120	
In	115	2	He	568455	0.79	666366	85.31	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	026ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:56:51-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	101.746	1.300	190482	1.03	100	101.7	80	120	
B	11	1	nogas	511.858	0.306	543341	0.22	100	511.9	80	120	
Al	27	1	nogas	102394.108	5.155	689219136	0.63	100	102394.1	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	113737.590	5.756	27316304	0.68	100	113737.6	80	120	
Ti	47	1	nogas	2260.369	8.222	1698624	7.82	100	2260.4	80	120	
Cr	52	1	nogas	100.127	4.907	889299	0.96	100	100.1	80	120	
Co	59	1	nogas	100.258	5.312	933365	0.38	100	100.3	80	120	
Cu	63	1	nogas	103.935	6.216	486076	0.76	100	103.9	80	120	
Zn	66	1	nogas	104.484	6.045	131269	0.52	100	104.5	80	120	
Se	77	1	nogas	153.787	3.109	16581	4.14	100	153.8	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	105.836	4.038	8435	2.84	100	105.8	80	120	
Sr	88	1	nogas	98.330	4.076	1395276	3.78	100	98.3	80	120	
Mo	95	1	nogas	2149.536	1.360	5510823	1.21	100	2149.5	80	120	ICSB Main CR1 Failed
Ag	107	1	nogas	93.757	0.461	654021	0.92	100	93.8	80	120	
Cd	111	1	nogas	99.629	1.177	120106	0.96	100	99.6	80	120	
Sn	118	1	nogas	100.352	2.396	399320	1.98	100	100.4	80	120	
Sb	121	1	nogas	104.552	5.410	505190	1.02	100	104.6	80	120	
Ba	137	1	nogas	100.289	1.699	194707	1.26	100	100.3	80	120	
Tl	205	1	nogas	93.411	2.753	934783	1.42	100	93.4	80	120	
Pb	208	1	nogas	97.688	2.346	1294465	1.25	100	97.7	80	120	
U	238	1	nogas	98.480	3.364	1439922	2.08	100	98.5	80	120	
Si	28	1	nogas	5547.173	9.458	2636782	3.29	100	5547.2	80	120	ICSB Main CR1 Failed
Na	23	2	He	111456.277	1.386	59342647	1.12	100	111456.3	80	120	
Mg	24	2	He	108978.068	0.446	32065875	0.77	100	108978.1	80	120	
Al	27	2	He	103854.129	0.803	14374348	1.00	100	103854.1	80	120	
K	39	2	He	111223.826	0.833	30706247	1.08	100	111223.8	80	120	
Ca	43	2	He	106153.247	0.309	93472	0.63	100	106153.2	80	120	
Ca	44	2	He	110658.852	0.325	1638720	0.26	100	110658.9	80	120	
V	51	2	He	97.986	0.270	265408	0.59	100	98.0	80	120	
Cr	52	2	He	97.427	0.917	297270	0.84	100	97.4	80	120	
Mn	55	2	He	98.187	0.891	188353	1.21	100	98.2	80	120	
Fe	56	2	He	109246.374	0.539	295644482	0.86	100	109246.4	80	120	
Co	59	2	He	95.853	0.450	440803	0.11	100	95.9	80	120	
Ni	60	2	He	95.594	1.639	113084	1.87	100	95.6	80	120	
Cu	63	2	He	93.573	0.634	292224	0.71	100	93.6	80	120	
Zn	66	2	He	97.014	2.482	52321	2.53	100	97.0	80	120	
As	75	2	He	99.318	1.211	38390	1.22	100	99.3	80	120	
Sb	121	2	He	100.394	1.325	256986	0.99	100	100.4	80	120	
Se	78	2	He	101.807	1.592	2993	1.30	100	101.8	80	120	
Ti	47	2	He	2084.831	1.302	192832	0.97	100	2084.8	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	1302407	5.62	1597939	81.51	70	120	
In	115	1	nogas	1424927	0.47	1645124	86.62	70	120	
Li	6	1	nogas	405306	0.32	510056	79.46	70	120	
Bi	209	1	nogas	1040938	1.34	1249408	83.31	70	120	
Ge	72	2	He	362849	0.34	421931	86.00	70	120	
In	115	2	He	570358	1.16	666366	85.59	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	053_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T14:27:38-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	100.214	0.498	233826	0.35	100	100.2	90	110	
B	11	1	nogas	502.495	1.755	664968	1.09	500	100.5	90	110	
Al	27	1	nogas	103.020	5.700	879654	0.96	100	103.0	90	110	
P	31	1	nogas	515.150	6.117	269146	1.35	500	103.0	90	110	
Ca	44	1	nogas	10385.758	5.791	3168134	0.91	10000	103.9	90	110	
Ti	47	1	nogas	102.878	4.986	97011	1.01	100	102.9	90	110	
Cr	52	1	nogas	101.282	5.049	1127975	0.57	100	101.3	90	110	
Co	59	1	nogas	100.757	5.877	1176326	1.07	100	100.8	90	110	
Cu	63	1	nogas	105.376	5.081	618270	0.32	100	105.4	90	110	
Zn	66	1	nogas	103.912	6.009	163763	1.33	100	103.9	90	110	
Se	77	1	nogas	139.431	12.850	19741	1.68	100	139.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	103.110	4.820	10306	3.44	100	103.1	90	110	
Sr	88	1	nogas	106.163	2.284	1759697	0.74	100	106.2	90	110	
Mo	95	1	nogas	106.592	5.434	319103	2.41	100	106.6	90	110	
Ag	107	1	nogas	108.094	4.150	880450	1.38	100	108.1	90	110	
Cd	111	1	nogas	107.114	3.516	150803	0.92	100	107.1	90	110	
Sn	118	1	nogas	104.634	2.530	486329	0.54	100	104.6	90	110	
Sb	121	1	nogas	100.853	5.170	611292	0.63	100	100.9	90	110	
Ba	137	1	nogas	105.235	3.136	238604	0.38	100	105.2	90	110	
Tl	205	1	nogas	96.579	2.266	1191067	0.85	100	96.6	90	110	
Pb	208	1	nogas	99.598	0.982	1626556	0.53	100	99.6	90	110	
U	238	1	nogas	104.910	0.505	1890932	1.77	100	104.9	90	110	
Li	7	1	nogas	101.145	0.405	792572	0.30	100	101.1	90	110	
Si	28	1	nogas	5157.678	3.652	3131402	3.04	5000	103.2	90	110	
Tl	203	1	nogas	100.453	1.674	495555	0.20	100	100.5	90	110	
Na	23	2	He	10482.780	1.284	6430666	1.10	10000	104.8	90	110	
Mg	24	2	He	10565.027	0.831	3565776	0.84	10000	105.7	90	110	
Al	27	2	He	101.724	2.702	16381	3.21	100	101.7	90	110	
K	39	2	He	10445.453	1.413	3341504	0.87	10000	104.5	90	110	
Ca	43	2	He	9766.362	6.141	9889	6.60	10000	97.7	90	110	
Ca	44	2	He	10153.438	0.290	172685	0.85	10000	101.5	90	110	
V	51	2	He	101.316	1.234	314677	1.16	100	101.3	90	110	
Cr	52	2	He	102.795	1.177	359709	0.72	100	102.8	90	110	
Mn	55	2	He	101.274	0.556	222821	0.39	100	101.3	90	110	
Fe	56	2	He	10285.136	0.731	31929202	0.95	10000	102.9	90	110	
Co	59	2	He	102.954	1.215	543082	1.79	100	103.0	90	110	
Ni	60	2	He	102.834	2.306	139527	2.51	100	102.8	90	110	
Cu	63	2	He	102.031	1.386	365375	1.74	100	102.0	90	110	
Zn	66	2	He	103.344	1.577	63921	2.09	100	103.3	90	110	
As	75	2	He	101.724	0.931	45100	1.33	100	101.7	90	110	
Sb	121	2	He	100.578	1.198	295300	0.64	100	100.6	90	110	
Se	78	2	He	99.171	2.090	3346	2.42	100	99.2	90	110	
Ti	47	2	He	104.017	3.270	11040	3.83	100	104.0	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	1633249	4.98	1597939	102.21	70	120	
In	115	1	nogas	1665202	2.99	1645124	101.22	70	120	
Li	6	1	nogas	505133	0.64	510056	99.03	70	120	
Bi	209	1	nogas	1282788	1.46	1249408	102.67	70	120	
Ge	72	2	He	416189	0.58	421931	98.64	70	120	
In	115	2	He	650632	1.09	666366	97.64	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	054_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T14:29:59-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	-0.010	-178.4	82	51.0	1	
B	11	1	nogas	10.881	12.9	28655	5.9	10	CCB Main CR1 Failed
Al	27	1	nogas	0.081	74.7	10613	4.7	5	
P	31	1	nogas	-2.098	-97.2	28635	3.4	10	
Ca	44	1	nogas	-71.868	-6.0	21503	6.1	100	
Ti	47	1	nogas	0.092	6.4	187	3.1	2.5	
Cr	52	1	nogas	-0.622	-6.6	16434	2.6	2.5	
Co	59	1	nogas	0.019	8.3	590	2.9	2.5	
Cu	63	1	nogas	0.863	13.2	13208	4.8	2	
Zn	66	1	nogas	0.004	1792.4	437	22.9	2.5	
Se	77	1	nogas	-27.034	-34.9	7845	8.6	2.5	
Se	82	1	nogas	-0.904	-110.2	-134	-73.8	2	
Sr	88	1	nogas	0.022	46.6	1647	10.7	2.5	
Mo	95	1	nogas	0.312	15.0	1087	11.0	2.5	
Ag	107	1	nogas	0.010	13.9	173	8.8	2.5	
Cd	111	1	nogas	0.008	236.4	40	66.1	1	
Sn	118	1	nogas	0.205	28.9	1717	16.2	5	
Sb	121	1	nogas	0.955	9.9	6281	8.9	2.5	
Ba	137	1	nogas	0.041	57.7	547	10.1	2.5	
Tl	205	1	nogas	0.096	34.8	1397	29.4	1	
Pb	208	1	nogas	0.017	120.1	1470	22.6	2.5	
U	238	1	nogas	0.033	36.7	613	36.2	2.5	
Si	28	1	nogas	-26.078	-103.7	717905	1.7	5	
Na	23	2	He	83.581	3.6	84856	2.4	100	
Mg	24	2	He	1.756	15.9	827	13.3	100	
Al	27	2	He	-0.034	-475.4	230	11.5	5	
K	39	2	He	8.745	56.9	41306	2.1	100	
Ca	43	2	He	-16.203	-59.5	10	100.0	100	
Ca	44	2	He	-1.580	-150.6	220	18.2	100	
V	51	2	He	-0.238	-9.0	1806	2.4	2.5	
Cr	52	2	He	0.000	-76959.4	677	15.8	2.5	
Mn	55	2	He	-0.010	-157.3	153	21.0	2.5	
Fe	56	2	He	1.886	4.9	10563	1.0	100	
Co	59	2	He	0.010	35.8	150	11.5	2.5	
Ni	60	2	He	0.016	116.9	87	29.0	2.5	
Cu	63	2	He	-0.009	-144.8	1273	3.3	2	
Zn	66	2	He	-0.001	-5025.0	163	23.2	2.5	
As	75	2	He	0.045	104.5	72	30.7	2.5	
Sb	121	2	He	0.856	3.2	2874	1.1	2.5	

Continuing Calibration Blank (CCB) Report

Se	78	2	He	-0.192	-96.7	49	12.4	2	
Ti	47	2	He	0.029	366.5	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	1614428	0.16	1597939	101.03	70	120	
In	115	1	nogas	1771445	3.02	1645124	107.68	70	120	
Li	6	1	nogas	538835	1.01	510056	105.64	70	120	
Bi	209	1	nogas	1291886	1.12	1249408	103.40	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	426261	1.84	421931	101.03	70	120	
In	115	2	He	678244	1.56	666366	101.78	70	120	

Sample Report

Sample Table

Sample Name	MBLK-154157
Data File Name	055SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T14:34:27-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	-0.015	-0.015	-58.84	70	-0.02	2000	
B	11	1	nogas	3.366	3.366	14.47	18451	0.02	2000	
Al	27	1	nogas	0.368	0.368	19.46	13365	0.00	2000	
Ca	44	1	nogas	-73.809	-73.809	-6.50	21496	-0.34	200000	
Ti	47	1	nogas	0.094	0.094	47.64	193	0.05	2000	
Cr	52	1	nogas	-0.639	-0.639	-2.47	16701	0.00	2000	
Co	59	1	nogas	-0.001	-0.001	-789.85	370	0.00	2000	
Cu	63	1	nogas	0.623	0.623	18.68	12158	0.01	2000	
Zn	66	1	nogas	-0.008	-0.008	-750.13	430	0.00	2000	
Se	77	1	nogas	-26.978	-26.978	-18.39	8062	-0.33	2000	
Se	82	1	nogas	0.184	0.184	237.73	-27	-0.69	2000	
Sr	88	1	nogas	0.007	0.007	148.09	1343	0.00	2000	
Mo	95	1	nogas	0.072	0.072	42.48	320	0.02	2000	
Ag	107	1	nogas	-0.003	-0.003	-72.10	60	0.00	2000	
Cd	111	1	nogas	-0.005	-0.005	-125.25	20	-0.03	2000	
Sn	118	1	nogas	0.053	0.053	33.53	947	0.01	2000	
Sb	121	1	nogas	0.382	0.382	4.29	2927	0.01	2000	
Ba	137	1	nogas	0.060	0.060	29.53	580	0.01	2000	
Tl	205	1	nogas	0.011	0.011	23.68	347	0.00	2000	
Pb	208	1	nogas	-0.017	-0.017	-13.52	923	0.00	2000	
U	238	1	nogas	0.005	0.005	81.28	107	0.01	2000	
Li	7	1	nogas	0.041	0.041	160.94	43990	0.00	1000	
Si	28	1	nogas	-52.212	-52.212	-77.74	725162	-0.01	2000	
Tl	203	1	nogas	0.007	0.007	83.72	113	0.01	2000	
Na	23	2	He	55.955	55.955	3.04	68012	0.08	200000	
Mg	24	2	He	1.630	1.630	8.41	787	0.21	200000	
Al	27	2	He	-0.044	-0.044	-490.30	230	-0.02	2000	
K	39	2	He	7.805	7.805	42.42	41273	0.02	200000	
Ca	43	2	He	-13.120	-13.120	-41.94	13	-98.40	200000	
Ca	44	2	He	-6.629	-6.629	-12.25	133	-4.97	200000	
V	51	2	He	-0.195	-0.195	-6.01	1955	-0.01	2000	
Cr	52	2	He	-0.003	-0.003	-469.64	670	0.00	2000	
Mn	55	2	He	0.021	0.021	122.15	223	0.01	2000	
Fe	56	2	He	0.570	0.570	16.86	6425	0.01	200000	
Co	59	2	He	0.007	0.007	196.83	133	0.01	2000	
Ni	60	2	He	-0.013	-0.013	-67.54	47	-0.03	2000	

Sample Report

Cu	63	2	He	-0.037	-0.037	-100.80	1180	0.00	2000	
Zn	66	2	He	0.023	0.023	239.87	180	0.01	2000	
As	75	2	He	0.000	0.000	2687.45	52	0.00	2000	
Sb	121	2	He	0.351	0.351	17.05	1367	0.03	2000	
Se	78	2	He	-0.183	-0.183	-146.31	50	-0.37	2000	
Ti	47	2	He	-0.032	-0.032	0.00	0	#DIV/0!	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	1658821	1.27	1597939	103.81	70	120	
In	115	1	nogas	1731694	0.42	1645124	105.26	70	120	
Li	6	1	nogas	544413	0.21	510056	106.74	70	120	
Bi	209	1	nogas	1303426	0.52	1249408	104.32	70	120	
Ge	72	2	He	428940	0.92	421931	101.66	70	120	
In	115	2	He	664839	1.44	666366	99.77	70	120	

Sample Report

Sample Table

Sample Name	LCS-154157
Data File Name	057SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T14:40:41-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	50.444	50.444	1.53	124283	0.04	2000	
B	11	1	nogas	463.642	463.642	2.00	648747	0.07	2000	
Al	27	1	nogas	106.903	106.903	0.93	991531	0.01	2000	
Ca	44	1	nogas	4980.029	4980.029	1.89	1675333	0.30	200000	
Ti	47	1	nogas	140.801	140.801	1.42	144202	0.10	2000	
Cr	52	1	nogas	46.688	46.688	2.85	578553	0.01	2000	
Co	59	1	nogas	47.433	47.433	2.48	602013	0.01	2000	
Cu	63	1	nogas	51.600	51.600	0.44	333576	0.02	2000	
Zn	66	1	nogas	52.774	52.774	1.39	90622	0.06	2000	
Se	77	1	nogas	20.014	20.014	54.08	12238	0.16	2000	
Se	82	1	nogas	51.410	51.410	6.00	5557	0.93	2000	
Sr	88	1	nogas	96.252	96.252	2.60	1731225	0.01	2000	
Mo	95	1	nogas	48.702	48.702	2.99	158345	0.03	2000	
Ag	107	1	nogas	44.525	44.525	3.08	393711	0.01	2000	
Cd	111	1	nogas	51.925	51.925	3.79	79344	0.07	2000	
Sn	118	1	nogas	94.889	94.889	1.21	478701	0.02	2000	
Sb	121	1	nogas	50.658	50.658	0.66	333939	0.02	2000	
Ba	137	1	nogas	48.837	48.837	1.51	120427	0.04	2000	
Tl	205	1	nogas	43.240	43.240	5.59	580386	0.01	2000	
Pb	208	1	nogas	48.035	48.035	4.36	854495	0.01	2000	
U	238	1	nogas	89.393	89.393	3.82	1754615	0.01	2000	
Li	7	1	nogas	95.342	95.342	1.60	791010	0.01	1000	
Si	28	1	nogas	5396.764	5396.764	1.20	3519756	0.15	2000	>LDR
Tl	203	1	nogas	44.820	44.820	5.94	240608	0.02	2000	
Na	23	2	He	5226.798	5226.798	1.42	3385702	0.15	200000	
Mg	24	2	He	5163.186	5163.186	3.32	1831164	0.28	200000	
Al	27	2	He	107.100	107.100	3.04	18105	0.59	2000	
K	39	2	He	5110.362	5110.362	0.82	1737944	0.29	200000	
Ca	43	2	He	4926.783	4926.783	2.37	5254	93.77	200000	
Ca	44	2	He	4982.190	4982.190	1.53	89159	5.59	200000	
V	51	2	He	49.282	49.282	1.51	162177	0.03	2000	
Cr	52	2	He	49.692	49.692	0.93	183069	0.03	2000	
Mn	55	2	He	50.371	50.371	1.36	116534	0.04	2000	
Fe	56	2	He	4945.269	4945.269	0.48	16132729	0.03	200000	
Co	59	2	He	50.590	50.590	1.08	280419	0.02	2000	
Ni	60	2	He	51.118	51.118	1.83	72907	0.07	2000	
Cu	63	2	He	50.792	50.792	2.20	191779	0.03	2000	
Zn	66	2	He	54.034	54.034	0.21	35194	0.15	2000	

Sample Report

As	75	2	He	51.302	51.302	1.48	23924	0.21	2000	
Sb	121	2	He	50.614	50.614	0.78	156297	0.03	2000	
Se	78	2	He	53.300	53.300	8.26	1915	2.78	2000	
Ti	47	2	He	148.909	148.909	4.49	16601	0.90	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	1771619	0.74	1597939	110.87	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1806467	1.47	1645124	109.81	70	120	
Li	6	1	nogas	533206	0.94	510056	104.54	70	120	
Bi	209	1	nogas	1397979	4.70	1249408	111.89	70	120	
Ge	72	2	He	437285	0.27	421931	103.64	70	120	
In	115	2	He	675592	0.60	666366	101.38	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	065_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T15:25:19-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	98.695	0.171	163609	0.47	100	98.7	90	110	
B	11	1	nogas	500.070	2.293	470193	1.75	500	100.0	90	110	
Al	27	1	nogas	101.572	0.664	650669	0.57	100	101.6	90	110	
P	31	1	nogas	517.358	0.505	202636	0.41	500	103.5	90	110	
Ca	44	1	nogas	10540.494	0.317	2411459	0.27	10000	105.4	90	110	
Ti	47	1	nogas	103.475	0.794	73173	0.85	100	103.5	90	110	
Cr	52	1	nogas	100.465	1.020	839222	0.92	100	100.5	90	110	
Co	59	1	nogas	101.146	0.313	885866	0.25	100	101.1	90	110	
Cu	63	1	nogas	105.287	0.445	463295	0.52	100	105.3	90	110	
Zn	66	1	nogas	105.457	0.687	124677	0.70	100	105.5	90	110	
Se	77	1	nogas	65.207	10.109	10857	3.15	100	65.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	104.131	3.657	7802	3.71	100	104.1	90	110	
Sr	88	1	nogas	106.563	2.455	1412540	2.32	100	106.6	90	110	
Mo	95	1	nogas	103.586	0.410	248153	0.38	100	103.6	90	110	
Ag	107	1	nogas	107.737	1.082	702044	1.16	100	107.7	90	110	
Cd	111	1	nogas	106.860	1.700	120343	1.82	100	106.9	90	110	
Sn	118	1	nogas	108.217	0.868	402256	1.04	100	108.2	90	110	
Sb	121	1	nogas	111.988	1.134	509039	1.16	100	112.0	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	107.888	0.319	195654	0.57	100	107.9	90	110	
Tl	205	1	nogas	95.130	0.801	998784	1.28	100	95.1	90	110	
Pb	208	1	nogas	99.687	0.770	1385806	1.24	100	99.7	90	110	
U	238	1	nogas	99.602	1.858	1528050	2.29	100	99.6	90	110	
Li	7	1	nogas	101.337	0.492	564102	0.05	100	101.3	90	110	
Si	28	1	nogas	5064.057	1.401	2313774	1.11	5000	101.3	90	110	
Tl	203	1	nogas	98.642	0.424	414257	0.88	100	98.6	90	110	
Na	23	2	He	9892.988	1.735	4585244	1.08	10000	98.9	90	110	
Mg	24	2	He	9771.623	0.960	2491291	1.63	10000	97.7	90	110	
Al	27	2	He	97.462	3.133	11861	3.08	100	97.5	90	110	
K	39	2	He	10165.558	2.785	2456956	2.07	10000	101.7	90	110	
Ca	43	2	He	9632.518	5.124	7365	4.46	10000	96.3	90	110	
Ca	44	2	He	9647.929	1.612	123944	1.12	10000	96.5	90	110	
V	51	2	He	98.454	0.250	231033	0.55	100	98.5	90	110	
Cr	52	2	He	99.137	0.680	262062	0.74	100	99.1	90	110	
Mn	55	2	He	100.014	0.633	166215	0.61	100	100.0	90	110	
Fe	56	2	He	10037.068	1.547	23534550	0.92	10000	100.4	90	110	
Co	59	2	He	100.717	1.196	401265	0.59	100	100.7	90	110	
Ni	60	2	He	99.626	1.115	102098	0.53	100	99.6	90	110	
Cu	63	2	He	101.116	0.889	273506	0.78	100	101.1	90	110	
Zn	66	2	He	100.183	2.090	46803	1.43	100	100.2	90	110	
As	75	2	He	100.265	0.451	33578	0.60	100	100.3	90	110	
Sb	121	2	He	108.664	0.673	240976	0.61	100	108.7	90	110	
Se	78	2	He	102.443	1.600	2609	0.90	100	102.4	90	110	
Ti	47	2	He	101.665	3.420	8149	2.86	100	101.7	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	1222841	0.09	1597939	76.53	70	120	
In	115	1	nogas	1331106	0.30	1645124	80.91	70	120	
Li	6	1	nogas	358875	0.49	510056	70.36	70	120	
Bi	209	1	nogas	1091824	0.49	1249408	87.39	70	120	
Ge	72	2	He	314369	0.68	421931	74.51	70	120	
In	115	2	He	510107	0.49	666366	76.55	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	066_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T15:27:39-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	0.012	95.8	98	20.5	1	
B	11	1	nogas	10.119	8.8	19977	4.7	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.029	-109.5	7482	2.9	5	
P	31	1	nogas	4.031	18.7	24279	0.8	10	
Ca	44	1	nogas	-87.837	-1.9	12925	2.7	100	
Ti	47	1	nogas	0.095	22.9	147	10.4	2.5	
Cr	52	1	nogas	-0.640	-6.6	12538	3.2	2.5	
Co	59	1	nogas	0.018	48.9	450	17.6	2.5	
Cu	63	1	nogas	-0.258	-27.2	5234	5.5	2	
Zn	66	1	nogas	0.006	216.6	340	5.1	2.5	
Se	77	1	nogas	-45.119	-14.1	5074	7.1	2.5	
Se	82	1	nogas	0.409	85.1	-3	-958.1	2	
Sr	88	1	nogas	0.184	2.4	3657	4.1	2.5	
Mo	95	1	nogas	0.269	21.1	773	17.6	2.5	
Ag	107	1	nogas	0.011	48.9	150	24.0	2.5	
Cd	111	1	nogas	0.005	254.7	30	57.7	1	
Sn	118	1	nogas	0.212	38.8	1423	24.3	5	
Sb	121	1	nogas	0.899	8.2	4591	7.3	2.5	
Ba	137	1	nogas	0.056	68.3	473	15.3	2.5	
Tl	205	1	nogas	0.108	24.1	1340	21.8	1	
Pb	208	1	nogas	0.028	68.2	1427	19.7	2.5	
U	238	1	nogas	0.038	30.7	603	31.4	2.5	
Si	28	1	nogas	-217.011	-25.1	486527	4.0	5	
Na	23	2	He	8.809	0.9	29090	0.8	100	
Mg	24	2	He	1.455	33.2	550	22.3	100	
Al	27	2	He	-0.158	-208.4	160	25.0	5	
K	39	2	He	15.177	33.4	33123	2.9	100	
Ca	43	2	He	12.109	106.0	30	33.3	100	
Ca	44	2	He	9.380	41.5	313	15.7	100	
V	51	2	He	-0.341	-17.0	1131	12.7	2.5	
Cr	52	2	He	-0.028	-34.4	440	6.0	2.5	
Mn	55	2	He	0.032	133.5	190	39.7	2.5	
Fe	56	2	He	1.789	20.4	7828	11.0	100	
Co	59	2	He	0.009	71.2	110	24.1	2.5	
Ni	60	2	He	0.023	133.5	73	43.8	2.5	
Cu	63	2	He	0.072	63.6	1200	11.5	2	
Zn	66	2	He	0.044	69.7	147	10.4	2.5	
As	75	2	He	0.030	174.5	50	37.1	2.5	
Sb	121	2	He	0.666	2.0	1760	2.3	2.5	
Se	78	2	He	-0.024	-1487.2	42	21.8	2	
Ti	47	2	He	0.009	807.8	3	173.2	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	1246254	0.57	1597939	77.99	70	120	
In	115	1	nogas	1436277	2.42	1645124	87.31	70	120	
Li	6	1	nogas	389832	0.86	510056	76.43	70	120	
Bi	209	1	nogas	1118293	0.92	1249408	89.51	70	120	
Ge	72	2	He	325327	0.92	421931	77.10	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	2	He	532878	0.79	666366	79.97	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	077_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:02:11-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	95.830	0.387	166240	0.78	100	95.8	90	110	
B	11	1	nogas	480.726	0.811	473410	1.34	500	96.1	90	110	
Al	27	1	nogas	99.571	0.410	656649	0.90	100	99.6	90	110	
P	31	1	nogas	507.239	2.031	204912	1.04	500	101.4	90	110	
Ca	44	1	nogas	10244.131	2.212	2412807	1.35	10000	102.4	90	110	
Ti	47	1	nogas	101.941	0.852	74194	0.50	100	101.9	90	110	
Cr	52	1	nogas	99.411	1.026	854842	0.50	100	99.4	90	110	
Co	59	1	nogas	99.542	1.274	897233	0.26	100	99.5	90	110	
Cu	63	1	nogas	103.704	1.811	469718	0.97	100	103.7	90	110	
Zn	66	1	nogas	105.909	1.089	128876	1.85	100	105.9	90	110	
Se	77	1	nogas	96.163	15.435	12871	6.29	100	96.2	90	110	
Se	82	1	nogas	109.542	2.199	8449	2.45	100	109.5	90	110	
Sr	88	1	nogas	103.061	1.105	1486425	0.69	100	103.1	90	110	
Mo	95	1	nogas	98.026	0.529	255510	0.15	100	98.0	90	110	
Ag	107	1	nogas	100.915	0.461	715499	0.97	100	100.9	90	110	
Cd	111	1	nogas	101.536	0.657	124419	1.21	100	101.5	90	110	
Sn	118	1	nogas	102.288	1.151	413712	1.11	100	102.3	90	110	
Sb	121	1	nogas	112.209	0.603	524937	0.46	100	112.2	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	103.769	0.927	204765	0.94	100	103.8	90	110	
Tl	205	1	nogas	97.721	1.468	1037887	1.32	100	97.7	90	110	
Pb	208	1	nogas	101.510	0.535	1427519	0.49	100	101.5	90	110	
U	238	1	nogas	104.503	1.659	1621863	1.97	100	104.5	90	110	
Li	7	1	nogas	99.385	0.797	579511	0.73	100	99.4	90	110	
Si	28	1	nogas	4881.227	1.638	2315985	1.59	5000	97.6	90	110	
Tl	203	1	nogas	100.669	0.294	427683	0.41	100	100.7	90	110	
Na	23	2	He	10158.508	1.413	4683828	0.77	10000	101.6	90	110	
Mg	24	2	He	10100.041	0.994	2561736	0.54	10000	101.0	90	110	
Al	27	2	He	97.005	4.880	11744	4.22	100	97.0	90	110	
K	39	2	He	10013.302	2.549	2408360	1.99	10000	100.1	90	110	
Ca	43	2	He	9574.835	1.353	7285	0.65	10000	95.7	90	110	
Ca	44	2	He	9556.945	0.838	122160	0.85	10000	95.6	90	110	
V	51	2	He	98.354	1.033	229620	0.39	100	98.4	90	110	
Cr	52	2	He	99.718	0.639	262252	0.24	100	99.7	90	110	
Mn	55	2	He	98.565	0.608	162976	0.13	100	98.6	90	110	
Fe	56	2	He	9925.991	1.345	23156458	0.94	10000	99.3	90	110	
Co	59	2	He	100.827	1.485	399661	1.00	100	100.8	90	110	
Ni	60	2	He	102.100	0.663	104109	1.33	100	102.1	90	110	
Cu	63	2	He	102.515	0.335	275872	0.48	100	102.5	90	110	
Zn	66	2	He	101.718	1.724	47281	1.79	100	101.7	90	110	
As	75	2	He	100.314	1.406	33422	0.85	100	100.3	90	110	
Sb	121	2	He	109.003	0.817	240494	0.19	100	109.0	90	110	
Se	78	2	He	101.711	1.045	2578	1.13	100	101.7	90	110	
Ti	47	2	He	98.190	2.172	7832	2.77	100	98.2	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	1258598	1.02	1597939	78.76	70	120	
In	115	1	nogas	1448306	0.61	1645124	88.04	70	120	
Li	6	1	nogas	375541	0.54	510056	73.63	70	120	
Bi	209	1	nogas	1104534	0.40	1249408	88.40	70	120	
Ge	72	2	He	312773	0.71	421931	74.13	70	120	
In	115	2	He	508729	1.39	666366	76.34	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	078_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:04:31-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	0.010	123.9	98	23.5	1	
B	11	1	nogas	7.512	12.6	18010	4.8	10	
Al	27	1	nogas	0.004	1643.4	7785	5.6	5	
P	31	1	nogas	5.651	34.1	25147	3.0	10	
Ca	44	1	nogas	-86.653	-2.9	13352	4.2	100	
Ti	47	1	nogas	0.152	17.5	190	10.5	2.5	
Cr	52	1	nogas	-0.644	-5.3	12651	2.2	2.5	
Co	59	1	nogas	0.005	150.3	330	18.4	2.5	
Cu	63	1	nogas	0.543	11.6	8882	3.3	2	
Zn	66	1	nogas	0.066	125.5	417	24.0	2.5	
Se	77	1	nogas	-27.321	-19.0	6111	4.9	2.5	
Se	82	1	nogas	-1.369	-87.6	-141	-66.0	2	
Sr	88	1	nogas	0.129	9.2	2904	5.8	2.5	
Mo	95	1	nogas	0.299	10.9	863	8.7	2.5	
Ag	107	1	nogas	0.015	93.9	177	55.0	2.5	
Cd	111	1	nogas	0.010	115.9	37	41.7	1	
Sn	118	1	nogas	0.201	28.5	1400	17.1	5	
Sb	121	1	nogas	0.670	10.4	3570	9.1	2.5	
Ba	137	1	nogas	0.093	1.7	553	2.8	2.5	
Tl	205	1	nogas	0.117	15.8	1453	15.2	1	
Pb	208	1	nogas	0.011	115.1	1207	17.1	2.5	
U	238	1	nogas	0.038	38.0	607	39.1	2.5	
Si	28	1	nogas	-156.813	-72.9	513752	7.8	5	
Na	23	2	He	32.532	2.1	39348	0.3	100	
Mg	24	2	He	1.483	20.8	543	14.3	100	
Al	27	2	He	-0.704	-20.5	90	19.2	5	
K	39	2	He	18.615	20.8	33086	2.4	100	
Ca	43	2	He	-21.578	-34.9	3	173.2	100	
Ca	44	2	He	6.369	89.6	267	28.1	100	
V	51	2	He	-0.322	-11.9	1146	7.6	2.5	
Cr	52	2	He	-0.018	-204.8	457	21.3	2.5	
Mn	55	2	He	0.002	1665.1	133	33.8	2.5	
Fe	56	2	He	1.793	5.3	7635	3.1	100	
Co	59	2	He	0.020	11.6	150	6.7	2.5	
Ni	60	2	He	0.018	198.4	67	56.8	2.5	
Cu	63	2	He	0.048	87.1	1103	10.3	2	

Continuing Calibration Blank (CCB) Report

Zn	66	2	He	-0.075	-99.0	87	40.5	2.5	
As	75	2	He	0.064	122.7	60	44.1	2.5	
Sb	121	2	He	0.556	8.3	1467	7.5	2.5	
Se	78	2	He	-0.404	-108.5	31	35.2	2	
Ti	47	2	He	0.010	751.3	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	1260843	0.32	1597939	78.90	70	120	
In	115	1	nogas	1456784	2.31	1645124	88.55	70	120	
Li	6	1	nogas	404426	0.69	510056	79.29	70	120	
Bi	209	1	nogas	1132456	1.43	1249408	90.64	70	120	
Ge	72	2	He	316793	0.48	421931	75.08	70	120	
In	115	2	He	514326	1.24	666366	77.18	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01
Data File Name	082SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:14:16-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	0.006	0.006	106.27	88	0.01	2000	
B	11	1	nogas	30.644	30.644	2.13	41004	0.07	2000	
Al	27	1	nogas	53.228	53.228	4.00	359692	0.01	2000	
Ca	44	1	nogas	9433.228	9433.228	2.06	2256382	0.42	200000	
Ti	47	1	nogas	4.084	4.084	15.99	3091	0.13	2000	
Cr	52	1	nogas	2.292	2.292	2.64	37879	0.01	2000	
Co	59	1	nogas	1.725	1.725	2.65	16057	0.01	2000	
Cu	63	1	nogas	5.173	5.173	4.08	29971	0.02	2000	
Zn	66	1	nogas	43.576	43.576	2.53	53976	0.08	2000	
Se	77	1	nogas	5.015	5.015	151.29	7985	0.06	2000	
Se	82	1	nogas	2.025	2.025	79.35	124	1.63	2000	
Sr	88	1	nogas	229.860	229.860	1.37	3248402	0.01	2000	
Mo	95	1	nogas	1.225	1.225	3.56	3207	0.04	2000	
Ag	107	1	nogas	0.002	0.002	90.17	83	0.00	2000	
Cd	111	1	nogas	0.078	0.078	33.02	117	0.07	2000	
Sn	118	1	nogas	0.006	0.006	449.08	590	0.00	2000	
Sb	121	1	nogas	0.307	0.307	8.07	1897	0.02	2000	
Ba	137	1	nogas	143.623	143.623	2.98	277600	0.05	2000	
Tl	205	1	nogas	-0.009	-0.009	-22.92	77	-0.01	2000	
Pb	208	1	nogas	0.067	0.067	8.78	1907	0.00	2000	
U	238	1	nogas	0.288	0.288	4.56	4374	0.01	2000	
Li	7	1	nogas	15.630	15.630	1.77	122345	0.01	1000	
Si	28	1	nogas	128789.726	128789.726	1.07	47325288	0.27	2000	>LDR
Tl	203	1	nogas	-0.002	-0.002	-111.37	53	0.00	2000	
Na	23	2	He	260067.126	260067.126	1.03	123980151	0.21	200000	>LDR
Mg	24	2	He	12745.619	12745.619	0.90	3359142	0.38	200000	
Al	27	2	He	52.137	52.137	6.00	6645	0.78	2000	
K	39	2	He	1302.880	1302.880	0.72	351151	0.37	200000	
Ca	43	2	He	9302.391	9302.391	2.38	7355	126.48	200000	
Ca	44	2	He	8948.914	8948.914	1.21	118859	7.53	200000	
V	51	2	He	0.630	0.630	15.28	3466	0.02	2000	
Cr	52	2	He	2.503	2.503	4.65	7342	0.03	2000	
Mn	55	2	He	98.944	98.944	1.54	169979	0.06	2000	
Fe	56	2	He	300.677	300.677	1.14	732219	0.04	200000	
Co	59	2	He	1.664	1.664	4.67	6925	0.02	2000	
Ni	60	2	He	4.108	4.108	7.01	4401	0.09	2000	
Cu	63	2	He	1.473	1.473	3.25	5101	0.03	2000	
Zn	66	2	He	39.995	39.995	1.40	19394	0.21	2000	

Sample Report

As	75	2	He	0.773	0.773	21.33	307	0.25	2000	
Sb	121	2	He	0.319	0.319	4.99	963	0.03	2000	
Se	78	2	He	0.544	0.544	80.05	57	0.96	2000	
Ti	47	2	He	0.571	0.571	55.42	50	1.14	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	1276445	0.34	1597939	79.88	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1419838	1.86	1645124	86.31	70	120	
Li	6	1	nogas	394325	0.24	510056	77.31	70	120	
Bi	209	1	nogas	1079966	1.43	1249408	86.44	70	120	
Ge	72	2	He	324983	0.83	421931	77.02	70	120	
In	115	2	He	511848	1.50	666366	76.81	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01SD
Data File Name	083SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:16:38-05:00
Sample Type	Sample
Dilution	5
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	-0.027	-0.135	-16.58	30	-0.09	2000	
B	11	1	nogas	6.120	30.601	0.64	17226	0.04	2000	
Al	27	1	nogas	10.581	52.904	4.60	81006	0.01	2000	
Ca	44	1	nogas	1713.901	8569.506	2.58	455685	0.38	200000	
Ti	47	1	nogas	0.773	3.865	18.84	677	0.11	2000	
Cr	52	1	nogas	0.464	2.320	13.95	23191	0.00	2000	
Co	59	1	nogas	0.321	1.606	12.70	3360	0.01	2000	
Cu	63	1	nogas	1.832	9.158	6.37	15440	0.01	2000	
Zn	66	1	nogas	8.949	44.744	2.86	11831	0.08	2000	
Se	77	1	nogas	30.133	150.664	22.47	9776	0.31	2000	
Se	82	1	nogas	0.692	3.460	179.26	21	3.30	2000	
Sr	88	1	nogas	43.050	215.250	3.66	640854	0.01	2000	
Mo	95	1	nogas	0.267	1.334	14.44	800	0.03	2000	
Ag	107	1	nogas	-0.001	-0.007	-240.76	63	0.00	2000	
Cd	111	1	nogas	0.002	0.009	910.48	27	0.01	2000	
Sn	118	1	nogas	0.013	0.064	188.19	650	0.00	2000	
Sb	121	1	nogas	0.127	0.636	8.21	1087	0.01	2000	
Ba	137	1	nogas	27.387	136.934	3.45	56004	0.05	2000	
Tl	205	1	nogas	-0.001	-0.003	-194.53	173	0.00	2000	
Pb	208	1	nogas	-0.011	-0.057	-45.75	883	0.00	2000	
U	238	1	nogas	0.050	0.248	18.07	803	0.01	2000	
Li	7	1	nogas	3.664	18.320	4.30	56395	0.01	1000	
Si	28	1	nogas	24523.280	122616.398	2.34	9867894	0.25	2000	>LDR
Tl	203	1	nogas	-0.002	-0.008	-278.87	60	0.00	2000	
Na	23	2	He	51092.899	255464.493	0.12	24978353	0.20	200000	
Mg	24	2	He	2428.214	12141.070	1.33	655842	0.37	200000	
Al	27	2	He	11.571	57.854	19.91	1653	0.70	2000	
K	39	2	He	263.763	1318.817	1.44	96818	0.27	200000	
Ca	43	2	He	1802.209	9011.046	3.79	1477	122.04	200000	
Ca	44	2	He	1742.148	8710.742	0.45	23865	7.30	200000	
V	51	2	He	0.546	2.728	9.29	3343	0.02	2000	
Cr	52	2	He	0.461	2.303	9.42	1817	0.03	2000	
Mn	55	2	He	18.946	94.731	1.35	33464	0.06	2000	
Fe	56	2	He	63.677	318.386	6.00	161729	0.04	200000	
Co	59	2	He	0.333	1.667	11.33	1480	0.02	2000	
Ni	60	2	He	0.891	4.454	9.68	1017	0.09	2000	
Cu	63	2	He	0.499	2.495	12.42	2447	0.02	2000	
Zn	66	2	He	8.648	43.241	2.77	4397	0.20	2000	

Sample Report

As	75	2	He	0.099	0.495	23.08	76	0.13	2000	
Sb	121	2	He	0.153	0.765	30.64	597	0.03	2000	
Se	78	2	He	-0.389	-1.945	-11.27	33	-1.17	2000	
Ti	47	2	He	0.598	2.992	120.81	53	1.12	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	1329396	2.55	1597939	83.19	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1494097	2.05	1645124	90.82	70	120	
Li	6	1	nogas	420486	0.78	510056	82.44	70	120	
Bi	209	1	nogas	1141249	0.94	1249408	91.34	70	120	
Ge	72	2	He	332977	0.38	421931	78.92	70	120	
In	115	2	He	534801	0.31	666366	80.26	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01MS
Data File Name	084SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:19:03-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	51.766	51.766	0.53	89220	0.06	2000	
B	11	1	nogas	530.897	530.897	0.55	518239	0.10	2000	
Al	27	1	nogas	159.223	159.223	0.69	1069980	0.01	2000	
Ca	44	1	nogas	15049.501	15049.501	2.59	3610835	0.42	200000	
Ti	47	1	nogas	148.895	148.895	1.98	110847	0.13	2000	
Cr	52	1	nogas	50.905	50.905	1.83	456942	0.01	2000	
Co	59	1	nogas	50.102	50.102	2.25	462225	0.01	2000	
Cu	63	1	nogas	58.994	58.994	1.07	276369	0.02	2000	
Zn	66	1	nogas	98.792	98.792	0.14	123049	0.08	2000	
Se	77	1	nogas	67.594	67.594	0.99	11571	0.58	2000	
Se	82	1	nogas	52.934	52.934	7.35	4157	1.27	2000	
Sr	88	1	nogas	333.766	333.766	0.82	4796916	0.01	2000	
Mo	95	1	nogas	49.197	49.197	1.47	127850	0.04	2000	
Ag	107	1	nogas	42.537	42.537	1.65	300623	0.01	2000	
Cd	111	1	nogas	50.551	50.551	2.17	61741	0.08	2000	
Sn	118	1	nogas	94.244	94.244	2.33	379942	0.02	2000	
Sb	121	1	nogas	56.271	56.271	1.40	269614	0.02	2000	
Ba	137	1	nogas	198.299	198.299	1.46	389668	0.05	2000	
Tl	205	1	nogas	45.632	45.632	1.64	468315	0.01	2000	
Pb	208	1	nogas	50.118	50.118	0.55	681433	0.01	2000	
U	238	1	nogas	100.920	100.920	2.45	1513041	0.01	2000	
Li	7	1	nogas	110.125	110.125	0.45	634511	0.02	1000	
Si	28	1	nogas	140484.306	140484.306	2.13	52024213	0.27	2000	>LDR
Tl	203	1	nogas	47.294	47.294	2.90	194136	0.02	2000	
Na	23	2	He	282780.187	282780.187	2.11	134380088	0.21	200000	>LDR
Mg	24	2	He	18293.197	18293.197	0.82	4806019	0.38	200000	
Al	27	2	He	165.746	165.746	2.74	20665	0.80	2000	
K	39	2	He	6438.421	6438.421	1.19	1614560	0.40	200000	
Ca	43	2	He	14463.838	14463.838	3.02	11387	127.02	200000	
Ca	44	2	He	14325.528	14325.528	1.74	189567	7.56	200000	
V	51	2	He	49.518	49.518	1.33	120709	0.04	2000	
Cr	52	2	He	50.197	50.197	1.41	137001	0.04	2000	
Mn	55	2	He	153.649	153.649	1.80	263084	0.06	2000	
Fe	56	2	He	5144.096	5144.096	1.47	12432638	0.04	200000	
Co	59	2	He	50.766	50.766	2.64	208453	0.02	2000	
Ni	60	2	He	52.718	52.718	3.71	55691	0.09	2000	
Cu	63	2	He	51.042	51.042	1.16	142772	0.04	2000	
Zn	66	2	He	95.145	95.145	0.89	45817	0.21	2000	

Sample Report

As	75	2	He	53.281	53.281	0.40	18407	0.29	2000	
Sb	121	2	He	54.718	54.718	3.08	125156	0.04	2000	
Se	78	2	He	48.598	48.598	9.13	1297	3.75	2000	
Ti	47	2	He	140.697	140.697	2.50	11620	1.21	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	1288073	2.01	1597939	80.61	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1443803	2.27	1645124	87.76	70	120	
Li	6	1	nogas	372979	0.85	510056	73.13	70	120	
Bi	209	1	nogas	1067120	0.44	1249408	85.41	70	120	
Ge	72	2	He	323987	1.08	421931	76.79	70	120	
In	115	2	He	514570	1.11	666366	77.22	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01MSD
Data File Name	085SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:21:26-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	50.567	50.567	0.65	86705	0.06	2000	
B	11	1	nogas	528.665	528.665	0.78	513433	0.10	2000	
Al	27	1	nogas	166.768	166.768	1.08	1110385	0.02	2000	
Ca	44	1	nogas	15060.738	15060.738	0.76	3583002	0.42	200000	
Ti	47	1	nogas	145.403	145.403	0.73	107326	0.14	2000	
Cr	52	1	nogas	49.771	49.771	0.77	443327	0.01	2000	
Co	59	1	nogas	49.053	49.053	0.80	448710	0.01	2000	
Cu	63	1	nogas	60.927	60.927	1.18	282678	0.02	2000	
Zn	66	1	nogas	96.682	96.682	1.89	119372	0.08	2000	
Se	77	1	nogas	72.918	72.918	12.30	11764	0.62	2000	
Se	82	1	nogas	53.654	53.654	3.35	4181	1.28	2000	
Sr	88	1	nogas	335.302	335.302	1.27	4681922	0.01	2000	
Mo	95	1	nogas	48.791	48.791	1.56	123229	0.04	2000	
Ag	107	1	nogas	42.246	42.246	4.15	290031	0.01	2000	
Cd	111	1	nogas	49.640	49.640	2.90	58911	0.08	2000	
Sn	118	1	nogas	94.229	94.229	2.06	369146	0.03	2000	
Sb	121	1	nogas	54.462	54.462	0.36	258696	0.02	2000	
Ba	137	1	nogas	200.233	200.233	4.17	382199	0.05	2000	
Tl	205	1	nogas	44.154	44.154	0.32	450531	0.01	2000	
Pb	208	1	nogas	48.158	48.158	0.81	651019	0.01	2000	
U	238	1	nogas	91.725	91.725	1.89	1367238	0.01	2000	
Li	7	1	nogas	109.439	109.439	0.69	627510	0.02	1000	
Si	28	1	nogas	142358.363	142358.363	0.40	52261669	0.27	2000	>LDR
Tl	203	1	nogas	46.166	46.166	0.51	188415	0.02	2000	
Na	23	2	He	279944.710	279944.710	1.02	133274101	0.21	200000	>LDR
Mg	24	2	He	17949.558	17949.558	0.67	4723961	0.38	200000	
Al	27	2	He	155.624	155.624	8.45	19437	0.80	2000	
K	39	2	He	6322.857	6322.857	2.18	1589065	0.40	200000	
Ca	43	2	He	14075.314	14075.314	1.11	11103	126.77	200000	
Ca	44	2	He	14152.672	14152.672	1.41	187610	7.54	200000	
V	51	2	He	47.815	47.815	0.24	116836	0.04	2000	
Cr	52	2	He	49.399	49.399	0.96	135063	0.04	2000	
Mn	55	2	He	149.331	149.331	0.78	256135	0.06	2000	
Fe	56	2	He	4947.221	4947.221	1.29	11977273	0.04	200000	
Co	59	2	He	49.273	49.273	1.47	202697	0.02	2000	
Ni	60	2	He	51.343	51.343	2.93	54340	0.09	2000	
Cu	63	2	He	49.160	49.160	1.92	137777	0.04	2000	
Zn	66	2	He	91.398	91.398	0.94	44093	0.21	2000	

Sample Report

As	75	2	He	51.747	51.747	0.96	17910	0.29	2000	
Sb	121	2	He	52.293	52.293	0.56	119837	0.04	2000	
Se	78	2	He	49.114	49.114	4.91	1313	3.74	2000	
Ti	47	2	He	137.923	137.923	1.84	11414	1.21	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	1276763	0.50	1597939	79.90	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1403055	2.31	1645124	85.29	70	120	
Li	6	1	nogas	371049	0.47	510056	72.75	70	120	
Bi	209	1	nogas	1060899	0.34	1249408	84.91	70	120	
Ge	72	2	He	324540	0.69	421931	76.92	70	120	
In	115	2	He	514051	0.42	666366	77.14	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01PDS
Data File Name	086SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:23:50-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	98.427	98.427	1.47	172236	0.06	2000	
B	11	1	nogas	401.593	401.593	1.52	400487	0.10	2000	
Al	27	1	nogas	145.150	145.150	1.92	964828	0.02	2000	
Ca	44	1	nogas	19555.417	19555.417	0.83	4629320	0.42	200000	
Ti	47	1	nogas	239.356	239.356	1.15	176139	0.14	2000	
Cr	52	1	nogas	97.454	97.454	1.28	848200	0.01	2000	
Co	59	1	nogas	97.900	97.900	0.87	892808	0.01	2000	
Cu	63	1	nogas	116.896	116.896	2.69	534889	0.02	2000	
Zn	66	1	nogas	150.063	150.063	2.11	184592	0.08	2000	
Se	77	1	nogas	142.007	142.007	7.01	15567	0.91	2000	
Se	82	1	nogas	105.141	105.141	1.86	8203	1.28	2000	
Sr	88	1	nogas	392.395	392.395	0.25	5426057	0.01	2000	
Mo	95	1	nogas	97.703	97.703	0.55	244288	0.04	2000	
Ag	107	1	nogas	77.908	77.908	0.85	529863	0.01	2000	
Cd	111	1	nogas	100.130	100.130	1.34	117689	0.09	2000	
Sn	118	1	nogas	116.042	116.042	0.20	450134	0.03	2000	
Sb	121	1	nogas	101.990	101.990	0.99	482751	0.02	2000	
Ba	137	1	nogas	249.780	249.780	1.50	472288	0.05	2000	
Tl	205	1	nogas	95.596	95.596	3.59	959625	0.01	2000	
Pb	208	1	nogas	98.261	98.261	1.63	1306306	0.01	2000	
U	238	1	nogas	74.989	74.989	0.43	1100248	0.01	2000	
Li	7	1	nogas	86.480	86.480	1.80	512593	0.02	1000	
Si	28	1	nogas	135853.155	135853.155	1.69	49762238	0.27	2000	>LDR
Tl	203	1	nogas	99.481	99.481	3.31	399463	0.02	2000	
Na	23	2	He	278473.397	278473.397	0.51	131181078	0.21	200000	>LDR
Mg	24	2	He	22533.923	22533.923	0.94	5868013	0.38	200000	
Al	27	2	He	140.281	140.281	3.89	17358	0.81	2000	
K	39	2	He	11059.441	11059.441	2.10	2728069	0.41	200000	
Ca	43	2	He	19104.307	19104.307	2.13	14903	128.19	200000	
Ca	44	2	He	18914.344	18914.344	1.84	248026	7.63	200000	
V	51	2	He	96.779	96.779	1.20	232003	0.04	2000	
Cr	52	2	He	97.822	97.822	0.58	264144	0.04	2000	
Mn	55	2	He	198.772	198.772	0.36	337308	0.06	2000	
Fe	56	2	He	9744.427	9744.427	0.73	23340301	0.04	200000	
Co	59	2	He	98.063	98.063	1.94	399079	0.02	2000	
Ni	60	2	He	99.430	99.430	1.69	104085	0.10	2000	
Cu	63	2	He	98.797	98.797	1.53	272988	0.04	2000	
Zn	66	2	He	145.365	145.365	2.26	69314	0.21	2000	

Sample Report

As	75	2	He	105.509	105.509	2.36	36088	0.29	2000	
Sb	121	2	He	99.174	99.174	1.63	224664	0.04	2000	
Se	78	2	He	100.780	100.780	3.74	2622	3.84	2000	
Ti	47	2	He	236.451	236.451	2.05	19357	1.22	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	1273253	0.37	1597939	79.68	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1389237	0.45	1645124	84.45	70	120	
Li	6	1	nogas	378865	1.48	510056	74.28	70	120	
Bi	209	1	nogas	1044286	1.45	1249408	83.58	70	120	
Ge	72	2	He	321122	0.59	421931	76.11	70	120	
In	115	2	He	511950	1.36	666366	76.83	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	089_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:31:17-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	78.5	128	27.4	1	
B	11	1	nogas	13.207	8.8	25070	4.7	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.003	-731.1	8049	3.8	5	
P	31	1	nogas	3.088	87.3	25187	2.5	10	
Ca	44	1	nogas	-92.066	-1.6	12574	1.5	100	
Ti	47	1	nogas	0.253	77.1	273	53.3	2.5	
Cr	52	1	nogas	-0.546	-12.1	14022	5.4	2.5	
Co	59	1	nogas	0.010	12.2	390	2.6	2.5	
Cu	63	1	nogas	1.409	2.2	13272	1.4	2	
Zn	66	1	nogas	0.017	480.0	370	25.8	2.5	
Se	77	1	nogas	-16.695	-40.4	6965	6.3	2.5	
Se	82	1	nogas	-1.080	-105.6	-123	-74.5	2	
Sr	88	1	nogas	0.073	23.4	2150	10.7	2.5	
Mo	95	1	nogas	0.335	29.8	983	27.5	2.5	
Ag	107	1	nogas	0.013	27.9	167	15.1	2.5	
Cd	111	1	nogas	-0.009	-54.6	13	43.3	1	
Sn	118	1	nogas	0.370	5.6	2140	5.1	5	
Sb	121	1	nogas	0.785	7.6	4271	5.2	2.5	
Ba	137	1	nogas	0.061	113.6	503	29.0	2.5	
Tl	205	1	nogas	0.137	19.8	1703	19.7	1	
Pb	208	1	nogas	0.014	86.5	1257	14.6	2.5	
U	238	1	nogas	0.041	12.7	677	14.0	2.5	
Si	28	1	nogas	-195.843	-17.6	519746	1.5	5	
Na	23	2	He	175.709	0.8	111012	0.7	100	CCB Main CR1 Failed
Mg	24	2	He	2.449	6.7	830	5.3	100	
Al	27	2	He	-0.502	-15.8	120	8.3	5	
K	39	2	He	13.751	35.4	33467	3.7	100	
Ca	43	2	He	-13.513	-0.1	10	0.0	100	
Ca	44	2	He	-0.715	-630.6	183	33.3	100	
V	51	2	He	-0.160	-27.0	1599	6.8	2.5	
Cr	52	2	He	0.029	43.1	610	5.7	2.5	
Mn	55	2	He	-0.015	-194.7	110	48.1	2.5	
Fe	56	2	He	1.959	9.8	8415	5.7	100	
Co	59	2	He	0.011	37.3	120	14.4	2.5	
Ni	60	2	He	0.012	384.2	63	81.0	2.5	
Cu	63	2	He	0.163	59.5	1483	18.6	2	
Zn	66	2	He	0.099	105.6	177	29.0	2.5	
As	75	2	He	0.071	62.4	66	24.0	2.5	
Sb	121	2	He	0.718	1.2	1917	1.1	2.5	
Se	78	2	He	-0.058	-450.5	42	16.5	2	
Ti	47	2	He	0.047	290.7	7	173.2	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	1311441	1.72	1597939	82.07	70	120	
In	115	1	nogas	1495934	1.13	1645124	90.93	70	120	
Li	6	1	nogas	423692	0.61	510056	83.07	70	120	
Bi	209	1	nogas	1151091	1.97	1249408	92.13	70	120	
Ge	72	2	He	332158	0.12	421931	78.72	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	2	He	537223	1.02	666366	80.62	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	091_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:38:52-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	94.031	0.400	176351	0.44	100	94.0	90	110	
B	11	1	nogas	473.796	1.581	504541	0.98	500	94.8	90	110	
Al	27	1	nogas	98.922	2.107	692584	0.74	100	98.9	90	110	
P	31	1	nogas	497.634	3.506	213851	0.36	500	99.5	90	110	
Ca	44	1	nogas	10151.843	2.117	2539033	1.44	10000	101.5	90	110	
Ti	47	1	nogas	101.389	2.396	78341	1.69	100	101.4	90	110	
Cr	52	1	nogas	99.021	2.226	904016	0.77	100	99.0	90	110	
Co	59	1	nogas	97.277	3.136	930701	0.69	100	97.3	90	110	
Cu	63	1	nogas	102.713	1.554	494033	1.25	100	102.7	90	110	
Zn	66	1	nogas	104.261	3.567	134643	0.81	100	104.3	90	110	
Se	77	1	nogas	118.421	6.874	14963	3.41	100	118.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	105.467	5.290	8629	2.59	100	105.5	90	110	
Sr	88	1	nogas	98.669	5.942	1491187	3.38	100	98.7	90	110	
Mo	95	1	nogas	96.694	2.659	264240	0.96	100	96.7	90	110	
Ag	107	1	nogas	100.922	2.819	750135	0.86	100	100.9	90	110	
Cd	111	1	nogas	99.678	1.662	128067	0.91	100	99.7	90	110	
Sn	118	1	nogas	100.089	3.200	424380	0.73	100	100.1	90	110	
Sb	121	1	nogas	109.128	1.717	542015	1.05	100	109.1	90	110	
Ba	137	1	nogas	100.326	3.733	207523	1.24	100	100.3	90	110	
Tl	205	1	nogas	95.700	0.737	1048008	0.18	100	95.7	90	110	
Pb	208	1	nogas	99.911	0.274	1448745	0.89	100	99.9	90	110	
U	238	1	nogas	102.549	0.637	1641014	1.40	100	102.5	90	110	
Li	7	1	nogas	96.540	0.982	609501	0.20	100	96.5	90	110	
Si	28	1	nogas	4889.335	3.726	2461308	0.53	5000	97.8	90	110	
Tl	203	1	nogas	99.068	2.157	433922	1.44	100	99.1	90	110	
Na	23	2	He	10256.846	0.086	4956721	0.83	10000	102.6	90	110	
Mg	24	2	He	10032.380	1.949	2666821	1.25	10000	100.3	90	110	
Al	27	2	He	94.818	5.153	12041	5.85	100	94.8	90	110	
K	39	2	He	9961.751	1.680	2511808	2.42	10000	99.6	90	110	
Ca	43	2	He	9462.797	3.532	7548	4.42	10000	94.6	90	110	
Ca	44	2	He	9674.975	1.093	129612	0.86	10000	96.7	90	110	
V	51	2	He	97.882	2.294	239500	1.43	100	97.9	90	110	
Cr	52	2	He	99.053	0.453	273042	0.53	100	99.1	90	110	
Mn	55	2	He	98.523	0.941	170746	1.21	100	98.5	90	110	
Fe	56	2	He	9967.157	1.224	24370470	0.36	10000	99.7	90	110	
Co	59	2	He	100.359	0.454	416977	1.22	100	100.4	90	110	
Ni	60	2	He	100.644	0.496	107558	0.81	100	100.6	90	110	
Cu	63	2	He	101.857	1.458	287293	1.58	100	101.9	90	110	
Zn	66	2	He	102.984	1.893	50169	1.70	100	103.0	90	110	
As	75	2	He	100.642	1.425	35145	1.39	100	100.6	90	110	
Sb	121	2	He	106.468	0.452	246211	0.54	100	106.5	90	110	
Se	78	2	He	96.915	0.510	2576	1.01	100	96.9	90	110	
Ti	47	2	He	96.892	2.334	8099	1.69	100	96.9	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	1336578	2.78	1597939	83.64	70	120	
In	115	1	nogas	1519027	2.55	1645124	92.34	70	120	
Li	6	1	nogas	406010	0.79	510056	79.60	70	120	
Bi	209	1	nogas	1138884	0.92	1249408	91.15	70	120	
Ge	72	2	He	327820	0.91	421931	77.70	70	120	
In	115	2	He	530948	1.65	666366	79.68	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	092_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:41:13-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	94.441	1.894	175123	0.73	100	94.4	90	110	
B	11	1	nogas	488.499	2.074	514062	1.39	500	97.7	90	110	
Al	27	1	nogas	99.536	1.047	684341	0.95	100	99.5	90	110	
P	31	1	nogas	512.134	1.030	215474	0.32	500	102.4	90	110	
Ca	44	1	nogas	10414.370	0.546	2556981	0.46	10000	104.1	90	110	
Ti	47	1	nogas	102.428	1.843	77718	1.43	100	102.4	90	110	
Cr	52	1	nogas	99.922	1.218	895708	0.65	100	99.9	90	110	
Co	59	1	nogas	99.609	1.583	936152	2.02	100	99.6	90	110	
Cu	63	1	nogas	104.131	0.879	491743	1.16	100	104.1	90	110	
Zn	66	1	nogas	105.358	1.124	133666	2.00	100	105.4	90	110	
Se	77	1	nogas	101.761	6.430	13742	3.56	100	101.8	90	110	
Se	82	1	nogas	104.741	3.679	8423	4.35	100	104.7	90	110	
Sr	88	1	nogas	101.503	1.000	1503360	1.14	100	101.5	90	110	
Mo	95	1	nogas	98.637	0.738	264015	0.88	100	98.6	90	110	
Ag	107	1	nogas	101.845	1.605	741479	1.56	100	101.8	90	110	
Cd	111	1	nogas	102.755	1.363	129290	1.24	100	102.8	90	110	
Sn	118	1	nogas	101.994	0.325	423617	0.24	100	102.0	90	110	
Sb	121	1	nogas	110.695	1.751	539881	1.33	100	110.7	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	101.327	1.217	205332	1.37	100	101.3	90	110	
Tl	205	1	nogas	96.798	1.917	1063382	0.40	100	96.8	90	110	
Pb	208	1	nogas	99.859	2.346	1452450	0.77	100	99.9	90	110	
U	238	1	nogas	100.759	0.882	1617708	1.93	100	100.8	90	110	
Li	7	1	nogas	97.722	0.994	609683	0.41	100	97.7	90	110	
Si	28	1	nogas	4959.848	1.049	2443934	1.41	5000	99.2	90	110	
Tl	203	1	nogas	100.281	1.490	440676	0.51	100	100.3	90	110	
Na	23	2	He	9938.455	2.445	4831311	2.06	10000	99.4	90	110	
Mg	24	2	He	10132.553	0.300	2709392	0.43	10000	101.3	90	110	
Al	27	2	He	98.767	0.241	12604	0.56	100	98.8	90	110	
K	39	2	He	9851.407	1.176	2498542	1.00	10000	98.5	90	110	
Ca	43	2	He	9472.924	3.917	7598	3.72	10000	94.7	90	110	
Ca	44	2	He	9492.545	1.639	127911	1.20	10000	94.9	90	110	
V	51	2	He	97.994	1.116	241193	0.77	100	98.0	90	110	
Cr	52	2	He	97.659	1.362	270769	1.01	100	97.7	90	110	
Mn	55	2	He	97.042	1.006	169157	0.67	100	97.0	90	110	
Fe	56	2	He	9825.227	1.272	24164143	0.82	10000	98.3	90	110	
Co	59	2	He	98.483	1.542	411540	1.08	100	98.5	90	110	
Ni	60	2	He	98.994	3.332	106402	2.88	100	99.0	90	110	
Cu	63	2	He	100.903	0.171	286271	0.41	100	100.9	90	110	
Zn	66	2	He	99.395	0.886	48708	0.80	100	99.4	90	110	
As	75	2	He	100.238	2.206	35207	1.97	100	100.2	90	110	
Sb	121	2	He	107.193	2.019	249323	1.65	100	107.2	90	110	
Se	78	2	He	98.399	1.090	2630	1.13	100	98.4	90	110	
Ti	47	2	He	98.543	1.302	8285	1.36	100	98.5	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	1312165	0.95	1597939	82.12	70	120	
In	115	1	nogas	1487215	0.17	1645124	90.40	70	120	
Li	6	1	nogas	401487	1.19	510056	78.71	70	120	
Bi	209	1	nogas	1142661	1.56	1249408	91.46	70	120	
Ge	72	2	He	329728	0.46	421931	78.15	70	120	
In	115	2	He	524692	0.29	666366	78.74	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01SD
Data File Name	096SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:52:01-05:00
Sample Type	Sample
Dilution	50
Comment	
ISTD Ref FileName	012CALB.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	-0.019	-0.930	-34.28	47	-0.04	2000	
B	11	1	nogas	4.053	202.666	13.83	15099	0.03	2000	
Al	27	1	nogas	1.119	55.966	15.84	15632	0.01	2000	
Ca	44	1	nogas	102.611	5130.540	0.33	59571	0.17	200000	
Ti	47	1	nogas	0.165	8.239	27.41	207	0.08	2000	
Cr	52	1	nogas	-0.346	-17.315	-16.61	15737	0.00	2000	
Co	59	1	nogas	0.033	1.674	26.05	613	0.01	2000	
Cu	63	1	nogas	1.530	76.502	9.37	13802	0.01	2000	
Zn	66	1	nogas	0.975	48.761	15.85	1580	0.06	2000	
Se	77	1	nogas	-15.902	-795.080	-31.59	6995	-0.23	2000	
Se	82	1	nogas	-1.336	-66.819	-122.37	-143	0.93	2000	
Sr	88	1	nogas	4.529	226.447	0.80	68788	0.01	2000	
Mo	95	1	nogas	0.033	1.626	59.45	170	0.02	2000	
Ag	107	1	nogas	-0.002	-0.113	-90.06	57	0.00	2000	
Cd	111	1	nogas	-0.014	-0.697	-65.14	7	-0.21	2000	
Sn	118	1	nogas	0.085	4.266	17.13	957	0.01	2000	
Sb	121	1	nogas	0.149	7.435	5.57	1173	0.01	2000	
Ba	137	1	nogas	2.801	140.052	4.27	6104	0.05	2000	
Tl	205	1	nogas	-0.002	-0.123	-106.63	157	0.00	2000	
Pb	208	1	nogas	-0.028	-1.393	-23.23	660	0.00	2000	
U	238	1	nogas	0.005	0.255	35.18	90	0.01	2000	
Li	7	1	nogas	0.931	46.537	2.84	39762	0.00	1000	
Si	28	1	nogas	2511.013	125550.638	1.87	1526120	0.16	2000	>LDR
Tl	203	1	nogas	-0.004	-0.205	-197.84	50	-0.01	2000	
Na	23	2	He	5395.806	269790.309	0.99	2626453	0.21	200000	
Mg	24	2	He	252.654	12632.704	1.79	67513	0.37	200000	
Al	27	2	He	0.920	46.012	92.07	297	0.31	2000	
K	39	2	He	39.212	1960.577	10.31	39475	0.10	200000	
Ca	43	2	He	145.472	7273.589	13.28	137	106.44	200000	
Ca	44	2	He	188.382	9419.106	8.57	2717	6.93	200000	
V	51	2	He	-0.208	-10.403	-14.79	1466	-0.01	2000	
Cr	52	2	He	0.022	1.105	86.11	583	0.00	2000	
Mn	55	2	He	1.905	95.246	4.21	3444	0.06	2000	
Fe	56	2	He	6.372	318.595	3.39	19144	0.03	200000	
Co	59	2	He	0.047	2.332	37.00	267	0.02	2000	
Ni	60	2	He	0.082	4.079	47.22	137	0.06	2000	

Sample Report

Cu	63	2	He	0.135	6.770	28.91	1390	0.01	2000	
Zn	66	2	He	1.123	56.144	16.01	673	0.17	2000	
As	75	2	He	0.025	1.270	288.56	49	0.05	2000	
Sb	121	2	He	0.152	7.614	41.96	587	0.03	2000	
Se	78	2	He	-0.347	-17.352	-101.26	34	-1.02	2000	
Ti	47	2	He	0.008	0.409	846.46	3	0.25	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	1308640	0.69	1597939	81.90	70	120	
In	115	1	nogas	1502525	0.49	1645124	91.33	70	120	
Li	6	1	nogas	423476	0.27	510056	83.03	70	120	
Bi	209	1	nogas	1169364	0.74	1249408	93.59	70	120	
Ge	72	2	He	328683	0.68	421931	77.90	70	120	
In	115	2	He	535630	1.16	666366	80.38	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01PDS
Data File Name	097SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:54:24-05:00
Sample Type	Sample
Dilution	10
Comment	
ISTD Ref FileName	012CALB.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	205.066	2050.663	1.34	357641	0.06	2000	
B	11	1	nogas	517.217	5172.166	0.82	511456	0.10	2000	
Al	27	1	nogas	216.287	2162.871	0.53	1438199	0.02	2000	
Ca	44	1	nogas	21403.345	214033.449	0.61	5079128	0.42	200000	
Ti	47	1	nogas	199.237	1992.366	0.89	147074	0.14	2000	
Cr	52	1	nogas	205.096	2050.959	1.73	1770199	0.01	2000	
Co	59	1	nogas	203.819	2038.187	1.90	1864227	0.01	2000	
Cu	63	1	nogas	203.495	2034.949	0.14	929116	0.02	2000	
Zn	66	1	nogas	215.495	2154.955	1.04	265723	0.08	2000	
Se	77	1	nogas	208.430	2084.296	1.54	19310	1.08	2000	
Se	82	1	nogas	216.518	2165.180	2.34	16982	1.28	2000	
Sr	88	1	nogas	21.321	213.207	2.50	307488	0.01	2000	
Mo	95	1	nogas	200.589	2005.894	3.51	521256	0.04	2000	
Ag	107	1	nogas	161.547	1615.469	3.26	1141980	0.01	2000	
Cd	111	1	nogas	206.417	2064.174	3.67	252174	0.08	2000	
Sn	118	1	nogas	0.082	0.821	7.52	907	0.01	2000	
Sb	121	1	nogas	218.043	2180.432	1.66	1034754	0.02	2000	
Ba	137	1	nogas	219.807	2198.066	1.23	432209	0.05	2000	
Tl	205	1	nogas	207.359	2073.593	1.83	2177457	0.01	2000	
Pb	208	1	nogas	211.593	2115.929	1.07	2941458	0.01	2000	
U	238	1	nogas	0.027	0.274	15.18	427	0.01	2000	
Li	7	1	nogas	91.022	910.221	0.58	536304	0.02	1000	
Si	28	1	nogas	16962.639	169626.387	0.89	6737716	0.25	2000	>LDR
Tl	203	1	nogas	201.541	2015.411	2.82	846436	0.02	2000	
Na	23	2	He	44923.244	449232.439	0.99	20644016	0.22	200000	
Mg	24	2	He	21045.784	210457.843	1.70	5341277	0.39	200000	
Al	27	2	He	202.518	2025.183	3.70	24346	0.83	2000	
K	39	2	He	19791.856	197918.560	2.28	4735688	0.42	200000	
Ca	43	2	He	18976.525	189765.250	0.98	14429	131.52	200000	
Ca	44	2	He	19638.969	196389.686	0.24	250995	7.82	200000	
V	51	2	He	200.518	2005.183	0.93	466477	0.04	2000	
Cr	52	2	He	200.124	2001.238	0.85	526130	0.04	2000	
Mn	55	2	He	209.830	2098.299	0.57	347018	0.06	2000	
Fe	56	2	He	19773.876	197738.755	0.68	46157534	0.04	200000	
Co	59	2	He	203.591	2035.905	0.75	807446	0.03	2000	
Ni	60	2	He	203.752	2037.520	0.32	207840	0.10	2000	
Cu	63	2	He	203.814	2038.142	0.34	547860	0.04	2000	
Zn	66	2	He	212.166	2121.665	1.30	98557	0.22	2000	

Sample Report

As	75	2	He	208.875	2088.754	0.53	69599	0.30	2000	
Sb	121	2	He	208.516	2085.165	0.98	460136	0.05	2000	
Se	78	2	He	205.288	2052.878	3.96	5163	3.98	2000	
Ti	47	2	He	191.828	1918.284	2.25	15306	1.25	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	1277171	0.55	1597939	79.93	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1444835	2.47	1645124	87.83	70	120	
Li	6	1	nogas	377656	0.78	510056	74.04	70	120	
Bi	209	1	nogas	1092308	1.57	1249408	87.43	70	120	
Ge	72	2	He	312966	0.79	421931	74.17	70	120	
In	115	2	He	497378	0.72	666366	74.64	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	099_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:59:09-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	94.282	3.305	171225	2.68	100	94.3	90	110	
B	11	1	nogas	480.971	4.221	495851	3.72	500	96.2	90	110	
Al	27	1	nogas	100.128	1.966	664794	1.54	100	100.1	90	110	
P	31	1	nogas	512.672	1.505	208317	1.92	500	102.5	90	110	
Ca	44	1	nogas	10482.878	1.678	2485769	2.29	10000	104.8	90	110	
Ti	47	1	nogas	101.187	0.376	74157	0.96	100	101.2	90	110	
Cr	52	1	nogas	99.439	0.630	860996	0.29	100	99.4	90	110	
Co	59	1	nogas	99.324	1.286	901464	0.64	100	99.3	90	110	
Cu	63	1	nogas	104.760	2.144	477713	1.52	100	104.8	90	110	
Zn	66	1	nogas	105.910	1.028	129755	0.60	100	105.9	90	110	
Se	77	1	nogas	105.114	6.080	13455	2.71	100	105.1	90	110	
Se	82	1	nogas	103.932	4.984	8072	5.67	100	103.9	90	110	
Sr	88	1	nogas	98.157	3.627	1436844	2.26	100	98.2	90	110	
Mo	95	1	nogas	97.309	2.184	257461	1.26	100	97.3	90	110	
Ag	107	1	nogas	101.636	1.719	731457	0.76	100	101.6	90	110	
Cd	111	1	nogas	100.548	1.473	125062	0.31	100	100.5	90	110	
Sn	118	1	nogas	100.727	1.600	413550	0.15	100	100.7	90	110	
Sb	121	1	nogas	113.974	0.802	536900	1.45	100	114.0	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	101.373	2.040	203056	1.05	100	101.4	90	110	
Tl	205	1	nogas	96.981	1.718	1041152	1.15	100	97.0	90	110	
Pb	208	1	nogas	99.741	0.463	1417915	1.04	100	99.7	90	110	
U	238	1	nogas	103.226	0.562	1619444	1.44	100	103.2	90	110	
Li	7	1	nogas	97.736	1.757	597188	1.00	100	97.7	90	110	
Si	28	1	nogas	4837.219	2.220	2315959	1.25	5000	96.7	90	110	
Tl	203	1	nogas	101.089	1.939	434110	1.77	100	101.1	90	110	
Na	23	2	He	10313.092	0.548	4754510	0.96	10000	103.1	90	110	
Mg	24	2	He	10198.018	1.741	2586222	1.25	10000	102.0	90	110	
Al	27	2	He	96.858	0.236	11727	0.76	100	96.9	90	110	
K	39	2	He	9913.233	1.199	2384417	0.67	10000	99.1	90	110	
Ca	43	2	He	9539.222	3.804	7258	4.21	10000	95.4	90	110	
Ca	44	2	He	9448.342	2.601	120764	2.82	10000	94.5	90	110	
V	51	2	He	98.256	0.496	229371	0.22	100	98.3	90	110	
Cr	52	2	He	99.704	1.384	262183	1.14	100	99.7	90	110	
Mn	55	2	He	99.582	1.753	164630	1.22	100	99.6	90	110	
Fe	56	2	He	10076.297	0.966	23504592	0.56	10000	100.8	90	110	
Co	59	2	He	100.757	0.767	399351	0.65	100	100.8	90	110	
Ni	60	2	He	100.832	2.523	102808	2.93	100	100.8	90	110	
Cu	63	2	He	101.526	0.894	273186	0.89	100	101.5	90	110	
Zn	66	2	He	100.903	2.006	46900	2.40	100	100.9	90	110	
As	75	2	He	100.093	0.275	33346	0.66	100	100.1	90	110	
Sb	121	2	He	110.444	0.404	243654	0.92	100	110.4	90	110	CCV Main CR1-2 Failed
Se	78	2	He	99.616	1.727	2525	1.16	100	99.6	90	110	
Ti	47	2	He	97.991	2.591	7815	3.13	100	98.0	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	1267269	0.65	1597939	79.31	70	120	
In	115	1	nogas	1470357	1.58	1645124	89.38	70	120	
Li	6	1	nogas	393207	0.67	510056	77.09	70	120	
Bi	209	1	nogas	1116534	0.89	1249408	89.37	70	120	
Ge	72	2	He	312735	0.54	421931	74.12	70	120	
In	115	2	He	507169	1.00	666366	76.11	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	100_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T17:01:29-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	0.029	37.6	138	14.6	1	
B	11	1	nogas	15.210	8.0	26807	4.3	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.003	-1911.7	7925	4.1	5	
P	31	1	nogas	7.214	11.1	26335	0.5	10	
Ca	44	1	nogas	-91.419	-1.3	12541	1.3	100	
Ti	47	1	nogas	0.137	32.9	183	19.2	2.5	
Cr	52	1	nogas	-0.761	-5.4	11957	3.8	2.5	
Co	59	1	nogas	0.013	33.7	413	10.1	2.5	
Cu	63	1	nogas	1.628	5.1	14076	3.4	2	
Zn	66	1	nogas	0.076	135.3	440	29.8	2.5	
Se	77	1	nogas	-31.918	-12.9	6001	3.7	2.5	
Se	82	1	nogas	-0.979	-78.0	-113	-54.1	2	
Sr	88	1	nogas	0.074	12.9	2160	6.4	2.5	
Mo	95	1	nogas	0.327	31.1	963	29.8	2.5	
Ag	107	1	nogas	0.020	41.0	223	29.8	2.5	
Cd	111	1	nogas	-0.001	-539.0	23	24.7	1	
Sn	118	1	nogas	0.261	9.6	1687	8.1	5	
Sb	121	1	nogas	1.152	9.9	5968	8.3	2.5	
Ba	137	1	nogas	0.058	21.7	497	3.1	2.5	
Tl	205	1	nogas	0.137	40.2	1693	36.1	1	
Pb	208	1	nogas	0.008	172.9	1173	17.5	2.5	
U	238	1	nogas	0.032	41.0	530	40.9	2.5	
Si	28	1	nogas	-244.244	-1.2	494263	0.9	5	
Na	23	2	He	57.562	2.0	51210	0.6	100	
Mg	24	2	He	2.672	13.3	853	11.5	100	
Al	27	2	He	0.007	3705.2	177	17.3	5	
K	39	2	He	12.638	27.6	31797	3.3	100	
Ca	43	2	He	-0.092	-13859.6	20	50.0	100	
Ca	44	2	He	-0.149	-2869.4	183	31.0	100	
V	51	2	He	-0.276	-11.1	1260	6.3	2.5	
Cr	52	2	He	-0.038	-72.2	403	17.6	2.5	
Mn	55	2	He	0.001	741.6	133	11.5	2.5	
Fe	56	2	He	2.143	14.4	8495	7.8	100	
Co	59	2	He	0.009	59.9	107	19.5	2.5	
Ni	60	2	He	-0.001	-3471.2	47	86.6	2.5	
Cu	63	2	He	0.009	1155.2	1000	27.8	2	
Zn	66	2	He	0.058	68.7	150	13.3	2.5	
As	75	2	He	0.034	194.5	50	43.7	2.5	
Sb	121	2	He	1.091	10.6	2674	9.2	2.5	
Se	78	2	He	-0.435	-30.2	31	10.0	2	
Ti	47	2	He	0.051	281.0	7	173.2	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	1291714	0.93	1597939	80.84	70	120	
In	115	1	nogas	1494379	2.13	1645124	90.84	70	120	
Li	6	1	nogas	416823	0.78	510056	81.72	70	120	
Bi	209	1	nogas	1150445	0.88	1249408	92.08	70	120	
Ge	72	2	He	318238	0.87	421931	75.42	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	2	He	516529	0.79	666366	77.51	70	120	

Tune Report

Batch Folder C:\Agilent\ICPMH\1\DATA\061020A.b
Report Comment
Instrument Name G3281A JP11080910

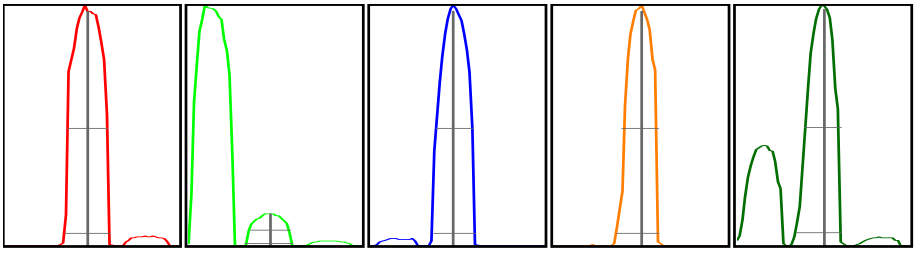
[nogas]

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		11134				NaN	-	
24		35266				NaN	-	
59		49094				NaN	-	
115		68649				NaN	-	
208		36443				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	1.08	5.00				
24	0.82	5.00				
59	0.50	5.00				
115	0.45	5.00				
208	0.89	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	11083	11110	11250	11257	10973
24	35122	35746	35231	34988	35243
59	49083	48882	48890	49134	49482
115	68377	68553	68697	68463	69155
208	36530	35991	36382	36898	36412

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	1746.53	8.95	8.9 - 9.1		0.67	0.778		
24	5645.38	23.95	23.9 - 24.1		0.67	0.788		
59	8335.73	58.95	58.9 - 59.1		0.63	0.741		
115	12415.13	115.05	114.9 - 115.1		0.58	0.719		
208	6468.70	208.05	207.9 - 208.1		0.60	0.783		

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		273				NaN	-	
24		2284				NaN	-	
59		28056				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	4.34	5.00				
24	1.53	5.00				
59	0.16	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	275	291	275	267	259
24	2308	2225	2311	2290	2287
59	28032	28005	28116	28092	28035

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	45.40	8.95	8.9 - 9.1		0.67	0.765		
24	372.00	24.00	23.9 - 24.1		0.67	0.788		
59	4750.41	59.00	58.9 - 59.1		0.63	0.740		

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

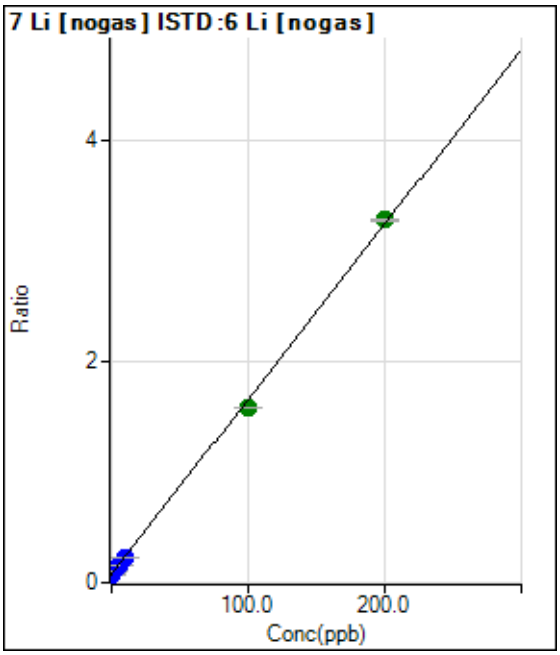
OctP Bias	-18.0 V	He Flow	4.3 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

Calibration for 179_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\061520A.b\
Analysis File: 061520A.batch.bin
DA Date-Time: 6/15/2020 10:26:07 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	169CALB.d	CAL BLK	6/15/2020 8:06:40 PM
2	170CALS.d	2/10/200	6/15/2020 8:09:08 PM
3	171CALS.d	5/25/500	6/15/2020 8:11:37 PM
4	172CALS.d	10/50/1000	6/15/2020 8:14:05 PM
5	173CALS.d	100/500/10K	6/15/2020 8:16:33 PM
6	174CALS.d	200/1000/20K	6/15/2020 8:18:58 PM
7			

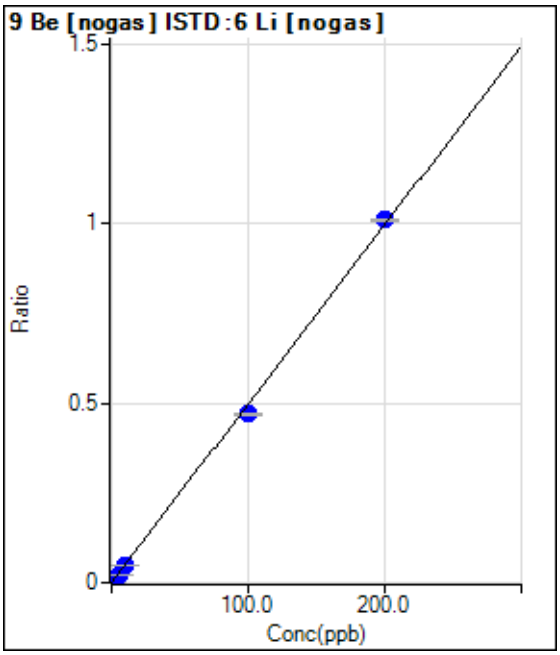
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63828.05	0.0779	P	2.0
2	☐	2.000	1.821	88182.56	0.1068	P	1.4
3	☐	5.000	4.573	124190.98	0.1504	P	0.2
4	☐	10.000	9.357	187226.25	0.2262	P	0.3
5	☐	100.000	94.932	1250159.90	1.5817	A	0.4
6	☐	200.000	202.578	2409076.21	3.2868	A	0.6
7	☐	1.000					

y = 0.0158 * x + 0.0779
R = 0.9996
DL = 0.2916
BEC = 4.921

Weight: <None>
Min Conc: <None>

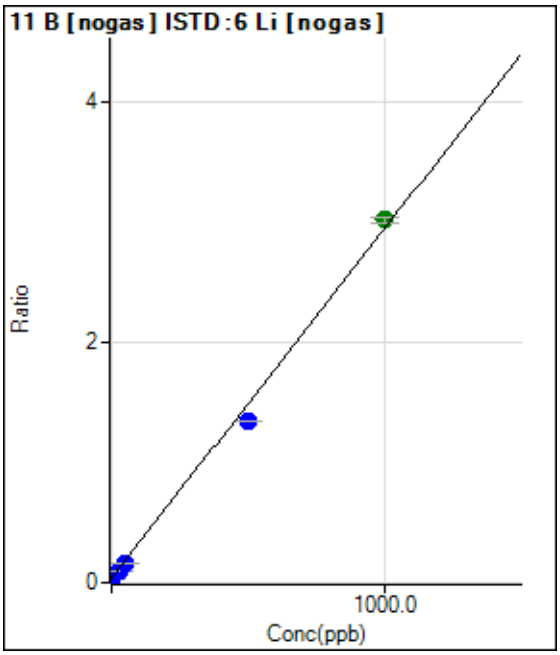


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96.67	0.0001	P	9.0
2	☐	2.000	1.726	7201.40	0.0087	P	1.5
3	☐	5.000	4.457	18443.89	0.0223	P	2.4
4	☐	10.000	9.270	38346.36	0.0463	P	0.8
5	☐	100.000	94.267	371450.18	0.4700	P	1.2
6	☐	200.000	202.919	741418.45	1.0116	P	0.2
7	☐	1.000					

y = 0.0050 * x + 1.1812E-004
R = 0.9994
DL = 0.006416
BEC = 0.0237

Weight: <None>
Min Conc: <None>

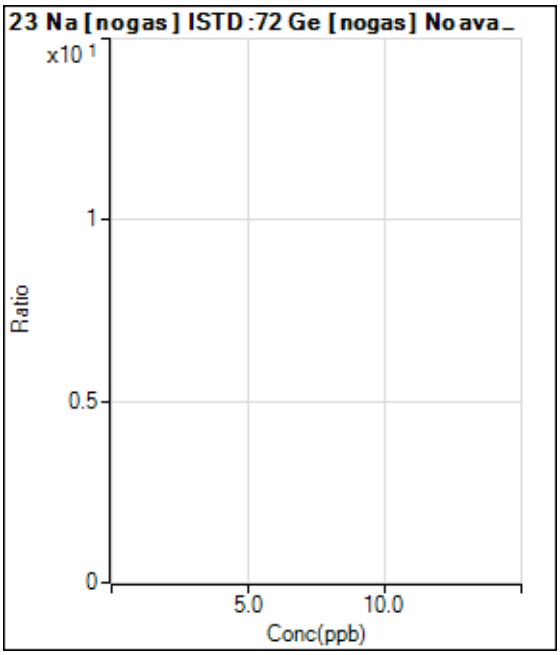
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	32195.21	0.0393	P	2.9
2	☐	10.000	7.301	49982.77	0.0605	P	2.9
3	☐	25.000	19.446	79144.53	0.0958	P	0.7
4	☐	50.000	43.028	136065.13	0.1644	P	1.3
5	☐	500.000	450.233	1065218.79	1.3477	P	0.7
6	☐	1000.000	1025.398	2213007.83	3.0191	A	1.8
7	☐	5.000					

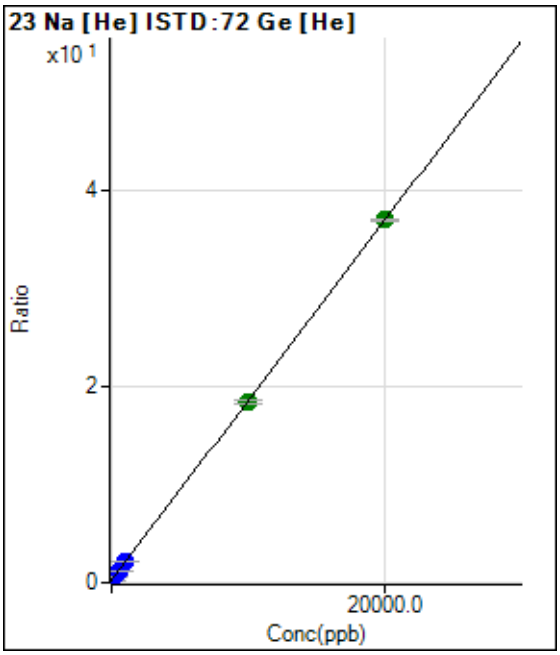
y = 0.0029 * x + 0.0393
R = 0.9984
DL = 1.162
BEC = 13.53

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

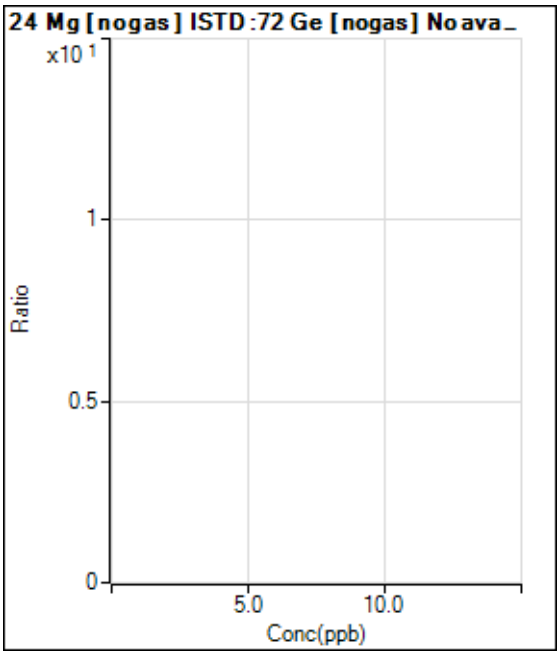
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	128222.59	0.2482	P	1.7
2	☐	200.000	187.199	308106.35	0.5907	P	0.6
3	☐	500.000	469.590	581933.23	1.1074	P	1.1
4	☐	1000.000	1001.165	1083524.88	2.0800	P	1.0
5	☐	10000.000	9909.297	9346976.94	18.3794	A	2.1
6	☐	20000.000	20046.181	18485716.39	36.9270	A	0.4
7	☐	100.000					

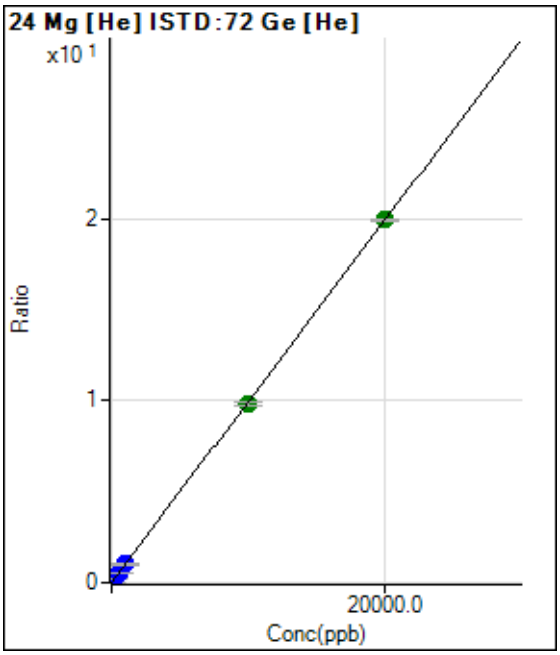
y = 0.0018 * x + 0.2482
R = 1.0000
DL = 6.721
BEC = 135.7

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

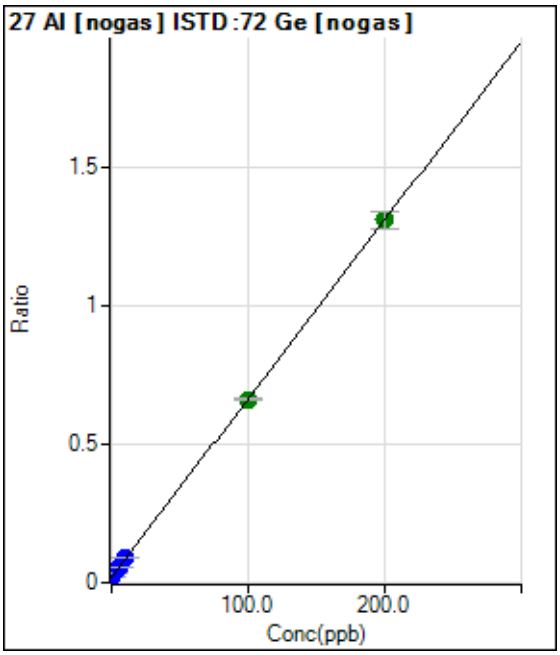
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2233.50	0.0043	P	11.0
2	☐	200.000	191.180	101347.64	0.1943	P	0.9
3	☐	500.000	479.436	252645.83	0.4808	P	1.1
4	☐	1000.000	1009.269	524738.32	1.0073	P	0.9
5	☐	10000.000	9914.761	5013162.01	9.8576	A	1.9
6	☐	20000.000	20042.758	9973269.02	19.9227	A	0.4
7	☐	100.000					

y = 9.9380E-004 * x + 0.0043
R = 1.0000
DL = 1.43
BEC = 4.352

Weight: <None>
Min Conc: <None>

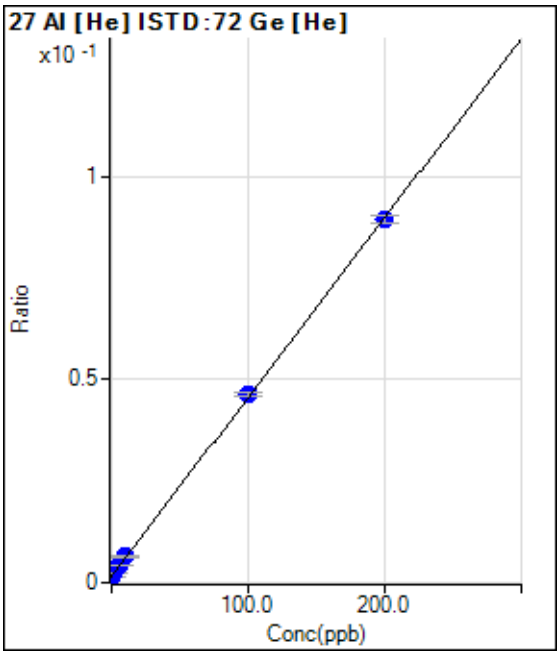


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43386.44	0.0198	P	2.4
2	☐	2.000	2.460	77082.41	0.0357	P	1.8
3	☐	5.000	5.319	118147.72	0.0541	P	0.8
4	☐	10.000	10.584	194392.94	0.0880	P	2.6
5	☐	100.000	99.674	1421773.83	0.6621	A	1.4
6	☐	200.000	200.121	2761071.73	1.3094	A	4.5
7	☐	1.000					

y = 0.0064 * x + 0.0198
R = 1.0000
DL = 0.2169
BEC = 3.072

Weight: <None>
Min Conc: <None>

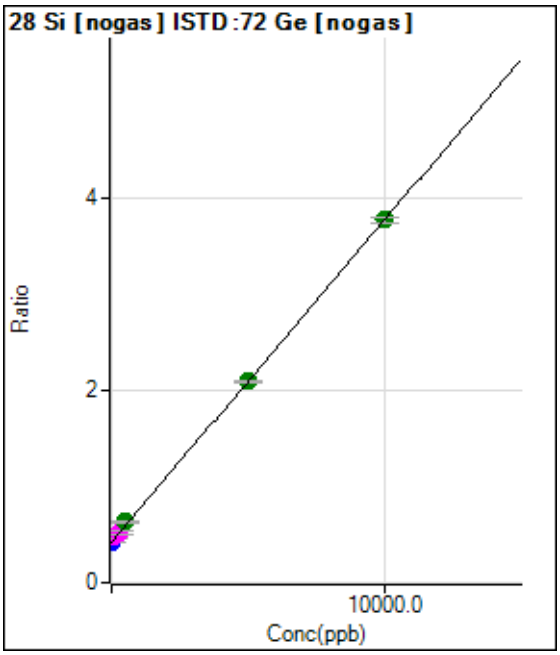
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	800.03	0.0015	P	7.1
2	☐	2.000	2.056	1280.07	0.0025	P	3.4
3	☐	5.000	5.809	2160.16	0.0041	P	2.3
4	☐	10.000	11.364	3417.03	0.0066	P	7.3
5	☐	100.000	101.908	23654.97	0.0465	P	1.7
6	☐	200.000	198.957	44719.46	0.0893	P	2.2
7	☐	1.000					

y = 4.4122E-004 * x + 0.0015
R = 0.9999
DL = 0.7486
BEC = 3.507

Weight: <None>
Min Conc: <None>

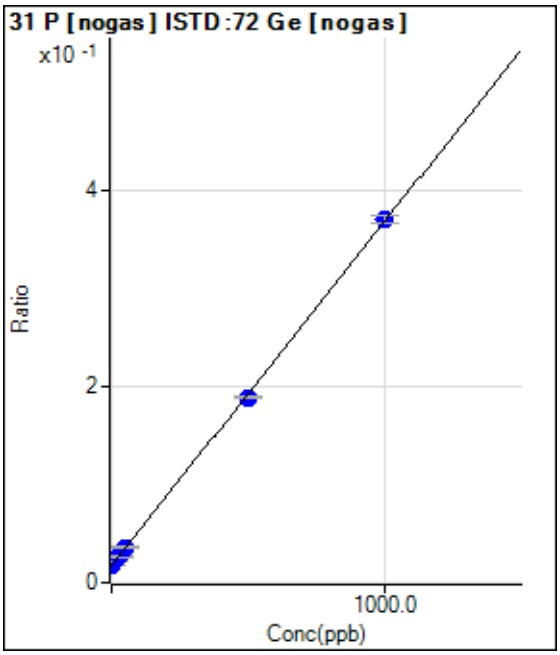


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	925756.73	0.4224	P	2.4
2	☐	100.000	159.359	1029345.69	0.4759	M	4.8
3	☐	250.000	271.082	1121777.22	0.5134	M	7.2
4	☐	500.000	637.977	1406243.47	0.6366	A	3.0
5	☐	5000.000	4982.397	4499783.79	2.0956	A	0.9
6	☐	10000.000	10000.782	7975601.97	3.7808	A	1.9
7	☐	50.000					

y = 3.3582E-004 * x + 0.4224
R = 0.9999
DL = 90.51
BEC = 1258

Weight: <None>
Min Conc: <None>

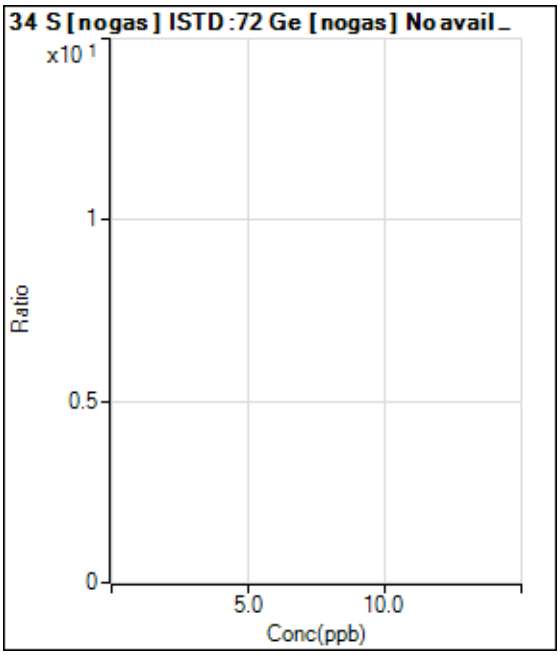
Calibration for 179_ICV.d



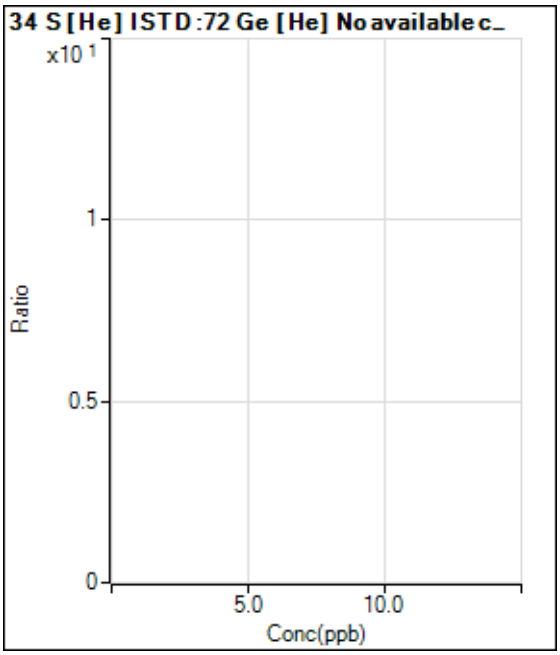
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38152.04	0.0174	P	0.9
2	☐	10.000	11.005	45966.06	0.0213	P	4.1
3	☐	25.000	25.938	57921.95	0.0265	P	1.5
4	☐	50.000	52.361	79040.89	0.0358	P	3.1
5	☐	500.000	489.756	406531.86	0.1893	P	0.6
6	☐	1000.000	1004.970	780851.16	0.3702	P	2.2
7	☐	5.000					

y = 3.5103E-004 * x + 0.0174
R = 0.9999
DL = 1.383
BEC = 49.58

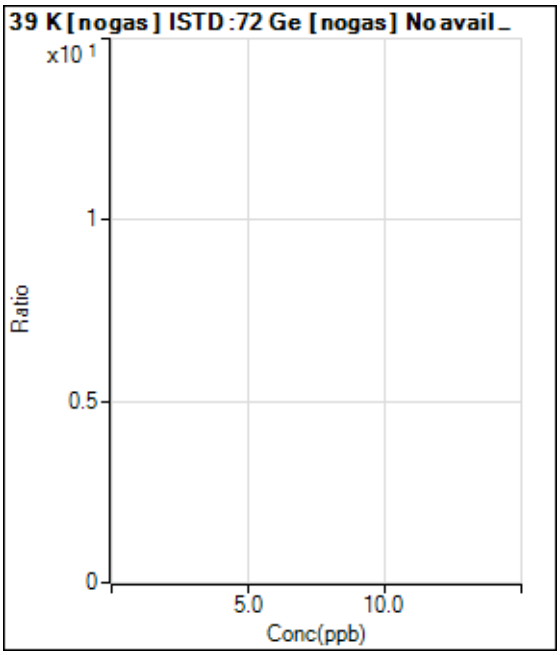
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.000					
6	☐	40000.000					
7	☐	200.000					

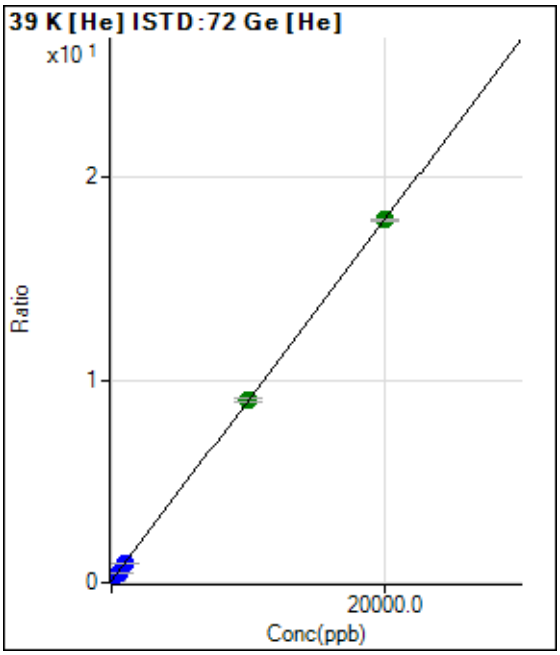


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.000					
6	☐	40000.000					
7	☐	200.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

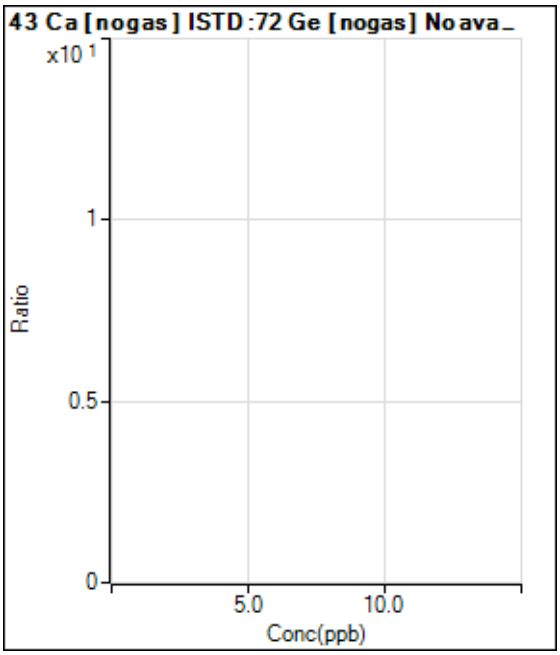
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	51146.56	0.0990	P	3.3
2	☐	200.000	186.043	138032.04	0.2646	P	1.0
3	☐	500.000	470.983	272368.90	0.5183	P	0.8
4	☐	1000.000	992.206	511701.44	0.9823	P	0.9
5	☐	10000.000	10010.373	4582438.99	9.0105	A	1.6
6	☐	20000.000	19996.068	8960808.82	17.9000	A	0.2
7	☐	100.000					

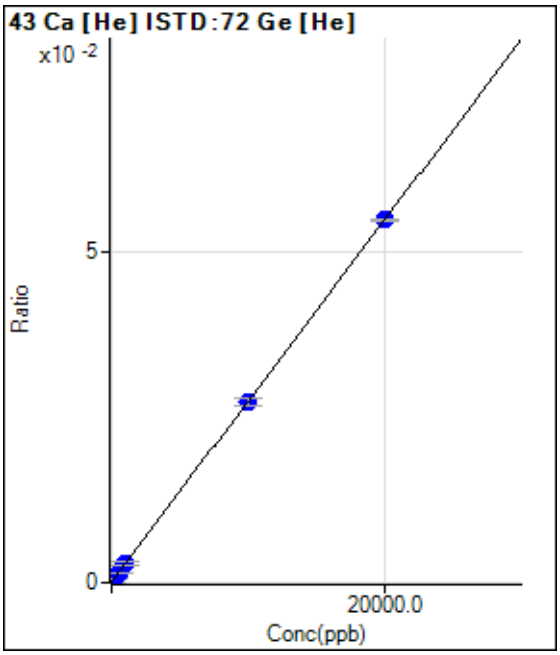
y = 8.9022E-004 * x + 0.0990
R = 1.0000
DL = 11.13
BEC = 111.2

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

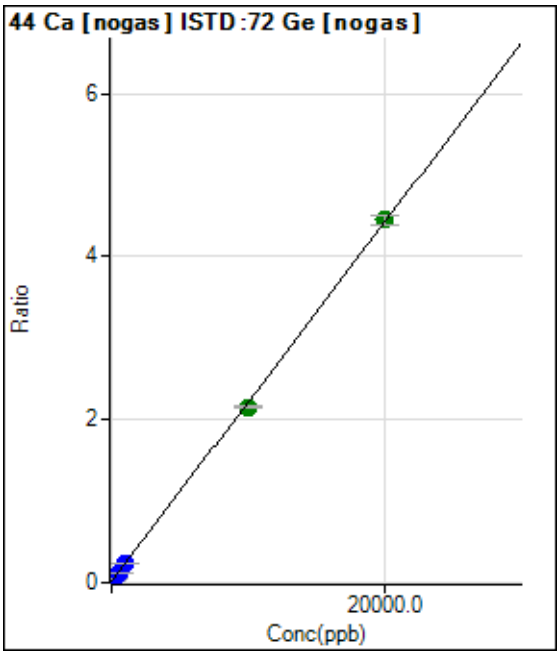
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0001	P	45.8
2	☐	200.000	160.724	276.68	0.0005	P	5.9
3	☐	500.000	467.534	720.02	0.0014	P	3.9
4	☐	1000.000	1012.752	1493.42	0.0029	P	24.3
5	☐	10000.000	9967.323	13918.68	0.0274	P	3.5
6	☐	20000.000	20016.905	27470.36	0.0549	P	0.8
7	☐	100.000					

y = 2.7368E-006 * x + 9.0675E-005
R = 1.0000
DL = 45.5
BEC = 33.13

Weight: <None>
Min Conc: <None>

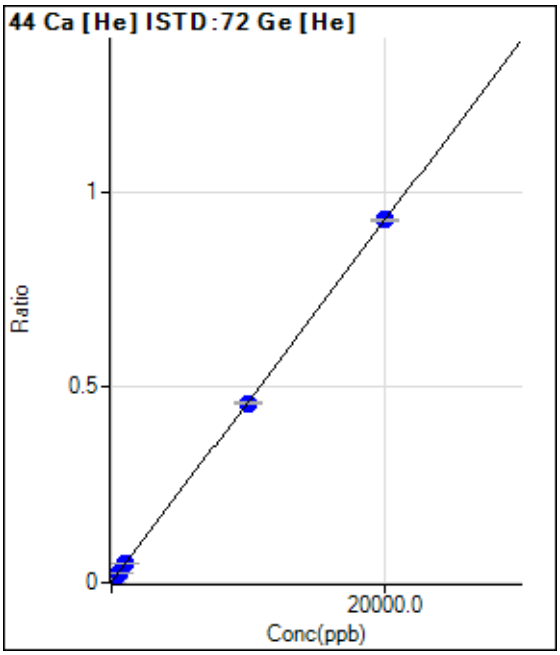


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30511.99	0.0139	P	3.2
2	☐	200.000	178.491	115033.96	0.0532	P	3.4
3	☐	500.000	468.881	255955.38	0.1172	P	1.3
4	☐	1000.000	980.270	507383.01	0.2297	P	3.6
5	☐	10000.000	9720.260	4625278.47	2.1539	A	1.1
6	☐	20000.000	20141.850	9383142.15	4.4483	A	2.5
7	☐	100.000					

y = 2.2016E-004 * x + 0.0139
R = 0.9999
DL = 6.106
BEC = 63.25

Weight: <None>
Min Conc: <None>

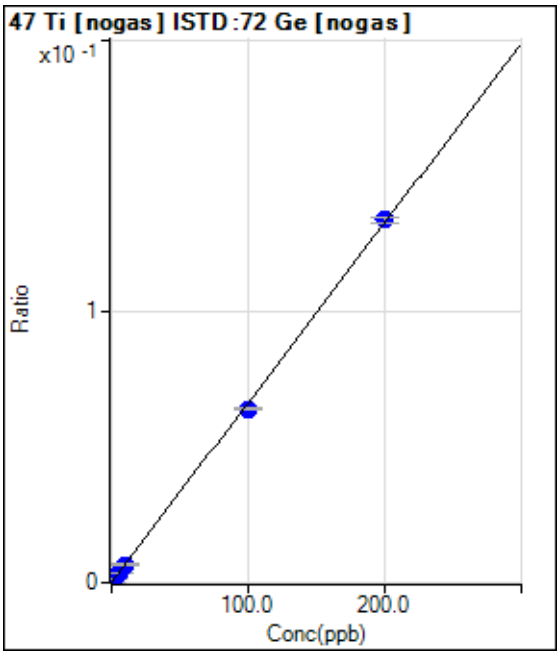
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	746.70	0.0014	P	4.7
2	☐	200.000	181.779	5137.44	0.0099	P	5.5
3	☐	500.000	459.072	11917.28	0.0227	P	1.4
4	☐	1000.000	1009.530	25077.05	0.0481	P	1.4
5	☐	10000.000	9892.773	233447.15	0.4590	P	1.3
6	☐	20000.000	20054.343	465039.64	0.9290	P	0.6
7	☐	100.000					

y = 4.6250E-005 * x + 0.0014
R = 1.0000
DL = 4.42
BEC = 31.23

Weight: <None>
Min Conc: <None>

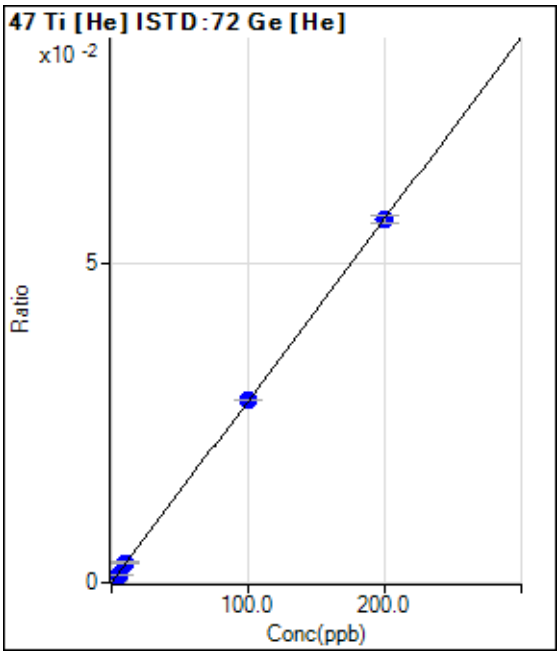


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	263.34	0.0001	P	24.9
2	☐	2.000	1.904	2986.96	0.0014	P	8.4
3	☐	5.000	4.774	7168.15	0.0033	P	3.2
4	☐	10.000	9.888	14722.63	0.0067	P	4.4
5	☐	100.000	96.519	137479.40	0.0640	P	1.3
6	☐	200.000	201.753	282029.93	0.1337	P	1.6
7	☐	1.000					

y = 6.6205E-004 * x + 1.2057E-004
R = 0.9998
DL = 0.1359
BEC = 0.1821

Weight: <None>
Min Conc: <None>

Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	100.8
2	☐	2.000	1.643	253.34	0.0005	P	20.0
3	☐	5.000	4.264	646.69	0.0012	P	7.5
4	☐	10.000	10.633	1583.43	0.0030	P	7.9
5	☐	100.000	100.849	14579.22	0.0287	P	0.2
6	☐	200.000	199.566	28388.48	0.0567	P	2.1
7	☐	1.000					

y = 2.8405E-004 * x + 1.9326E-005

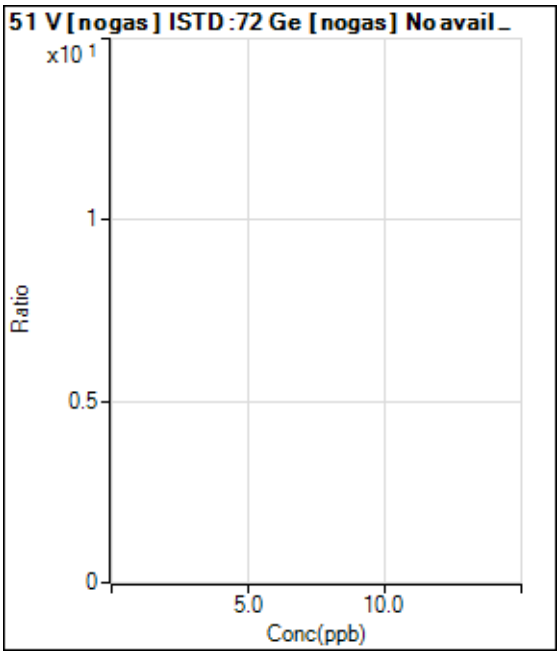
R = 1.0000

DL = 0.2058

BEC = 0.06804

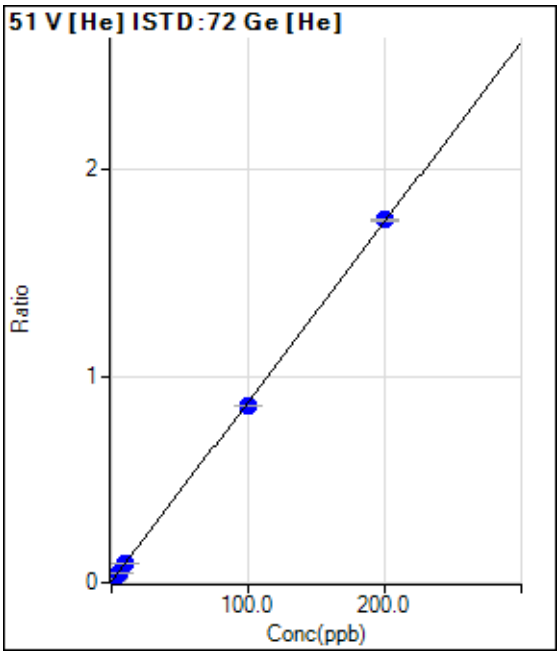
Weight: <None>

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					

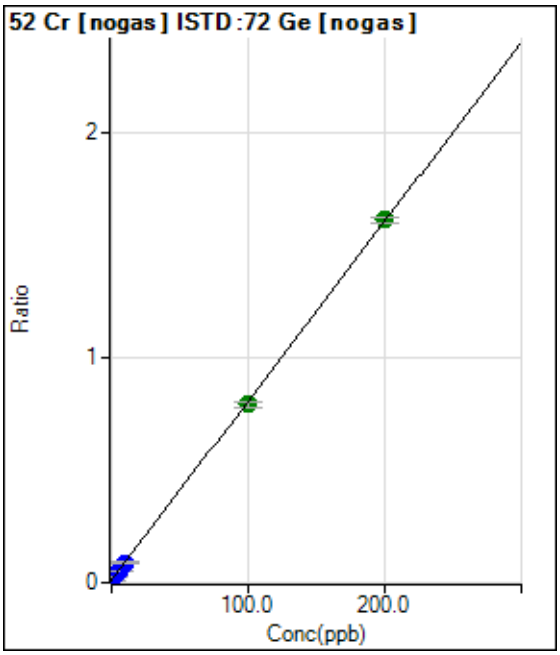
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2641.32	0.0051	P	8.4
2	☐	2.000	1.885	11220.09	0.0215	P	2.5
3	☐	5.000	4.737	24352.58	0.0463	P	1.5
4	☐	10.000	10.076	48354.63	0.0928	P	1.1
5	☐	100.000	97.747	435375.21	0.8560	P	0.1
6	☐	200.000	201.131	879060.62	1.7560	P	0.7
7	☐	1.000					

y = 0.0087 * x + 0.0051
R = 0.9999
DL = 0.1482
BEC = 0.5868

Weight: <None>
Min Conc: <None>

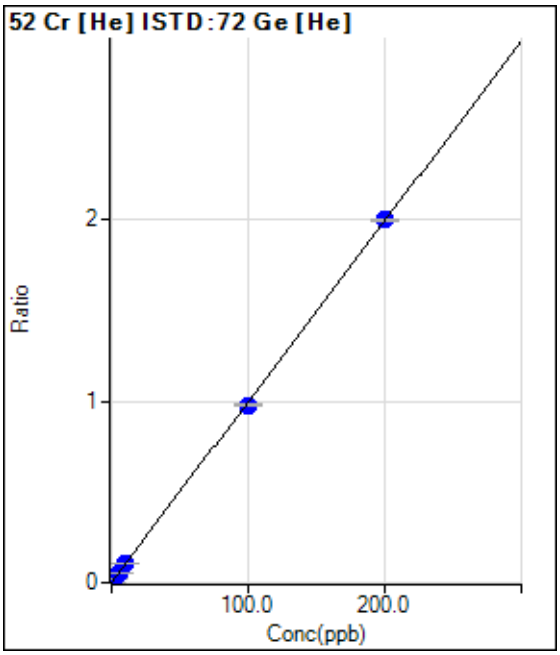


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24573.15	0.0112	P	5.7
2	☐	2.000	1.870	56489.04	0.0261	P	2.8
3	☐	5.000	4.728	106908.88	0.0489	P	1.9
4	☐	10.000	9.742	196427.01	0.0889	P	3.3
5	☐	100.000	98.066	1703801.17	0.7934	A	2.8
6	☐	200.000	200.988	3405598.18	1.6143	A	1.4
7	☐	1.000					

y = 0.0080 * x + 0.0112
R = 0.9999
DL = 0.2409
BEC = 1.407

Weight: <None>
Min Conc: <None>

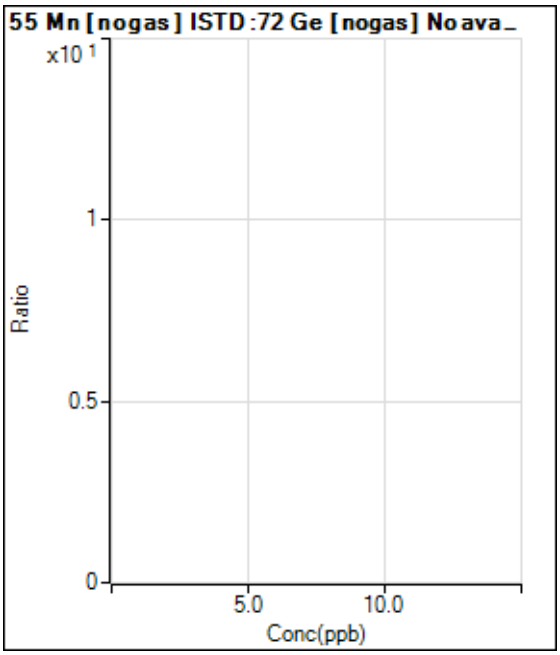
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	840.03	0.0016	P	10.4
2	☐	2.000	1.841	10389.69	0.0199	P	2.2
3	☐	5.000	4.893	26402.32	0.0502	P	2.9
4	☐	10.000	10.146	53350.04	0.1024	P	2.0
5	☐	100.000	98.192	496970.76	0.9772	P	0.9
6	☐	200.000	200.901	999983.37	1.9976	P	0.7
7	☐	1.000					

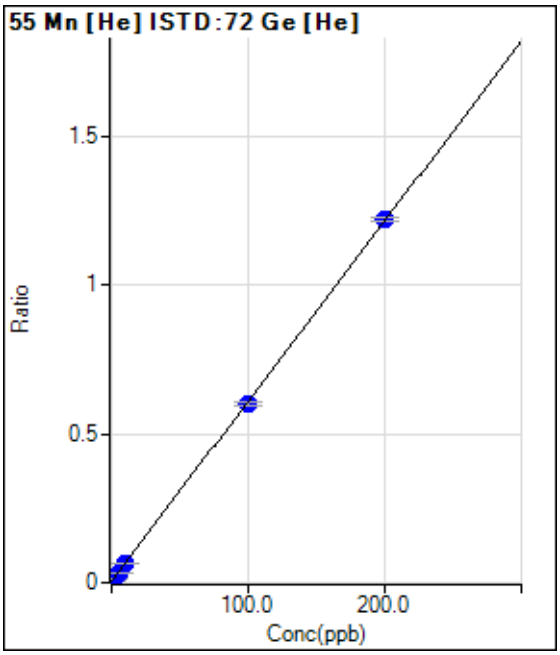
y = 0.0099 * x + 0.0016
R = 0.9999
DL = 0.05112
BEC = 0.1635

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					

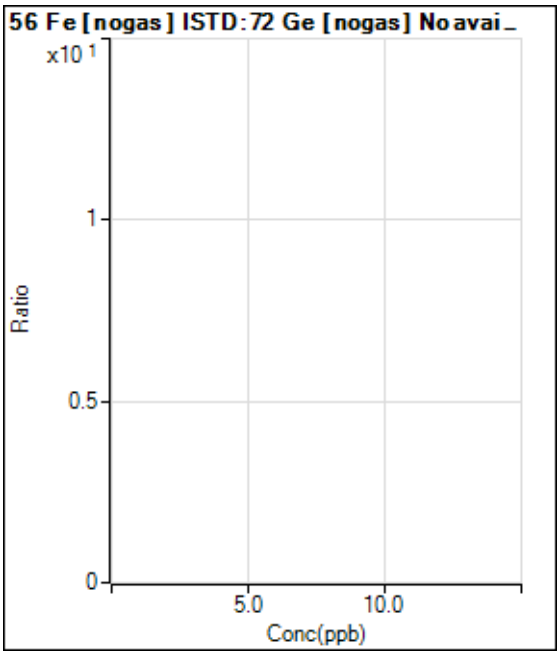
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2086.82	0.0040	P	1.7
2	☐	2.000	1.765	7675.01	0.0147	P	2.2
3	☐	5.000	4.592	16721.12	0.0318	P	1.8
4	☐	10.000	9.976	33540.71	0.0644	P	2.9
5	☐	100.000	98.601	305443.66	0.6006	P	1.2
6	☐	200.000	200.713	609905.30	1.2184	P	1.0
7	☐	1.000					

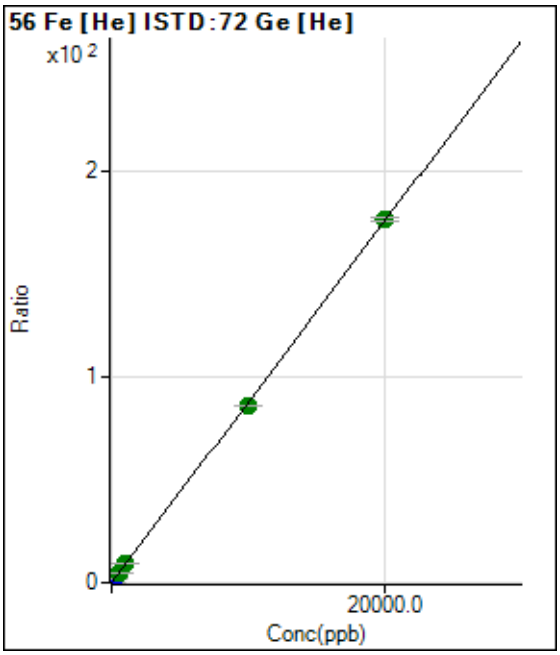
y = 0.0061 * x + 0.0040
R = 1.0000
DL = 0.03442
BEC = 0.6677

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

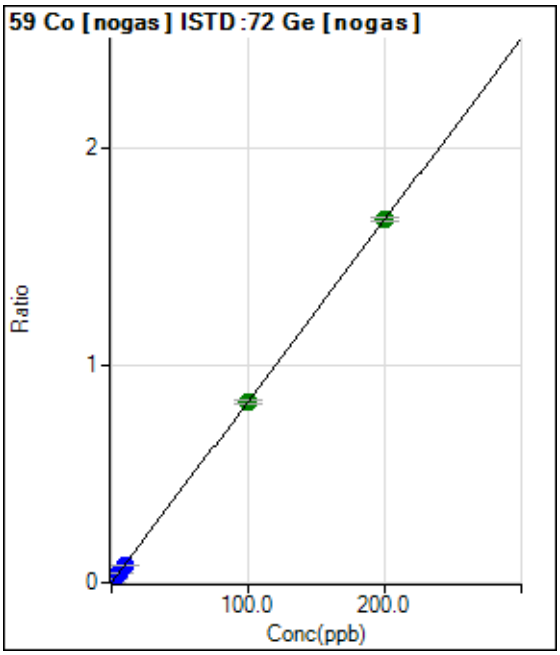
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9862.95	0.0191	P	4.2
2	☐	200.000	185.359	859569.75	1.6481	P	1.7
3	☐	500.000	494.077	2291703.40	4.3612	A	1.6
4	☐	1000.000	1032.681	4737532.22	9.0946	A	0.9
5	☐	10000.000	9807.683	43846689.35	86.2121	A	0.4
6	☐	20000.000	20094.819	88414435.35	176.6187	A	1.1
7	☐	100.000					

y = 0.0088 * x + 0.0191
R = 0.9999
DL = 0.2741
BEC = 2.173

Weight: <None>
Min Conc: <None>

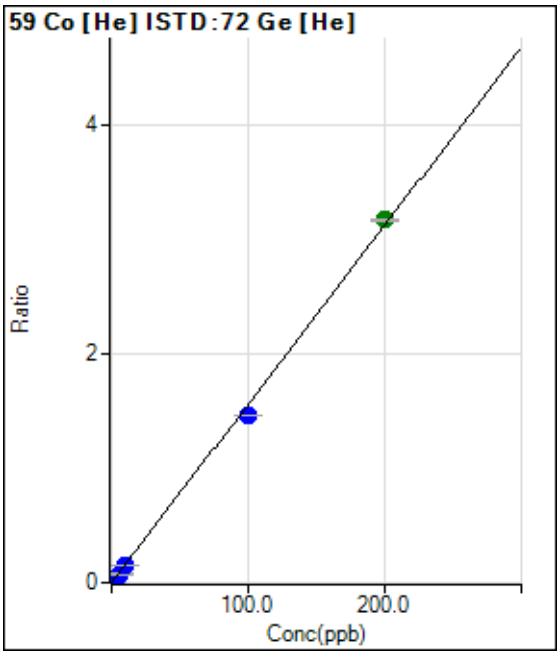


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	520.01	0.0002	P	27.7
2	☐	2.000	1.912	34969.90	0.0162	P	3.8
3	☐	5.000	4.794	87861.51	0.0402	P	0.5
4	☐	10.000	9.674	178735.95	0.0809	P	2.6
5	☐	100.000	99.950	1790413.52	0.8337	A	2.6
6	☐	200.000	200.047	3520093.80	1.6684	A	1.1
7	☐	1.000					

y = 0.0083 * x + 2.3762E-004
R = 1.0000
DL = 0.02368
BEC = 0.0285

Weight: <None>
Min Conc: <None>

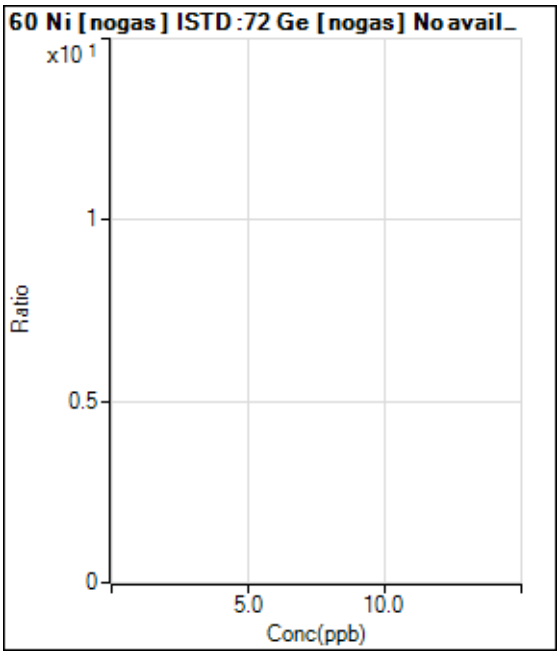
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	143.33	0.0003	P	23.2
2	☐	2.000	1.843	15126.38	0.0290	P	1.5
3	☐	5.000	4.818	39609.24	0.0754	P	2.1
4	☐	10.000	9.745	79256.02	0.1522	P	1.2
5	☐	100.000	93.537	741546.97	1.4580	P	0.6
6	☐	200.000	203.250	1585844.98	3.1679	A	0.7
7	☐	1.000					

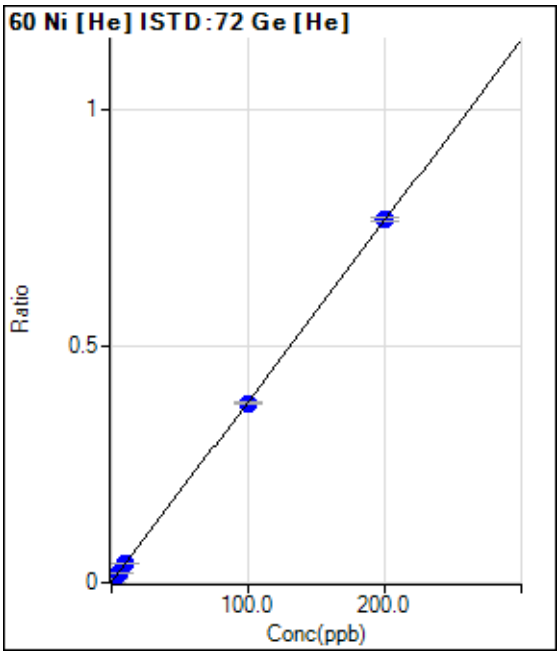
y = 0.0156 * x + 2.7779E-004
R = 0.9993
DL = 0.01242
BEC = 0.01782

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					

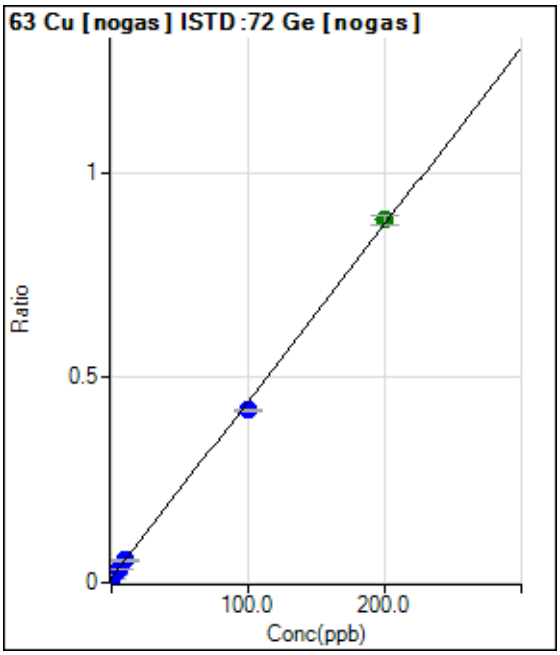
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	573.35	0.0011	P	6.2
2	☐	2.000	1.933	4427.27	0.0085	P	8.6
3	☐	5.000	4.762	10142.90	0.0193	P	1.4
4	☐	10.000	10.387	21249.12	0.0408	P	2.1
5	☐	100.000	99.058	192990.01	0.3795	P	0.6
6	☐	200.000	200.458	383840.43	0.7668	P	0.9
7	☐	1.000					

y = 0.0038 * x + 0.0011
R = 1.0000
DL = 0.05448
BEC = 0.2906

Weight: <None>
Min Conc: <None>

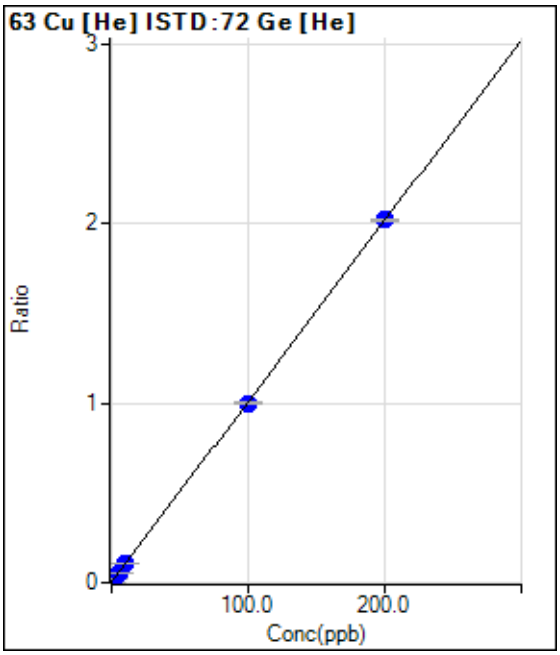


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24610.09	0.0112	P	1.2
2	☐	2.000	2.010	42970.28	0.0199	P	3.9
3	☐	5.000	4.867	70323.47	0.0322	P	1.2
4	☐	10.000	9.948	119413.83	0.0541	P	3.5
5	☐	100.000	94.756	900376.52	0.4193	P	0.3
6	☐	200.000	202.628	1865695.13	0.8839	A	2.8
7	☐	1.000					

y = 0.0043 * x + 0.0112
R = 0.9995
DL = 0.09042
BEC = 2.606

Weight: <None>
Min Conc: <None>

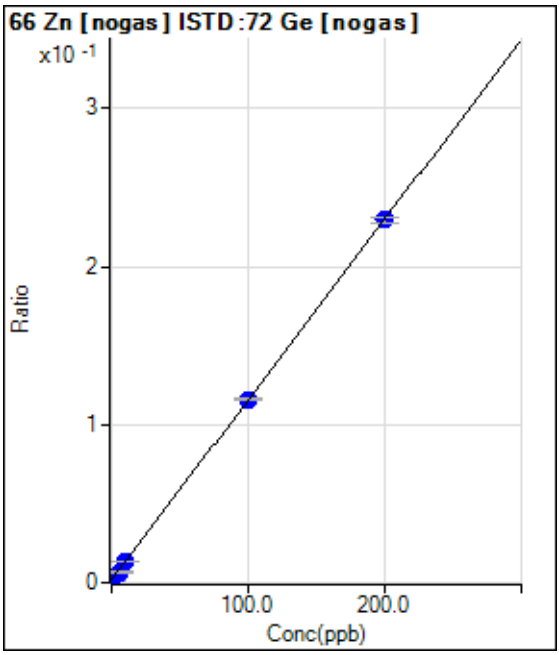
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2150.15	0.0042	P	2.3
2	☐	2.000	1.983	12571.11	0.0241	P	4.5
3	☐	5.000	4.926	28221.93	0.0537	P	3.0
4	☐	10.000	10.525	57305.75	0.1100	P	1.1
5	☐	100.000	98.803	507450.96	0.9978	P	1.2
6	☐	200.000	200.574	1011845.14	2.0212	P	0.7
7	☐	1.000					

y = 0.0101 * x + 0.0042
R = 1.0000
DL = 0.02797
BEC = 0.4137

Weight: <None>
Min Conc: <None>

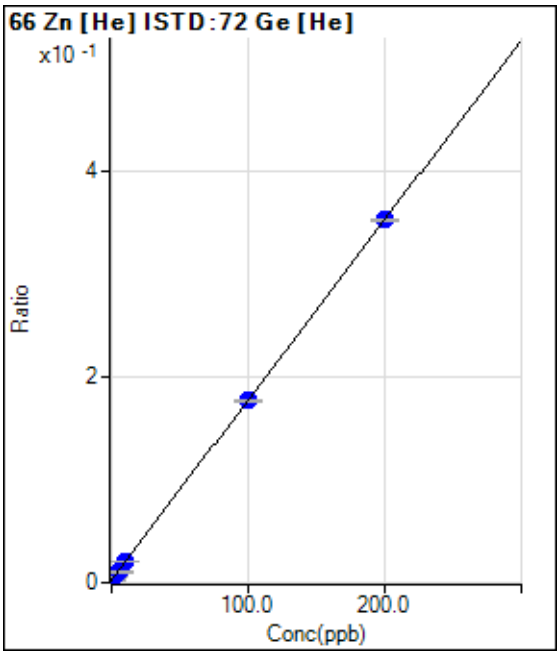


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4047.17	0.0018	P	6.7
2	☐	2.000	1.788	8398.71	0.0039	P	2.3
3	☐	5.000	4.244	14592.64	0.0067	P	1.2
4	☐	10.000	10.431	30315.24	0.0137	P	3.3
5	☐	100.000	100.225	249076.39	0.1160	P	0.8
6	☐	200.000	199.887	484184.85	0.2295	P	1.5
7	☐	1.000					

y = 0.0011 * x + 0.0018
R = 1.0000
DL = 0.3232
BEC = 1.62

Weight: <None>
Min Conc: <None>

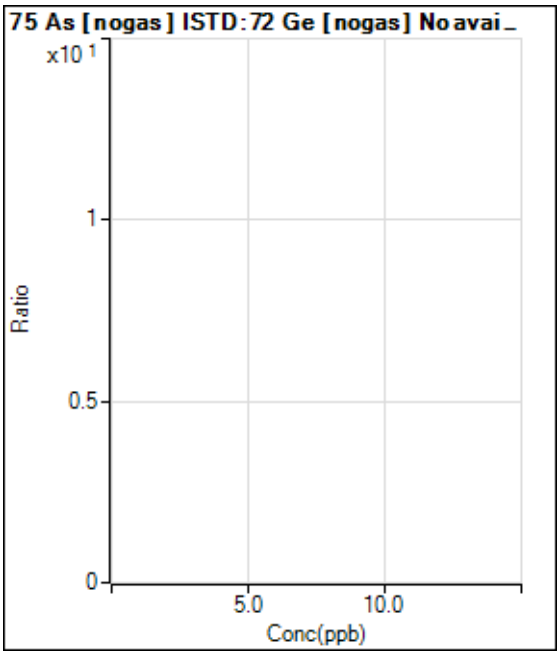
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1433.41	0.0028	P	7.3
2	☐	2.000	1.815	3103.64	0.0060	P	7.0
3	☐	5.000	4.384	5490.91	0.0104	P	5.4
4	☐	10.000	10.309	10843.33	0.0208	P	3.8
5	☐	100.000	99.746	90206.82	0.1774	P	0.8
6	☐	200.000	200.129	176744.59	0.3531	P	0.6
7	☐	1.000					

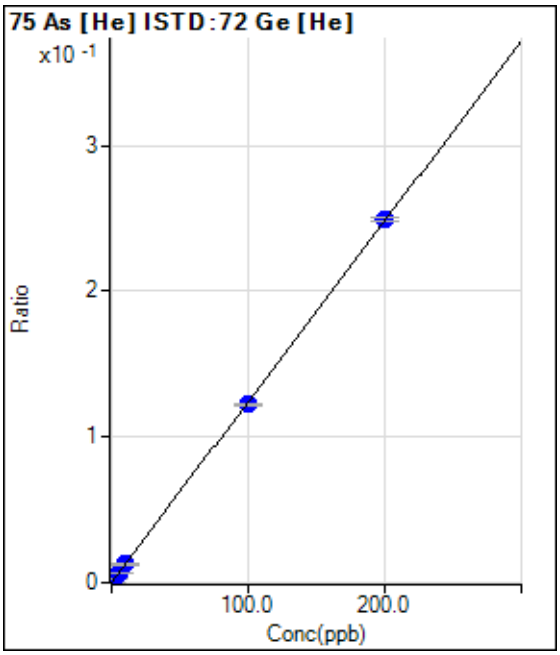
y = 0.0018 * x + 0.0028
R = 1.0000
DL = 0.3495
BEC = 1.585

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					

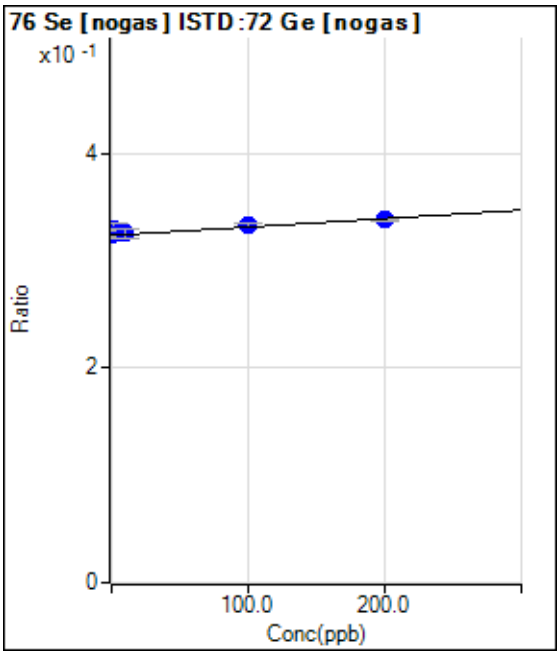
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	78.89	0.0002	P	34.7
2	☐	2.000	1.918	1318.94	0.0025	P	6.5
3	☐	5.000	4.827	3223.63	0.0061	P	1.8
4	☐	10.000	10.019	6548.98	0.0126	P	3.5
5	☐	100.000	98.416	62111.66	0.1221	P	0.5
6	☐	200.000	200.796	124653.41	0.2490	P	1.1
7	☐	1.000					

y = 0.0012 * x + 1.5233E-004
R = 1.0000
DL = 0.1278
BEC = 0.1229

Weight: <None>
Min Conc: <None>

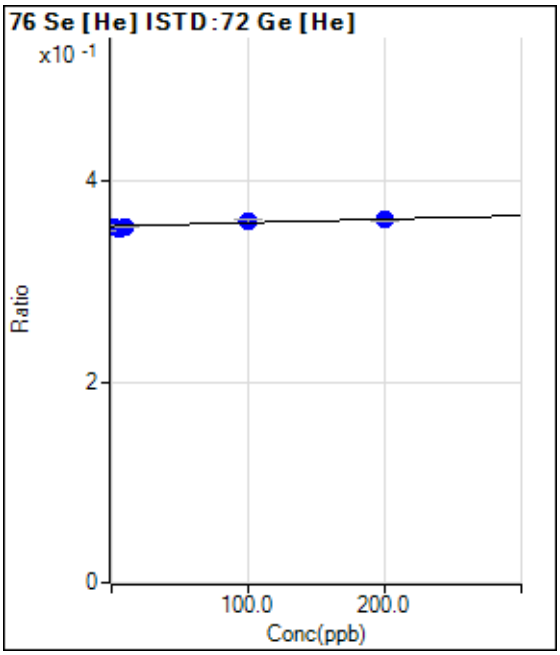


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	709516.94	0.3237	P	0.4
2	☐	2.000	78.950	713007.57	0.3299	P	3.2
3	☐	5.000	21.100	710767.38	0.3253	P	1.4
4	☐	10.000	22.701	718875.74	0.3254	P	2.7
5	☐	100.000	129.175	716749.57	0.3338	P	1.2
6	☐	200.000	183.605	713311.71	0.3381	P	0.8
7	☐	1.000					

y = 7.8496E-005 * x + 0.3237
R = 0.9209
DL = 53.64
BEC = 4123

Weight: <None>
Min Conc: <None>

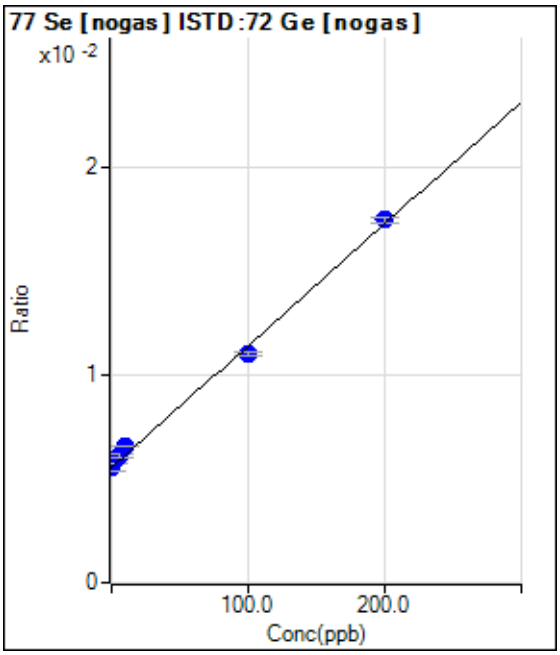
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	183793.98	0.3558	P	1.5
2	☐	2.000	-39.778	184845.68	0.3544	P	0.3
3	☐	5.000	-99.847	185134.51	0.3523	P	1.1
4	☐	10.000	0.694	185352.54	0.3558	P	0.4
5	☐	100.000	154.024	183673.53	0.3611	P	1.0
6	☐	200.000	176.492	181181.57	0.3619	P	0.8
7	☐	1.000					

y = 3.4798E-005 * x + 0.3558
R = 0.8917
DL = 457.6
BEC = 1.022E+04

Weight: <None>
Min Conc: <None>

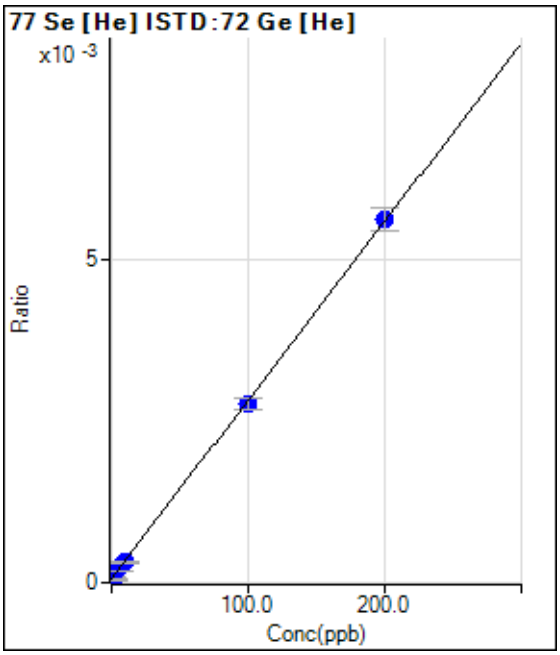


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12144.25	0.0055	P	6.7
2	☐	2.000	4.907	12604.57	0.0058	P	3.0
3	☐	5.000	9.770	13361.82	0.0061	P	2.1
4	☐	10.000	17.328	14492.68	0.0066	P	1.2
5	☐	100.000	92.722	23565.49	0.0110	P	1.7
6	☐	200.000	203.124	36800.79	0.0174	P	1.6
7	☐	1.000					

y = 5.8568E-005 * x + 0.0055
R = 0.9982
DL = 18.99
BEC = 94.65

Weight: <None>
Min Conc: <None>

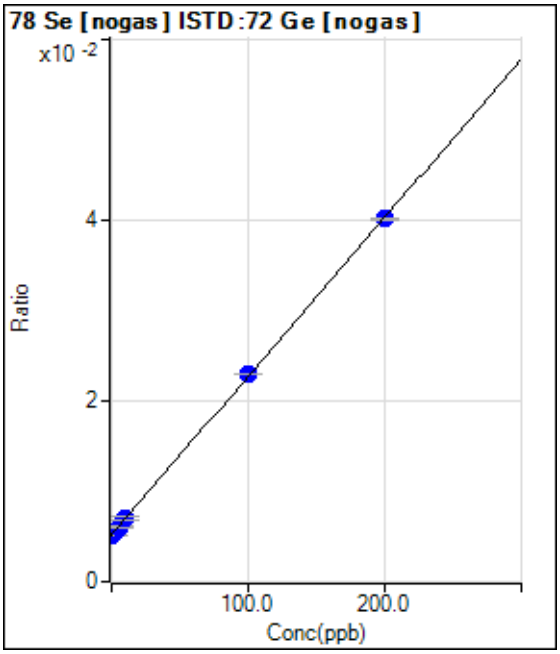
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0001	P	76.1
2	☐	2.000	-0.253	30.00	0.0001	P	57.8
3	☐	5.000	5.933	120.00	0.0002	P	50.0
4	☐	10.000	9.050	163.33	0.0003	P	13.5
5	☐	100.000	98.056	1406.74	0.0028	P	6.7
6	☐	200.000	201.019	2803.60	0.0056	P	6.4
7	☐	1.000					

y = 2.7542E-005 * x + 6.4503E-005
R = 0.9999
DL = 5.347
BEC = 2.342

Weight: <None>
Min Conc: <None>

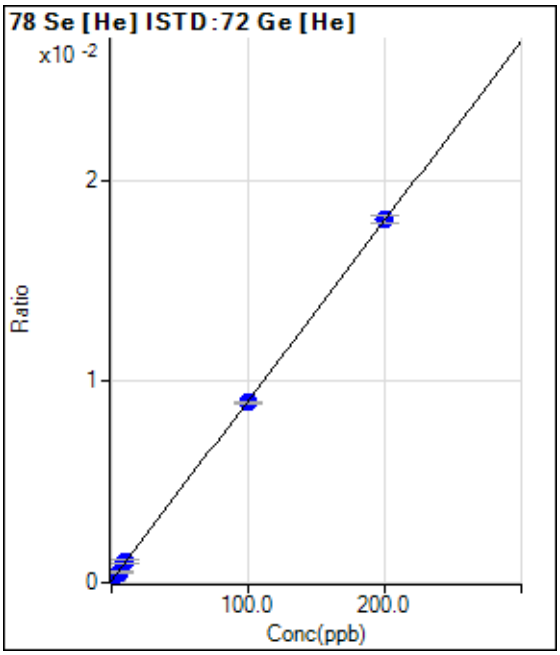


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11420.41	0.0052	P	5.3
2	☐	2.000	0.657	11513.82	0.0053	P	5.6
3	☐	5.000	4.821	13238.37	0.0061	P	1.5
4	☐	10.000	10.024	15396.77	0.0070	P	5.6
5	☐	100.000	101.622	49494.13	0.0231	P	0.4
6	☐	200.000	199.206	84773.43	0.0402	P	0.4
7	☐	1.000					

y = 1.7552E-004 * x + 0.0052
R = 0.9999
DL = 4.698
BEC = 29.7

Weight: <None>
Min Conc: <None>

Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	57.33	0.0001	P	17.4
2	☐	2.000	1.789	141.33	0.0003	P	11.1
3	☐	5.000	4.373	264.00	0.0005	P	9.5
4	☐	10.000	10.577	550.68	0.0011	P	10.9
5	☐	100.000	99.000	4559.92	0.0090	P	1.0
6	☐	200.000	200.489	9032.25	0.0180	P	2.2
7	☐	1.000					

y = 8.9437E-005 * x + 1.1109E-004

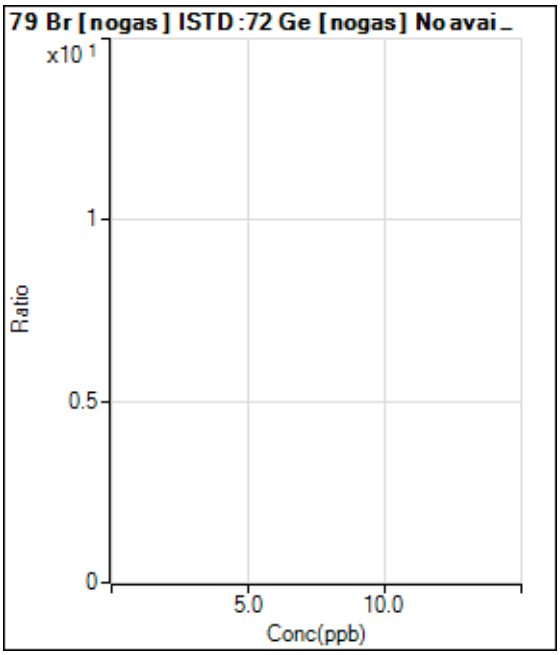
R = 1.0000

DL = 0.6467

BEC = 1.242

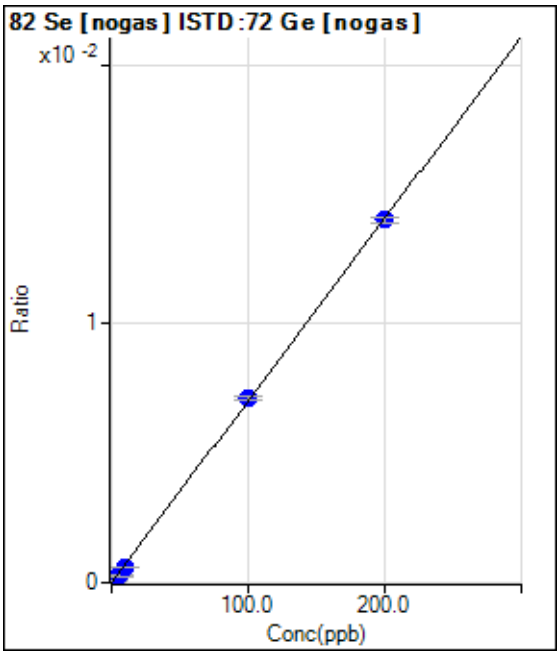
Weight: <None>

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					

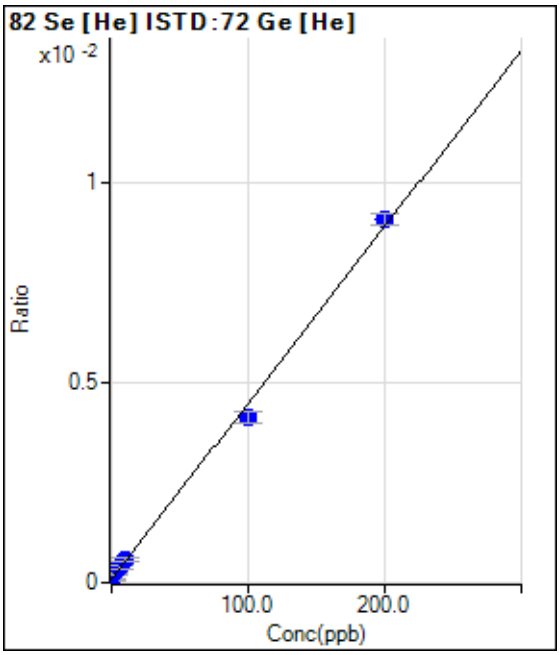
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-26.87	0.0000	P	-530.0
2	☐	2.000	1.203	155.69	0.0001	P	23.3
3	☐	5.000	3.725	545.47	0.0002	P	34.2
4	☐	10.000	8.735	1329.74	0.0006	P	2.9
5	☐	100.000	101.324	15282.14	0.0071	P	2.2
6	☐	200.000	199.441	29587.24	0.0140	P	1.4
7	☐	1.000					

y = 7.0358E-005 * x - 1.2611E-005
R = 0.9999
DL = 2.85
BEC = -0.1792

Weight: <None>
Min Conc: <None>

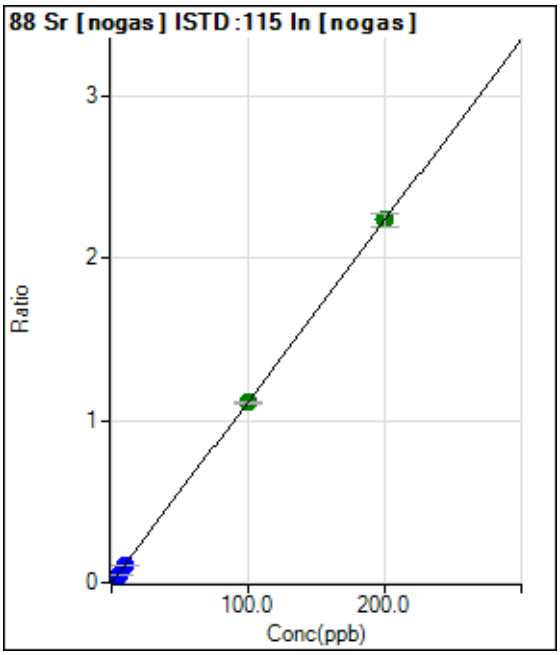


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0001	P	58.7
2	☐	2.000	3.155	116.67	0.0002	P	21.0
3	☐	5.000	6.995	206.67	0.0004	P	21.7
4	☐	10.000	11.152	300.01	0.0006	P	21.5
5	☐	100.000	91.918	2106.82	0.0041	P	8.1
6	☐	200.000	203.922	4547.31	0.0091	P	3.1
7	☐	1.000					

y = 4.4135E-005 * x + 8.4240E-005
R = 0.9987
DL = 3.361
BEC = 1.909

Weight: <None>
Min Conc: <None>

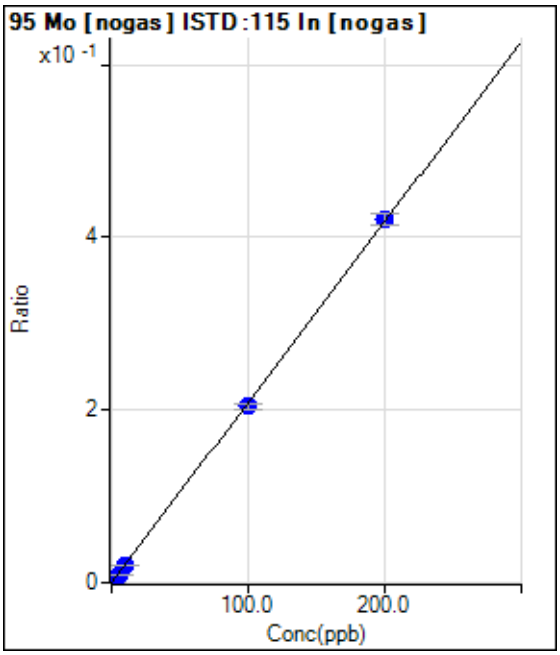
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1663.44	0.0007	P	6.3
2	☐	2.000	1.850	47766.95	0.0214	P	2.3
3	☐	5.000	4.558	117803.10	0.0516	P	1.5
4	☐	10.000	9.749	245868.54	0.1096	P	2.7
5	☐	100.000	99.404	2456767.88	1.1107	A	1.6
6	☐	200.000	200.323	4810121.07	2.2376	A	3.5
7	☐	1.000					

y = 0.0112 * x + 7.3121E-004
R = 1.0000
DL = 0.01228
BEC = 0.06548

Weight: <None>
Min Conc: <None>

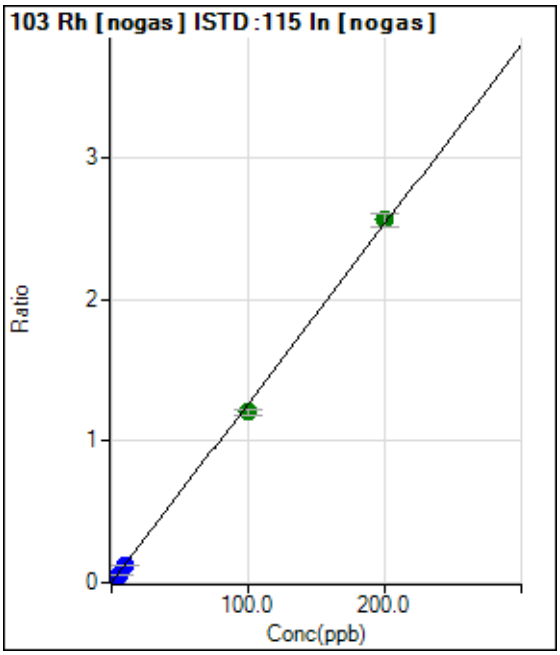


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	226.67	0.0001	P	10.6
2	☐	2.000	1.837	8778.95	0.0039	P	5.0
3	☐	5.000	4.647	22357.53	0.0098	P	3.6
4	☐	10.000	9.871	46453.84	0.0207	P	3.3
5	☐	100.000	97.687	451149.26	0.2040	P	3.7
6	☐	200.000	201.174	902990.82	0.4201	P	3.1
7	☐	1.000					

y = 0.0021 * x + 9.9605E-005
R = 0.9999
DL = 0.01514
BEC = 0.04771

Weight: <None>
Min Conc: <None>

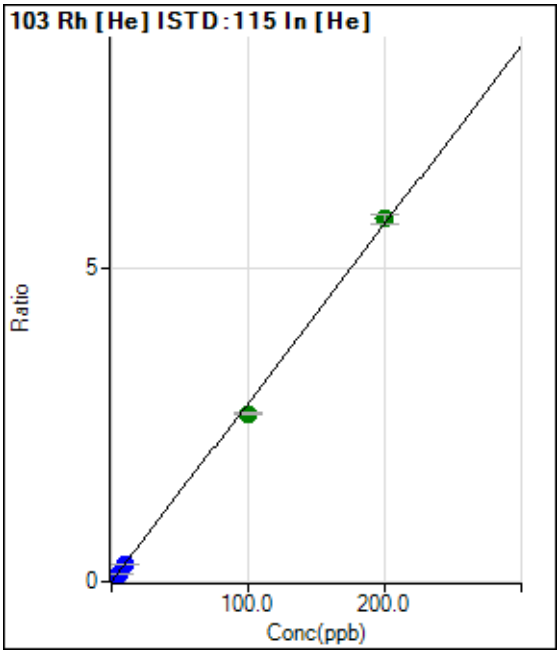
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0000	P	115.6
2	☐	2.000	1.882	53223.03	0.0238	P	3.0
3	☐	5.000	4.632	133823.69	0.0587	P	2.7
4	☐	10.000	9.838	279426.34	0.1246	P	3.6
5	☐	100.000	95.218	2665588.61	1.2055	A	3.0
6	☐	200.000	202.409	5507727.00	2.5625	A	3.4
7	☐	1.000					

y = 0.0127 * x + 1.9432E-005
R = 0.9996
DL = 0.005323
BEC = 0.001535

Weight: <None>
Min Conc: <None>

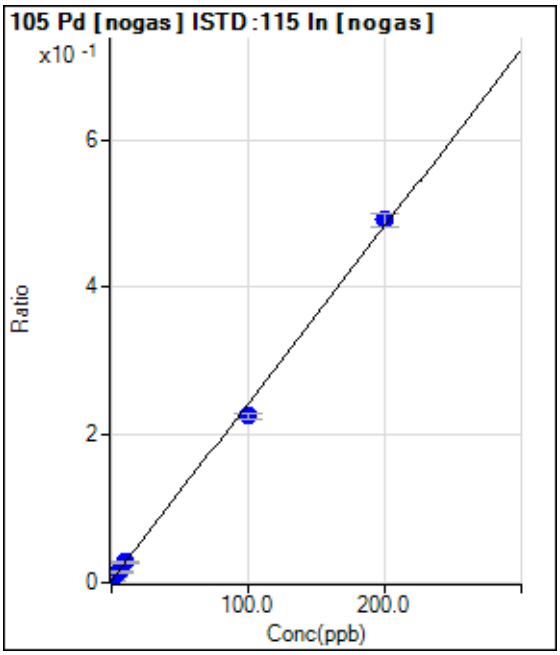


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	86.6
2	☐	2.000	1.874	41094.46	0.0534	P	0.8
3	☐	5.000	4.722	101431.01	0.1345	P	0.9
4	☐	10.000	9.658	210385.90	0.2751	P	1.8
5	☐	100.000	93.987	1998801.48	2.6772	A	0.6
6	☐	200.000	203.032	4201272.23	5.7834	A	2.6
7	☐	1.000					

y = 0.0285 * x + 1.7779E-005
R = 0.9994
DL = 0.001622
BEC = 0.0006242

Weight: <None>
Min Conc: <None>

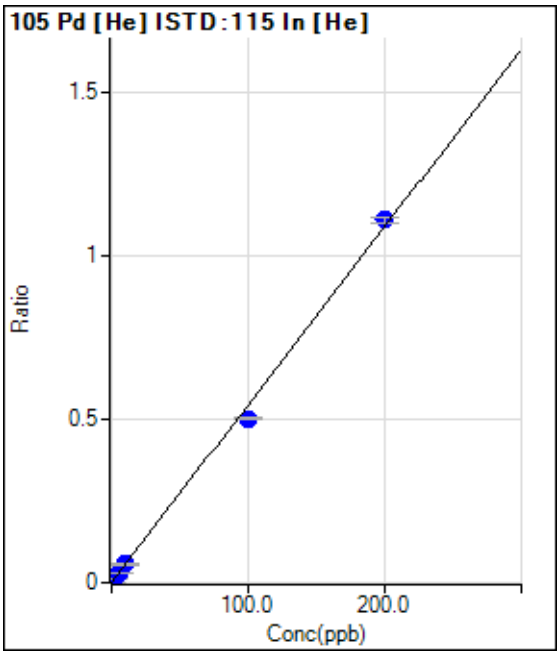
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6798.04	0.0030	P	0.8
2	☐	2.000	1.967	17188.56	0.0077	P	4.7
3	☐	5.000	4.821	33187.99	0.0145	P	3.5
4	☐	10.000	10.230	61737.50	0.0275	P	2.6
5	☐	100.000	92.725	498284.17	0.2254	P	3.3
6	☐	200.000	203.631	1055927.30	0.4913	P	3.5
7	☐	1.000					

y = 0.0024 * x + 0.0030
R = 0.9991
DL = 0.03162
BEC = 1.245

Weight: <None>
Min Conc: <None>

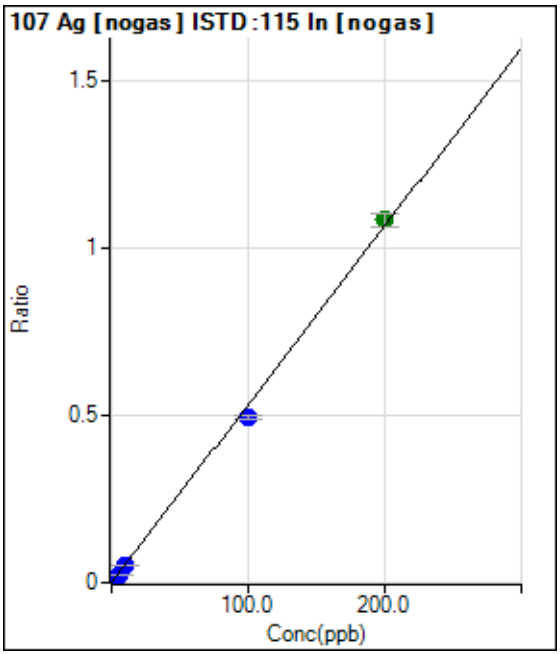


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	600.02	0.0008	P	9.8
2	☐	2.000	1.941	8735.60	0.0114	P	0.5
3	☐	5.000	4.998	21086.14	0.0280	P	2.6
4	☐	10.000	10.204	43035.78	0.0563	P	2.1
5	☐	100.000	91.951	373821.04	0.5007	P	1.0
6	☐	200.000	204.015	806424.78	1.1100	P	1.4
7	☐	1.000					

y = 0.0054 * x + 7.9883E-004
R = 0.9989
DL = 0.04335
BEC = 0.1469

Weight: <None>
Min Conc: <None>

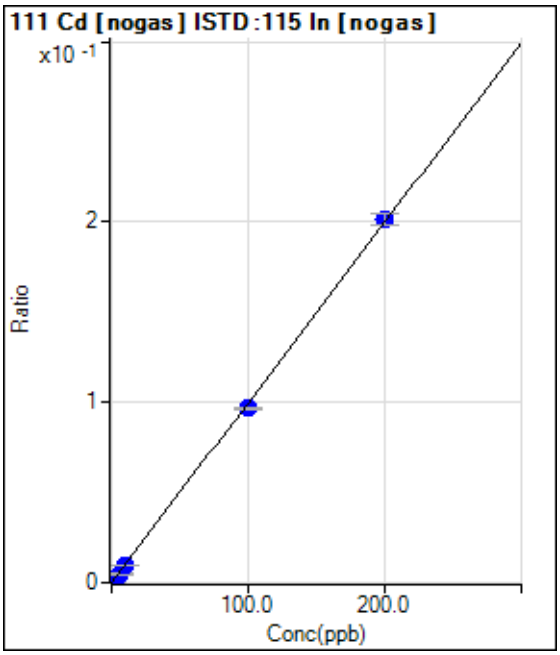
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	140.00	0.0001	P	49.5
2	☐	2.000	1.825	21860.37	0.0098	P	3.3
3	☐	5.000	4.625	56399.71	0.0247	P	2.6
4	☐	10.000	9.655	115605.08	0.0515	P	2.7
5	☐	100.000	92.801	1094431.21	0.4948	P	1.3
6	☐	200.000	203.628	2334091.94	1.0856	A	3.7
7	☐	1.000					

y = 0.0053 * x + 6.2093E-005
R = 0.9991
DL = 0.01731
BEC = 0.01165

Weight: <None>
Min Conc: <None>

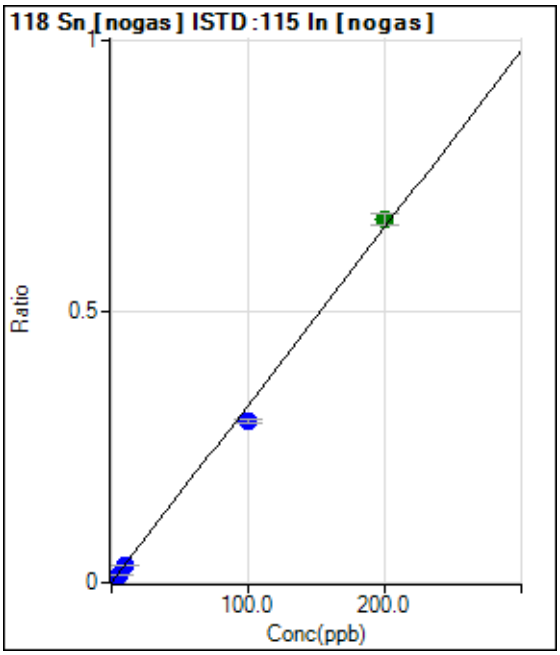


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	50.6
2	☐	2.000	1.845	4127.21	0.0018	P	6.8
3	☐	5.000	4.721	10760.11	0.0047	P	5.4
4	☐	10.000	9.855	22080.66	0.0098	P	1.2
5	☐	100.000	96.864	213798.88	0.0966	P	0.6
6	☐	200.000	201.584	432258.34	0.2011	P	3.1
7	☐	1.000					

y = 9.9761E-004 * x + 8.8356E-006
R = 0.9998
DL = 0.01345
BEC = 0.008857

Weight: <None>
Min Conc: <None>

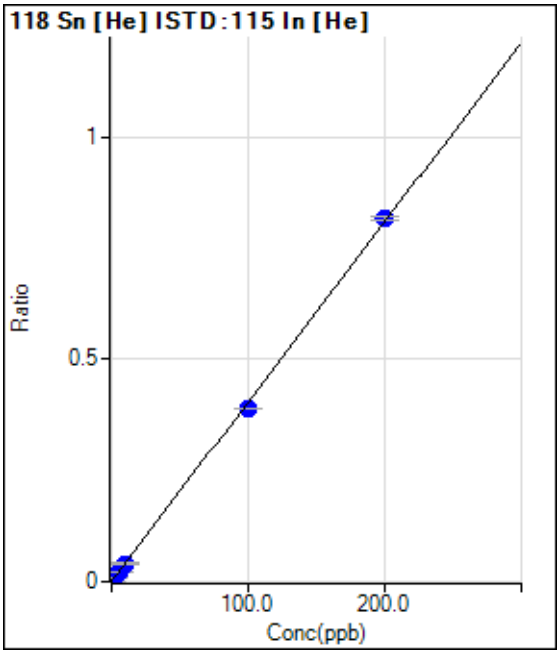
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1346.74	0.0006	P	10.0
2	☐	2.000	1.806	14489.48	0.0065	P	3.2
3	☐	5.000	4.377	33966.65	0.0149	P	0.6
4	☐	10.000	9.534	71147.66	0.0317	P	4.9
5	☐	100.000	91.239	660223.87	0.2985	P	2.1
6	☐	200.000	204.421	1435897.69	0.6681	A	3.4
7	☐	1.000					

y = 0.0033 * x + 5.9252E-004
R = 0.9987
DL = 0.05425
BEC = 0.1815

Weight: <None>
Min Conc: <None>

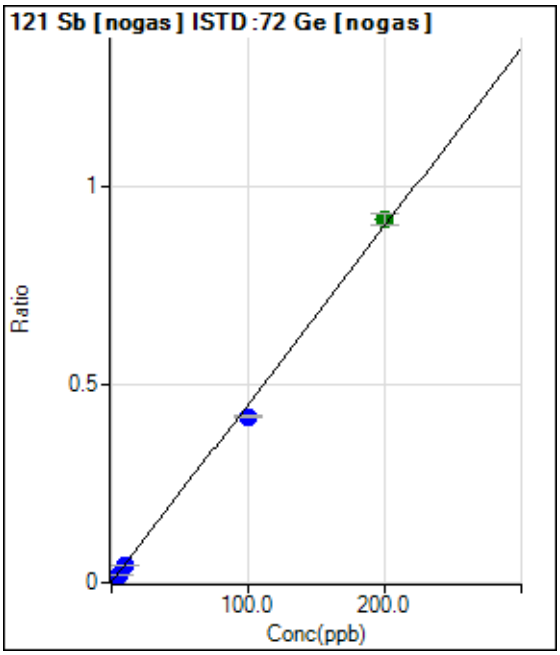


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	570.02	0.0008	P	7.7
2	☐	2.000	1.874	6407.93	0.0083	P	1.0
3	☐	5.000	4.768	15083.32	0.0200	P	3.7
4	☐	10.000	9.960	31334.81	0.0410	P	1.0
5	☐	100.000	96.242	290673.44	0.3894	P	0.8
6	☐	200.000	201.888	592792.56	0.8159	P	1.0
7	☐	1.000					

y = 0.0040 * x + 7.5898E-004
R = 0.9998
DL = 0.0433
BEC = 0.188

Weight: <None>
Min Conc: <None>

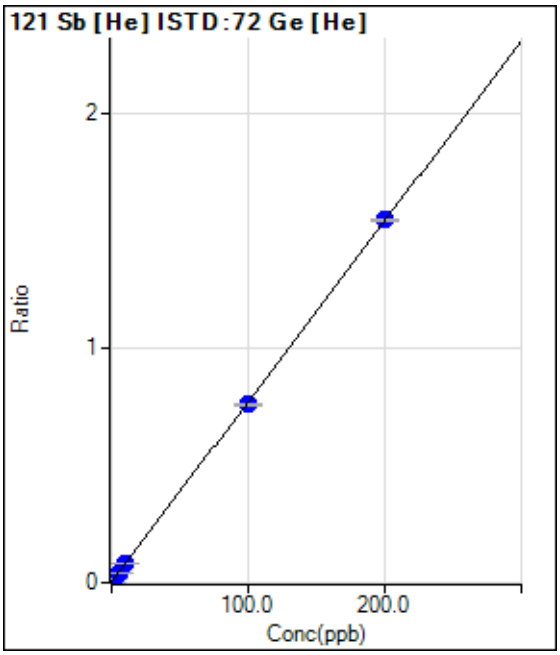
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2516.88	0.0011	P	3.8
2	☐	2.000	1.875	20719.17	0.0096	P	4.5
3	☐	5.000	4.464	46394.68	0.0212	P	1.9
4	☐	10.000	9.458	96567.42	0.0437	P	2.2
5	☐	100.000	93.050	901668.06	0.4199	P	0.5
6	☐	200.000	203.517	1934323.04	0.9171	A	3.3
7	☐	1.000					

y = 0.0045 * x + 0.0011
R = 0.9992
DL = 0.0292
BEC = 0.255

Weight: <None>
Min Conc: <None>

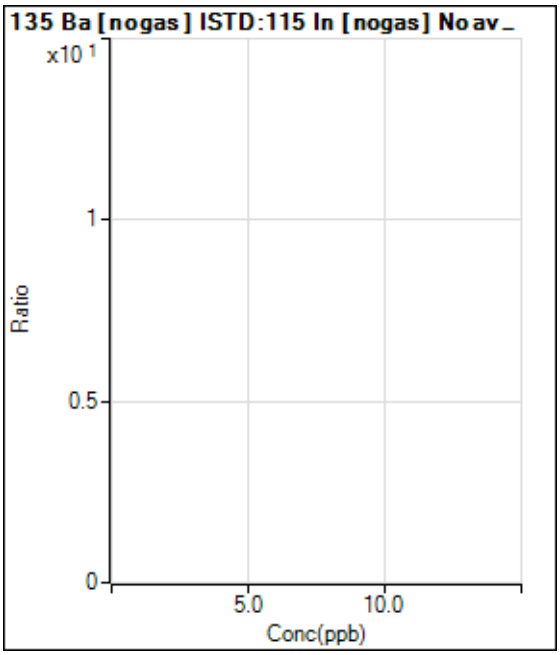


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1103.38	0.0021	P	8.7
2	☐	2.000	1.918	8792.34	0.0169	P	3.5
3	☐	5.000	4.766	20348.76	0.0387	P	2.3
4	☐	10.000	9.956	40931.29	0.0786	P	1.7
5	☐	100.000	98.367	385149.46	0.7573	P	1.0
6	☐	200.000	200.826	772882.05	1.5439	P	0.9
7	☐	1.000					

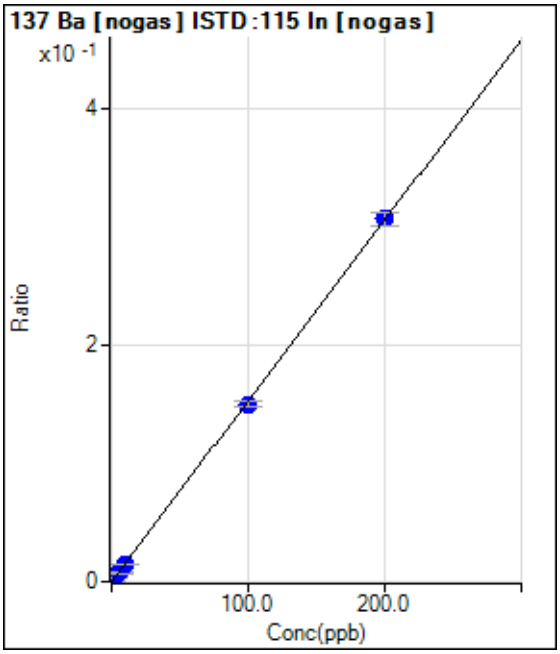
y = 0.0077 * x + 0.0021
R = 1.0000
DL = 0.0729
BEC = 0.278

Weight: <None>
Min Conc: <None>

Calibration for 179_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	373.34	0.0002	P	8.9
2	☐	2.000	1.951	7004.86	0.0031	P	7.6
3	☐	5.000	4.794	17038.57	0.0075	P	7.1
4	☐	10.000	9.768	33780.04	0.0151	P	3.2
5	☐	100.000	98.308	331833.81	0.1501	P	2.6
6	☐	200.000	200.863	658526.60	0.3064	P	3.6
7	☐	1.000					

y = 0.0015 * x + 1.6419E-004

R = 1.0000

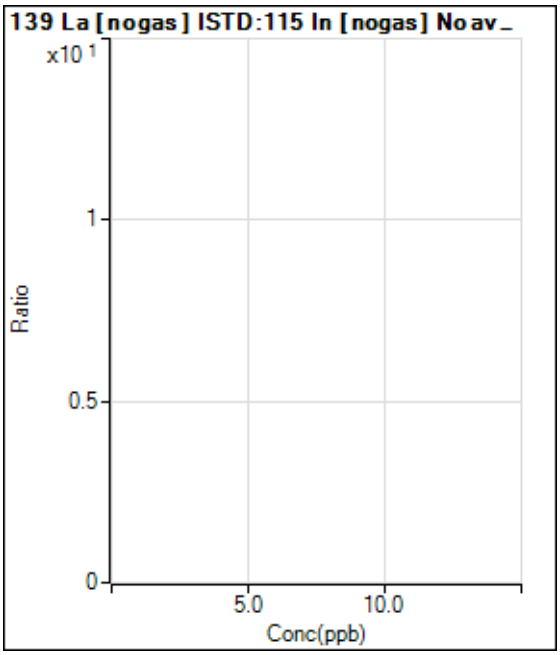
DL = 0.02877

BEC = 0.1077

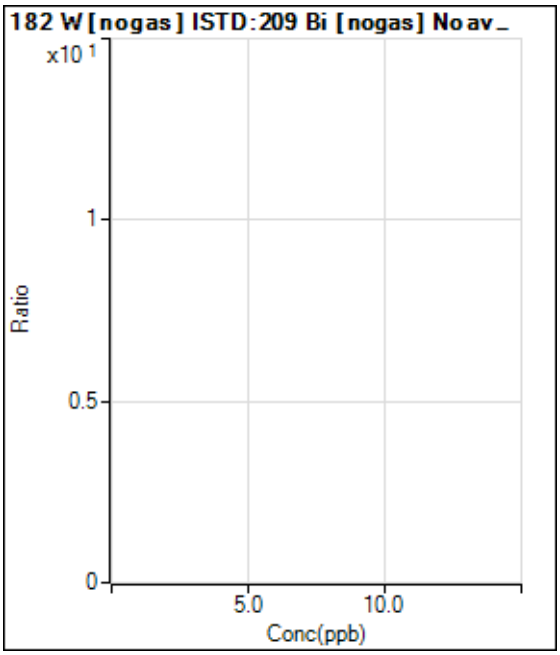
Weight: <None>

Min Conc: <None>

Calibration for 179_ICV.d

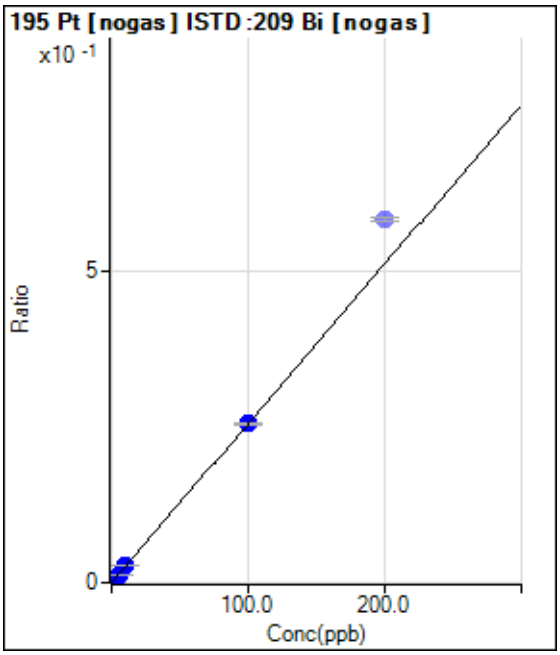


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	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					

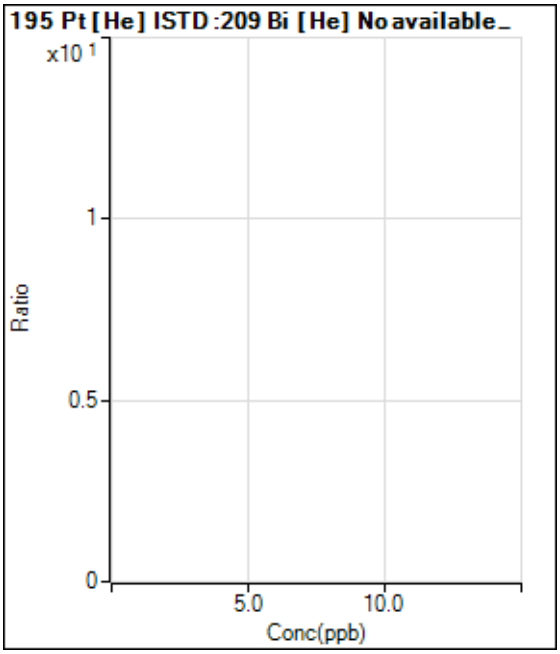
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	63.6
2	☐	2.000	1.971	8945.88	0.0051	P	6.8
3	☐	5.000	5.079	23336.70	0.0130	P	1.8
4	☐	10.000	10.702	47842.99	0.0274	P	2.1
5	☐	100.000	99.926	449143.73	0.2556	P	0.7
6	☑	200.000		982408.40	0.5827	P	0.9
7	☐	1.000					

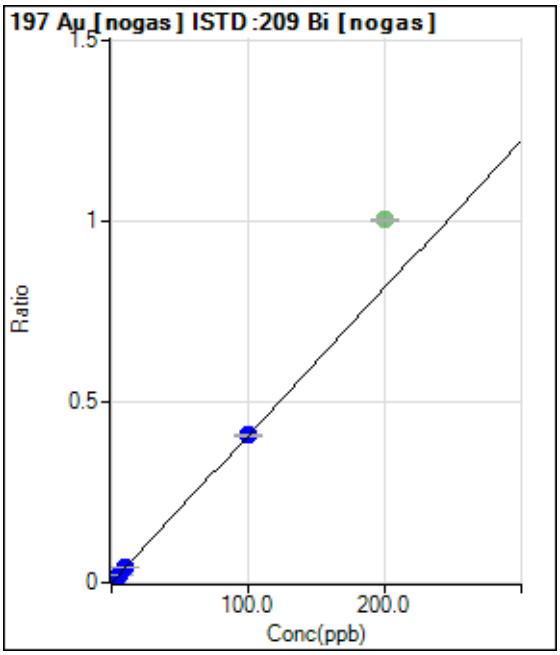
y = 0.0026 * x + 1.3246E-005
R = 1.0000
DL = 0.009875
BEC = 0.005179

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		10.00		P	
2	☐	2.000		8942.60		P	
3	☐	5.000		23453.48		P	
4	☐	10.000		49524.45		P	
5	☐	100.000		452846.46		P	
6	☐	200.000		985534.91		P	
7	☐	1.000					

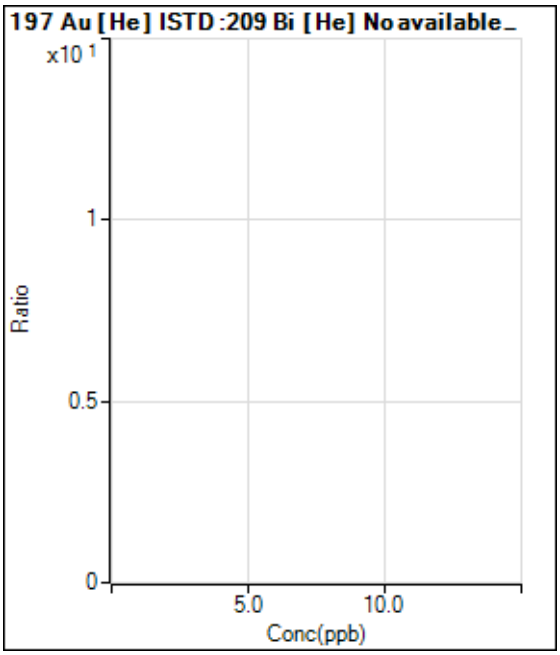
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	176.67	0.0001	P	26.9
2	☐	2.000	1.997	14609.99	0.0083	P	1.6
3	☐	5.000	5.143	37843.61	0.0211	P	2.1
4	☐	10.000	10.800	77123.48	0.0442	P	4.0
5	☐	100.000	99.913	716680.64	0.4079	P	1.0
6	☑	200.000		1693873.15	1.0046	A	0.5
7	☐	1.000					

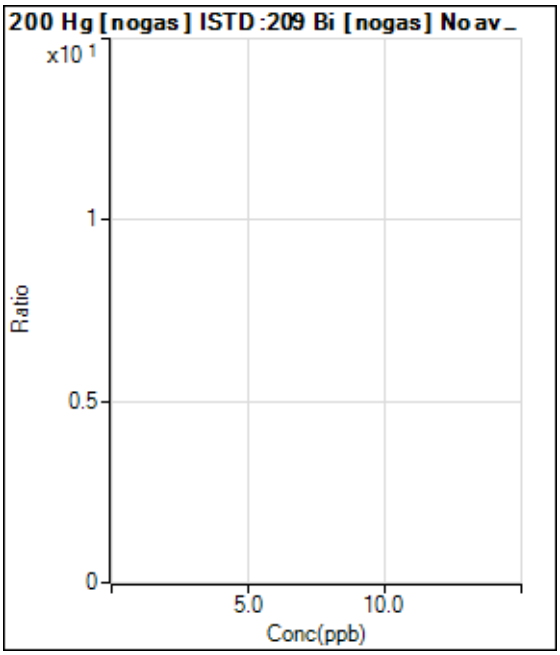
y = 0.0041 * x + 1.0070E-004
R = 1.0000
DL = 0.01988
BEC = 0.02467

Weight: <None>
Min Conc: <None>

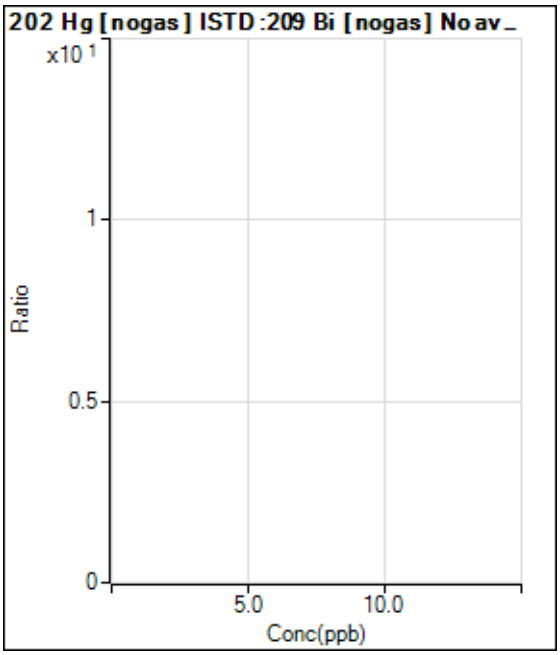


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		130.00		P	
2	☐	2.000		14987.05		P	
3	☐	5.000		37670.00		P	
4	☐	10.000		79518.29		P	
5	☐	100.000		726333.71		P	
6	☐	200.000		1714254.77		A	
7	☐	1.000					

Calibration for 179_ICV.d

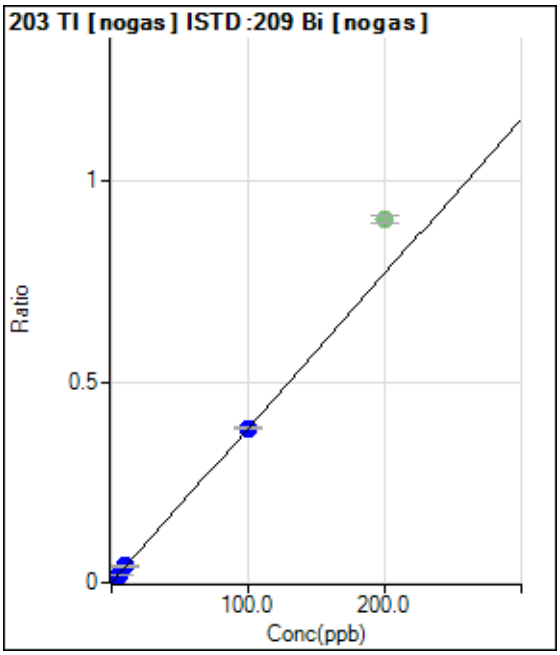


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	2.000					
6	☐	5.000					
7	☐	10.000					



	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					

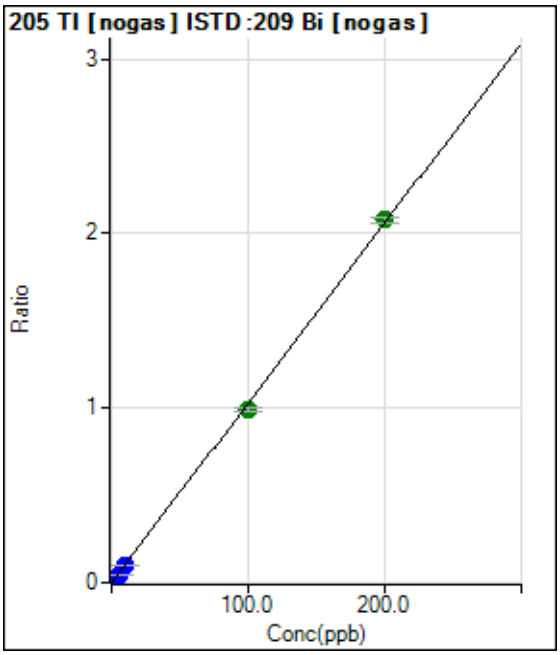
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	126.67	0.0001	P	36.7
2	☐	2.000	1.927	13262.19	0.0075	P	1.3
3	☐	5.000	4.947	34302.93	0.0191	P	2.0
4	☐	10.000	10.756	72419.74	0.0415	P	3.8
5	☐	100.000	99.928	675949.16	0.3847	P	0.7
6	☑	200.000		1523785.34	0.9038	A	2.0
7	☐	1.000					

y = 0.0038 * x + 7.2426E-005
R = 1.0000
DL = 0.02071
BEC = 0.01882

Weight: <None>
Min Conc: <None>

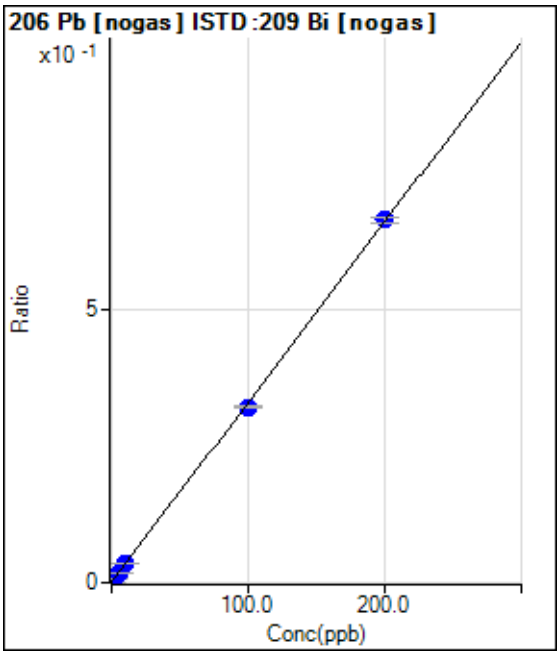


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	373.34	0.0002	P	17.4
2	☐	2.000	1.767	32556.18	0.0184	P	1.0
3	☐	5.000	4.389	81384.98	0.0454	P	1.8
4	☐	10.000	9.514	171213.72	0.0981	P	4.0
5	☐	100.000	96.229	1739248.36	0.9900	A	2.3
6	☐	200.000	201.927	3502156.61	2.0771	A	1.8
7	☐	1.000					

y = 0.0103 * x + 2.1298E-004
R = 0.9998
DL = 0.01079
BEC = 0.02071

Weight: <None>
Min Conc: <None>

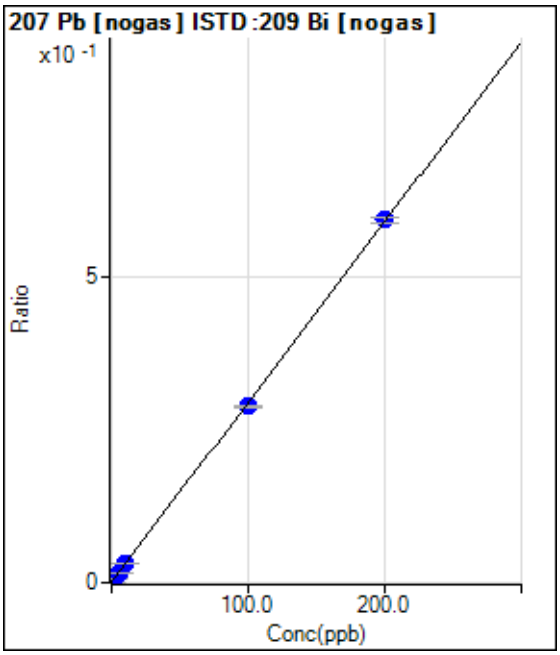
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1500.09	0.0009	P	5.8
2	☐	2.000	1.874	12424.86	0.0070	P	4.3
3	☐	5.000	4.753	29573.69	0.0165	P	2.5
4	☐	10.000	10.393	61130.99	0.0350	P	4.2
5	☐	100.000	97.397	564013.68	0.3210	P	1.2
6	☐	200.000	201.289	1117042.38	0.6625	P	1.6
7	☐	1.000					

y = 0.0033 * x + 8.5654E-004
R = 0.9999
DL = 0.04529
BEC = 0.2606

Weight: <None>
Min Conc: <None>

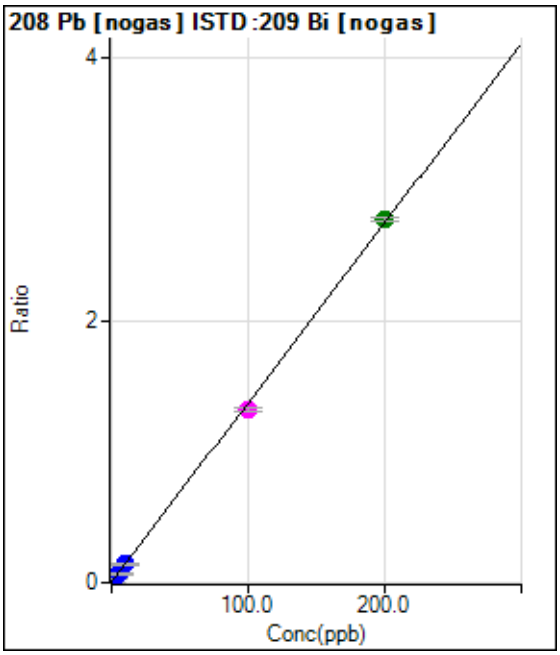


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1390.08	0.0008	P	0.7
2	☐	2.000	1.910	11350.75	0.0064	P	5.6
3	☐	5.000	4.673	26084.49	0.0145	P	4.1
4	☐	10.000	10.266	54092.98	0.0310	P	3.2
5	☐	100.000	97.535	505303.64	0.2876	P	1.7
6	☐	200.000	201.228	999052.67	0.5925	P	1.9
7	☐	1.000					

y = 0.0029 * x + 7.9418E-004
R = 0.9999
DL = 0.005937
BEC = 0.2701

Weight: <None>
Min Conc: <None>

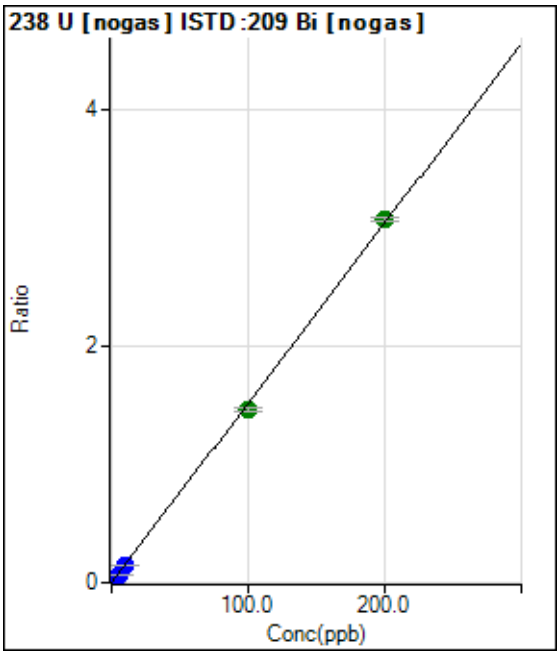
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6050.53	0.0035	P	2.6
2	☐	2.000	1.842	50791.55	0.0287	P	3.4
3	☐	5.000	4.605	119429.32	0.0666	P	2.1
4	☐	10.000	9.964	244452.37	0.1400	P	2.5
5	☐	100.000	96.343	2325274.04	1.3235	M	2.0
6	☐	200.000	201.842	4668868.03	2.7691	A	1.2
7	☐	1.000					

y = 0.0137 * x + 0.0035
R = 0.9998
DL = 0.01932
BEC = 0.2523

Weight: <None>
Min Conc: <None>

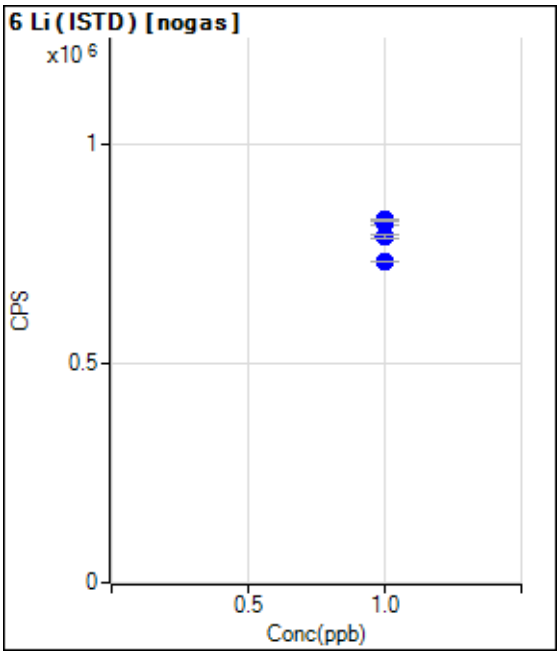


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	18.2
2	☐	2.000	1.748	46996.15	0.0265	P	1.9
3	☐	5.000	4.442	120926.08	0.0674	P	1.5
4	☐	10.000	9.204	243867.29	0.1396	P	1.2
5	☐	100.000	96.084	2560221.73	1.4572	A	2.4
6	☐	200.000	202.014	5165462.11	3.0636	A	1.1
7	☐	1.000					

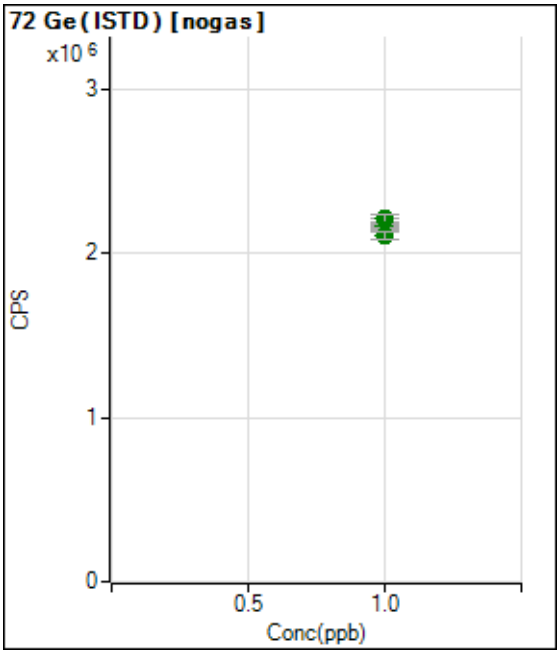
y = 0.0152 * x + 3.2302E-005
R = 0.9997
DL = 0.001166
BEC = 0.00213

Weight: <None>
Min Conc: <None>

Calibration for 179_ICV.d

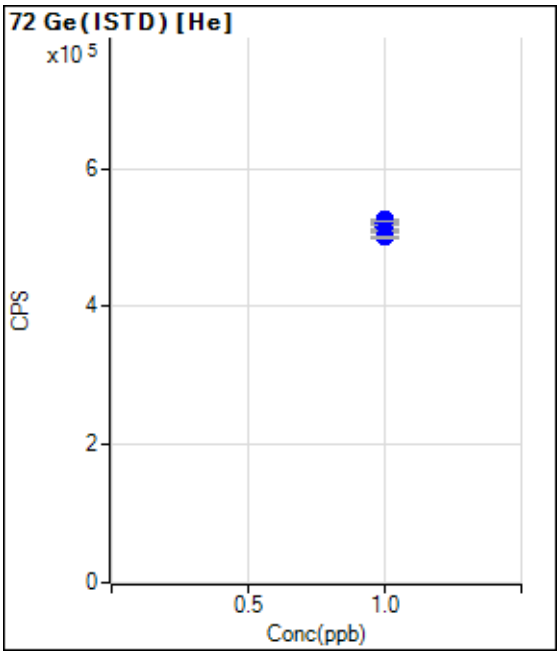


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		818909.94		P	1.2
2	☐	1.000		825692.62		P	0.5
3	☐	1.000		825863.24		P	0.1
4	☐	1.000		827827.66		P	0.3
5	☐	1.000		790398.44		P	0.8
6	☐	1.000		732951.59		P	0.5
7	☐	1.000					

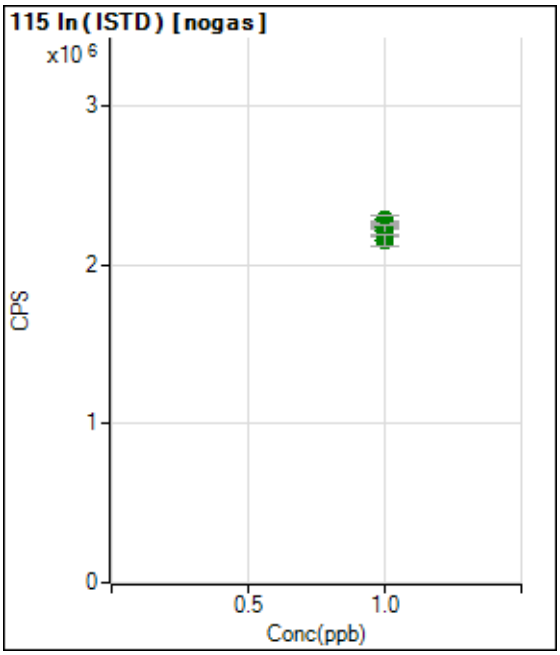


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2192195.49		A	2.2
2	☐	1.000		2162820.91		A	2.9
3	☐	1.000		2184786.84		A	0.3
4	☐	1.000		2209784.45		A	2.4
5	☐	1.000		2147278.35		A	0.6
6	☐	1.000		2110048.98		A	2.2
7	☐	1.000					

Calibration for 179_ICV.d

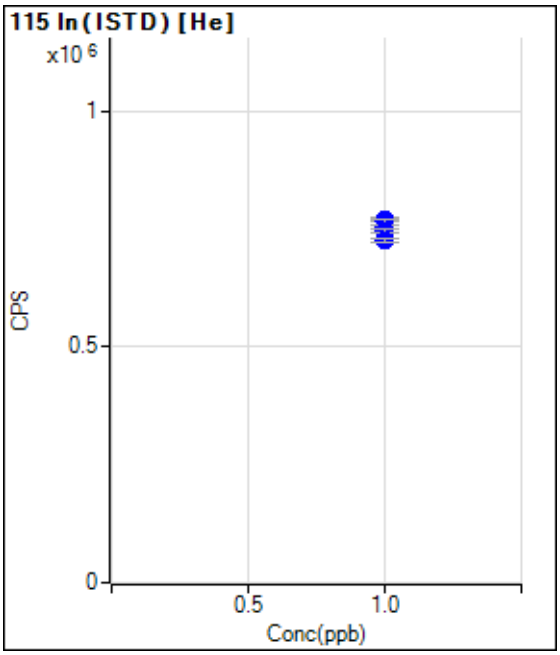


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		516667.21		P	1.6
2	☐	1.000		521572.32		P	0.6
3	☐	1.000		525508.34		P	0.6
4	☐	1.000		520947.02		P	1.0
5	☐	1.000		508598.86		P	0.6
6	☐	1.000		500601.80		P	0.3
7	☐	1.000					

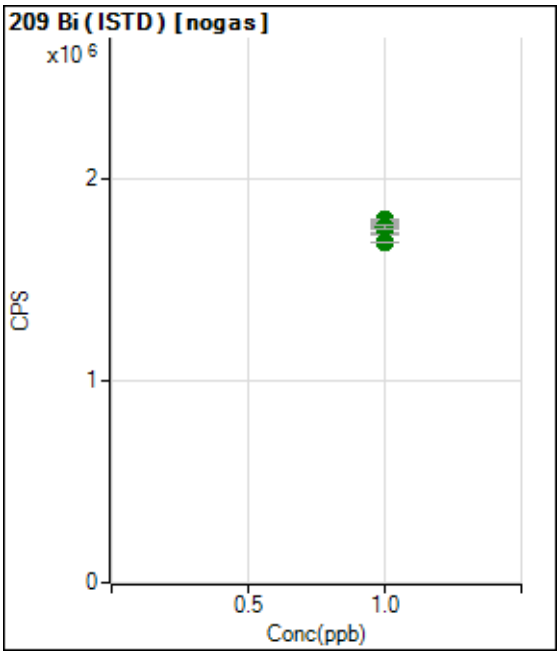


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2276906.43		A	3.0
2	☐	1.000		2233868.15		A	3.5
3	☐	1.000		2282322.66		A	2.3
4	☐	1.000		2244190.31		A	2.0
5	☐	1.000		2212525.07		A	2.9
6	☐	1.000		2150840.00		A	3.4
7	☐	1.000					

Calibration for 179_ICV.d

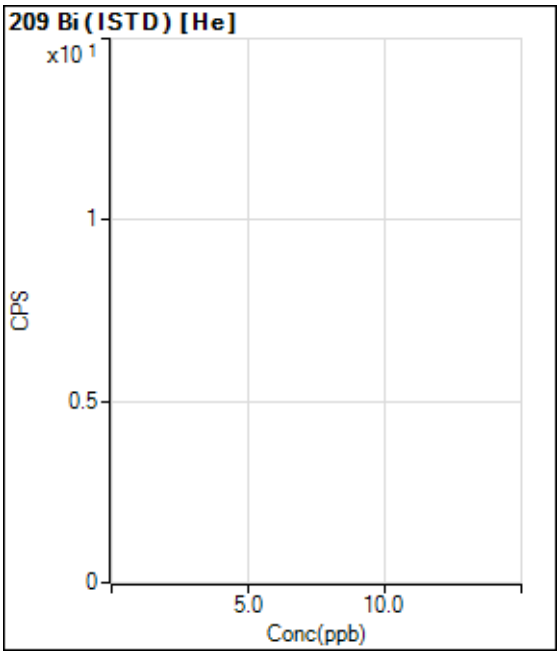


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		751046.19		P	0.3
2	☐	1.000		769503.51		P	1.0
3	☐	1.000		753979.23		P	1.0
4	☐	1.000		764824.13		P	1.9
5	☐	1.000		746571.19		P	0.7
6	☐	1.000		726544.15		P	0.9
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1750171.75		A	2.2
2	☐	1.000		1770527.99		A	1.0
3	☐	1.000		1794416.85		A	0.4
4	☐	1.000		1747188.10		A	3.3
5	☐	1.000		1757049.56		A	1.0
6	☐	1.000		1686046.33		A	0.2
7	☐	1.000					

Calibration for 179_ICV.d



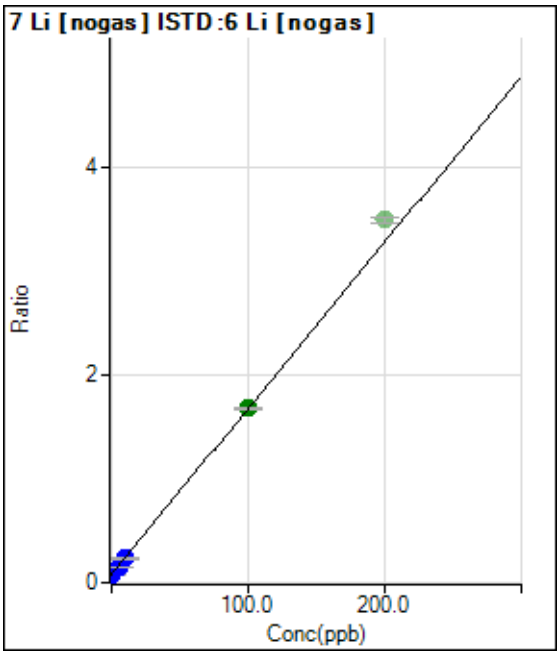
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000					
2	☐	1.000					
3	☐	1.000					
4	☐	1.000					
5	☐	1.000					
6	☐	1.000					
7	☐	1.000					

Calibration for 105_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\061520A.b\
Analysis File: 061520A.batch.bin
DA Date-Time: 6/15/2020 10:26:07 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	098CALB.d	CAL BLK	6/15/2020 4:41:03 PM
2	099CALS.d	2/10/200	6/15/2020 4:43:29 PM
3	100CALS.d	5/25/500	6/15/2020 4:45:57 PM
4	101CALS.d	10/50/1000	6/15/2020 4:48:24 PM
5	102CALS.d	100/500/10K	6/15/2020 4:50:52 PM
6	103CALS.d	200/1000/20K	6/15/2020 4:53:16 PM
7			

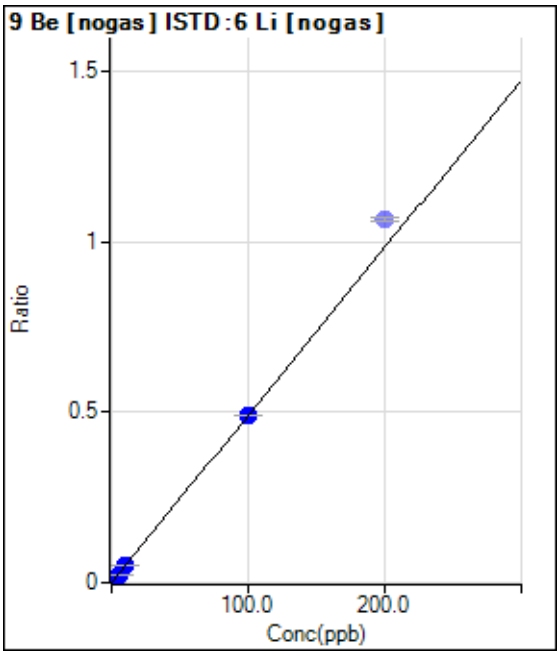
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	72004.84	0.0813	P	0.9
2	☐	2.000	1.842	98629.22	0.1107	P	1.2
3	☐	5.000	4.599	138054.91	0.1548	P	0.5
4	☐	10.000	9.434	203135.43	0.2320	P	0.9
5	☐	100.000	100.080	1363508.99	1.6796	A	0.8
6	☑	200.000		2622384.65	3.4916	A	1.6
7	☐	1.000					

y = 0.0160 * x + 0.0813
R = 1.0000
DL = 0.1311
BEC = 5.093

Weight: <None>
Min Conc: <None>

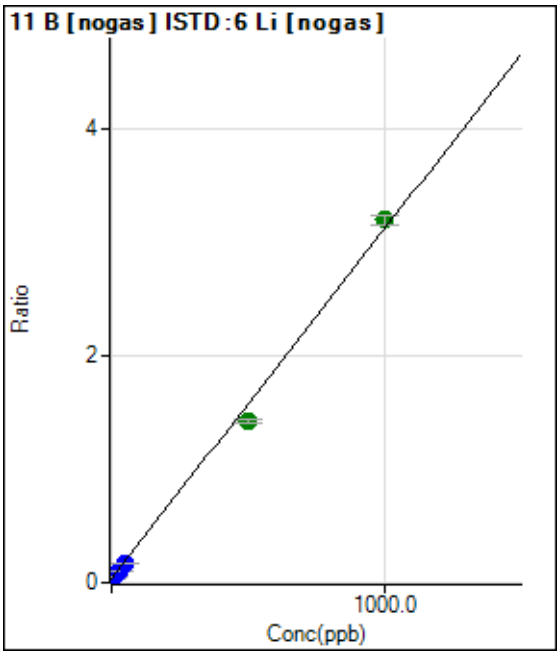


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	121.67	0.0001	P	15.2
2	☐	2.000	1.852	8233.47	0.0092	P	3.8
3	☐	5.000	4.622	20390.81	0.0229	P	0.5
4	☐	10.000	9.824	42414.75	0.0484	P	1.6
5	☐	100.000	100.039	399431.48	0.4920	P	0.4
6	☑	200.000		800317.69	1.0656	P	1.1
7	☐	1.000					

y = 0.0049 * x + 1.3738E-004
R = 1.0000
DL = 0.01272
BEC = 0.02794

Weight: <None>
Min Conc: <None>

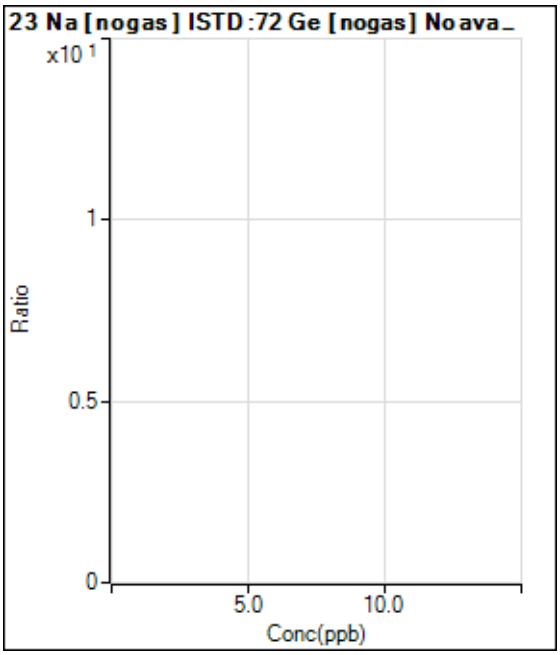
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	32816.21	0.0371	P	1.1
2	☐	10.000	6.915	51963.03	0.0583	P	1.1
3	☐	25.000	18.698	84374.84	0.0946	P	0.2
4	☐	50.000	41.927	145406.16	0.1661	P	2.3
5	☐	500.000	450.032	1154178.14	1.4217	A	1.6
6	☐	1000.000	1025.576	2397804.49	3.1926	A	2.8
7	☐	5.000					

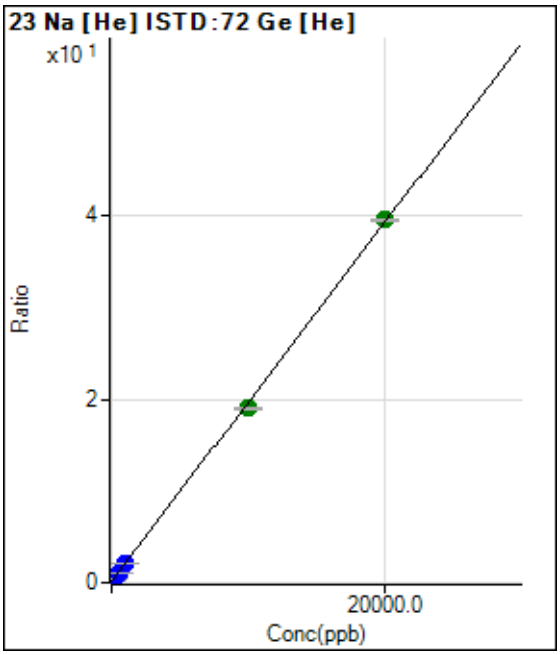
y = 0.0031 * x + 0.0371
R = 0.9984
DL = 0.3872
BEC = 12.05

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

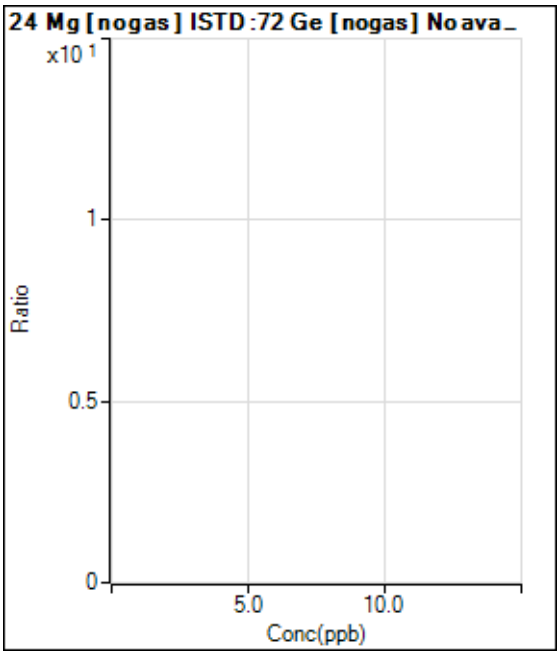
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	71540.80	0.1271	P	2.1
2	☐	200.000	181.223	273005.03	0.4816	P	0.5
3	☐	500.000	465.016	583186.66	1.0367	P	0.5
4	☐	1000.000	978.916	1126988.58	2.0420	P	0.4
5	☐	10000.000	9673.251	10060372.98	19.0489	A	1.4
6	☐	20000.000	20165.491	20298008.87	39.5727	A	0.7
7	☐	100.000					

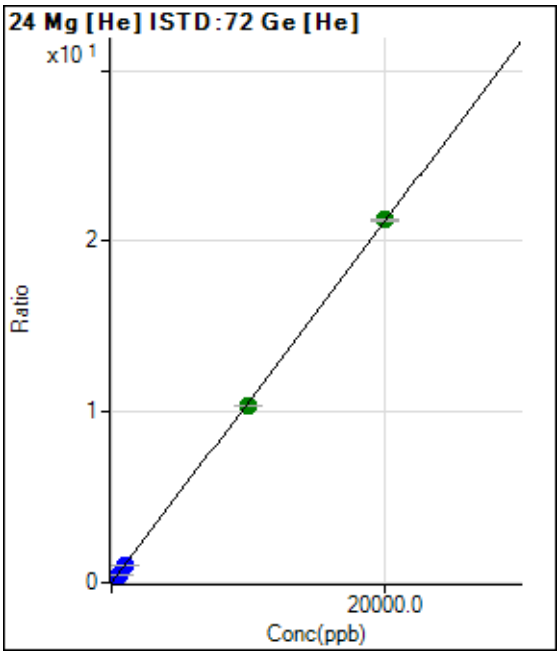
y = 0.0020 * x + 0.1271
R = 0.9998
DL = 4.086
BEC = 64.99

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

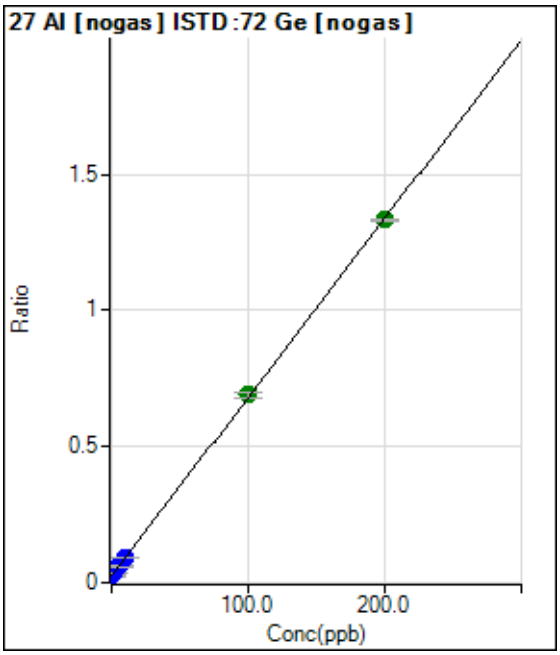
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1296.73	0.0023	P	14.6
2	☐	200.000	187.485	113632.75	0.2005	P	0.5
3	☐	500.000	471.535	281638.04	0.5007	P	0.7
4	☐	1000.000	983.673	575061.48	1.0419	P	0.5
5	☐	10000.000	9799.772	5471678.88	10.3596	A	0.6
6	☐	20000.000	20101.767	10898339.42	21.2478	A	0.8
7	☐	100.000					

y = 0.0011 * x + 0.0023
R = 0.9999
DL = 0.9543
BEC = 2.18

Weight: <None>
Min Conc: <None>

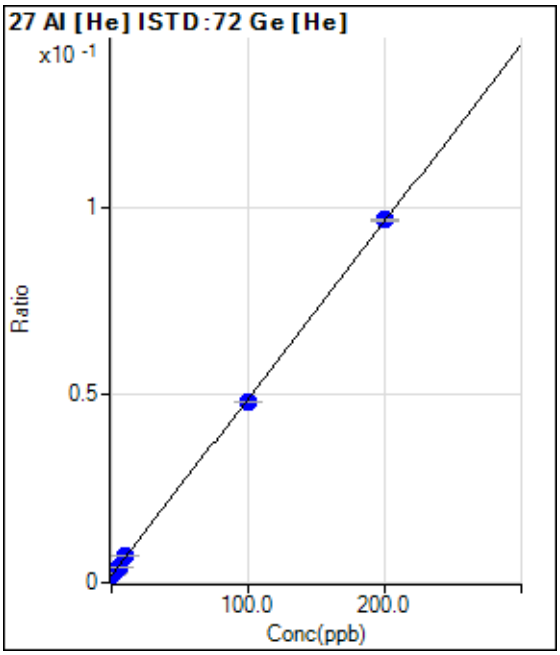


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	57256.14	0.0248	P	0.9
2	☐	2.000	1.944	87299.73	0.0375	P	1.3
3	☐	5.000	5.401	137076.34	0.0602	P	2.5
4	☐	10.000	9.891	208274.67	0.0896	P	1.7
5	☐	100.000	101.240	1525999.56	0.6886	A	2.7
6	☐	200.000	199.376	2925285.37	1.3321	A	0.6
7	☐	1.000					

y = 0.0066 * x + 0.0248
R = 1.0000
DL = 0.1057
BEC = 3.779

Weight: <None>
Min Conc: <None>

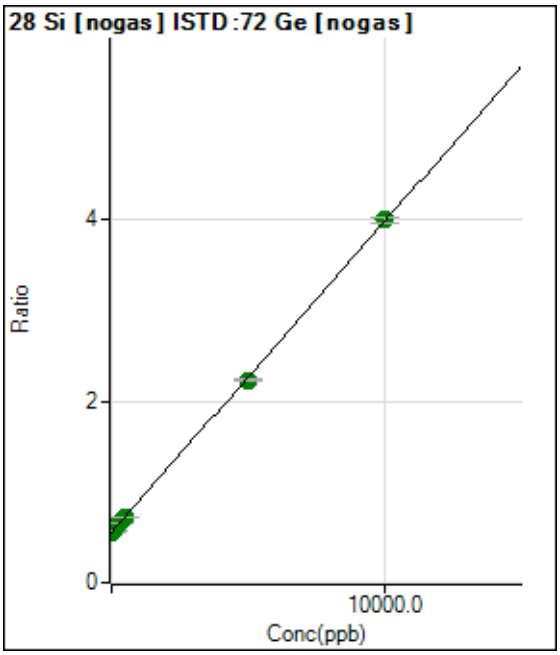
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1096.72	0.0019	P	8.4
2	☐	2.000	1.677	1553.42	0.0027	P	15.7
3	☐	5.000	4.697	2343.51	0.0042	P	6.2
4	☐	10.000	10.797	3887.14	0.0070	P	0.6
5	☐	100.000	98.072	25467.37	0.0482	P	0.5
6	☐	200.000	200.935	49625.00	0.0967	P	0.8
7	☐	1.000					

y = 4.7178E-004 * x + 0.0019
R = 0.9999
DL = 1.039
BEC = 4.131

Weight: <None>
Min Conc: <None>

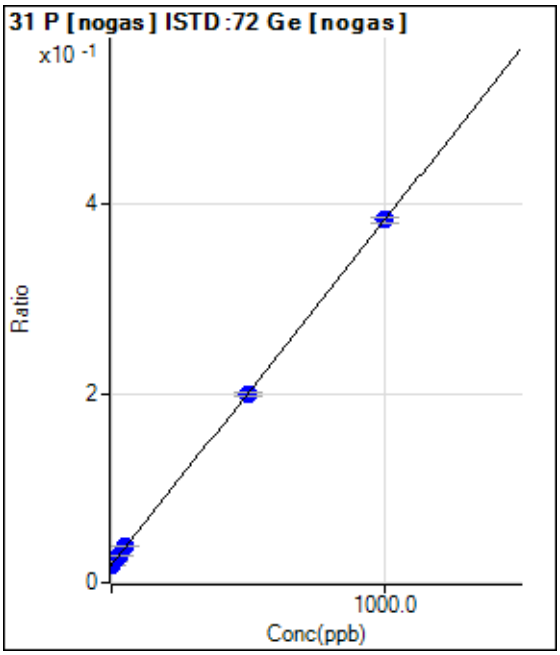


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1286380.35	0.5567	A	3.0
2	☐	100.000	58.778	1342071.23	0.5768	A	1.1
3	☐	250.000	277.589	1484769.14	0.6517	A	0.5
4	☐	500.000	485.233	1679554.56	0.7228	A	2.0
5	☐	5000.000	4896.498	4949247.63	2.2331	A	1.3
6	☐	10000.000	10052.212	8778937.37	3.9983	A	1.9
7	☐	50.000					

y = 3.4237E-004 * x + 0.5567
R = 0.9999
DL = 145.6
BEC = 1626

Weight: <None>
Min Conc: <None>

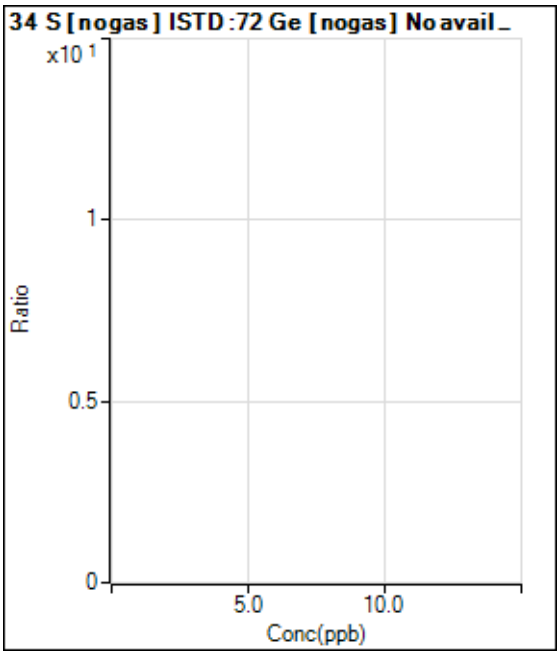
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43303.24	0.0187	P	4.1
2	☐	10.000	8.386	50704.80	0.0218	P	3.1
3	☐	25.000	27.003	65078.32	0.0286	P	1.2
4	☐	50.000	53.521	88814.07	0.0382	P	1.1
5	☐	500.000	496.915	442322.88	0.1996	P	2.3
6	☐	1000.000	1001.333	841336.71	0.3832	P	1.6
7	☐	5.000					

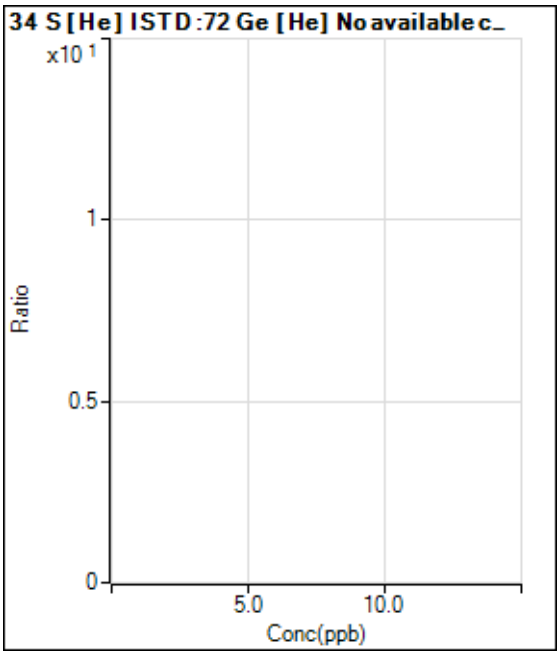
y = 3.6395E-004 * x + 0.0187
R = 1.0000
DL = 6.264
BEC = 51.5

Weight: <None>
Min Conc: <None>

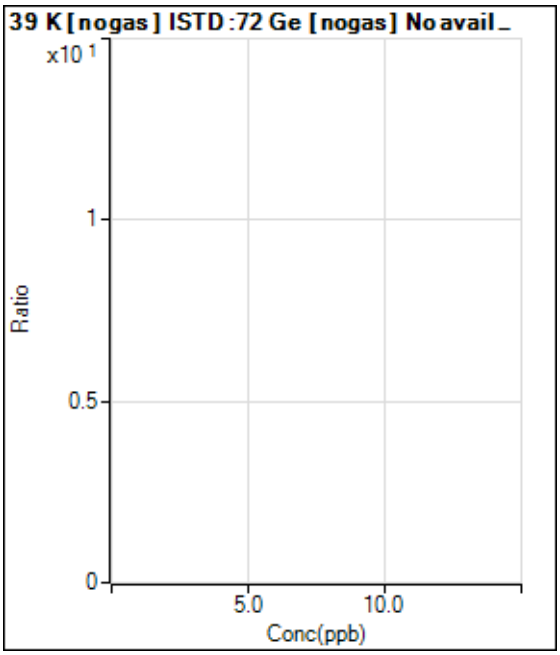


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.000					
6	☐	40000.000					
7	☐	200.000					

Calibration for 105_ICV.d

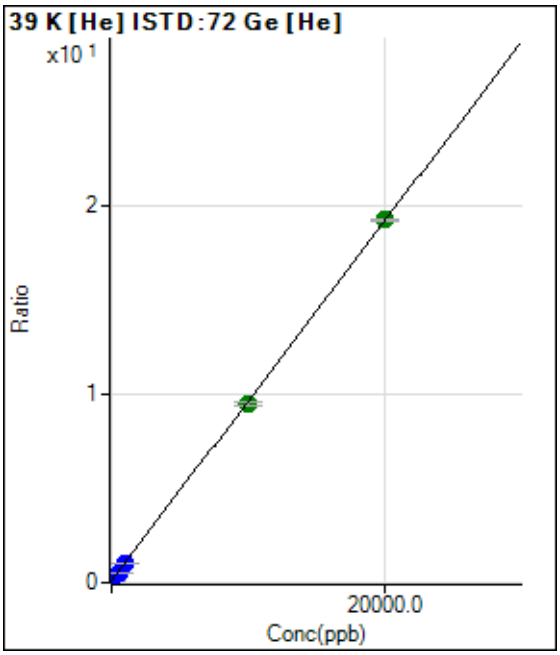


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.000					
6	☐	40000.000					
7	☐	200.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

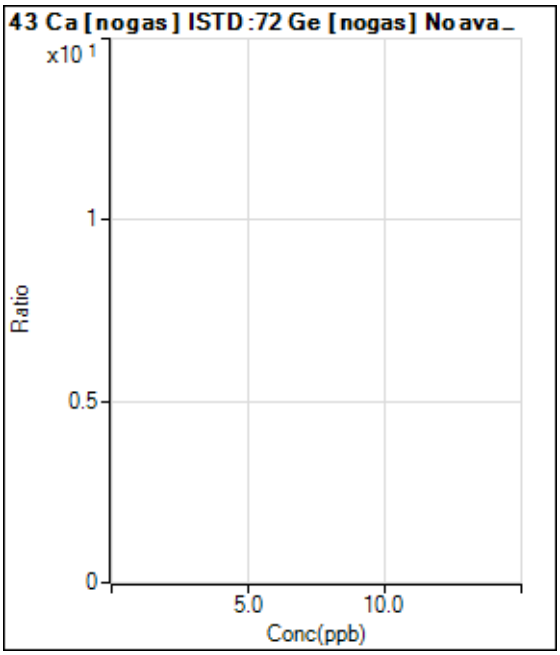
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	61249.84	0.1088	P	2.7
2	☐	200.000	182.485	160279.74	0.2828	P	0.7
3	☐	500.000	469.822	313090.03	0.5566	P	0.7
4	☐	1000.000	967.623	569019.81	1.0310	P	0.4
5	☐	10000.000	9842.977	5011720.97	9.4893	A	1.2
6	☐	20000.000	20081.060	9871881.73	19.2463	A	0.6
7	☐	100.000					

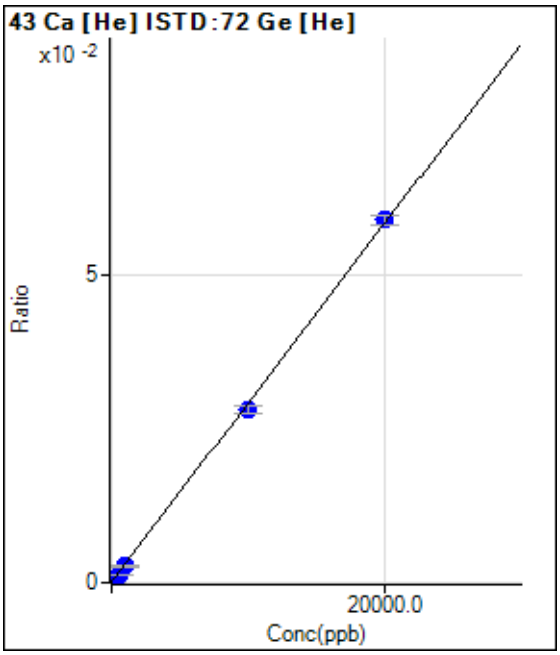
y = 9.5301E-004 * x + 0.1088
R = 1.0000
DL = 9.219
BEC = 114.2

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

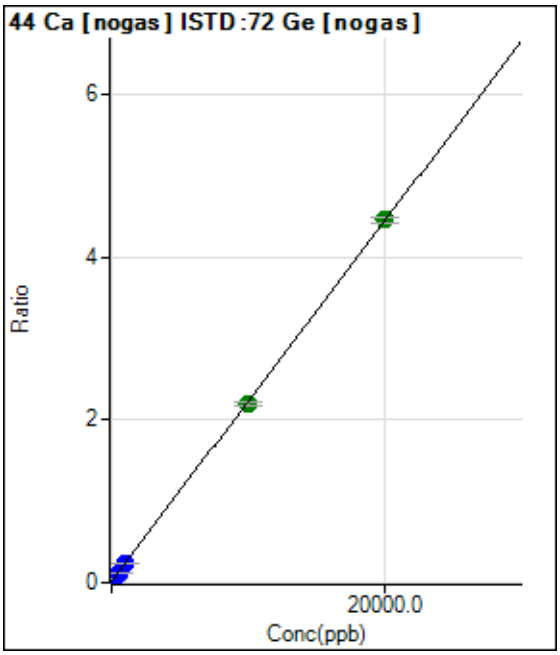
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0001	P	78.2
2	☐	200.000	223.948	433.35	0.0008	P	21.4
3	☐	500.000	417.901	746.69	0.0013	P	10.8
4	☐	1000.000	892.001	1493.42	0.0027	P	5.9
5	☐	10000.000	9594.965	14792.68	0.0280	P	4.0
6	☐	20000.000	20209.731	30194.61	0.0589	P	2.4
7	☐	100.000					

y = 2.9074E-006 * x + 1.1276E-004
R = 0.9997
DL = 90.95
BEC = 38.78

Weight: <None>
Min Conc: <None>

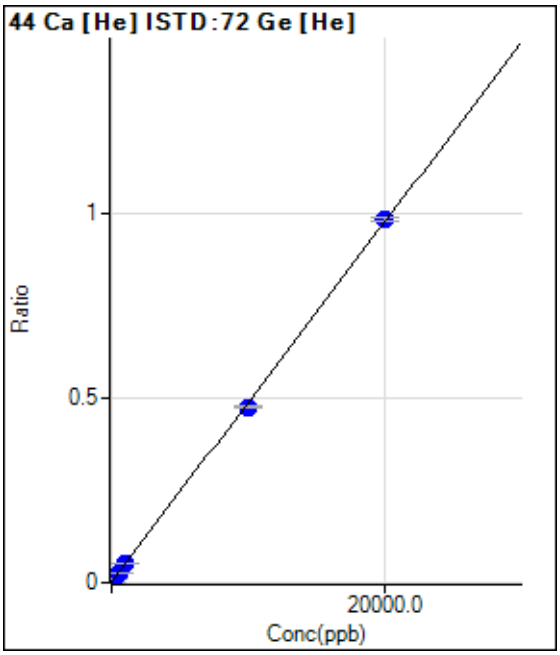


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	42237.99	0.0183	P	1.4
2	☐	200.000	177.382	133907.62	0.0576	P	2.6
3	☐	500.000	475.295	281431.45	0.1235	P	0.7
4	☐	1000.000	974.079	543752.37	0.2340	P	1.0
5	☐	10000.000	9850.602	4874876.28	2.1999	A	3.0
6	☐	20000.000	20076.839	9802969.64	4.4648	A	1.8
7	☐	100.000					

y = 2.2147E-004 * x + 0.0183
R = 1.0000
DL = 3.54
BEC = 82.54

Weight: <None>
Min Conc: <None>

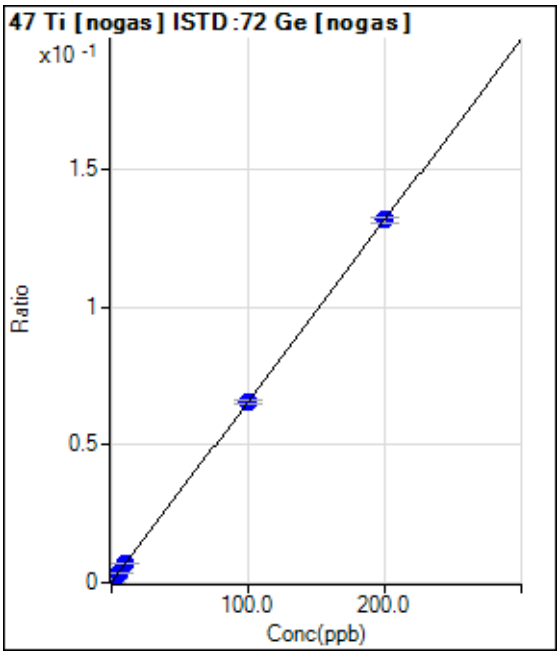
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1016.71	0.0018	P	16.2
2	☐	200.000	175.460	5861.00	0.0103	P	1.3
3	☐	500.000	477.086	14065.46	0.0250	P	1.9
4	☐	1000.000	997.048	27754.11	0.0503	P	1.8
5	☐	10000.000	9727.797	250771.69	0.4748	P	1.2
6	☐	20000.000	20137.067	503145.23	0.9810	P	0.9
7	☐	100.000					

y = 4.8624E-005 * x + 0.0018
R = 0.9999
DL = 18.1
BEC = 37.17

Weight: <None>
Min Conc: <None>

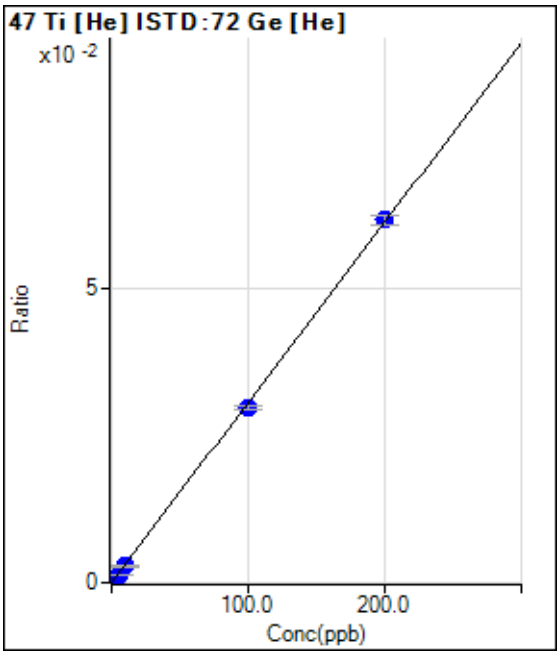


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	240.00	0.0001	P	5.4
2	☐	2.000	2.001	3300.34	0.0014	P	4.5
3	☐	5.000	4.886	7548.29	0.0033	P	5.2
4	☐	10.000	10.145	15736.85	0.0068	P	2.5
5	☐	100.000	99.512	145204.29	0.0655	P	1.6
6	☐	200.000	200.239	289246.55	0.1317	P	1.5
7	☐	1.000					

y = 6.5736E-004 * x + 1.0391E-004
R = 1.0000
DL = 0.02568
BEC = 0.1581

Weight: <None>
Min Conc: <None>

Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	114.5
2	☐	2.000	1.843	346.68	0.0006	P	28.9
3	☐	5.000	4.045	723.36	0.0013	P	14.2
4	☐	10.000	9.243	1586.76	0.0029	P	7.4
5	☐	100.000	97.077	15713.45	0.0297	P	1.4
6	☐	200.000	201.525	31647.06	0.0617	P	2.8
7	☐	1.000					

y = 3.0595E-004 * x + 4.7580E-005

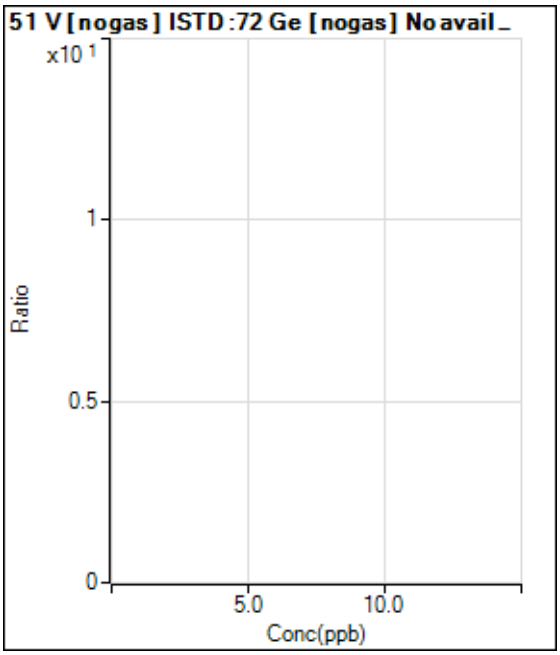
R = 0.9999

DL = 0.534

BEC = 0.1555

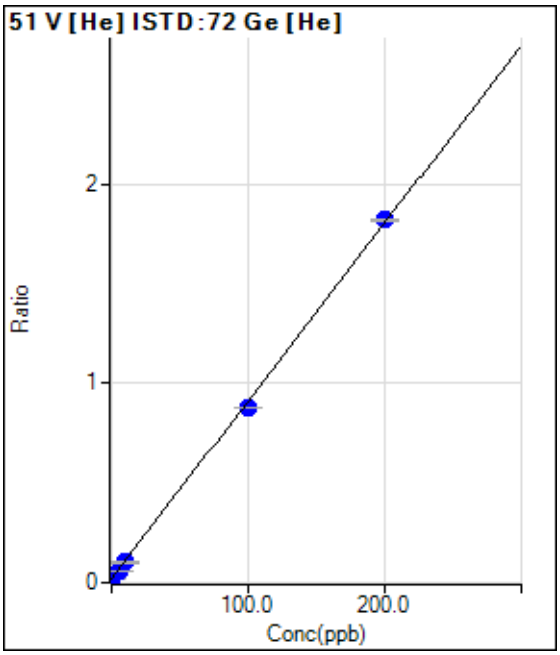
Weight: <None>

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					

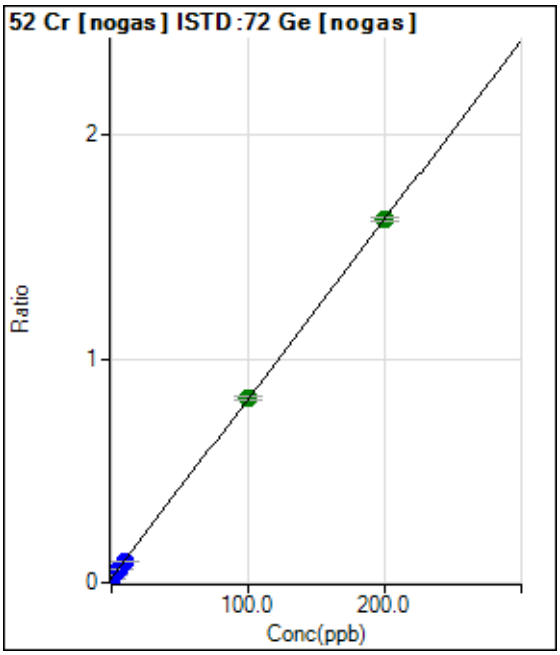
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11812.68	0.0210	P	1.9
2	☐	2.000	1.823	21104.17	0.0372	P	1.5
3	☐	5.000	4.426	33990.93	0.0604	P	2.0
4	☐	10.000	9.033	56015.83	0.1015	P	0.7
5	☐	100.000	96.319	464467.36	0.8794	P	0.6
6	☐	200.000	201.905	933721.15	1.8204	P	0.6
7	☐	1.000					

y = 0.0089 * x + 0.0210
R = 0.9998
DL = 0.137
BEC = 2.355

Weight: <None>
Min Conc: <None>

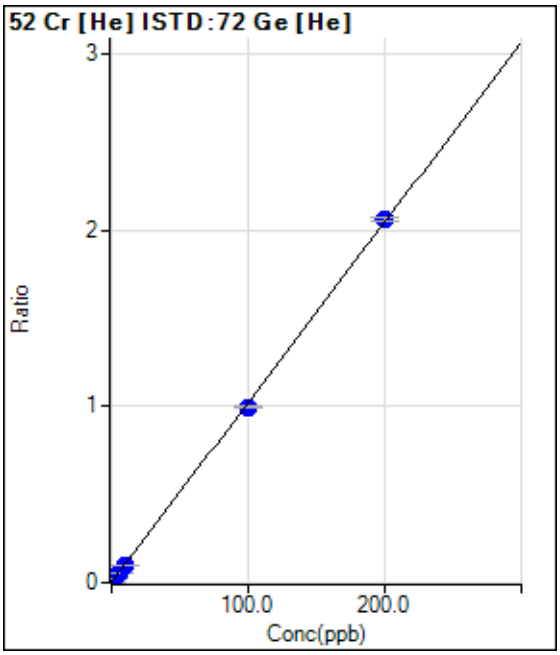


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	48824.24	0.0211	P	1.3
2	☐	2.000	1.802	82709.89	0.0356	P	1.9
3	☐	5.000	4.823	136037.08	0.0597	P	2.0
4	☐	10.000	9.538	226474.48	0.0975	P	0.2
5	☐	100.000	100.449	1828500.34	0.8251	A	2.2
6	☐	200.000	199.805	3558061.30	1.6203	A	1.0
7	☐	1.000					

y = 0.0080 * x + 0.0211
R = 1.0000
DL = 0.1021
BEC = 2.64

Weight: <None>
Min Conc: <None>

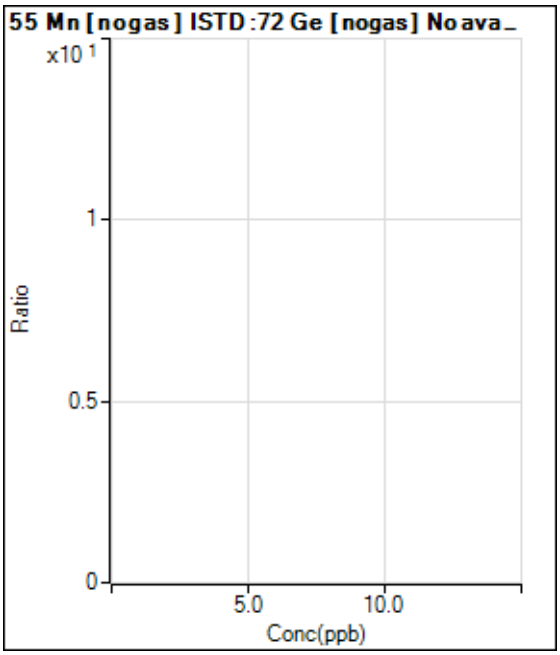
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1170.05	0.0021	P	7.2
2	☐	2.000	1.933	12370.99	0.0218	P	2.2
3	☐	5.000	4.863	29109.78	0.0517	P	2.0
4	☐	10.000	9.809	56442.51	0.1023	P	1.9
5	☐	100.000	97.254	525751.93	0.9955	P	1.5
6	☐	200.000	201.387	1056226.11	2.0591	P	1.1
7	☐	1.000					

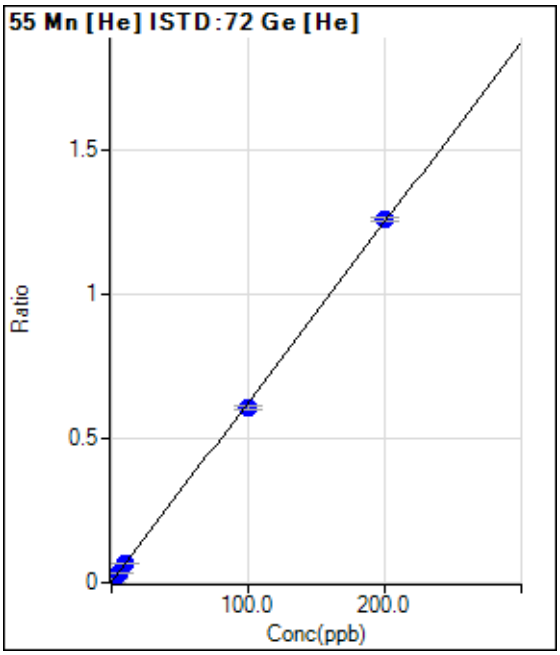
y = 0.0102 * x + 0.0021
R = 0.9999
DL = 0.04405
BEC = 0.2036

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 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1300.07	0.0023	P	12.4
2	☐	2.000	1.685	7264.87	0.0128	P	4.3
3	☐	5.000	4.879	18409.32	0.0327	P	0.9
4	☐	10.000	9.941	35477.59	0.0643	P	1.3
5	☐	100.000	97.317	321613.47	0.6090	P	1.9
6	☐	200.000	201.351	645020.95	1.2575	P	1.2
7	☐	1.000					

y = 0.0062 * x + 0.0023

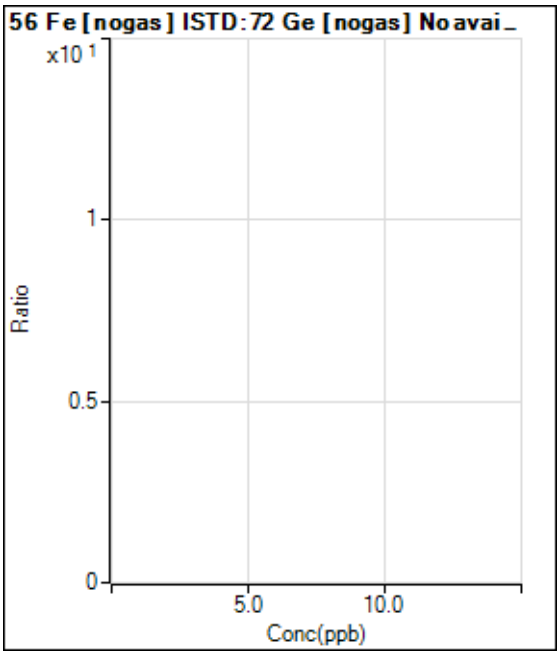
R = 0.9999

DL = 0.1383

BEC = 0.3707

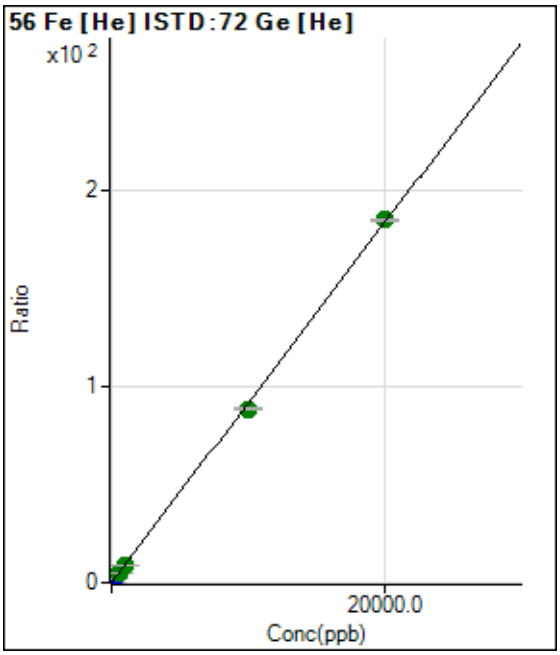
Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

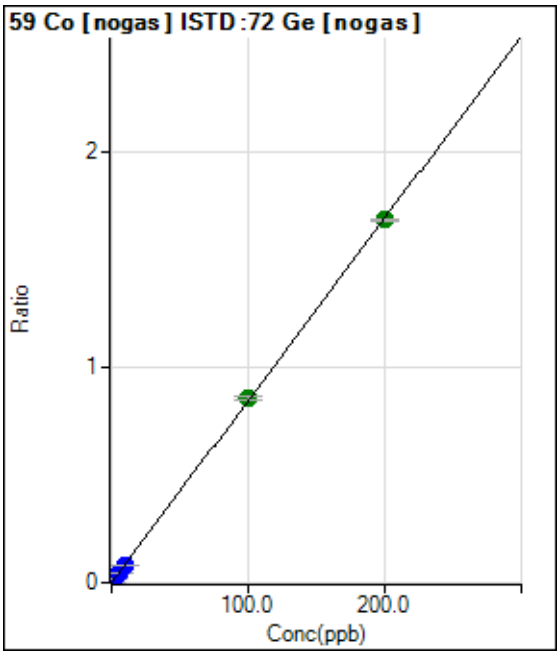
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17982.31	0.0320	P	2.7
2	☐	200.000	182.707	965878.63	1.7039	P	1.0
3	☐	500.000	498.144	2582327.67	4.5905	A	1.9
4	☐	1000.000	999.403	5065270.86	9.1776	A	0.2
5	☐	10000.000	9659.173	46700529.31	88.4242	A	1.2
6	☐	20000.000	20170.662	94693658.59	184.6161	A	0.6
7	☐	100.000					

y = 0.0092 * x + 0.0320
R = 0.9998
DL = 0.2864
BEC = 3.492

Weight: <None>
Min Conc: <None>

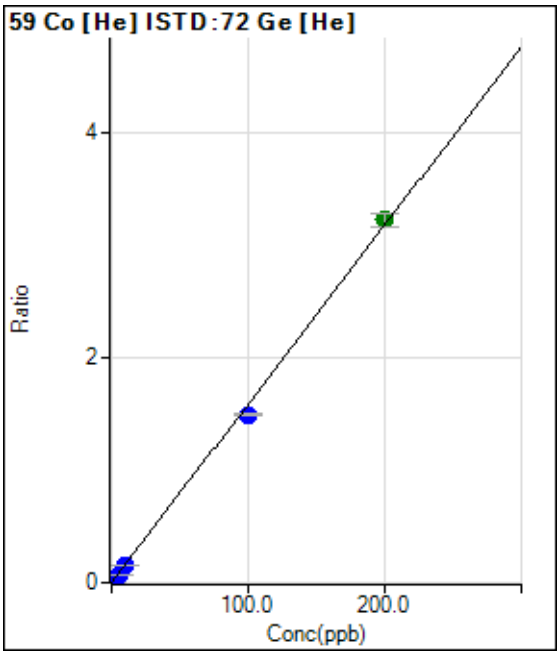


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	603.35	0.0003	P	10.6
2	☐	2.000	1.893	37872.38	0.0163	P	4.5
3	☐	5.000	5.017	97328.46	0.0427	P	2.6
4	☐	10.000	9.776	192916.60	0.0830	P	1.2
5	☐	100.000	101.517	1905212.42	0.8597	A	2.0
6	☐	200.000	199.253	3704843.90	1.6871	A	0.7
7	☐	1.000					

y = 0.0085 * x + 2.6075E-004
R = 1.0000
DL = 0.009832
BEC = 0.0308

Weight: <None>
Min Conc: <None>

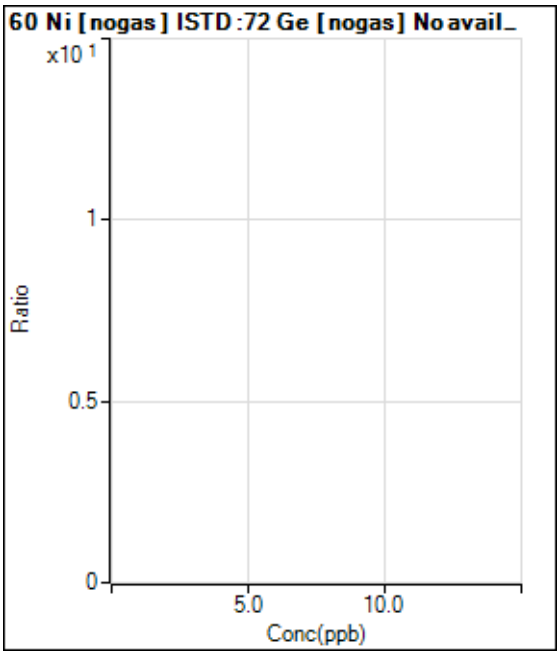
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	236.67	0.0004	P	10.1
2	☐	2.000	1.872	17111.49	0.0302	P	0.3
3	☐	5.000	4.655	41864.34	0.0744	P	0.7
4	☐	10.000	9.785	86076.12	0.1560	P	2.3
5	☐	100.000	93.812	787842.85	1.4917	P	1.3
6	☐	200.000	203.115	1656379.82	3.2293	A	3.4
7	☐	1.000					

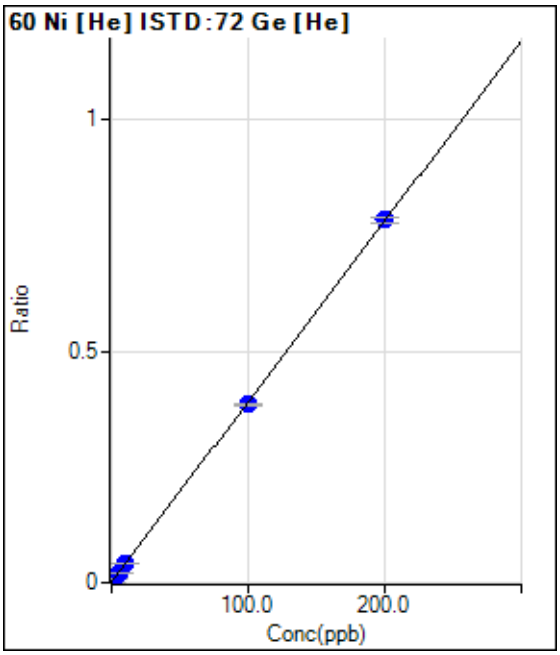
y = 0.0159 * x + 4.2040E-004
R = 0.9993
DL = 0.007979
BEC = 0.02645

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					

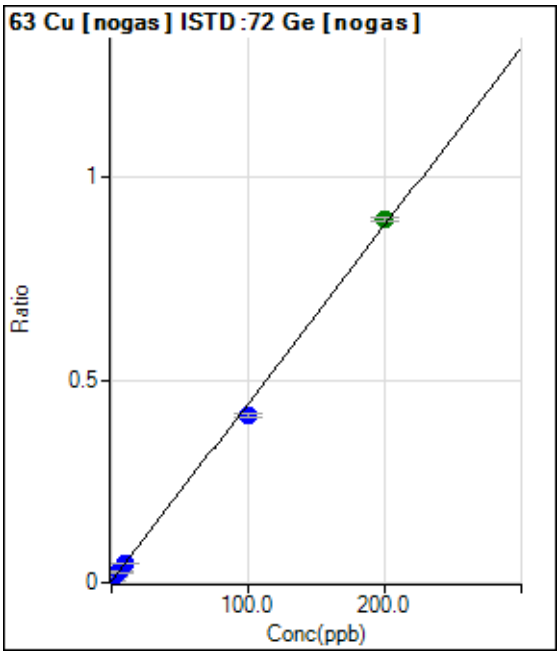
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	563.35	0.0010	P	1.7
2	☐	2.000	1.789	4517.27	0.0080	P	4.5
3	☐	5.000	5.024	11573.81	0.0206	P	0.6
4	☐	10.000	10.057	22176.82	0.0402	P	2.0
5	☐	100.000	98.336	202861.57	0.3841	P	1.8
6	☐	200.000	200.831	401814.41	0.7834	P	1.3
7	☐	1.000					

y = 0.0039 * x + 0.0010
R = 1.0000
DL = 0.01297
BEC = 0.257

Weight: <None>
Min Conc: <None>

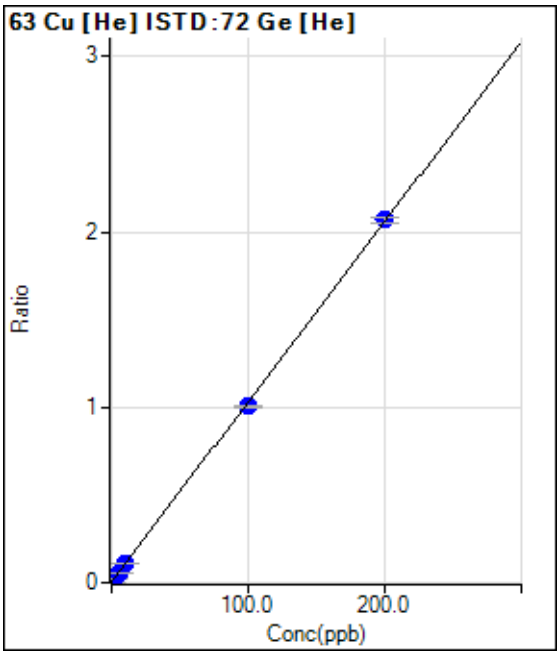


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8375.35	0.0036	P	5.4
2	☐	2.000	1.993	28762.63	0.0124	P	2.5
3	☐	5.000	5.127	59472.49	0.0261	P	3.0
4	☐	10.000	9.973	110086.50	0.0474	P	1.1
5	☐	100.000	93.591	918009.80	0.4143	P	2.6
6	☐	200.000	203.203	1966005.02	0.8952	A	1.1
7	☐	1.000					

y = 0.0044 * x + 0.0036
R = 0.9993
DL = 0.1345
BEC = 0.8256

Weight: <None>
Min Conc: <None>

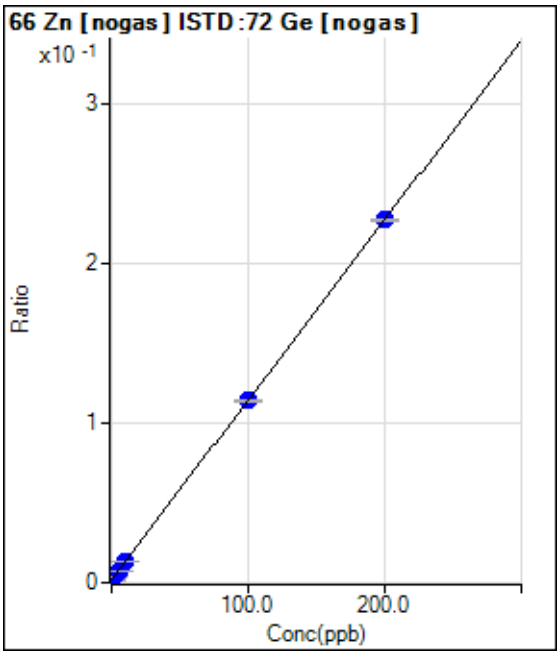
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2580.22	0.0046	P	10.6
2	☐	2.000	1.890	13591.82	0.0240	P	0.7
3	☐	5.000	4.984	31347.03	0.0557	P	2.7
4	☐	10.000	10.451	61713.42	0.1118	P	1.0
5	☐	100.000	97.676	531719.84	1.0067	P	1.2
6	☐	200.000	201.141	1060838.94	2.0683	P	1.3
7	☐	1.000					

y = 0.0103 * x + 0.0046
R = 0.9999
DL = 0.1424
BEC = 0.4471

Weight: <None>
Min Conc: <None>

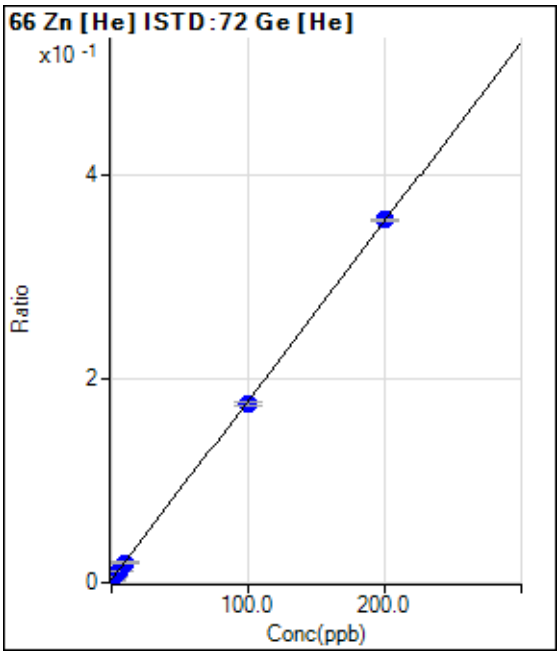


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4193.88	0.0018	P	6.5
2	☐	2.000	1.701	8688.87	0.0037	P	2.3
3	☐	5.000	4.953	16861.26	0.0074	P	4.4
4	☐	10.000	10.130	30782.69	0.0132	P	0.8
5	☐	100.000	99.575	253058.13	0.1142	P	1.4
6	☐	200.000	200.210	500136.78	0.2277	P	0.2
7	☐	1.000					

y = 0.0011 * x + 0.0018
R = 1.0000
DL = 0.3124
BEC = 1.609

Weight: <None>
Min Conc: <None>

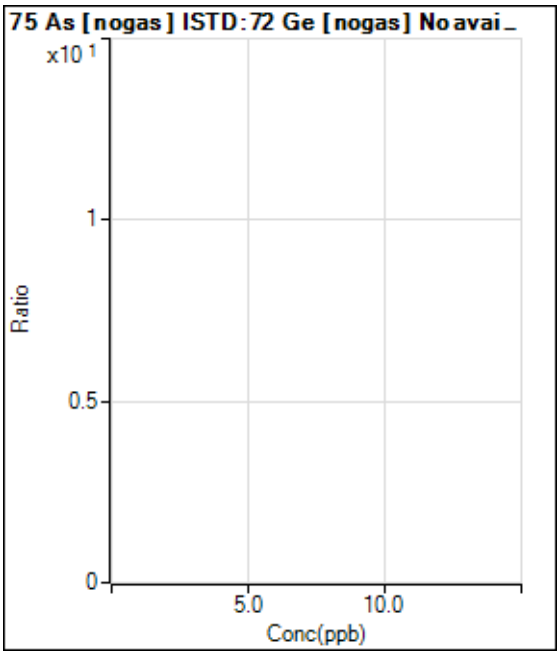
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1650.10	0.0029	P	7.9
2	☐	2.000	1.744	3400.35	0.0060	P	13.4
3	☐	5.000	4.821	6421.21	0.0114	P	4.4
4	☐	10.000	9.571	10913.37	0.0198	P	3.2
5	☐	100.000	98.253	92856.65	0.1758	P	1.2
6	☐	200.000	200.902	182829.37	0.3564	P	0.5
7	☐	1.000					

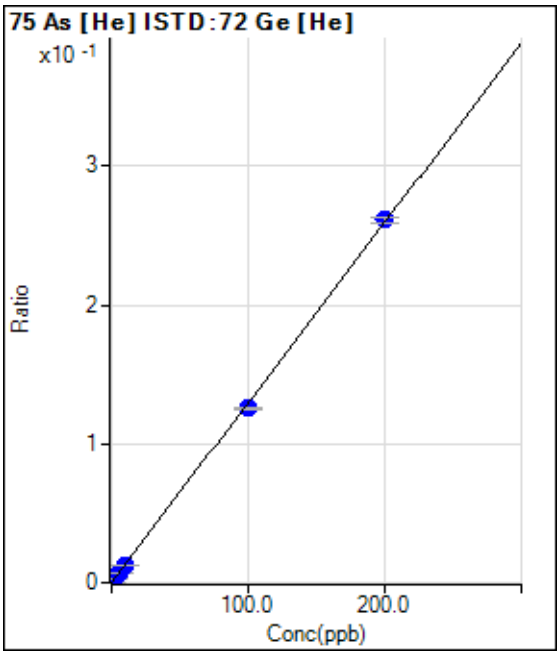
y = 0.0018 * x + 0.0029
R = 0.9999
DL = 0.3973
BEC = 1.667

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					

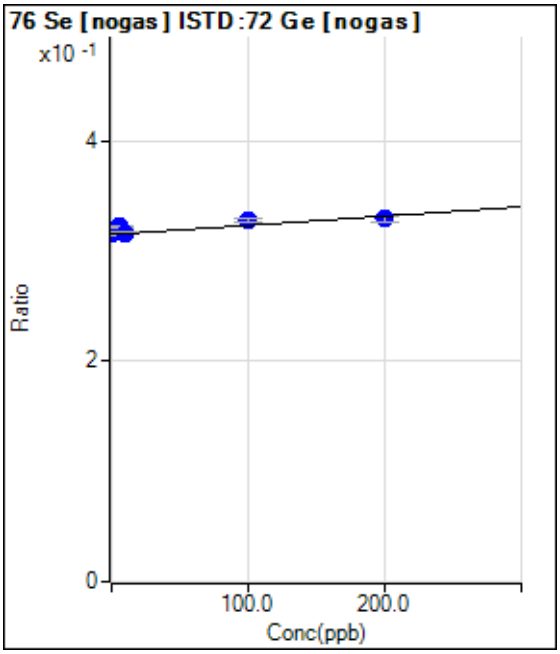
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	124.45	0.0002	P	10.0
2	☐	2.000	1.905	1522.29	0.0027	P	5.2
3	☐	5.000	4.708	3551.47	0.0063	P	2.1
4	☐	10.000	9.643	7009.14	0.0127	P	3.6
5	☐	100.000	96.676	66196.92	0.1253	P	0.4
6	☐	200.000	201.688	133988.60	0.2612	P	1.3
7	☐	1.000					

y = 0.0013 * x + 2.2101E-004
R = 0.9998
DL = 0.05101
BEC = 0.1708

Weight: <None>
Min Conc: <None>

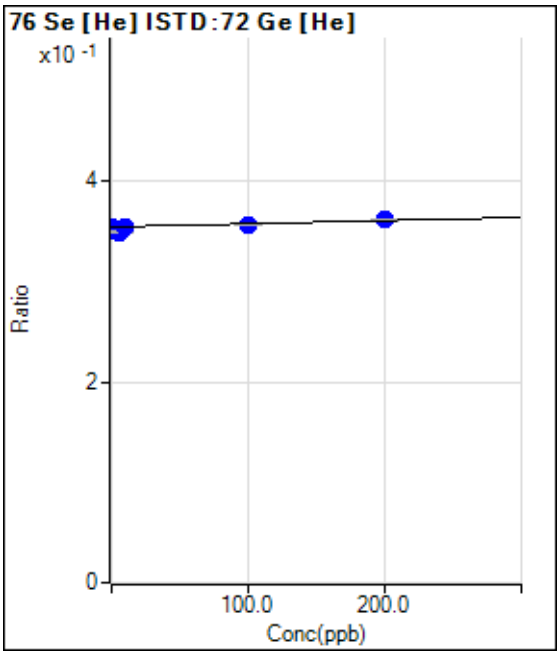


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	727226.37	0.3147	P	1.2
2	☐	2.000	36.093	739248.01	0.3178	P	2.0
3	☐	5.000	83.353	732949.81	0.3217	P	0.3
4	☐	10.000	12.062	733684.83	0.3158	P	0.5
5	☐	100.000	157.668	726943.69	0.3280	P	1.2
6	☐	200.000	168.763	722210.35	0.3289	P	1.5
7	☐	1.000					

y = 8.4034E-005 * x + 0.3147
R = 0.8673
DL = 140.2
BEC = 3745

Weight: <None>
Min Conc: <None>

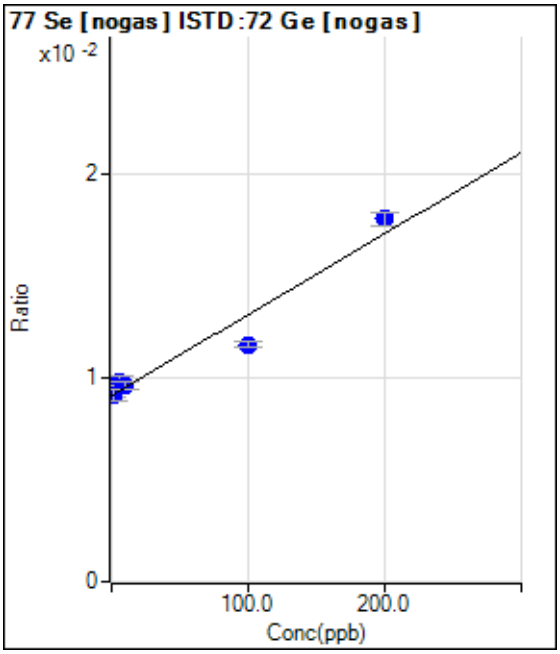
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	199785.21	0.3550	P	1.8
2	☐	2.000	-113.940	199245.06	0.3515	P	1.0
3	☐	5.000	-163.646	196855.93	0.3499	P	0.3
4	☐	10.000	-9.730	195784.01	0.3547	P	0.4
5	☐	100.000	73.551	188731.72	0.3573	P	0.2
6	☐	200.000	219.587	185615.91	0.3619	P	0.3
7	☐	1.000					

y = 3.1126E-005 * x + 0.3550
R = 0.8919
DL = 618.8
BEC = 1.141E+04

Weight: <None>
Min Conc: <None>

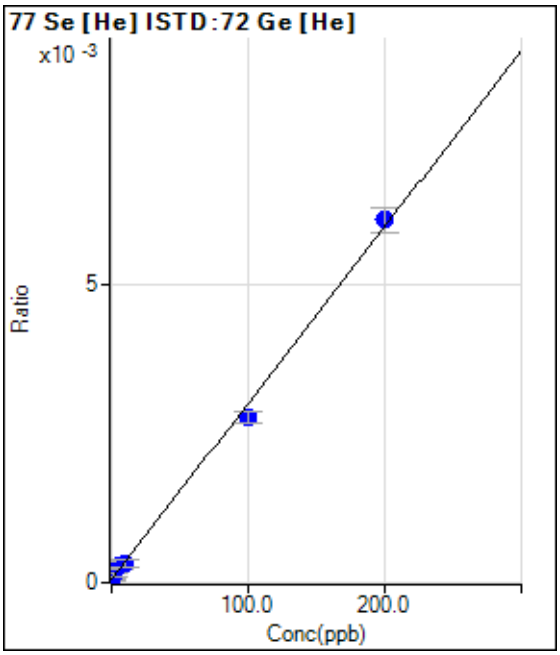


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21109.28	0.0091	P	2.3
2	☐	2.000	-0.437	21202.73	0.0091	P	6.0
3	☐	5.000	17.549	22387.34	0.0098	P	4.7
4	☐	10.000	12.049	22340.78	0.0096	P	3.4
5	☐	100.000	62.956	25788.65	0.0116	P	2.5
6	☐	200.000	218.130	39095.41	0.0178	P	3.7
7	☐	1.000					

y = 3.9730E-005 * x + 0.0091
R = 0.9738
DL = 15.72
BEC = 230

Weight: <None>
Min Conc: <None>

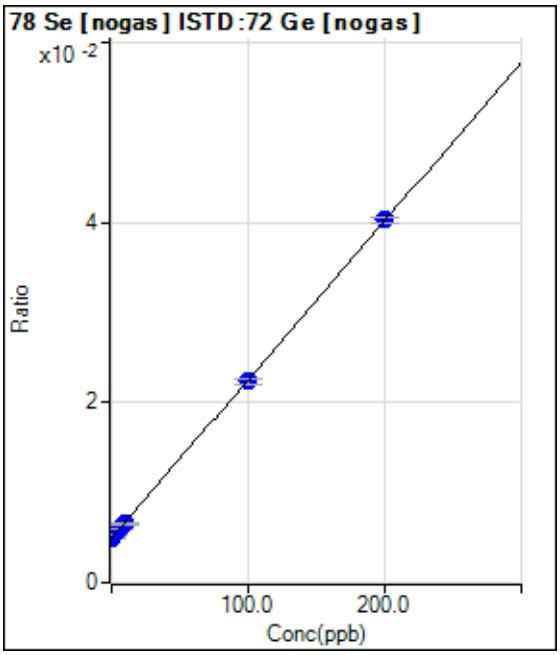
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30.00	0.0001	P	34.0
2	☐	2.000	2.571	73.33	0.0001	P	51.5
3	☐	5.000	7.618	156.67	0.0003	P	43.1
4	☐	10.000	9.051	176.67	0.0003	P	31.4
5	☐	100.000	91.892	1460.08	0.0028	P	6.7
6	☐	200.000	204.030	3113.64	0.0061	P	7.0
7	☐	1.000					

y = 2.9488E-005 * x + 5.3402E-005
R = 0.9987
DL = 1.847
BEC = 1.811

Weight: <None>
Min Conc: <None>

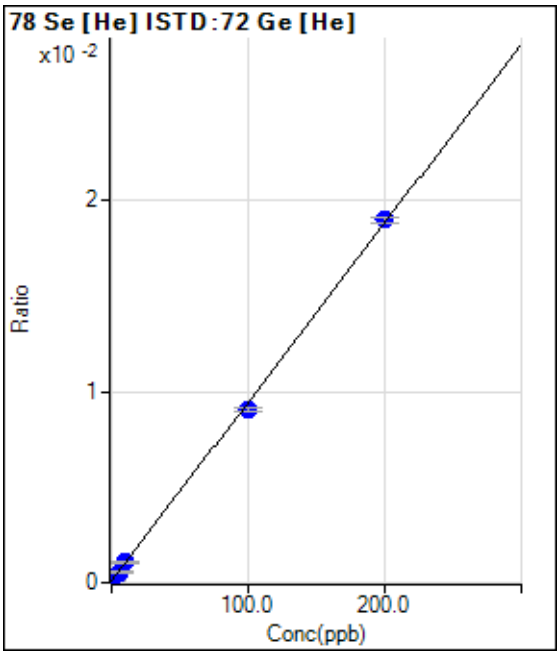


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11437.08	0.0050	P	4.6
2	☐	2.000	2.418	12514.52	0.0054	P	1.4
3	☐	5.000	6.247	13792.05	0.0061	P	1.1
4	☐	10.000	9.145	15253.23	0.0066	P	2.2
5	☐	100.000	98.651	49517.50	0.0223	P	2.6
6	☐	200.000	200.682	88564.52	0.0403	P	1.5
7	☐	1.000					

y = 1.7631E-004 * x + 0.0050
R = 0.9999
DL = 3.844
BEC = 28.09

Weight: <None>
Min Conc: <None>

Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50.67	0.0001	P	9.1
2	☐	2.000	2.157	165.33	0.0003	P	10.8
3	☐	5.000	4.918	309.33	0.0005	P	7.9
4	☐	10.000	10.427	588.01	0.0011	P	7.4
5	☐	100.000	96.161	4797.31	0.0091	P	2.2
6	☐	200.000	201.899	9731.94	0.0190	P	1.8
7	☐	1.000					

y = 9.3531E-005 * x + 8.9987E-005

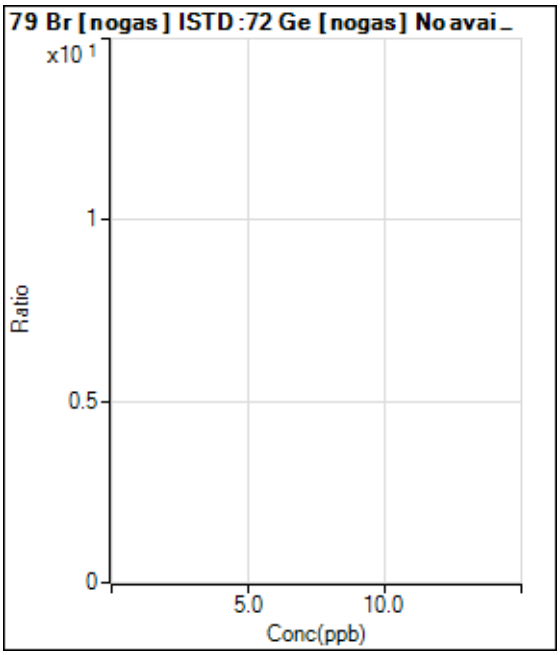
R = 0.9997

DL = 0.2629

BEC = 0.9621

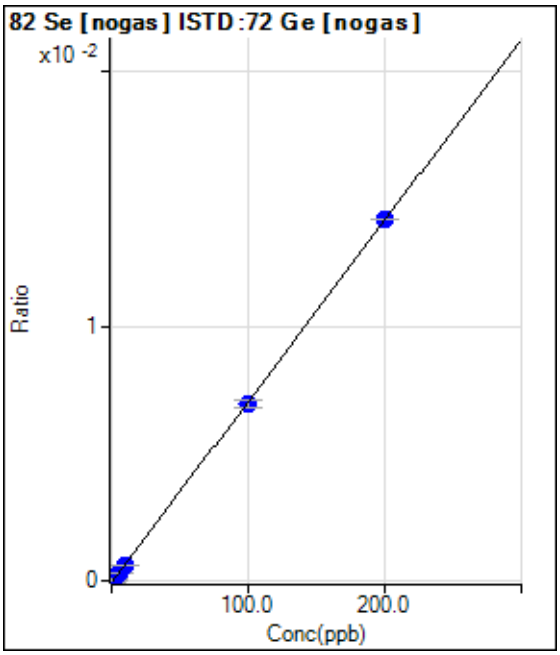
Weight: <None>

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					

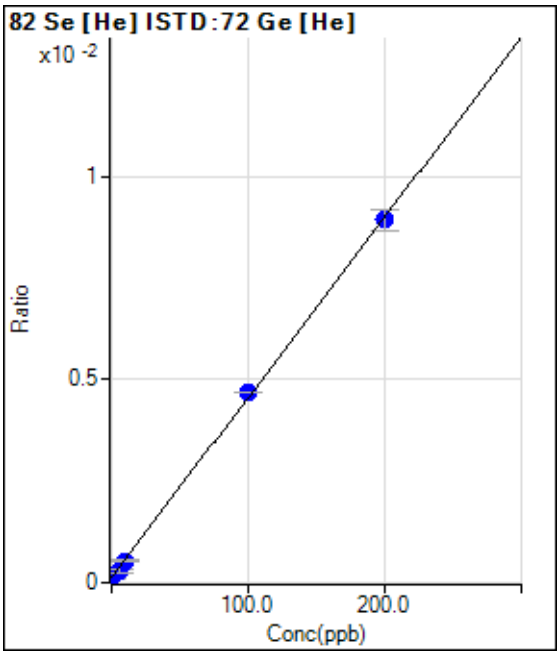
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-160.48	-0.0001	P	-99.3
2	☐	2.000	1.626	109.35	0.0000	P	98.8
3	☐	5.000	5.350	709.30	0.0003	P	9.6
4	☐	10.000	9.571	1419.72	0.0006	P	6.4
5	☐	100.000	98.632	15370.34	0.0069	P	4.7
6	☐	200.000	200.701	31150.77	0.0142	P	0.1
7	☐	1.000					

y = 7.1019E-005 * x - 6.8732E-005
R = 1.0000
DL = 2.882
BEC = -0.9678

Weight: <None>
Min Conc: <None>

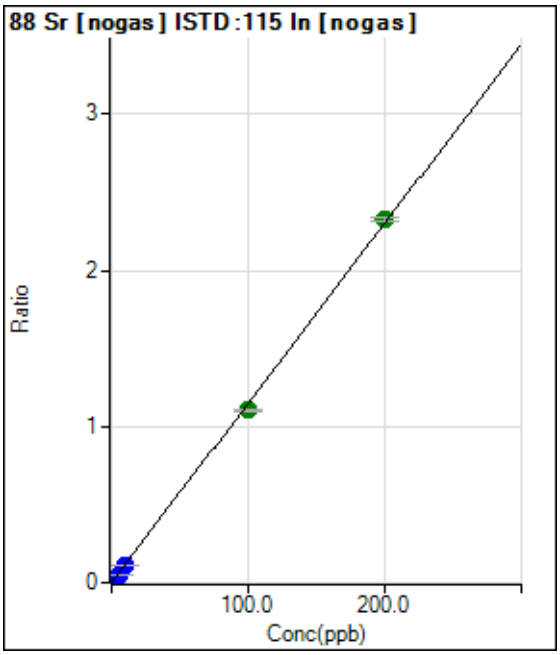


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0001	P	13.5
2	☐	2.000	1.438	106.67	0.0002	P	19.0
3	☐	5.000	3.616	160.00	0.0003	P	27.4
4	☐	10.000	9.185	293.34	0.0005	P	6.9
5	☐	100.000	102.849	2473.54	0.0047	P	0.5
6	☐	200.000	198.656	4580.65	0.0089	P	5.9
7	☐	1.000					

y = 4.4326E-005 * x + 1.2430E-004
R = 0.9998
DL = 1.135
BEC = 2.804

Weight: <None>
Min Conc: <None>

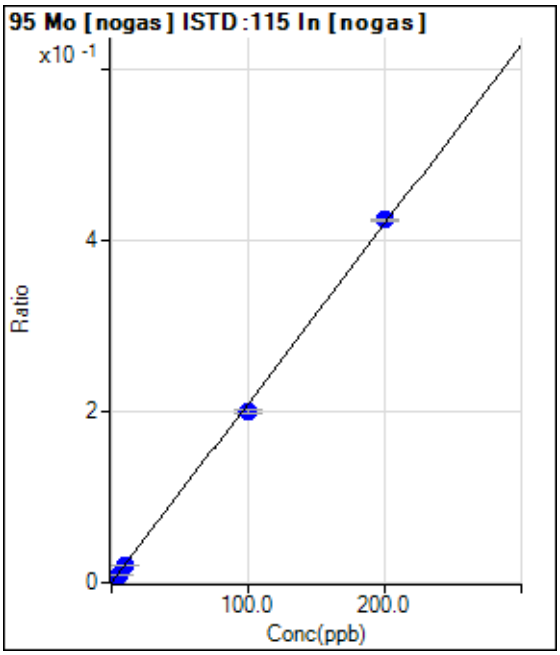
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2563.55	0.0011	P	6.0
2	☐	2.000	1.800	50250.33	0.0218	P	1.2
3	☐	5.000	4.524	122806.35	0.0531	P	1.3
4	☐	10.000	9.292	252065.98	0.1079	P	1.6
5	☐	100.000	95.836	2491484.23	1.1022	A	1.3
6	☐	200.000	202.131	5025044.82	2.3235	A	1.1
7	☐	1.000					

y = 0.0115 * x + 0.0011
R = 0.9997
DL = 0.01762
BEC = 0.09766

Weight: <None>
Min Conc: <None>

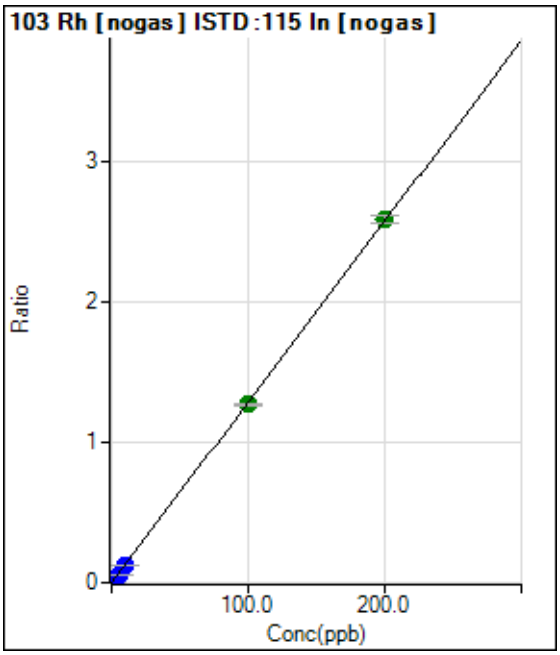


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	163.33	0.0001	P	5.4
2	☐	2.000	1.890	9302.53	0.0040	P	0.9
3	☐	5.000	4.621	22587.74	0.0098	P	0.9
4	☐	10.000	9.716	47797.21	0.0205	P	1.5
5	☐	100.000	95.384	452474.68	0.2002	P	1.4
6	☐	200.000	202.333	918183.37	0.4246	P	0.8
7	☐	1.000					

y = 0.0021 * x + 7.1412E-005
R = 0.9996
DL = 0.00549
BEC = 0.03404

Weight: <None>
Min Conc: <None>

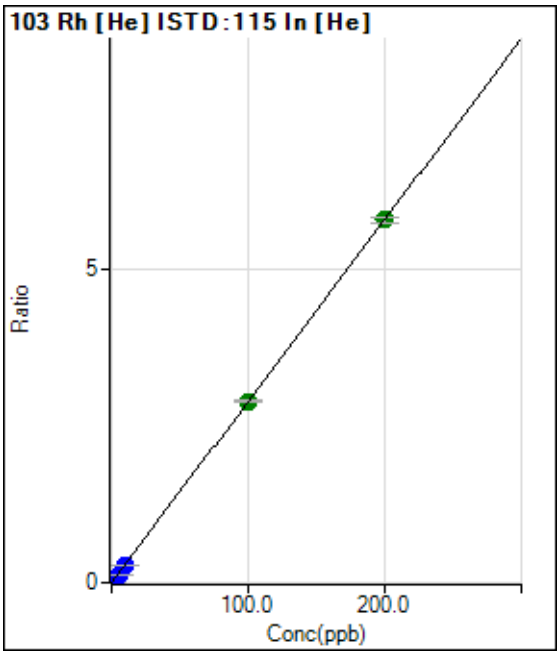
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0000	P	67.5
2	☐	2.000	1.852	55062.14	0.0239	P	2.6
3	☐	5.000	4.650	138685.99	0.0600	P	0.1
4	☐	10.000	9.460	284976.93	0.1220	P	1.5
5	☐	100.000	98.459	2868897.67	1.2692	A	1.5
6	☐	200.000	200.807	5598077.63	2.5885	A	2.1
7	☐	1.000					

y = 0.0129 * x + 1.9209E-005
R = 1.0000
DL = 0.003019
BEC = 0.00149

Weight: <None>
Min Conc: <None>

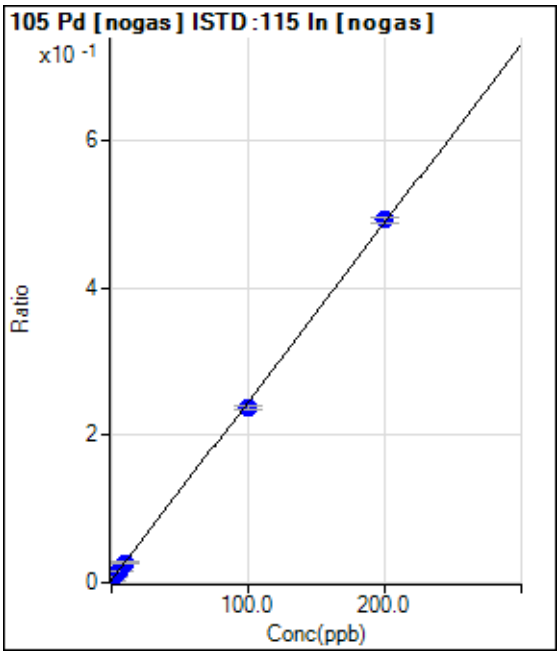


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0000	P	74.6
2	☐	2.000	1.780	42066.69	0.0517	P	0.8
3	☐	5.000	4.576	106205.20	0.1327	P	2.5
4	☐	10.000	9.605	218585.62	0.2785	P	1.8
5	☐	100.000	99.930	2193561.79	2.8975	A	1.1
6	☐	200.000	200.068	4249782.33	5.8009	A	1.3
7	☐	1.000					

y = 0.0290 * x + 4.0944E-005
R = 1.0000
DL = 0.003161
BEC = 0.001412

Weight: <None>
Min Conc: <None>

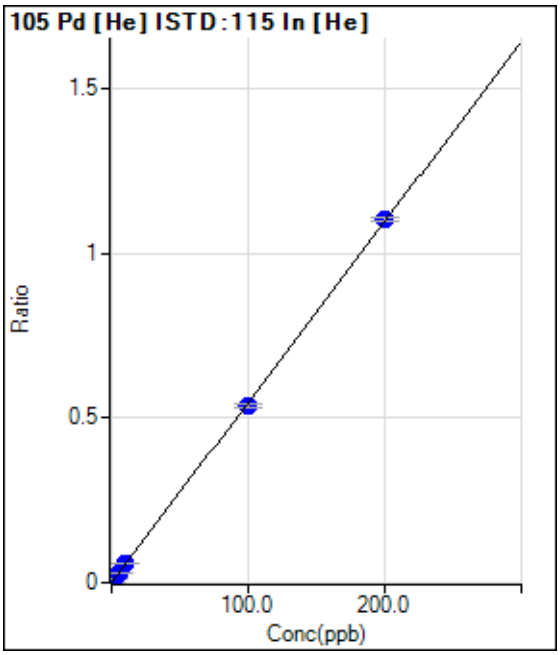
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7515.04	0.0033	P	8.1
2	☐	2.000	1.943	18443.12	0.0080	P	4.8
3	☐	5.000	4.756	34296.87	0.0148	P	1.4
4	☐	10.000	9.903	63824.78	0.0273	P	1.2
5	☐	100.000	96.538	536747.14	0.2375	P	1.3
6	☐	200.000	201.742	1065463.47	0.4927	P	1.3
7	☐	1.000					

y = 0.0024 * x + 0.0033
R = 0.9998
DL = 0.3296
BEC = 1.357

Weight: <None>
Min Conc: <None>

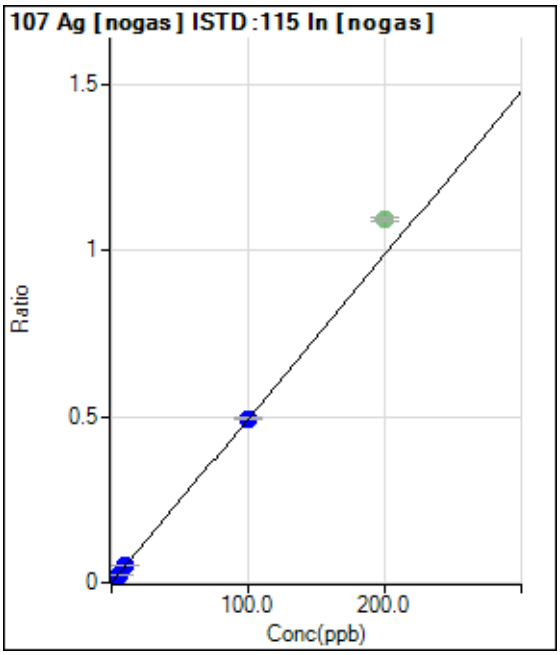


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	723.36	0.0009	P	17.2
2	☐	2.000	1.901	9209.19	0.0113	P	4.7
3	☐	5.000	4.811	21827.04	0.0273	P	4.3
4	☐	10.000	10.167	44422.43	0.0566	P	2.6
5	☐	100.000	97.903	406810.37	0.5374	P	1.3
6	☐	200.000	201.046	807734.10	1.1025	P	0.9
7	☐	1.000					

y = 0.0055 * x + 8.9474E-004
R = 0.9999
DL = 0.08441
BEC = 0.1633

Weight: <None>
Min Conc: <None>

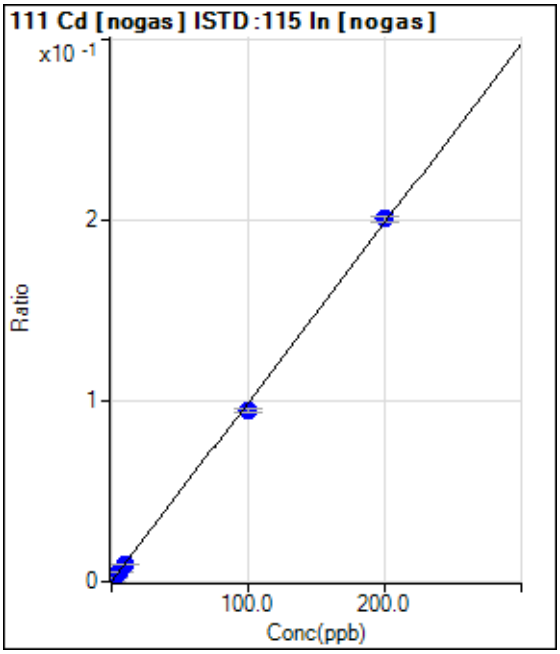
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	210.01	0.0001	P	13.9
2	☐	2.000	2.024	23188.73	0.0101	P	2.2
3	☐	5.000	5.117	58523.28	0.0253	P	1.0
4	☐	10.000	10.372	119587.62	0.0512	P	2.2
5	☐	100.000	99.956	1113139.30	0.4925	P	1.4
6	☑	200.000		2360205.69	1.0913	A	1.0
7	☐	1.000					

y = 0.0049 * x + 9.1835E-005
R = 1.0000
DL = 0.007784
BEC = 0.01864

Weight: <None>
Min Conc: <None>

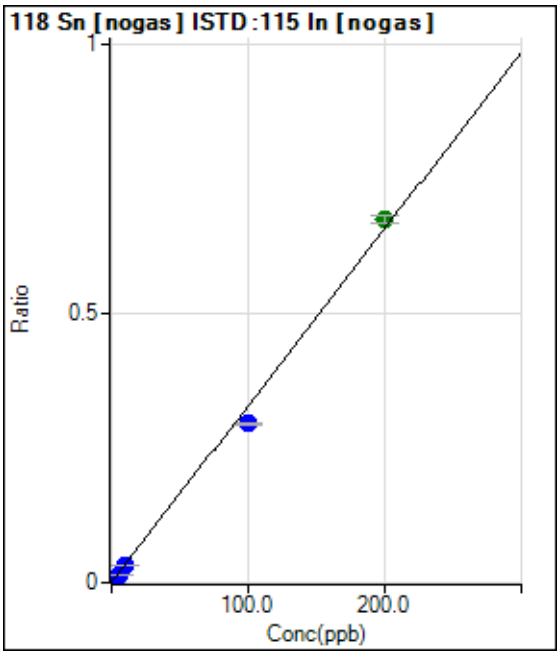


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	3.0
2	☐	2.000	1.955	4477.31	0.0019	P	4.8
3	☐	5.000	4.998	11463.90	0.0050	P	1.7
4	☐	10.000	9.887	22891.76	0.0098	P	2.8
5	☐	100.000	95.224	213220.05	0.0943	P	1.9
6	☐	200.000	202.394	433628.35	0.2005	P	1.4
7	☐	1.000					

y = 9.9065E-004 * x + 4.3767E-006
R = 0.9996
DL = 0.0004016
BEC = 0.004418

Weight: <None>
Min Conc: <None>

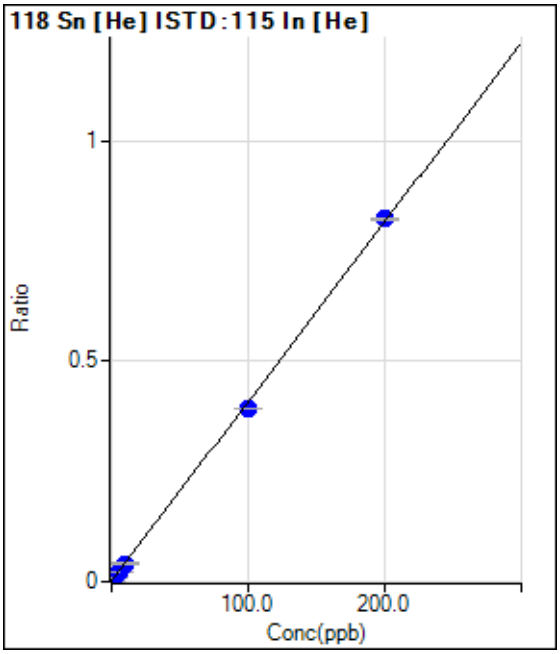
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2160.16	0.0009	P	11.5
2	☐	2.000	1.729	15273.57	0.0066	P	1.3
3	☐	5.000	4.427	35826.86	0.0155	P	1.0
4	☐	10.000	9.206	72861.13	0.0312	P	1.0
5	☐	100.000	89.792	668725.48	0.2959	P	1.6
6	☐	200.000	205.161	1459354.92	0.6748	A	2.0
7	☐	1.000					

y = 0.0033 * x + 9.4675E-004
R = 0.9982
DL = 0.09982
BEC = 0.2882

Weight: <None>
Min Conc: <None>

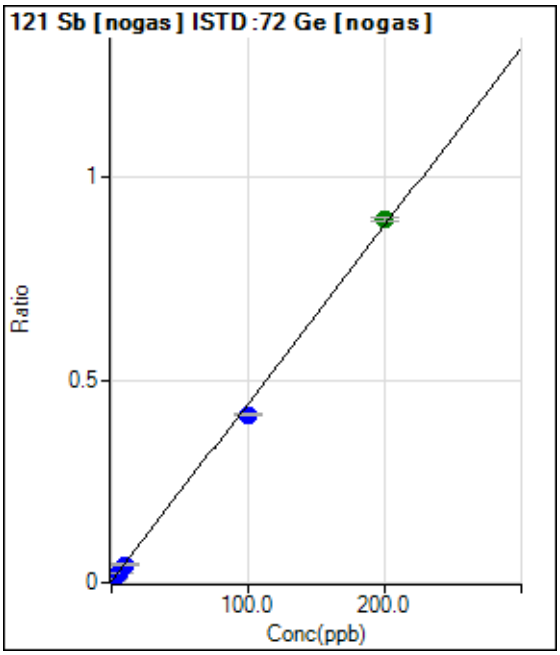


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1113.38	0.0014	P	11.6
2	☐	2.000	1.834	7198.23	0.0088	P	5.7
3	☐	5.000	4.723	16484.68	0.0206	P	3.9
4	☐	10.000	9.824	32463.84	0.0414	P	2.9
5	☐	100.000	96.345	297982.78	0.3936	P	0.5
6	☐	200.000	201.845	603017.52	0.8231	P	0.4
7	☐	1.000					

y = 0.0041 * x + 0.0014
R = 0.9998
DL = 0.1179
BEC = 0.3382

Weight: <None>
Min Conc: <None>

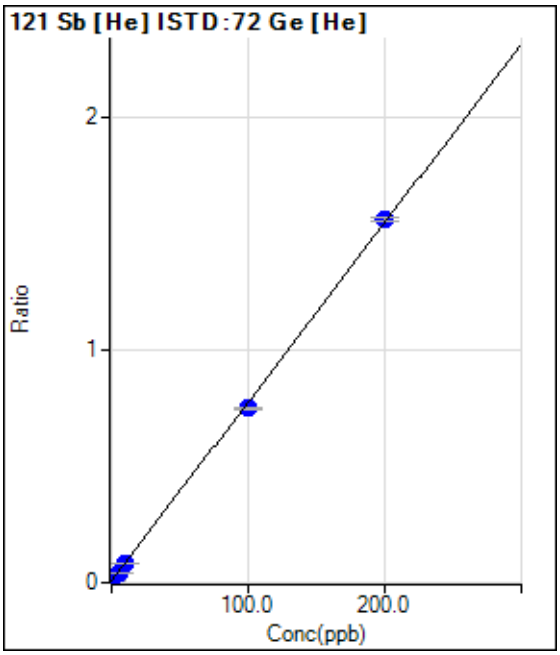
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9012.45	0.0039	P	5.0
2	☐	2.000	1.743	26860.74	0.0115	P	1.4
3	☐	5.000	4.681	55638.28	0.0244	P	2.7
4	☐	10.000	9.348	104331.54	0.0449	P	1.3
5	☐	100.000	93.627	918751.55	0.4146	P	1.5
6	☐	200.000	203.230	1965933.20	0.8953	A	0.9
7	☐	1.000					

y = 0.0044 * x + 0.0039
R = 0.9993
DL = 0.134
BEC = 0.8889

Weight: <None>
Min Conc: <None>

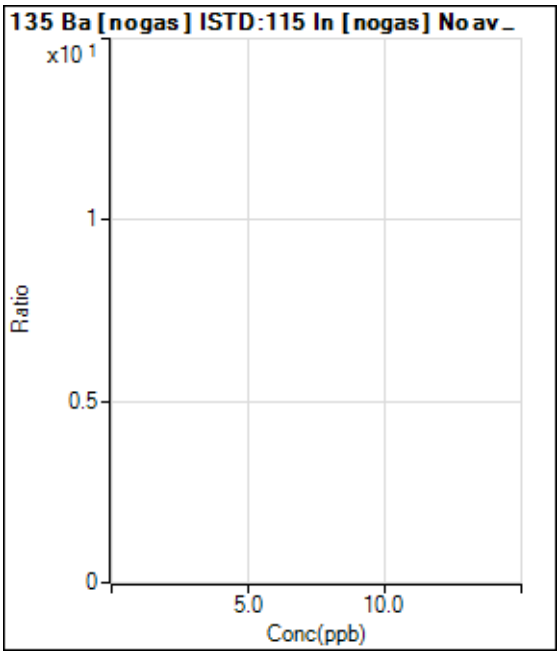


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4123.88	0.0073	P	4.8
2	☐	2.000	1.807	12027.61	0.0212	P	1.4
3	☐	5.000	4.810	24927.90	0.0443	P	3.5
4	☐	10.000	9.929	46180.87	0.0837	P	1.7
5	☐	100.000	96.475	395714.16	0.7492	P	1.0
6	☐	200.000	201.773	799550.66	1.5588	P	0.9
7	☐	1.000					

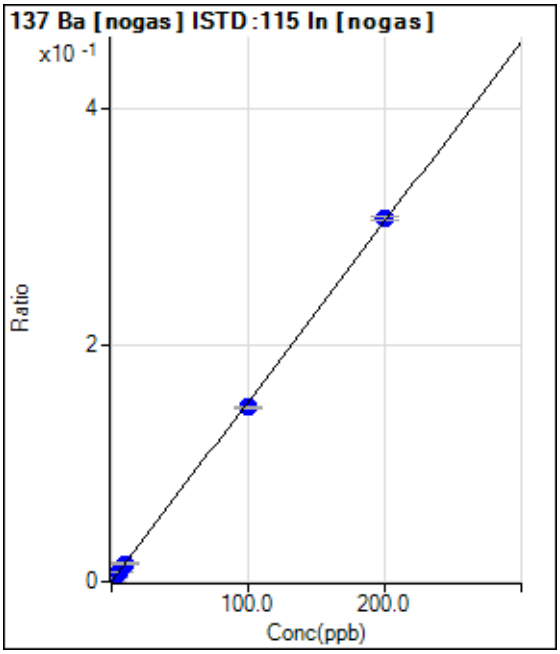
y = 0.0077 * x + 0.0073
R = 0.9998
DL = 0.1372
BEC = 0.9528

Weight: <None>
Min Conc: <None>

Calibration for 105_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	383.35	0.0002	P	26.1
2	☐	2.000	1.914	7091.54	0.0031	P	5.3
3	☐	5.000	4.871	17522.46	0.0076	P	1.3
4	☐	10.000	9.861	35429.79	0.0152	P	3.8
5	☐	100.000	96.755	333001.86	0.1473	P	1.8
6	☐	200.000	201.634	663637.00	0.3069	P	0.9
7	☐	1.000					

y = 0.0015 * x + 1.6700E-004

R = 0.9998

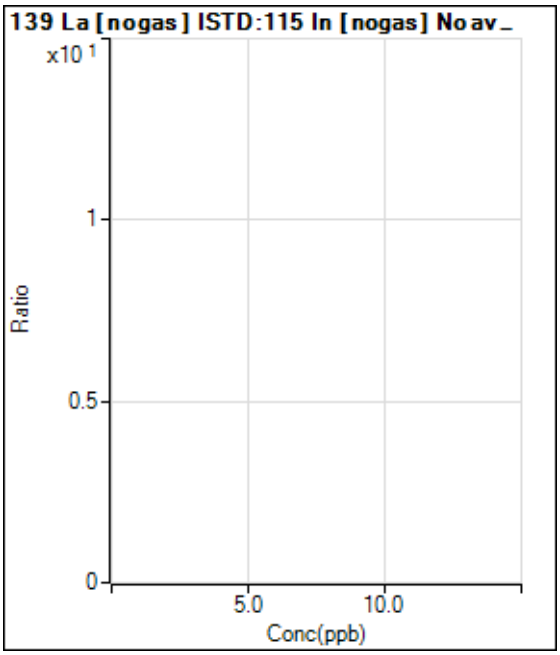
DL = 0.086

BEC = 0.1098

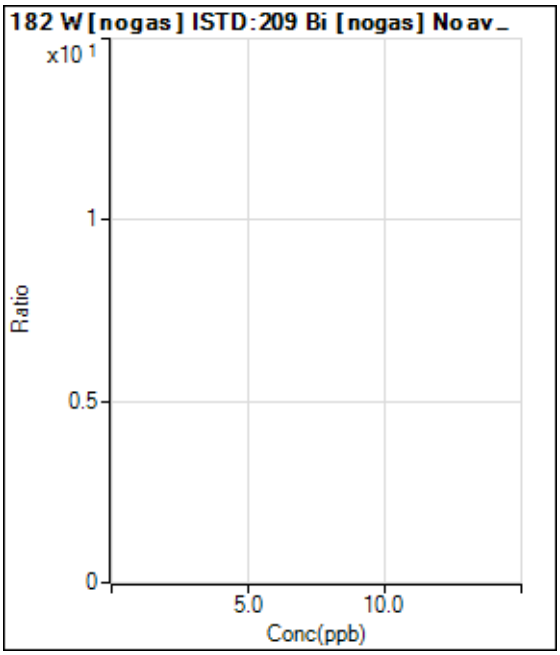
Weight: <None>

Min Conc: <None>

Calibration for 105_ICV.d

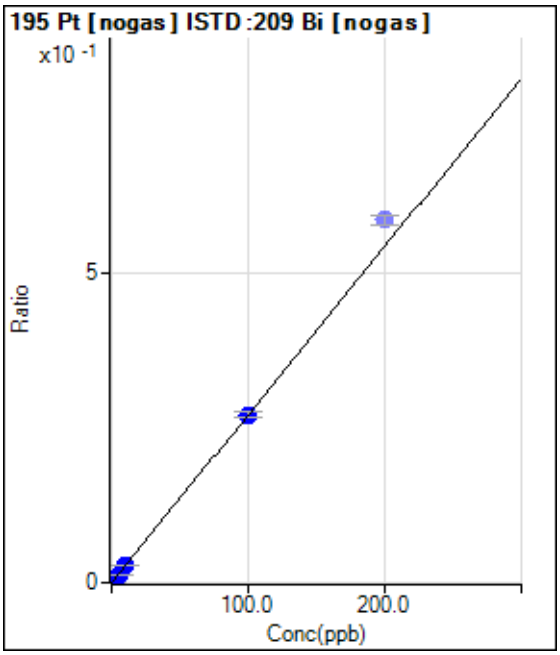


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	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					

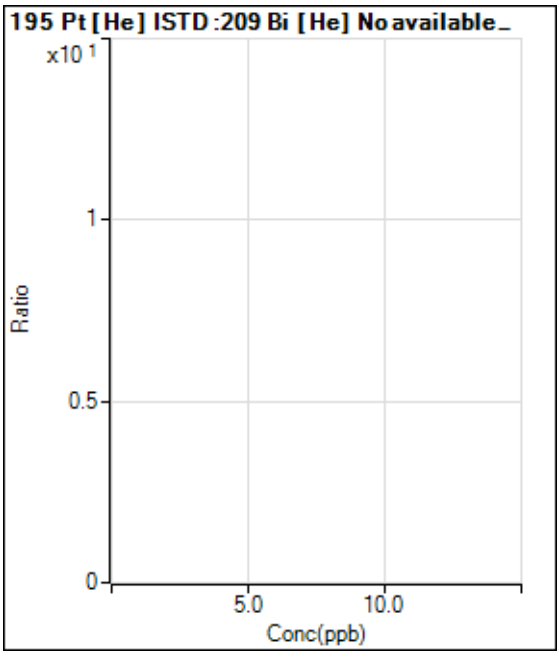
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	86.6
2	☐	2.000	1.894	9152.72	0.0052	P	0.7
3	☐	5.000	4.940	23603.80	0.0135	P	1.8
4	☐	10.000	10.072	48073.92	0.0274	P	1.7
5	☐	100.000	99.998	473695.85	0.2721	P	3.1
6	☑	200.000		977942.54	0.5877	P	3.0
7	☐	1.000					

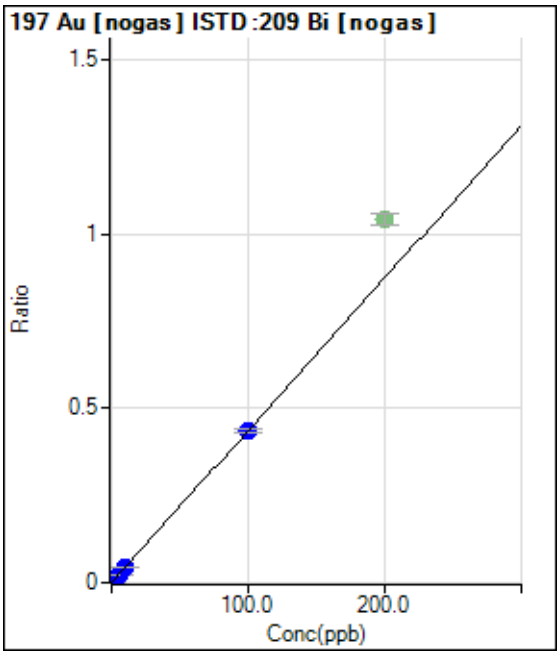
y = 0.0027 * x + 1.1115E-005
R = 1.0000
DL = 0.01061
BEC = 0.004085

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		13.33		P	
2	☐	2.000		8689.09		P	
3	☐	5.000		23477.03		P	
4	☐	10.000		48809.17		P	
5	☐	100.000		469277.91		P	
6	☐	200.000		967549.05		P	
7	☐	1.000					

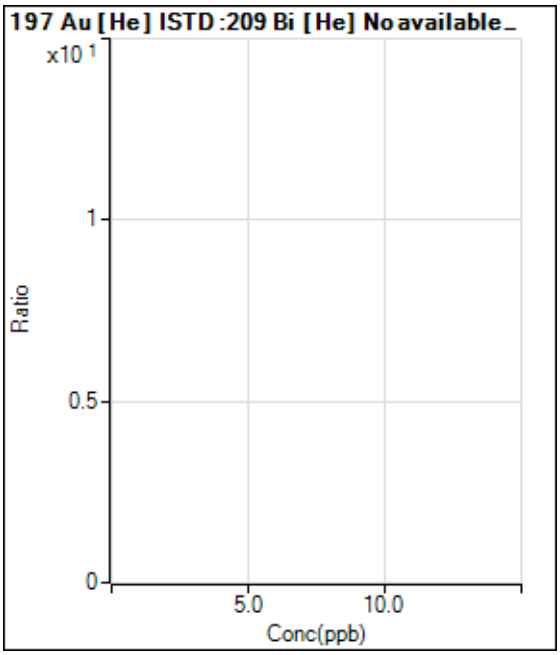
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	283.34	0.0002	P	23.0
2	☐	2.000	1.980	15597.52	0.0088	P	5.9
3	☐	5.000	4.979	38414.98	0.0219	P	1.8
4	☐	10.000	10.349	79484.37	0.0453	P	1.3
5	☐	100.000	99.967	760057.90	0.4366	P	3.2
6	☑	200.000		1730454.92	1.0400	A	3.3
7	☐	1.000					

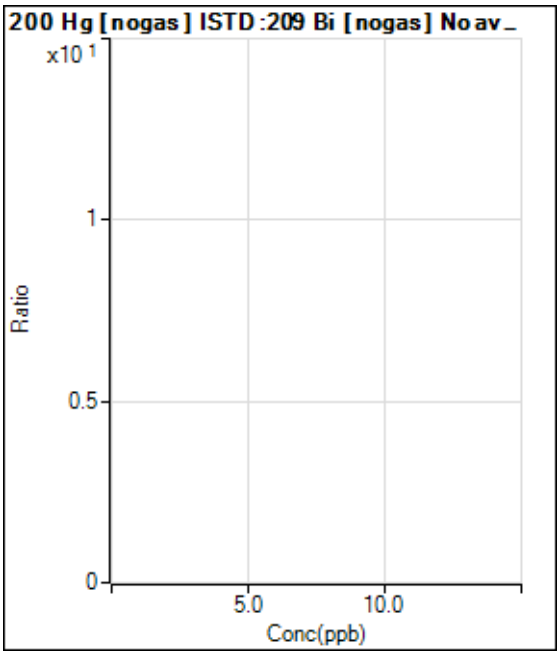
y = 0.0044 * x + 1.5780E-004
R = 1.0000
DL = 0.02499
BEC = 0.03614

Weight: <None>
Min Conc: <None>

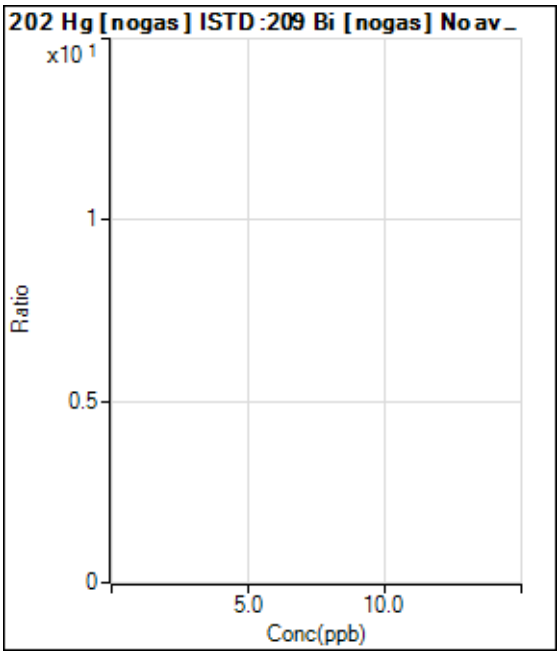


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		273.34		P	
2	☐	2.000		14866.88		P	
3	☐	5.000		38508.73		P	
4	☐	10.000		79585.45		P	
5	☐	100.000		757700.51		P	
6	☐	200.000		1738173.78		A	
7	☐	1.000					

Calibration for 105_ICV.d

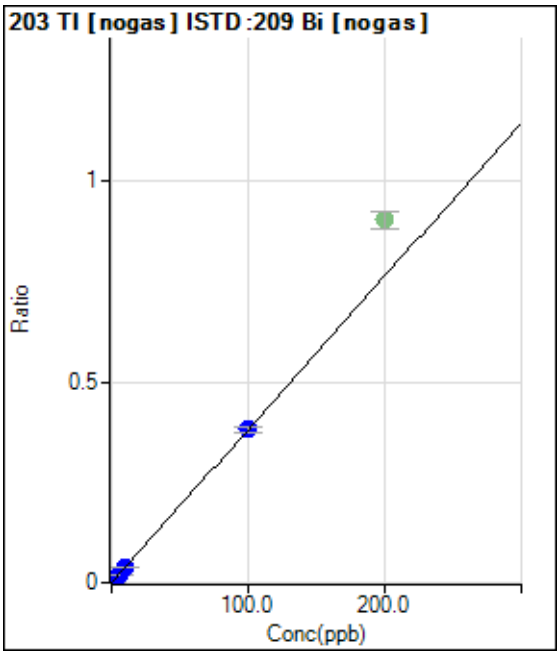


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	2.000					
6	☐	5.000					
7	☐	10.000					



	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					

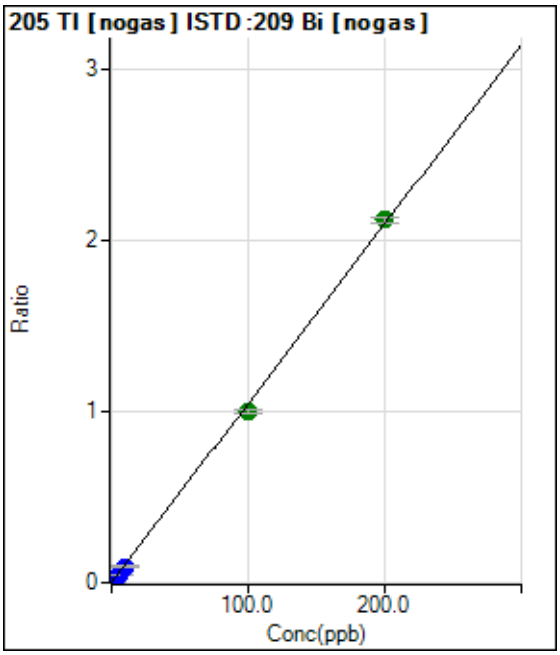
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0001	P	20.7
2	☐	2.000	1.940	13365.60	0.0075	P	4.2
3	☐	5.000	5.030	33948.74	0.0194	P	2.1
4	☐	10.000	10.516	70671.96	0.0403	P	0.9
5	☐	100.000	99.948	665048.04	0.3821	P	3.8
6	☑	200.000		1505335.65	0.9047	A	4.7
7	☐	1.000					

y = 0.0038 * x + 1.2978E-004
R = 1.0000
DL = 0.02106
BEC = 0.03396

Weight: <None>
Min Conc: <None>

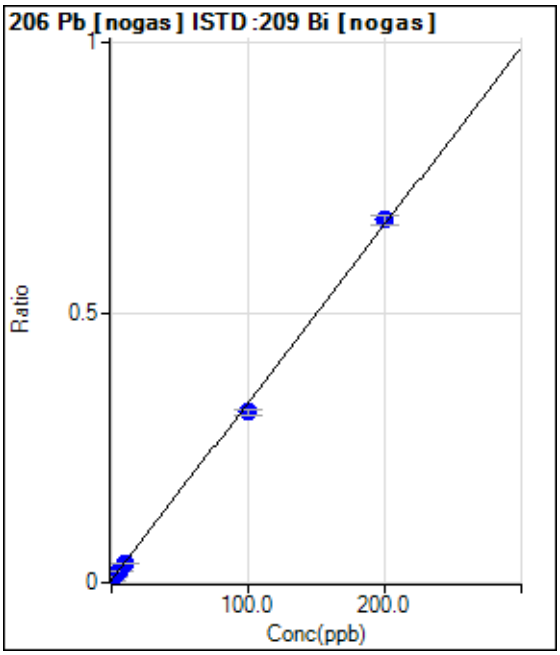


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	550.02	0.0003	P	12.3
2	☐	2.000	1.729	32642.76	0.0184	P	1.6
3	☐	5.000	4.358	80664.77	0.0460	P	1.8
4	☐	10.000	9.065	167077.61	0.0953	P	1.3
5	☐	100.000	95.319	1739924.30	0.9993	A	2.0
6	☐	200.000	202.406	3530928.39	2.1216	A	1.9
7	☐	1.000					

y = 0.0105 * x + 3.0621E-004
R = 0.9996
DL = 0.01079
BEC = 0.02922

Weight: <None>
Min Conc: <None>

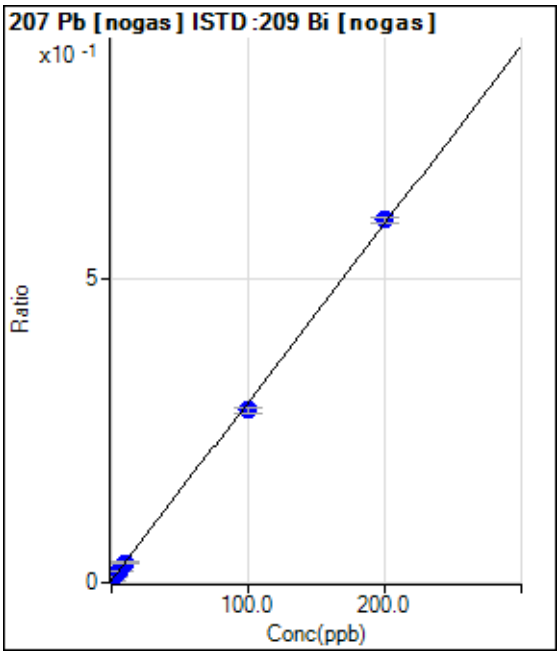
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8352.23	0.0046	P	5.6
2	☐	2.000	1.890	19248.20	0.0109	P	2.7
3	☐	5.000	4.679	35141.38	0.0200	P	3.2
4	☐	10.000	9.866	65009.49	0.0371	P	1.0
5	☐	100.000	94.415	548464.26	0.3151	P	2.7
6	☐	200.000	202.808	1117377.87	0.6714	P	2.6
7	☐	1.000					

y = 0.0033 * x + 0.0046
R = 0.9995
DL = 0.2395
BEC = 1.414

Weight: <None>
Min Conc: <None>

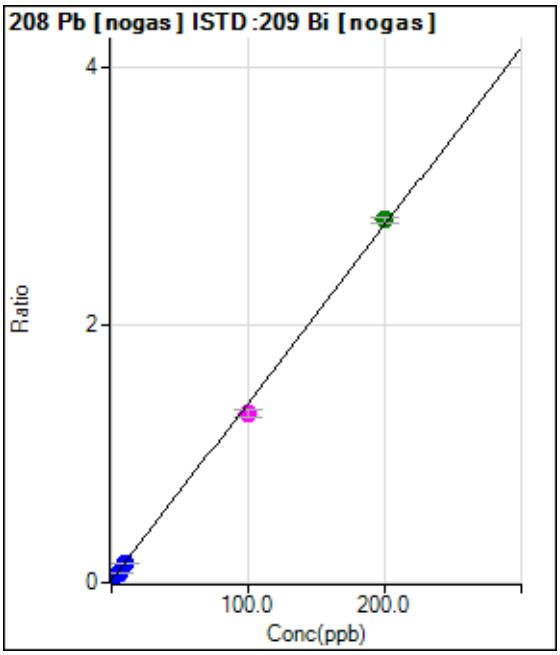


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6858.20	0.0038	P	7.4
2	☐	2.000	1.939	16822.23	0.0095	P	2.4
3	☐	5.000	4.704	30869.41	0.0176	P	1.1
4	☐	10.000	10.019	58143.87	0.0332	P	2.5
5	☐	100.000	95.455	493483.81	0.2834	P	2.7
6	☐	200.000	202.280	992573.89	0.5964	P	1.4
7	☐	1.000					

y = 0.0029 * x + 0.0038
R = 0.9996
DL = 0.2876
BEC = 1.303

Weight: <None>
Min Conc: <None>

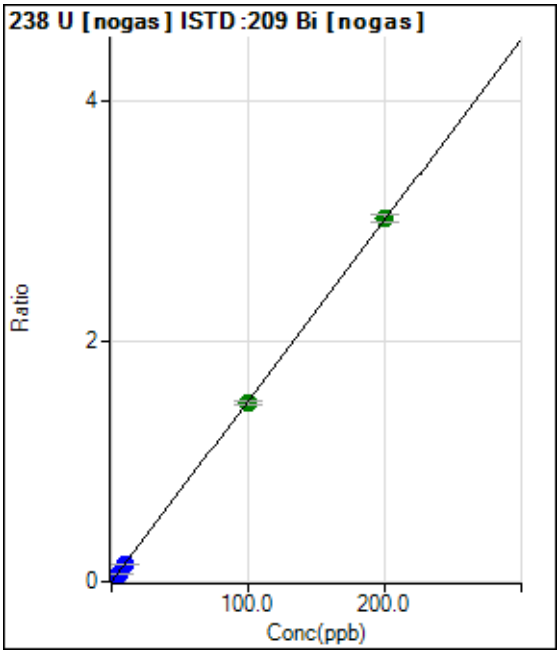
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	32603.24	0.0181	P	1.6
2	☐	2.000	1.775	75498.09	0.0426	P	1.8
3	☐	5.000	4.507	140811.74	0.0803	P	0.9
4	☐	10.000	9.558	262786.27	0.1499	P	0.6
5	☐	100.000	93.997	2288158.31	1.3139	M	3.5
6	☐	200.000	203.038	4688297.14	2.8170	A	1.9
7	☐	1.000					

y = 0.0138 * x + 0.0181
R = 0.9994
DL = 0.06425
BEC = 1.316

Weight: <None>
Min Conc: <None>

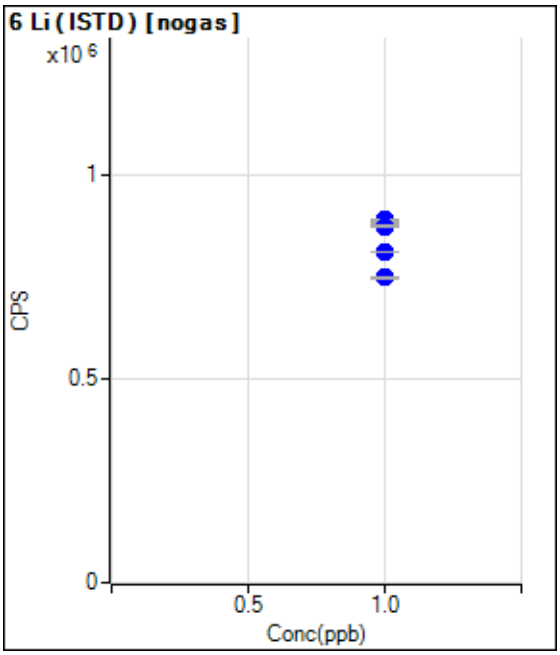


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0000	P	86.2
2	☐	2.000	1.694	45207.73	0.0255	P	1.8
3	☐	5.000	4.490	118598.22	0.0676	P	2.3
4	☐	10.000	9.170	241993.95	0.1380	P	1.0
5	☐	100.000	98.666	2585333.66	1.4850	A	2.4
6	☐	200.000	200.724	5027635.76	3.0211	A	2.0
7	☐	1.000					

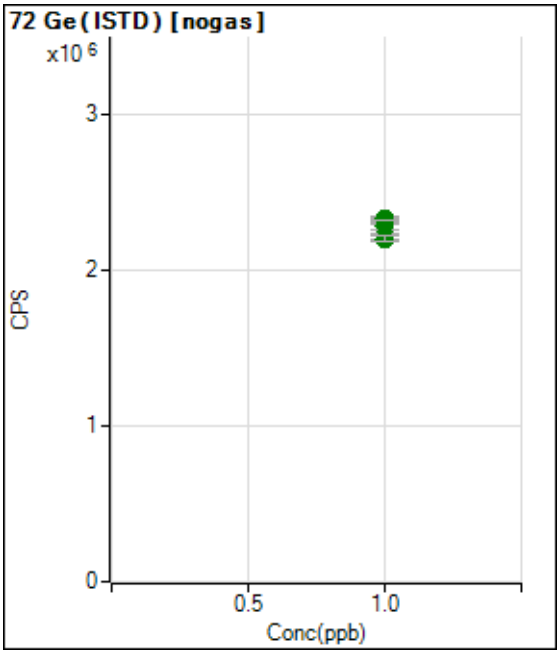
y = 0.0151 * x + 2.2206E-005
R = 1.0000
DL = 0.003814
BEC = 0.001475

Weight: <None>
Min Conc: <None>

Calibration for 105_ICV.d

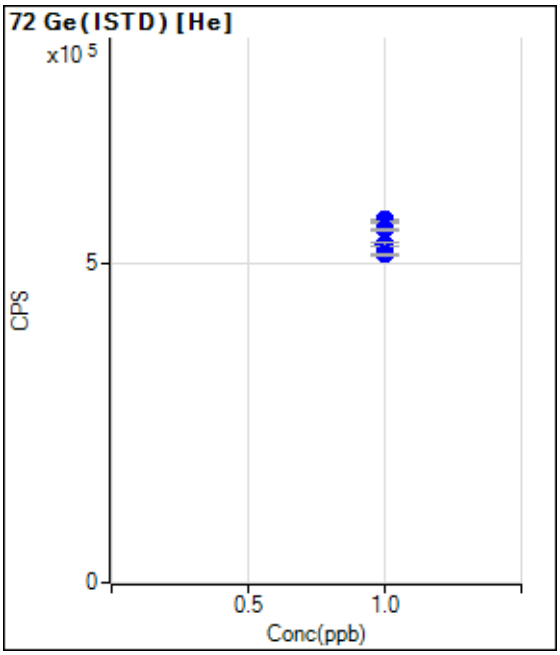


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		885255.50		P	0.5
2	☐	1.000		890605.36		P	0.6
3	☐	1.000		891898.86		P	0.2
4	☐	1.000		875606.98		P	0.5
5	☐	1.000		811796.29		P	0.2
6	☐	1.000		751064.93		P	0.7
7	☐	1.000					

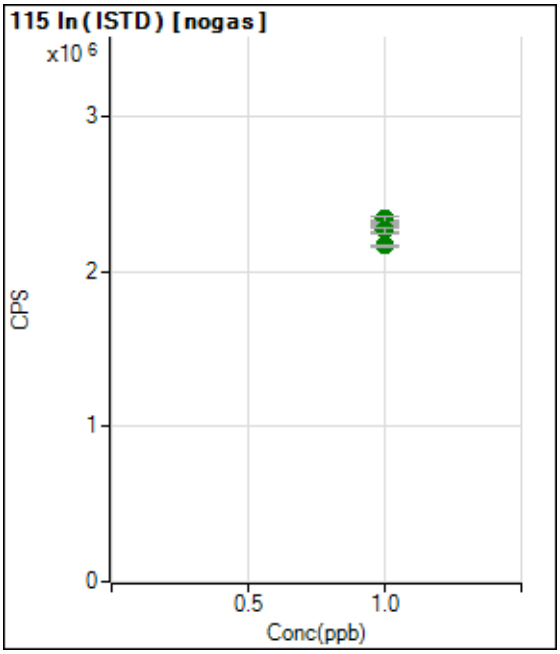


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2310931.63		A	2.0
2	☐	1.000		2326879.08		A	1.8
3	☐	1.000		2278085.96		A	2.0
4	☐	1.000		2323596.37		A	0.0
5	☐	1.000		2216547.36		A	1.4
6	☐	1.000		2196069.91		A	1.7
7	☐	1.000					

Calibration for 105_ICV.d

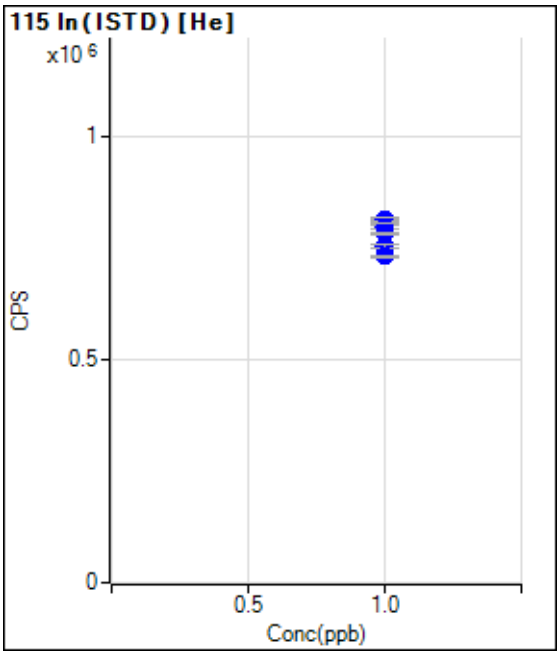


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		562772.07		P	0.8
2	☐	1.000		566864.90		P	0.6
3	☐	1.000		562534.00		P	0.6
4	☐	1.000		551916.82		P	0.3
5	☐	1.000		528184.70		P	1.0
6	☐	1.000		512929.03		P	0.5
7	☐	1.000					

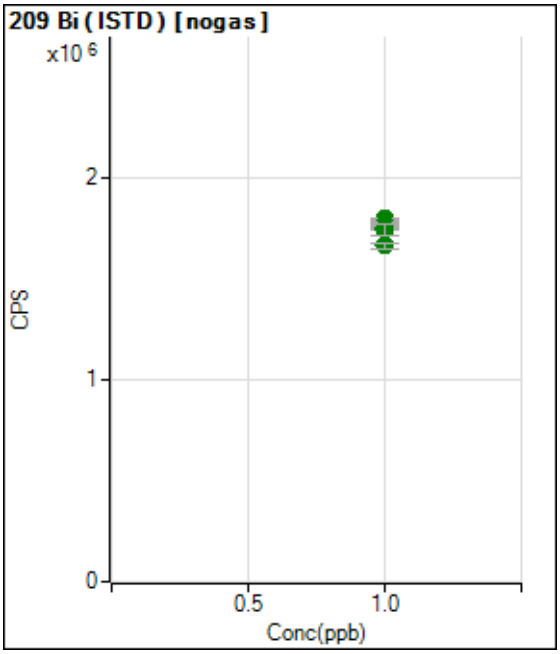


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2286220.35		A	3.1
2	☐	1.000		2304897.59		A	1.6
3	☐	1.000		2313014.38		A	0.6
4	☐	1.000		2336789.23		A	1.4
5	☐	1.000		2260512.24		A	1.3
6	☐	1.000		2162703.06		A	0.2
7	☐	1.000					

Calibration for 105_ICV.d

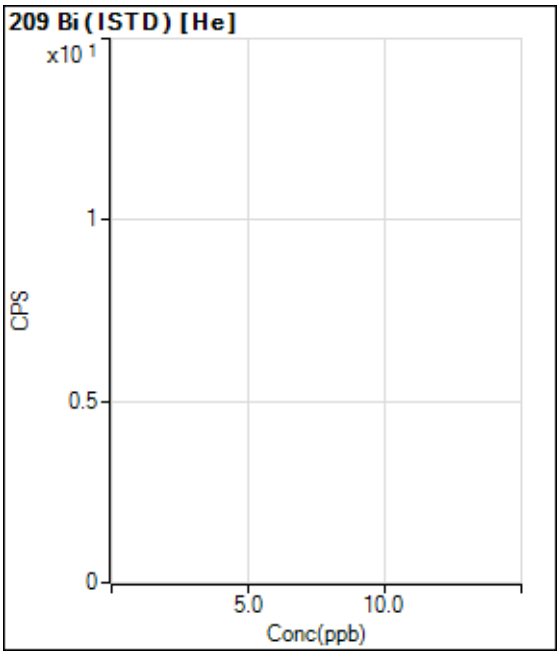


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		808760.14		P	1.4
2	☐	1.000		814324.99		P	1.2
3	☐	1.000		800472.64		P	1.6
4	☐	1.000		784828.53		P	0.6
5	☐	1.000		757112.00		P	1.2
6	☐	1.000		732637.59		P	0.6
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1796808.41		A	0.4
2	☐	1.000		1771930.91		A	0.9
3	☐	1.000		1754327.89		A	0.6
4	☐	1.000		1753079.61		A	1.3
5	☐	1.000		1741739.61		A	2.9
6	☐	1.000		1664555.08		A	1.6
7	☐	1.000					

Calibration for 105_ICV.d



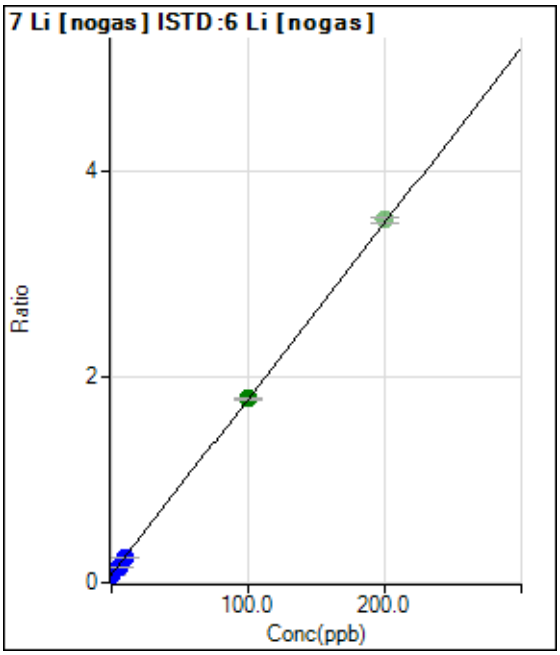
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000					
2	☐	1.000					
3	☐	1.000					
4	☐	1.000					
5	☐	1.000					
6	☐	1.000					
7	☐	1.000					

Calibration for 026_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\061520A.b\
Analysis File: 061520A.batch.bin
DA Date-Time: 6/15/2020 10:26:07 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	015CALB.d	CAL BLK	6/15/2020 12:06:22 PM
2	016CALS.d	2/10/200	6/15/2020 12:08:49 PM
3	017CALS.d	5/25/500	6/15/2020 12:11:16 PM
4	018CALS.d	10/50/1000	6/15/2020 12:13:44 PM
5	019CALS.d	100/500/10K	6/15/2020 12:16:13 PM
6	020CALS.d	200/1000/20K	6/15/2020 12:18:37 PM
7			

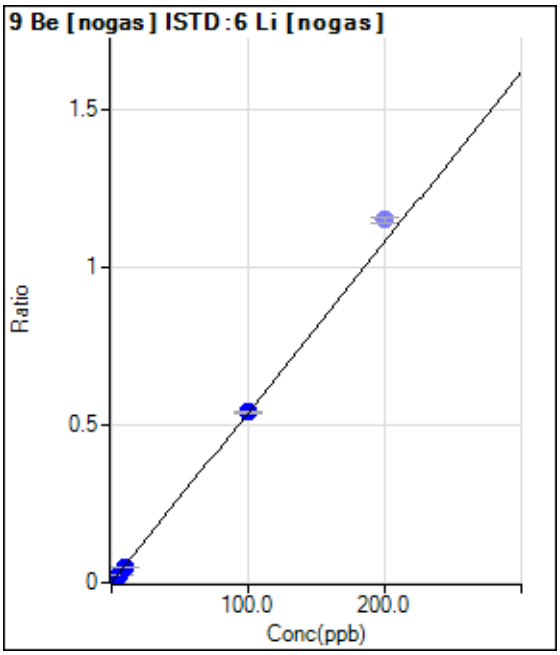
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60315.06	0.0804	P	0.6
2	☐	2.000	1.730	81754.67	0.1100	P	0.5
3	☐	5.000	4.457	116634.48	0.1567	P	1.4
4	☐	10.000	9.079	173837.29	0.2357	P	0.8
5	☐	100.000	100.125	1193261.42	1.7931	A	0.8
6	☑	200.000		2205796.58	3.5347	A	1.8
7	☐	1.000					

y = 0.0171 * x + 0.0804
R = 1.0000
DL = 0.08008
BEC = 4.702

Weight: <None>
Min Conc: <None>

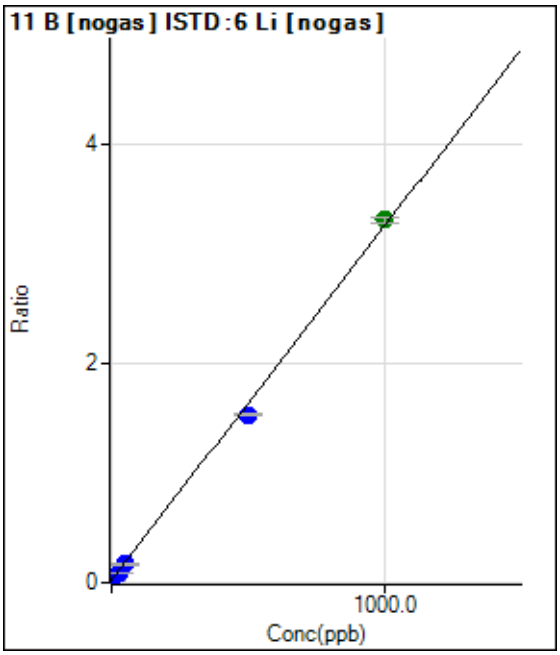


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	65.00	0.0001	P	26.6
2	☐	2.000	1.767	7159.70	0.0096	P	5.2
3	☐	5.000	4.510	18206.97	0.0245	P	2.1
4	☐	10.000	9.486	37870.39	0.0513	P	0.9
5	☐	100.000	100.081	359956.96	0.5409	P	0.3
6	☑	200.000		718756.89	1.1518	P	1.4
7	☐	1.000					

y = 0.0054 * x + 8.6674E-005
R = 1.0000
DL = 0.01281
BEC = 0.01604

Weight: <None>
Min Conc: <None>

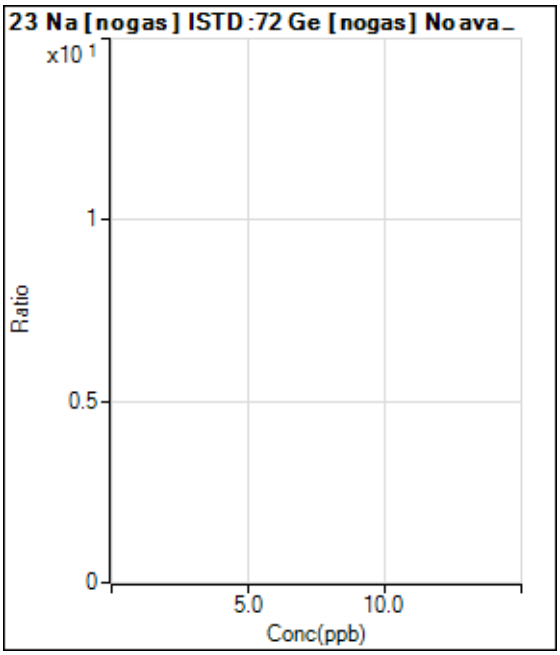
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	18196.97	0.0243	P	2.5
2	☐	10.000	7.732	36624.75	0.0493	P	1.4
3	☐	25.000	20.697	67917.60	0.0912	P	1.4
4	☐	50.000	44.354	123709.42	0.1678	P	2.2
5	☐	500.000	465.646	1018748.55	1.5309	P	1.2
6	☐	1000.000	1017.589	2069656.85	3.3167	A	1.7
7	☐	5.000					

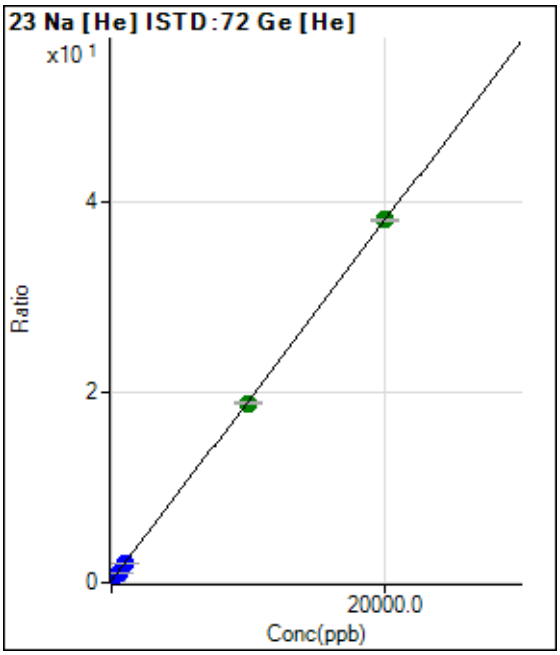
y = 0.0032 * x + 0.0243
R = 0.9992
DL = 0.5587
BEC = 7.5

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

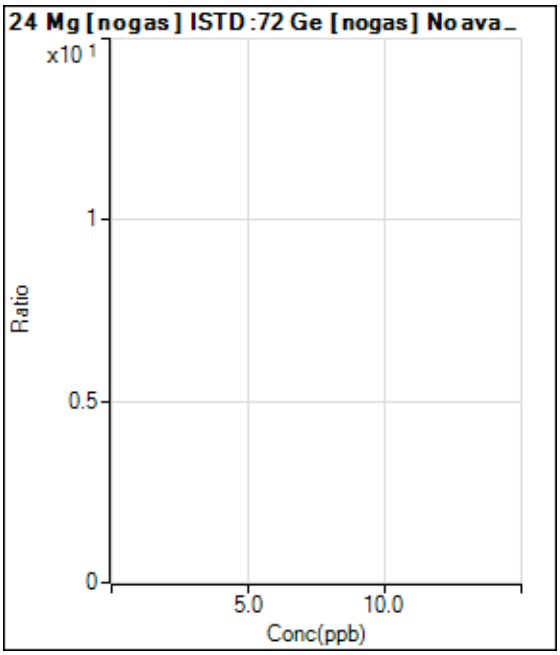
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96538.43	0.1775	P	2.7
2	☐	200.000	187.082	289114.78	0.5320	P	0.6
3	☐	500.000	482.272	589423.27	1.0912	P	0.6
4	☐	1000.000	1007.867	1115115.61	2.0870	P	0.8
5	☐	10000.000	9875.076	9752484.65	18.8865	A	1.3
6	☐	20000.000	20062.641	19206107.21	38.1876	A	0.8
7	☐	100.000					

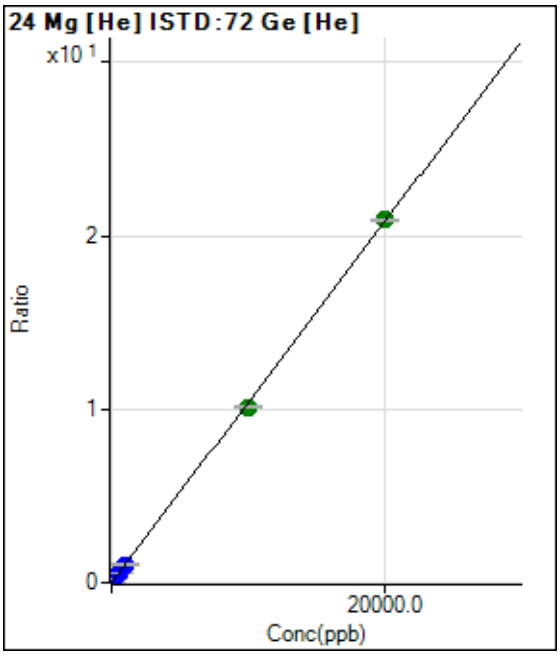
y = 0.0019 * x + 0.1775
R = 1.0000
DL = 7.714
BEC = 93.71

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

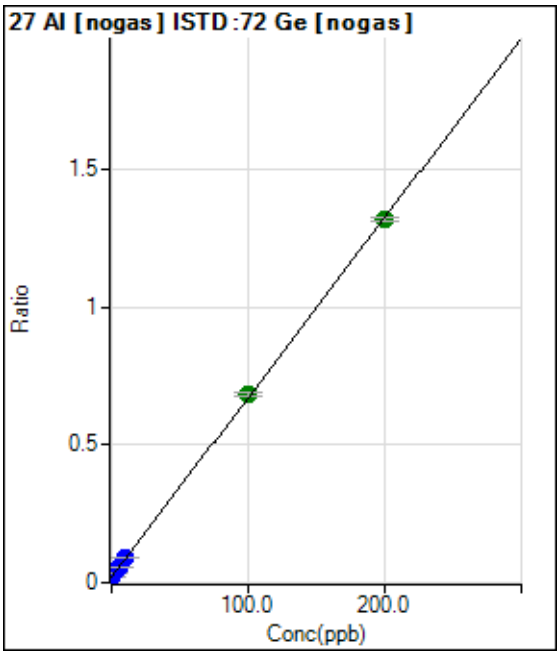
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1093.39	0.0020	P	5.0
2	☐	200.000	191.388	109147.07	0.2008	P	0.0
3	☐	500.000	483.736	272507.79	0.5045	P	1.1
4	☐	1000.000	1010.784	562135.67	1.0520	P	0.4
5	☐	10000.000	9740.467	5226113.88	10.1207	A	0.6
6	☐	20000.000	20129.720	10518301.51	20.9134	A	0.4
7	☐	100.000					

y = 0.0010 * x + 0.0020
R = 0.9999
DL = 0.2918
BEC = 1.936

Weight: <None>
Min Conc: <None>

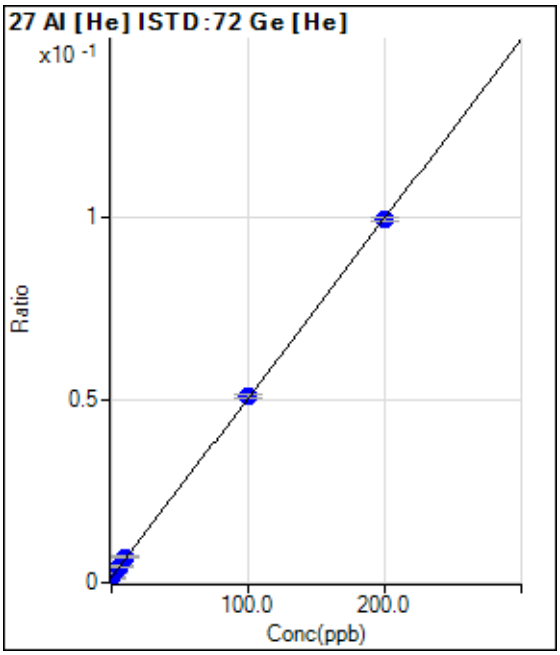


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	39374.36	0.0200	P	2.4
2	☐	2.000	2.148	67018.02	0.0340	P	3.6
3	☐	5.000	5.252	107458.58	0.0543	P	2.1
4	☐	10.000	10.891	177971.74	0.0911	P	1.4
5	☐	100.000	102.045	1302764.75	0.6862	A	1.9
6	☐	200.000	198.925	2480607.20	1.3187	A	1.1
7	☐	1.000					

y = 0.0065 * x + 0.0200
R = 0.9999
DL = 0.2253
BEC = 3.066

Weight: <None>
Min Conc: <None>

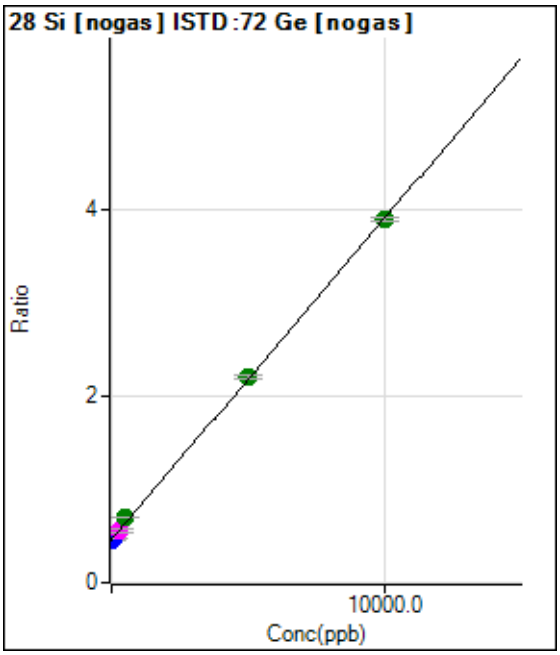
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	770.03	0.0014	P	23.3
2	☐	2.000	2.507	1440.08	0.0026	P	0.5
3	☐	5.000	5.903	2333.51	0.0043	P	10.1
4	☐	10.000	11.345	3737.09	0.0070	P	6.2
5	☐	100.000	101.354	26448.71	0.0512	P	2.0
6	☐	200.000	199.228	49949.23	0.0993	P	1.0
7	☐	1.000					

y = 4.9137E-004 * x + 0.0014
R = 1.0000
DL = 2.019
BEC = 2.885

Weight: <None>
Min Conc: <None>

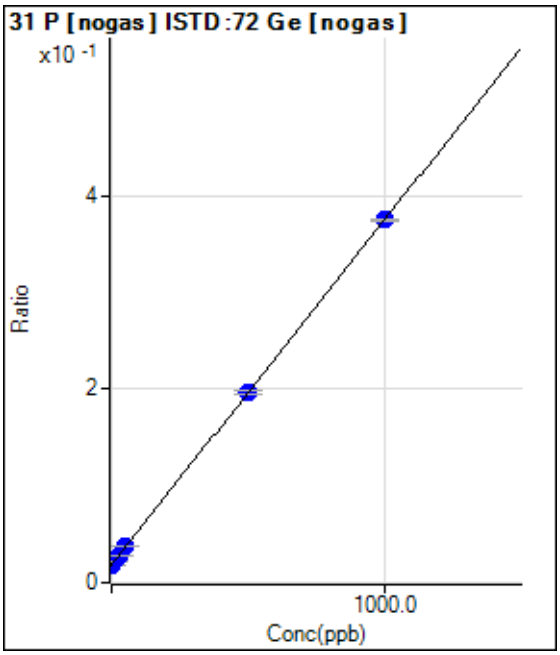


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	906787.33	0.4611	P	1.9
2	☐	100.000	52.378	943654.05	0.4791	P	1.1
3	☐	250.000	268.019	1094501.67	0.5533	M	6.8
4	☐	500.000	703.018	1373355.03	0.7031	A	1.3
5	☐	5000.000	5078.108	4193764.42	2.2090	A	1.9
6	☐	10000.000	9950.821	7310276.77	3.8863	A	1.1
7	☐	50.000					

y = 3.4421E-004 * x + 0.4611
R = 0.9997
DL = 76.01
BEC = 1339

Weight: <None>
Min Conc: <None>

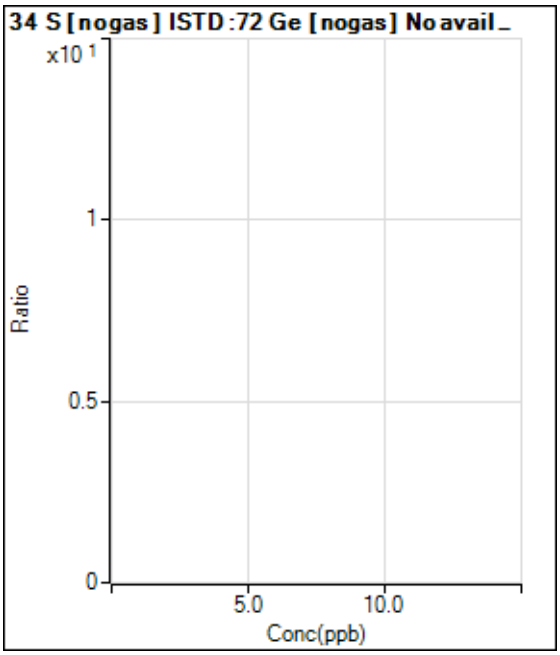
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36532.42	0.0186	P	1.8
2	☐	10.000	8.740	42698.55	0.0217	P	3.9
3	☐	25.000	24.592	54080.51	0.0273	P	1.5
4	☐	50.000	54.479	74168.27	0.0380	P	0.6
5	☐	500.000	499.446	372780.76	0.1964	P	1.8
6	☐	1000.000	1000.076	704571.97	0.3746	P	0.5
7	☐	5.000					

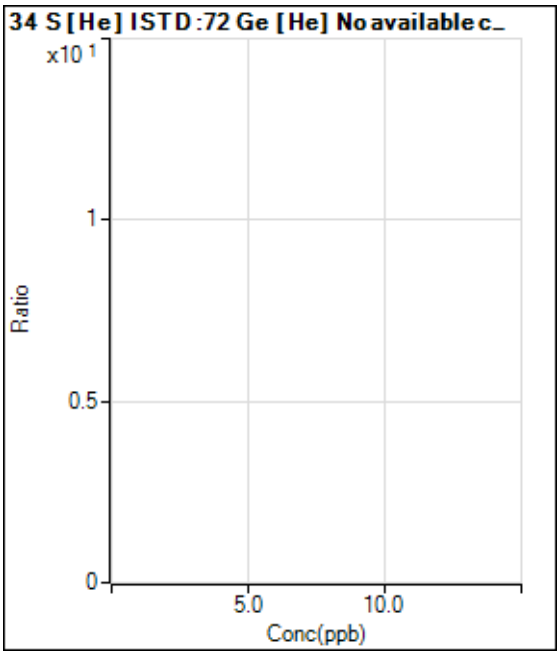
y = 3.5596E-004 * x + 0.0186
R = 1.0000
DL = 2.741
BEC = 52.18

Weight: <None>
Min Conc: <None>

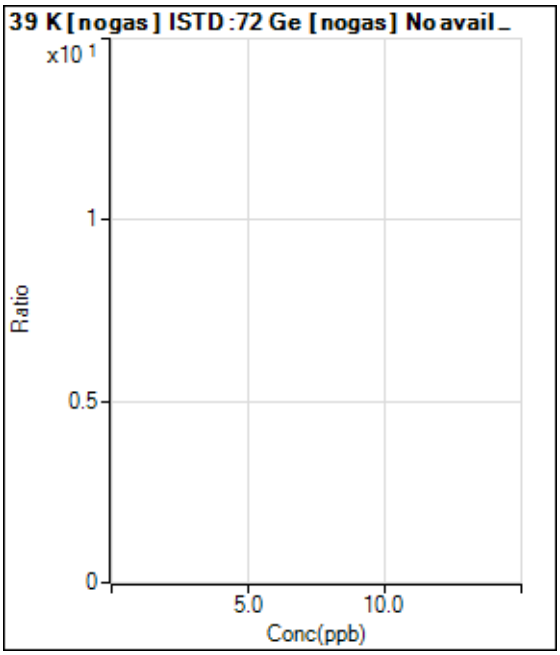


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.000					
6	☐	40000.000					
7	☐	200.000					

Calibration for 026_ICV.d

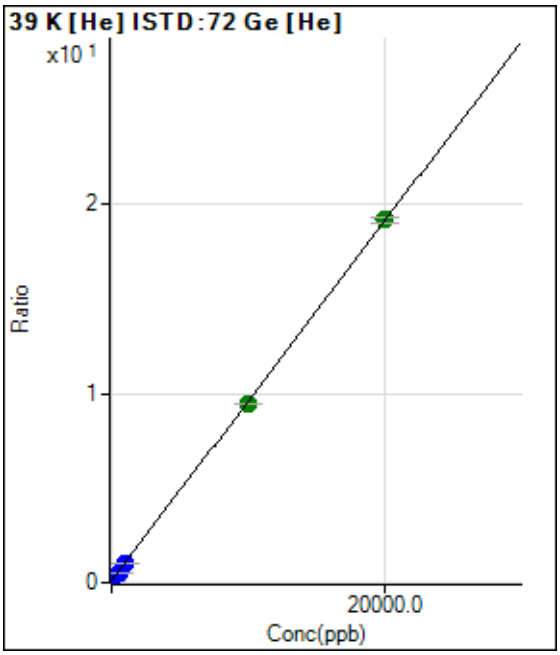


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.000					
6	☐	40000.000					
7	☐	200.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

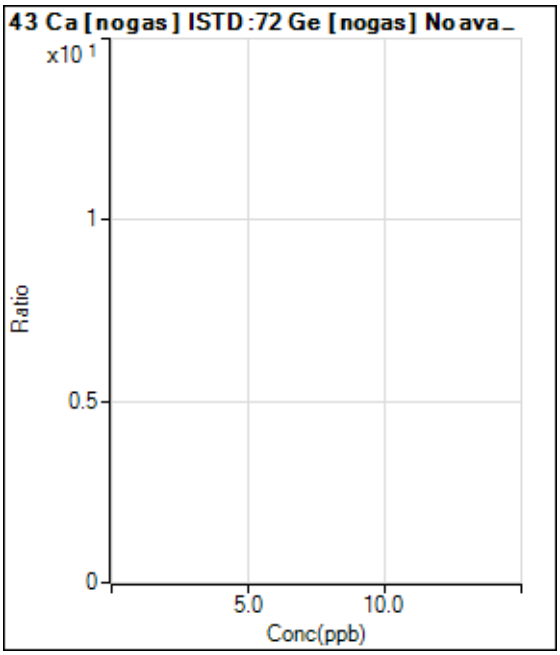
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	55017.57	0.1012	P	2.6
2	☐	200.000	189.517	152784.27	0.2811	P	1.4
3	☐	500.000	475.273	298375.40	0.5524	P	1.3
4	☐	1000.000	992.949	557793.08	1.0439	P	0.5
5	☐	10000.000	9843.398	4878110.97	9.4469	A	0.8
6	☐	20000.000	20079.377	9639105.90	19.1653	A	1.5
7	☐	100.000					

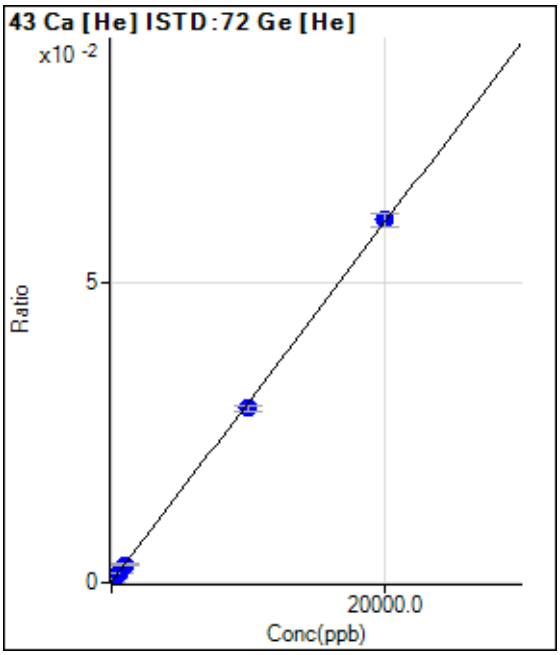
y = 9.4944E-004 * x + 0.1012
R = 1.0000
DL = 8.278
BEC = 106.6

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

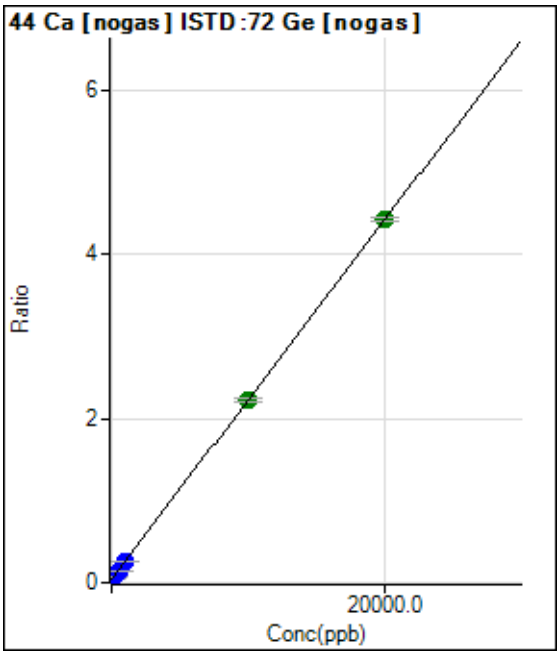
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0001	P	74.6
2	☐	200.000	170.104	320.01	0.0006	P	18.8
3	☐	500.000	497.562	846.70	0.0016	P	9.6
4	☐	1000.000	981.569	1610.09	0.0030	P	19.0
5	☐	10000.000	9681.280	14982.81	0.0290	P	2.9
6	☐	20000.000	20160.642	30348.13	0.0603	P	3.5
7	☐	100.000					

y = 2.9890E-006 * x + 7.9887E-005
R = 0.9998
DL = 59.78
BEC = 26.73

Weight: <None>
Min Conc: <None>

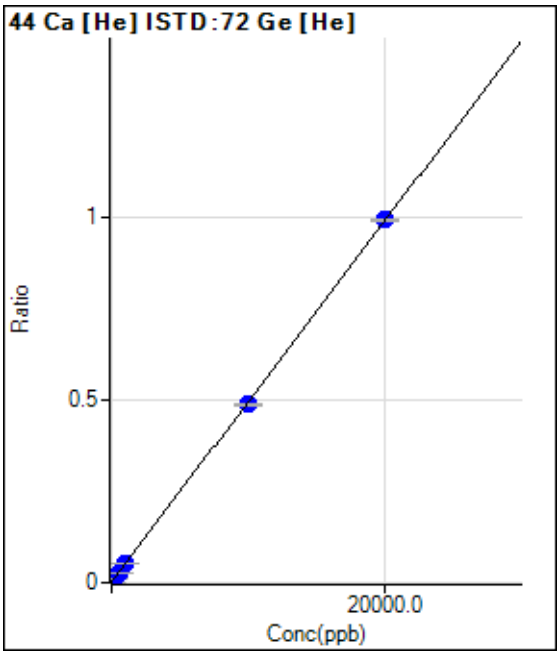


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	82554.48	0.0420	P	1.7
2	☐	200.000	176.092	158535.09	0.0805	P	3.3
3	☐	500.000	462.612	283438.82	0.1432	P	1.4
4	☐	1000.000	990.847	505597.53	0.2588	P	1.5
5	☐	10000.000	9984.186	4228294.41	2.2272	A	2.7
6	☐	20000.000	20009.539	8316733.42	4.4215	A	1.0
7	☐	100.000					

y = 2.1887E-004 * x + 0.0420
R = 1.0000
DL = 9.737
BEC = 191.8

Weight: <None>
Min Conc: <None>

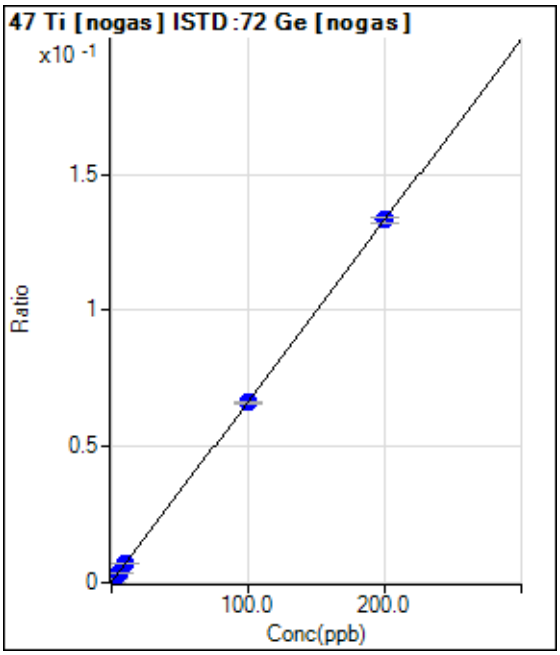
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	840.03	0.0015	P	7.4
2	☐	200.000	178.910	5654.26	0.0104	P	4.1
3	☐	500.000	478.460	13631.83	0.0252	P	0.8
4	☐	1000.000	1010.168	27553.93	0.0516	P	0.9
5	☐	10000.000	9855.637	252817.73	0.4896	P	1.2
6	☐	20000.000	20072.423	500706.98	0.9956	P	0.7
7	☐	100.000					

y = 4.9521E-005 * x + 0.0015
R = 1.0000
DL = 6.912
BEC = 31.18

Weight: <None>
Min Conc: <None>

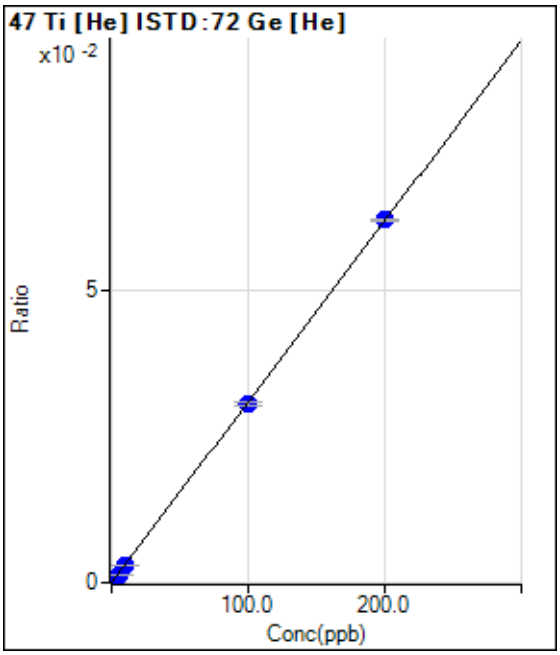


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	246.67	0.0001	P	27.5
2	☐	2.000	1.854	2673.57	0.0014	P	6.5
3	☐	5.000	4.777	6534.57	0.0033	P	3.1
4	☐	10.000	10.397	13745.27	0.0070	P	4.6
5	☐	100.000	99.422	125760.44	0.0662	P	0.6
6	☐	200.000	200.276	250698.60	0.1333	P	1.7
7	☐	1.000					

y = 6.6491E-004 * x + 1.2543E-004
R = 1.0000
DL = 0.1559
BEC = 0.1886

Weight: <None>
Min Conc: <None>

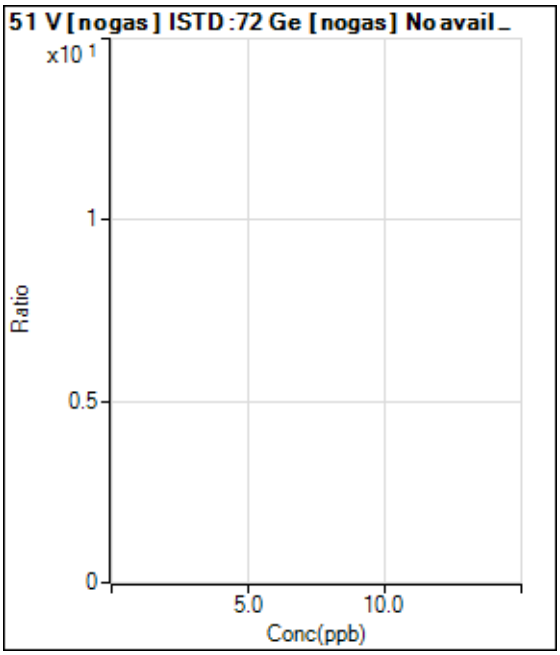
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	2.107	356.68	0.0007	P	12.8
3	☐	5.000	4.420	740.03	0.0014	P	7.7
4	☐	10.000	9.364	1546.76	0.0029	P	6.1
5	☐	100.000	98.578	15706.76	0.0304	P	2.2
6	☐	200.000	200.756	31152.92	0.0619	P	0.8
7	☐	1.000					

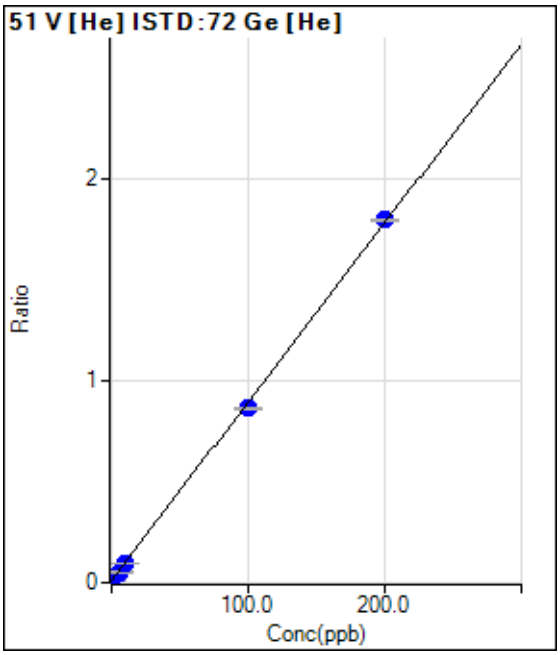
y = 3.0851E-004 * x + 6.1577E-006
R = 1.0000
DL = 0.1037
BEC = 0.01996

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					

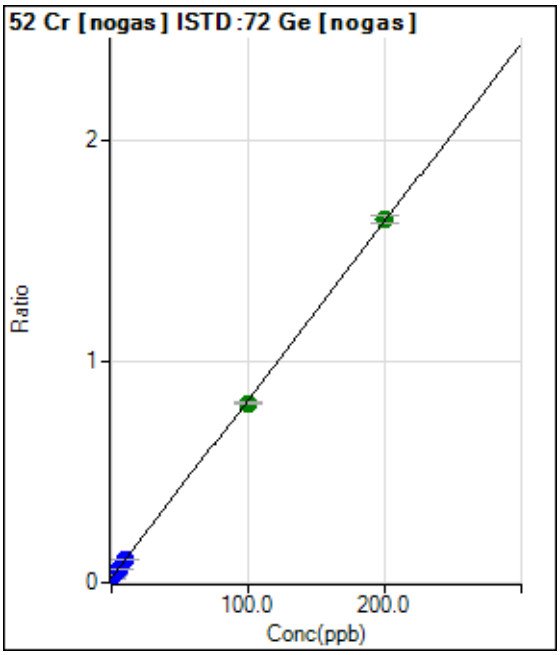
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5967.66	0.0110	P	3.8
2	☐	2.000	1.925	15204.02	0.0280	P	2.3
3	☐	5.000	4.641	28064.43	0.0520	P	2.0
4	☐	10.000	9.699	51633.36	0.0966	P	1.7
5	☐	100.000	96.297	444827.80	0.8615	P	1.2
6	☐	200.000	201.876	902247.22	1.7939	P	0.4
7	☐	1.000					

y = 0.0088 * x + 0.0110
R = 0.9998
DL = 0.1407
BEC = 1.242

Weight: <None>
Min Conc: <None>

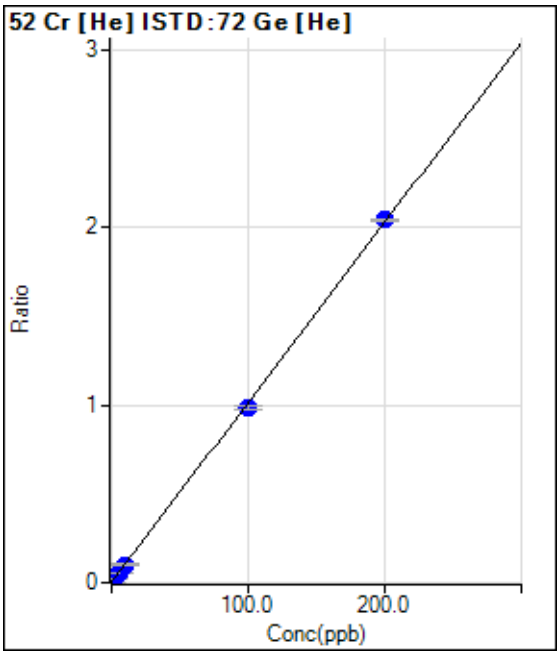


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	42999.86	0.0219	P	1.4
2	☐	2.000	1.920	73568.12	0.0374	P	1.7
3	☐	5.000	4.734	118836.72	0.0601	P	1.5
4	☐	10.000	9.848	197878.12	0.1013	P	1.0
5	☐	100.000	98.106	1543933.36	0.8132	A	1.7
6	☐	200.000	200.962	3090272.56	1.6429	A	2.0
7	☐	1.000					

y = 0.0081 * x + 0.0219
R = 0.9999
DL = 0.1148
BEC = 2.71

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1216.73	0.0022	P	15.1
2	☐	2.000	1.812	11173.54	0.0206	P	3.3
3	☐	5.000	4.782	27320.33	0.0506	P	1.5
4	☐	10.000	9.855	54433.00	0.1019	P	3.0
5	☐	100.000	96.948	507305.49	0.9825	P	1.6
6	☐	200.000	201.541	1025989.41	2.0400	P	0.5
7	☐	1.000					

y = 0.0101 * x + 0.0022

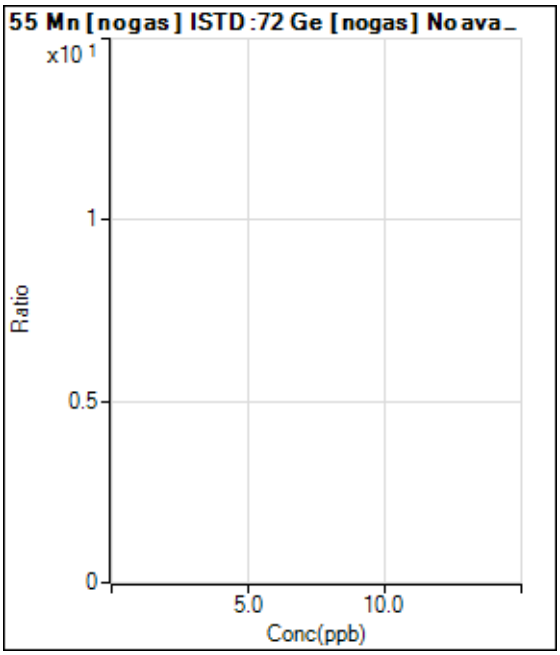
R = 0.9998

DL = 0.1

BEC = 0.2212

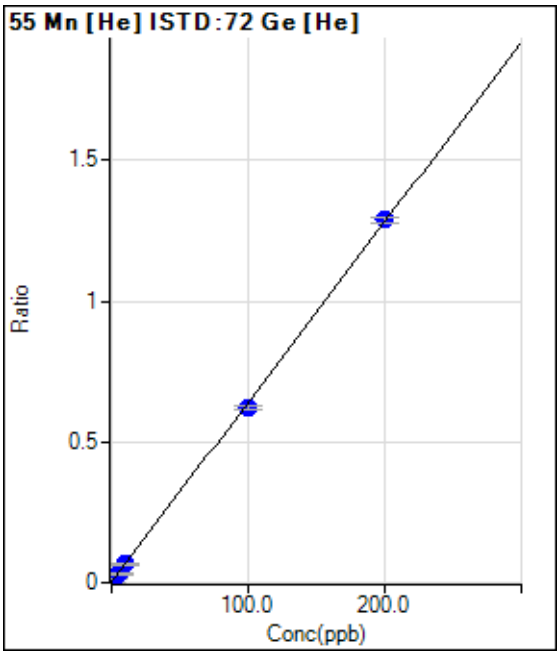
Weight: <None>

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					

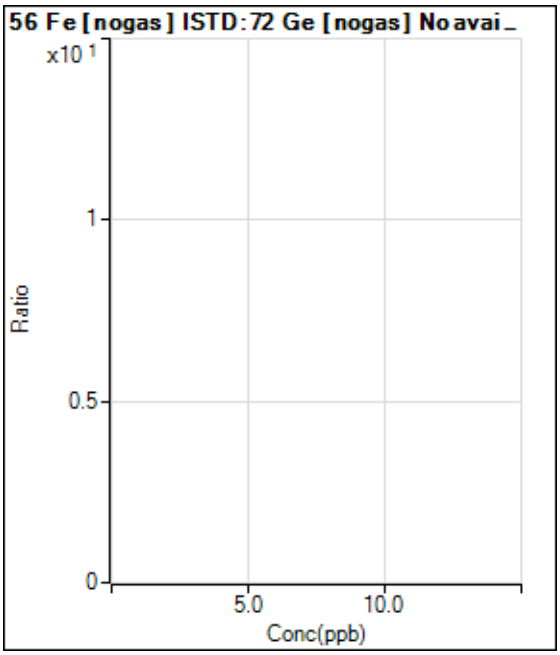
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1243.40	0.0023	P	4.5
2	☐	2.000	1.676	7061.48	0.0130	P	1.3
3	☐	5.000	4.595	17084.75	0.0316	P	6.9
4	☐	10.000	9.833	34782.84	0.0651	P	1.7
5	☐	100.000	97.382	322352.27	0.6243	P	2.1
6	☐	200.000	201.331	647889.42	1.2882	P	1.5
7	☐	1.000					

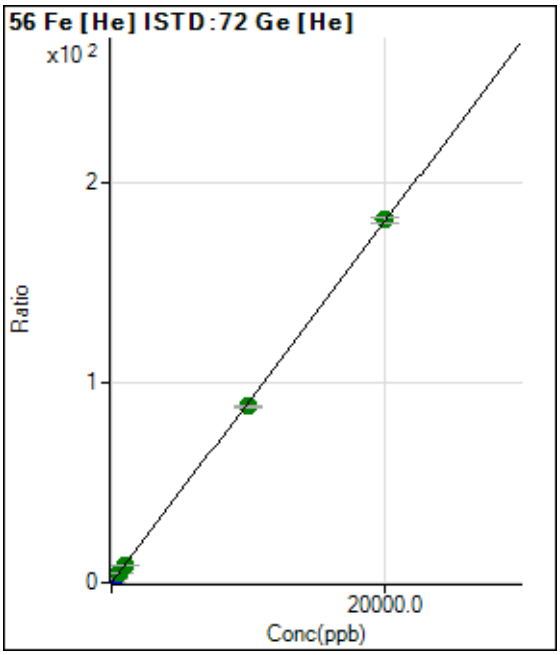
y = 0.0064 * x + 0.0023
R = 0.9999
DL = 0.04845
BEC = 0.3579

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

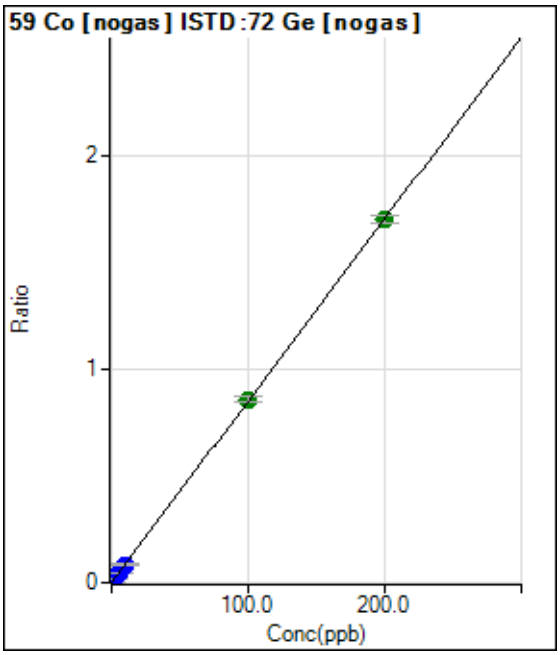
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9002.31	0.0166	P	2.0
2	☐	200.000	187.970	928126.65	1.7078	P	0.6
3	☐	500.000	503.547	2455971.68	4.5471	A	1.7
4	☐	1000.000	1002.541	4828589.41	9.0367	A	0.4
5	☐	10000.000	9767.864	45389454.33	87.9011	A	1.4
6	☐	20000.000	20115.973	91033888.64	181.0064	A	1.9
7	☐	100.000					

y = 0.0090 * x + 0.0166
R = 0.9999
DL = 0.1103
BEC = 1.84

Weight: <None>
Min Conc: <None>

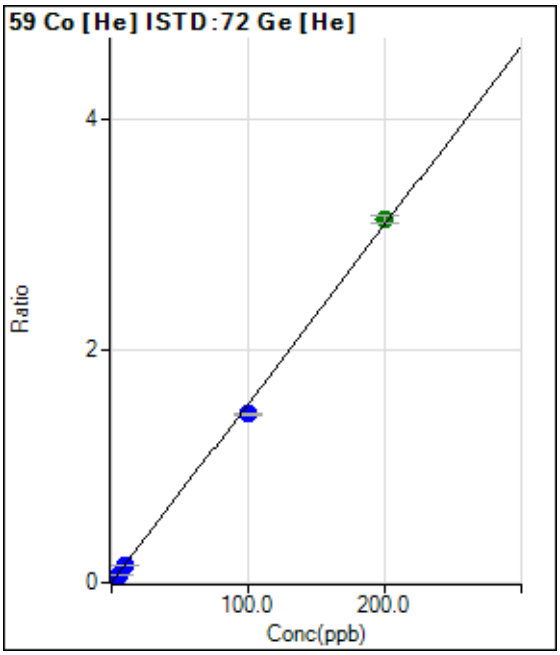


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.02	0.0003	P	22.4
2	☐	2.000	1.940	33129.92	0.0168	P	2.8
3	☐	5.000	4.860	82530.19	0.0417	P	0.8
4	☐	10.000	10.016	167247.44	0.0856	P	2.4
5	☐	100.000	100.793	1630777.11	0.8590	A	2.9
6	☐	200.000	199.607	3199162.87	1.7009	A	2.1
7	☐	1.000					

y = 0.0085 * x + 2.9548E-004
R = 1.0000
DL = 0.02327
BEC = 0.03468

Weight: <None>
Min Conc: <None>

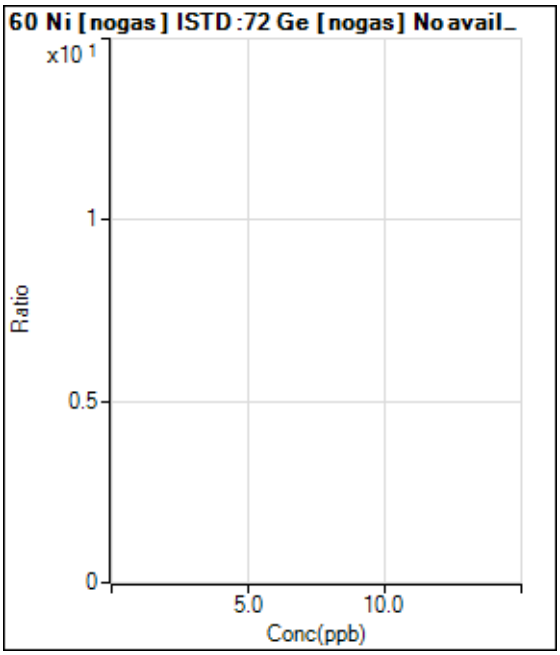
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	200.00	0.0004	P	30.2
2	☐	2.000	1.939	16437.51	0.0302	P	1.8
3	☐	5.000	4.675	39114.99	0.0724	P	2.0
4	☐	10.000	9.775	80689.35	0.1510	P	3.0
5	☐	100.000	94.361	751204.60	1.4548	P	1.5
6	☐	200.000	202.840	1572631.33	3.1269	A	2.3
7	☐	1.000					

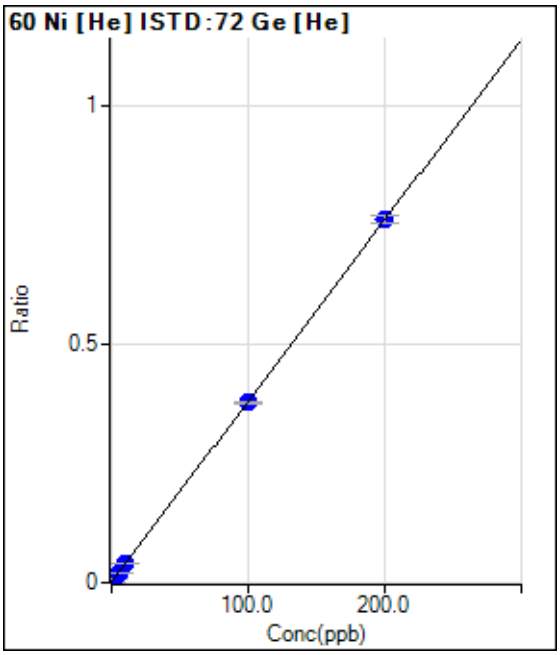
y = 0.0154 * x + 3.6782E-004
R = 0.9995
DL = 0.0216
BEC = 0.02386

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					

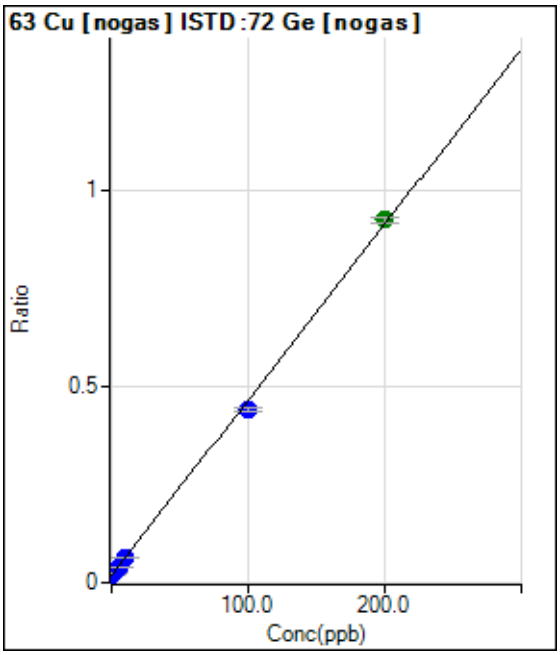
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	596.68	0.0011	P	14.2
2	☐	2.000	1.784	4270.56	0.0079	P	2.4
3	☐	5.000	4.759	10336.40	0.0191	P	4.5
4	☐	10.000	10.174	21185.70	0.0397	P	2.1
5	☐	100.000	99.470	195210.88	0.3780	P	0.8
6	☐	200.000	200.264	382228.82	0.7600	P	2.0
7	☐	1.000					

y = 0.0038 * x + 0.0011
R = 1.0000
DL = 0.1239
BEC = 0.2898

Weight: <None>
Min Conc: <None>

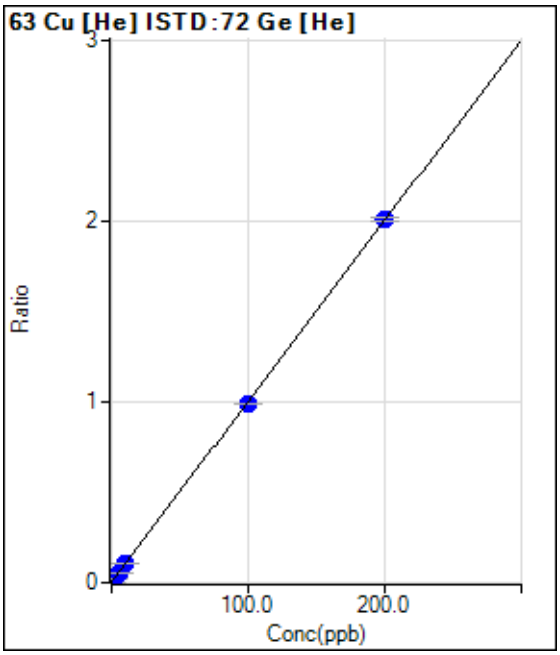


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36880.66	0.0188	P	2.4
2	☐	2.000	1.689	51789.56	0.0263	P	3.3
3	☐	5.000	4.730	78944.90	0.0399	P	0.8
4	☐	10.000	9.689	121212.38	0.0620	P	1.1
5	☐	100.000	94.737	839211.94	0.4420	P	1.9
6	☐	200.000	202.657	1738678.62	0.9242	A	1.6
7	☐	1.000					

y = 0.0045 * x + 0.0188
R = 0.9995
DL = 0.3008
BEC = 4.197

Weight: <None>
Min Conc: <None>

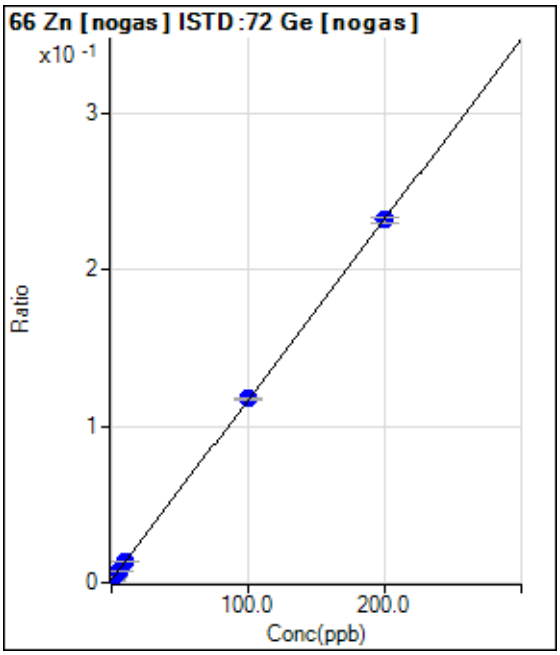
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2240.17	0.0041	P	2.7
2	☐	2.000	2.014	13178.29	0.0242	P	1.5
3	☐	5.000	4.831	28308.67	0.0524	P	3.2
4	☐	10.000	10.435	57937.62	0.1084	P	2.6
5	☐	100.000	99.009	513262.00	0.9940	P	0.3
6	☐	200.000	200.478	1010099.36	2.0084	P	1.2
7	☐	1.000					

y = 0.0100 * x + 0.0041
R = 1.0000
DL = 0.03315
BEC = 0.412

Weight: <None>
Min Conc: <None>

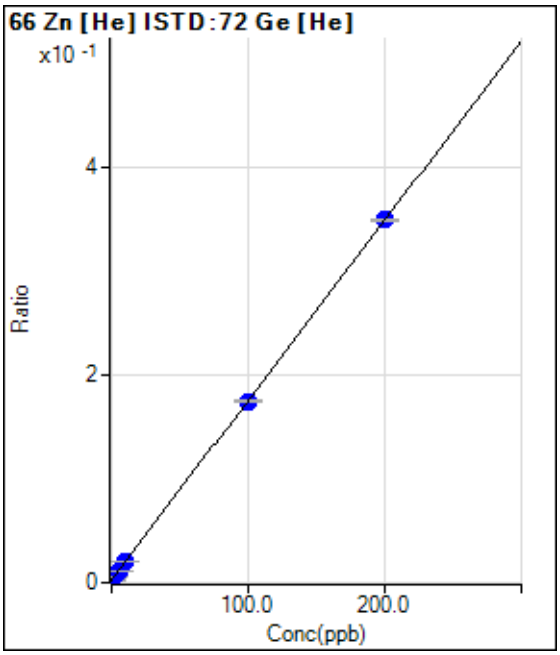


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3627.08	0.0018	P	3.3
2	☐	2.000	1.536	7111.48	0.0036	P	2.7
3	☐	5.000	4.573	14055.61	0.0071	P	4.1
4	☐	10.000	9.854	25745.01	0.0132	P	1.0
5	☐	100.000	100.468	222872.40	0.1174	P	1.7
6	☐	200.000	199.789	435639.44	0.2316	P	1.8
7	☐	1.000					

y = 0.0012 * x + 0.0018
R = 1.0000
DL = 0.159
BEC = 1.604

Weight: <None>
Min Conc: <None>

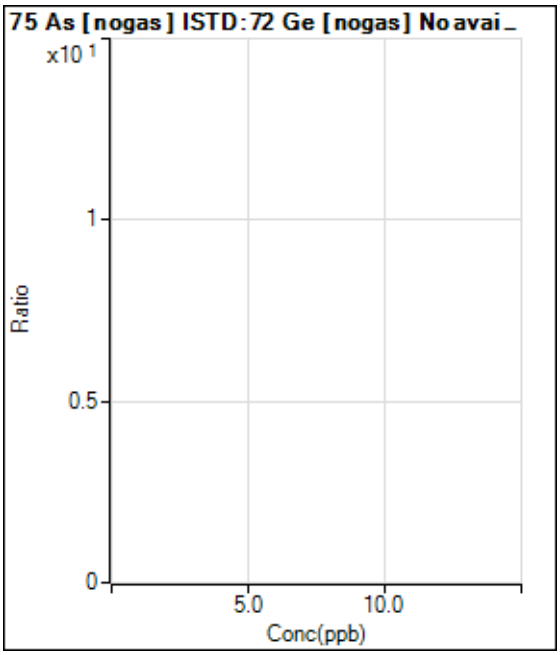
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1496.75	0.0028	P	21.6
2	☐	2.000	1.493	2900.27	0.0053	P	7.8
3	☐	5.000	4.405	5610.93	0.0104	P	2.7
4	☐	10.000	9.904	10643.26	0.0199	P	2.6
5	☐	100.000	99.273	90293.76	0.1749	P	1.1
6	☐	200.000	200.388	176112.27	0.3502	P	0.8
7	☐	1.000					

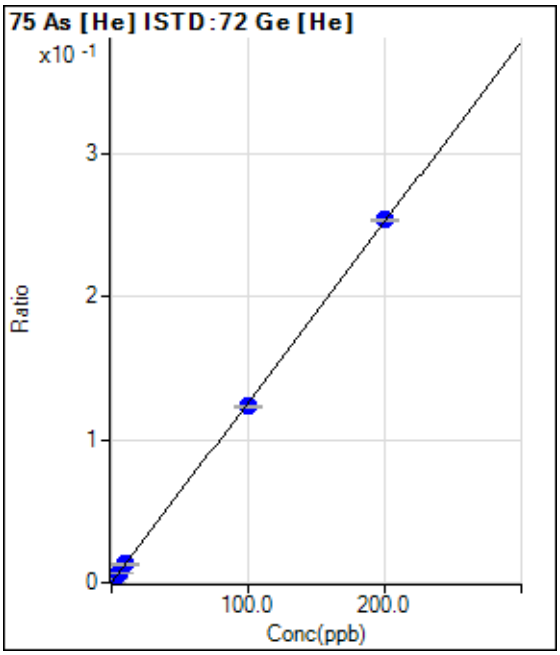
y = 0.0017 * x + 0.0028
R = 1.0000
DL = 1.03
BEC = 1.586

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					

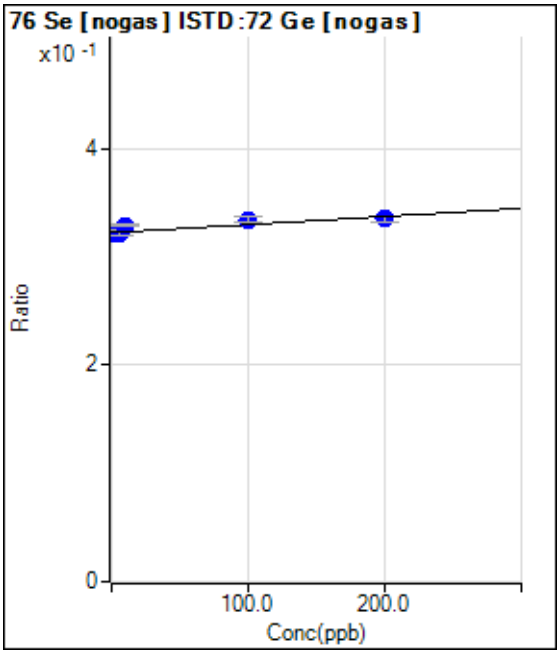
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	98.89	0.0002	P	28.9
2	☐	2.000	1.881	1385.61	0.0026	P	6.0
3	☐	5.000	4.708	3299.20	0.0061	P	0.6
4	☐	10.000	10.087	6881.32	0.0129	P	2.4
5	☐	100.000	97.803	63669.18	0.1233	P	0.8
6	☐	200.000	201.103	127411.18	0.2533	P	0.6
7	☐	1.000					

y = 0.0013 * x + 1.8214E-004
R = 0.9999
DL = 0.1255
BEC = 0.1447

Weight: <None>
Min Conc: <None>

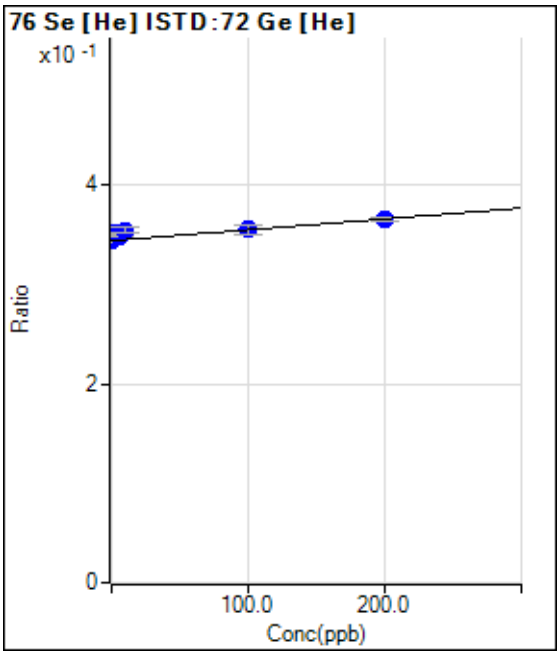


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	634638.09	0.3227	P	2.0
2	☐	2.000	-5.369	634683.02	0.3223	P	2.3
3	☐	5.000	-9.108	637237.28	0.3220	P	1.7
4	☐	10.000	86.975	643123.91	0.3292	P	0.7
5	☐	100.000	154.768	634707.33	0.3343	P	1.6
6	☐	200.000	169.194	630842.83	0.3354	P	1.6
7	☐	1.000					

y = 7.5123E-005 * x + 0.3227
R = 0.8655
DL = 252.7
BEC = 4295

Weight: <None>
Min Conc: <None>

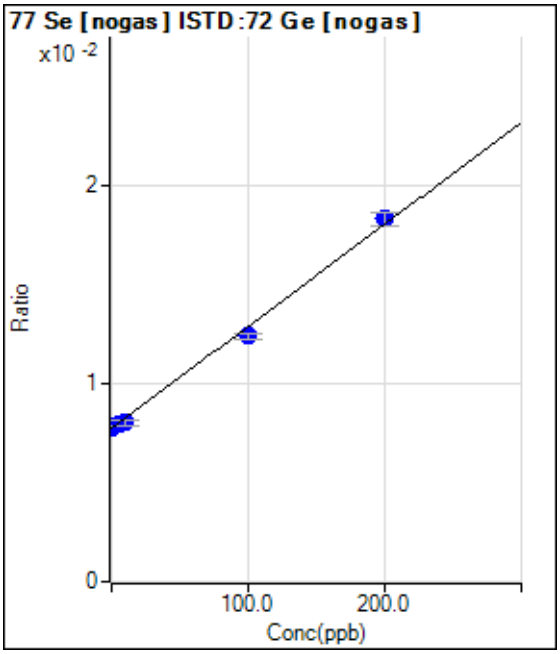
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	187188.67	0.3442	P	0.5
2	☐	2.000	71.213	191310.27	0.3520	P	0.4
3	☐	5.000	44.736	188576.22	0.3491	P	0.5
4	☐	10.000	97.775	189633.28	0.3549	P	2.0
5	☐	100.000	106.452	183751.46	0.3559	P	2.8
6	☐	200.000	190.700	183615.83	0.3651	P	1.0
7	☐	1.000					

y = 1.0936E-004 * x + 0.3442
R = 0.8774
DL = 42.69
BEC = 3148

Weight: <None>
Min Conc: <None>

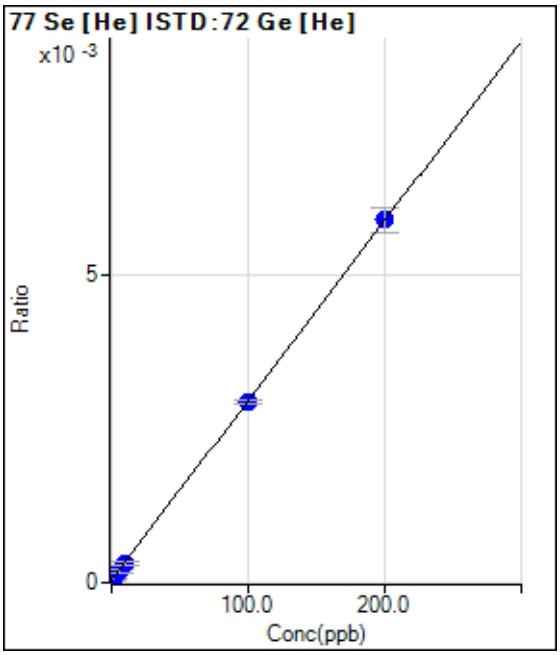


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15216.60	0.0077	P	1.9
2	☐	2.000	2.702	15510.17	0.0079	P	1.7
3	☐	5.000	4.878	15803.82	0.0080	P	2.9
4	☐	10.000	5.272	15637.02	0.0080	P	4.2
5	☐	100.000	90.029	23478.71	0.0124	P	2.7
6	☐	200.000	205.218	34399.31	0.0183	P	3.8
7	☐	1.000					

y = 5.1430E-005 * x + 0.0077
R = 0.9981
DL = 8.508
BEC = 150.4

Weight: <None>
Min Conc: <None>

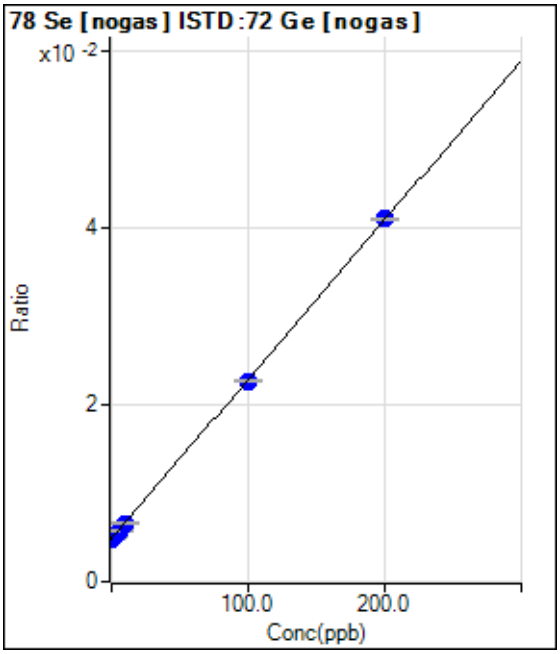
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	23.8
2	☐	2.000	0.637	33.33	0.0001	P	18.2
3	☐	5.000	5.103	103.33	0.0002	P	39.5
4	☐	10.000	9.232	166.67	0.0003	P	18.9
5	☐	100.000	98.930	1510.09	0.0029	P	1.8
6	☐	200.000	200.584	2960.28	0.0059	P	6.8
7	☐	1.000					

y = 2.9127E-005 * x + 4.2852E-005
R = 1.0000
DL = 1.052
BEC = 1.471

Weight: <None>
Min Conc: <None>

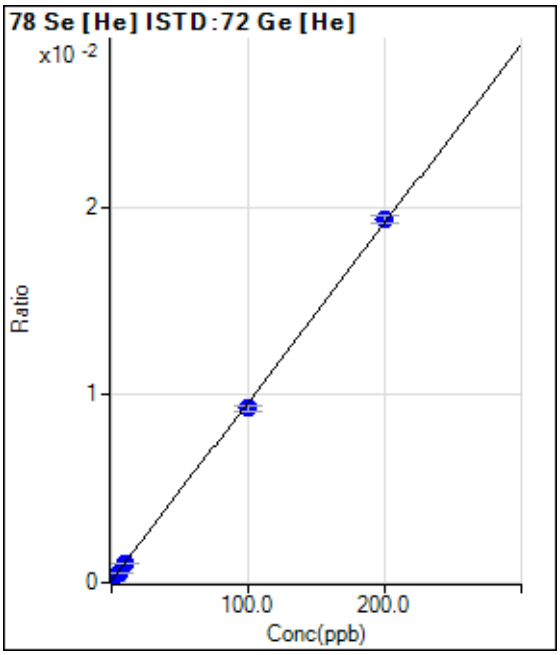


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9602.64	0.0049	P	2.3
2	☐	2.000	1.147	10022.92	0.0051	P	2.9
3	☐	5.000	4.470	11246.96	0.0057	P	4.3
4	☐	10.000	9.520	12881.40	0.0066	P	1.7
5	☐	100.000	98.789	43001.07	0.0226	P	1.3
6	☐	200.000	200.651	77062.35	0.0410	P	0.7
7	☐	1.000					

y = 1.7986E-004 * x + 0.0049
R = 1.0000
DL = 1.881
BEC = 27.14

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.00	0.0001	P	31.5
2	☐	2.000	1.944	156.67	0.0003	P	10.8
3	☐	5.000	4.251	274.67	0.0005	P	7.0
4	☐	10.000	9.573	542.68	0.0010	P	4.6
5	☐	100.000	96.331	4795.31	0.0093	P	3.5
6	☐	200.000	201.875	9731.95	0.0193	P	2.1
7	☐	1.000					

y = 9.5340E-005 * x + 1.0305E-004

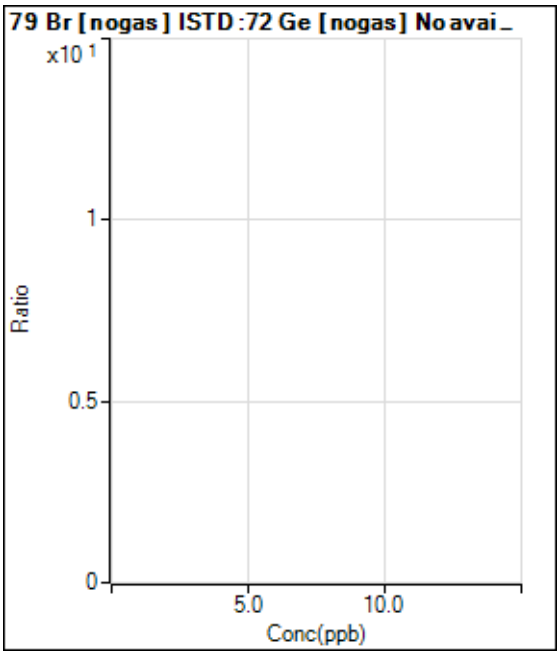
R = 0.9998

DL = 1.022

BEC = 1.081

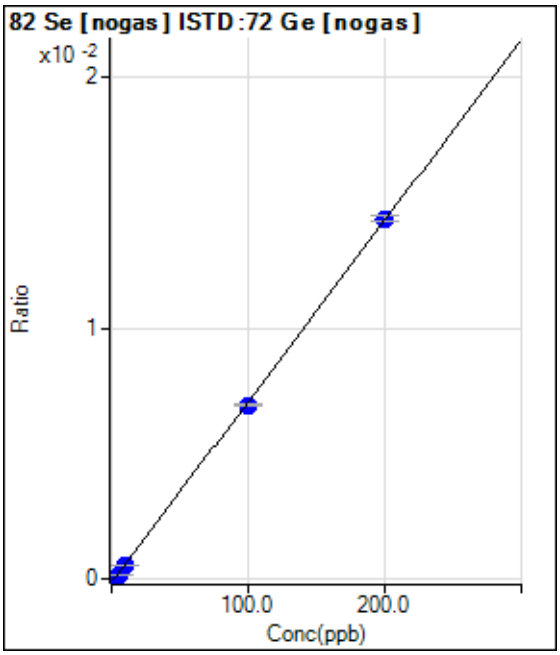
Weight: <None>

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					

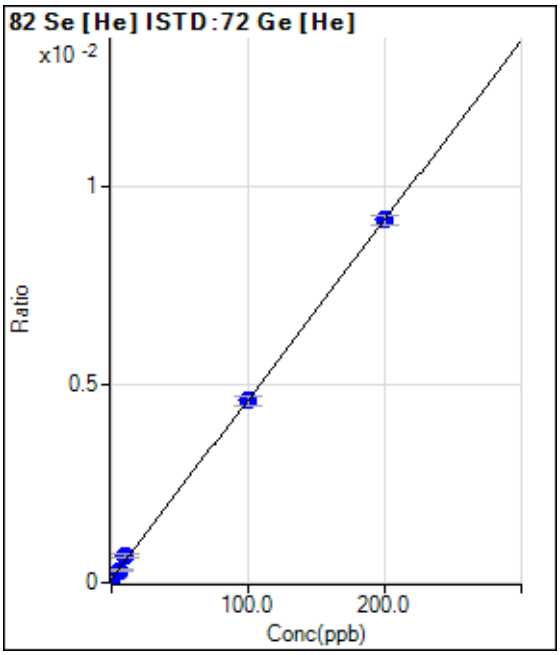
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-238.26	-0.0001	P	-82.6
2	☐	2.000	2.500	115.75	0.0001	P	60.0
3	☐	5.000	4.537	405.55	0.0002	P	13.6
4	☐	10.000	9.163	1051.38	0.0005	P	3.2
5	☐	100.000	98.066	13180.04	0.0069	P	1.0
6	☐	200.000	201.016	27002.25	0.0144	P	1.7
7	☐	1.000					

y = 7.2016E-005 * x - 1.2169E-004
R = 0.9999
DL = 4.188
BEC = -1.69

Weight: <None>
Min Conc: <None>

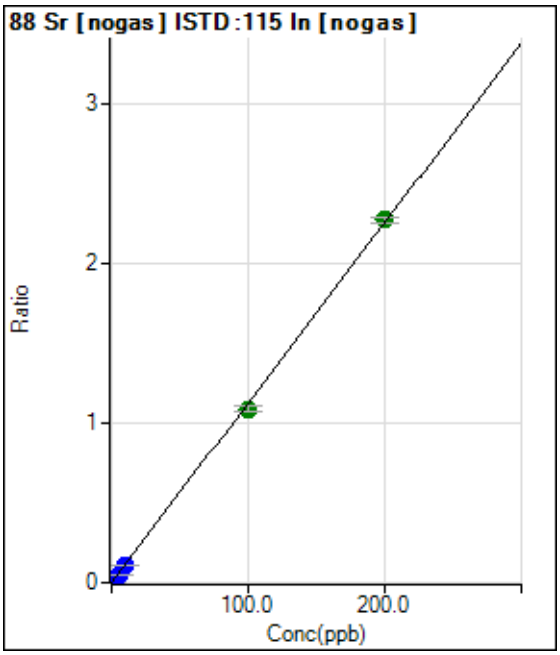


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50.00	0.0001	P	34.3
2	☐	2.000	2.034	100.00	0.0002	P	27.0
3	☐	5.000	4.775	166.67	0.0003	P	9.8
4	☐	10.000	13.097	366.68	0.0007	P	9.5
5	☐	100.000	99.650	2383.52	0.0046	P	5.3
6	☐	200.000	200.025	4613.98	0.0092	P	2.7
7	☐	1.000					

y = 4.5406E-005 * x + 9.1858E-005
R = 0.9999
DL = 2.084
BEC = 2.023

Weight: <None>
Min Conc: <None>

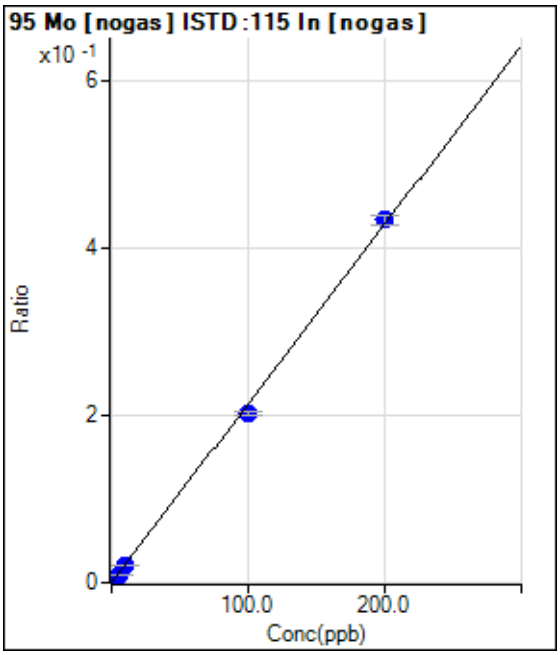
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1653.44	0.0008	P	5.7
2	☐	2.000	1.832	43596.55	0.0215	P	1.9
3	☐	5.000	4.577	106791.38	0.0524	P	1.9
4	☐	10.000	9.634	219236.01	0.1095	P	1.7
5	☐	100.000	96.577	2143569.40	1.0899	A	2.6
6	☐	200.000	201.742	4351395.77	2.2759	A	1.7
7	☐	1.000					

y = 0.0113 * x + 8.2297E-004
R = 0.9998
DL = 0.0124
BEC = 0.07298

Weight: <None>
Min Conc: <None>

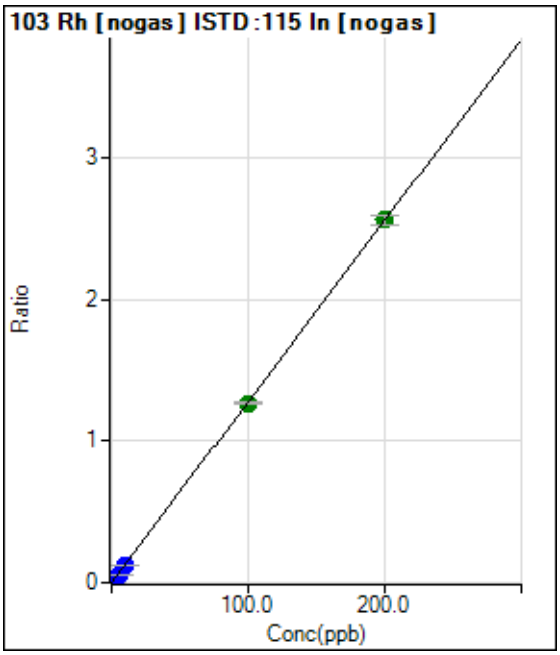


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	163.33	0.0001	P	14.7
2	☐	2.000	1.850	8188.65	0.0040	P	4.9
3	☐	5.000	4.654	20428.59	0.0100	P	2.7
4	☐	10.000	9.924	42654.26	0.0213	P	2.7
5	☐	100.000	94.691	398348.58	0.2025	P	2.7
6	☐	200.000	202.669	828539.60	0.4334	P	2.7
7	☐	1.000					

y = 0.0021 * x + 8.1253E-005
R = 0.9995
DL = 0.01677
BEC = 0.038

Weight: <None>
Min Conc: <None>

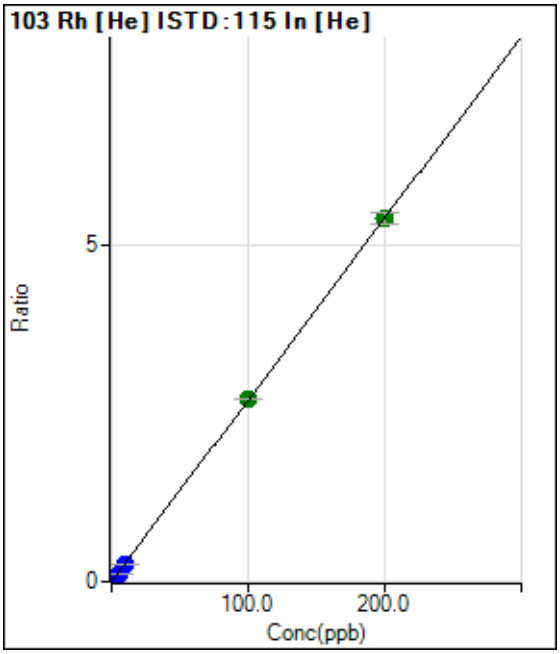
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0000	P	23.9
2	☐	2.000	1.850	48118.74	0.0237	P	2.6
3	☐	5.000	4.650	121364.68	0.0596	P	1.4
4	☐	10.000	9.998	256506.83	0.1281	P	1.0
5	☐	100.000	99.221	2499850.33	1.2709	A	1.7
6	☐	200.000	200.400	4907233.78	2.5669	A	2.7
7	☐	1.000					

y = 0.0128 * x + 2.3201E-005
R = 1.0000
DL = 0.001298
BEC = 0.001811

Weight: <None>
Min Conc: <None>

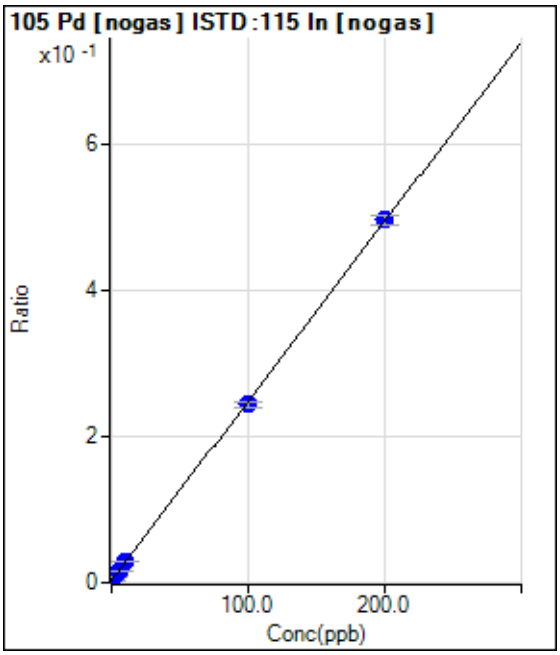


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0001	P	43.9
2	☐	2.000	1.875	40690.15	0.0506	P	0.9
3	☐	5.000	4.633	100074.03	0.1250	P	2.7
4	☐	10.000	9.714	209165.99	0.2621	P	2.5
5	☐	100.000	100.483	2056935.28	2.7102	A	0.4
6	☐	200.000	199.783	4026684.21	5.3885	A	3.1
7	☐	1.000					

y = 0.0270 * x + 5.8692E-005
R = 1.0000
DL = 0.002869
BEC = 0.002176

Weight: <None>
Min Conc: <None>

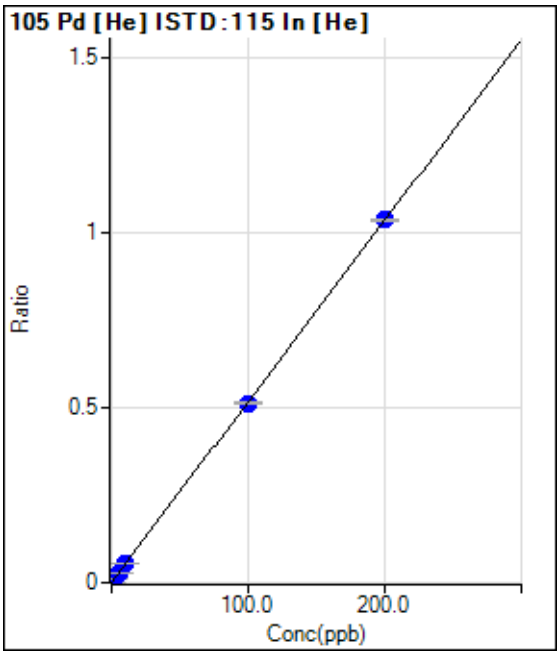
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6294.57	0.0031	P	3.5
2	☐	2.000	1.882	15743.87	0.0078	P	2.4
3	☐	5.000	4.764	30209.21	0.0148	P	3.0
4	☐	10.000	10.133	56132.23	0.0280	P	1.9
5	☐	100.000	98.021	479747.48	0.2439	P	2.4
6	☐	200.000	200.990	949859.15	0.4969	P	2.5
7	☐	1.000					

y = 0.0025 * x + 0.0031
R = 0.9999
DL = 0.134
BEC = 1.276

Weight: <None>
Min Conc: <None>

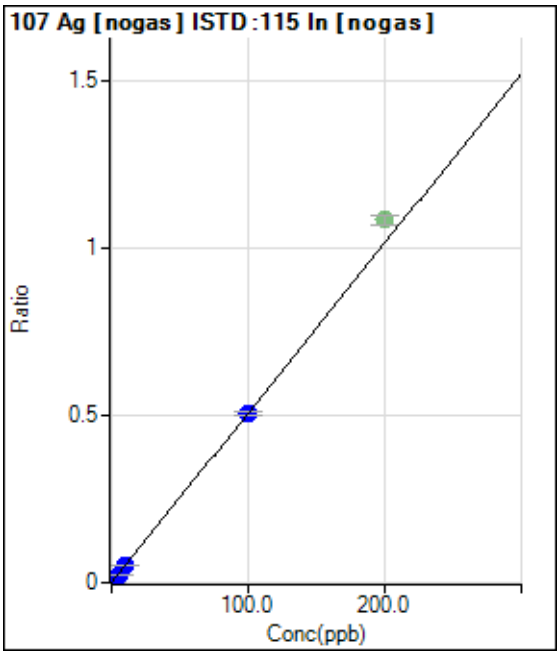


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	593.35	0.0007	P	9.5
2	☐	2.000	1.908	8525.50	0.0106	P	4.7
3	☐	5.000	4.817	20522.15	0.0256	P	2.8
4	☐	10.000	10.073	42140.02	0.0528	P	1.6
5	☐	100.000	99.133	389290.30	0.5129	P	0.3
6	☐	200.000	200.435	774366.68	1.0363	P	0.6
7	☐	1.000					

y = 0.0052 * x + 7.4735E-004
R = 1.0000
DL = 0.04125
BEC = 0.1447

Weight: <None>
Min Conc: <None>

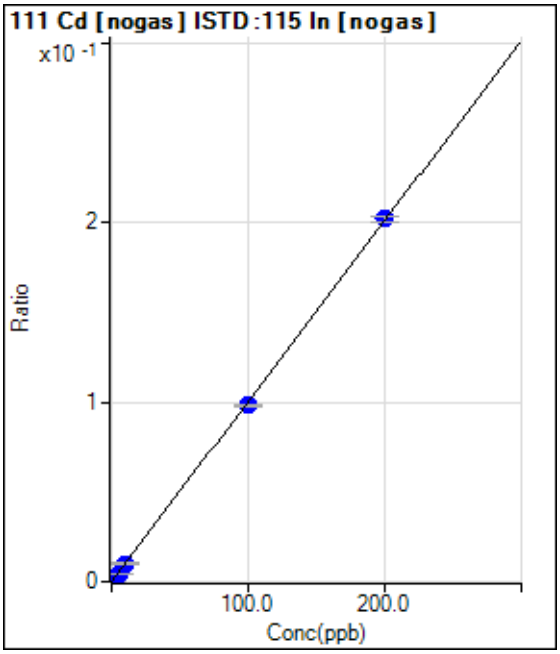
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0000	P	24.5
2	☐	2.000	1.983	20512.11	0.0101	P	1.4
3	☐	5.000	4.976	51525.05	0.0253	P	3.4
4	☐	10.000	10.555	107430.40	0.0536	P	0.8
5	☐	100.000	99.946	998406.39	0.5076	P	1.8
6	☑	200.000		2075968.35	1.0859	A	2.8
7	☐	1.000					

y = 0.0051 * x + 3.4830E-005
R = 1.0000
DL = 0.005046
BEC = 0.006858

Weight: <None>
Min Conc: <None>

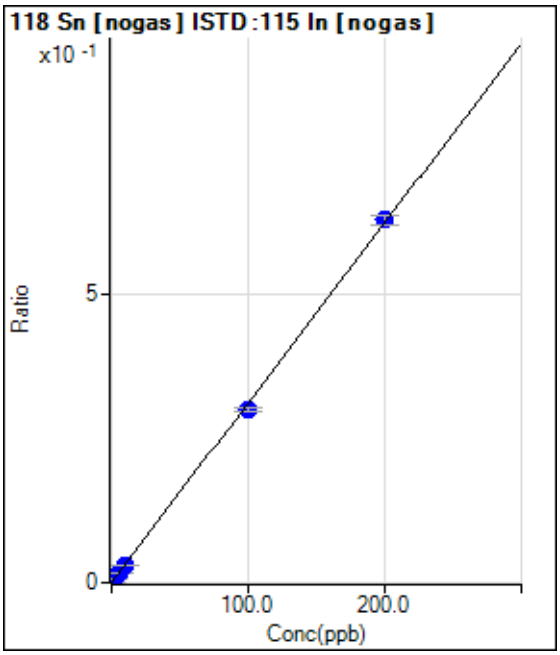


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	173.2
2	☐	2.000	1.886	3860.49	0.0019	P	5.1
3	☐	5.000	4.696	9619.40	0.0047	P	1.6
4	☐	10.000	10.061	20245.24	0.0101	P	3.9
5	☐	100.000	97.876	193293.75	0.0983	P	0.9
6	☐	200.000	201.068	385949.58	0.2019	P	1.9
7	☐	1.000					

y = 0.0010 * x + 8.2225E-006
R = 0.9999
DL = 0.04256
BEC = 0.00819

Weight: <None>
Min Conc: <None>

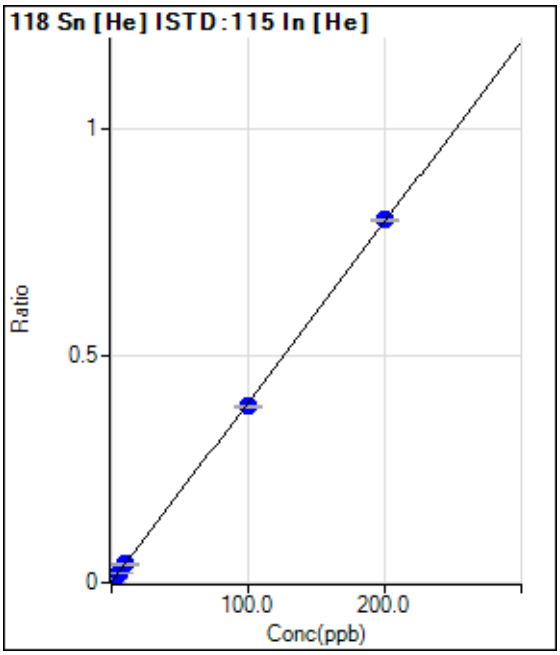
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1063.38	0.0005	P	11.7
2	☐	2.000	1.904	13118.40	0.0065	P	2.0
3	☐	5.000	4.791	31505.29	0.0155	P	0.1
4	☐	10.000	9.866	62655.30	0.0313	P	1.5
5	☐	100.000	96.340	591729.84	0.3009	P	1.6
6	☐	200.000	201.843	1203950.24	0.6297	P	2.6
7	☐	1.000					

y = 0.0031 * x + 5.2956E-004
R = 0.9998
DL = 0.0596
BEC = 0.1699

Weight: <None>
Min Conc: <None>

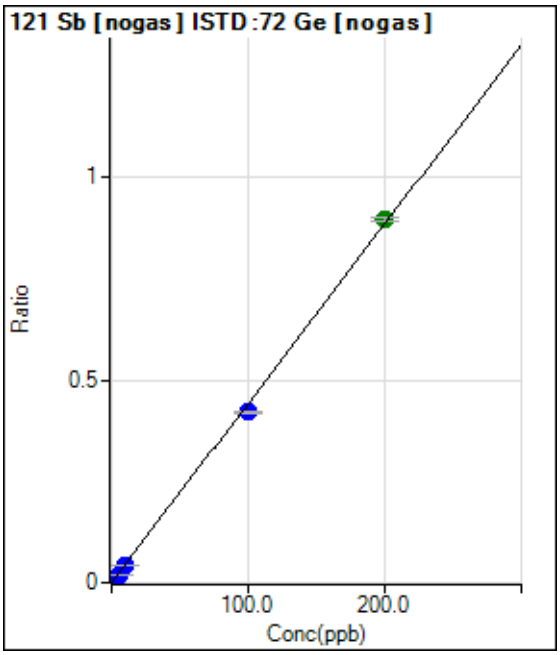


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	610.02	0.0008	P	35.6
2	☐	2.000	1.875	6604.68	0.0082	P	1.1
3	☐	5.000	5.091	16808.10	0.0210	P	9.0
4	☐	10.000	9.954	32183.00	0.0403	P	1.2
5	☐	100.000	97.655	295063.21	0.3887	P	1.1
6	☐	200.000	201.174	597822.53	0.8000	P	0.5
7	☐	1.000					

y = 0.0040 * x + 7.6746E-004
R = 0.9999
DL = 0.2062
BEC = 0.1932

Weight: <None>
Min Conc: <None>

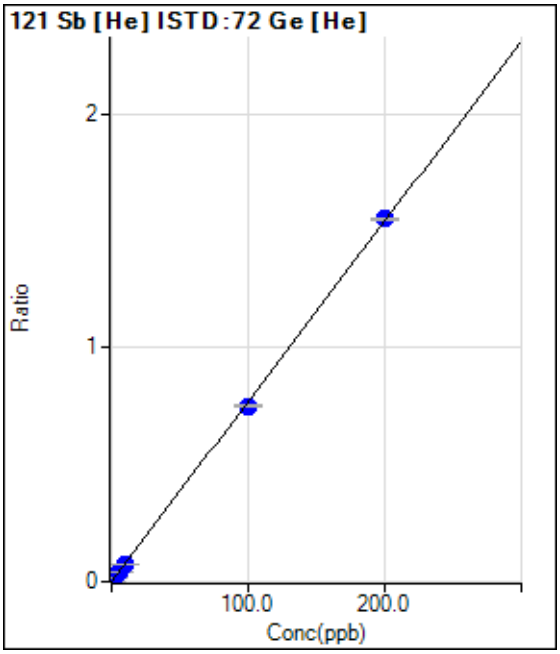
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1133.39	0.0006	P	7.0
2	☐	2.000	1.829	17061.83	0.0087	P	2.0
3	☐	5.000	4.573	41141.77	0.0208	P	3.2
4	☐	10.000	9.794	85694.99	0.0439	P	0.9
5	☐	100.000	95.137	799636.21	0.4211	P	0.9
6	☐	200.000	202.454	1684431.80	0.8955	A	1.1
7	☐	1.000					

y = 0.0044 * x + 5.7593E-004
R = 0.9996
DL = 0.0274
BEC = 0.1303

Weight: <None>
Min Conc: <None>

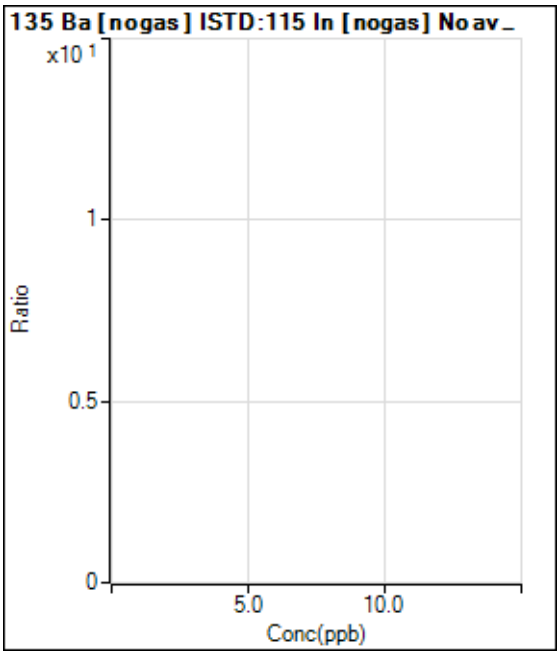


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	503.34	0.0009	P	2.3
2	☐	2.000	2.001	8882.35	0.0163	P	3.4
3	☐	5.000	4.754	20285.27	0.0376	P	1.1
4	☐	10.000	9.780	40757.52	0.0763	P	0.7
5	☐	100.000	97.258	387416.91	0.7503	P	1.1
6	☐	200.000	201.388	780854.65	1.5526	P	0.2
7	☐	1.000					

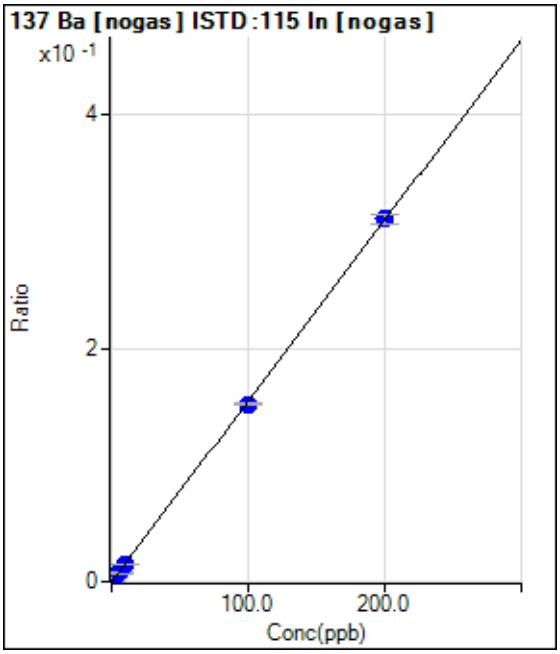
y = 0.0077 * x + 9.2550E-004
R = 0.9999
DL = 0.008119
BEC = 0.1201

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	206.67	0.0001	P	6.9
2	☐	2.000	1.892	6151.19	0.0030	P	4.0
3	☐	5.000	4.807	15357.00	0.0075	P	4.7
4	☐	10.000	9.887	30851.21	0.0154	P	1.0
5	☐	100.000	98.317	299483.48	0.1523	P	1.8
6	☐	200.000	200.853	594431.01	0.3109	P	2.8
7	☐	1.000					

y = 0.0015 * x + 1.0285E-004

R = 1.0000

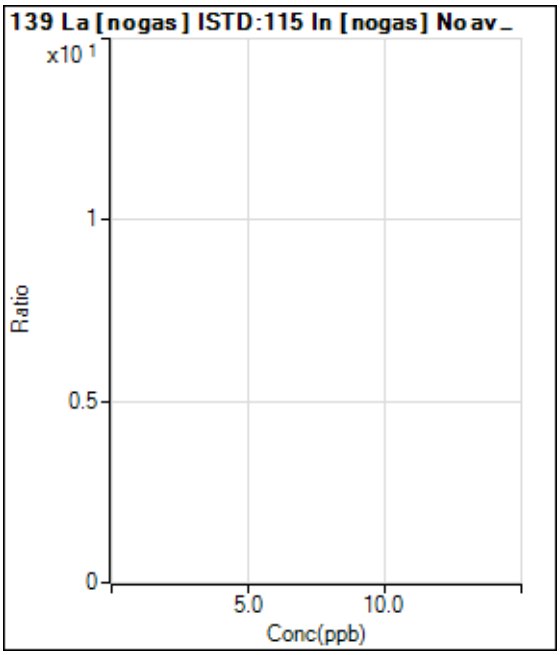
DL = 0.01377

BEC = 0.06646

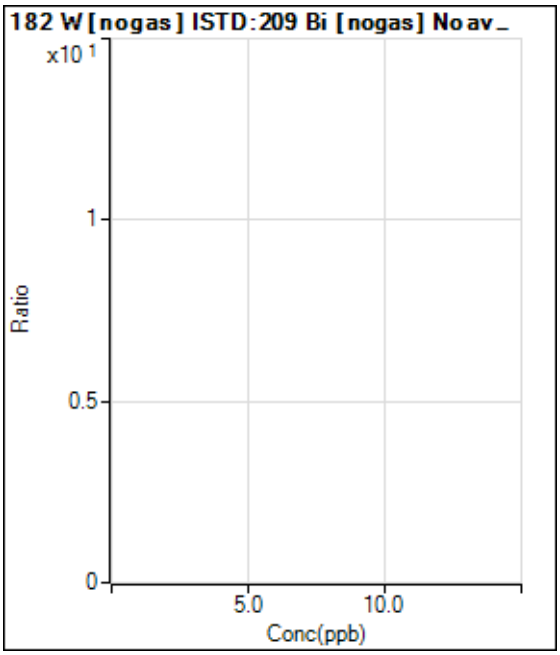
Weight: <None>

Min Conc: <None>

Calibration for 026_ICV.d

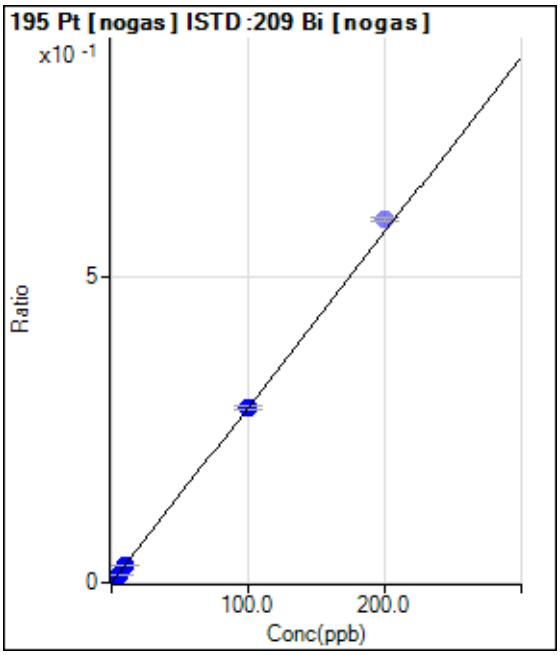


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	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	0.000	0.00	0.0000	P	
2	☐	2.000	1.796	8252.18	0.0051	P	5.5
3	☐	5.000	4.538	21417.47	0.0130	P	2.2
4	☐	10.000	9.429	45245.65	0.0270	P	0.8
5	☐	100.000	100.084	444214.73	0.2865	P	1.7
6	☑	200.000		906000.72	0.5927	P	1.0
7	☐	1.000					

y = 0.0029 * x + 0.0000E+000

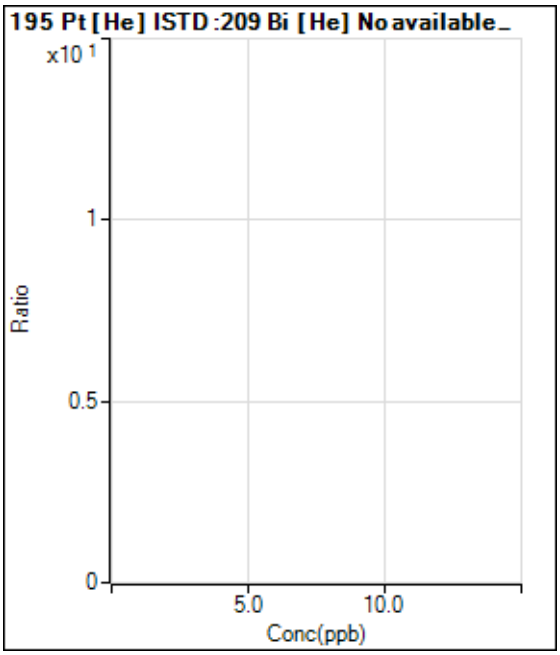
R = 1.0000

DL = 0

BEC = 0

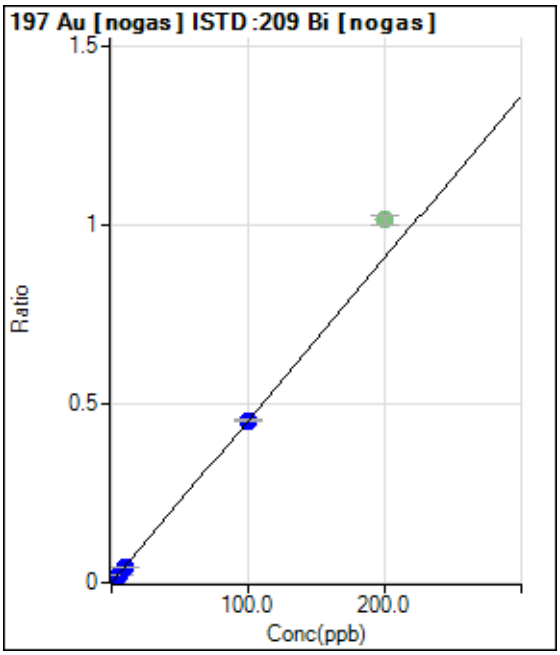
Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		6.67		P	
2	☐	2.000		8772.47		P	
3	☐	5.000		21774.61		P	
4	☐	10.000		45068.39		P	
5	☐	100.000		449554.02		P	
6	☐	200.000		926372.36		P	
7	☐	1.000					

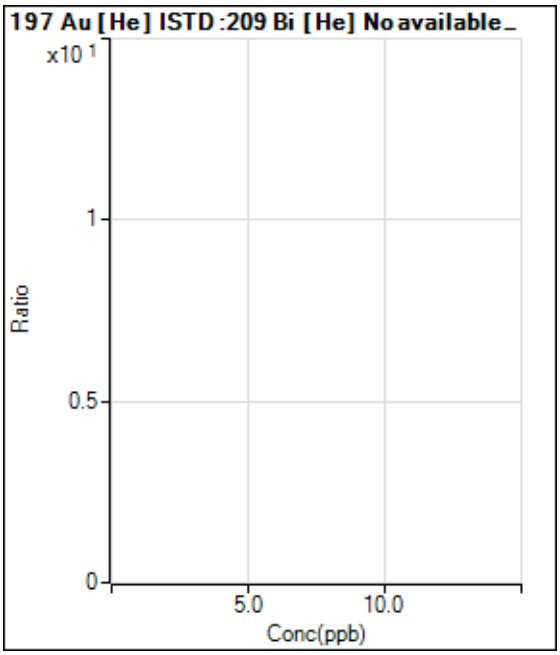
Calibration for 026_ICV.d



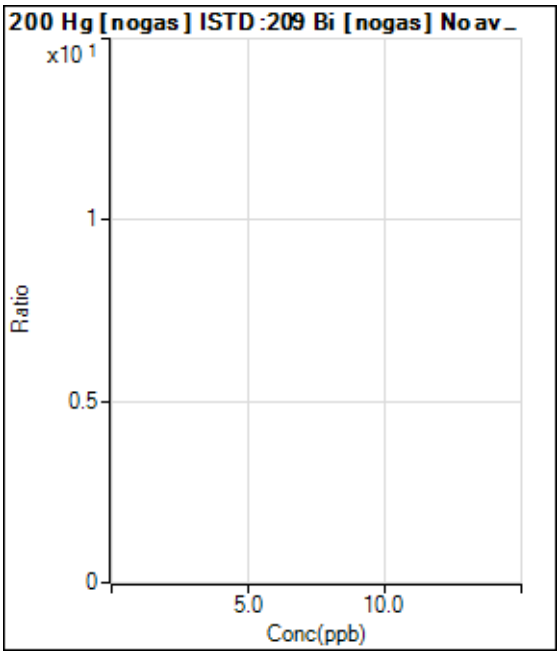
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0000	P	62.8
2	☐	2.000	1.852	13539.04	0.0084	P	1.6
3	☐	5.000	4.655	34873.86	0.0211	P	3.6
4	☐	10.000	9.458	72003.65	0.0430	P	2.2
5	☐	100.000	100.074	704444.05	0.4543	P	0.8
6	☑	200.000		1550835.55	1.0147	A	3.0
7	☐	1.000					

y = 0.0045 * x + 2.0534E-005
R = 1.0000
DL = 0.008517
BEC = 0.004524

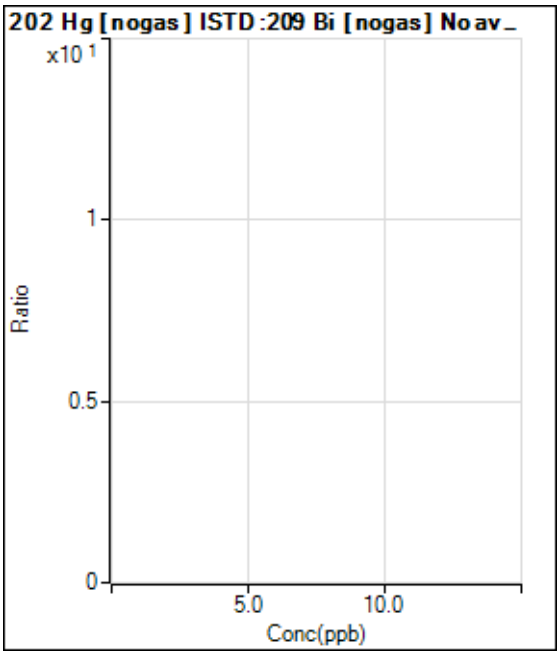
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		46.67		P	
2	☐	2.000		13916.02		P	
3	☐	5.000		35805.69		P	
4	☐	10.000		74565.73		P	
5	☐	100.000		727026.81		P	
6	☐	200.000		1584403.52		A	
7	☐	1.000					

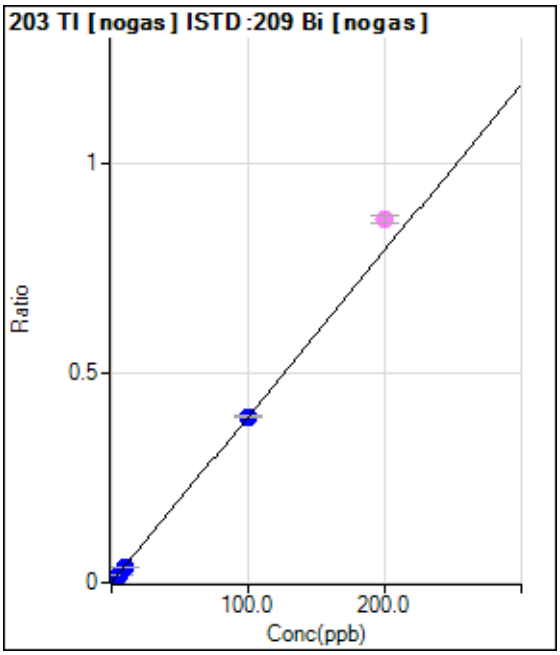


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	2.000					
6	☐	5.000					
7	☐	10.000					



	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					

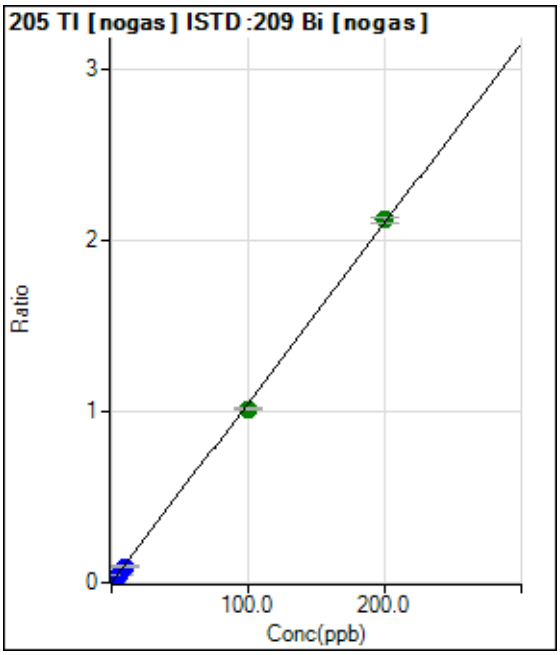
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	410.01	0.0003	P	18.0
2	☐	2.000	1.904	12528.29	0.0078	P	3.5
3	☐	5.000	4.764	31543.88	0.0191	P	3.1
4	☐	10.000	9.691	64804.79	0.0387	P	0.9
5	☐	100.000	100.045	615116.93	0.3967	P	1.3
6	☑	200.000		1323881.93	0.8658	M	2.1
7	☐	1.000					

y = 0.0040 * x + 2.5265E-004
R = 1.0000
DL = 0.03452
BEC = 0.06376

Weight: <None>
Min Conc: <None>

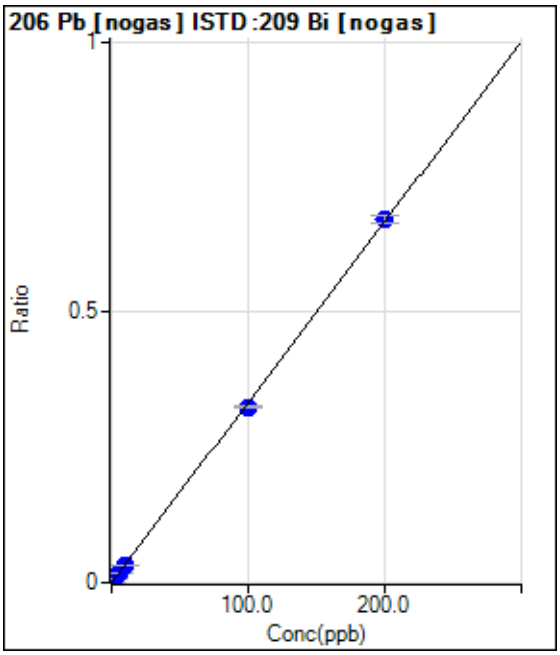


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	933.37	0.0006	P	8.3
2	☐	2.000	1.791	31093.06	0.0194	P	2.5
3	☐	5.000	4.399	77027.77	0.0467	P	1.9
4	☐	10.000	8.943	158198.94	0.0944	P	2.5
5	☐	100.000	96.450	1569486.02	1.0121	A	1.0
6	☐	200.000	201.845	3236655.58	2.1175	A	1.8
7	☐	1.000					

y = 0.0105 * x + 5.7468E-004
R = 0.9998
DL = 0.0136
BEC = 0.05479

Weight: <None>
Min Conc: <None>

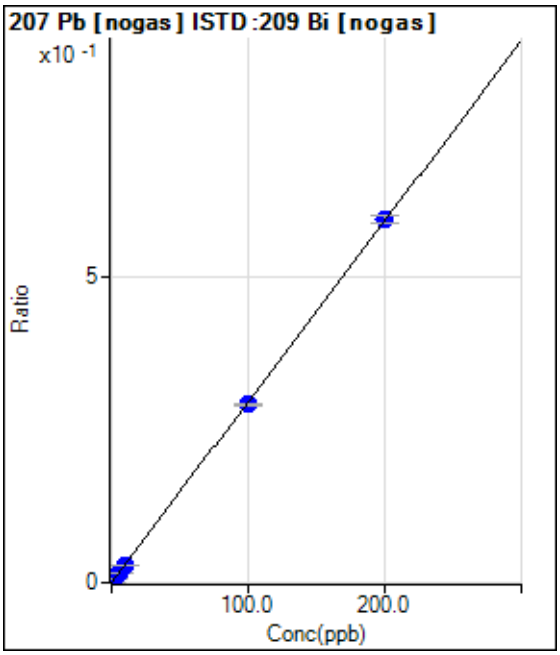
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	466.68	0.0003	P	19.5
2	☐	2.000	1.995	11123.95	0.0069	P	6.6
3	☐	5.000	4.863	27172.93	0.0165	P	1.3
4	☐	10.000	9.748	54895.85	0.0327	P	0.7
5	☐	100.000	97.552	504096.89	0.3251	P	0.6
6	☐	200.000	201.240	1024508.21	0.6703	P	2.0
7	☐	1.000					

y = 0.0033 * x + 2.8698E-004
R = 0.9999
DL = 0.05036
BEC = 0.0862

Weight: <None>
Min Conc: <None>

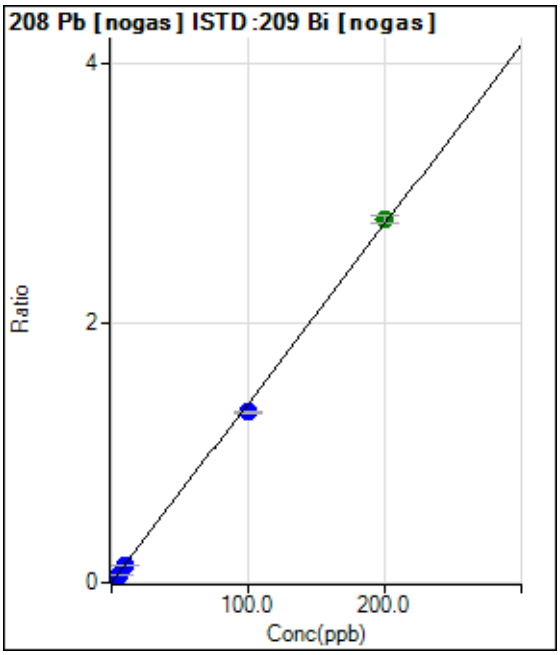


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	450.01	0.0003	P	6.9
2	☐	2.000	1.927	9582.98	0.0060	P	7.5
3	☐	5.000	4.887	24261.65	0.0147	P	0.1
4	☐	10.000	9.838	49180.89	0.0293	P	0.6
5	☐	100.000	98.488	451507.26	0.2912	P	1.2
6	☐	200.000	200.768	906736.26	0.5932	P	2.2
7	☐	1.000					

y = 0.0030 * x + 2.7724E-004
R = 1.0000
DL = 0.01931
BEC = 0.09387

Weight: <None>
Min Conc: <None>

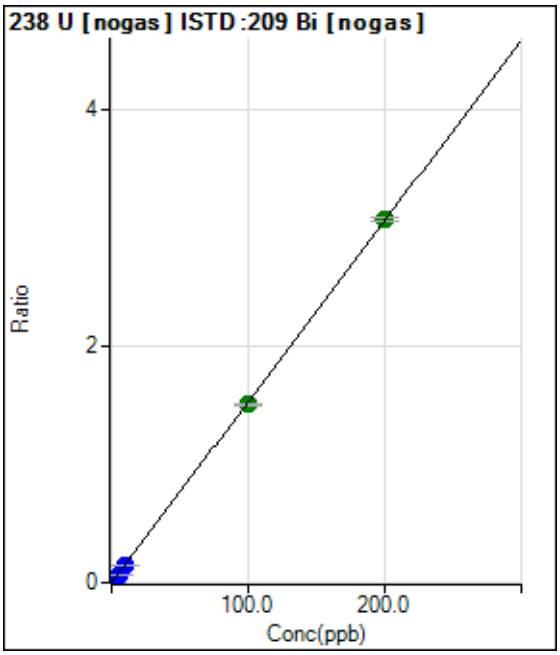
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2090.08	0.0013	P	3.5
2	☐	2.000	1.886	43930.41	0.0274	P	3.9
3	☐	5.000	4.685	108919.35	0.0660	P	0.6
4	☐	10.000	9.562	223759.56	0.1335	P	0.6
5	☐	100.000	95.226	2043270.33	1.3176	P	1.1
6	☐	200.000	202.418	4278667.51	2.7994	A	2.2
7	☐	1.000					

y = 0.0138 * x + 0.0013
R = 0.9996
DL = 0.009855
BEC = 0.09309

Weight: <None>
Min Conc: <None>

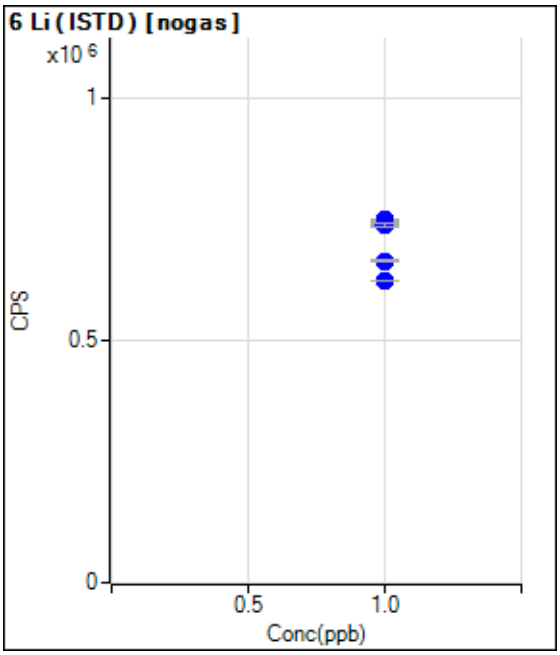


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0000	P	12.2
2	☐	2.000	1.787	43944.13	0.0274	P	1.2
3	☐	5.000	4.455	112350.82	0.0681	P	1.0
4	☐	10.000	9.140	234280.66	0.1397	P	1.9
5	☐	100.000	98.759	2341014.86	1.5096	A	1.2
6	☐	200.000	200.679	4689660.35	3.0676	A	0.9
7	☐	1.000					

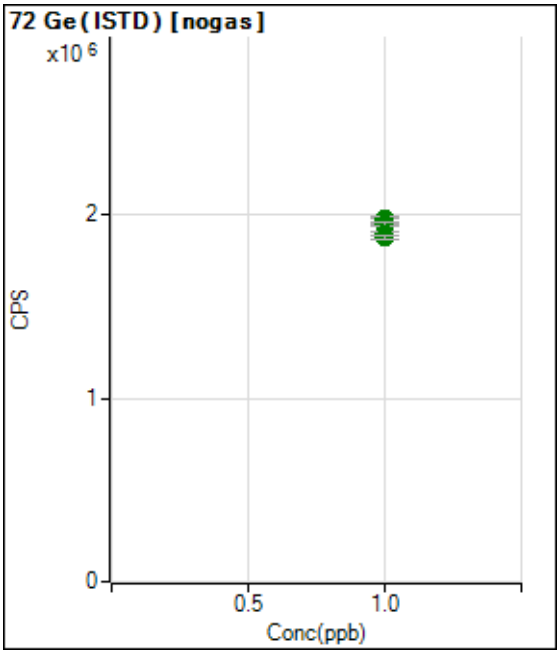
y = 0.0153 * x + 2.8735E-005
R = 1.0000
DL = 0.0006905
BEC = 0.00188

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d

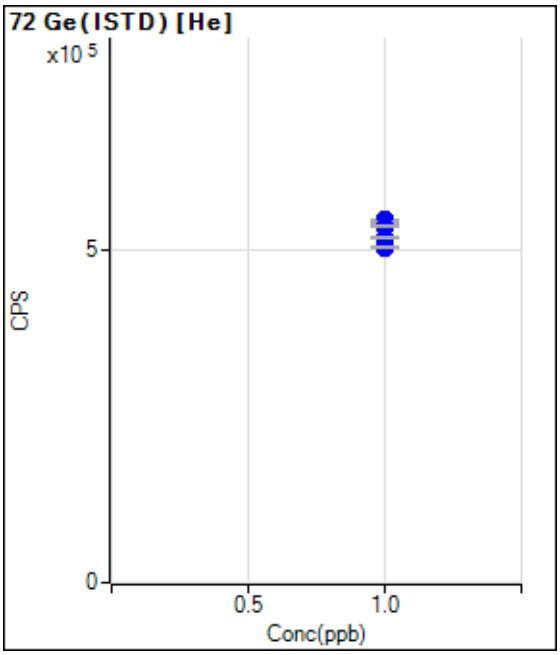


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		749893.98		P	0.2
2	☐	1.000		743112.61		P	0.7
3	☐	1.000		744486.15		P	0.6
4	☐	1.000		737471.78		P	1.1
5	☐	1.000		665473.93		P	0.4
6	☐	1.000		624028.49		P	0.3
7	☐	1.000					

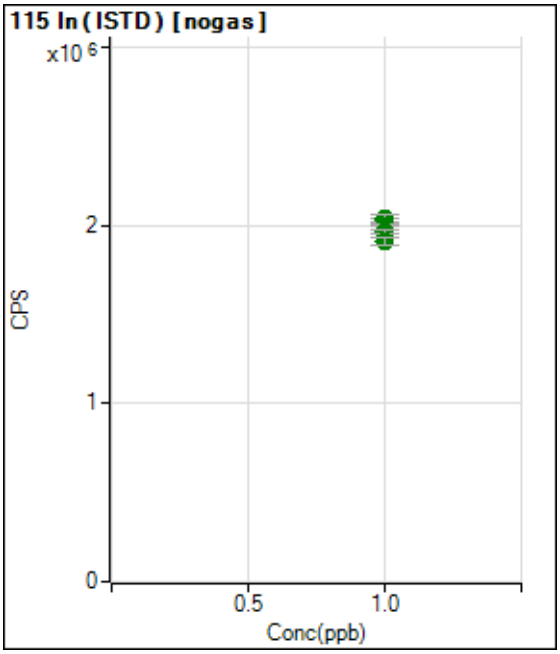


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1967072.73		A	1.4
2	☐	1.000		1969933.51		A	2.1
3	☐	1.000		1979210.02		A	1.3
4	☐	1.000		1953566.74		A	1.3
5	☐	1.000		1898861.38		A	1.6
6	☐	1.000		1881045.60		A	1.0
7	☐	1.000					

Calibration for 026_ICV.d

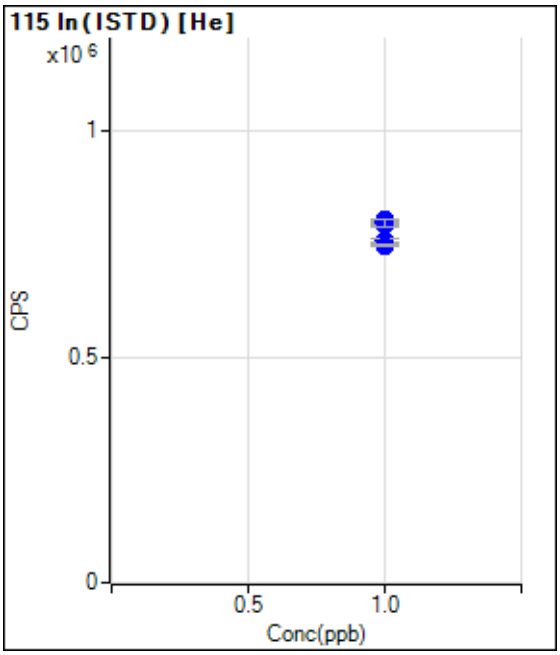


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		543801.02		P	0.8
2	☐	1.000		543476.94		P	0.8
3	☐	1.000		540146.49		P	0.7
4	☐	1.000		534332.29		P	0.8
5	☐	1.000		516385.19		P	0.5
6	☐	1.000		502945.72		P	0.3
7	☐	1.000					

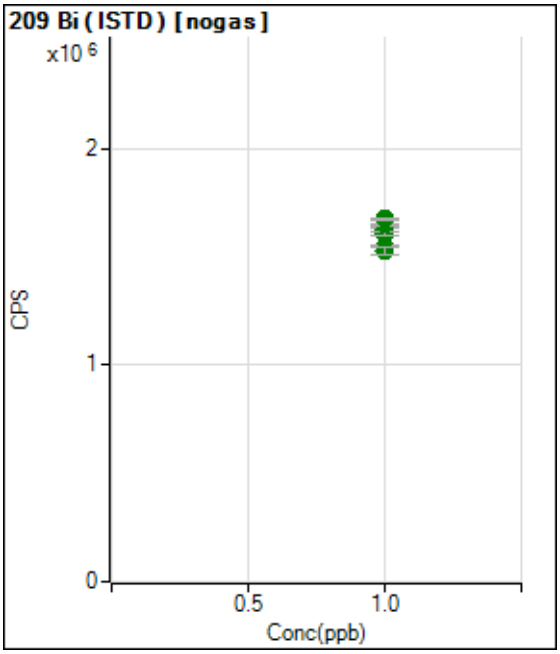


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2008904.46		A	0.8
2	☐	1.000		2029435.79		A	1.0
3	☐	1.000		2037108.11		A	2.0
4	☐	1.000		2002776.76		A	0.3
5	☐	1.000		1967097.83		A	1.3
6	☐	1.000		1912477.48		A	2.3
7	☐	1.000					

Calibration for 026_ICV.d

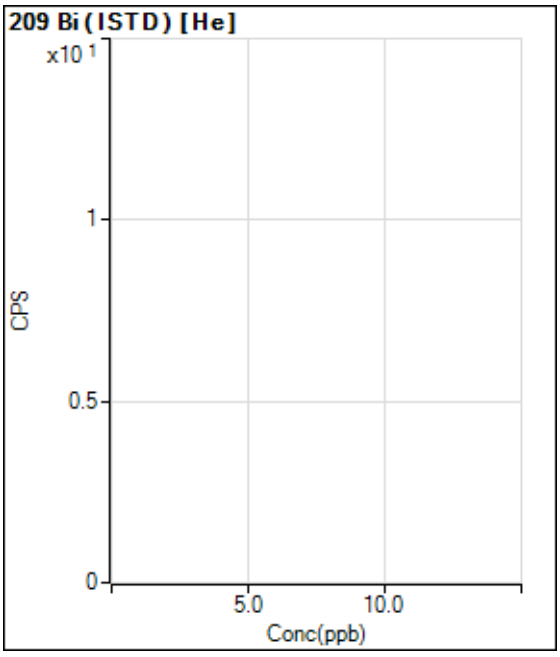


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		793603.27		P	0.7
2	☐	1.000		803868.35		P	0.6
3	☐	1.000		800696.19		P	1.0
4	☐	1.000		798406.86		P	2.2
5	☐	1.000		758979.49		P	1.3
6	☐	1.000		747267.78		P	0.2
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1623891.69		A	1.1
2	☐	1.000		1606471.54		A	1.3
3	☐	1.000		1649224.61		A	0.9
4	☐	1.000		1676619.97		A	0.9
5	☐	1.000		1550692.79		A	0.4
6	☐	1.000		1528820.29		A	1.8
7	☐	1.000					

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000					
2	☐	1.000					
3	☐	1.000					
4	☐	1.000					
5	☐	1.000					
6	☐	1.000					
7	☐	1.000					

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	015CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:06:22-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	65	41.00
B	11	1	nogas	18197	0.01
Al	27	1	nogas	39374	0.01
P	31	1	nogas	36532	0.00
Ca	44	1	nogas	82554	0.00
Ti	47	1	nogas	247	11.19
Cr	52	1	nogas	43000	0.00
Co	59	1	nogas	580	3.60
Cu	63	1	nogas	36881	0.00
Zn	66	1	nogas	3627	0.07
Se	77	1	nogas	15217	0.01
Sr	88	1	nogas	1653	0.36
Mo	95	1	nogas	163	9.43
Ag	107	1	nogas	70	35.35
Cd	111	1	nogas	17	1039.23
Sn	118	1	nogas	1063	1.05
Sb	121	1	nogas	1133	0.70
Ba	137	1	nogas	207	3.58
Tl	205	1	nogas	933	0.92
Pb	208	1	nogas	2090	0.22
Li	7	1	nogas	60315	0.00
Si	28	1	nogas	906787	0.00
Na	23	2	He	96538	0.00
Mg	24	2	He	1093	0.41
Al	27	2	He	770	2.94
K	39	2	He	55018	0.00
Ca	43	2	He	43	171.19
Ca	44	2	He	840	0.98
V	51	2	He	5968	0.07
Cr	52	2	He	1217	1.27
Mn	55	2	He	1243	0.43
Fe	56	2	He	9002	0.01
Co	59	2	He	200	15.00
Ni	60	2	He	597	2.27
Cu	63	2	He	2240	0.14
Zn	66	2	He	1497	1.48
As	75	2	He	99	28.58
Sb	121	2	He	503	0.60

Calibration Blank Report

Se	78	2	He	56	55.60

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	1967073	1.41
In	115	1	nogas	2008904	0.79
Li	6	1	nogas	749894	0.22
Bi	209	1	nogas	1623892	1.09
Ge	72	2	He	543801	0.83
In	115	2	He	793603	0.67

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	016CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:08:49-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	015CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	7160	0.08
B	11	1	nogas	36625	0.01
Al	27	1	nogas	67018	0.00
P	31	1	nogas	42699	0.01
Ca	44	1	nogas	158535	0.00
Ti	47	1	nogas	2674	0.18
Cr	52	1	nogas	73568	0.00
Co	59	1	nogas	33130	0.00
Cu	63	1	nogas	51790	0.00
Zn	66	1	nogas	7111	0.04
Se	77	1	nogas	15510	0.01
Se	82	1	nogas	116	52.72
Sr	88	1	nogas	43597	0.00
Mo	95	1	nogas	8189	0.05
Ag	107	1	nogas	20512	0.00
Cd	111	1	nogas	3860	0.15
Sn	118	1	nogas	13118	0.01
Sb	121	1	nogas	17062	0.00
Ba	137	1	nogas	6151	0.08
Tl	205	1	nogas	31093	0.01
Pb	208	1	nogas	43930	0.01
Si	28	1	nogas	943654	0.00
Na	23	2	He	289115	0.00
Mg	24	2	He	109147	0.00
Al	27	2	He	1440	0.05
K	39	2	He	152784	0.00
Ca	43	2	He	320	6.10
Ca	44	2	He	5654	0.07
V	51	2	He	15204	0.01
Cr	52	2	He	11174	0.04
Mn	55	2	He	7061	0.03
Fe	56	2	He	928127	0.00
Co	59	2	He	16438	0.01
Ni	60	2	He	4271	0.04
Cu	63	2	He	13178	0.01
Zn	66	2	He	2900	0.25

Calibration Standard Report

As	75	2	He	1386	0.37
Sb	121	2	He	8882	0.04
Se	78	2	He	157	6.64

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	1969934	2.05	1967073	100.15	70	120	
In	115	1	nogas	2029436	1.01	2008904	101.02	70	120	
Li	6	1	nogas	743113	0.71	749894	99.10	70	120	
Bi	209	1	nogas	1606472	1.26	1623892	98.93	70	120	
Ge	72	2	He	543477	0.84	543801	99.94	70	120	
In	115	2	He	803868	0.56	793603	101.29	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	017CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:11:16-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	015CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	18207	0.01
B	11	1	nogas	67918	0.00
Al	27	1	nogas	107459	0.00
P	31	1	nogas	54081	0.00
Ca	44	1	nogas	283439	0.00
Ti	47	1	nogas	6535	0.05
Cr	52	1	nogas	118837	0.00
Co	59	1	nogas	82530	0.00
Cu	63	1	nogas	78945	0.00
Zn	66	1	nogas	14056	0.02
Se	77	1	nogas	15804	0.01
Se	82	1	nogas	406	3.21
Sr	88	1	nogas	106791	0.00
Mo	95	1	nogas	20429	0.00
Ag	107	1	nogas	51525	0.00
Cd	111	1	nogas	9619	0.01
Sn	118	1	nogas	31505	0.01
Sb	121	1	nogas	41142	0.00
Ba	137	1	nogas	15357	0.02
Tl	205	1	nogas	77028	0.00
Pb	208	1	nogas	108919	0.00
Si	28	1	nogas	1094502	0.00
Na	23	2	He	589423	0.00
Mg	24	2	He	272508	0.00
Al	27	2	He	2334	0.46
K	39	2	He	298375	0.00
Ca	43	2	He	847	1.19
Ca	44	2	He	13632	0.00
V	51	2	He	28064	0.01
Cr	52	2	He	27320	0.00
Mn	55	2	He	17085	0.04
Fe	56	2	He	2455972	0.00
Co	59	2	He	39115	0.00
Ni	60	2	He	10336	0.05
Cu	63	2	He	28309	0.01
Zn	66	2	He	5611	0.06

Calibration Standard Report

As	75	2	He	3299	0.02
Sb	121	2	He	20285	0.01
Se	78	2	He	275	2.72

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	1979210	1.31	1967073	100.62	70	120	
In	115	1	nogas	2037108	2.04	2008904	101.40	70	120	
Li	6	1	nogas	744486	0.59	749894	99.28	70	120	
Bi	209	1	nogas	1649225	0.95	1623892	101.56	70	120	
Ge	72	2	He	540146	0.67	543801	99.33	70	120	
In	115	2	He	800696	0.97	793603	100.89	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	018CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:13:44-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	015CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	37870	0.00
B	11	1	nogas	123709	0.00
Al	27	1	nogas	177972	0.00
P	31	1	nogas	74168	0.00
Ca	44	1	nogas	505598	0.00
Ti	47	1	nogas	13745	0.03
Cr	52	1	nogas	197878	0.00
Co	59	1	nogas	167247	0.00
Cu	63	1	nogas	121212	0.00
Zn	66	1	nogas	25745	0.01
Se	77	1	nogas	15637	0.02
Se	82	1	nogas	1051	0.34
Sr	88	1	nogas	219236	0.00
Mo	95	1	nogas	42654	0.01
Ag	107	1	nogas	107430	0.00
Cd	111	1	nogas	20245	0.02
Sn	118	1	nogas	62655	0.00
Sb	121	1	nogas	85695	0.00
Ba	137	1	nogas	30851	0.00
Tl	205	1	nogas	158199	0.00
Pb	208	1	nogas	223760	0.00
Si	28	1	nogas	1373355	0.00
Na	23	2	He	1115116	0.00
Mg	24	2	He	562136	0.00
Al	27	2	He	3737	0.18
K	39	2	He	557793	0.00
Ca	43	2	He	1610	1.17
Ca	44	2	He	27554	0.00
V	51	2	He	51633	0.00
Cr	52	2	He	54433	0.00
Mn	55	2	He	34783	0.01
Fe	56	2	He	4828589	0.00
Co	59	2	He	80689	0.00
Ni	60	2	He	21186	0.01
Cu	63	2	He	57938	0.00
Zn	66	2	He	10643	0.02

Calibration Standard Report

As	75	2	He	6881	0.02
Sb	121	2	He	40758	0.00
Se	78	2	He	543	0.81

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	1953567	1.29	1967073	99.31	70	120	
In	115	1	nogas	2002777	0.30	2008904	99.69	70	120	
Li	6	1	nogas	737472	1.10	749894	98.34	70	120	
Bi	209	1	nogas	1676620	0.86	1623892	103.25	70	120	
Ge	72	2	He	534332	0.79	543801	98.26	70	120	
In	115	2	He	798407	2.16	793603	100.61	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	019CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:16:13-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	015CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	359957	0.00
B	11	1	nogas	1018749	0.00
Al	27	1	nogas	1302765	0.00
P	31	1	nogas	372781	0.00
Ca	44	1	nogas	4228294	0.00
Ti	47	1	nogas	125760	0.00
Cr	52	1	nogas	1543933	0.00
Co	59	1	nogas	1630777	0.00
Cu	63	1	nogas	839212	0.00
Zn	66	1	nogas	222872	0.00
Se	77	1	nogas	23479	0.01
Se	82	1	nogas	13180	0.02
Sr	88	1	nogas	2143569	0.00
Mo	95	1	nogas	398349	0.00
Ag	107	1	nogas	998406	0.00
Cd	111	1	nogas	193294	0.00
Sn	118	1	nogas	591730	0.00
Sb	121	1	nogas	799636	0.00
Ba	137	1	nogas	299483	0.00
Tl	205	1	nogas	1569486	0.00
Pb	208	1	nogas	2043270	0.00
Si	28	1	nogas	4193764	0.00
Na	23	2	He	9752485	0.00
Mg	24	2	He	5226114	0.00
Al	27	2	He	26449	0.01
K	39	2	He	4878111	0.00
Ca	43	2	He	14983	0.02
Ca	44	2	He	252818	0.00
V	51	2	He	444828	0.00
Cr	52	2	He	507305	0.00
Mn	55	2	He	322352	0.00
Fe	56	2	He	45389454	0.00
Co	59	2	He	751205	0.00
Ni	60	2	He	195211	0.00
Cu	63	2	He	513262	0.00
Zn	66	2	He	90294	0.00

Calibration Standard Report

As	75	2	He	63669	0.00
Sb	121	2	He	387417	0.00
Se	78	2	He	4795	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	1898861	1.60	1967073	96.53	70	120	
In	115	1	nogas	1967098	1.28	2008904	97.92	70	120	
Li	6	1	nogas	665474	0.45	749894	88.74	70	120	
Bi	209	1	nogas	1550693	0.37	1623892	95.49	70	120	
Ge	72	2	He	516385	0.47	543801	94.96	70	120	
In	115	2	He	758979	1.29	793603	95.64	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	020CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:18:37-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	015CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	718757	0.00
B	11	1	nogas	2069657	0.00
Al	27	1	nogas	2480607	0.00
P	31	1	nogas	704572	0.00
Ca	44	1	nogas	8316733	0.00
Ti	47	1	nogas	250699	0.00
Cr	52	1	nogas	3090273	0.00
Co	59	1	nogas	3199163	0.00
Cu	63	1	nogas	1738679	0.00
Zn	66	1	nogas	435639	0.00
Se	77	1	nogas	34399	0.01
Se	82	1	nogas	27002	0.01
Sr	88	1	nogas	4351396	0.00
Mo	95	1	nogas	828540	0.00
Ag	107	1	nogas	2075968	0.00
Cd	111	1	nogas	385950	0.00
Sn	118	1	nogas	1203950	0.00
Sb	121	1	nogas	1684432	0.00
Ba	137	1	nogas	594431	0.00
Tl	205	1	nogas	3236656	0.00
Pb	208	1	nogas	4278668	0.00
Si	28	1	nogas	7310277	0.00
Na	23	2	He	19206107	0.00
Mg	24	2	He	10518302	0.00
Al	27	2	He	49949	0.00
K	39	2	He	9639106	0.00
Ca	43	2	He	30348	0.01
Ca	44	2	He	500707	0.00
V	51	2	He	902247	0.00
Cr	52	2	He	1025989	0.00
Mn	55	2	He	647889	0.00
Fe	56	2	He	91033889	0.00
Co	59	2	He	1572631	0.00
Ni	60	2	He	382229	0.00
Cu	63	2	He	1010099	0.00
Zn	66	2	He	176112	0.00

Calibration Standard Report

As	75	2	He	127411	0.00
Sb	121	2	He	780855	0.00
Se	78	2	He	9732	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	1881046	0.99	1967073	95.63	70	120	
In	115	1	nogas	1912477	2.28	2008904	95.20	70	120	
Li	6	1	nogas	624028	0.34	749894	83.22	70	120	
Bi	209	1	nogas	1528820	1.83	1623892	94.15	70	120	
Ge	72	2	He	502946	0.26	543801	92.49	70	120	
In	115	2	He	747268	0.17	793603	94.16	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	022_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:24:07-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	95.941	0.415	362601	0.57	100	95.9	90	110	
B	11	1	nogas	543.878	0.526	1185417	0.60	500	108.8	90	110	
Al	27	1	nogas	127.848	1.064	1655088	0.80	100	127.8	90	110	ICV Main CR1 Failed
P	31	1	nogas	480.406	2.219	367091	0.48	500	96.1	90	110	
Ca	44	1	nogas	9284.049	2.083	4016195	1.36	10000	92.8	90	110	
Ti	47	1	nogas	94.599	2.239	122036	0.71	100	94.6	90	110	
Cr	52	1	nogas	99.417	1.597	1595282	0.94	100	99.4	90	110	
Co	59	1	nogas	99.609	0.809	1644112	1.09	100	99.6	90	110	
Cu	63	1	nogas	93.890	1.786	848633	0.19	100	93.9	90	110	
Zn	66	1	nogas	99.486	1.878	225132	0.76	100	99.5	90	110	
Se	77	1	nogas	58.207	12.024	20779	3.33	100	58.2	90	110	ICV Main CR1 Failed
Se	82	1	nogas	93.509	2.230	12806	2.35	100	93.5	90	110	
Sr	88	1	nogas	95.491	2.666	2140671	1.90	100	95.5	90	110	
Mo	95	1	nogas	92.883	2.240	394658	1.61	100	92.9	90	110	
Ag	107	1	nogas	88.453	4.954	940941	1.23	100	88.5	90	110	ICV Main CR1 Failed
Cd	111	1	nogas	95.798	4.112	190972	0.54	100	95.8	90	110	
Sn	118	1	nogas	94.136	2.013	584020	1.82	100	94.1	90	110	
Sb	121	1	nogas	93.760	2.574	803625	0.96	100	93.8	90	110	
Ba	137	1	nogas	97.276	4.514	299098	1.23	100	97.3	90	110	
Tl	205	1	nogas	101.215	3.366	1639011	1.80	100	101.2	90	110	
Pb	208	1	nogas	96.258	3.623	2055010	0.81	100	96.3	90	110	
U	238	1	nogas	94.406	2.881	2227041	1.23	100	94.4	90	110	
Li	7	1	nogas	95.060	4.046	1142070	3.10	100	95.1	90	110	
Si	28	1	nogas	12539.981	2.463	9251202	1.43	5000	250.8	90	110	ICV Main CR1 Failed
Au	197	1	nogas	0.242	8.638	1893	10.96	100	0.2	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	96.594	3.009	634514	1.67	100	96.6	90	110	
Na	23	2	He	9402.224	1.630	9328975	0.53	10000	94.0	90	110	
Mg	24	2	He	9438.716	2.141	5085300	1.04	10000	94.4	90	110	
Al	27	2	He	127.304	1.408	33172	0.22	100	127.3	90	110	ICV Main CR1 Failed
K	39	2	He	9467.386	2.150	4713417	1.28	10000	94.7	90	110	
Ca	43	2	He	9264.945	1.469	14402	1.25	10000	92.6	90	110	
Ca	44	2	He	9309.208	0.408	239875	0.79	10000	93.1	90	110	
V	51	2	He	96.569	0.829	447979	0.35	100	96.6	90	110	
Cr	52	2	He	96.797	1.690	508652	0.59	100	96.8	90	110	
Mn	55	2	He	98.169	1.014	326343	0.68	100	98.2	90	110	
Fe	56	2	He	9310.524	0.901	43449979	0.76	10000	93.1	90	110	
Co	59	2	He	95.373	1.254	762521	1.07	100	95.4	90	110	
Ni	60	2	He	99.650	0.998	196394	0.50	100	99.6	90	110	
Cu	63	2	He	100.294	2.335	522052	1.39	100	100.3	90	110	
Zn	66	2	He	99.957	1.350	91289	0.18	100	100.0	90	110	
As	75	2	He	99.175	0.448	64841	1.60	100	99.2	90	110	
Sn	118	2	He	94.736	0.121	288827	0.36	100	94.7	90	110	
Sb	121	2	He	98.013	1.630	392063	0.49	100	98.0	90	110	
Se	78	2	He	98.889	2.420	4942	1.34	100	98.9	90	110	
Ti	47	2	He	94.875	0.336	15183	1.48	100	94.9	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	1936768	1.67	1967073	98.46	70	120	
In	115	1	nogas	1987519	3.65	2008904	98.94	70	120	
Li	6	1	nogas	664490	0.95	749894	88.61	70	120	
Bi	209	1	nogas	1544274	3.69	1623892	95.10	70	120	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	518608	1.17	543801	95.37	70	120	
In	115	2	He	765828	0.39	793603	96.50	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	025_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:31:25-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	0.008	34.3	98	12.8	1	
B	11	1	nogas	9.444	4.1	41094	2.8	10	
Al	27	1	nogas	-0.175	-4.4	37090	1.1	5	
P	31	1	nogas	0.295	168.9	36706	0.2	10	
Ca	44	1	nogas	-46.094	-3.8	62648	0.7	100	
Ti	47	1	nogas	-0.061	-81.6	167	39.0	2.5	
Cr	52	1	nogas	-0.511	-12.8	34853	2.1	2.5	
Co	59	1	nogas	0.001	419.4	597	10.8	2.5	
Cu	63	1	nogas	-0.650	-25.3	31140	4.3	1	
Zn	66	1	nogas	-0.537	-21.3	2410	9.9	2.5	
Se	77	1	nogas	-24.117	-4.9	12765	1.0	2.5	
Se	82	1	nogas	-0.402	-219.0	-296	-41.4	1	
Sr	88	1	nogas	-0.014	-19.1	1347	3.3	2.5	
Mo	95	1	nogas	0.026	65.6	277	27.6	2.5	
Ag	107	1	nogas	0.003	153.3	103	48.7	2.5	
Cd	111	1	nogas	0.013	121.5	43	74.2	1	
Sn	118	1	nogas	0.069	24.6	1497	6.3	5	
Sb	121	1	nogas	0.040	37.2	1477	9.6	2.5	
Ba	137	1	nogas	0.033	51.8	310	16.8	2.5	
Tl	205	1	nogas	0.013	96.4	1150	19.0	1	
Pb	208	1	nogas	-0.016	-36.6	1740	9.2	2.5	
U	238	1	nogas	0.002	33.4	107	19.5	2.5	
Si	28	1	nogas	-37.194	-80.5	880838	1.9	5	
Au	197	1	nogas	0.105	26.5	880	26.2	2.5	
Na	23	2	He	-4.847	-46.5	90801	3.1	100	
Mg	24	2	He	0.064	211.6	1120	6.2	100	
Al	27	2	He	-0.115	-524.5	733	21.1	5	
K	39	2	He	-0.642	-691.3	54228	3.6	100	
Ca	43	2	He	0.073	25697.9	43	70.5	100	
Ca	44	2	He	-10.468	-60.5	553	30.8	100	
V	51	2	He	-0.392	-6.0	4052	3.3	2.5	
Cr	52	2	He	-0.024	-93.4	1073	12.2	2.5	
Mn	55	2	He	-0.066	-70.1	1003	15.3	2.5	
Fe	56	2	He	0.298	32.4	10376	5.1	100	
Co	59	2	He	-0.003	-85.5	173	12.0	2.5	
Ni	60	2	He	-0.097	-24.5	393	12.5	2.5	

Initial Calibration Blank (ICB) Report

Cu	63	2	He	-0.030	-101.4	2060	7.8	1	
Zn	66	2	He	-0.507	-24.3	1010	12.0	2.5	
As	75	2	He	-0.002	-418.4	97	6.9	2.5	
Sb	121	2	He	0.064	33.7	763	11.8	2.5	
Se	78	2	He	0.126	111.7	62	11.2	1	
Ti	47	2	He	0.040	1.0	10	0.0	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	1965174	0.94	1967073	99.90	70	120	
In	115	1	nogas	2013619	1.13	2008904	100.23	70	120	
Li	6	1	nogas	749540	1.26	749894	99.95	70	120	
Bi	209	1	nogas	1623965	2.10	1623892	100.00	70	120	
Ge	72	2	He	539262	0.67	543801	99.17	70	120	
In	115	2	He	780842	1.08	793603	98.39	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\061
Acq Date Time	2020-06-15T12:34:02-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	97.426	0.223	361630	0.79	100	97.4	90	110	
B	11	1	nogas	458.012	1.781	1034345	1.36	500	91.6	90	110	
Al	27	1	nogas	97.252	1.029	1297936	1.81	100	97.3	90	110	
P	31	1	nogas	478.544	1.153	374364	0.36	500	95.7	90	110	
Ca	44	1	nogas	9559.368	0.831	4229550	1.07	10000	95.6	90	110	
Ti	47	1	nogas	95.536	0.829	126133	1.03	100	95.5	90	110	
Cr	52	1	nogas	98.333	0.330	1615264	1.11	100	98.3	90	110	
Co	59	1	nogas	99.938	1.936	1687816	1.28	100	99.9	90	110	
Cu	63	1	nogas	90.633	0.959	839650	0.97	100	90.6	90	110	
Zn	66	1	nogas	96.496	1.268	223576	0.76	100	96.5	90	110	
Se	77	1	nogas	69.841	13.532	22444	3.53	100	69.8	90	110	ICV Main CR1 Failed
Se	82	1	nogas	95.533	1.364	13393	1.75	100	95.5	90	110	
Sr	88	1	nogas	96.509	2.129	2207896	2.95	100	96.5	90	110	
Mo	95	1	nogas	94.727	1.084	410672	0.62	100	94.7	90	110	
Ag	107	1	nogas	97.274	1.026	1001366	0.23	100	97.3	90	110	
Cd	111	1	nogas	96.690	0.550	196764	0.41	100	96.7	90	110	
Sn	118	1	nogas	96.145	0.590	608561	0.37	100	96.1	90	110	
Sb	121	1	nogas	91.926	1.155	806406	0.38	100	91.9	90	110	
Ba	137	1	nogas	93.934	1.394	294855	0.75	100	93.9	90	110	
Tl	205	1	nogas	97.139	6.392	1625466	2.04	100	97.1	90	110	
Pb	208	1	nogas	93.753	3.169	2070523	1.29	100	93.8	90	110	
U	238	1	nogas	96.744	2.596	2360768	2.03	100	96.7	90	110	
Li	7	1	nogas	94.189	3.537	1161693	3.20	100	94.2	90	110	
Si	28	1	nogas	4875.380	1.176	4239308	0.78	5000	97.5	90	110	
Au	197	1	nogas	89.821	5.434	711398	0.97	100	89.8	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	92.695	5.961	629246	1.54	100	92.7	90	110	
Na	23	2	He	9749.798	1.299	9685030	1.86	10000	97.5	90	110	
Mg	24	2	He	9793.403	1.689	5284553	2.19	10000	97.9	90	110	
Al	27	2	He	99.175	1.162	26041	0.56	100	99.2	90	110	
K	39	2	He	9764.947	1.008	4866995	0.84	10000	97.6	90	110	
Ca	43	2	He	9567.559	3.660	14893	3.83	10000	95.7	90	110	
Ca	44	2	He	9743.754	1.662	251363	1.12	10000	97.4	90	110	
V	51	2	He	96.544	0.026	448491	0.58	100	96.5	90	110	
Cr	52	2	He	96.861	0.921	509750	1.40	100	96.9	90	110	
Mn	55	2	He	96.488	0.555	321227	0.89	100	96.5	90	110	
Fe	56	2	He	9835.555	1.622	45965339	2.05	10000	98.4	90	110	
Co	59	2	He	95.621	0.362	765579	0.95	100	95.6	90	110	
Ni	60	2	He	99.201	0.422	195786	0.49	100	99.2	90	110	
Cu	63	2	He	99.122	0.885	516734	0.49	100	99.1	90	110	
Zn	66	2	He	98.565	0.892	90167	0.99	100	98.6	90	110	
As	75	2	He	97.338	0.867	63724	0.74	100	97.3	90	110	
Sn	118	2	He	97.635	1.957	300438	0.98	100	97.6	90	110	
Sb	121	2	He	98.248	0.746	393584	1.12	100	98.2	90	110	
Se	78	2	He	96.100	1.276	4811	1.15	100	96.1	90	110	
Ti	47	2	He	94.820	3.016	15193	2.62	100	94.8	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	1981745	0.81	1967073	100.75	70	120	
In	115	1	nogas	2026957	0.94	2008904	100.90	70	120	
Li	6	1	nogas	686774	0.63	749894	91.58	70	120	
Bi	209	1	nogas	1597520	4.34	1623892	98.38	70	120	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	519302	0.59	543801	95.49	70	120	
In	115	2	He	773120	1.23	793603	97.42	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	028ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:46:48-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	-0.002	-194.0	48	26.0	0	ICSA Main CR1 Failed
B	11	1	nogas	4.929	12.9	25505	6.2	0	ICSA Main CR1 Failed
Al	27	1	nogas	94191.600	4.8	1076126171	1.0	0	
P	31	1	nogas	94537.329	4.9	58918976	1.0	0	
Ca	44	1	nogas	96715.923	3.8	37128064	0.5	0	
Ti	47	1	nogas	2045.631	2.5	2382033	1.9	0	
Cr	52	1	nogas	1.000	18.4	52384	2.3	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.481	0.7	7692	4.4	0	ICSA Main CR1 Failed
Cu	63	1	nogas	1.989	7.0	48431	4.8	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.025	7.1	5294	2.1	0	ICSA Main CR1 Failed
Se	77	1	nogas	-10.360	-57.6	12611	3.1	0	ICSA Main CR1 Failed
Se	82	1	nogas	-2.035	-29.8	-470	-16.3	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.890	0.7	18403	1.1	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2055.104	3.2	7442333	2.1	0	
Ag	107	1	nogas	0.019	46.1	220	34.3	0	ICSA Main CR1 Failed
Cd	111	1	nogas	2.394	3.8	4084	2.6	0	
Sn	118	1	nogas	0.139	11.4	1633	5.6	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.290	12.4	3250	6.1	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.040	43.6	280	15.6	0	ICSA Main CR1 Failed
Tl	205	1	nogas	-0.002	-234.1	790	8.3	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.037	15.9	2597	6.9	0	ICSA Main CR1 Failed
Si	28	1	nogas	222.360	40.0	940546	1.7	0	
Na	23	2	He	97715.710	1.3	89170699	0.3	0	
Mg	24	2	He	96491.360	1.1	48238534	1.1	0	
Al	27	2	He	98924.519	1.1	23392586	1.2	0	
K	39	2	He	97779.859	1.1	44723554	0.9	0	
Ca	43	2	He	92455.771	1.9	133018	1.2	0	
Ca	44	2	He	97253.998	1.4	2318681	2.3	0	
V	51	2	He	-0.495	-4.5	3176	3.8	0	ICSA Main CR1 Failed
Cr	52	2	He	0.849	3.1	5207	1.9	0	ICSA Main CR1 Failed
Mn	55	2	He	-0.052	-113.8	940	19.7	0	ICSA Main CR1 Failed
Fe	56	2	He	97308.266	1.4	421326900	1.2	0	
Co	59	2	He	0.172	6.0	1453	4.5	0	ICSA Main CR1 Failed
Ni	60	2	He	0.047	120.7	613	16.1	0	ICSA Main CR1 Failed
Cu	63	2	He	0.155	27.6	2727	6.6	0	ICSA Main CR1 Failed
Zn	66	2	He	-0.244	-25.0	1120	3.6	0	ICSA Main CR1 Failed
As	75	2	He	0.103	38.2	150	16.8	0	ICSA Main CR1 Failed
Sb	121	2	He	0.227	25.2	1287	15.4	0	ICSA Main CR1 Failed
Se	78	2	He	0.286	74.4	63	15.1	0	ICSA Main CR1 Failed
Ti	47	2	He	1969.190	1.3	292350	1.0	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	1752264	4.14	1967073	89.08	70	120	

Interference Check Solution A (ICS-A) Report

In	115	1	nogas	1694153	1.34	2008904	84.33	70	120	
Li	6	1	nogas	634045	1.10	749894	84.55	70	120	
Bi	209	1	nogas	1440153	2.56	1623892	88.69	70	120	
Ge	72	2	He	481246	0.97	543801	88.50	70	120	
In	115	2	He	714948	0.57	793603	90.09	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	029ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:49:13-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	98.637	0.526	335199	0.50	100	98.6	80	120	
B	11	1	nogas	464.505	0.562	960250	0.51	100	464.5	80	120	
Al	27	1	nogas	95073.712	0.976	1107593103	0.62	100	95073.7	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	108250.062	1.098	42353283	0.56	100	108250.1	80	120	
Ti	47	1	nogas	2227.756	2.046	2643212	1.09	100	2227.8	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	100.468	2.131	1485252	2.42	100	100.5	80	120	
Co	59	1	nogas	100.187	0.495	1523808	1.31	100	100.2	80	120	
Cu	63	1	nogas	92.499	1.308	770931	0.76	100	92.5	80	120	
Zn	66	1	nogas	99.615	0.589	207738	1.07	100	99.6	80	120	
Se	77	1	nogas	128.488	6.754	25595	2.80	100	128.5	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	99.666	5.072	12585	3.62	100	99.7	80	120	
Sr	88	1	nogas	101.788	0.245	2079022	1.90	100	101.8	80	120	
Mo	95	1	nogas	2110.525	0.451	8167214	1.76	100	2110.5	80	120	ICSB Main CR1 Failed
Ag	107	1	nogas	96.384	1.440	885864	0.59	100	96.4	80	120	
Cd	111	1	nogas	101.161	0.989	183804	0.97	100	101.2	80	120	
Sn	118	1	nogas	99.627	1.060	562989	0.78	100	99.6	80	120	
Sb	121	1	nogas	95.352	1.949	753111	0.35	100	95.4	80	120	
Ba	137	1	nogas	98.029	2.397	274693	0.73	100	98.0	80	120	
Tl	205	1	nogas	99.503	1.230	1462835	1.15	100	99.5	80	120	
Pb	208	1	nogas	97.243	2.840	1884567	1.02	100	97.2	80	120	
U	238	1	nogas	105.501	1.888	2259099	0.59	100	105.5	80	120	
Si	28	1	nogas	5412.470	1.354	4147369	1.26	100	5412.5	80	120	ICSB Main CR1 Failed
Na	23	2	He	108822.982	0.893	100487692	0.60	100	108823.0	80	120	
Mg	24	2	He	107413.557	1.026	54340328	0.83	100	107413.6	80	120	
Al	27	2	He	99612.293	0.915	23836749	0.88	100	99612.3	80	120	ICSB Main CR1 Failed
K	39	2	He	109733.023	1.564	50784721	1.40	100	109733.0	80	120	
Ca	43	2	He	103941.186	1.616	151336	1.56	100	103941.2	80	120	
Ca	44	2	He	110400.607	2.597	2663296	2.81	100	110400.6	80	120	ICSB Main CR1 Failed
V	51	2	He	98.367	0.356	428418	0.25	100	98.4	80	120	
Cr	52	2	He	98.703	0.941	487079	0.85	100	98.7	80	120	
Mn	55	2	He	98.916	1.411	308779	1.11	100	98.9	80	120	
Fe	56	2	He	107873.743	1.597	472648220	1.28	100	107873.7	80	120	
Co	59	2	He	94.651	1.314	710633	1.02	100	94.7	80	120	
Ni	60	2	He	97.001	0.106	179544	0.42	100	97.0	80	120	
Cu	63	2	He	94.729	0.687	463210	0.98	100	94.7	80	120	
Zn	66	2	He	99.578	0.758	85411	0.43	100	99.6	80	120	
As	75	2	He	100.607	1.130	61762	0.83	100	100.6	80	120	
Sb	121	2	He	98.825	2.013	371248	1.93	100	98.8	80	120	
Se	78	2	He	105.957	2.792	4969	2.45	100	106.0	80	120	
Ti	47	2	He	2062.596	0.638	309883	0.33	100	2062.6	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1784619	1.59	1967073	90.72	70	120	
In	115	1	nogas	1809889	1.75	2008904	90.09	70	120	
Li	6	1	nogas	628773	0.04	749894	83.85	70	120	
Bi	209	1	nogas	1401121	1.80	1623892	86.28	70	120	
Ge	72	2	He	486986	0.32	543801	89.55	70	120	
In	115	2	He	715657	0.86	793603	90.18	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	055_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T14:14:57-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	93.241	1.006	366123	0.85	100	93.2	90	110	
B	11	1	nogas	441.878	1.461	1056330	1.24	500	88.4	90	110	CCV Main CR1-2 Failed
Al	27	1	nogas	98.876	2.615	1338883	1.45	100	98.9	90	110	
P	31	1	nogas	487.842	1.036	386774	0.74	500	97.6	90	110	
Ca	44	1	nogas	9768.766	1.246	4386363	0.08	10000	97.7	90	110	
Ti	47	1	nogas	97.173	1.405	130250	0.64	100	97.2	90	110	
Cr	52	1	nogas	97.485	0.740	1626382	1.86	100	97.5	90	110	
Co	59	1	nogas	97.856	1.221	1678355	2.31	100	97.9	90	110	
Cu	63	1	nogas	89.376	0.959	841209	0.40	100	89.4	90	110	CCV Main CR1-2 Failed
Zn	66	1	nogas	97.765	0.988	229945	0.46	100	97.8	90	110	
Se	77	1	nogas	114.187	7.772	27384	3.70	100	114.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.750	4.281	13916	3.22	100	97.7	90	110	
Sr	88	1	nogas	97.181	2.211	2274150	1.90	100	97.2	90	110	
Mo	95	1	nogas	95.175	0.960	422138	0.63	100	95.2	90	110	
Ag	107	1	nogas	100.066	0.831	1053920	0.77	100	100.1	90	110	
Cd	111	1	nogas	95.987	1.088	199849	1.49	100	96.0	90	110	
Sn	118	1	nogas	96.025	0.852	621840	0.87	100	96.0	90	110	
Sb	121	1	nogas	94.724	1.710	843625	0.71	100	94.7	90	110	
Ba	137	1	nogas	96.402	0.391	309600	0.74	100	96.4	90	110	
Tl	205	1	nogas	94.316	0.580	1683617	0.66	100	94.3	90	110	
Pb	208	1	nogas	92.031	0.941	2166154	0.57	100	92.0	90	110	
U	238	1	nogas	97.057	1.159	2523767	1.43	100	97.1	90	110	
Li	7	1	nogas	93.089	1.741	1215302	1.48	100	93.1	90	110	
Si	28	1	nogas	4742.721	1.554	4212307	0.38	5000	94.9	90	110	
Au	197	1	nogas	88.250	2.082	745326	0.91	100	88.2	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	90.198	1.334	653067	0.48	100	90.2	90	110	
Na	23	2	He	10003.059	0.589	9708978	0.40	10000	100.0	90	110	
Mg	24	2	He	9937.183	1.248	5240333	0.53	10000	99.4	90	110	
Al	27	2	He	96.724	0.657	24843	1.24	100	96.7	90	110	
K	39	2	He	9756.995	0.506	4753160	0.39	10000	97.6	90	110	
Ca	43	2	He	9657.441	0.785	14693	1.52	10000	96.6	90	110	
Ca	44	2	He	9723.178	0.576	245173	0.32	10000	97.2	90	110	
V	51	2	He	98.151	1.362	445527	0.60	100	98.2	90	110	
Cr	52	2	He	98.270	0.454	505438	0.46	100	98.3	90	110	
Mn	55	2	He	97.806	0.264	318239	0.75	100	97.8	90	110	
Fe	56	2	He	9959.425	0.335	45489838	0.58	10000	99.6	90	110	
Co	59	2	He	96.122	0.913	752177	0.98	100	96.1	90	110	
Ni	60	2	He	100.505	1.475	193857	0.78	100	100.5	90	110	
Cu	63	2	He	100.399	1.265	511520	0.46	100	100.4	90	110	
Zn	66	2	He	98.400	1.660	87977	0.79	100	98.4	90	110	
As	75	2	He	98.109	0.399	62777	0.83	100	98.1	90	110	
Sb	121	2	He	99.324	0.141	388895	0.95	100	99.3	90	110	
Se	78	2	He	96.800	1.665	4737	1.93	100	96.8	90	110	
Ti	47	2	He	94.511	4.001	14799	3.20	100	94.5	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	2012214	1.30	1967073	102.29	70	120	
In	115	1	nogas	2073688	0.41	2008904	103.22	70	120	
Li	6	1	nogas	726526	0.20	749894	96.88	70	120	
Bi	209	1	nogas	1701109	1.20	1623892	104.76	70	120	
Ge	72	2	He	507569	0.89	543801	93.34	70	120	
In	115	2	He	756496	2.02	793603	95.32	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	056_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T14:17:20-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	52.4	170	30.7	1	
B	11	1	nogas	18.087	8.2	64820	5.3	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.219	-27.1	37908	1.0	5	
P	31	1	nogas	-0.873	-123.7	37260	2.8	10	
Ca	44	1	nogas	-89.674	-4.8	45563	2.9	100	
Ti	47	1	nogas	0.015	356.7	277	27.1	2.5	
Cr	52	1	nogas	-0.990	-5.2	28295	1.9	2.5	
Co	59	1	nogas	0.005	122.1	690	16.5	2.5	
Cu	63	1	nogas	-1.945	-1.6	20532	2.5	2	
Zn	66	1	nogas	-0.339	-20.7	2967	5.1	2.5	
Se	77	1	nogas	-30.397	-20.2	12588	4.1	2.5	
Se	82	1	nogas	0.989	72.5	-104	-102.9	2	
Sr	88	1	nogas	0.020	45.4	2230	10.1	2.5	
Mo	95	1	nogas	0.197	27.3	1060	21.6	2.5	
Ag	107	1	nogas	0.014	26.0	223	15.7	2.5	
Cd	111	1	nogas	0.006	137.9	30	57.7	1	
Sn	118	1	nogas	0.224	23.9	2597	11.9	5	
Sb	121	1	nogas	0.308	11.3	3954	7.9	2.5	
Ba	137	1	nogas	0.064	14.5	427	5.9	2.5	
Tl	205	1	nogas	0.230	53.5	5088	43.5	1	
Pb	208	1	nogas	0.000	-5220.2	2183	12.6	2.5	
U	238	1	nogas	0.021	57.7	597	53.5	2.5	
Si	28	1	nogas	-163.094	-6.1	826006	0.5	5	
Au	197	1	nogas	0.827	28.7	7025	28.8	2.5	
Na	23	2	He	-8.284	-24.0	82888	1.6	100	
Mg	24	2	He	1.678	21.8	1923	10.5	100	
Al	27	2	He	0.454	76.9	840	9.7	5	
K	39	2	He	6.406	11.3	54937	0.3	100	
Ca	43	2	He	10.427	323.4	57	90.6	100	
Ca	44	2	He	0.754	410.3	810	9.9	100	
V	51	2	He	-0.467	-9.1	3508	5.4	2.5	
Cr	52	2	He	-0.029	-101.0	997	14.3	2.5	
Mn	55	2	He	0.004	323.7	1183	4.0	2.5	
Fe	56	2	He	1.760	11.2	16588	4.9	100	
Co	59	2	He	0.011	20.2	273	5.6	2.5	
Ni	60	2	He	0.086	31.0	730	7.6	2.5	
Cu	63	2	He	-0.008	-208.8	2067	4.9	2	
Zn	66	2	He	-0.262	-76.6	1177	15.4	2.5	
As	75	2	He	0.055	36.7	129	10.8	2.5	
Sb	121	2	He	0.327	10.0	1763	6.8	2.5	
Se	78	2	He	0.053	454.4	55	20.9	2	
Ti	47	2	He	0.022	164.2	7	86.6	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	2040048	1.31	1967073	103.71	70	120	
In	115	1	nogas	2116808	1.66	2008904	105.37	70	120	
Li	6	1	nogas	783166	0.93	749894	104.44	70	120	
Bi	209	1	nogas	1702652	1.82	1623892	104.85	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	512168	0.69	543801	94.18	70	120	
In	115	2	He	771820	1.35	793603	97.26	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	068_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T15:00:53-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	89.655	1.314	393971	0.63	100	89.7	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	475.274	2.505	1183339	3.13	500	95.1	90	110	
Al	27	1	nogas	103.142	3.233	1543665	2.19	100	103.1	90	110	
P	31	1	nogas	497.859	3.813	435808	0.70	500	99.6	90	110	
Ca	44	1	nogas	10021.934	1.140	4978074	1.61	10000	100.2	90	110	
Ti	47	1	nogas	99.639	1.688	147793	1.11	100	99.6	90	110	
Cr	52	1	nogas	99.579	2.817	1836988	1.65	100	99.6	90	110	
Co	59	1	nogas	101.146	2.156	1919287	0.59	100	101.1	90	110	
Cu	63	1	nogas	91.400	4.023	950683	1.24	100	91.4	90	110	
Zn	66	1	nogas	103.931	3.804	270155	1.05	100	103.9	90	110	
Se	77	1	nogas	48.728	14.247	22798	0.92	100	48.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.935	4.336	15606	6.41	100	98.9	90	110	
Sr	88	1	nogas	100.830	2.321	2547257	1.38	100	100.8	90	110	
Mo	95	1	nogas	97.421	0.767	466531	0.90	100	97.4	90	110	
Ag	107	1	nogas	101.046	0.639	1149091	1.50	100	101.0	90	110	
Cd	111	1	nogas	98.394	1.419	221167	1.13	100	98.4	90	110	
Sn	118	1	nogas	98.942	2.594	691600	1.06	100	98.9	90	110	
Sb	121	1	nogas	94.097	2.933	927305	1.31	100	94.1	90	110	
Ba	137	1	nogas	99.108	2.098	343609	1.51	100	99.1	90	110	
Tl	205	1	nogas	99.613	4.096	1788199	0.67	100	99.6	90	110	
Pb	208	1	nogas	98.333	1.097	2329400	2.99	100	98.3	90	110	
U	238	1	nogas	98.859	3.764	2585791	2.25	100	98.9	90	110	
Li	7	1	nogas	89.675	1.182	1312713	1.86	100	89.7	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	5107.527	3.970	4939921	0.82	5000	102.2	90	110	
Au	197	1	nogas	90.495	5.400	768493	2.09	100	90.5	90	110	
Tl	203	1	nogas	93.980	5.132	684139	1.32	100	94.0	90	110	
Na	23	2	He	9724.202	0.662	10098941	0.61	10000	97.2	90	110	
Mg	24	2	He	9719.079	0.886	5483050	1.41	10000	97.2	90	110	
Al	27	2	He	93.539	2.083	25724	1.99	100	93.5	90	110	
K	39	2	He	9531.613	0.379	4968459	1.01	10000	95.3	90	110	
Ca	43	2	He	8892.507	1.272	14476	2.03	10000	88.9	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9520.375	0.422	256812	0.48	10000	95.2	90	110	
V	51	2	He	97.357	0.301	472799	0.54	100	97.4	90	110	
Cr	52	2	He	97.752	0.099	537839	0.91	100	97.8	90	110	
Mn	55	2	He	95.814	0.800	333500	0.37	100	95.8	90	110	
Fe	56	2	He	9828.846	1.249	48020341	0.49	10000	98.3	90	110	
Co	59	2	He	96.613	1.032	808689	0.51	100	96.6	90	110	
Ni	60	2	He	101.169	0.318	208746	0.51	100	101.2	90	110	
Cu	63	2	He	100.400	0.348	547226	1.13	100	100.4	90	110	
Zn	66	2	He	104.423	0.379	99786	0.49	100	104.4	90	110	
As	75	2	He	97.995	1.120	67071	0.30	100	98.0	90	110	
Sb	121	2	He	95.756	0.493	401081	1.22	100	95.8	90	110	
Se	78	2	He	96.672	2.112	5061	2.91	100	96.7	90	110	
Ti	47	2	He	95.299	2.639	15967	3.02	100	95.3	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	2227266	2.71	1967073	113.23	70	120	
In	115	1	nogas	2239038	1.52	2008904	111.46	70	120	
Li	6	1	nogas	813089	0.74	749894	108.43	70	120	
Bi	209	1	nogas	1712516	3.97	1623892	105.46	70	120	
Ge	72	2	He	542947	0.82	543801	99.84	70	120	
In	115	2	He	788101	0.04	793603	99.31	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	069_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T15:03:15-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	23.0	230	15.7	1	
B	11	1	nogas	18.645	11.7	70177	7.9	10	CCB Main CR1 Failed
Al	27	1	nogas	1.786	6.3	70981	2.1	5	
P	31	1	nogas	0.734	173.9	42217	3.0	10	
Ca	44	1	nogas	-90.896	-2.5	49466	0.8	100	
Ti	47	1	nogas	0.001	1970.6	283	14.7	2.5	
Cr	52	1	nogas	-1.399	-2.5	23699	1.0	2.5	
Co	59	1	nogas	0.013	35.1	910	7.9	2.5	
Cu	63	1	nogas	-1.490	-3.1	27107	2.0	2	
Zn	66	1	nogas	3.271	3.2	12568	3.1	2.5	CCB Main CR1 Failed
Se	77	1	nogas	-65.687	-6.5	9763	3.9	2.5	
Se	82	1	nogas	0.739	79.9	-154	-62.6	2	
Sr	88	1	nogas	0.051	6.2	3150	3.7	2.5	
Mo	95	1	nogas	0.205	29.9	1170	25.1	2.5	
Ag	107	1	nogas	0.015	30.9	250	20.8	2.5	
Cd	111	1	nogas	0.024	43.9	73	34.3	1	
Sn	118	1	nogas	0.289	19.8	3217	12.9	5	
Sb	121	1	nogas	0.261	3.2	3874	0.6	2.5	
Ba	137	1	nogas	0.151	29.3	757	20.0	2.5	
Tl	205	1	nogas	0.216	53.8	4894	40.8	1	
Pb	208	1	nogas	0.520	3.9	14696	1.0	2.5	
U	238	1	nogas	0.024	36.4	690	31.4	2.5	
Si	28	1	nogas	69.425	187.0	1085940	7.6	5	CCB Main CR1 Failed
Au	197	1	nogas	0.868	37.9	7465	35.5	2.5	
Na	23	2	He	-7.171	-21.2	90770	1.0	100	
Mg	24	2	He	2.317	24.7	2444	12.3	100	
Al	27	2	He	1.518	45.9	1197	14.8	5	
K	39	2	He	2.199	67.2	57184	2.5	100	
Ca	43	2	He	9.554	110.9	60	28.9	100	
Ca	44	2	He	5.035	34.3	993	6.1	100	
V	51	2	He	-0.608	-1.1	3105	2.3	2.5	
Cr	52	2	He	-0.009	-241.5	1190	10.1	2.5	
Mn	55	2	He	0.068	82.9	1503	11.9	2.5	
Fe	56	2	He	7.477	2.3	46405	0.5	100	
Co	59	2	He	0.014	31.2	323	10.9	2.5	
Ni	60	2	He	0.044	112.6	700	13.6	2.5	
Cu	63	2	He	0.190	11.4	3330	2.3	2	
Zn	66	2	He	2.966	5.2	4371	4.5	2.5	CCB Main CR1 Failed
As	75	2	He	-0.014	-133.7	91	14.8	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.305	11.5	1817	9.6	2.5	
Se	78	2	He	-0.007	-2270.6	57	14.3	2	
Ti	47	2	He	0.096	103.0	20	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	2241356	1.65	1967073	113.94	70	120	
In	115	1	nogas	2249078	1.49	2008904	111.96	70	120	
Li	6	1	nogas	872990	0.41	749894	116.42	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	1736602	3.38	1623892	106.94	70	120	
Ge	72	2	He	553669	1.39	543801	101.81	70	120	
In	115	2	He	804050	1.88	793603	101.32	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	081_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T15:50:11-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	85.855	1.091	366073	1.23	100	85.9	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	435.346	0.636	1053167	0.76	500	87.1	90	110	CCV Main CR1-2 Failed
Al	27	1	nogas	99.115	2.334	1453229	1.18	100	99.1	90	110	
P	31	1	nogas	474.726	2.708	408574	0.75	500	94.9	90	110	
Ca	44	1	nogas	9562.377	1.898	4651619	1.99	10000	95.6	90	110	
Ti	47	1	nogas	96.330	1.340	139829	1.54	100	96.3	90	110	
Cr	52	1	nogas	96.016	1.248	1735231	1.85	100	96.0	90	110	
Co	59	1	nogas	95.926	3.981	1780491	1.17	100	95.9	90	110	
Cu	63	1	nogas	86.054	2.600	878427	0.95	100	86.1	90	110	CCV Main CR1-2 Failed
Zn	66	1	nogas	95.730	2.384	243860	0.57	100	95.7	90	110	
Se	77	1	nogas	88.951	7.079	26817	0.63	100	89.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.513	7.657	14866	5.97	100	96.5	90	110	
Sr	88	1	nogas	98.480	1.580	2449190	1.13	100	98.5	90	110	
Mo	95	1	nogas	94.516	2.362	445488	1.51	100	94.5	90	110	
Ag	107	1	nogas	96.919	1.133	1084835	0.87	100	96.9	90	110	
Cd	111	1	nogas	95.534	0.858	211390	1.17	100	95.5	90	110	
Sn	118	1	nogas	96.005	0.463	660760	1.20	100	96.0	90	110	
Sb	121	1	nogas	92.633	2.736	893229	0.33	100	92.6	90	110	
Ba	137	1	nogas	96.960	1.890	330907	1.11	100	97.0	90	110	
Tl	205	1	nogas	98.452	3.640	1742517	0.94	100	98.5	90	110	
Pb	208	1	nogas	95.003	3.538	2217120	0.08	100	95.0	90	110	
U	238	1	nogas	95.264	4.862	2455511	2.17	100	95.3	90	110	
Li	7	1	nogas	87.329	1.436	1241896	1.22	100	87.3	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4939.356	5.088	4706642	1.09	5000	98.8	90	110	
Au	197	1	nogas	87.531	3.617	733065	0.46	100	87.5	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	92.534	3.509	664370	1.30	100	92.5	90	110	
Na	23	2	He	9491.666	1.035	9438258	0.96	10000	94.9	90	110	
Mg	24	2	He	9403.583	0.726	5078085	0.56	10000	94.0	90	110	
Al	27	2	He	95.420	4.220	25104	3.88	100	95.4	90	110	
K	39	2	He	9457.371	1.215	4719339	1.30	10000	94.6	90	110	
Ca	43	2	He	9197.521	2.980	14329	2.79	10000	92.0	90	110	
Ca	44	2	He	9234.555	1.242	238480	1.35	10000	92.3	90	110	
V	51	2	He	95.691	0.885	444939	0.78	100	95.7	90	110	
Cr	52	2	He	95.971	0.670	505472	0.45	100	96.0	90	110	
Mn	55	2	He	94.100	0.530	313561	0.36	100	94.1	90	110	
Fe	56	2	He	9544.130	0.235	44638243	0.13	10000	95.4	90	110	
Co	59	2	He	93.842	0.600	751940	0.39	100	93.8	90	110	
Ni	60	2	He	98.950	0.986	195457	1.20	100	99.0	90	110	
Cu	63	2	He	98.652	0.520	514730	0.46	100	98.7	90	110	
Zn	66	2	He	97.815	1.471	89564	1.29	100	97.8	90	110	
As	75	2	He	95.909	0.463	62842	0.46	100	95.9	90	110	
Sb	121	2	He	96.158	0.425	385533	0.61	100	96.2	90	110	
Se	78	2	He	91.701	2.472	4597	2.30	100	91.7	90	110	
Ti	47	2	He	95.842	4.425	15370	4.26	100	95.8	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	2179385	2.86	1967073	110.79	70	120	
In	115	1	nogas	2203907	0.94	2008904	109.71	70	120	
Li	6	1	nogas	788887	0.14	749894	105.20	70	120	
Bi	209	1	nogas	1688005	3.53	1623892	103.95	70	120	
Ge	72	2	He	519727	0.22	543801	95.57	70	120	
In	115	2	He	762406	0.18	793603	96.07	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	082_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T15:52:34-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	0.035	3.9	235	2.1	1	
B	11	1	nogas	14.389	10.9	57280	6.2	10	CCB Main CR1 Failed
Al	27	1	nogas	1.152	6.7	61011	3.4	5	
P	31	1	nogas	-1.283	-95.0	40133	2.7	10	
Ca	44	1	nogas	-109.585	-1.2	39833	0.1	100	
Ti	47	1	nogas	-0.017	-414.2	253	43.5	2.5	
Cr	52	1	nogas	-0.966	-9.2	31160	3.5	2.5	
Co	59	1	nogas	0.010	72.4	850	17.8	2.5	
Cu	63	1	nogas	-3.205	-1.2	9813	2.8	2	
Zn	66	1	nogas	0.322	60.5	4901	8.6	2.5	
Se	77	1	nogas	-20.055	-23.9	14846	2.1	2.5	
Se	82	1	nogas	1.465	31.7	-37	-205.6	2	
Sr	88	1	nogas	0.020	56.8	2330	11.2	2.5	
Mo	95	1	nogas	0.179	20.9	1030	16.0	2.5	
Ag	107	1	nogas	0.019	15.5	290	12.4	2.5	
Cd	111	1	nogas	0.025	29.3	73	20.8	1	
Sn	118	1	nogas	0.215	16.8	2670	8.0	5	
Sb	121	1	nogas	0.290	1.6	4117	2.3	2.5	
Ba	137	1	nogas	0.098	22.2	567	14.7	2.5	
Tl	205	1	nogas	0.201	50.1	4597	40.0	1	
Pb	208	1	nogas	0.087	20.7	4260	9.0	2.5	
U	238	1	nogas	0.021	25.7	600	23.5	2.5	
Si	28	1	nogas	222.320	8.7	1191032	2.8	5	CCB Main CR1 Failed
Au	197	1	nogas	0.801	35.0	6848	35.7	2.5	
Na	23	2	He	-33.520	-5.1	61887	2.7	100	
Mg	24	2	He	1.594	7.6	1990	3.6	100	
Al	27	2	He	1.166	18.8	1080	4.8	5	
K	39	2	He	6.495	22.9	58257	1.0	100	
Ca	43	2	He	16.540	163.6	70	62.3	100	
Ca	44	2	He	-1.289	-84.9	803	3.8	100	
V	51	2	He	-0.076	-94.3	5591	5.5	2.5	
Cr	52	2	He	-0.058	-34.6	897	12.9	2.5	
Mn	55	2	He	0.256	11.0	2127	4.5	2.5	
Fe	56	2	He	6.461	19.4	40557	15.8	100	
Co	59	2	He	0.012	20.0	303	6.9	2.5	
Ni	60	2	He	0.062	53.9	723	9.2	2.5	
Cu	63	2	He	0.011	264.6	2297	7.0	2	
Zn	66	2	He	0.280	36.1	1757	6.0	2.5	
As	75	2	He	0.011	155.0	107	11.3	2.5	
Sb	121	2	He	0.331	4.5	1887	2.7	2.5	
Se	78	2	He	-0.178	-90.1	47	17.3	2	
Ti	47	2	He	0.060	58.3	13	43.3	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	2215211	1.62	1967073	112.61	70	120	
In	115	1	nogas	2227285	1.47	2008904	110.87	70	120	
Li	6	1	nogas	847813	0.80	749894	113.06	70	120	
Bi	209	1	nogas	1711260	2.18	1623892	105.38	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	542693	0.63	543801	99.80	70	120	
In	115	2	He	782747	2.76	793603	98.63	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01PDS
Data File Name	092SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:23:23-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW
ISTD Ref FileName	015CALB.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	96.126	96.126	0.68	366018	0.03	2000	
B	11	1	nogas	998.652	998.652	1.53	2135259	0.05	2000	
Al	27	1	nogas	133.167	133.167	3.06	1869572	0.01	2000	
Ca	44	1	nogas	18571.943	18571.943	1.45	8633917	0.22	200000	
Ti	47	1	nogas	226.948	226.948	1.05	317519	0.07	2000	
Cr	52	1	nogas	94.421	94.421	2.50	1647189	0.01	2000	
Co	59	1	nogas	95.864	95.864	1.86	1717651	0.01	2000	
Cu	63	1	nogas	87.146	87.146	1.06	858017	0.01	2000	
Zn	66	1	nogas	139.799	139.799	1.39	341894	0.04	2000	
Se	77	1	nogas	48.308	48.308	5.47	21490	0.22	2000	
Se	82	1	nogas	98.284	98.284	3.90	14624	0.67	2000	
Sr	88	1	nogas	377.838	377.838	2.51	8965502	0.00	2000	
Mo	95	1	nogas	92.985	92.985	2.14	418436	0.02	2000	
Ag	107	1	nogas	88.378	88.378	2.77	944300	0.01	2000	
Cd	111	1	nogas	94.139	94.139	0.96	198880	0.05	2000	
Sn	118	1	nogas	106.604	106.604	2.40	700246	0.02	2000	
Sb	121	1	nogas	93.902	93.902	2.66	873816	0.01	2000	
Ba	137	1	nogas	230.000	230.000	2.43	749101	0.03	2000	
Tl	205	1	nogas	91.963	91.963	2.52	1503497	0.01	2000	
Pb	208	1	nogas	96.132	96.132	1.35	2072141	0.00	2000	
U	238	1	nogas	0.279	0.279	3.51	6678	0.00	2000	
Li	7	1	nogas	108.358	108.358	1.27	1362566	0.01	1000	
Si	28	1	nogas	137921.243	137921.243	2.45	100769698	0.14	2000	>LDR
Au	197	1	nogas	0.020	0.020	36.49	190	0.01	2000	
Tl	203	1	nogas	88.381	88.381	1.16	586089	0.02	2000	
Na	23	2	He	255581.136	255581.136	1.36	259766663	0.10	200000	>LDR
Mg	24	2	He	20756.282	20756.282	0.79	11564601	0.18	200000	
Al	27	2	He	123.106	123.106	2.03	33199	0.37	2000	
K	39	2	He	10418.800	10418.800	1.28	5359261	0.19	200000	
Ca	43	2	He	18055.164	18055.164	3.85	28983	62.30	200000	
Ca	44	2	He	18025.770	18025.770	0.71	479548	3.76	200000	
V	51	2	He	92.991	92.991	0.65	446327	0.02	2000	
Cr	52	2	He	92.227	92.227	0.65	501285	0.02	2000	
Mn	55	2	He	182.982	182.982	0.68	628014	0.03	2000	
Fe	56	2	He	9215.472	9215.472	0.65	44474618	0.02	200000	
Co	59	2	He	90.020	90.020	0.21	744325	0.01	2000	
Ni	60	2	He	96.045	96.045	0.69	195775	0.05	2000	
Cu	63	2	He	93.359	93.359	0.45	502756	0.02	2000	

Sample Report

Zn	66	2	He	140.133	140.133	1.04	131768	0.11	2000	
As	75	2	He	97.750	97.750	1.43	66090	0.15	2000	
Sb	121	2	He	94.749	94.749	0.54	392002	0.02	2000	
Se	78	2	He	92.977	92.977	0.79	4809	1.93	2000	
Ti	47	2	He	215.862	215.862	4.17	35721	0.60	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	2102470	0.86	1967073	106.88	70	120	
In	115	1	nogas	2104495	2.19	2008904	104.76	70	120	
Li	6	1	nogas	704515	0.61	749894	93.95	70	120	
Bi	209	1	nogas	1557968	1.09	1623892	95.94	70	120	
Ge	72	2	He	536295	0.46	543801	98.62	70	120	
In	115	2	He	762116	1.08	793603	96.03	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	093_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:25:46-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	88.124	1.265	365498	0.45	100	88.1	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	475.042	1.469	1116255	1.74	500	95.0	90	110	
Al	27	1	nogas	96.372	3.762	1405312	1.84	100	96.4	90	110	
P	31	1	nogas	479.463	4.947	409566	1.52	500	95.9	90	110	
Ca	44	1	nogas	9677.893	3.837	4675813	0.74	10000	96.8	90	110	
Ti	47	1	nogas	96.976	5.151	139802	2.20	100	97.0	90	110	
Cr	52	1	nogas	95.131	2.366	1708825	0.93	100	95.1	90	110	
Co	59	1	nogas	96.632	1.988	1783369	1.27	100	96.6	90	110	
Cu	63	1	nogas	86.883	2.057	881196	1.49	100	86.9	90	110	CCV Main CR1-2 Failed
Zn	66	1	nogas	96.700	1.945	244812	1.21	100	96.7	90	110	
Se	77	1	nogas	76.916	17.999	25298	3.51	100	76.9	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.412	4.452	14766	2.72	100	96.4	90	110	
Sr	88	1	nogas	97.245	0.855	2409072	0.61	100	97.2	90	110	
Mo	95	1	nogas	93.746	1.302	440156	0.59	100	93.7	90	110	
Ag	107	1	nogas	98.904	2.826	1102531	1.62	100	98.9	90	110	
Cd	111	1	nogas	96.542	2.872	212742	1.87	100	96.5	90	110	
Sn	118	1	nogas	95.186	1.523	652589	2.17	100	95.2	90	110	
Sb	121	1	nogas	93.754	2.617	898550	0.91	100	93.8	90	110	
Ba	137	1	nogas	95.164	1.663	323513	1.01	100	95.2	90	110	
Tl	205	1	nogas	98.719	3.142	1721964	4.01	100	98.7	90	110	
Pb	208	1	nogas	98.984	1.778	2275867	0.93	100	99.0	90	110	
U	238	1	nogas	98.225	3.860	2495054	3.54	100	98.2	90	110	
Li	7	1	nogas	89.148	1.699	1231898	0.45	100	89.1	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4950.542	4.251	4686958	0.92	5000	99.0	90	110	
Au	197	1	nogas	90.469	2.297	746488	1.55	100	90.5	90	110	
Tl	203	1	nogas	93.306	2.085	660058	2.32	100	93.3	90	110	
Na	23	2	He	9619.298	1.994	9755991	1.20	10000	96.2	90	110	
Mg	24	2	He	9480.746	1.284	5222821	0.79	10000	94.8	90	110	
Al	27	2	He	92.501	2.758	24850	2.51	100	92.5	90	110	
K	39	2	He	9509.888	0.550	4841008	1.04	10000	95.1	90	110	
Ca	43	2	He	9167.440	3.696	14569	3.22	10000	91.7	90	110	
Ca	44	2	He	9335.328	0.490	245933	0.68	10000	93.4	90	110	
V	51	2	He	96.073	1.430	455675	0.71	100	96.1	90	110	
Cr	52	2	He	96.724	0.511	519711	0.83	100	96.7	90	110	
Mn	55	2	He	94.217	0.938	320268	0.16	100	94.2	90	110	
Fe	56	2	He	9667.240	0.501	46127313	1.19	10000	96.7	90	110	
Co	59	2	He	93.793	0.272	766712	0.54	100	93.8	90	110	
Ni	60	2	He	100.075	0.717	201652	0.52	100	100.1	90	110	
Cu	63	2	He	98.878	0.651	526305	0.73	100	98.9	90	110	
Zn	66	2	He	98.004	1.483	91540	0.65	100	98.0	90	110	
As	75	2	He	96.547	0.899	64535	1.06	100	96.5	90	110	
Sb	121	2	He	98.688	0.985	403637	0.88	100	98.7	90	110	
Se	78	2	He	95.470	3.121	4880	2.38	100	95.5	90	110	
Ti	47	2	He	93.758	4.307	15336	3.51	100	93.8	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	2166202	3.11	1967073	110.12	70	120	
In	115	1	nogas	2195315	1.30	2008904	109.28	70	120	
Li	6	1	nogas	767457	1.23	749894	102.34	70	120	
Bi	209	1	nogas	1661913	0.91	1623892	102.34	70	120	
Ge	72	2	He	530216	0.81	543801	97.50	70	120	
In	115	2	He	775703	1.47	793603	97.74	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	094_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:28:10-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	0.060	7.6	345	5.8	1	
B	11	1	nogas	30.234	8.7	96353	7.0	10	CCB Main CR1 Failed
Al	27	1	nogas	0.205	15.9	46597	1.4	5	
P	31	1	nogas	0.024	1624.1	40554	0.3	10	
Ca	44	1	nogas	-116.498	-1.0	35948	2.0	100	
Ti	47	1	nogas	0.016	481.4	297	37.1	2.5	
Cr	52	1	nogas	-1.157	-3.5	27337	2.1	2.5	
Co	59	1	nogas	0.028	54.3	1170	24.2	2.5	
Cu	63	1	nogas	-3.282	-0.9	8926	2.6	2	
Zn	66	1	nogas	0.450	9.0	5154	2.2	2.5	
Se	77	1	nogas	-43.680	-17.6	11981	7.3	2.5	
Se	82	1	nogas	0.983	22.8	-111	-31.3	2	
Sr	88	1	nogas	0.029	17.9	2587	6.2	2.5	
Mo	95	1	nogas	0.256	35.1	1407	29.6	2.5	
Ag	107	1	nogas	0.042	19.3	557	16.6	2.5	
Cd	111	1	nogas	0.023	33.5	70	24.7	1	
Sn	118	1	nogas	0.489	25.2	4601	17.6	5	
Sb	121	1	nogas	1.298	2.4	13779	2.0	2.5	
Ba	137	1	nogas	0.088	32.6	537	18.4	2.5	
Tl	205	1	nogas	0.221	46.3	5088	38.1	1	
Pb	208	1	nogas	2.012	1.9	51015	1.9	2.5	
U	238	1	nogas	0.027	33.4	777	32.3	2.5	
Si	28	1	nogas	14.185	85.8	1016848	0.6	5	CCB Main CR1 Failed
Au	197	1	nogas	0.691	30.9	6065	31.7	2.5	
Na	23	2	He	38.730	5.0	138904	2.5	100	
Mg	24	2	He	3.947	12.9	3380	7.4	100	
Al	27	2	He	0.755	50.2	990	10.3	5	
K	39	2	He	5.937	32.6	59120	0.5	100	
Ca	43	2	He	-2.593	-396.2	40	43.3	100	
Ca	44	2	He	1.735	379.3	903	20.9	100	
V	51	2	He	-0.257	-15.8	4820	3.9	2.5	
Cr	52	2	He	-0.033	-38.3	1050	5.9	2.5	
Mn	55	2	He	0.046	23.6	1427	1.5	2.5	
Fe	56	2	He	5.337	5.6	35748	4.9	100	
Co	59	2	He	0.022	10.6	393	3.9	2.5	
Ni	60	2	He	0.055	33.8	723	6.5	2.5	
Cu	63	2	He	0.088	13.3	2767	3.1	2	
Zn	66	2	He	0.424	32.9	1930	8.1	2.5	
As	75	2	He	0.072	32.4	151	10.2	2.5	
Sb	121	2	He	1.443	0.6	6668	1.8	2.5	
Se	78	2	He	0.093	93.1	62	8.5	2	
Ti	47	2	He	0.077	156.2	17	124.9	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	2182377	0.52	1967073	110.95	70	120	
In	115	1	nogas	2243244	1.13	2008904	111.67	70	120	
Li	6	1	nogas	835679	0.17	749894	111.44	70	120	
Bi	209	1	nogas	1753196	1.49	1623892	107.96	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	553522	1.22	543801	101.79	70	120	
In	115	2	He	803696	0.40	793603	101.27	70	120	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	098CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:41:03-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	122	12.79
B	11	1	nogas	32816	0.00
Al	27	1	nogas	57256	0.00
P	31	1	nogas	43303	0.01
Ca	44	1	nogas	42238	0.00
Ti	47	1	nogas	240	1.74
Cr	52	1	nogas	48824	0.00
Co	59	1	nogas	603	2.08
Cu	63	1	nogas	8375	0.08
Zn	66	1	nogas	4194	0.12
Se	77	1	nogas	21109	0.01
Sr	88	1	nogas	2564	0.19
Mo	95	1	nogas	163	4.33
Ag	107	1	nogas	210	6.80
Cd	111	1	nogas	10	0.00
Sn	118	1	nogas	2160	0.43
Sb	121	1	nogas	9012	0.07
Ba	137	1	nogas	383	7.34
Tl	205	1	nogas	550	2.17
Pb	208	1	nogas	32603	0.00
Li	7	1	nogas	72005	0.00
Si	28	1	nogas	1286380	0.00
Na	23	2	He	71541	0.00
Mg	24	2	He	1297	1.13
Al	27	2	He	1097	0.75
K	39	2	He	61250	0.00
Ca	43	2	He	63	122.98
Ca	44	2	He	1017	1.56
V	51	2	He	11813	0.02
Cr	52	2	He	1170	0.57
Mn	55	2	He	1300	0.93
Fe	56	2	He	17982	0.01
Co	59	2	He	237	4.49
Ni	60	2	He	563	0.18
Cu	63	2	He	2580	0.38
Zn	66	2	He	1650	0.43
As	75	2	He	124	8.70
Sb	121	2	He	4124	0.13

Calibration Blank Report

Se	78	2	He	51	19.61

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	2310932	1.97
In	115	1	nogas	2286220	3.06
Li	6	1	nogas	885256	0.46
Bi	209	1	nogas	1796808	0.44
Ge	72	2	He	562772	0.84
In	115	2	He	808760	1.37

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	099CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:43:29-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	098CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	8233	0.04
B	11	1	nogas	51963	0.00
Al	27	1	nogas	87300	0.00
P	31	1	nogas	50705	0.00
Ca	44	1	nogas	133908	0.00
Ti	47	1	nogas	3300	0.10
Cr	52	1	nogas	82710	0.00
Co	59	1	nogas	37872	0.01
Cu	63	1	nogas	28763	0.00
Zn	66	1	nogas	8689	0.01
Se	77	1	nogas	21203	0.02
Se	82	1	nogas	109	90.08
Sr	88	1	nogas	50250	0.00
Mo	95	1	nogas	9303	0.02
Ag	107	1	nogas	23189	0.01
Cd	111	1	nogas	4477	0.15
Sn	118	1	nogas	15274	0.02
Sb	121	1	nogas	26861	0.00
Ba	137	1	nogas	7092	0.05
Tl	205	1	nogas	32643	0.00
Pb	208	1	nogas	75498	0.00
Si	28	1	nogas	1342071	0.00
Na	23	2	He	273005	0.00
Mg	24	2	He	113633	0.00
Al	27	2	He	1553	1.02
K	39	2	He	160280	0.00
Ca	43	2	He	433	5.06
Ca	44	2	He	5861	0.03
V	51	2	He	21104	0.01
Cr	52	2	He	12371	0.02
Mn	55	2	He	7265	0.07
Fe	56	2	He	965879	0.00
Co	59	2	He	17111	0.00
Ni	60	2	He	4517	0.09
Cu	63	2	He	13592	0.00
Zn	66	2	He	3400	0.38

Calibration Standard Report

As	75	2	He	1522	0.31
Sb	121	2	He	12028	0.01
Se	78	2	He	165	6.31

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	2326879	1.81	2310932	100.69	70	120	
In	115	1	nogas	2304898	1.63	2286220	100.82	70	120	
Li	6	1	nogas	890605	0.61	885256	100.60	70	120	
Bi	209	1	nogas	1771931	0.91	1796808	98.62	70	120	
Ge	72	2	He	566865	0.57	562772	100.73	70	120	
In	115	2	He	814325	1.21	808760	100.69	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	100CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:45:57-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	098CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	20391	0.00
B	11	1	nogas	84375	0.00
Al	27	1	nogas	137076	0.00
P	31	1	nogas	65078	0.00
Ca	44	1	nogas	281431	0.00
Ti	47	1	nogas	7548	0.04
Cr	52	1	nogas	136037	0.00
Co	59	1	nogas	97328	0.00
Cu	63	1	nogas	59472	0.00
Zn	66	1	nogas	16861	0.02
Se	77	1	nogas	22387	0.01
Se	82	1	nogas	709	1.50
Sr	88	1	nogas	122806	0.00
Mo	95	1	nogas	22588	0.00
Ag	107	1	nogas	58523	0.00
Cd	111	1	nogas	11464	0.02
Sn	118	1	nogas	35827	0.00
Sb	121	1	nogas	55638	0.00
Ba	137	1	nogas	17522	0.00
Tl	205	1	nogas	80665	0.00
Pb	208	1	nogas	140812	0.00
Si	28	1	nogas	1484769	0.00
Na	23	2	He	583187	0.00
Mg	24	2	He	281638	0.00
Al	27	2	He	2344	0.29
K	39	2	He	313090	0.00
Ca	43	2	He	747	1.39
Ca	44	2	He	14065	0.01
V	51	2	He	33991	0.00
Cr	52	2	He	29110	0.01
Mn	55	2	He	18409	0.01
Fe	56	2	He	2582328	0.00
Co	59	2	He	41864	0.00
Ni	60	2	He	11574	0.01
Cu	63	2	He	31347	0.01
Zn	66	2	He	6421	0.06

Calibration Standard Report

As	75	2	He	3551	0.06
Sb	121	2	He	24928	0.01
Se	78	2	He	309	2.49

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	2278086	1.96	2310932	98.58	70	120	
In	115	1	nogas	2313014	0.64	2286220	101.17	70	120	
Li	6	1	nogas	891899	0.19	885256	100.75	70	120	
Bi	209	1	nogas	1754328	0.56	1796808	97.64	70	120	
Ge	72	2	He	562534	0.59	562772	99.96	70	120	
In	115	2	He	800473	1.64	808760	98.98	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	101CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:48:24-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	098CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	42415	0.00
B	11	1	nogas	145406	0.00
Al	27	1	nogas	208275	0.00
P	31	1	nogas	88814	0.00
Ca	44	1	nogas	543752	0.00
Ti	47	1	nogas	15737	0.02
Cr	52	1	nogas	226474	0.00
Co	59	1	nogas	192917	0.00
Cu	63	1	nogas	110087	0.00
Zn	66	1	nogas	30783	0.00
Se	77	1	nogas	22341	0.02
Se	82	1	nogas	1420	0.45
Sr	88	1	nogas	252066	0.00
Mo	95	1	nogas	47797	0.00
Ag	107	1	nogas	119588	0.00
Cd	111	1	nogas	22892	0.01
Sn	118	1	nogas	72861	0.00
Sb	121	1	nogas	104332	0.00
Ba	137	1	nogas	35430	0.01
Tl	205	1	nogas	167078	0.00
Pb	208	1	nogas	262786	0.00
Si	28	1	nogas	1679555	0.00
Na	23	2	He	1126989	0.00
Mg	24	2	He	575061	0.00
Al	27	2	He	3887	0.02
K	39	2	He	569020	0.00
Ca	43	2	He	1493	0.37
Ca	44	2	He	27754	0.01
V	51	2	He	56016	0.00
Cr	52	2	He	56443	0.00
Mn	55	2	He	35478	0.00
Fe	56	2	He	5065271	0.00
Co	59	2	He	86076	0.00
Ni	60	2	He	22177	0.01
Cu	63	2	He	61713	0.00
Zn	66	2	He	10913	0.03

Calibration Standard Report

As	75	2	He	7009	0.05
Sb	121	2	He	46181	0.00
Se	78	2	He	588	1.30

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	2323596	0.03	2310932	100.55	70	120	
In	115	1	nogas	2336789	1.43	2286220	102.21	70	120	
Li	6	1	nogas	875607	0.46	885256	98.91	70	120	
Bi	209	1	nogas	1753080	1.34	1796808	97.57	70	120	
Ge	72	2	He	551917	0.30	562772	98.07	70	120	
In	115	2	He	784829	0.60	808760	97.04	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	102CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:50:52-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	098CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	399431	0.00
B	11	1	nogas	1154178	0.00
Al	27	1	nogas	1526000	0.00
P	31	1	nogas	442323	0.00
Ca	44	1	nogas	4874876	0.00
Ti	47	1	nogas	145204	0.00
Cr	52	1	nogas	1828500	0.00
Co	59	1	nogas	1905212	0.00
Cu	63	1	nogas	918010	0.00
Zn	66	1	nogas	253058	0.00
Se	77	1	nogas	25789	0.00
Se	82	1	nogas	15370	0.03
Sr	88	1	nogas	2491484	0.00
Mo	95	1	nogas	452475	0.00
Ag	107	1	nogas	1113139	0.00
Cd	111	1	nogas	213220	0.00
Sn	118	1	nogas	668725	0.00
Sb	121	1	nogas	918752	0.00
Ba	137	1	nogas	333002	0.00
Tl	205	1	nogas	1739924	0.00
Pb	208	1	nogas	2288158	0.00
Si	28	1	nogas	4949248	0.00
Na	23	2	He	10060373	0.00
Mg	24	2	He	5471679	0.00
Al	27	2	He	25467	0.00
K	39	2	He	5011721	0.00
Ca	43	2	He	14793	0.03
Ca	44	2	He	250772	0.00
V	51	2	He	464467	0.00
Cr	52	2	He	525752	0.00
Mn	55	2	He	321613	0.00
Fe	56	2	He	46700529	0.00
Co	59	2	He	787843	0.00
Ni	60	2	He	202862	0.00
Cu	63	2	He	531720	0.00
Zn	66	2	He	92857	0.00

Calibration Standard Report

As	75	2	He	66197	0.00
Sb	121	2	He	395714	0.00
Se	78	2	He	4797	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	2216547	1.43	2310932	95.92	70	120	
In	115	1	nogas	2260512	1.28	2286220	98.88	70	120	
Li	6	1	nogas	811796	0.21	885256	91.70	70	120	
Bi	209	1	nogas	1741740	2.90	1796808	96.94	70	120	
Ge	72	2	He	528185	1.04	562772	93.85	70	120	
In	115	2	He	757112	1.17	808760	93.61	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	103CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:53:16-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	098CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	800318	0.00
B	11	1	nogas	2397804	0.00
Al	27	1	nogas	2925285	0.00
P	31	1	nogas	841337	0.00
Ca	44	1	nogas	9802970	0.00
Ti	47	1	nogas	289247	0.00
Cr	52	1	nogas	3558061	0.00
Co	59	1	nogas	3704844	0.00
Cu	63	1	nogas	1966005	0.00
Zn	66	1	nogas	500137	0.00
Se	77	1	nogas	39095	0.01
Se	82	1	nogas	31151	0.01
Sr	88	1	nogas	5025045	0.00
Mo	95	1	nogas	918183	0.00
Ag	107	1	nogas	2360206	0.00
Cd	111	1	nogas	433628	0.00
Sn	118	1	nogas	1459355	0.00
Sb	121	1	nogas	1965933	0.00
Ba	137	1	nogas	663637	0.00
Tl	205	1	nogas	3530928	0.00
Pb	208	1	nogas	4688297	0.00
Si	28	1	nogas	8778937	0.00
Na	23	2	He	20298009	0.00
Mg	24	2	He	10898339	0.00
Al	27	2	He	49625	0.00
K	39	2	He	9871882	0.00
Ca	43	2	He	30195	0.01
Ca	44	2	He	503145	0.00
V	51	2	He	933721	0.00
Cr	52	2	He	1056226	0.00
Mn	55	2	He	645021	0.00
Fe	56	2	He	94693659	0.00
Co	59	2	He	1656380	0.00
Ni	60	2	He	401814	0.00
Cu	63	2	He	1060839	0.00
Zn	66	2	He	182829	0.00

Calibration Standard Report

As	75	2	He	133989	0.00
Sb	121	2	He	799551	0.00
Se	78	2	He	9732	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	2196070	1.70	2310932	95.03	70	120	
In	115	1	nogas	2162703	0.21	2286220	94.60	70	120	
Li	6	1	nogas	751065	0.66	885256	84.84	70	120	
Bi	209	1	nogas	1664555	1.62	1796808	92.64	70	120	
Ge	72	2	He	512929	0.49	562772	91.14	70	120	
In	115	2	He	732638	0.60	808760	90.59	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	105_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:58:03-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	098CALB.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	98.066	0.304	404409	0.21	100	98.1	90	110	
B	11	1	nogas	500.223	1.354	1239043	1.14	500	100.0	90	110	
Al	27	1	nogas	108.645	0.340	1647184	0.95	100	108.6	90	110	
P	31	1	nogas	499.790	0.895	448302	0.30	500	100.0	90	110	
Ca	44	1	nogas	9903.051	1.330	4941208	0.72	10000	99.0	90	110	
Ti	47	1	nogas	100.405	0.676	147703	0.44	100	100.4	90	110	
Cr	52	1	nogas	98.037	1.348	1800376	0.69	100	98.0	90	110	
Co	59	1	nogas	100.862	2.094	1908432	1.77	100	100.9	90	110	
Cu	63	1	nogas	94.821	0.899	937653	0.49	100	94.8	90	110	
Zn	66	1	nogas	101.121	2.299	259010	1.76	100	101.1	90	110	
Se	77	1	nogas	47.382	17.999	24624	3.80	100	47.4	90	110	ICV Main CR1 Failed
Se	82	1	nogas	101.115	1.460	15891	0.79	100	101.1	90	110	
Sr	88	1	nogas	100.415	2.164	2579952	1.26	100	100.4	90	110	
Mo	95	1	nogas	96.693	1.685	453357	0.69	100	96.7	90	110	
Ag	107	1	nogas	91.983	1.114	1099435	0.12	100	92.0	90	110	
Cd	111	1	nogas	99.179	1.660	219511	0.73	100	99.2	90	110	
Sn	118	1	nogas	91.578	2.067	674082	1.23	100	91.6	90	110	
Sb	121	1	nogas	94.465	0.738	934472	0.10	100	94.5	90	110	
Ba	137	1	nogas	99.505	1.261	338505	0.29	100	99.5	90	110	
Tl	205	1	nogas	107.146	1.299	1858366	1.31	100	107.1	90	110	
Pb	208	1	nogas	99.860	0.348	2307461	0.71	100	99.9	90	110	
U	238	1	nogas	101.085	2.081	2517162	2.25	100	101.1	90	110	
Li	7	1	nogas	98.434	3.412	1366415	3.08	100	98.4	90	110	
Si	28	1	nogas	5420.455	1.121	5390407	0.64	5000	108.4	90	110	
Au	197	1	nogas	0.157	18.215	1563	14.39	100	0.2	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	96.160	1.023	697225	1.08	100	96.2	90	110	
Na	23	2	He	10013.908	0.764	10308587	0.27	10000	100.1	90	110	
Mg	24	2	He	10166.805	1.909	5619691	1.88	10000	101.7	90	110	
Al	27	2	He	105.727	0.823	27100	0.16	100	105.7	90	110	
K	39	2	He	10089.433	0.734	5084531	0.39	10000	100.9	90	110	
Ca	43	2	He	10077.706	0.042	15380	0.78	10000	100.8	90	110	
Ca	44	2	He	9845.637	0.752	251270	0.94	10000	98.5	90	110	
V	51	2	He	98.920	0.966	471932	0.32	100	98.9	90	110	
Cr	52	2	He	99.444	0.211	532223	0.79	100	99.4	90	110	
Mn	55	2	He	100.705	0.548	329480	1.04	100	100.7	90	110	
Fe	56	2	He	10012.869	1.186	47925964	0.45	10000	100.1	90	110	
Co	59	2	He	96.737	1.873	804251	1.14	100	96.7	90	110	
Ni	60	2	He	102.247	1.831	208791	1.18	100	102.2	90	110	
Cu	63	2	He	101.998	1.084	549581	0.76	100	102.0	90	110	
Zn	66	2	He	102.454	0.471	95798	0.75	100	102.5	90	110	
As	75	2	He	101.884	1.130	69055	0.75	100	101.9	90	110	
Sn	118	2	He	97.670	0.560	298951	1.85	100	97.7	90	110	
Sb	121	2	He	100.064	0.740	406146	0.30	100	100.1	90	110	
Se	78	2	He	100.762	1.390	4975	0.72	100	100.8	90	110	
Ti	47	2	He	98.596	1.935	15797	1.31	100	98.6	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	2234423	0.80	2310932	96.69	70	120	
In	115	1	nogas	2234306	0.99	2286220	97.73	70	120	
Li	6	1	nogas	786117	0.18	885256	88.80	70	120	
Bi	209	1	nogas	1654486	0.89	1796808	92.08	70	120	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	522892	0.74	562772	92.91	70	120	
In	115	2	He	749241	1.30	808760	92.64	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	108_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T17:05:29-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	098CALB.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	0.012	66.5	172	20.5	1	
B	11	1	nogas	5.077	10.7	45803	3.6	10	
Al	27	1	nogas	0.539	22.8	62744	2.9	5	
P	31	1	nogas	1.363	51.0	42645	2.5	10	
Ca	44	1	nogas	-10.101	-22.6	35551	2.5	100	
Ti	47	1	nogas	-0.009	-544.0	217	34.6	2.5	
Cr	52	1	nogas	-0.848	-8.9	31774	3.0	2.5	
Co	59	1	nogas	0.004	160.0	647	17.0	2.5	
Cu	63	1	nogas	0.449	5.5	12391	2.1	1	
Zn	66	1	nogas	-0.092	-147.1	3794	9.0	2.5	
Se	77	1	nogas	-65.827	-15.1	14446	5.2	2.5	
Se	82	1	nogas	0.546	99.1	-67	-128.0	1	
Sr	88	1	nogas	-0.037	-18.2	1513	11.5	2.5	
Mo	95	1	nogas	0.026	12.8	277	5.5	2.5	
Ag	107	1	nogas	0.007	62.4	273	16.5	2.5	
Cd	111	1	nogas	0.000	4652.1	10	173.2	1	
Sn	118	1	nogas	-0.010	-78.9	2000	3.3	5	
Sb	121	1	nogas	-0.405	-9.4	4704	7.3	2.5	
Ba	137	1	nogas	-0.021	-41.8	297	10.3	2.5	
Tl	205	1	nogas	0.019	78.6	873	30.4	1	
Pb	208	1	nogas	-0.464	-0.3	20509	0.9	2.5	
U	238	1	nogas	0.006	43.6	193	34.4	2.5	
Si	28	1	nogas	-15.306	-252.1	1221938	1.3	5	
Au	197	1	nogas	0.064	30.3	837	20.1	2.5	
Na	23	2	He	-4.465	-12.2	62844	0.4	100	
Mg	24	2	He	0.460	57.6	1480	9.1	100	
Al	27	2	He	0.144	497.8	1070	16.2	5	
K	39	2	He	1.792	84.9	58682	0.2	100	
Ca	43	2	He	-12.867	-50.7	40	25.0	100	
Ca	44	2	He	-15.726	-9.9	553	6.3	100	
V	51	2	He	-1.328	-2.7	4857	3.5	2.5	
Cr	52	2	He	0.002	2275.5	1113	18.2	2.5	
Mn	55	2	He	-0.109	-33.0	867	12.7	2.5	
Fe	56	2	He	-0.372	-44.4	15156	5.2	100	
Co	59	2	He	0.004	229.4	253	26.9	2.5	
Ni	60	2	He	-0.078	-69.6	370	31.2	2.5	

Initial Calibration Blank (ICB) Report

Cu	63	2	He	-0.056	-59.0	2127	7.5	1	
Zn	66	2	He	-0.093	-105.8	1470	6.1	2.5	
As	75	2	He	-0.024	-93.3	101	16.3	2.5	
Sb	121	2	He	-0.374	-19.4	2364	13.0	2.5	
Se	78	2	He	0.339	65.1	65	18.1	1	
Ti	47	2	He	-0.034	-478.9	20	132.3	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	2216287	1.35	2310932	95.90	70	120	
In	115	1	nogas	2189079	0.67	2286220	95.75	70	120	
Li	6	1	nogas	869218	0.41	885256	98.19	70	120	
Bi	209	1	nogas	1746462	0.99	1796808	97.20	70	120	
Ge	72	2	He	530880	1.11	562772	94.33	70	120	
In	115	2	He	762369	0.74	808760	94.26	70	120	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	169CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:06:40-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	97	8.17
B	11	1	nogas	32195	0.01
Al	27	1	nogas	43386	0.00
P	31	1	nogas	38152	0.00
Ca	44	1	nogas	30512	0.00
Ti	47	1	nogas	263	8.69
Cr	52	1	nogas	24573	0.01
Co	59	1	nogas	520	5.18
Cu	63	1	nogas	24610	0.01
Zn	66	1	nogas	4047	0.21
Se	77	1	nogas	12144	0.04
Sr	88	1	nogas	1663	0.28
Mo	95	1	nogas	227	4.50
Ag	107	1	nogas	140	33.46
Cd	111	1	nogas	20	250.00
Sn	118	1	nogas	1347	0.54
Sb	121	1	nogas	2517	0.23
Ba	137	1	nogas	373	1.81
Tl	205	1	nogas	373	5.09
Pb	208	1	nogas	6051	0.05
Li	7	1	nogas	63828	0.00
Si	28	1	nogas	925757	0.00
Na	23	2	He	128223	0.00
Mg	24	2	He	2234	0.47
Al	27	2	He	800	1.09
K	39	2	He	51147	0.00
Ca	43	2	He	47	95.59
Ca	44	2	He	747	0.85
V	51	2	He	2641	0.37
Cr	52	2	He	840	1.37
Mn	55	2	He	2087	0.04
Fe	56	2	He	9863	0.03
Co	59	2	He	143	15.65
Ni	60	2	He	573	1.07
Cu	63	2	He	2150	0.17
Zn	66	2	He	1433	0.51
As	75	2	He	79	44.91
Sb	121	2	He	1103	0.89

Calibration Blank Report

Se	78	2	He	57	28.75

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	2192195	2.22
In	115	1	nogas	2276906	3.00
Li	6	1	nogas	818910	1.19
Bi	209	1	nogas	1750172	2.18
Ge	72	2	He	516667	1.58
In	115	2	He	751046	0.29

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	170CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:09:08-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	169CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	7201	0.03
B	11	1	nogas	49983	0.00
Al	27	1	nogas	77082	0.00
P	31	1	nogas	45966	0.00
Ca	44	1	nogas	115034	0.00
Ti	47	1	nogas	2987	0.31
Cr	52	1	nogas	56489	0.00
Co	59	1	nogas	34970	0.00
Cu	63	1	nogas	42970	0.00
Zn	66	1	nogas	8399	0.06
Se	77	1	nogas	12605	0.01
Se	82	1	nogas	156	14.95
Sr	88	1	nogas	47767	0.00
Mo	95	1	nogas	8779	0.03
Ag	107	1	nogas	21860	0.01
Cd	111	1	nogas	4127	0.15
Sn	118	1	nogas	14489	0.00
Sb	121	1	nogas	20719	0.01
Ba	137	1	nogas	7005	0.08
Tl	205	1	nogas	32556	0.00
Pb	208	1	nogas	50792	0.01
Si	28	1	nogas	1029346	0.00
Na	23	2	He	308106	0.00
Mg	24	2	He	101348	0.00
Al	27	2	He	1280	0.24
K	39	2	He	138032	0.00
Ca	43	2	He	277	2.00
Ca	44	2	He	5137	0.10
V	51	2	He	11220	0.02
Cr	52	2	He	10390	0.03
Mn	55	2	He	7675	0.03
Fe	56	2	He	859570	0.00
Co	59	2	He	15126	0.01
Ni	60	2	He	4427	0.18
Cu	63	2	He	12571	0.03
Zn	66	2	He	3104	0.21

Calibration Standard Report

As	75	2	He	1319	0.46
Sb	121	2	He	8792	0.04
Se	78	2	He	141	7.58

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	2162821	2.87	2192195	98.66	70	120	
In	115	1	nogas	2233868	3.49	2276906	98.11	70	120	
Li	6	1	nogas	825693	0.53	818910	100.83	70	120	
Bi	209	1	nogas	1770528	0.98	1750172	101.16	70	120	
Ge	72	2	He	521572	0.60	516667	100.95	70	120	
In	115	2	He	769504	1.01	751046	102.46	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	171CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:11:37-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	169CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	18444	0.01
B	11	1	nogas	79145	0.00
Al	27	1	nogas	118148	0.00
P	31	1	nogas	57922	0.00
Ca	44	1	nogas	255955	0.00
Ti	47	1	nogas	7168	0.04
Cr	52	1	nogas	106909	0.00
Co	59	1	nogas	87862	0.00
Cu	63	1	nogas	70323	0.00
Zn	66	1	nogas	14593	0.01
Se	77	1	nogas	13362	0.02
Se	82	1	nogas	545	6.31
Sr	88	1	nogas	117803	0.00
Mo	95	1	nogas	22358	0.01
Ag	107	1	nogas	56400	0.00
Cd	111	1	nogas	10760	0.03
Sn	118	1	nogas	33967	0.01
Sb	121	1	nogas	46395	0.00
Ba	137	1	nogas	17039	0.03
Tl	205	1	nogas	81385	0.00
Pb	208	1	nogas	119429	0.00
Si	28	1	nogas	1121777	0.00
Na	23	2	He	581933	0.00
Mg	24	2	He	252646	0.00
Al	27	2	He	2160	0.13
K	39	2	He	272369	0.00
Ca	43	2	He	720	0.51
Ca	44	2	He	11917	0.02
V	51	2	He	24353	0.01
Cr	52	2	He	26402	0.01
Mn	55	2	He	16721	0.01
Fe	56	2	He	2291703	0.00
Co	59	2	He	39609	0.01
Ni	60	2	He	10143	0.02
Cu	63	2	He	28222	0.01
Zn	66	2	He	5491	0.10

Calibration Standard Report

As	75	2	He	3224	0.04
Sb	121	2	He	20349	0.01
Se	78	2	He	264	3.76

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	2184787	0.30	2192195	99.66	70	120	
In	115	1	nogas	2282323	2.28	2276906	100.24	70	120	
Li	6	1	nogas	825863	0.08	818910	100.85	70	120	
Bi	209	1	nogas	1794417	0.39	1750172	102.53	70	120	
Ge	72	2	He	525508	0.62	516667	101.71	70	120	
In	115	2	He	753979	0.96	751046	100.39	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	172CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:14:05-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	169CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	38346	0.00
B	11	1	nogas	136065	0.00
Al	27	1	nogas	194393	0.00
P	31	1	nogas	79041	0.00
Ca	44	1	nogas	507383	0.00
Ti	47	1	nogas	14723	0.01
Cr	52	1	nogas	196427	0.00
Co	59	1	nogas	178736	0.00
Cu	63	1	nogas	119414	0.00
Zn	66	1	nogas	30315	0.00
Se	77	1	nogas	14493	0.02
Se	82	1	nogas	1330	0.14
Sr	88	1	nogas	245869	0.00
Mo	95	1	nogas	46454	0.00
Ag	107	1	nogas	115605	0.00
Cd	111	1	nogas	22081	0.00
Sn	118	1	nogas	71148	0.00
Sb	121	1	nogas	96567	0.00
Ba	137	1	nogas	33780	0.00
Tl	205	1	nogas	171214	0.00
Pb	208	1	nogas	244452	0.00
Si	28	1	nogas	1406243	0.00
Na	23	2	He	1083525	0.00
Mg	24	2	He	524738	0.00
Al	27	2	He	3417	0.20
K	39	2	He	511701	0.00
Ca	43	2	He	1493	1.68
Ca	44	2	He	25077	0.01
V	51	2	He	48355	0.00
Cr	52	2	He	53350	0.00
Mn	55	2	He	33541	0.01
Fe	56	2	He	4737532	0.00
Co	59	2	He	79256	0.00
Ni	60	2	He	21249	0.01
Cu	63	2	He	57306	0.00
Zn	66	2	He	10843	0.03

Calibration Standard Report

As	75	2	He	6549	0.06
Sb	121	2	He	40931	0.01
Se	78	2	He	551	2.02

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	2209784	2.38	2192195	100.80	70	120	
In	115	1	nogas	2244190	2.03	2276906	98.56	70	120	
Li	6	1	nogas	827828	0.27	818910	101.09	70	120	
Bi	209	1	nogas	1747188	3.27	1750172	99.83	70	120	
Ge	72	2	He	520947	1.00	516667	100.83	70	120	
In	115	2	He	764824	1.88	751046	101.83	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	173CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:16:33-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	169CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	371450	0.00
B	11	1	nogas	1065219	0.00
Al	27	1	nogas	1421774	0.00
P	31	1	nogas	406532	0.00
Ca	44	1	nogas	4625278	0.00
Ti	47	1	nogas	137479	0.00
Cr	52	1	nogas	1703801	0.00
Co	59	1	nogas	1790414	0.00
Cu	63	1	nogas	900377	0.00
Zn	66	1	nogas	249076	0.00
Se	77	1	nogas	23565	0.01
Se	82	1	nogas	15282	0.02
Sr	88	1	nogas	2456768	0.00
Mo	95	1	nogas	451149	0.00
Ag	107	1	nogas	1094431	0.00
Cd	111	1	nogas	213799	0.00
Sn	118	1	nogas	660224	0.00
Sb	121	1	nogas	901668	0.00
Ba	137	1	nogas	331834	0.00
Tl	205	1	nogas	1739248	0.00
Pb	208	1	nogas	2325274	0.00
Si	28	1	nogas	4499784	0.00
Na	23	2	He	9346977	0.00
Mg	24	2	He	5013162	0.00
Al	27	2	He	23655	0.01
K	39	2	He	4582439	0.00
Ca	43	2	He	13919	0.02
Ca	44	2	He	233447	0.00
V	51	2	He	435375	0.00
Cr	52	2	He	496971	0.00
Mn	55	2	He	305444	0.00
Fe	56	2	He	43846689	0.00
Co	59	2	He	741547	0.00
Ni	60	2	He	192990	0.00
Cu	63	2	He	507451	0.00
Zn	66	2	He	90207	0.00

Calibration Standard Report

As	75	2	He	62112	0.00
Sb	121	2	He	385149	0.00
Se	78	2	He	4560	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	2147278	0.63	2192195	97.95	70	120	
In	115	1	nogas	2212525	2.88	2276906	97.17	70	120	
Li	6	1	nogas	790398	0.84	818910	96.52	70	120	
Bi	209	1	nogas	1757050	1.00	1750172	100.39	70	120	
Ge	72	2	He	508599	0.62	516667	98.44	70	120	
In	115	2	He	746571	0.68	751046	99.40	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	174CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:18:58-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	169CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	741418	0.00
B	11	1	nogas	2213008	0.00
Al	27	1	nogas	2761072	0.00
P	31	1	nogas	780851	0.00
Ca	44	1	nogas	9383142	0.00
Ti	47	1	nogas	282030	0.00
Cr	52	1	nogas	3405598	0.00
Co	59	1	nogas	3520094	0.00
Cu	63	1	nogas	1865695	0.00
Zn	66	1	nogas	484185	0.00
Se	77	1	nogas	36801	0.01
Se	82	1	nogas	29587	0.01
Sr	88	1	nogas	4810121	0.00
Mo	95	1	nogas	902991	0.00
Ag	107	1	nogas	2334092	0.00
Cd	111	1	nogas	432258	0.00
Sn	118	1	nogas	1435898	0.00
Sb	121	1	nogas	1934323	0.00
Ba	137	1	nogas	658527	0.00
Tl	205	1	nogas	3502157	0.00
Pb	208	1	nogas	4668868	0.00
Si	28	1	nogas	7975602	0.00
Na	23	2	He	18485716	0.00
Mg	24	2	He	9973269	0.00
Al	27	2	He	44719	0.01
K	39	2	He	8960809	0.00
Ca	43	2	He	27470	0.00
Ca	44	2	He	465040	0.00
V	51	2	He	879061	0.00
Cr	52	2	He	999983	0.00
Mn	55	2	He	609905	0.00
Fe	56	2	He	88414435	0.00
Co	59	2	He	1585845	0.00
Ni	60	2	He	383840	0.00
Cu	63	2	He	1011845	0.00
Zn	66	2	He	176745	0.00

Calibration Standard Report

As	75	2	He	124653	0.00
Sb	121	2	He	772882	0.00
Se	78	2	He	9032	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	2110049	2.18	2192195	96.25	70	120	
In	115	1	nogas	2150840	3.40	2276906	94.46	70	120	
Li	6	1	nogas	732952	0.51	818910	89.50	70	120	
Bi	209	1	nogas	1686046	0.22	1750172	96.34	70	120	
Ge	72	2	He	500602	0.34	516667	96.89	70	120	
In	115	2	He	726544	0.86	751046	96.74	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	176_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:23:46-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	96.893	1.022	374488	1.05	100	96.9	90	110	
B	11	1	nogas	484.246	2.428	1121369	2.26	500	96.8	90	110	
Al	27	1	nogas	103.250	4.216	1480039	4.13	100	103.3	90	110	
P	31	1	nogas	495.839	1.130	413582	0.86	500	99.2	90	110	
Ca	44	1	nogas	9640.950	0.590	4615142	0.77	10000	96.4	90	110	
Ti	47	1	nogas	97.794	0.783	140121	0.85	100	97.8	90	110	
Cr	52	1	nogas	98.369	1.385	1719034	0.79	100	98.4	90	110	
Co	59	1	nogas	100.954	2.048	1819008	1.78	100	101.0	90	110	
Cu	63	1	nogas	95.950	0.820	916895	0.72	100	95.9	90	110	
Zn	66	1	nogas	101.426	0.338	253542	0.94	100	101.4	90	110	
Se	77	1	nogas	79.628	2.972	22050	1.81	100	79.6	90	110	ICV Main CR1 Failed
Se	82	1	nogas	103.071	2.673	15637	2.18	100	103.1	90	110	
Sr	88	1	nogas	97.152	0.919	2403706	1.43	100	97.2	90	110	
Mo	95	1	nogas	96.994	1.524	448543	0.49	100	97.0	90	110	
Ag	107	1	nogas	92.296	3.098	1089295	1.86	100	92.3	90	110	
Cd	111	1	nogas	99.102	1.235	218907	0.23	100	99.1	90	110	
Sn	118	1	nogas	91.381	1.827	661916	0.48	100	91.4	90	110	
Sb	121	1	nogas	94.034	0.891	916685	1.44	100	94.0	90	110	
Ba	137	1	nogas	99.304	2.540	335552	1.52	100	99.3	90	110	
Tl	205	1	nogas	103.553	3.429	1796841	1.56	100	103.6	90	110	
Pb	208	1	nogas	98.582	1.743	2284724	1.06	100	98.6	90	110	
U	238	1	nogas	100.597	2.971	2573477	1.59	100	100.6	90	110	
Li	7	1	nogas	97.395	2.183	1256393	1.99	100	97.4	90	110	
Si	28	1	nogas	5367.693	1.420	4806357	1.33	5000	107.4	90	110	
Au	197	1	nogas	8.391	4.949	57915	2.17	100	8.4	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	94.482	5.237	698383	2.61	100	94.5	90	110	
Na	23	2	He	10063.629	1.222	9468693	0.43	10000	100.6	90	110	
Mg	24	2	He	10035.866	0.399	5062908	0.66	10000	100.4	90	110	
Al	27	2	He	107.088	1.862	24760	1.80	100	107.1	90	110	
K	39	2	He	10059.527	1.115	4594178	1.05	10000	100.6	90	110	
Ca	43	2	He	9713.730	0.891	13535	0.39	10000	97.1	90	110	
Ca	44	2	He	9920.310	0.752	233536	0.61	10000	99.2	90	110	
V	51	2	He	99.416	1.327	441712	0.66	100	99.4	90	110	
Cr	52	2	He	99.564	1.590	502746	1.73	100	99.6	90	110	
Mn	55	2	He	100.992	2.272	312047	1.35	100	101.0	90	110	
Fe	56	2	He	9957.184	1.915	44407029	0.91	10000	99.6	90	110	
Co	59	2	He	95.957	2.134	758869	1.13	100	96.0	90	110	
Ni	60	2	He	102.286	1.789	198781	0.79	100	102.3	90	110	
Cu	63	2	He	103.241	0.949	528927	0.90	100	103.2	90	110	
Zn	66	2	He	103.205	2.512	93061	1.99	100	103.2	90	110	
As	75	2	He	102.094	1.106	64278	0.29	100	102.1	90	110	
Sn	118	2	He	95.734	0.220	288815	1.20	100	95.7	90	110	
Sb	121	2	He	100.004	1.478	390618	0.81	100	100.0	90	110	
Se	78	2	He	101.013	2.916	4641	3.03	100	101.0	90	110	
Ti	47	2	He	101.947	2.748	14706	3.61	100	101.9	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	2160193	0.60	2192195	98.54	70	120	
In	115	1	nogas	2214273	1.45	2276906	97.25	70	120	
Li	6	1	nogas	775220	0.17	818910	94.66	70	120	
Bi	209	1	nogas	1687637	2.75	1750172	96.43	70	120	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	507425	1.04	516667	98.21	70	120	
In	115	2	He	745707	1.09	751046	99.29	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	179_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:31:09-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	93.408	1.781	367092	0.82	100	93.4	90	110	
B	11	1	nogas	465.004	0.652	1096338	1.58	500	93.0	90	110	
Al	27	1	nogas	99.196	0.962	1457305	2.37	100	99.2	90	110	
P	31	1	nogas	471.040	4.622	403870	1.70	500	94.2	90	110	
Ca	44	1	nogas	9451.357	0.944	4632359	2.69	10000	94.5	90	110	
Ti	47	1	nogas	94.818	3.363	139014	1.09	100	94.8	90	110	
Cr	52	1	nogas	97.200	5.605	1738194	4.14	100	97.2	90	110	
Co	59	1	nogas	96.425	3.489	1777817	1.77	100	96.4	90	110	
Cu	63	1	nogas	91.660	3.354	897303	0.26	100	91.7	90	110	
Zn	66	1	nogas	97.255	1.479	248999	1.63	100	97.3	90	110	
Se	77	1	nogas	83.429	8.742	23048	1.24	100	83.4	90	110	ICV Main CR1 Failed
Se	82	1	nogas	94.874	4.249	14723	1.23	100	94.9	90	110	
Sr	88	1	nogas	98.976	5.280	2486979	1.88	100	99.0	90	110	
Mo	95	1	nogas	95.027	3.999	446483	0.56	100	95.0	90	110	
Ag	107	1	nogas	92.220	4.303	1105886	0.71	100	92.2	90	110	
Cd	111	1	nogas	95.890	3.728	215212	0.24	100	95.9	90	110	
Sn	118	1	nogas	90.141	3.244	663543	0.42	100	90.1	90	110	
Sb	121	1	nogas	89.843	3.237	896206	0.57	100	89.8	90	110	ICV Main CR1 Failed
Ba	137	1	nogas	96.070	4.344	329844	1.61	100	96.1	90	110	
Tl	205	1	nogas	99.439	2.800	1784355	3.61	100	99.4	90	110	
Pb	208	1	nogas	94.440	3.537	2261823	0.88	100	94.4	90	110	
U	238	1	nogas	98.207	3.637	2596308	1.24	100	98.2	90	110	
Li	7	1	nogas	97.727	2.609	1281629	1.52	100	97.7	90	110	
Si	28	1	nogas	4746.724	6.772	4455041	2.70	5000	94.9	90	110	
Au	197	1	nogas	101.300	2.896	721034	1.36	100	101.3	90	110	
Tl	203	1	nogas	88.587	2.317	677184	0.83	100	88.6	90	110	ICV Main CR1 Failed
Na	23	2	He	9847.645	0.350	9331169	0.39	10000	98.5	90	110	
Mg	24	2	He	9693.650	0.224	4923328	0.34	10000	96.9	90	110	
Al	27	2	He	102.289	0.871	23845	0.87	100	102.3	90	110	
K	39	2	He	9874.565	1.188	4541046	1.00	10000	98.7	90	110	
Ca	43	2	He	9924.713	3.672	13922	3.73	10000	99.2	90	110	
Ca	44	2	He	9730.341	0.188	230626	0.17	10000	97.3	90	110	
V	51	2	He	97.067	0.221	434265	0.18	100	97.1	90	110	
Cr	52	2	He	97.968	0.121	498035	0.31	100	98.0	90	110	
Mn	55	2	He	96.889	0.725	301506	0.75	100	96.9	90	110	
Fe	56	2	He	9773.209	0.186	43885161	0.12	10000	97.7	90	110	
Co	59	2	He	93.707	0.593	746165	0.65	100	93.7	90	110	
Ni	60	2	He	99.039	1.094	193809	1.32	100	99.0	90	110	
Cu	63	2	He	99.652	1.322	514056	1.21	100	99.7	90	110	
Zn	66	2	He	96.388	1.108	87601	1.16	100	96.4	90	110	
As	75	2	He	97.868	0.960	62039	1.00	100	97.9	90	110	
Sn	118	2	He	96.983	0.713	289349	0.08	100	97.0	90	110	
Sb	121	2	He	97.007	0.328	381522	0.38	100	97.0	90	110	
Se	78	2	He	95.282	1.598	4410	1.45	100	95.3	90	110	
Ti	47	2	He	98.729	2.971	14336	2.97	100	98.7	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	2211685	3.10	2192195	100.89	70	120	
In	115	1	nogas	2251575	3.64	2276906	98.89	70	120	
Li	6	1	nogas	788349	0.98	818910	96.27	70	120	
Bi	209	1	nogas	1744448	3.01	1750172	99.67	70	120	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	510834	0.24	516667	98.87	70	120	
In	115	2	He	737512	0.79	751046	98.20	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	180_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:33:33-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	0.032	31.9	235	18.2	1	
B	11	1	nogas	17.436	9.7	76228	5.3	10	ICB Main CR1 Failed
Al	27	1	nogas	0.117	593.5	45905	20.1	5	
P	31	1	nogas	-2.048	-83.9	37341	1.9	10	
Ca	44	1	nogas	-6.403	-13.8	28011	0.2	100	
Ti	47	1	nogas	0.020	167.5	300	16.7	2.5	
Cr	52	1	nogas	-0.149	-19.3	22441	0.7	2.5	
Co	59	1	nogas	0.017	16.2	850	7.3	2.5	
Cu	63	1	nogas	-0.088	-88.2	24270	2.6	1	
Zn	66	1	nogas	0.142	53.9	4491	3.1	2.5	
Se	77	1	nogas	-11.365	-77.9	10907	8.9	2.5	
Se	82	1	nogas	-0.245	-150.7	-67	-88.2	1	
Sr	88	1	nogas	0.019	47.9	2117	9.7	2.5	
Mo	95	1	nogas	0.206	25.6	1193	19.2	2.5	
Ag	107	1	nogas	0.013	60.5	297	30.2	2.5	
Cd	111	1	nogas	0.016	96.0	57	62.0	1	
Sn	118	1	nogas	0.228	23.2	3014	11.2	5	
Sb	121	1	nogas	0.156	6.1	4141	1.1	2.5	
Ba	137	1	nogas	1.109	7.3	4181	5.5	2.5	
Tl	205	1	nogas	0.269	50.7	5244	46.8	1	
Pb	208	1	nogas	0.025	121.5	6687	11.1	2.5	
U	238	1	nogas	0.025	41.7	737	38.4	2.5	
Si	28	1	nogas	-76.790	-36.4	887598	0.7	5	
Au	197	1	nogas	0.967	36.3	7128	35.2	2.5	
Na	23	2	He	-39.942	-6.4	91975	1.7	100	
Mg	24	2	He	-0.684	-41.9	1913	6.4	100	
Al	27	2	He	-0.459	-29.7	707	5.9	5	
K	39	2	He	4.968	15.8	54342	0.8	100	
Ca	43	2	He	1.610	417.0	50	20.0	100	
Ca	44	2	He	-8.045	-15.1	563	5.4	100	
V	51	2	He	-0.012	-379.3	2630	7.8	2.5	
Cr	52	2	He	-0.005	-357.4	827	9.9	2.5	
Mn	55	2	He	-0.190	-31.8	1517	12.1	2.5	
Fe	56	2	He	1.676	5.4	17766	0.9	100	
Co	59	2	He	0.009	65.0	217	21.3	2.5	
Ni	60	2	He	-0.047	-152.6	490	30.8	2.5	
Cu	63	2	He	0.059	56.0	2497	8.4	1	
Zn	66	2	He	0.275	2.0	1710	1.8	2.5	

Initial Calibration Blank (ICB) Report

As	75	2	He	0.014	86.5	89	9.4	2.5	
Sb	121	2	He	0.151	17.2	1730	6.7	2.5	
Se	78	2	He	-0.206	-54.5	49	10.3	1	
Ti	47	2	He	-0.046	-82.9	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	2238608	1.66	2192195	102.12	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	2255520	2.22	2276906	99.06	70	120	
Li	6	1	nogas	847089	0.24	818910	103.44	70	120	
Bi	209	1	nogas	1761010	0.81	1750172	100.62	70	120	
Ge	72	2	He	525331	1.49	516667	101.68	70	120	
In	115	2	He	764106	2.49	751046	101.74	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	208_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T21:47:36-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	98.465	0.502	365562	0.72	100	98.5	90	110	
B	11	1	nogas	475.567	1.328	1058505	2.17	500	95.1	90	110	
Al	27	1	nogas	101.179	1.382	1371589	0.43	100	101.2	90	110	
P	31	1	nogas	496.911	2.690	391616	0.68	500	99.4	90	110	
Ca	44	1	nogas	9688.290	1.954	4383749	2.42	10000	96.9	90	110	
Ti	47	1	nogas	96.500	2.530	130667	0.75	100	96.5	90	110	
Cr	52	1	nogas	98.544	4.263	1627120	2.44	100	98.5	90	110	
Co	59	1	nogas	98.019	0.617	1669460	1.15	100	98.0	90	110	
Cu	63	1	nogas	96.657	2.875	872674	1.02	100	96.7	90	110	
Zn	66	1	nogas	100.184	3.213	236692	1.53	100	100.2	90	110	
Se	77	1	nogas	135.046	1.919	27468	1.04	100	135.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.365	1.705	14106	2.32	100	98.4	90	110	
Sr	88	1	nogas	96.383	2.108	2298351	1.68	100	96.4	90	110	
Mo	95	1	nogas	94.428	0.505	420947	0.83	100	94.4	90	110	
Ag	107	1	nogas	93.287	1.135	1061423	0.79	100	93.3	90	110	
Cd	111	1	nogas	95.922	1.438	204239	1.32	100	95.9	90	110	
Sn	118	1	nogas	90.287	2.181	630413	1.76	100	90.3	90	110	
Sb	121	1	nogas	93.437	3.310	860689	1.63	100	93.4	90	110	
Ba	137	1	nogas	96.282	0.855	313637	0.47	100	96.3	90	110	
Tl	205	1	nogas	100.711	3.336	1691658	2.25	100	100.7	90	110	
Pb	208	1	nogas	96.299	1.275	2160616	1.92	100	96.3	90	110	
U	238	1	nogas	100.408	1.889	2486481	0.54	100	100.4	90	110	
Li	7	1	nogas	97.580	1.636	1208972	0.66	100	97.6	90	110	
Si	28	1	nogas	4950.093	2.671	4255917	0.39	5000	99.0	90	110	
Au	197	1	nogas	105.099	1.516	700628	0.63	100	105.1	90	110	
Tl	203	1	nogas	105.613	1.185	664017	1.14	100	105.6	90	110	
Na	23	2	He	10374.267	2.278	9615323	0.82	10000	103.7	90	110	
Mg	24	2	He	10030.700	2.254	4986638	1.19	10000	100.3	90	110	
Al	27	2	He	105.348	2.223	24015	0.81	100	105.3	90	110	
K	39	2	He	10034.520	1.627	4516524	0.95	10000	100.3	90	110	
Ca	43	2	He	9862.308	1.805	13545	2.62	10000	98.6	90	110	
Ca	44	2	He	9860.839	1.188	228786	0.74	10000	98.6	90	110	
V	51	2	He	96.893	1.888	424327	0.51	100	96.9	90	110	
Cr	52	2	He	97.329	0.487	484396	1.13	100	97.3	90	110	
Mn	55	2	He	98.581	0.393	300295	1.17	100	98.6	90	110	
Fe	56	2	He	9818.454	1.434	43158243	0.54	10000	98.2	90	110	
Co	59	2	He	93.485	2.317	728626	0.91	100	93.5	90	110	
Ni	60	2	He	99.140	2.642	189886	1.28	100	99.1	90	110	
Cu	63	2	He	99.649	2.125	503164	0.69	100	99.6	90	110	
Zn	66	2	He	99.761	0.341	88713	1.09	100	99.8	90	110	
As	75	2	He	99.216	1.932	61563	0.80	100	99.2	90	110	
Sb	121	2	He	97.949	1.418	377091	0.48	100	97.9	90	110	
Se	78	2	He	98.930	1.824	4481	3.05	100	98.9	90	110	
Ti	47	2	He	99.635	1.448	14166	2.82	100	99.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2041986	1.76	2192195	93.15	70	120	
In	115	1	nogas	2134166	0.47	2276906	93.73	70	120	
Li	6	1	nogas	744678	0.90	818910	90.94	70	120	
Bi	209	1	nogas	1633221	1.63	1750172	93.32	70	120	
Ge	72	2	He	500119	1.41	516667	96.80	70	120	
In	115	2	He	741727	0.34	751046	98.76	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	209_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T21:50:01-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	0.026	27.8	197	14.5	1	
B	11	1	nogas	16.337	11.6	68305	6.1	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.272	-24.6	36612	1.3	5	
P	31	1	nogas	2.221	61.2	36896	0.7	10	
Ca	44	1	nogas	-10.393	-19.5	23605	1.9	100	
Ti	47	1	nogas	0.074	79.8	343	21.9	2.5	
Cr	52	1	nogas	0.011	456.0	22941	1.7	2.5	
Co	59	1	nogas	0.006	35.6	580	7.9	2.5	
Cu	63	1	nogas	2.600	8.0	45490	2.5	2	CCB Main CR1 Failed
Zn	66	1	nogas	-0.461	-16.6	2677	5.1	2.5	
Se	77	1	nogas	-1.974	-393.8	11007	7.0	2.5	
Se	82	1	nogas	-1.419	-40.9	-228	-35.6	2	
Sr	88	1	nogas	0.000	-2782.8	1563	9.0	2.5	
Mo	95	1	nogas	0.176	35.4	1000	27.1	2.5	
Ag	107	1	nogas	0.017	41.6	327	23.2	2.5	
Cd	111	1	nogas	0.018	150.9	57	100.3	1	
Sn	118	1	nogas	0.186	31.4	2570	15.2	5	
Sb	121	1	nogas	0.066	24.7	2937	5.8	2.5	
Ba	137	1	nogas	-0.026	-16.3	267	4.3	2.5	
Tl	205	1	nogas	0.230	57.5	4518	53.8	1	
Pb	208	1	nogas	-0.061	-19.4	4567	5.1	2.5	
U	238	1	nogas	0.019	38.0	557	36.0	2.5	
Si	28	1	nogas	-92.435	-12.3	794236	2.0	5	
Au	197	1	nogas	0.887	25.9	6501	26.7	2.5	
Na	23	2	He	287.255	1.8	390606	1.0	100	CCB Main CR1 Failed
Mg	24	2	He	0.134	43.6	2250	1.6	100	
Al	27	2	He	-0.574	-15.5	653	3.2	5	
K	39	2	He	4.631	44.6	52073	2.1	100	
Ca	43	2	He	-21.075	-19.7	17	34.6	100	
Ca	44	2	He	-12.091	-38.3	447	23.9	100	
V	51	2	He	-0.031	-86.9	2444	4.5	2.5	
Cr	52	2	He	-0.021	-38.1	717	5.8	2.5	
Mn	55	2	He	-0.297	-8.8	1133	7.4	2.5	
Fe	56	2	He	0.910	4.8	13679	1.4	100	
Co	59	2	He	0.003	94.7	167	15.1	2.5	
Ni	60	2	He	-0.137	-21.1	297	18.6	2.5	
Cu	63	2	He	0.288	8.4	3560	3.1	2	
Zn	66	2	He	-0.589	-32.7	880	19.0	2.5	
As	75	2	He	0.046	69.2	106	18.5	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.089	30.5	1423	7.1	2.5	
Se	78	2	He	-0.253	-60.3	45	15.7	2	
Ti	47	2	He	0.001	8486.8	10	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	2029584	2.04	2192195	92.58	70	120	
In	115	1	nogas	2141727	1.84	2276906	94.06	70	120	
Li	6	1	nogas	786998	0.23	818910	96.10	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	1743286	2.49	1750172	99.61	70	120	
Ge	72	2	He	504802	0.37	516667	97.70	70	120	
In	115	2	He	742875	1.11	751046	98.91	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	221_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:25:16-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	96.470	0.732	354430	0.48	100	96.5	90	110	
B	11	1	nogas	463.807	0.748	1022283	1.58	500	92.8	90	110	
Al	27	1	nogas	98.601	2.419	1355271	1.46	100	98.6	90	110	
P	31	1	nogas	479.842	1.552	384446	0.46	500	96.0	90	110	
Ca	44	1	nogas	9474.338	1.395	4343792	0.99	10000	94.7	90	110	
Ti	47	1	nogas	94.875	0.660	130200	1.45	100	94.9	90	110	
Cr	52	1	nogas	98.851	2.246	1654180	1.54	100	98.9	90	110	
Co	59	1	nogas	97.562	1.845	1683533	1.60	100	97.6	90	110	
Cu	63	1	nogas	92.883	0.692	850804	1.22	100	92.9	90	110	
Zn	66	1	nogas	97.694	0.460	234022	1.08	100	97.7	90	110	
Se	77	1	nogas	99.349	3.383	23509	2.64	100	99.3	90	110	
Se	82	1	nogas	97.087	2.535	14108	3.48	100	97.1	90	110	
Sr	88	1	nogas	96.277	0.547	2304823	1.61	100	96.3	90	110	
Mo	95	1	nogas	92.476	1.427	413803	1.36	100	92.5	90	110	
Ag	107	1	nogas	91.441	0.937	1044488	1.97	100	91.4	90	110	
Cd	111	1	nogas	95.917	1.085	205031	2.26	100	95.9	90	110	
Sn	118	1	nogas	91.241	0.811	639518	0.96	100	91.2	90	110	
Sb	121	1	nogas	92.576	1.072	864322	1.50	100	92.6	90	110	
Ba	137	1	nogas	95.948	1.951	313706	0.76	100	95.9	90	110	
Tl	205	1	nogas	99.090	1.143	1728206	3.00	100	99.1	90	110	
Pb	208	1	nogas	94.086	2.424	2190866	2.54	100	94.1	90	110	
U	238	1	nogas	96.552	0.372	2481985	1.82	100	96.6	90	110	
Li	7	1	nogas	99.544	0.373	1219436	0.78	100	99.5	90	110	
Si	28	1	nogas	4859.879	0.706	4250347	1.40	5000	97.2	90	110	
Au	197	1	nogas	101.399	2.271	701466	0.25	100	101.4	90	110	
Tl	203	1	nogas	101.900	1.121	664930	1.23	100	101.9	90	110	
Na	23	2	He	10012.312	0.972	9325748	1.75	10000	100.1	90	110	
Mg	24	2	He	9855.055	0.194	4921060	1.18	10000	98.6	90	110	
Al	27	2	He	102.001	1.574	23378	0.87	100	102.0	90	110	
K	39	2	He	9741.288	0.763	4404883	0.53	10000	97.4	90	110	
Ca	43	2	He	9694.984	3.786	13368	2.77	10000	96.9	90	110	
Ca	44	2	He	9610.777	0.969	223952	0.29	10000	96.1	90	110	
V	51	2	He	95.738	0.996	421133	1.10	100	95.7	90	110	
Cr	52	2	He	96.071	1.916	480122	0.94	100	96.1	90	110	
Mn	55	2	He	95.338	1.143	291697	0.23	100	95.3	90	110	
Fe	56	2	He	9691.626	1.230	42782849	0.22	10000	96.9	90	110	
Co	59	2	He	91.582	0.589	716944	0.46	100	91.6	90	110	
Ni	60	2	He	97.531	1.019	187643	1.06	100	97.5	90	110	
Cu	63	2	He	96.697	0.720	490471	0.85	100	96.7	90	110	
Zn	66	2	He	97.598	1.694	87189	1.87	100	97.6	90	110	
As	75	2	He	97.079	0.418	60505	1.46	100	97.1	90	110	
Sb	121	2	He	97.265	0.820	376118	1.85	100	97.3	90	110	
Se	78	2	He	96.723	2.050	4400	1.19	100	96.7	90	110	
Ti	47	2	He	97.116	3.016	13862	2.20	100	97.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag

Continuing Calibration Verification (CCV) Report

Ge	72	1	nogas	2068823	0.97	2192195	94.37	70	120	
In	115	1	nogas	2142340	1.20	2276906	94.09	70	120	
Li	6	1	nogas	736941	0.90	818910	89.99	70	120	
Bi	209	1	nogas	1695135	2.19	1750172	96.86	70	120	
Ge	72	2	He	502235	1.04	516667	97.21	70	120	
In	115	2	He	722714	0.68	751046	96.23	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	222_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:27:39-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	0.030	44.3	212	24.2	1	
B	11	1	nogas	10.617	15.3	55566	6.2	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.191	-34.5	38506	0.9	5	
P	31	1	nogas	1.299	56.5	37053	0.9	10	
Ca	44	1	nogas	-15.657	-8.3	21733	1.9	100	
Ti	47	1	nogas	0.000	-30703.7	250	32.0	2.5	
Cr	52	1	nogas	-0.162	-5.3	20595	2.2	2.5	
Co	59	1	nogas	0.011	120.3	673	30.9	2.5	
Cu	63	1	nogas	0.265	45.1	25642	2.9	2	
Zn	66	1	nogas	-0.568	-11.6	2484	4.9	2.5	
Se	77	1	nogas	-9.299	-19.9	10373	3.6	2.5	
Se	82	1	nogas	-1.380	-16.1	-228	-15.6	2	
Sr	88	1	nogas	-0.010	-37.1	1363	5.0	2.5	
Mo	95	1	nogas	0.206	20.0	1170	15.6	2.5	
Ag	107	1	nogas	0.007	121.9	227	48.6	2.5	
Cd	111	1	nogas	0.012	38.8	47	24.7	1	
Sn	118	1	nogas	0.135	23.4	2287	9.2	5	
Sb	121	1	nogas	0.064	7.7	2977	1.6	2.5	
Ba	137	1	nogas	-0.030	-39.1	263	17.1	2.5	
Tl	205	1	nogas	0.266	50.5	5158	46.6	1	
Pb	208	1	nogas	-0.077	-12.7	4200	6.0	2.5	
U	238	1	nogas	0.020	45.1	580	40.4	2.5	
Si	28	1	nogas	-117.408	-21.4	794337	0.8	5	
Au	197	1	nogas	0.876	34.5	6425	33.4	2.5	
Na	23	2	He	72.773	5.1	190775	1.4	100	
Mg	24	2	He	-1.159	-23.0	1587	8.0	100	
Al	27	2	He	-0.153	-197.2	740	8.1	5	
K	39	2	He	3.052	110.0	50896	2.4	100	
Ca	43	2	He	-23.369	-18.5	13	43.3	100	
Ca	44	2	He	-11.208	-22.5	463	12.6	100	
V	51	2	He	-0.060	-49.7	2296	6.0	2.5	
Cr	52	2	He	0.032	60.8	973	10.0	2.5	
Mn	55	2	He	-0.378	-11.9	877	15.2	2.5	
Fe	56	2	He	0.741	8.9	12811	2.4	100	
Co	59	2	He	0.006	23.6	187	6.2	2.5	
Ni	60	2	He	-0.125	-22.7	317	17.4	2.5	
Cu	63	2	He	0.322	7.6	3700	2.9	2	
Zn	66	2	He	-0.664	-3.2	807	1.4	2.5	
As	75	2	He	0.063	7.0	116	1.7	2.5	
Sb	121	2	He	0.091	13.8	1417	4.1	2.5	
Se	78	2	He	0.112	292.2	61	24.7	2	
Ti	47	2	He	-0.021	-397.1	7	173.2	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	2074652	1.49	2192195	94.64	70	120	
In	115	1	nogas	2214000	2.14	2276906	97.24	70	120	
Li	6	1	nogas	792009	0.56	818910	96.72	70	120	
Bi	209	1	nogas	1749082	0.46	1750172	99.94	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	500292	0.88	516667	96.83	70	120	
In	115	2	He	744942	1.26	751046	99.19	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	225_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:35:03-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	103.218	0.962	385902	0.30	100	103.2	90	110	
B	11	1	nogas	479.374	1.205	1074139	0.05	500	95.9	90	110	
Al	27	1	nogas	104.505	2.238	1474743	2.61	100	104.5	90	110	
P	31	1	nogas	493.242	1.253	405329	0.95	500	98.6	90	110	
Ca	44	1	nogas	9812.410	0.457	4625045	0.88	10000	98.1	90	110	
Ti	47	1	nogas	97.578	2.328	137663	1.51	100	97.6	90	110	
Cr	52	1	nogas	102.081	3.536	1755550	2.69	100	102.1	90	110	
Co	59	1	nogas	105.180	0.801	1866320	1.20	100	105.2	90	110	
Cu	63	1	nogas	97.844	0.408	920285	0.97	100	97.8	90	110	
Zn	66	1	nogas	103.035	0.699	253579	1.51	100	103.0	90	110	
Se	77	1	nogas	97.239	3.046	23909	2.35	100	97.2	90	110	
Se	82	1	nogas	103.320	2.107	15436	1.61	100	103.3	90	110	
Sr	88	1	nogas	101.110	2.729	2493397	0.99	100	101.1	90	110	
Mo	95	1	nogas	98.016	3.029	451823	1.30	100	98.0	90	110	
Ag	107	1	nogas	96.906	2.296	1140299	0.57	100	96.9	90	110	
Cd	111	1	nogas	101.081	2.146	222588	0.79	100	101.1	90	110	
Sn	118	1	nogas	94.072	1.641	679328	0.28	100	94.1	90	110	
Sb	121	1	nogas	96.303	2.228	924293	1.42	100	96.3	90	110	
Ba	137	1	nogas	101.273	2.754	341179	2.08	100	101.3	90	110	
Tl	205	1	nogas	104.687	2.814	1844544	2.84	100	104.7	90	110	
Pb	208	1	nogas	102.048	2.906	2400793	3.06	100	102.0	90	110	
U	238	1	nogas	104.928	2.081	2725324	1.89	100	104.9	90	110	
Li	7	1	nogas	104.466	2.892	1299252	1.99	100	104.5	90	110	
Si	28	1	nogas	4935.029	0.744	4423807	0.25	5000	98.7	90	110	
Au	197	1	nogas	0.020	70.400	310	31.11	100	0.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	107.832	0.909	711030	1.00	100	107.8	90	110	
Na	23	2	He	10278.740	0.723	9629213	0.32	10000	102.8	90	110	
Mg	24	2	He	10271.942	0.921	5160880	1.25	10000	102.7	90	110	
Al	27	2	He	110.391	1.677	25394	1.18	100	110.4	90	110	CCV Main CR1-2 Failed
K	39	2	He	10214.199	1.740	4644844	1.34	10000	102.1	90	110	
Ca	43	2	He	9765.415	2.584	13552	2.65	10000	97.7	90	110	
Ca	44	2	He	9947.475	0.493	233217	0.25	10000	99.5	90	110	
V	51	2	He	102.438	1.020	453211	0.57	100	102.4	90	110	
Cr	52	2	He	102.665	0.662	516248	0.42	100	102.7	90	110	
Mn	55	2	He	103.479	2.138	318403	1.97	100	103.5	90	110	
Fe	56	2	He	10045.194	0.978	44619856	0.54	10000	100.5	90	110	
Co	59	2	He	98.421	0.806	775249	0.42	100	98.4	90	110	
Ni	60	2	He	102.638	0.866	198672	1.23	100	102.6	90	110	
Cu	63	2	He	104.244	0.422	531868	0.67	100	104.2	90	110	
Zn	66	2	He	103.737	0.897	93158	0.84	100	103.7	90	110	
As	75	2	He	102.517	1.319	64281	0.94	100	102.5	90	110	
Sb	121	2	He	101.570	0.989	395115	0.78	100	101.6	90	110	
Se	78	2	He	99.604	0.392	4558	0.83	100	99.6	90	110	
Ti	47	2	He	100.105	1.412	14379	1.44	100	100.1	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	2127242	0.83	2192195	97.04	70	120	
In	115	1	nogas	2207689	1.78	2276906	96.96	70	120	
Li	6	1	nogas	749967	1.20	818910	91.58	70	120	
Bi	209	1	nogas	1712696	0.21	1750172	97.86	70	120	
Ge	72	2	He	505339	0.45	516667	97.81	70	120	
In	115	2	He	730140	0.72	751046	97.22	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	226_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:37:27-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	0.037	66.6	240	40.2	1	
B	11	1	nogas	14.022	10.4	64044	5.2	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.484	-14.6	35674	3.0	5	
P	31	1	nogas	-0.597	-288.4	36769	2.8	10	
Ca	44	1	nogas	-18.267	-9.5	21172	2.7	100	
Ti	47	1	nogas	0.013	107.8	277	7.5	2.5	
Cr	52	1	nogas	-0.199	-24.4	20595	2.9	2.5	
Co	59	1	nogas	0.005	96.7	590	12.8	2.5	
Cu	63	1	nogas	0.133	67.8	25231	3.4	2	
Zn	66	1	nogas	-0.566	-7.5	2567	4.8	2.5	
Se	77	1	nogas	-14.199	-27.7	10073	3.7	2.5	
Se	82	1	nogas	-0.781	-8.2	-145	-7.2	2	
Sr	88	1	nogas	-0.017	-31.1	1170	9.6	2.5	
Mo	95	1	nogas	0.224	23.6	1240	19.8	2.5	
Ag	107	1	nogas	0.004	112.6	180	27.8	2.5	
Cd	111	1	nogas	0.008	144.5	37	68.6	1	
Sn	118	1	nogas	0.208	22.8	2780	12.2	5	
Sb	121	1	nogas	0.061	28.1	3037	4.8	2.5	
Ba	137	1	nogas	-0.027	-71.4	270	23.1	2.5	
Tl	205	1	nogas	0.301	54.2	5801	51.3	1	
Pb	208	1	nogas	-0.092	-14.0	3830	8.7	2.5	
U	238	1	nogas	0.021	37.5	610	34.7	2.5	
Si	28	1	nogas	-172.801	-20.1	779203	3.3	5	
Au	197	1	nogas	0.000	-1169.8	173	16.7	2.5	
Na	23	2	He	38.056	4.4	161303	1.7	100	
Mg	24	2	He	-1.820	-11.0	1277	7.9	100	
Al	27	2	He	-0.303	-221.0	717	20.2	5	
K	39	2	He	1.185	95.7	50789	0.7	100	
Ca	43	2	He	-16.295	-51.5	23	49.5	100	
Ca	44	2	He	-16.747	-15.5	340	17.9	100	
V	51	2	He	-0.078	-29.0	2247	4.5	2.5	
Cr	52	2	He	0.016	166.9	903	14.1	2.5	
Mn	55	2	He	-0.370	-9.4	913	11.1	2.5	
Fe	56	2	He	0.635	18.0	12521	3.5	100	
Co	59	2	He	0.002	521.9	153	42.4	2.5	
Ni	60	2	He	-0.148	-15.3	277	16.3	2.5	
Cu	63	2	He	0.155	19.7	2900	4.7	2	
Zn	66	2	He	-0.546	-10.7	923	6.3	2.5	
As	75	2	He	0.040	134.3	102	32.8	2.5	
Sb	121	2	He	0.061	34.9	1320	6.0	2.5	
Se	78	2	He	-0.009	-2117.7	56	16.4	2	
Ti	47	2	He	-0.022	-359.1	7	173.2	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	2138617	1.24	2192195	97.56	70	120	
In	115	1	nogas	2185765	2.45	2276906	96.00	70	120	
Li	6	1	nogas	799862	0.41	818910	97.67	70	120	
Bi	209	1	nogas	1747651	0.59	1750172	99.86	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	507489	0.70	516667	98.22	70	120	
In	115	2	He	753439	1.07	751046	100.32	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	227_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:39:53-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	103.359	0.258	384622	0.91	100	103.4	90	110	
B	11	1	nogas	493.487	1.279	1099818	2.08	500	98.7	90	110	
Al	27	1	nogas	103.973	2.302	1472137	0.14	100	104.0	90	110	
P	31	1	nogas	488.155	1.912	402883	0.78	500	97.6	90	110	
Ca	44	1	nogas	9764.056	2.475	4617220	0.48	10000	97.6	90	110	
Ti	47	1	nogas	96.226	1.829	136239	1.77	100	96.2	90	110	
Cr	52	1	nogas	101.289	1.641	1748278	0.71	100	101.3	90	110	
Co	59	1	nogas	102.074	1.510	1817294	0.87	100	102.1	90	110	
Cu	63	1	nogas	96.502	2.451	910945	1.04	100	96.5	90	110	
Zn	66	1	nogas	102.167	0.598	252350	1.82	100	102.2	90	110	
Se	77	1	nogas	93.449	8.131	23515	4.07	100	93.4	90	110	
Se	82	1	nogas	101.598	5.492	15229	5.04	100	101.6	90	110	
Sr	88	1	nogas	100.741	1.881	2441467	1.35	100	100.7	90	110	
Mo	95	1	nogas	98.272	1.146	445218	0.90	100	98.3	90	110	
Ag	107	1	nogas	98.452	0.641	1138551	1.18	100	98.5	90	110	
Cd	111	1	nogas	102.631	1.671	222096	1.65	100	102.6	90	110	
Sn	118	1	nogas	94.636	2.152	671514	1.57	100	94.6	90	110	
Sb	121	1	nogas	94.419	1.594	909402	0.75	100	94.4	90	110	
Ba	137	1	nogas	102.723	0.280	340071	0.47	100	102.7	90	110	
Tl	205	1	nogas	106.111	1.081	1851521	0.52	100	106.1	90	110	
Pb	208	1	nogas	104.583	2.606	2436573	2.83	100	104.6	90	110	
U	238	1	nogas	106.044	1.345	2727834	1.42	100	106.0	90	110	
Li	7	1	nogas	103.339	1.444	1279901	0.90	100	103.3	90	110	
Si	28	1	nogas	4929.969	2.391	4434991	0.86	5000	98.6	90	110	
Au	197	1	nogas	0.005	143.646	207	24.83	100	0.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	108.879	2.104	710964	1.70	100	108.9	90	110	
Na	23	2	He	10276.003	1.162	9504992	0.41	10000	102.8	90	110	
Mg	24	2	He	10304.020	0.831	5111437	0.12	10000	103.0	90	110	
Al	27	2	He	106.731	3.792	24266	3.10	100	106.7	90	110	
K	39	2	He	10195.419	1.746	4577719	0.78	10000	102.0	90	110	
Ca	43	2	He	10079.308	3.546	13809	3.34	10000	100.8	90	110	
Ca	44	2	He	10136.103	1.799	234615	1.18	10000	101.4	90	110	
V	51	2	He	103.311	1.096	451277	0.22	100	103.3	90	110	
Cr	52	2	He	102.886	0.756	510836	0.77	100	102.9	90	110	
Mn	55	2	He	102.698	1.656	312013	0.76	100	102.7	90	110	
Fe	56	2	He	9966.869	2.016	43710366	1.13	10000	99.7	90	110	
Co	59	2	He	98.567	2.430	766525	1.51	100	98.6	90	110	
Ni	60	2	He	103.680	1.225	198136	0.33	100	103.7	90	110	
Cu	63	2	He	104.461	1.727	526209	1.07	100	104.5	90	110	
Zn	66	2	He	104.291	0.412	92468	0.71	100	104.3	90	110	
As	75	2	He	103.763	0.474	64242	0.47	100	103.8	90	110	
Sb	121	2	He	102.650	1.558	394245	0.66	100	102.6	90	110	
Se	78	2	He	104.823	0.550	4733	0.87	100	104.8	90	110	
Ti	47	2	He	102.962	4.889	14599	4.13	100	103.0	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	2134891	2.34	2192195	97.39	70	120	
In	115	1	nogas	2169070	0.69	2276906	95.26	70	120	
Li	6	1	nogas	746400	0.84	818910	91.15	70	120	
Bi	209	1	nogas	1696207	0.78	1750172	96.92	70	120	
Ge	72	2	He	498975	0.94	516667	96.58	70	120	
In	115	2	He	730386	1.26	751046	97.25	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	234_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:56:26-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	98.489	0.909	351816	0.47	100	98.5	90	110	
B	11	1	nogas	473.995	0.078	1015131	0.84	500	94.8	90	110	
Al	27	1	nogas	104.141	2.072	1423592	1.99	100	104.1	90	110	
P	31	1	nogas	488.425	0.172	389155	0.69	500	97.7	90	110	
Ca	44	1	nogas	9706.346	1.141	4431885	1.03	10000	97.1	90	110	
Ti	47	1	nogas	97.540	1.968	133309	1.82	100	97.5	90	110	
Cr	52	1	nogas	103.149	0.233	1718407	0.78	100	103.1	90	110	
Co	59	1	nogas	104.993	2.299	1804453	1.76	100	105.0	90	110	
Cu	63	1	nogas	97.753	0.553	890618	0.68	100	97.8	90	110	
Zn	66	1	nogas	108.640	0.834	258782	1.30	100	108.6	90	110	
Se	77	1	nogas	76.497	10.245	20652	4.19	100	76.5	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	105.366	3.447	15250	3.52	100	105.4	90	110	
Sr	88	1	nogas	100.615	0.797	2438567	0.45	100	100.6	90	110	
Mo	95	1	nogas	96.569	0.449	437533	0.77	100	96.6	90	110	
Ag	107	1	nogas	95.271	1.102	1101755	1.11	100	95.3	90	110	
Cd	111	1	nogas	100.294	0.744	217044	0.56	100	100.3	90	110	
Sn	118	1	nogas	92.608	0.870	657264	1.76	100	92.6	90	110	
Sb	121	1	nogas	95.309	0.689	886225	1.26	100	95.3	90	110	
Ba	137	1	nogas	100.647	1.446	333214	1.45	100	100.6	90	110	
Tl	205	1	nogas	107.721	1.472	1792669	1.56	100	107.7	90	110	
Pb	208	1	nogas	105.046	1.153	2333965	1.34	100	105.0	90	110	
U	238	1	nogas	105.533	1.593	2589084	1.92	100	105.5	90	110	
Li	7	1	nogas	98.027	1.498	1168364	0.85	100	98.0	90	110	
Si	28	1	nogas	5153.109	1.310	4436004	0.48	5000	103.1	90	110	
Au	197	1	nogas	-0.006	-57.738	123	18.72	100	0.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	111.132	1.980	692143	2.26	100	111.1	90	110	CCV Main CR1-2 Failed
Na	23	2	He	9955.947	1.750	8816133	1.91	10000	99.6	90	110	
Mg	24	2	He	10024.051	0.794	4758384	1.00	10000	100.2	90	110	
Al	27	2	He	107.688	1.448	23425	1.68	100	107.7	90	110	
K	39	2	He	10110.092	1.941	4344294	1.66	10000	101.1	90	110	
Ca	43	2	He	9952.174	5.576	13048	5.62	10000	99.5	90	110	
Ca	44	2	He	10029.240	1.224	222152	1.15	10000	100.3	90	110	
V	51	2	He	102.975	0.959	430440	0.99	100	103.0	90	110	
Cr	52	2	He	103.066	0.910	489664	0.92	100	103.1	90	110	
Mn	55	2	He	103.553	0.835	301047	0.60	100	103.6	90	110	
Fe	56	2	He	9998.705	0.492	41963064	0.33	10000	100.0	90	110	
Co	59	2	He	98.599	1.265	733790	1.03	100	98.6	90	110	
Ni	60	2	He	104.245	1.003	190630	0.76	100	104.2	90	110	
Cu	63	2	He	105.646	0.736	509251	1.01	100	105.6	90	110	
Zn	66	2	He	110.325	0.857	93523	0.91	100	110.3	90	110	CCV Main CR1-2 Failed
As	75	2	He	104.786	1.027	62077	0.75	100	104.8	90	110	
Sb	121	2	He	103.446	1.146	380188	1.09	100	103.4	90	110	
Se	78	2	He	101.984	4.351	4408	4.26	100	102.0	90	110	
Ti	47	2	He	100.400	1.616	13625	1.36	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	2060560	0.57	2192195	94.00	70	120	
In	115	1	nogas	2169193	1.22	2276906	95.27	70	120	
Li	6	1	nogas	716517	0.77	818910	87.50	70	120	
Bi	209	1	nogas	1617663	0.54	1750172	92.43	70	120	
Ge	72	2	He	477449	0.27	516667	92.41	70	120	
In	115	2	He	710640	2.11	751046	94.62	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	235_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:58:49-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	0.078	17.1	387	13.1	1	
B	11	1	nogas	20.466	8.4	75417	4.9	10	CCB Main CR1 Failed
Al	27	1	nogas	1.247	12.2	57263	3.5	5	
P	31	1	nogas	-0.254	-698.0	35621	2.4	10	
Ca	44	1	nogas	-7.725	-16.2	25157	3.6	100	
Ti	47	1	nogas	0.078	83.4	353	24.1	2.5	
Cr	52	1	nogas	-0.229	-12.9	19317	1.4	2.5	
Co	59	1	nogas	0.015	63.8	740	22.7	2.5	
Cu	63	1	nogas	0.586	16.7	28279	2.0	2	
Zn	66	1	nogas	3.797	3.1	12695	2.2	2.5	CCB Main CR1 Failed
Se	77	1	nogas	-22.883	-20.7	8649	6.8	2.5	
Se	82	1	nogas	-1.093	-28.0	-184	-24.1	2	
Sr	88	1	nogas	0.044	30.9	2577	11.4	2.5	
Mo	95	1	nogas	0.242	21.6	1277	19.6	2.5	
Ag	107	1	nogas	0.011	25.6	260	13.9	2.5	
Cd	111	1	nogas	0.024	31.0	70	24.7	1	
Sn	118	1	nogas	0.209	32.0	2694	17.9	5	
Sb	121	1	nogas	0.099	30.4	3274	8.4	2.5	
Ba	137	1	nogas	0.078	21.5	597	11.4	2.5	
Tl	205	1	nogas	0.311	54.9	5738	51.9	1	
Pb	208	1	nogas	1.756	6.1	46243	5.7	2.5	
U	238	1	nogas	0.025	45.2	697	42.0	2.5	
Si	28	1	nogas	8.235	400.1	874594	1.3	5	CCB Main CR1 Failed
Au	197	1	nogas	0.000	-548.1	167	9.2	2.5	
Na	23	2	He	5.285	15.5	126018	0.8	100	
Mg	24	2	He	1.786	10.8	2980	2.7	100	
Al	27	2	He	1.269	39.1	1030	10.8	5	
K	39	2	He	7.219	2.2	51534	0.6	100	
Ca	43	2	He	-18.158	-41.6	20	50.0	100	
Ca	44	2	He	-0.698	-510.4	690	11.5	100	
V	51	2	He	-0.030	-32.1	2370	1.3	2.5	
Cr	52	2	He	0.013	193.4	857	13.9	2.5	
Mn	55	2	He	-0.119	-26.6	1623	6.2	2.5	
Fe	56	2	He	23.248	2.1	109169	1.6	100	
Co	59	2	He	0.011	56.4	217	21.3	2.5	
Ni	60	2	He	-0.096	-62.0	363	30.2	2.5	
Cu	63	2	He	0.265	12.2	3337	4.3	2	
Zn	66	2	He	4.164	0.8	4917	0.3	2.5	CCB Main CR1 Failed
As	75	2	He	0.059	48.4	110	16.0	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.111	15.2	1460	4.2	2.5	
Se	78	2	He	-0.114	-461.6	49	47.0	2	
Ti	47	2	He	-0.020	-208.7	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	2057609	1.40	2192195	93.86	70	120	
In	115	1	nogas	2108768	2.53	2276906	92.62	70	120	
Li	6	1	nogas	763383	0.39	818910	93.22	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	1680284	0.64	1750172	96.01	70	120	
Ge	72	2	He	488682	0.46	516667	94.58	70	120	
In	115	2	He	725849	0.14	751046	96.64	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	239_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T23:08:24-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	99.646	0.536	339344	0.54	100	99.6	90	110	
B	11	1	nogas	472.799	1.630	965295	0.75	500	94.6	90	110	
Al	27	1	nogas	103.374	4.941	1385231	2.78	100	103.4	90	110	
P	31	1	nogas	480.429	2.604	375847	0.77	500	96.1	90	110	
Ca	44	1	nogas	9616.520	2.257	4305082	0.45	10000	96.2	90	110	
Ti	47	1	nogas	96.865	2.952	129781	0.87	100	96.9	90	110	
Cr	52	1	nogas	100.667	3.076	1644582	1.44	100	100.7	90	110	
Co	59	1	nogas	101.191	2.936	1705537	3.25	100	101.2	90	110	
Cu	63	1	nogas	95.685	2.003	855225	1.01	100	95.7	90	110	
Zn	66	1	nogas	107.004	2.719	249919	0.59	100	107.0	90	110	
Se	77	1	nogas	81.226	10.511	20805	3.74	100	81.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	102.684	2.608	14576	4.00	100	102.7	90	110	
Sr	88	1	nogas	101.455	3.084	2357849	1.29	100	101.5	90	110	
Mo	95	1	nogas	99.313	5.218	431263	2.50	100	99.3	90	110	
Ag	107	1	nogas	96.657	3.229	1071777	1.14	100	96.7	90	110	
Cd	111	1	nogas	102.578	3.544	212826	0.11	100	102.6	90	110	
Sn	118	1	nogas	94.529	2.333	643319	1.18	100	94.5	90	110	
Sb	121	1	nogas	95.430	1.629	870001	0.68	100	95.4	90	110	
Ba	137	1	nogas	103.159	3.879	327400	0.44	100	103.2	90	110	
Tl	205	1	nogas	109.525	4.589	1762798	2.26	100	109.5	90	110	
Pb	208	1	nogas	106.445	4.616	2286892	0.96	100	106.4	90	110	
U	238	1	nogas	107.956	2.633	2562517	1.98	100	108.0	90	110	
Li	7	1	nogas	102.325	4.859	1160326	4.44	100	102.3	90	110	
Si	28	1	nogas	5018.257	2.641	4257748	0.38	5000	100.4	90	110	
Au	197	1	nogas	0.006	50.154	193	7.90	100	0.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	111.370	3.729	670868	0.82	100	111.4	90	110	CCV Main CR1-2 Failed
Na	23	2	He	9690.731	1.216	8473174	0.70	10000	96.9	90	110	
Mg	24	2	He	9832.918	2.231	4606878	1.27	10000	98.3	90	110	
Al	27	2	He	109.575	1.076	23515	1.33	100	109.6	90	110	
K	39	2	He	9943.021	0.802	4218264	0.83	10000	99.4	90	110	
Ca	43	2	He	9700.843	1.499	12554	0.63	10000	97.0	90	110	
Ca	44	2	He	9810.260	2.041	214504	1.69	10000	98.1	90	110	
V	51	2	He	101.262	0.607	417855	0.44	100	101.3	90	110	
Cr	52	2	He	102.132	1.419	478947	0.71	100	102.1	90	110	
Mn	55	2	He	103.057	1.139	295739	0.14	100	103.1	90	110	
Fe	56	2	He	10035.701	1.298	41573008	0.60	10000	100.4	90	110	
Co	59	2	He	98.889	1.234	726427	0.36	100	98.9	90	110	
Ni	60	2	He	104.325	0.079	188324	1.07	100	104.3	90	110	
Cu	63	2	He	104.358	1.186	496548	0.35	100	104.4	90	110	
Zn	66	2	He	108.296	0.972	90642	0.97	100	108.3	90	110	
As	75	2	He	103.872	0.642	60746	1.46	100	103.9	90	110	
Sb	121	2	He	103.954	0.828	377112	0.23	100	104.0	90	110	
Se	78	2	He	101.802	1.423	4343	0.98	100	101.8	90	110	
Ti	47	2	He	100.944	1.401	13522	0.70	100	100.9	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	2020817	2.28	2192195	92.18	70	120	
In	115	1	nogas	2081287	3.50	2276906	91.41	70	120	
Li	6	1	nogas	683087	1.01	818910	83.41	70	120	
Bi	209	1	nogas	1566087	3.82	1750172	89.48	70	120	
Ge	72	2	He	471300	1.00	516667	91.22	70	120	
In	115	2	He	702428	1.28	751046	93.53	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	240_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T23:10:48-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	0.051	28.0	273	19.6	1	
B	11	1	nogas	17.743	9.8	66680	5.9	10	CCB Main CR1 Failed
Al	27	1	nogas	0.879	4.5	50918	2.9	5	
P	31	1	nogas	-0.001	-156345.9	34799	1.9	10	
Ca	44	1	nogas	-15.935	-13.5	20815	2.4	100	
Ti	47	1	nogas	0.017	288.1	263	24.7	2.5	
Cr	52	1	nogas	-0.174	-11.2	19657	1.9	2.5	
Co	59	1	nogas	0.014	8.0	713	2.1	2.5	
Cu	63	1	nogas	-0.062	-4.0	21907	2.0	2	
Zn	66	1	nogas	3.596	5.5	11874	2.4	2.5	CCB Main CR1 Failed
Se	77	1	nogas	-18.520	-37.1	8906	7.2	2.5	
Se	82	1	nogas	-0.271	-341.9	-63	-207.6	2	
Sr	88	1	nogas	0.017	40.6	1957	10.8	2.5	
Mo	95	1	nogas	0.235	25.1	1247	21.3	2.5	
Ag	107	1	nogas	0.013	13.3	280	9.4	2.5	
Cd	111	1	nogas	0.013	163.7	47	99.0	1	
Sn	118	1	nogas	0.426	16.2	4191	12.0	5	
Sb	121	1	nogas	0.084	31.4	3050	7.1	2.5	
Ba	137	1	nogas	0.059	11.6	537	2.8	2.5	
Tl	205	1	nogas	0.296	47.8	5324	42.7	1	
Pb	208	1	nogas	1.104	11.3	30548	6.9	2.5	
U	238	1	nogas	0.026	40.6	703	35.8	2.5	
Si	28	1	nogas	-15.992	-116.2	833859	2.6	5	
Au	197	1	nogas	-0.006	-77.5	123	26.1	2.5	
Na	23	2	He	-12.057	-15.3	108123	0.8	100	
Mg	24	2	He	1.101	49.4	2590	9.6	100	
Al	27	2	He	1.029	55.8	957	12.4	5	
K	39	2	He	5.893	36.9	49860	2.0	100	
Ca	43	2	He	-15.351	-75.3	23	65.5	100	
Ca	44	2	He	-7.875	-27.5	517	9.7	100	
V	51	2	He	0.127	2.7	2972	0.4	2.5	
Cr	52	2	He	0.003	372.0	790	6.3	2.5	
Mn	55	2	He	-0.251	-1.9	1207	0.5	2.5	
Fe	56	2	He	13.450	2.4	65646	1.4	100	
Co	59	2	He	0.007	100.3	183	28.0	2.5	
Ni	60	2	He	-0.141	-33.0	273	30.5	2.5	
Cu	63	2	He	0.329	4.2	3574	2.2	2	
Zn	66	2	He	4.008	3.4	4681	1.7	2.5	CCB Main CR1 Failed
As	75	2	He	0.065	33.7	111	12.1	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.105	23.4	1407	6.5	2.5	
Se	78	2	He	0.067	176.6	56	9.4	2	
Ti	47	2	He	0.079	92.2	20	50.0	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	1999575	2.09	2192195	91.21	70	120	
In	115	1	nogas	2111696	2.58	2276906	92.74	70	120	
Li	6	1	nogas	733585	0.40	818910	89.58	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	1645774	2.44	1750172	94.04	70	120	
Ge	72	2	He	478158	0.74	516667	92.55	70	120	
In	115	2	He	714122	0.31	751046	95.08	70	120	

Tune Report

Batch Folder C:\Agilent\ICPMH\1\DATA\061520A.b
Report Comment
Instrument Name G3281A JP11080910

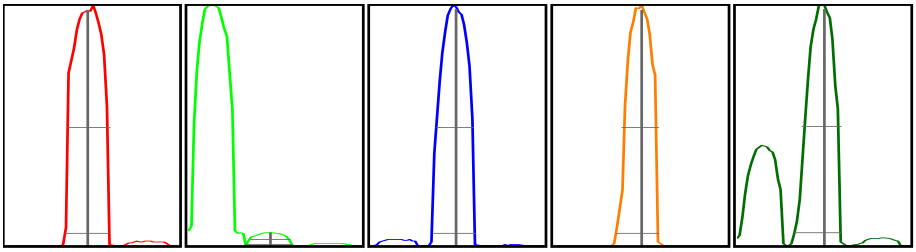
[nogas]

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		17387				NaN	-	
24		57760				NaN	-	
59		70122				NaN	-	
115		94484				NaN	-	
208		52783				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	1.28	5.00				
24	0.90	5.00				
59	0.30	5.00				
115	0.51	5.00				
208	0.77	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	17096	17385	17525	17667	17260
24	57251	57805	58448	58044	57250
59	69953	70194	70392	70207	69865
115	93827	94824	94886	94785	94099
208	52296	53154	53147	52902	52415

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	2723.35	8.95	8.9 - 9.1		0.68	0.763		
24	9291.06	23.95	23.9 - 24.1		0.67	0.788		
59	11795.84	59.00	58.9 - 59.1		0.64	0.741		
115	17216.30	115.05	114.9 - 115.1		0.58	0.718		
208	9227.60	208.05	207.9 - 208.1		0.61	0.792		

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		411				NaN	-	
24		3637				NaN	-	
59		38907				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	4.71	5.00				
24	1.41	5.00				
59	0.40	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	387	394	433	420	421
24	3710	3644	3579	3598	3656
59	38965	38680	38816	39018	39054

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	68.68	9.00	8.9 - 9.1		0.65	0.748		
24	592.82	23.95	23.9 - 24.1		0.66	0.785		
59	6606.51	59.00	58.9 - 59.1		0.63	0.739		

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 %		

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

WorkOrder: HS20060451

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

30-Jun-2020

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

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HS20060451 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS20060451

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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June 24, 2020

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

Work Order: **HS20060451**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Jun 10, 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: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060451

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20060451-01	LH18/24-SP650_060920	Water		09-Jun-2020 14:00	10-Jun-2020 09:40	☐
HS20060451-02	LH18/24-SP650_060920-BIX	Water		09-Jun-2020 14:00	10-Jun-2020 09:40	☐

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060451

Work Order Comments

• The analysis for Perchlorate was subcontracted to ALS Houston TX, High Resolution. Laboratory. 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: R363292

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

WetChemistry by Method E365.3

Batch ID: R363047

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

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Sample ID: LH18/24-SP650_060920
Collection Date: 09-Jun-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20060451
Lab ID:HS20060451-01
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)	**16**	a	**0.20**	**0.10**	**0.20**	**mg/L**	1	16-Jun-2020 09:30
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**2.64**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	10-Jun-2020 16:06
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	18-Jun-2020 09:43

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

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20060451
Sample ID: LH18/24-SP650_060920-BIX
Lab ID:HS20060451-02
Collection Date: 09-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	24-Jun-2020 12:04

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

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060451

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R363047 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20060451-01	LH18/24-SP650_060920	09 Jun 2020 14:00			10 Jun 2020 16:06	10
Batch ID: R363292 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20060451-01	LH18/24-SP650_060920	09 Jun 2020 14:00			16 Jun 2020 09:30	1
Batch ID: R363461 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20060451-01	LH18/24-SP650_060920	09 Jun 2020 14:00			18 Jun 2020 09:43	1
Batch ID: R363823 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20060451-02	LH18/24-SP650_060920-BIX	09 Jun 2020 14:00			24 Jun 2020 12:04	1

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060451

QC BATCH REPORT

Batch ID: R363047 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

MBLK Sample ID: **MBLK-363047** Units: **mg/L** Analysis Date: **10-Jun-2020 16:06**
Client ID: Run ID: **UV-2450_363047** SeqNo: **5615075** 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-363047** Units: **mg/L** Analysis Date: **10-Jun-2020 16:06**
Client ID: Run ID: **UV-2450_363047** SeqNo: **5615076** 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)	0.238	0.0250	0.25	0	95.2	85 - 115				

LCSD Sample ID: **LCSD-363047** Units: **mg/L** Analysis Date: **10-Jun-2020 16:06**
Client ID: Run ID: **UV-2450_363047** SeqNo: **5615077** 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)	0.248	0.0250	0.25	0	99.2	85 - 115	0.238	4.12	20	

MS Sample ID: **HS20060451-01MS** Units: **mg/L** Analysis Date: **10-Jun-2020 16:06**
Client ID: **LH18/24-SP650_060920** Run ID: **UV-2450_363047** SeqNo: **5615079** 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)	4.88	0.250	2.5	2.64	89.6	80 - 120				

MSD Sample ID: **HS20060451-01MSD** Units: **mg/L** Analysis Date: **10-Jun-2020 16:06**
Client ID: **LH18/24-SP650_060920** Run ID: **UV-2450_363047** SeqNo: **5615080** 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)	4.9	0.250	2.5	2.64	90.4	80 - 120	4.88	0.409	20	

The following samples were analyzed in this batch: HS20060451-01

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060451

QC BATCH REPORT

Batch ID: R363292 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-363292** Units: **mg/L** Analysis Date: **16-Jun-2020 09:30**
Client ID: Run ID: **WetChem_HS_363292** SeqNo: **5620573** 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-363292** Units: **mg/L** Analysis Date: **16-Jun-2020 09:30**
Client ID: Run ID: **WetChem_HS_363292** SeqNo: **5620574** 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)	11.36	0.20	10	0	114	80 - 120				

MS Sample ID: **HS20060382-01MS** Units: **mg/L** Analysis Date: **16-Jun-2020 09:30**
Client ID: Run ID: **WetChem_HS_363292** SeqNo: **5620576** 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)	10.43	0.20	10	0.16	103	80 - 120				

MSD Sample ID: **HS20060382-01MSD** Units: **mg/L** Analysis Date: **16-Jun-2020 09:30**
Client ID: Run ID: **WetChem_HS_363292** SeqNo: **5620577** 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)	9.98	0.20	10	0.16	98.2	80 - 120	10.43	4.41	20	

The following samples were analyzed in this batch: HS20060451-01

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20060451**

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: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060451

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20060451-01	LH18/24-SP650_060920	Login	6/10/2020 12:21:02 PM	PMG	WET073
HS20060451-01	LH18/24-SP650_060920	Login	6/10/2020 12:21:02 PM	PMG	WET073
HS20060451-01	LH18/24-SP650_060920	Login	6/10/2020 12:21:02 PM	PMG	Sub
HS20060451-02	LH18/24-SP650_060920-BIX	Login	6/10/2020 12:21:02 PM	PMG	Sub

ALS Houston, US Date: 24-Jun-20

Sample Receipt Checklist

Work Order ID: HS20060451 **Date/Time Received:** 10-Jun-2020 09:40

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

Completed By:	/S/ Paresh M. Giga	10-Jun-2020 12:22	**Reviewed by:**	/S/ RJ Modashia	10-Jun-2020 14:46
	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):	1.5C U/C	IR25		
Cooler(s)/Kit(s):	24976			
Date/Time sample(s) sent to storage:	6/10/2020 12:30			
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

HS20060451

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_060920	Water	06/09/20 / 14:00		3	X	X			H2SO4	
LH18/24-SP650_060920	Water	06/09/20 / 14:00		1			X		NONE	
LH18/24–SP650_060920_BIX	Water	06/09/20 / 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	06/09/20	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. Mannion	6/10/20	09:40							

Remarks: Cooler 24976 IR25
Temp 1.5°C CF 0.0

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

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

24976

CUSTODY SEAL

Date: 6/9/20 Time: 1430
Name: SCOTT BEESINGER
Company: BHATE

Seal Broken By: SM
Date: 06/10/20

24976 JUN 10 2020

Must Deliver Next Business Day
Time and Tempature Sensitive!

24976

ORIGIN ID:SGRA (903) 930-8133
SCOTT BEESINGER
APTIM ENVIRONMENTAL & INFASTRUCTURE
1203-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 02DEC19
ACTWGT: 1.00 LB MAN
CAD: 300130/CAFE3211
DIMS: 19x16x13 IN

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

RMA:

FedEx Express

FedEx
TRK# 0221 1251 0292 4585

WED - 10 JUN 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

June 24, 2020 Service Request No:E2000510

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

Laboratory Results for: HS20060451

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 11, 2020
For your reference, these analyses have been assigned our service request number **E2000510.**

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.:**	E2000510
Project:	HS20060451	**Date Received:**	06/11/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 06/11/20.

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:

EQ2000238: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits; 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:**E2000510
Project: HS20060451

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000510-001	LH18/24-SP650_060920_BIX	6/9/2020	1400

Service Request Summary

Folder #: **E2000510**
Client Name: ALS Environmental - US
Project Name: HS20060451
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: 06/11/20
Internal Due Date: 6/24/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060451
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
E2000510-001	LH18/24-SP650_060920_BIX	Ground Water	06/09/20 1400	IV

Service Request Summary

Folder #: **E2000510**
Client Name: ALS Environmental - US
Project Name: HS20060451
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: 06/11/20
Internal Due Date: 6/24/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060451
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 7/1,level II 6/24

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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www.alsglobal.com

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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:** **14070**

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:	HS20060451
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060451-02**	**LH18/24-SP650_060920-BIX**	**Water**	**09 Jun 2020 14:00**
	SUB_Perch-6850			18 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: 6/11/20 1000

Cooler ID(s): _____ Temperature(s): _____

Cooler Receipt Form

ALS Environmental

Project Chemist CG

Client/Project ALS-H

Thermometer ID 5M04

Date/Time Received: 6/11/20 Initials: CG Date/Time Logged in: 6/11/20 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

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

3. Were custody seals on coolers? ○ Yes ✓ No If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

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

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

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		6/11/20	1000	CG	3.1/3.5	☒
						☐
						☐
						☐

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:

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Houston, TX 77099
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F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
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Preparation Information Benchsheet

Prep Run#: 360212 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 6/17/20 10:43

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000501-001	18CPTMW14_060420	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000501-002	18CPTMW24_060420	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000501-003	18WW25_060420	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000501-004	18WW10_060420	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000501-005	MW13_060420	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000501-006	CO2_060420	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000510-001	LH18/24-SP650_060920_BIX	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000511-001	KAFB7-WW01-060820	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000535-001	18CPTMW035W_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000535-002	MW21_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000535-003	18CPTMW07_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2000538-001	MW5_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2000538-002	18CPTMW08DW_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2000538-003	18CPTMW08SW_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2000538-004	MW23_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2000538-005	CO1_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2000538-006	MW16_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2000538-007	18CPTMW18_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
19	E2000538-008	CO3_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
20	EQ2000238-01	MB		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000238-02	LCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000238-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
23	EQ2000238-04	CO1_060920 MS	.01	6850/ClO4 DOD			Liquid	10mL	
24	EQ2000238-05	CO1_060920 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

EQ2000238-02 100.00µL EQ2000238-03 100.00µL EQ2000238-04 100.00µL EQ2000238-05 100.00µL

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

E2000501-001 1.00µL E2000501-002 1.00µL E2000501-003 1.00µL E2000501-004 1.00µL E2000501-005 1.00µL E2000501-006 1.00µL
E2000538-005 1.00µL EQ2000238-01 1.00µL EQ2000238-02 1.00µL EQ2000238-03 1.00µL EQ2000238-04 1.00µL EQ2000238-05 1.00µL

Preparation Information Benchsheet

Prep Run#: 360212
Team: Semivoa GCMS/GRIVERA
Prep WorkFlow: GenExt28Day
Prep Method: Method
Status: Prepped
Prep Date/Time: 6/17/20 10:43

Preparation Steps

Step: Preparation
Started: 6/17/20 10:43
Finished: 6/17/20 16:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: _____ Date: _____

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:**	E2000510
Project:	HS20060451	**Date Collected:**	6/ 9/20 1400
Sample Matrix:	Ground Water	**Date Received:**	6/11/20
Sample Name:	LH18/24-SP650_060920_BIX	**Units:**	µg/L
Lab Code:	E2000510-001	**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	**0.0890**	J	0.100	0.0500	0.0250	1	6/17/20	6/22/20 12:14	360212	684542	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	E2000538-005	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.887**		0.100	0.0500	0.0250	1	6/17/20	6/22/20 11:58	360212	684542	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000238-01	**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	6/17/20	6/22/20 11:18	360212	684542	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060451
Sample Matrix: Ground Water

Service Request: E2000510
Date Analyzed: 6/22/20

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: 360212

	Lab Control Sample EQ2000238-02			Duplicate Lab Control Sample EQ2000238-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.107	0.100	107	0.114	0.100	114	84 - 119	6	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:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000238-02	**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	**0.107**		0.100	0.0500	0.0250	1	6/17/20	6/22/20 11:26	360212	684542	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000238-03	**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	0.0500	0.0250	1	6/17/20	6/22/20 11:34	360212	684542	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
		Date Analyzed:	6/22/20

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:	E2000538-005	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		Batch QCMS				Batch QCDMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2000238-04				EQ2000238-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**		**Result**	**Spike Amount**	**% Rec**		**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.887	0.983	0.100	96	#	0.982	0.100	95	#	84 - 119	<1	15

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

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000238-04	**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	**0.983**		0.100	0.0500	0.0250	1	6/17/20	6/22/20 11:42	360212	684542	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000238-05	**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	**0.982**		0.100	0.0500	0.0250	1	6/17/20	6/22/20 11:50	360212	684542	

Initial Calibration

ALS Environmental - Houston HRMS
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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

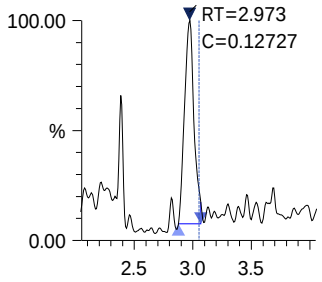
Date acquired: 6/2/2020 3:37:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_009.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

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

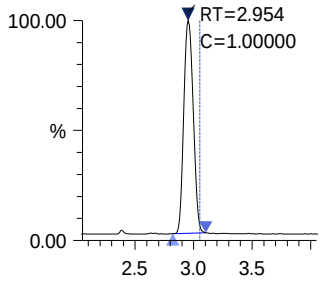
Q 99.00>83.00 (-) 4.13e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 137060

ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

PERCHLORATE2

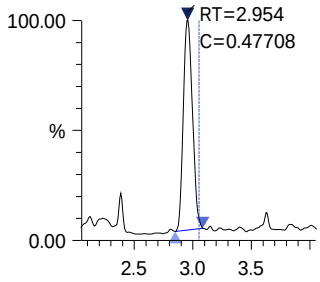
Date acquired: 6/2/2020 3:45:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_010.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

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

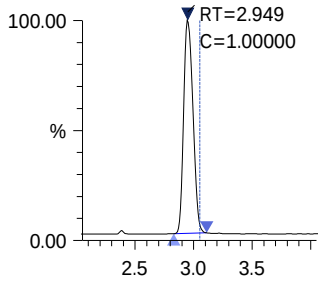
Q 99.00>83.00 (-) 1.56e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 138722

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

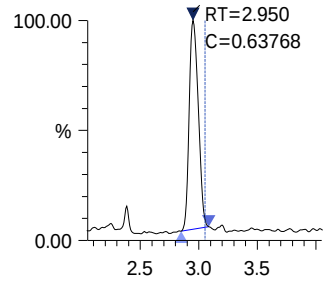
PERCHLORATE3

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

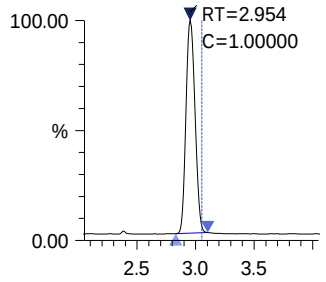
Perchlorate

Conc 0.63768
Area 11656



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 142915



ALS Group Houston

PERCHLORATE4

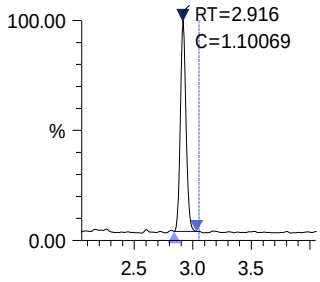
Date acquired: 6/2/2020 4:05:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_012.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

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

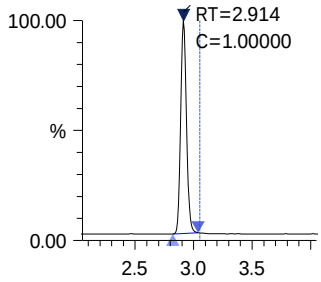
Q 99.00>83.00 (-) 5.42e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128706

ISTD 107.00>89.00 (-) 3.72e4



ALS Group Houston

PERCHLORATE5

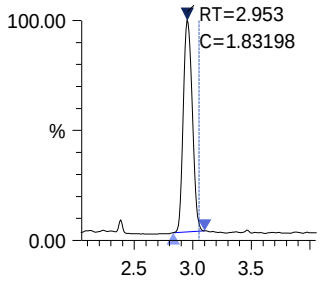
Date acquired: 6/2/2020 4:13:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_013.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

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

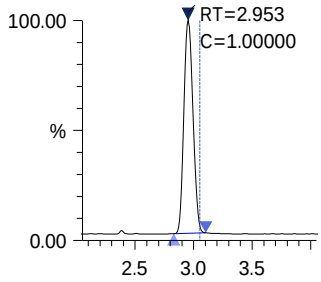
Q 99.00>83.00 (-) 6.29e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 144982

ISTD 107.00>89.00 (-) 2.71e4



ALS Group Houston

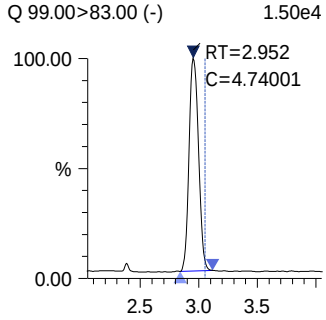
PERCHLORATE6

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

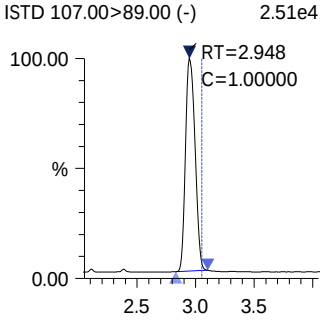
Perchlorate

Conc 4.74001
Area 85178



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 140500



ALS Group Houston

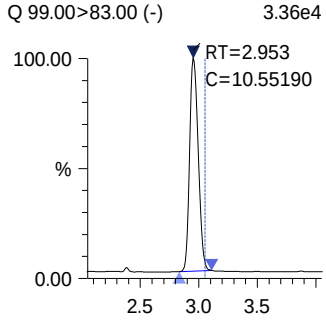
PERCHLORATE7

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

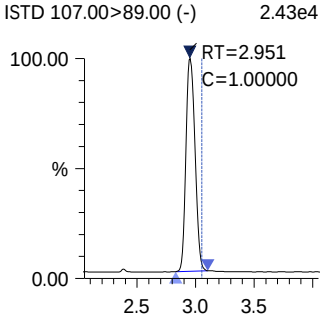
Perchlorate

Conc 10.55190
Area 173998



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128928



ALS Group Houston

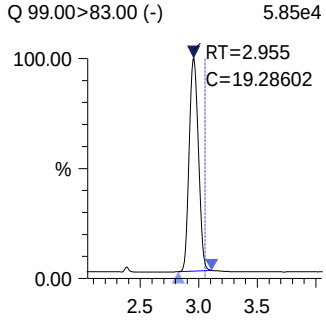
PERCHLORATE8

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

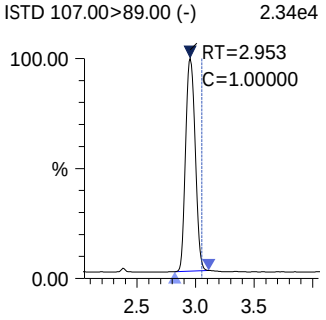
Perchlorate

Conc 19.28602
Area 324944



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 131734



ALS Group Houston

PERCHLORATE9

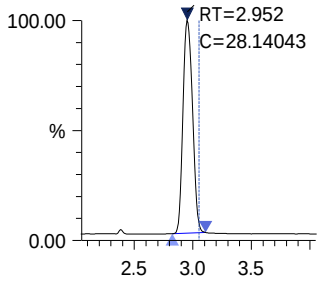
Date acquired: 6/2/2020 4:44:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_017.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

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

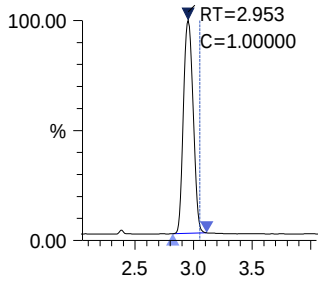
Q 99.00>83.00 (-) 8.16e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130327

ISTD 107.00>89.00 (-) 2.28e4



ALS Group Houston

PERCHLORATE10

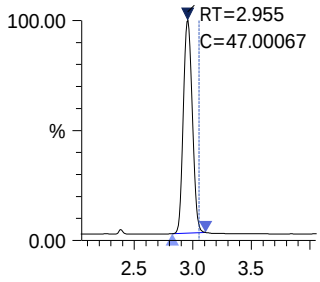
Date acquired: 6/2/2020 4:52:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_018.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

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

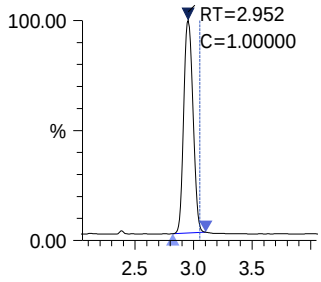
Q 99.00>83.00 (-) 1.36e5



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 122661

ISTD 107.00>89.00 (-) 2.25e4



ALS Group Houston

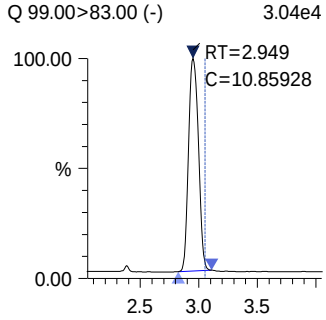
PERCHLORATEICV

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

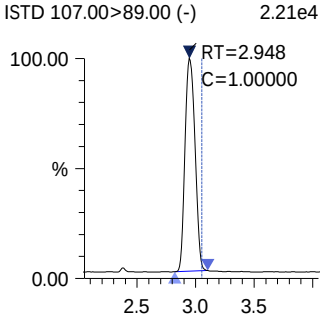
Perchlorate

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

20200622

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		20200622_001	Perchlorate6850b.lcm	1x	☒	
	null		20200622_002	Perchlorate6850b.lcm	1x	☒	
	IB		20200622_003	Perchlorate6850b.lcm	1x	☒	
	LODV		20200622_004	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200622_005	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000238-01		20200622_007	Perchlorate6850b.lcm	1x	☒	
	ICS		20200622_006	Perchlorate6850b.lcm	1x	☒	
	EQ2000238-02		20200622_008	Perchlorate6850b.lcm	1x	☒	
	EQ2000238-03		20200622_009	Perchlorate6850b.lcm	1x	☒	
	EQ2000238-04		20200622_010	Perchlorate6850b.lcm	1x	☒	
	EQ2000238-05		20200622_011	Perchlorate6850b.lcm	1x	☒	
	E2000538-005		20200622_012	Perchlorate6850b.lcm	1x	☒	
	E2000511-001		20200622_013	Perchlorate6850b.lcm	1x	☒	
	E2000510-001		20200622_014	Perchlorate6850b.lcm	1x	☒	
	E2000535-001		20200622_015	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200622_016	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000511-001		20200622_017	Perchlorate6850b.lcm	1x	☒	
	E2000511-001X2		20200622_018	Perchlorate6850b.lcm	2x	☒	
	E2000535-002		20200622_019	Perchlorate6850b.lcm	1x	☒	
	IB		20200622_020	Perchlorate6850b.lcm	1x	☒	
	E2000511-001X5		20200622_021	Perchlorate6850b.lcm	5x	☒	
	E2000535-002X1000		20200622_022	Perchlorate6850b.lcm	1000x	☒	
	E2000535-003		20200622_023	Perchlorate6850b.lcm	1x	☒	
	E2000538-001		20200622_024	Perchlorate6850b.lcm	1x	☒	
	E2000538-002		20200622_025	Perchlorate6850b.lcm	1x	☒	
	E2000538-003		20200622_026	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200622_027	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000538-001		20200622_028	Perchlorate6850b.lcm	1000x	☒	
	E2000538-002		20200622_029	Perchlorate6850b.lcm	100x	☒	
	E2000538-003		20200622_030	Perchlorate6850b.lcm	1000x	☒	
	E2000538-004		20200622_031	Perchlorate6850b.lcm	2000x	☒	
	E2000538-006X50		20200622_032	Perchlorate6850b.lcm	50x	☒	
	E2000538-007		20200622_033	Perchlorate6850b.lcm	1x	☒	
	E2000538-008		20200622_034	Perchlorate6850b.lcm	1x	☒	
	EQ2000239-01		20200622_035	Perchlorate6850b.lcm	1x	☒	
	EQ2000239-02		20200622_036	Perchlorate6850b.lcm	1x	☒	
	E2000538-008X5		20200622_037	Perchlorate6850b.lcm	5x	☒	
	PERCHLORATE7		20200622_038	Perchlorate6850b.lcm	1x	☒	3100807-04
	IB		20200622_039	Perchlorate6850b.lcm	1x	☒	
	IB		20200622_040	Perchlorate6850b.lcm	1x	☒	
	IB		20200622_041	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200622_042	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060451

Service Request: E2000510
Date Analyzed: 6/22/20

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\20200622\20200622_005

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 684542
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.5	0.1279	0.1348	5.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060451

Service Request: E2000510
Date Analyzed: 6/22/20

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\20200622\20200622_016

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 684542
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279	0.1377	7.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060451

Service Request: E2000510
Date Analyzed: 6/22/20

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\20200622\20200622_027

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 684542
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.7	0.1279	0.1372	7.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060451

Service Request: E2000510
Date Analyzed: 6/22/20

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\20200622\20200622_038

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 684542
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279	0.1381	8.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Analyzed:**	6/22/20 11:03

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

File ID:	I:\LCMS01\DATA\20200622\20200622_005	**Lab Code:**	EQ2000254-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	684542
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	EQ2000254-01	159,982	3.02
Method Blank	EQ2000238-01	178,948	3.01
Lab Control Sample	EQ2000238-02	197,036	3.01
Duplicate Lab Control Sample	EQ2000238-03	200,634	3.01
Batch QCMS	EQ2000238-04	174,832	2.98
Batch QCDMS	EQ2000238-05	173,812	2.98
Batch QC	E2000538-005	189,616	2.98
LH18/24-SP650_060920_BIX	E2000510-001	192,544	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:**	E2000510
Project:	HS20060451	**Date Analyzed:**	6/22/20 12:29

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

File ID:	I:\LCMS01\DATA\20200622\20200622_016	**Lab Code:**	EQ2000254-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	684542
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	EQ2000254-02	178,331	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:**	E2000510
Project:	HS20060451	**Date Analyzed:**	6/22/20 14:45

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

File ID:	I:\LCMS01\DATA\20200622\20200622_027	**Lab Code:**	EQ2000254-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	684542
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	EQ2000254-03	184,802	2.96

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:**	E2000510
Project:	HS20060451	**Date Analyzed:**	6/22/20 16:13

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

File ID:	I:\LCMS01\DATA\20200622\20200622_038	**Lab Code:**	EQ2000254-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	684542
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	EQ2000254-04	199,949	3.01

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

ALS Group Houston

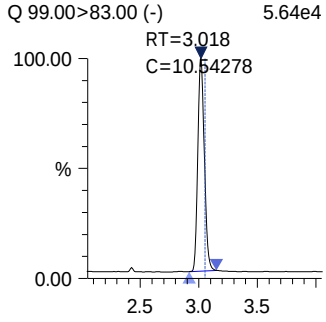
PERCHLORATE7

Date acquired: 6/22/2020 11:03:11 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_005.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	6/22/2020 11:03:11 AM	215723	10.54278	20200622_005	3.018	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/22/2020 11:03:11 AM	159982	1.00000	20200622_005	3.015	25.0000	1.0000	4

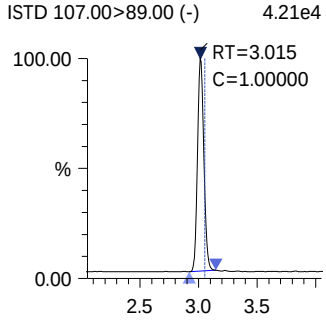
Perchlorate

Conc 10.54278
Area 215723



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 159982



ALS Group Houston

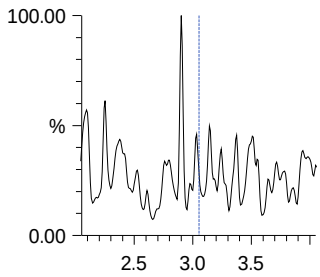
EQ2000238-01

Date acquired: 6/22/2020 11:18:59 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_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	EQ2000238-01	6/22/2020 11:18:59 AM	----	----	20200622_007	----	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	EQ2000238-01	6/22/2020 11:18:59 AM	178948	1.00000	20200622_007	3.011	25.0000	1.0000	5

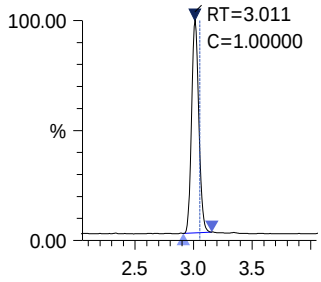
Perchlorate

Conc ----
Area ----
Q 99.00>83.00 (-) 4.46e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 178948
ISTD 107.00>89.00 (-) 4.15e4



ALS Group Houston

EQ2000238-02

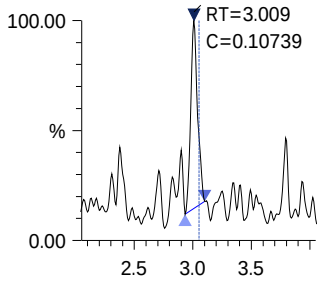
Date acquired: 6/22/2020 11:26:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_008.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000238-02	6/22/2020 11:26:53 AM	2706	0.10739	20200622_008	3.009	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	EQ2000238-02	6/22/2020 11:26:53 AM	197036	1.00000	20200622_008	3.007	25.0000	1.0000	6

Perchlorate

Conc 0.10739
Area 2706

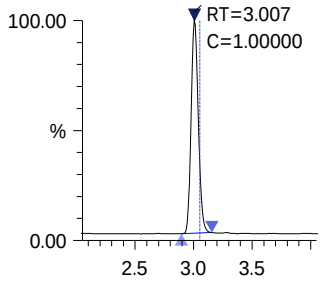
Q 99.00>83.00 (-) 7.58e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 197036

ISTD 107.00>89.00 (-) 4.60e4



ALS Group Houston

EQ2000238-03

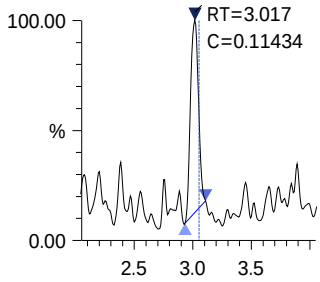
Date acquired: 6/22/2020 11:34:45 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_009.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000238-03	6/22/2020 11:34:45 AM	2934	0.11434	20200622_009	3.017	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	EQ2000238-03	6/22/2020 11:34:45 AM	200634	1.00000	20200622_009	3.009	25.0000	1.0000	7

Perchlorate

Conc 0.11434
Area 2934

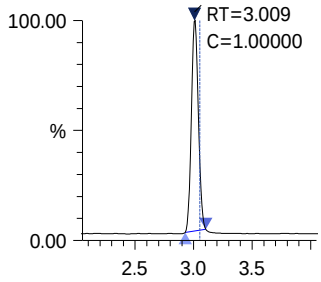
Q 99.00>83.00 (-) 6.89e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 200634

ISTD 107.00>89.00 (-) 4.88e4



ALS Group Houston

EQ2000238-04

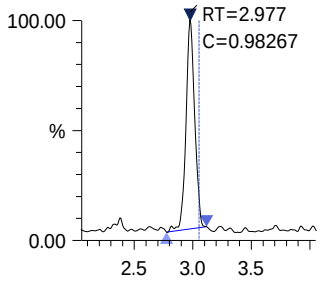
Date acquired: 6/22/2020 11:42:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_010.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000238-04	6/22/2020 11:42:37 AM	21974	0.98267	20200622_010	2.977	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	EQ2000238-04	6/22/2020 11:42:37 AM	174832	1.00000	20200622_010	2.975	25.0000	1.0000	8

Perchlorate

Conc 0.98267
Area 21974

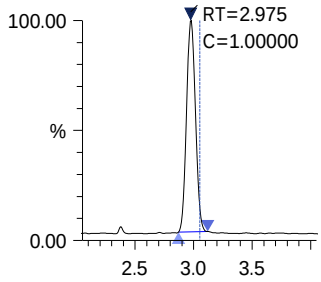
Q 99.00>83.00 (-) 4.31e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 174832

ISTD 107.00>89.00 (-) 3.35e4



ALS Group Houston

EQ2000238-05

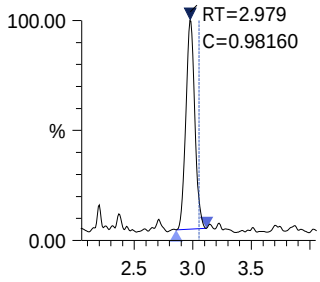
Date acquired: 6/22/2020 11:50:29 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_011.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000238-05	6/22/2020 11:50:29 AM	21822	0.98160	20200622_011	2.979	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	EQ2000238-05	6/22/2020 11:50:29 AM	173812	1.00000	20200622_011	2.977	25.0000	1.0000	9

Perchlorate

Conc 0.98160
Area 21822

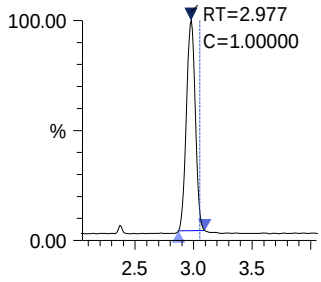
Q 99.00>83.00 (-) 4.14e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 173812

ISTD 107.00>89.00 (-) 3.37e4



ALS Group Houston

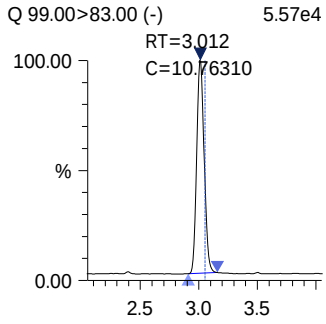
PERCHLORATE7

Date acquired: 6/22/2020 12:29:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_016.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/22/2020 12:29:56 PM	245490	10.76310	20200622_016	3.012	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/22/2020 12:29:56 PM	178331	1.00000	20200622_016	3.010	25.0000	1.0000	4

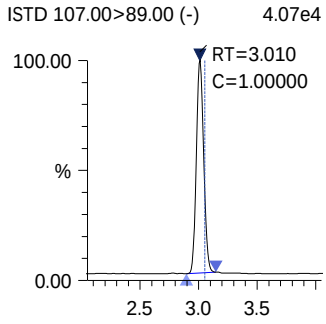
Perchlorate

Conc 10.76310
Area 245490



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 178331



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www.alsglobal.com

June 17, 2020

Analytical Report for Service Request No: K2004871

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

RE: HS20060451

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 12, 2020
For your reference, these analyses have been assigned our service request number **K2004871.**

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

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Kelso, WA 98626
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Table of Contents

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: HS20060451
Sample Matrix: Water

Service Request: K2004871
Date Received: 06/12/2020

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 06/12/2020. 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. Dan Date 06/17/2020

Chain of Custody

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K2004871

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F: +1 281 530 5887
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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 14071**

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: HS20060451
TSR: Danielle Winnings

	LAB SAMPLE ID / ANALYSIS REQUESTED	CLIENT SAMPLE ID	MATRIX	COLLECT DATE / DUE DATE
1.	**HS20060451-01**	**LH18/24-SP650_060920**	**Water**	**09 Jun 2020 14:00**
	TOC Analysis for DOD Level IV			18 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:	J. Macarty	Date/Time:	6/11/20 18:00
Received By:	[signature]	Date/Time:	6/12/2020 0920
Cooler ID(s):		Temperature(s):	

RIGHT SOLUTIONS | RIGHT PARTNER

PC KL

Cooler Receipt and Preservation Form

Client ALS Houston Service Request K2004871

Received: 6/12/2020 Opened: 6/12/2020 By: CG Unloaded: 6/12/2020 By: CG

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
1.7	—				IR01	14071	1891 8877 5532	

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: _____

RUSH

General Chemistry

ALS Environmental—Kelso Laboratory
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www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2004871
Project:	HS20060451	**Date Collected:**	06/9/20
Sample Matrix:	Water	**Date Received:**	06/12/20
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_060920	K2004871-001	**2.01**	0.50	0.20	0.07	1	06/15/20 16:06	
Method Blank	K2004871-MB	ND U	0.50	0.20	0.07	1	06/15/20 01:55	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2004871
Project	HS20060451	**Date Collected:**	06/09/20
Sample Matrix:	Water	**Date Received:**	06/12/20
		Date Analyzed:	06/15/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	LH18/24-SP650_060920	**Units:**	mg/L
Lab Code:	K2004871-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2004871-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	2.01	2.07	2.04	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:**	K2004871
Project:	HS20060451	**Date Analyzed:**	06/15/20
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:	683425

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2004871-LCS	25.8	25.0	103	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2004871
Project: HS20060451

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	683425	KQ2007940-01	06/15/20 01:26	25.0	25.8	103	90-110
CCV2	683425	KQ2007940-02	06/15/20 05:42	25.0	25.0	100	90-110
CCV3	683425	KQ2007940-03	06/15/20 10:52	25.0	25.0	100	90-110
CCV4	683425	KQ2007940-28	06/15/20 15:09	25.0	25.1	100	90-110
CCV5	683425	KQ2007940-29	06/15/20 16:34	25.0	25.6	102	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2004871
Project: HS20060451

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	683425	KQ2007940-04	06/15/20 01:41	0.50	0.20	0.07	ND	U
CCB2	683425	KQ2007940-05	06/15/20 05:57	0.50	0.20	0.07	ND	U
CCB3	683425	KQ2007940-06	06/15/20 11:07	0.50	0.20	0.07	ND	U
CCB4	683425	KQ2007940-30	06/15/20 15:23	0.50	0.20	0.07	ND	U
CCB5	683425	KQ2007940-31	06/15/20 16:49	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # Original ( ) K2004697, 4698, 4733, 4737, 4744, 4791, 4808, 4758, 4871 4907, 4572

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

Date Analyzed: 6/13/20 TOC: 683111, 683425

Analyst: BOD Run # DOC: 683426

Analysis: TOC/DOC

DATA QUALITY REPORT
INORGANICS

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

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

COMMENTS: K2004698-1/1d, 4758-3 DUP 6/16/20 V/1 report a high %RSD. However, these samples are less than 5x the MRL.
K2004733-3/3d reports a high %RSD due to suspected non-homogenous sample.

Final Approved by: _____ Date: 6/16/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 683111 **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
K2004697-001	Carbon, Total Organic	N/A		Surface Water	1.58 mg/L	10 mL	1.58 mg/L	1	0.07	0.50			6/13/20 17:54:00	N	III
K2004697-002	Carbon, Total Organic	N/A		Surface Water	1.38 mg/L	10 mL	1.38 mg/L	1	0.07	0.50			6/13/20 18:22:00	Y	III
K2004697-003	Carbon, Total Organic	N/A		Surface Water	1.33 mg/L	10 mL	1.33 mg/L	1	0.07	0.50			6/13/20 19:19:00	N	III
K2004697-004	Carbon, Total Organic	N/A		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 19:47:00	N	III
K2004698-001	Carbon, Total Organic	N/A		Surface Water	0.21 mg/L	10 mL	0.21 mg/L J	1	0.07	0.50			6/13/20 22:10:00	N	IV
K2004733-001	Carbon, Total Organic	N/A		Water	10.39 mg/L	10 mL	10.4 mg/L	1	0.07	0.50			6/13/20 22:38:00	N	IV
K2004733-002	Carbon, Total Organic	N/A		Water	0.82 mg/L	10 mL	8.2 mg/L	10	0.7	5.0			6/13/20 23:06:00	N	IV
K2004733-003	Carbon, Total Organic	N/A		Water	5.59 mg/L	10 mL	5.59 mg/L	1	0.07	0.50			6/13/20 23:34:00	N	IV
K2004733-004	Carbon, Total Organic	N/A		Water	4.54 mg/L	10 mL	45.4 mg/L	10	0.7	5.0			6/14/20 00:02:00	N	IV
K2004733-005	Carbon, Total Organic	N/A		Water	12.77 mg/L	10 mL	63.9 mg/L	5	0.4	2.5			6/14/20 00:30:00	N	IV
K2004737-001	Carbon, Total Organic	N/A		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 21:12:00	N	I
K2004737-002	Carbon, Total Organic	N/A		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 21:27:00	N	I
K2004744-001	Carbon, Total Organic	N/A		Water	0.95 mg/L	10 mL	0.95 mg/L	1	0.07	0.50			6/13/20 21:41:00	N	II
K2004791-001	Carbon, Total Organic	N/A		Water	2.98 mg/L	10 mL	298 mg/L	100	7	50			6/13/20 20:15:00	N	I
K2004808-001	Carbon, Total Organic	N/A		Water	10.18 mg/L	10 mL	10.2 mg/L	1	0.07	0.50			6/14/20 00:58:00	N	I
KQ2007938-01	Carbon, Total Organic	CCV		Surface Water	25.43 mg/L	10 mL	25.4 mg/L	1					6/13/20 16:40:00	N	III
KQ2007938-01	Carbon, Total Organic	CCV		Surface Water	25.43 mg/L	10 mL	25.4 mg/L	1					6/13/20 16:40:00	N	III
KQ2007938-02	Carbon, Total Organic	CCV		Surface Water	25.48 mg/L	10 mL	25.5 mg/L	1					6/13/20 20:43:00	N	III
KQ2007938-02	Carbon, Total Organic	CCV		Surface Water	25.48 mg/L	10 mL	25.5 mg/L	1					6/13/20 20:43:00	N	III
KQ2007938-03	Carbon, Total Organic	CCV		Surface Water	25.76 mg/L	10 mL	25.8 mg/L	1					6/14/20 01:26:00	N	III
KQ2007938-03	Carbon, Total Organic	CCV		Surface Water	25.76 mg/L	10 mL	25.8 mg/L	1					6/14/20 01:26:00	N	III
KQ2007938-04	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 16:55:00	N	III
KQ2007938-04	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 16:55:00	N	III
KQ2007938-05	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 20:57:00	N	III
KQ2007938-05	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 20:57:00	N	III
KQ2007938-06	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 01:41:00	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:** 683111 **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
KQ2007938-06	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 01:41:00	N	III
KQ2007938-07	Carbon, Total Organic	MB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 17:09:00	N	III
KQ2007938-07	Carbon, Total Organic	MB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 17:09:00	N	III
KQ2007938-08	Carbon, Total Organic	LCS		Surface Water	26.00 mg/L	10 mL	26.0 mg/L	1	0.07	0.50	104		6/13/20 17:24:00	N	III
KQ2007938-08	Carbon, Total Organic	LCS		Surface Water	26.00 mg/L	10 mL	26.0 mg/L	1	0.07	0.50	104		6/13/20 17:24:00	N	III
KQ2007938-09	Carbon, Total Organic	MS	K2004697-002	Surface Water	27.94 mg/L	10 mL	27.9 mg/L	1	0.07	0.50	106		6/13/20 18:50:00	N	III
KQ2007938-10	Carbon, Total Organic	N/A		Water	1.38 mg/L	10 mL	1.38 mg/L	1	0.07	0.50			6/14/20 18:22:00	N	I
KQ2007938-11	Carbon, Total Organic	MS	KQ2007938-10	Water	27.94 mg/L	10 mL	27.9 mg/L	1	0.07	0.50	106		6/14/20 18:50:00	N	I
KQ2007938-12	Carbon, Total Organic	DUP	K2004744-001	Water	0.94 mg/L	10 mL	0.94 mg/L	1	0.07	0.50		1	6/13/20 21:41:00	N	II
KQ2007938-13	Carbon, Total Organic	DUP	K2004697-002	Surface Water	1.35 mg/L	10 mL	1.35 mg/L	1	0.07	0.50		3	6/13/20 18:22:00	N	III
KQ2007938-14	Carbon, Total Organic	DUP	K2004808-001	Water	9.38 mg/L	10 mL	9.38 mg/L	1	0.07	0.50		8	6/14/20 00:58:00	N	I
KQ2007938-15	Carbon, Total Organic	DUP	K2004697-003	Surface Water	1.33 mg/L	10 mL	1.33 mg/L	1	0.07	0.50		<1	6/13/20 19:19:00	N	III
KQ2007938-16	Carbon, Total Organic	DUP	K2004697-004	Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	6/13/20 19:47:00	N	III
KQ2007938-17	Carbon, Total Organic	DUP	K2004698-001	Surface Water	0.18 mg/L	10 mL	0.18 mg/L J	1	0.07	0.50		12*	6/13/20 22:10:00	N	IV
KQ2007938-18	Carbon, Total Organic	DUP	K2004697-001	Surface Water	1.44 mg/L	10 mL	1.44 mg/L	1	0.07	0.50		9	6/13/20 17:54:00	N	III
KQ2007938-19	Carbon, Total Organic	DUP	KQ2007938-10	Water	1.35 mg/L	10 mL	1.35 mg/L	1	0.07	0.50		3	6/14/20 18:22:00	N	I
KQ2007938-22	Carbon, Total Organic	DUP	K2004733-001	Water	10.52 mg/L	10 mL	10.5 mg/L	1	0.07	0.50		1	6/13/20 22:38:00	N	IV
KQ2007938-23	Carbon, Total Organic	DUP	K2004791-001	Water	3.00 mg/L	10 mL	300 mg/L	100	7	50		<1	6/13/20 20:15:00	N	I
KQ2007938-24	Carbon, Total Organic	DUP	K2004733-002	Water	0.79 mg/L	10 mL	7.9 mg/L	10	0.7	5.0		3	6/13/20 23:06:00	N	IV
KQ2007938-25	Carbon, Total Organic	DUP	K2004733-003	Water	6.44 mg/L	10 mL	6.44 mg/L	1	0.07	0.50		14*	6/13/20 23:34:00	N	IV
KQ2007938-26	Carbon, Total Organic	DUP	K2004733-004	Water	4.37 mg/L	10 mL	43.7 mg/L	10	0.7	5.0		4	6/14/20 00:02:00	N	IV
KQ2007938-27	Carbon, Total Organic	DUP	K2004733-005	Water	12.46 mg/L	10 mL	62.3 mg/L	5	0.4	2.5		2	6/14/20 00:30:00	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:** 683425 **Method/Testcode:** 415.1/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
K2004758-001	Carbon, Total Organic	N/A		Water	1.01 mg/L	10 mL	1.01 mg/L	1	0.07	0.50			6/15/20 07:08:00	N	I
K2004758-002	Carbon, Total Organic	N/A		Water	0.44 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 07:36:00	N	I
K2004758-003	Carbon, Total Organic	N/A		Water	0.38 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 08:04:00	N	I
K2004758-004	Carbon, Total Organic	N/A		Water	3.15 mg/L	10 mL	3.15 mg/L	1	0.07	0.50			6/15/20 08:32:00	N	I
K2004758-005	Carbon, Total Organic	N/A		Water	4.41 mg/L	10 mL	4.41 mg/L	1	0.07	0.50			6/15/20 09:00:00	N	I
K2004808-002	Carbon, Total Organic	N/A		Water	9.32 mg/L	10 mL	9.32 mg/L	1	0.07	0.50			6/15/20 02:24:00	N	I
K2004808-003	Carbon, Total Organic	N/A		Water	1.88 mg/L	10 mL	1.88 mg/L	1	0.07	0.50			6/15/20 02:53:00	N	I
K2004808-004	Carbon, Total Organic	N/A		Water	16.48 mg/L	10 mL	16.5 mg/L	1	0.07	0.50			6/15/20 03:50:00	N	I
K2004808-005	Carbon, Total Organic	N/A		Water	9.19 mg/L	10 mL	9.19 mg/L	1	0.07	0.50			6/15/20 04:18:00	N	I
K2004808-006	Carbon, Total Organic	N/A		Water	29.72 mg/L	10 mL	29.7 mg/L	1	0.07	0.50			6/15/20 04:46:00	N	I
K2004808-007	Carbon, Total Organic	N/A		Water	3.82 mg/L	10 mL	38.2 mg/L	10	0.7	5.0			6/15/20 05:14:00	N	I
K2004808-008	Carbon, Total Organic	N/A		Water	12.20 mg/L	10 mL	12.2 mg/L	1	0.07	0.50			6/15/20 06:12:00	N	I
K2004808-009	Carbon, Total Organic	N/A		Water	30.87 mg/L	10 mL	30.9 mg/L	1	0.07	0.50			6/15/20 06:40:00	N	I
K2004871-001	Carbon, Total Organic	N/A		Water	2.01 mg/L	10 mL	2.01 mg/L	1	0.07	0.50			6/15/20 16:06:00	N	IV
K2004907-001	Carbon, Total Organic	N/A		Water	3.59 mg/L	10 mL	3.59 mg/L	1	0.07	0.50			6/15/20 15:38:00	N	II
KQ2007940-01	Carbon, Total Organic	CCV		Water	25.76 mg/L	10 mL	25.8 mg/L	1					6/15/20 01:26:00	N	I
KQ2007940-01	Carbon, Total Organic	CCV		Water	25.76 mg/L	10 mL	25.8 mg/L	1					6/15/20 01:26:00	N	I
KQ2007940-02	Carbon, Total Organic	CCV		Water	24.99 mg/L	10 mL	25.0 mg/L	1					6/15/20 05:42:00	N	I
KQ2007940-02	Carbon, Total Organic	CCV		Water	24.99 mg/L	10 mL	25.0 mg/L	1					6/15/20 05:42:00	N	I
KQ2007940-03	Carbon, Total Organic	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					6/15/20 10:52:00	N	I
KQ2007940-03	Carbon, Total Organic	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					6/15/20 10:52:00	N	I
KQ2007940-04	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 01:41:00	N	I
KQ2007940-04	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 01:41:00	N	I
KQ2007940-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 05:57:00	N	I
KQ2007940-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 05:57:00	N	I
KQ2007940-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 11:07:00	N	I
KQ2007940-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 11:07:00	N	I
KQ2007940-07	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 01:55:00	N	I
KQ2007940-07	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 01:55:00	N	I
KQ2007940-08	Carbon, Total Organic	LCS		Water	25.79 mg/L	10 mL	25.8 mg/L	1	0.07	0.50	103		6/15/20 02:10:00	N	I
KQ2007940-08	Carbon, Total Organic	LCS		Water	25.79 mg/L	10 mL	25.8 mg/L	1	0.07	0.50	103		6/15/20 02:10:00	N	I
KQ2007940-09	Carbon, Total Organic	MS	K2004808-003	Water	22.62 mg/L	10 mL	22.6 mg/L	1	0.07	0.50	83		6/15/20 03:21:00	N	I
KQ2007940-10	Carbon, Total Organic	DUP	K2004758-002	Water	0.43 mg/L	10 mL	0.43 mg/L J	1	0.07	0.50		NC	6/15/20 07:36:00	N	I
KQ2007940-11	Carbon, Total Organic	DUP	K2004758-001	Water	0.76 mg/L	10 mL	0.76 mg/L	1	0.07	0.50		29*	6/15/20 07:08:00	N	I
KQ2007940-12	Carbon, Total Organic	DUP	K2004758-003	Water	0.31 mg/L	10 mL	0.31 mg/L J	1	0.07	0.50		NC	6/15/20 08:04:00	N	I
KQ2007940-13	Carbon, Total Organic	DUP	K2004758-004	Water	3.11 mg/L	10 mL	3.11 mg/L	1	0.07	0.50		1	6/15/20 08:32:00	N	I

# 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:** 683425 **Method/Testcode:** 415.1/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
KQ2007940-14	Carbon, Total Organic	DUP	K2004758-005	Water	4.43 mg/L	10 mL	4.43 mg/L	1	0.07	0.50		<1	6/15/20 09:00:00	N	I
KQ2007940-15	Carbon, Total Organic	DUP	K2004808-002	Water	9.24 mg/L	10 mL	9.24 mg/L	1	0.07	0.50		<1	6/15/20 02:24:00	N	I
KQ2007940-16	Carbon, Total Organic	DUP	K2004808-003	Water	1.75 mg/L	10 mL	1.75 mg/L	1	0.07	0.50		7	6/15/20 02:53:00	N	I
KQ2007940-17	Carbon, Total Organic	DUP	K2004808-004	Water	16.26 mg/L	10 mL	16.3 mg/L	1	0.07	0.50		1	6/15/20 03:50:00	N	I
KQ2007940-18	Carbon, Total Organic	DUP	K2004808-005	Water	9.10 mg/L	10 mL	9.10 mg/L	1	0.07	0.50		<1	6/15/20 04:18:00	N	I
KQ2007940-19	Carbon, Total Organic	DUP	K2004808-006	Water	29.34 mg/L	10 mL	29.3 mg/L	1	0.07	0.50		1	6/15/20 04:46:00	N	I
KQ2007940-20	Carbon, Total Organic	DUP	K2004808-007	Water	3.76 mg/L	10 mL	37.6 mg/L	10	0.7	5.0		2	6/15/20 05:14:00	N	I
KQ2007940-21	Carbon, Total Organic	DUP	K2004808-008	Water	11.73 mg/L	10 mL	11.7 mg/L	1	0.07	0.50		4	6/15/20 06:12:00	N	I
KQ2007940-22	Carbon, Total Organic	DUP	K2004808-009	Water	30.34 mg/L	10 mL	30.3 mg/L	1	0.07	0.50		2	6/15/20 06:40:00	N	I
KQ2007940-23	Carbon, Total Organic	N/A		Water	1.88 mg/L	10 mL	1.88 mg/L	1	0.07	0.50			6/15/20 02:53:00	N	I
KQ2007940-24	Carbon, Total Organic	MS	KQ2007940-23	Water	22.62 mg/L	10 mL	22.6 mg/L	1	0.07	0.50	83		6/15/20 03:21:00	N	I
KQ2007940-25	Carbon, Total Organic	DUP	KQ2007940-23	Water	1.75 mg/L	10 mL	1.75 mg/L	1	0.07	0.50		7	6/15/20 02:53:00	N	I
KQ2007940-26	Carbon, Total Organic	DUP	K2004907-001	Water	3.53 mg/L	10 mL	3.53 mg/L	1	0.07	0.50		2	6/15/20 15:38:00	N	II
KQ2007940-27	Carbon, Total Organic	DUP	K2004871-001	Water	2.07 mg/L	10 mL	2.07 mg/L	1	0.07	0.50		3	6/15/20 16:06:00	N	IV
KQ2007940-28	Carbon, Total Organic	CCV		Water	25.09 mg/L	10 mL	25.1 mg/L	1					6/15/20 15:09:00	N	I
KQ2007940-28	Carbon, Total Organic	CCV		Water	25.09 mg/L	10 mL	25.1 mg/L	1					6/15/20 15:09:00	N	I
KQ2007940-29	Carbon, Total Organic	CCV		Water	25.56 mg/L	10 mL	25.6 mg/L	1					6/15/20 16:34:00	N	I
KQ2007940-29	Carbon, Total Organic	CCV		Water	25.56 mg/L	10 mL	25.6 mg/L	1					6/15/20 16:34:00	N	I
KQ2007940-30	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 15:23:00	N	I
KQ2007940-30	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 15:23:00	N	I
KQ2007940-31	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 16:49:00	N	I
KQ2007940-31	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 16:49:00	N	I

# 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:** 683426 **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
K2004572-004	Carbon, Dissolved Organic (DOC)	N/A		Water	0.53 mg/L	10 mL	0.53 mg/L	1	0.07	0.50			6/14/20 09:56:00	N	II
K2004572-005	Carbon, Dissolved Organic (DOC)	N/A		Water	2.80 mg/L	10 mL	2.80 mg/L	1	0.07	0.50			6/14/20 10:24:00	N	II
K2004572-006	Carbon, Dissolved Organic (DOC)	N/A		Water	1.03 mg/L	10 mL	1.03 mg/L	1	0.07	0.50			6/14/20 12:20:00	N	II
K2004572-009	Carbon, Dissolved Organic (DOC)	N/A		Water	3.09 mg/L	10 mL	3.09 mg/L	1	0.07	0.50			6/14/20 12:48:00	N	II
K2004572-010	Carbon, Dissolved Organic (DOC)	N/A		Water	0.74 mg/L	10 mL	0.74 mg/L	1	0.07	0.50			6/14/20 13:16:00	N	II
K2004572-014	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 13:44:00	N	II
K2004572-015	Carbon, Dissolved Organic (DOC)	N/A		Water	1.50 mg/L	10 mL	1.50 mg/L	1	0.07	0.50			6/14/20 14:13:00	N	II
K2004572-016	Carbon, Dissolved Organic (DOC)	N/A		Water	0.51 mg/L	10 mL	0.51 mg/L	1	0.07	0.50			6/14/20 14:41:00	N	II
KQ2007941-01	Carbon, Dissolved Organic (DOC)	CCV		Water	24.99 mg/L	10 mL	25.0 mg/L	1					6/14/20 05:42:00	N	II
KQ2007941-02	Carbon, Dissolved Organic (DOC)	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					6/14/20 10:52:00	N	II
KQ2007941-03	Carbon, Dissolved Organic (DOC)	CCV		Water	25.09 mg/L	10 mL	25.1 mg/L	1					6/14/20 15:09:00	N	II
KQ2007941-04	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 05:57:00	N	II
KQ2007941-05	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 11:07:00	N	II
KQ2007941-06	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 15:23:00	N	II
KQ2007941-07	Carbon, Dissolved Organic (DOC)	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 11:22:00	N	II
KQ2007941-08	Carbon, Dissolved Organic (DOC)	LCS		Water	25.64 mg/L	10 mL	25.6 mg/L	1	0.07	0.50	103		6/14/20 11:36:00	N	II
KQ2007941-09	Carbon, Dissolved Organic (DOC)	MS	K2004572-005	Water	29.61 mg/L	10 mL	29.6 mg/L	1	0.07	0.50	107		6/14/20 11:51:00	N	II
KQ2007941-10	Carbon, Dissolved Organic (DOC)	DUP	K2004572-004	Water	0.53 mg/L	10 mL	0.53 mg/L	1	0.07	0.50		<1	6/14/20 09:56:00	N	II
KQ2007941-11	Carbon, Dissolved Organic (DOC)	DUP	K2004572-005	Water	2.79 mg/L	10 mL	2.79 mg/L	1	0.07	0.50		<1	6/14/20 10:24:00	N	II
KQ2007941-12	Carbon, Dissolved Organic (DOC)	DUP	K2004572-006	Water	0.98 mg/L	10 mL	0.98 mg/L	1	0.07	0.50		5	6/14/20 12:20:00	N	II
KQ2007941-13	Carbon, Dissolved Organic (DOC)	DUP	K2004572-009	Water	3.05 mg/L	10 mL	3.05 mg/L	1	0.07	0.50		1	6/14/20 12:48:00	N	II
KQ2007941-14	Carbon, Dissolved Organic (DOC)	DUP	K2004572-010	Water	0.73 mg/L	10 mL	0.73 mg/L	1	0.07	0.50		<1	6/14/20 13:16:00	N	II
KQ2007941-15	Carbon, Dissolved Organic (DOC)	DUP	K2004572-014	Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	6/14/20 13:44:00	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:** 683426 **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
KQ2007941-16	Carbon, Dissolved Organic (DOC)	DUP	K2004572-015	Water	1.55 mg/L	10 mL	1.55 mg/L	1	0.07	0.50		3	6/14/20 14:13:00	N	II
KQ2007941-17	Carbon, Dissolved Organic (DOC)	DUP	K2004572-016	Water	0.48 mg/L	10 mL	0.48 mg/L J	1	0.07	0.50		6	6/14/20 14:41:00	N	II

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

TOC: 683111, 683425
DOC: 683426

Schedule: 06112020

Version: 5
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/06/13 12:52 - Saturday

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	K2004697-001.03	CAS_salt_010711 (CAS_salt_010711)	2	True
4	Sample	K2004697-002.12	CAS_salt_010711 (CAS_salt_010711)	2	True
5	Sample	K2004697-002.12 ms	CAS_salt_010711 (CAS_salt_010711)	1	True
6	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True
7	Sample	K2004697-003.03	CAS_salt_010711 (CAS_salt_010711)	2	True
8	Sample	K2004697-004.03	CAS_salt_010711 (CAS_salt_010711)	2	True
9	Sample	K2004791-001.01 100x	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
10	Sample	K2004737-001.01	CAS_salt_010711 (CAS_salt_010711)	1	True
11	Sample	K2004737-002.01	CAS_salt_010711 (CAS_salt_010711)	1	True
12	Sample	K2004744-001.06	CAS_salt_010711 (CAS_salt_010711)	2	True
13	Sample	K2004698-001.03	CAS_salt_010711 (CAS_salt_010711)	2	True
14	Sample	K2004733-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
15	Sample	K2004733-002.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
16	Sample	K2004733-003.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
17	Sample	K2004733-004.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
18	Sample	K2004733-005.01 5x	CAS_salt_010711 (CAS_salt_010711)	2	True
19	Sample	K2004808-001.02	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	K2004808-002.02	CAS_salt_010711 (CAS_salt_010711)	2	True
22	Sample	K2004808-003.02	CAS_salt_010711 (CAS_salt_010711)	2	True
23	Sample	K2004808-003.02 ms	CAS_salt_010711 (CAS_salt_010711)	1	True
24	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True
25	Sample	K2004808-004.02	CAS_salt_010711 (CAS_salt_010711)	2	True
26	Sample	K2004808-005.02	CAS_salt_010711 (CAS_salt_010711)	2	True
27	Sample	K2004808-006.02	CAS_salt_010711 (CAS_salt_010711)	2	True
28	Sample	K2004808-007.02 10x	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	K2004808-008.02	CAS_salt_010711 (CAS_salt_010711)	2	True
30	Sample	K2004808-009.02	CAS_salt_010711 (CAS_salt_010711)	2	True
31	Sample	K2004758-001.10	CAS_salt_010711 (CAS_salt_010711)	2	True
32	Sample	K2004758-002.10	CAS_salt_010711 (CAS_salt_010711)	2	True

Schedule: 06112020

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use
33	Sample	K2004758-003.10	CAS_salt_010711 (CAS_salt_010711)	2	True
34	Sample	K2004758-004.10	CAS_salt_010711 (CAS_salt_010711)	2	True
35	Sample	K2004758-005.10 20x	CAS_salt_010711 (CAS_salt_010711)	2	True
36	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True
37	Sample	K2004572-004.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
38	Sample	K2004572-005.02 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
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	K2004572-005.02 ms doc	CAS_salt_010711 (CAS_salt_010711)	1	True
41	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True
42	Sample	K2004572-006.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
43	Sample	K2004572-009.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
44	Sample	K2004572-010.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
45	Sample	K2004572-014.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
46	Sample	K2004572-015.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
47	Sample	K2004572-016.01 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
48	Sample	K2004907-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
49	Sample	K2004871-001.01	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 - 06112020
Saturday, June 13, 2020 01:07 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/06/16 11:06 - Tuesday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	06112020	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) (v5)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 5

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/13 13:07

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	12.60	16.24	3.64	49.66	05:25
2	TC Clean	43.12	46.79	3.67	50.17	04:00
3	TC Clean	12.75	16.76	4.01	50.25	03:46
4	TC Clean	6.60	10.41	3.81	50.22	03:46

Sample Type: Clean — From Schedule Version 5

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/13 13:29

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.18	4.68	3.50	49.71	05:14
2	TC Clean	10.21	13.98	3.77	50.17	04:03
3	TC Clean	4.62	8.43	3.82	50.18	03:47
4	TC Clean	4.41	8.14	3.72	50.03	03:48

Sample Type: Clean From Schedule Version 5

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/13 13:50

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.04	4.66	3.62	49.58	05:14
2	TC Clean	8.38	12.07	3.69	50.33	04:02
3	TC Clean	3.61	7.54	3.93	50.39	03:46
4	TC Clean	3.62	7.57	3.95	49.94	03:46

Sample Type: Blank (Creating v1397) From Schedule Version 5

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/06/13 14:12

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.95	4.68	3.73	49.74	05:23
2	TC Clean	7.73	11.51	3.77	50.09	04:03
3	TC Clean	3.80	7.69	3.89	50.05	03:48
4	TC Clean	3.68	7.54	3.86	50.14	03:48
5	Reagent Blank	5.91	9.86	3.95	49.94	05:04
6	Acid Blank	1.10	4.98	3.88	49.45	05:27

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	1.3835 ppm	0.0000 ppm	0.0000%	2020/06/13 14:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3835	13.8349	12.62	16.34	3.72	50.54	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.9380 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Calibration Standard: CAS_salt_010711 CAL (Creating calibration From Schedule Version 5

CAS_salt_010711 v38)

	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]	9.5750	0.0000	0%	2020/06/13 15:00
◆	A	TOC	0.5000	5 ppmC	1:10	[TOC] CAS_salt_010711 CAL [0.500 ppm]	12.9010	0.0000	0%	2020/06/13 15:14
◆	A	TOC	1.0000	5 ppmC	1:5	[TOC] CAS_salt_010711 CAL [1.0 ppm]	15.6320	0.0000	0%	2020/06/13 15:29
◆	A	TOC	5.0000	5 ppmC	1:1	[TOC] CAS_salt_010711 CAL [5.0 ppm]	43.2510	0.0000	0%	2020/06/13 15:43
◆	B	TOC	10.0000	50 ppmC	1:5	[TOC] CAS_salt_010711 CAL [10 ppm]	82.4040	0.0000	0%	2020/06/13 15:57
◆	B	TOC	25.0000	50 ppmC	1:2	[TOC] CAS_salt_010711 CAL [25 ppm]	188.6880	0.0000	0%	2020/06/13 16:12
◆	B	TOC	50.0000	50 ppmC	1:1	[TOC] CAS_salt_010711 CAL [50 ppm]	358.6500	0.0000	0%	2020/06/13 16:26

Pos	Base Analysis Type	ID	Rep #	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	DI Water	1	9.58	13.35	3.77	50.50	10:28
A	TOC	0.500 ppm	1	12.90	16.53	3.63	50.45	10:33
A	TOC	1.0 ppm	1	15.63	19.28	3.64	50.42	10:30
A	TOC	5.0 ppm	1	43.25	46.85	3.60	50.38	10:31
B	TOC	10 ppm	1	82.40	85.96	3.56	50.32	10:33
B	TOC	25 ppm	1	188.69	192.25	3.56	50.26	10:30
B	TOC	50 ppm	1	358.65	362.26	3.61	50.20	10:30

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 5

	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)	25.4296 ppm (PASS)	0.0000 ppm	0%	2020/06/13 16:40

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.4296	254.2956	188.28	191.81	3.54	50.16	10:32

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

Sample Type: Check Standard --> CCB From Schedule Version 5

	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%	2020/06/13 16:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.49	11.95	3.46	50.10	10:32

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

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/13 17:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.68	11.21	3.53	50.04	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 5

	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)	26.0039 ppm (PASS)	0.0000 ppm	0%	2020/06/13 17:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	26.0039	260.0391	192.30	195.81	3.51	50.01	10:31

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

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.9962 ppm	0.0000 ppm	0.0000%	2020/06/13 17:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9962	9.9623	16.28	19.94	3.65	49.97	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2004697-001.03	1.5111 ppm	0.1003 ppm	6.6400%	2020/06/13 17:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5820	15.8199	20.39	24.05	3.66	49.97	10:29
2	TOC	1.4401	14.4014	19.40	23.05	3.65	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2004697-002.12	1.3652 ppm	0.0266 ppm	1.9500%	2020/06/13 18:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3840	13.8398	19.01	22.57	3.57	49.96	10:28
2	TOC	1.3463	13.4634	18.74	22.38	3.64	49.96	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2004697-002.12 ms	27.9403 ppm	0.0000 ppm	0.0000%	2020/06/13 18:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.9403	279.4030	205.29	208.92	3.63	49.96	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/13 19:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.60	11.12	3.52	49.98	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2004697-003.03	1.3260 ppm	0.0004 ppm	0.0300%	2020/06/13 19:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3257	13.2567	18.60	22.17	3.58	49.96	10:28
2	TOC	1.3262	13.2624	18.60	22.11	3.51	49.95	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2004697-004.03	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/13 19:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.43	10.94	3.51	49.94	10:28
2	TOC	0.0000	0.0000	7.34	10.93	3.59	49.95	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	9	TOC	K2004791-001.01 100x	2.9890 ppm	0.0113 ppm	0.3800%	2020/06/13 20:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.9810	29.8102	30.21	33.78	3.57	49.93	10:26
2	TOC	2.9970	29.9699	30.32	33.82	3.50	49.96	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 5

	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)	25.4750 ppm (PASS)	0.0000 ppm	0%	2020/06/13 20:43

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.4750	254.7503	188.60	191.98	3.38	49.97	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria	Do Nothing	CAS_salt_010711	CAS_salt_010711	50 ppmC

met.	(v4)	(v38)

Sample Type: Check Standard --> CCB From Schedule Version 5

	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%	2020/06/13 20:57

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.24	10.65	3.41	49.97	10:33

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

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	10	TOC	K2004737-001.01	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/13 21:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.57	10.00	3.43	49.99	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2004737-002.01	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/13 21:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.89	10.28	3.40	50.00	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2004744-001.06	0.9428 ppm	0.0072 ppm	0.7600%	2020/06/13 21:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9479	9.4790	15.95	19.68	3.73	50.02	10:28
2	TOC	0.9378	9.3778	15.88	19.50	3.63	50.03	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2004698-001.03	0.1963 ppm	0.0162 ppm	8.2700%	2020/06/13 22:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2078	2.0775	10.75	14.41	3.65	50.04	10:27
2	TOC	0.1848	1.8480	10.59	14.15	3.56	50.06	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2004733-001.01	10.4566 ppm	0.0915 ppm	0.8800%	2020/06/13 22:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.3919	103.9190	82.19	85.79	3.60	50.08	10:26
2	TOC	10.5213	105.2134	83.10	86.62	3.52	50.09	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2004733-002.01 10x	0.8065 ppm	0.0183 ppm	2.2700%	2020/06/13 23:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8195	8.1946	15.05	18.64	3.60	50.10	10:26
2	TOC	0.7935	7.9351	14.86	18.50	3.64	50.12	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2004733-003.01 10x	6.0122 ppm	0.6003 ppm	9.9800%	2020/06/13 23:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.5878	55.8779	48.49	52.14	3.64	50.11	10:29
2	TOC	6.4367	64.3670	54.45	57.99	3.54	50.12	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2004733-004.01 10x	4.4592 ppm	0.1206 ppm	2.7000%	2020/06/14 00:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.5444	45.4442	41.18	44.72	3.55	50.14	10:28

2	TOC	4.3739	43.7393	39.98	43.52	3.54	50.16	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K2004733-005.01 5x	12.6164 ppm	0.2225 ppm	1.7600%	2020/06/14 00:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.7737	127.7371	98.90	102.41	3.51	50.16	10:29
2	TOC	12.4591	124.5909	96.70	100.32	3.62	50.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	19	TOC	K2004808-001.02	9.7810 ppm	0.5642 ppm	5.7700%	2020/06/14 00:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.1799	101.7992	80.71	84.17	3.47	50.19	10:27
2	TOC	9.3820	93.8204	75.11	78.67	3.56	50.21	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 5

	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)	25.7597 ppm (PASS)	0.0000 ppm	0%	2020/06/14 01:26

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.7597	257.5972	190.59	194.19	3.59	50.22	10:32

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

Sample Type: Check Standard --> CCB From Schedule Version 5

	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%	2020/06/14 01:41

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.67	13.23	3.57	50.20	10:29

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

Sample Type: Sample — From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/14 01:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	9.10	12.83	3.73	50.19	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS — From Schedule Version 5

	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)	25.7945 ppm (PASS)	0.0000 ppm	0%	2020/06/14 02:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.7945	257.9450	190.84	194.46	3.62	50.17	10:31

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

Sample Type: Sample — From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	K2004808-002.02	9.2787 ppm	0.0579 ppm	0.6200%	2020/06/14 02:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.3196	93.1960	74.67	78.35	3.68	50.15	10:30
2	TOC	9.2378	92.3777	74.10	77.73	3.63	50.15	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2004808-003.02	1.8125 ppm	0.0903 ppm	4.9800%	2020/06/14 02:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8764	18.7636	22.46	26.03	3.57	50.15	10:25
2	TOC	1.7486	17.4863	21.56	25.12	3.55	50.16	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2004808-003.02 ms	22.6227 ppm	0.0000 ppm	0.0000%	2020/06/14 03:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	22.6227	226.2271	167.99	171.73	3.74	50.13	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/14 03:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.10	11.69	3.59	50.14	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2004808-004.02	16.3705 ppm	0.1534 ppm	0.9400%	2020/06/14 03:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.4790	164.7900	124.89	128.47	3.58	50.15	10:25
2	TOC	16.2620	162.6203	123.37	127.01	3.64	50.16	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2004808-005.02	9.1476 ppm	0.0610 ppm	0.6700%	2020/06/14 04:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.1907	91.9073	73.77	77.35	3.58	50.16	10:27
2	TOC	9.1045	91.0448	73.16	76.86	3.70	50.18	10:26

Dilution	Blank Contribution	Method	Calibration

1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2004808-006.02	29.5301 ppm	0.2738 ppm	0.9300%	2020/06/14 04:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	29.7237	297.2366	217.80	221.40	3.59	50.20	10:26
2	TOC	29.3365	293.3648	215.09	218.72	3.63	50.20	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2004808-007.02 10x	3.7883 ppm	0.0450 ppm	1.1900%	2020/06/14 05:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.8201	38.2010	36.09	39.68	3.59	50.24	10:28
2	TOC	3.7565	37.5652	35.65	39.28	3.63	50.23	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 5

	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)	24.9881 ppm (PASS)	0.0000 ppm	0%	2020/06/14 05:42

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9881	249.8807	185.18	188.84	3.66	50.24	10:30

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

Sample Type: Check Standard --> CCB From Schedule Version 5

	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%	2020/06/14 05:57

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

D	TOC	0 ppm	1	0.0000	0.0000	7.89	11.54	3.65	50.26	10:29

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

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2004808-008.02	11.9653 ppm	0.3355 ppm	2.8000%	2020/06/14 06:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.2025	122.0249	94.90	98.52	3.62	50.25	10:27
2	TOC	11.7281	117.2807	91.57	95.30	3.74	50.29	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2004808-009.02	30.6063 ppm	0.3733 ppm	1.2200%	2020/06/14 06:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	30.8702	308.7024	225.85	229.42	3.57	50.25	10:26
2	TOC	30.3424	303.4235	222.14	225.91	3.77	50.26	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2004758-001.10	0.8823 ppm	0.1783 ppm	20.2100%	2020/06/14 07:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0083	10.0834	16.37	20.03	3.66	50.25	10:25
2	TOC	0.7562	7.5616	14.60	18.23	3.62	50.26	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K2004758-002.10	0.4392 ppm	0.0080 ppm	1.8100%	2020/06/14 07:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4448	4.4482	12.42	16.05	3.63	50.25	10:26
2	TOC	0.4336	4.3356	12.34	16.10	3.76	50.25	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC)	CAS_salt_010711	CAS_salt_010711

(v1397) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	33	TOC	K2004758-003.10	0.3468 ppm	0.0511 ppm	14.7400%	2020/06/14 08:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3830	3.8295	11.98	15.42	3.44	50.24	10:28
2	TOC	0.3107	3.1068	11.48	14.97	3.49	50.24	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	34	TOC	K2004758-004.10	3.1285 ppm	0.0316 ppm	1.0100%	2020/06/14 08:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.1508	31.5081	31.40	34.89	3.49	50.22	10:29
2	TOC	3.1062	31.0619	31.09	34.62	3.54	50.24	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	35	TOC	K2004758-005.10 20x	4.4198 ppm	0.0186 ppm	0.4200%	2020/06/14 09:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.4066	44.0657	40.21	43.85	3.64	50.21	10:29
2	TOC	4.4329	44.3295	40.39	43.82	3.43	50.22	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/14 09:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.37	9.93	3.56	50.18	10:27
2	TOC	0.0000	0.0000	7.31	10.91	3.60	50.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2004572-004.01 doc	0.5326 ppm	0.0024 ppm	0.4500%	2020/06/14 09:56

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	0.5309	5.3093	13.02	16.54	3.52	50.14	10:26
2	TOC	0.5343	5.3435	13.04	16.66	3.62	50.13	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	K2004572-005.02 doc	2.7951 ppm	0.0073 ppm	0.2600%	2020/06/14 10:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8003	28.0026	28.94	32.43	3.49	50.14	10:28
2	TOC	2.7900	27.9000	28.87	32.53	3.67	50.12	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 5

	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)	25.0144 ppm (PASS)	0.0000 ppm	0%	2020/06/14 10:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0144	250.1444	185.36	188.83	3.46	50.13	10:29

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

Sample Type: Check Standard --> CCB From Schedule Version 5

	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%	2020/06/14 11:07

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.87	10.20	3.33	50.14	10:28

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

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	39	TOC	MB3	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/14 11:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.08	9.55	3.47	50.08	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 5

	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)	25.6448 ppm (PASS)	0.0000 ppm	0%	2020/06/14 11:36

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.6448	256.4482	189.79	193.34	3.55	50.05	10:32

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

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	40	TOC	K2004572-005.02 ms doc	29.6142 ppm	0.0000 ppm	0.0000%	2020/06/14 11:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	29.6142	296.1418	217.04	220.61	3.57	50.04	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	41	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/14 12:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.10	10.58	3.48	50.01	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	42	TOC	K2004572-006.01 doc	1.0034 ppm	0.0383 ppm	3.8200%	2020/06/14 12:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0304	10.3044	16.53	20.07	3.55	50.02	10:26
2	TOC	0.9763	9.7627	16.14	19.89	3.74	50.00	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	43	TOC	K2004572-009.01 doc	3.0689 ppm	0.0255 ppm	0.8300%	2020/06/14 12:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0869	30.8694	30.95	34.36	3.41	49.97	10:26
2	TOC	3.0509	30.5087	30.70	34.37	3.67	49.99	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	44	TOC	K2004572-010.01 doc	0.7346 ppm	0.0024 ppm	0.3300%	2020/06/14 13:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7363	7.3635	14.46	17.93	3.47	49.97	10:29
2	TOC	0.7329	7.3293	14.44	17.76	3.32	49.98	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	45	TOC	K2004572-014.01 doc	0.0012 ppm	0.0016 ppm	141.4200%	2020/06/14 13:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0023	0.0233	9.31	12.84	3.53	49.99	10:26
2	TOC	0.0000	0.0000	9.26	12.64	3.38	49.97	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	46	TOC	K2004572-015.01 doc	1.5269 ppm	0.0322 ppm	2.1100%	2020/06/14 14:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5042	15.0415	19.85	23.38	3.53	49.91	10:28

2	TOC	1.5496	15.4963	20.17	23.65	3.48	49.88	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	47	TOC	K2004572-016.01 doc	0.4980 ppm	0.0204 ppm	4.0900%	2020/06/14 14:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5124	5.1239	12.89	16.38	3.49	49.85	10:27
2	TOC	0.4836	4.8360	12.69	16.22	3.53	49.85	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 5

	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)	25.0943 ppm (PASS)	0.0000 ppm	0%	2020/06/14 15:09

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0943	250.9427	185.92	189.44	3.51	49.85	10:30

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

Sample Type: Check Standard --> CCB From Schedule Version 5

	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%	2020/06/14 15:23

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.77	10.32	3.55	49.83	10:30

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

Sample Type: Sample From Schedule Version 5

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◈	48	TOC	K2004907-001.01	3.5568 ppm	0.0435 ppm	1.2200%	2020/06/14 15:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.5876	35.8759	34.46	38.16	3.70	49.80	10:29
2	TOC	3.5260	35.2601	34.03	37.74	3.71	49.80	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	49	TOC	K2004871-001.01	2.0406 ppm	0.0379 ppm	1.8600%	2020/06/14 16:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0138	20.1378	23.42	26.93	3.51	49.78	10:31
2	TOC	2.0674	20.6739	23.80	27.37	3.57	49.77	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm — From Schedule Version 5

	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)	25.5638 ppm (PASS)	0.0000 ppm	0%	2020/06/14 16:34

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.5638	255.6385	189.22	192.69	3.48	49.76	10:32

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

Sample Type: Check Standard --> CCB — From Schedule Version 5

	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%	2020/06/14 16:49

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.54	10.14	3.61	49.75	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria	Do Nothing	CAS_salt_010711	CAS_salt_010711	0 ppmC

met.	(v4)	(v38)

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1396	1.5837	1.5160	0.0000	0.0000	0.0000	2020/06/11 17:09	Fusion1 (Fusion1)
v1397	1.9690	1.1040	0.0000	0.0000	0.0000	2020/06/13 14:45	Fusion1 (Fusion1)

Calibrations

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

Name: CAS_salt_010711 (TOC)

Version:	v38	Calibration curve formula:	TOC: y = 7.015x + 9.892
Ver Creation:	2020/06/13 16:40	r^2 value:	TOC: r^2 = 0.99974
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time

DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)

Ver Creation: 2019/02/21 17:57

Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report				

Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/06/14 17:05

ALS Environmental

StarLIMS Run: 683111, 683425, 683426

Analysis: DOC/TOC

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

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-17-B 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

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-08-22-D

21 % H3PO4: 19-GEN-08-22-C

Equipment ID: K-TOC-03

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

FILTER ID: 16967789

Analyzed By:	Date Analyzed: 6/18/20
Reviewed By:	Date Reviewed: 6/16/20

HS20060451 WC Raw Data

ALS WO# HS20060451

NIT-AMM-W-ISE / 350.3

ALS Laboratory Group

Ion Selective Electrode Logbook

Analyst: MD

Date: 6/16/20 9:30 AM

Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F

Probe Calibration Date: 6/16/20

Cal Std ID: 313 1069 (08-70-01)

Probe ID: X01 - 11806

Sodium Thiosulfate ID: 3100 60 1618

Std Level		mV	Conc., mg/L:
STD 1 (mg/L):	0.2	122.9	0.201
STD 2 (mg/L):	1	92.6	1.041
STD 3 (mg/L):	5	53.3	5.025

Std Level	mV	Conc., mg/L:
STD 4 (mg/L): 10	36.6	9.993
STD 5 (mg/L): 50	-5.8	49.991

LSC / MS Spike ID: 3100601709

ICV Cal STD ID: 313 1069 08

DPD Reagent ID: 3100 60 1821

ICAL Date & Slope: 100.2 / -60.6 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		10.768			
CCB					0.010			
MBLK					0.009			
LCS					11.360			
HS20060382-01					0.160		+ve	Rechecked
382-01 MS					10.430			
382-01 MSD					9.980			
389-01					1.391		-ve	
451-01					15.654		-ve	
647-01					0.422		-ve	
CCV					10.169			
CCB					0.008			

Batch ID: 363292 / 363291

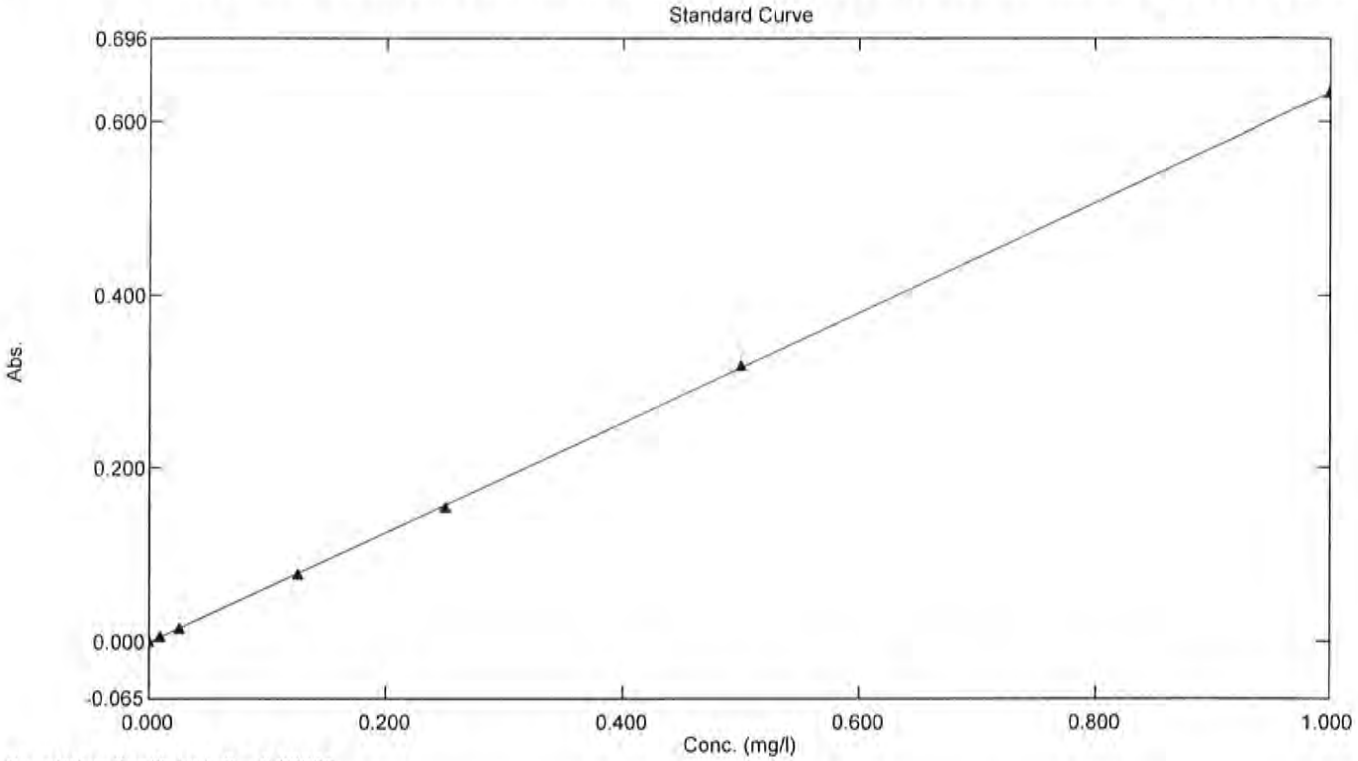
Reported By: MD

Reviewed By: KL

Standard Table Report

06/30/2020 03:14:42 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\06102020_PORTHO.pho..



Correlation Coefficient r2 = 0.99995

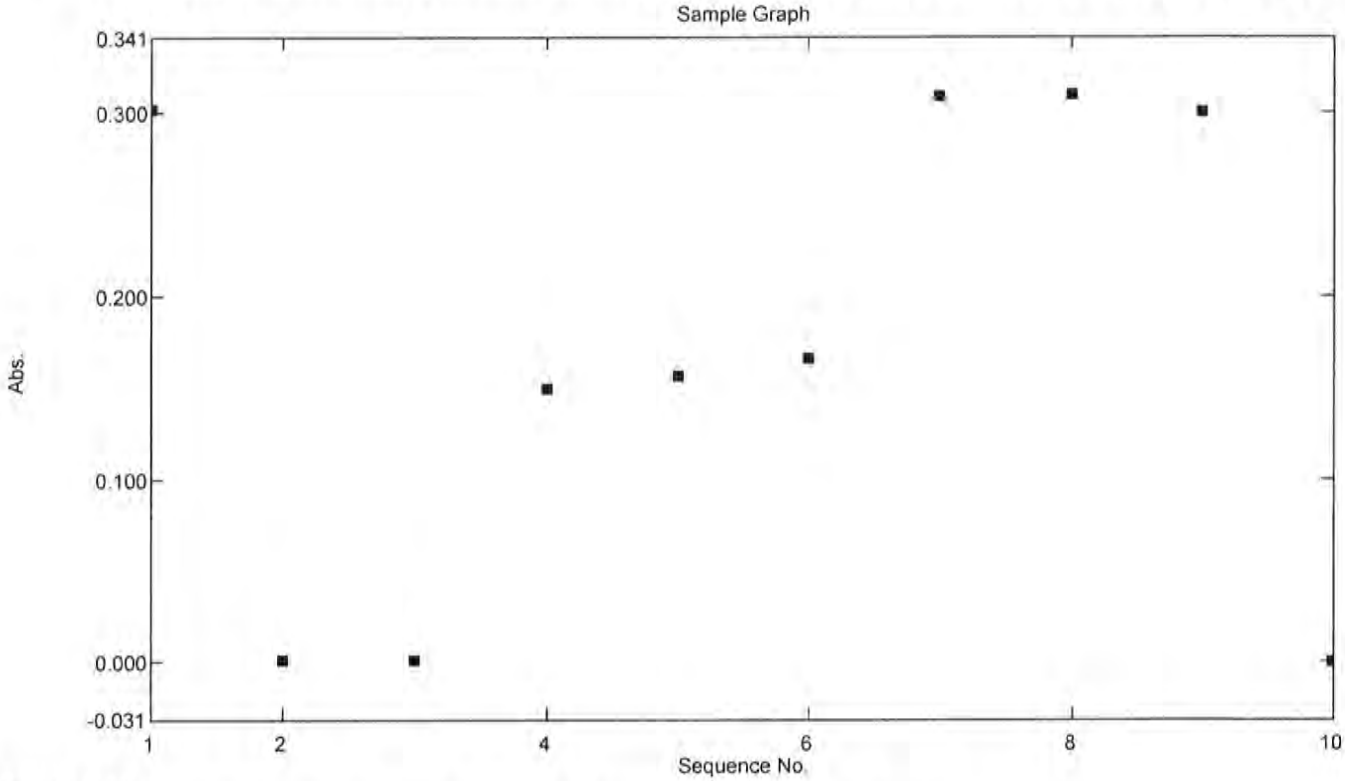
Standard Table

	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

06/30/2020 03:13:59 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\06102020_PORTHO.pho..



Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.477	0.301	
2	CCB	Unknown		0.005	0.002	
3	MBLK	Unknown		0.005	0.001	
4	LCS	Unknown		0.238	0.149	
5	LCSD	Unknown		0.248	0.156	
6	HS20060451.01.	Unknown		0.264	0.166	PF:10X
7	HS20060451.01.M	Unknown		0.488	0.308	PF:10X
8	HS20060451.01M	Unknown		0.490	0.310	PF:10X
9	CCV2	Unknown		0.474	0.299	L-313105405
10	CCB2	Unknown		0.003	0.000	
11						

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WorkOrder: HS20060116

Longhorn GW Treatment Plant Monthly Influent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

30-Jun-2020

ALS Environmental
ALS Group USA, Corp
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Kelso, WA 98626
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HS20060116 Longhorn GW Treatment Plant Monthly Influent Samples Final

ALS WO# HS20060116

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T: +1 281 530 5656
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June 18, 2020

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

Work Order: **HS20060116**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Influent Samples**

Dear Marcia Olive,

ALS Environmental received 1 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 Influent Samples
Work Order: HS20060116

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20060116-01	LH18/24-SP140_060220	Water		02-Jun-2020 14:00	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 Influent Samples
Work Order: HS20060116

Work Order Comments

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

Metals by Method SW6020

Batch ID: 154157

Sample ID: HS20060114-01MSD

• MSD is for an unrelated sample

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 Influent Samples
WorkOrder:HS20060116
Sample ID: LH18/24-SP140_060220
Lab ID:HS20060116-01
Collection Date: 02-Jun-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 / 05-Jun-2020		Analyst: JHD
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	10-Jun-2020 16:07
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	10-Jun-2020 16:07
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
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.

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

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
HS20060116-01		10 (mL)	10 (mL)	1

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 154157 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS20060116-01	LH18/24-SP140_060220	02 Jun 2020 14:00		05 Jun 2020 14:00	10 Jun 2020 16:07	1
Batch ID: R362588 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS20060116-01	LH18/24-SP140_060220	02 Jun 2020 14:00			03 Jun 2020 12:55	1
Batch ID: R363524 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20060116-01	LH18/24-SP140_060220	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 Influent Samples
WorkOrder: HS20060116

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
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
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: 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
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: 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
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

PDS Sample ID: **HS20060114-01PDS** Units: **mg/L** Analysis Date: **10-Jun-2020 16:23**
Client ID: 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
Selenium	0.1008	0.00500	0.1	0.000544	100	80 - 120				

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

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: **15-Jun-2020 16:23**
Client ID: 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: 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
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: HS20060116-01

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

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: 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: 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: HS20060116-01

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: **HS20060116**

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 Influent Samples
Work Order: HS20060116

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20060116-01	LH18/24-SP140_060220	Login	6/3/2020 12:09:26 PM	PMG	MET071
HS20060116-01	LH18/24-SP140_060220	Login	6/3/2020 12:09:26 PM	PMG	Sub
HS20060116-01	LH18/24-SP140_060220	Login	6/3/2020 12:09:26 PM	PMG	WET387

ALS Houston, US Date: 18-Jun-20

Sample Receipt Checklist

Work Order ID: HS20060116 **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 12:16	**Reviewed by:**	/S/ RJ Modashia	03-Jun-2020 14:50
	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 12:25	

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: RJ 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 MONTHLY INFLUENT SAMPLES

Prepared By:
Scott Beesinger

P.O. Number

HS20060116

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Monthly Influent Sample

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: SILVER & SELENIUM	HEXAVALENT CHROMIUM	PERCHLORATE							Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP140_060220	Water	06/02/20 / 14:00		1	X									HNO3	
LH18/24-SP140_060220	Water	06/02/20 / 14:00		2		X	X							NONE	

Additional Remarks: **STANDARD TURN AROUND TIME**

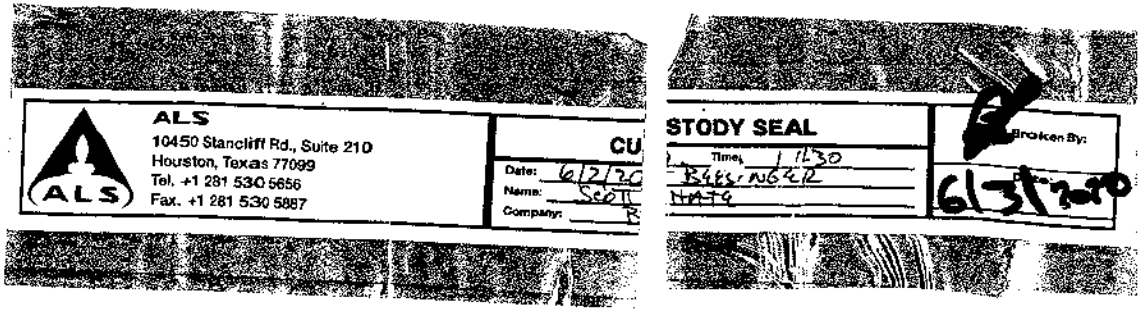
Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	06/02/20	14:30		6/3/2020	09:05						

For Lab Use Only

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

Remarks:

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



ORIGIN ID:SGRA (303) 597-2450
SCOTT BEESINGER
BHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PMB208
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 02MAR20
ACTWGT: 1.00 LB MAN
CAD: 3001307DAFE3211
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

44677.

RMA:

FedEx Express

FedEx
TRK# 0221 1251 0294 9660

WED - 03 JUN
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

June 18, 2020 Service Request No:E2000496

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

Laboratory Results for: HS20060116

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 **E2000496.**

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.:**	E2000496
Project:	HS20060116	**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:**E2000496
Project: HS20060116

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000496-001	LH18/24-SP140_060220	6/2/2020	1400

Service Request Summary

Folder #: **E2000496**
Client Name: ALS Environmental - US
Project Name: HS20060116
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: HS20060116
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 5C
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000496-001	LH18/24-SP140_060220	Ground Water	06/02/20 1400	**IV**

Service Request Summary

Folder #: **E2000496**
Client Name: ALS Environmental - US
Project Name: HS20060116
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: HS20060116
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 5C
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

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
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:** **14018**

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: HS20060116
TSR: Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060116-01**	**LH18/24-SP140_060220**	**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: 6/4/20 1945

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist: LK

Client/Project: ALS-H

Thermometer ID: IR11

Date/Time Received: 6/14/20 Initials: LK

Date/Time Logged in: 6/14/20 Initials: LK

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?
-		6/14/20	1950	LK	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

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Collected:**	6/ 2/20 1400
Sample Matrix:	Ground Water	**Date Received:**	6/ 4/20
Sample Name:	LH18/24-SP140_060220	**Units:**	µg/L
Lab Code:	E2000496-001	**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	**8290**		20.0	10.0	5.00	200	6/ 9/20	6/17/20 11:35	359781	683950	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**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
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Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060116
Sample Matrix: Ground Water

Service Request: E2000496
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:**	E2000496
Project:	HS20060116	**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:**	E2000496
Project:	HS20060116	**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

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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

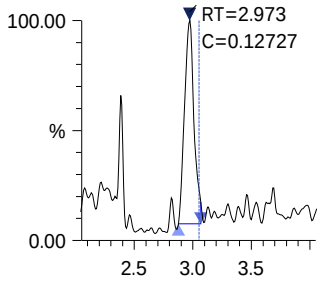
Date acquired: 6/2/2020 3:37:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_009.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

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

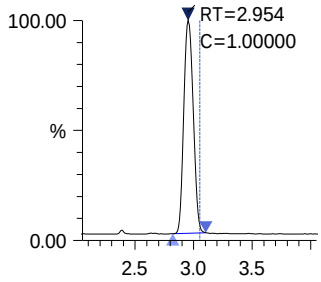
Q 99.00>83.00 (-) 4.13e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 137060

ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

PERCHLORATE2

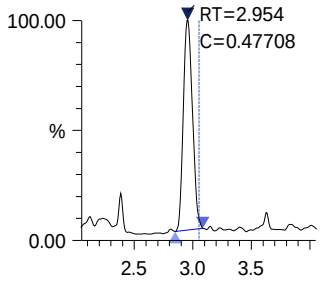
Date acquired: 6/2/2020 3:45:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_010.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

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

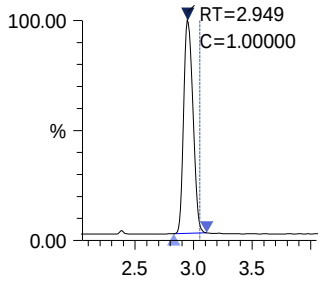
Q 99.00>83.00 (-) 1.56e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 138722

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

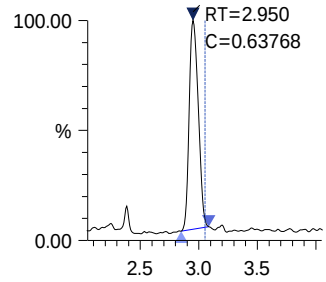
PERCHLORATE3

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

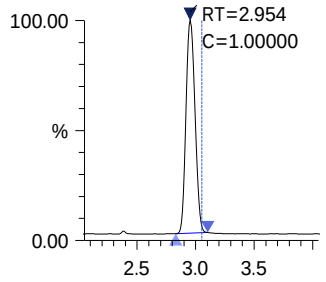
Perchlorate

Conc 0.63768
Area 11656



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 142915



ALS Group Houston

PERCHLORATE4

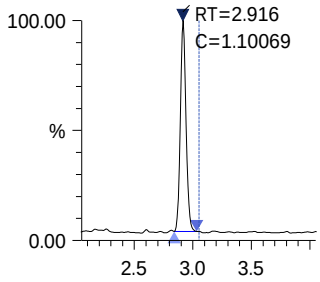
Date acquired: 6/2/2020 4:05:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_012.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

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

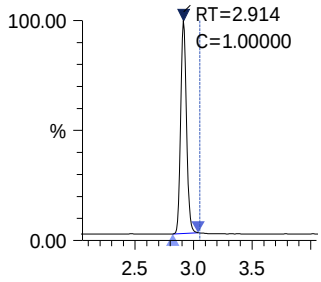
Q 99.00>83.00 (-) 5.42e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128706

ISTD 107.00>89.00 (-) 3.72e4



ALS Group Houston

PERCHLORATE5

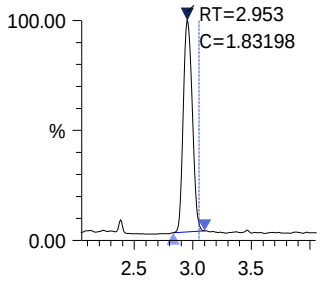
Date acquired: 6/2/2020 4:13:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_013.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

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

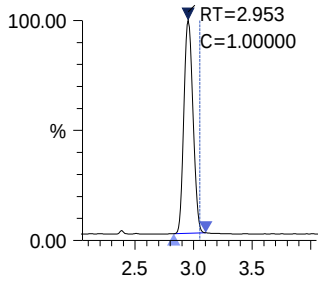
Q 99.00>83.00 (-) 6.29e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 144982

ISTD 107.00>89.00 (-) 2.71e4



ALS Group Houston

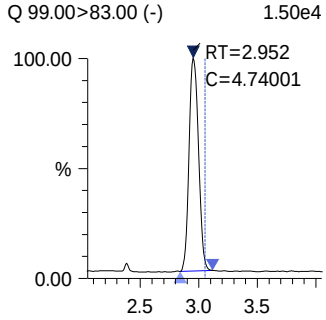
PERCHLORATE6

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

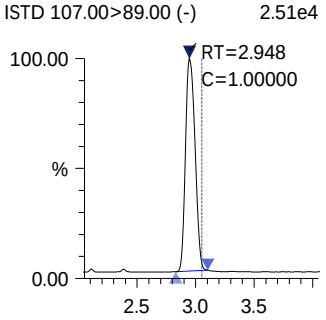
Perchlorate

Conc 4.74001
Area 85178



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 140500



ALS Group Houston

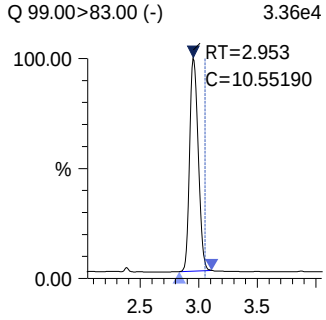
PERCHLORATE7

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

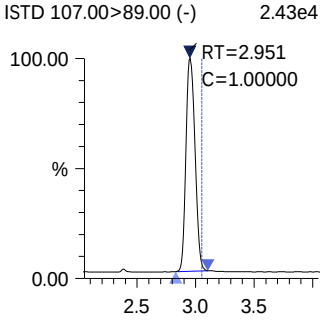
Perchlorate

Conc 10.55190
Area 173998



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128928



ALS Group Houston

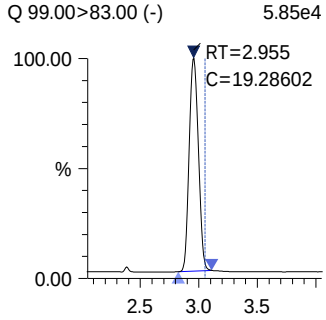
PERCHLORATE8

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

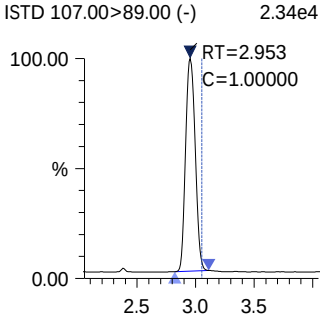
Perchlorate

Conc 19.28602
Area 324944



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 131734



ALS Group Houston

PERCHLORATE9

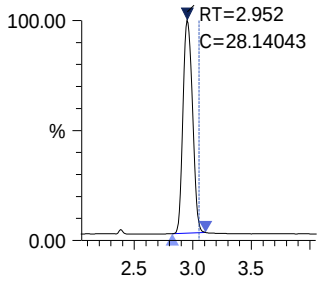
Date acquired: 6/2/2020 4:44:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_017.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

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

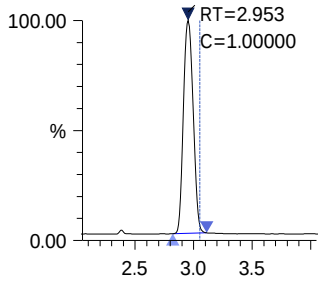
Q 99.00>83.00 (-) 8.16e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130327

ISTD 107.00>89.00 (-) 2.28e4



ALS Group Houston

PERCHLORATE10

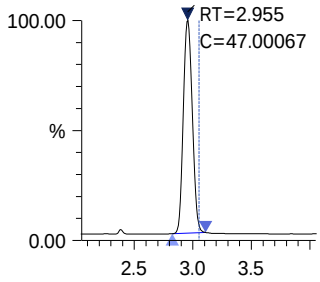
Date acquired: 6/2/2020 4:52:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_018.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

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

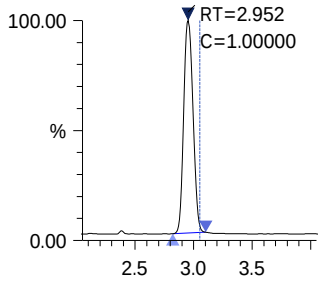
Q 99.00>83.00 (-) 1.36e5



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 122661

ISTD 107.00>89.00 (-) 2.25e4



ALS Group Houston

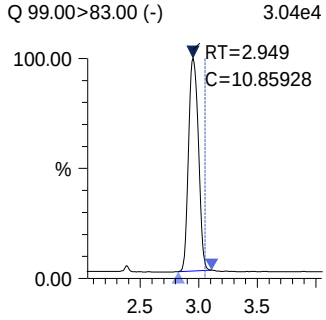
PERCHLORATEICV

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

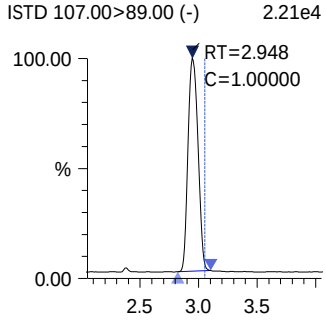
Perchlorate

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
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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	**Service Request:**	E2000496
Project:	HS20060116	**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_019	**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	**Service Request:**	E2000496
Project:	HS20060116	**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_026	**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: HS20060116

Service Request: E2000496
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:**	E2000496
Project:	HS20060116	**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: HS20060116

Service Request: E2000496
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	**Service Request:**	E2000496
Project:	HS20060116	**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	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200617\20200617_017	**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	**Service Request:**	E2000496
Project:	HS20060116	**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	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200617\20200617_022	**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:**	E2000496
Project:	HS20060116	**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:**	E2000496
Project:	HS20060116	**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:**	E2000496
Project:	HS20060116	**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:**	E2000496
Project:	HS20060116	**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:**	E2000496
Project:	HS20060116	**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:**	E2000496
Project:	HS20060116	**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-SP140_060220	E2000496-001	157,568	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:**	E2000496
Project:	HS20060116	**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

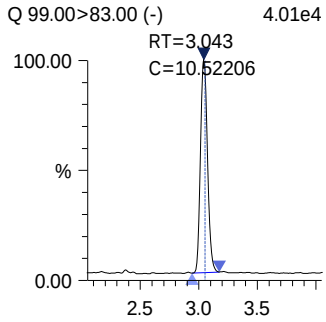
PERCHLORATE7

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

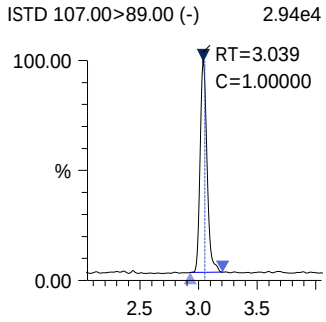
Perchlorate

Conc 10.52206
Area 163116



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 121207



ALS Group Houston

EQ2000228-01

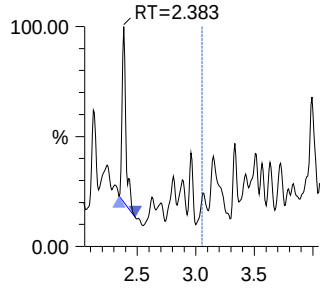
Date acquired: 6/16/2020 2:31:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_021.lcd
Vial: 33 | Inj. Volume: 25.0000uL | Tray: 1

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 ----

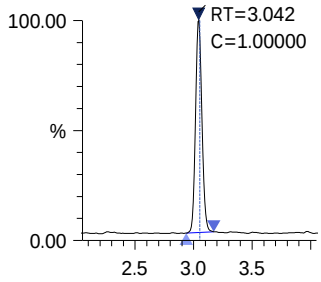
Q 99.00>83.00 (-) 8.78e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 132882

ISTD 107.00>89.00 (-) 3.46e4



ALS Group Houston

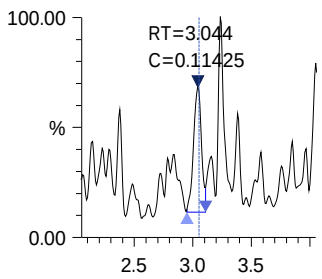
EQ2000228-02

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

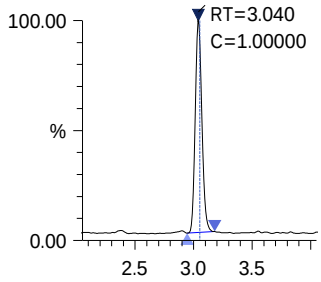
Perchlorate

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

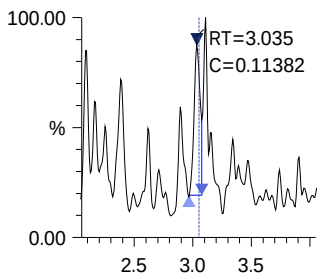
Date acquired: 6/16/2020 2:47:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_023.lcd
Vial: 35 | Inj. Volume: 25.0000uL | Tray: 1

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

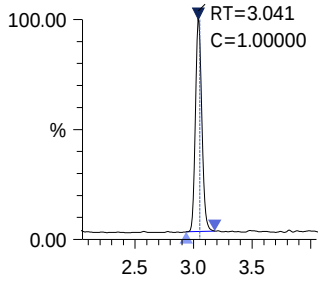
Q 99.00>83.00 (-) 8.57e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 143510

ISTD 107.00>89.00 (-) 3.73e4



ALS Group Houston

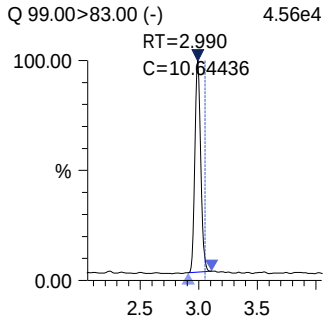
PERCHLORATE7

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

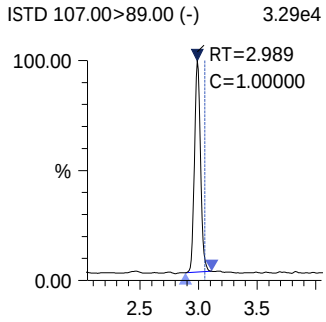
Perchlorate

Conc 10.64436
Area 158498



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 116422



HS20060116 - ME - ICP_W_DOD

ALS WO# HS20060116

ALS Houston, US Date: 30-Jun-20

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS05
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

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: 30-Jun-20

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116
Start Date: 05-Jun-2020 10:00 End Date: 05-Jun-2020 14:00

Batch ID: 154157
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS20060114-01MS				10	10	1
HS20060114-01MSD				10	10	1
HS20060114-01PDS				10	10	1
HS20060114-01SD				10	10	1
HS20060116-01	LH18/24-SP140_060220	Water		10	10	1
LCS-154157				10	10	1
MBLK-154157				10	10	1

ALS Houston, US

Date: 30-Jun-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116
Start Date: 10-Jun-2020 End Date: 10-Jun-2020

Run ID:ICPMS05_362980
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_362980_Tune	1	10-Jun-2020 00:00	ICPMS05_362980_Tune_1	
CAL BLK	1	10-Jun-2020 12:20	012CALB.d_5613256	AG SE
2/10/200	1	10-Jun-2020 12:23	013CALS.d_5613257	AG SE
5/25/500	1	10-Jun-2020 12:25	014CALS.d_5613258	AG SE
10/50/1000	1	10-Jun-2020 12:28	015CALS.d_5613259	AG SE
100/500/10K	1	10-Jun-2020 12:30	016CALS.d_5613260	AG SE
200/1000/20K	1	10-Jun-2020 12:32	017CALS.d_5613261	AG SE
LLICV2	1	10-Jun-2020 12:42	020LCV2.d_5613264	AG SE
LLICV5	1	10-Jun-2020 12:44	021LCV5.d_5613265	AG SE
ICB	1	10-Jun-2020 12:47	022_ICB.d_5613266	AG SE
ICV	1	10-Jun-2020 12:49	023_ICV.d_5613267	AG SE
ICSA	1	10-Jun-2020 12:54	025ICSA.d_5613269	AG SE
ICSAB	1	10-Jun-2020 12:56	026ICSB.d_5613270	AG SE
CCV 1	1	10-Jun-2020 14:27	053_CCV.d_5613658	AG SE
CCB 1	1	10-Jun-2020 14:29	054_CCB.d_5613659	AG SE
MBLK-154157	1	10-Jun-2020 14:34	055SMPL.d_5613660	AG SE
LCS-154157	1	10-Jun-2020 14:40	057SMPL.d_5613662	AG SE
CCV 2	1	10-Jun-2020 15:25	065_CCV.d_5613664	AG SE
CCB 2	1	10-Jun-2020 15:27	066_CCB.d_5613665	AG SE
CCV 3	1	10-Jun-2020 16:02	077_CCV.d_5613902	AG SE
CCB 3	1	10-Jun-2020 16:04	078_CCB.d_5613903	AG SE
LH18/24-SP140_060220	1	10-Jun-2020 16:07	079SMPL.d_5613904	AG SE
ZZZZZZSD	5	10-Jun-2020 16:16	083SMPL.d_5613908	AG SE
ZZZZZZMS	1	10-Jun-2020 16:19	084SMPL.d_5613909	AG SE
ZZZZZZMSD	1	10-Jun-2020 16:21	085SMPL.d_5613910	AG SE
ZZZZZZPDS	1	10-Jun-2020 16:23	086SMPL.d_5613911	SE
CCB 4	1	10-Jun-2020 16:31	089_CCB.d_5613914	AG SE
CCV 4	1	10-Jun-2020 16:38	091_CCV.d_5613916	AG SE
CCV 5	1	10-Jun-2020 16:41	092_CCV.d_5613917	AG SE
ZZZZZZSD	50	10-Jun-2020 16:52	096SMPL.d_5613921	
ZZZZZZPDS	10	10-Jun-2020 16:54	097SMPL.d_5613922	
CCV 6	1	10-Jun-2020 16:59	099_CCV.d_5613924	AG SE
CCB 5	1	10-Jun-2020 17:01	100_CCB.d_5613925	AG SE

ALS Houston, US Date: 30-Jun-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116
Start Date: 15-Jun-2020 End Date: 15-Jun-2020

Run ID:ICPMS05_363235
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_363235_Tune	1	15-Jun-2020 00:00	ICPMS05_363235_Tune_1	
CAL BLK	1	15-Jun-2020 12:06	015CALB.d_5619417	AG
2/10/200	1	15-Jun-2020 12:08	016CALS.d_5619418	AG
5/25/500	1	15-Jun-2020 12:11	017CALS.d_5619419	AG
10/50/1000	1	15-Jun-2020 12:13	018CALS.d_5619420	AG
100/500/10K	1	15-Jun-2020 12:16	019CALS.d_5619421	AG
200/1000/20K	1	15-Jun-2020 12:18	020CALS.d_5619422	AG
ICV	1	15-Jun-2020 12:24	022_ICV.d_5619424	AG SE
LLICV2	1	15-Jun-2020 12:26	023LCV2.d_5619425	AG
LLICV5	1	15-Jun-2020 12:28	024LCV5.d_5619426	AG
ICB	1	15-Jun-2020 12:31	025_ICB.d_5619427	AG SE
ICV	1	15-Jun-2020 12:34	026_ICV.d_5619428	AG SE
ICSA	1	15-Jun-2020 12:46	028ICSA.d_5619430	AG
ICSAB	1	15-Jun-2020 12:49	029ICSB.d_5619431	AG
CCV 1	1	15-Jun-2020 14:14	055_CCV.d_5619464	AG
CCB 1	1	15-Jun-2020 14:17	056_CCB.d_5619465	AG
CCV 2	1	15-Jun-2020 15:00	068_CCV.d_5619458	AG
CCB 2	1	15-Jun-2020 15:03	069_CCB.d_5619459	AG
CCV 3	1	15-Jun-2020 15:50	081_CCV.d_5619460	AG
CCB 3	1	15-Jun-2020 15:52	082_CCB.d_5619461	AG
ZZZZZZPDS	1	15-Jun-2020 16:23	092SMPL.d_5619462	AG
CCV 4	1	15-Jun-2020 16:25	093_CCV.d_5619463	AG
CCB 4	1	15-Jun-2020 16:28	094_CCB.d_5619476	AG
CAL BLK	1	15-Jun-2020 16:41	098CALB.d_5619480	AG
2/10/200	1	15-Jun-2020 16:43	099CALS.d_5619481	AG
5/25/500	1	15-Jun-2020 16:45	100CALS.d_5619482	AG
10/50/1000	1	15-Jun-2020 16:48	101CALS.d_5619483	AG
100/500/10K	1	15-Jun-2020 16:50	102CALS.d_5619484	AG
200/1000/20K	1	15-Jun-2020 16:53	103CALS.d_5619485	AG
ICV	1	15-Jun-2020 16:58	105_ICV.d_5619487	AG SE
LLCCV2	1	15-Jun-2020 17:00	106LCV2.d_5619488	AG
LLCCV5	1	15-Jun-2020 17:02	107LCV5.d_5619489	AG
ICCB 5	1	15-Jun-2020 17:05	108_ICB.d_5619490	AG SE
LLCCV5	1	15-Jun-2020 17:14	110LCV5.d_5619492	AG
CAL BLK	1	15-Jun-2020 20:06	169CALB.d_5620078	AG
2/10/200	1	15-Jun-2020 20:09	170CALS.d_5620079	AG
5/25/500	1	15-Jun-2020 20:11	171CALS.d_5620080	AG
10/50/1000	1	15-Jun-2020 20:14	172CALS.d_5620081	AG
100/500/10K	1	15-Jun-2020 20:16	173CALS.d_5620082	AG
200/1000/20K	1	15-Jun-2020 20:18	174CALS.d_5620083	AG
ICCV 5	1	15-Jun-2020 20:23	176_ICV.d_5620085	AG
LLCCV2	1	15-Jun-2020 20:26	177LCV2.d_5620086	AG
LLCCV5	1	15-Jun-2020 20:28	178LCV5.d_5620087	AG
ICCV 6	1	15-Jun-2020 20:31	179_ICV.d_5620088	AG
ICCB 6	1	15-Jun-2020 20:33	180_ICB.d_5620089	AG
CCV 7	1	15-Jun-2020 21:47	208_CCV.d_5620127	AG
CCB 7	1	15-Jun-2020 21:50	209_CCB.d_5620128	AG
CCV 8	1	15-Jun-2020 22:25	221_CCV.d_5620107	AG
CCB 8	1	15-Jun-2020 22:27	222_CCB.d_5620108	AG
CCV 9	1	15-Jun-2020 22:35	225_CCV.d_5620111	AG
CCB 9	1	15-Jun-2020 22:37	226_CCB.d_5620112	AG

ALS Houston, US Date: 30-Jun-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116
Start Date: 15-Jun-2020 End Date: 15-Jun-2020

Run ID:ICPMS05_363235
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
CCV 10	1	15-Jun-2020 22:39	227_CCV.d_5620113	AG
CCV 11	1	15-Jun-2020 22:56	234_CCV.d_5620120	AG
CCB 10	1	15-Jun-2020 22:58	235_CCB.d_5620121	AG
CCV 12	1	15-Jun-2020 23:08	239_CCV.d_5620125	AG
CCB 11	1	15-Jun-2020 23:10	240_CCB.d_5620126	AG

ALS Houston, US Date: 30-Jun-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

Run ID: ICPMS05_362980
Instrument: ICPMS05
Method: SW6020

ICV	Date: 10-Jun-2020 12:49		Seq: 5613267	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	98.836	99	90-110	
Silver	100	102.552	103	90-110	

CCV1	Date: 10-Jun-2020 14:27		Seq: 5613658	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.171	99	90-110	
Silver	100	108.094	108	90-110	

CCV2	Date: 10-Jun-2020 15:25		Seq: 5613664	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	102.443	102	90-110	
Silver	100	107.737	108	90-110	

CCV3	Date: 10-Jun-2020 16:02		Seq: 5613902	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	101.711	102	90-110	
Silver	100	100.915	101	90-110	

CCV4	Date: 10-Jun-2020 16:38		Seq: 5613916	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	96.915	97	90-110	
Silver	100	100.922	101	90-110	

CCV5	Date: 10-Jun-2020 16:41		Seq: 5613917	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	98.399	98	90-110	
Silver	100	101.845	102	90-110	

CCV6	Date: 10-Jun-2020 16:59		Seq: 5613924	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.616	100	90-110	
Silver	100	101.636	102	90-110	

ALS Houston, US Date: 30-Jun-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

Run ID: ICPMS05_363235
Instrument: ICPMS05
Method: SW6020

ICV	Date: 15-Jun-2020 12:24		Seq: 5619424	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	93.324	93	90-110	

ICV	Date: 15-Jun-2020 12:34		Seq: 5619428	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	97.274	97	90-110	

CCV1	Date: 15-Jun-2020 14:14		Seq: 5619464	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	100.066	100	90-110	

CCV2	Date: 15-Jun-2020 15:00		Seq: 5619458	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	101.046	101	90-110	

CCV3	Date: 15-Jun-2020 15:50		Seq: 5619460	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	96.919	97	90-110	

CCV4	Date: 15-Jun-2020 16:25		Seq: 5619463	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	98.904	99	90-110	

ICV	Date: 15-Jun-2020 16:58		Seq: 5619487	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	99.879	100	90-110	

ICCV5	Date: 15-Jun-2020 20:23		Seq: 5620085	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	92.296	92	90-110	

ICCV6	Date: 15-Jun-2020 20:31		Seq: 5620088	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	92.22	92	90-110	

CCV7	Date: 15-Jun-2020 21:47		Seq: 5620127	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	93.287	93	90-110	

CCV8	Date: 15-Jun-2020 22:25		Seq: 5620107	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	91.441	91	90-110	

CCV9	Date: 15-Jun-2020 22:35		Seq: 5620111	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	96.906	97	90-110	

CCV10	Date: 15-Jun-2020 22:39		Seq: 5620113	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	98.452	99	90-110	

CCV11	Date: 15-Jun-2020 22:56		Seq: 5620120	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	95.271	95	90-110	

ALS Houston, US Date: 30-Jun-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

Run ID: ICPMS05_363235
Instrument: ICPMS05
Method: SW6020

CCV12 Date: 15-Jun-2020 23:08 Seq: 5620125 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Silver	100	96.657	97	90-110	

ALS Houston, US Date: 30-Jun-20

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

Run ID: ICPMS05_362980
Instrument: ICPMS05
Method: SW6020

ICB	Date: 10-Jun-2020 12:47		Seq: 5613266	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB1	Date: 10-Jun-2020 14:29		Seq: 5613659	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

MBLK-154157	Date: 10-Jun-2020 14:34		Seq: 5613660	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB2	Date: 10-Jun-2020 15:27		Seq: 5613665	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB3	Date: 10-Jun-2020 16:04		Seq: 5613903	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB4	Date: 10-Jun-2020 16:31		Seq: 5613914	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB5	Date: 10-Jun-2020 17:01		Seq: 5613925	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

Run ID: ICPMS05_363235
Instrument: ICPMS05
Method: SW6020

ICB	Date: 15-Jun-2020 12:31	Seq: 5619427	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Silver	5	0.2	5	U

CCB1	Date: 15-Jun-2020 14:17	Seq: 5619465	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Silver	2	0.2	2	U

CCB2	Date: 15-Jun-2020 15:03	Seq: 5619459	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Silver	2	0.2	2	U

CCB3	Date: 15-Jun-2020 15:52	Seq: 5619461	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Silver	2	0.2	2	U

CCB4	Date: 15-Jun-2020 16:28	Seq: 5619476	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Silver	2	0.2	2	U

ICCB5	Date: 15-Jun-2020 17:05	Seq: 5619490	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Silver	5	0.2	5	U

ICCB6	Date: 15-Jun-2020 20:33	Seq: 5620089	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Silver	2	0.2	2	U

CCB7	Date: 15-Jun-2020 21:50	Seq: 5620128	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Silver	2	0.2	2	U

CCB8	Date: 15-Jun-2020 22:27	Seq: 5620108	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Silver	2	0.2	2	U

CCB9	Date: 15-Jun-2020 22:37	Seq: 5620112	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Silver	2	0.2	2	U

CCB10	Date: 15-Jun-2020 22:58	Seq: 5620121	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Silver	2	0.2	2	U

CCB11	Date: 15-Jun-2020 23:10	Seq: 5620126	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Silver	2	0.2	2	U

ALS Houston, US Date: 30-Jun-20

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS05_362980
Project: Longhorn GW Treatment Plant Monthly Influent Samples Instrument:ICPMS05
WorkOrder: HS20060116 Method:SW6020

ICSA	Date: 10-Jun-2020 12:54	Seq: 5613269	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium		-0.036	0	
Silver		0.016	0	

ICSAB	Date: 10-Jun-2020 12:56	Seq: 5613270	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium	100	101.8	102	
Silver	100	93.76	93.8	

ALS Houston, US Date: 30-Jun-20

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS05_363235
Project: Longhorn GW Treatment Plant Monthly Influent Samples Instrument: ICPMS05
WorkOrder: HS20060116 Method: SW6020

ICSA	Date: 15-Jun-2020 12:46	Seq: 5619430	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Silver		0.019	0	

ICSAB	Date: 15-Jun-2020 12:49	Seq: 5619431	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Silver	100	96.38	96.4	

ALS Houston, US Date: 30-Jun-20

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

Date Analyzed: 10-Jun-2020 16:21
Date Extracted: 05-Jun-2020 14:00
Units: ug/L

Matrix Spike: HS20060114-01MS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Selenium	5.000	48.60	50.00	97.2	49.11	50.00	98.2	80-120	1.06	20
Silver	5.000	42.54	50.00	85.1	42.25	50.00	84.5	85-116	0.686	20

ALS Houston, US

Date: 30-Jun-20

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

Date Analyzed: 10-Jun-2020 16:23
Date Extracted: 05-Jun-2020 14:00
Units: ug/L

Lab Sample ID: HS20060114-01PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Selenium	0	100.8	100	100	80-120

ALS Houston, US Date: 30-Jun-20

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

Date Analyzed: 15-Jun-2020 16:23
Date Extracted: 05-Jun-2020 14:00
Units: ug/L

Lab Sample ID: HS20060114-01PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Silver	0	88.38	100	88	80-120

ALS Houston, US

Date: 30-Jun-20

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

Date Analyzed: 10-Jun-2020 14:40
Date Extracted: 05-Jun-2020 14:00
Units: ug/L

Lab Sample ID: LCS-154157
Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Selenium	50	53.3	107	80-120
Silver	50	44.52	89	85-116

ALS Houston, US Date: 30-Jun-20

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

Date Analyzed: 10-Jun-2020 16:16
Date Extracted: 05-Jun-2020 14:00
Units: ug/L

Lab Sample ID: HS20060114-01SD
Client Sample ID:

Analysis Method: SW6020

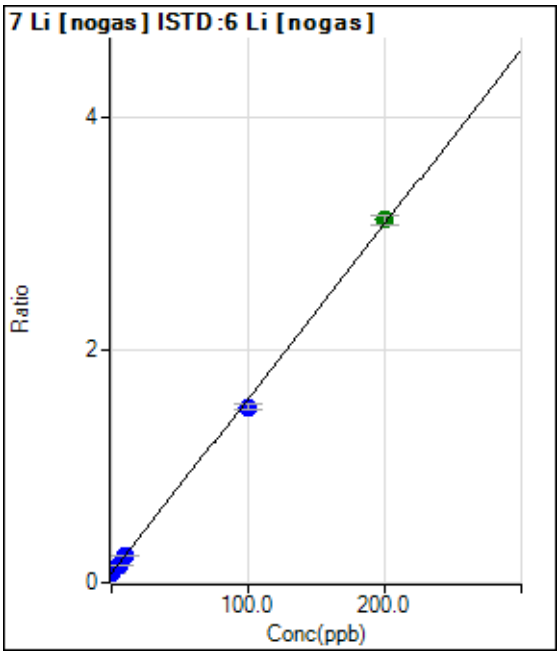
Analyte	Sample Result	C	SD Result	C	RPD	Q
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	

Calibration for 140_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\061020A.b\
Analysis File: 061020A.batch.bin
DA Date-Time: 6/10/2020 7:58:46 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	130CALB.d	CAL BLK	6/10/2020 7:34:14 PM
2	131CALS.d	2/10/200	6/10/2020 7:36:37 PM
3	132CALS.d	5/25/500	6/10/2020 7:39:01 PM
4	133CALS.d	10/50/1000	6/10/2020 7:41:24 PM
5	134CALS.d	100/500/10K	6/10/2020 7:43:47 PM
6	135CALS.d	200/1000/20K	6/10/2020 7:46:07 PM
7			

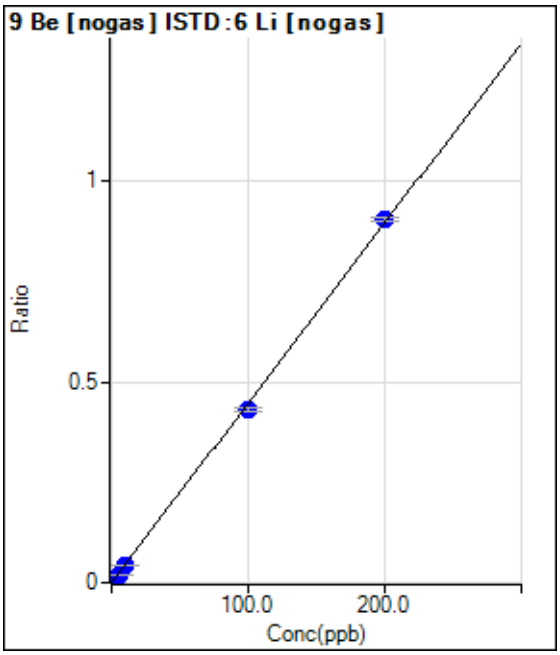
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38150.93	0.0821	P	0.3
2	☐	2.000	1.828	50841.45	0.1095	P	0.4
3	☐	5.000	4.609	70148.10	0.1512	P	0.7
4	☐	10.000	9.626	103918.35	0.2264	P	1.3
5	☐	100.000	95.285	658525.04	1.5101	P	2.9
6	☐	200.000	202.388	1270761.93	3.1153	A	2.8
7	☐	1.000					

y = 0.0150 * x + 0.0821
R = 0.9996
DL = 0.05488
BEC = 5.48

Weight: <None>
Min Conc: <None>

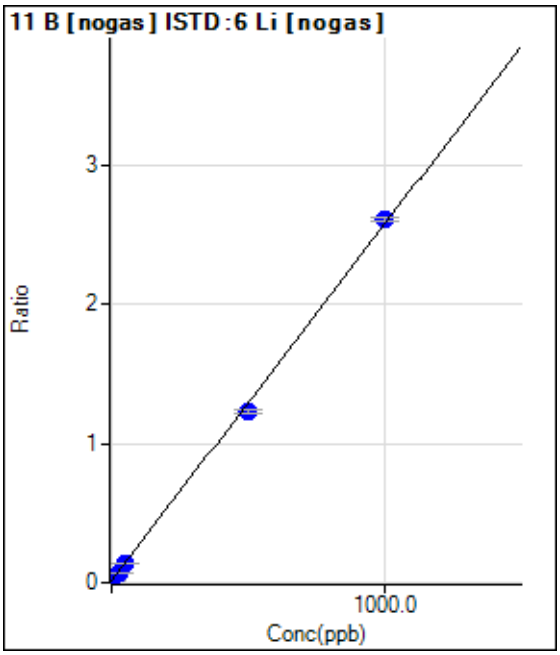


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	25.00	0.0001	P	52.5
2	☐	2.000	1.833	3833.74	0.0083	P	2.8
3	☐	5.000	4.589	9555.77	0.0206	P	0.3
4	☐	10.000	9.783	20127.26	0.0439	P	3.5
5	☐	100.000	96.159	187755.45	0.4305	P	2.5
6	☐	200.000	201.943	368761.36	0.9041	P	1.0
7	☐	1.000					

y = 0.0045 * x + 5.3746E-005
R = 0.9997
DL = 0.0189
BEC = 0.01201

Weight: <None>
Min Conc: <None>

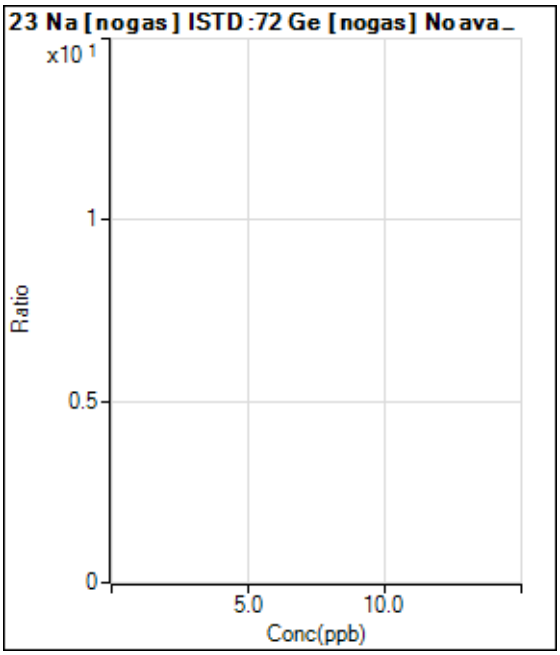
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6344.42	0.0137	P	4.3
2	☐	10.000	9.016	17059.32	0.0368	P	3.3
3	☐	25.000	22.420	32979.88	0.0711	P	0.7
4	☐	50.000	48.012	62719.88	0.1366	P	0.1
5	☐	500.000	474.935	536594.81	1.2303	P	1.2
6	☐	1000.000	1012.706	1063652.90	2.6078	P	1.1
7	☐	5.000					

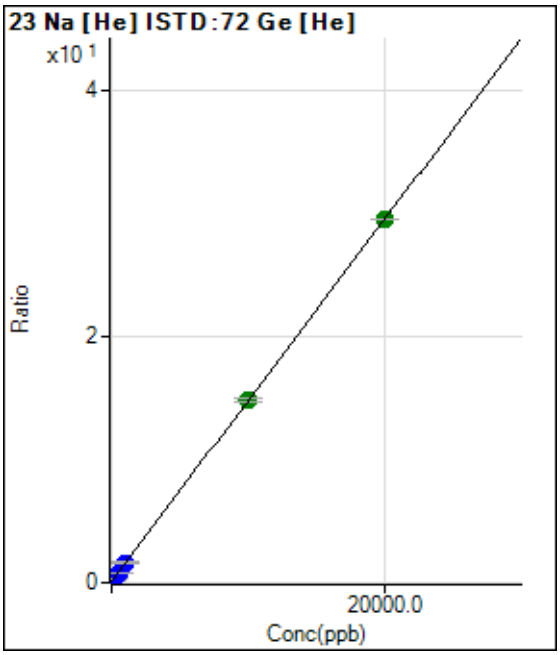
y = 0.0026 * x + 0.0137
R = 0.9996
DL = 0.6862
BEC = 5.332

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					

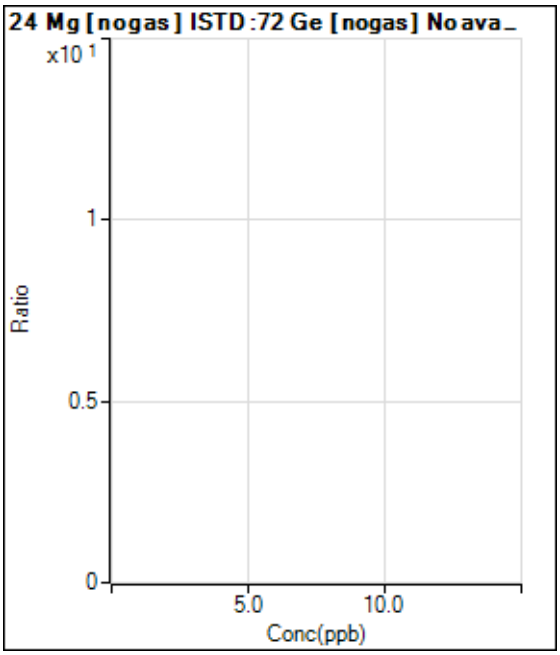
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	35226.62	0.0978	P	2.8
2	☐	200.000	199.080	140966.17	0.3906	P	2.8
3	☐	500.000	499.262	301420.02	0.8321	P	1.2
4	☐	1000.000	1042.572	586992.66	1.6311	P	1.5
5	☐	10000.00	10042.70	5144991.07	14.8678	A	1.6
6	☐	20000.00	19976.54	9940296.31	29.4778	A	0.2
7	☐	100.000					

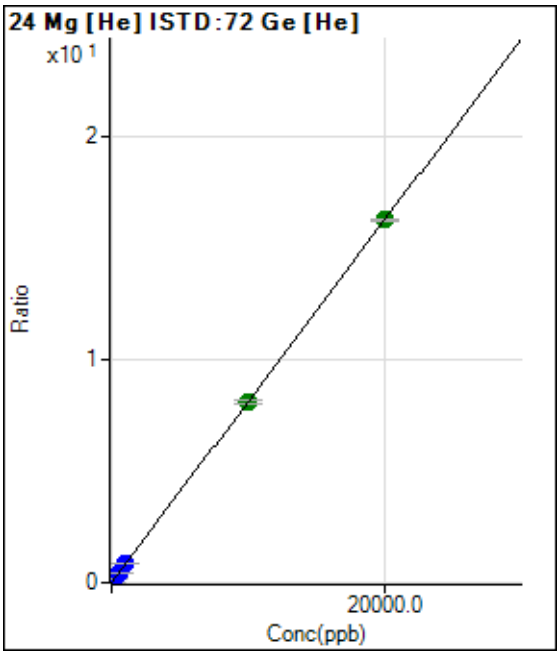
y = 0.0015 * x + 0.0978
R = 1.0000
DL = 5.64
BEC = 66.48

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					

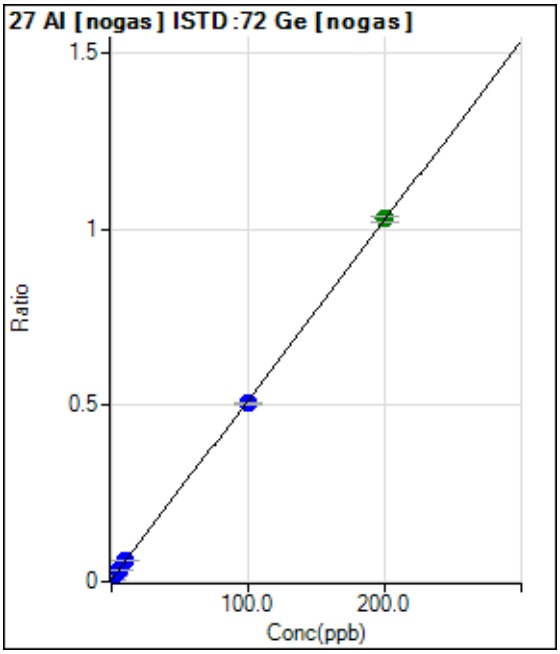
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	690.02	0.0019	P	3.0
2	☐	200.000	198.342	58954.61	0.1633	P	1.1
3	☐	500.000	497.383	147307.77	0.4066	P	0.7
4	☐	1000.000	1033.640	303363.64	0.8430	P	1.8
5	☐	10000.00	9955.131	2803697.15	8.1022	A	2.3
6	☐	20000.00	20020.83	5493987.83	16.2924	A	0.3
7	☐	100.000					

y = 8.1368E-004 * x + 0.0019
R = 1.0000
DL = 0.2153
BEC = 2.354

Weight: <None>
Min Conc: <None>

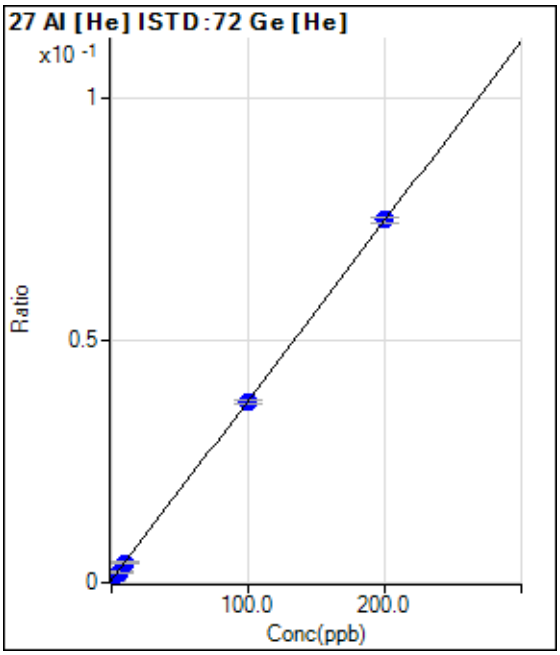


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8415.32	0.0057	P	4.6
2	☐	2.000	2.079	24269.38	0.0163	P	1.7
3	☐	5.000	5.018	46991.62	0.0313	P	1.3
4	☐	10.000	10.685	89496.54	0.0603	P	2.7
5	☐	100.000	98.229	734026.60	0.5070	P	1.1
6	☐	200.000	200.850	1472708.99	1.0307	A	1.4
7	☐	1.000					

y = 0.0051 * x + 0.0057
R = 0.9999
DL = 0.1562
BEC = 1.123

Weight: <None>
Min Conc: <None>

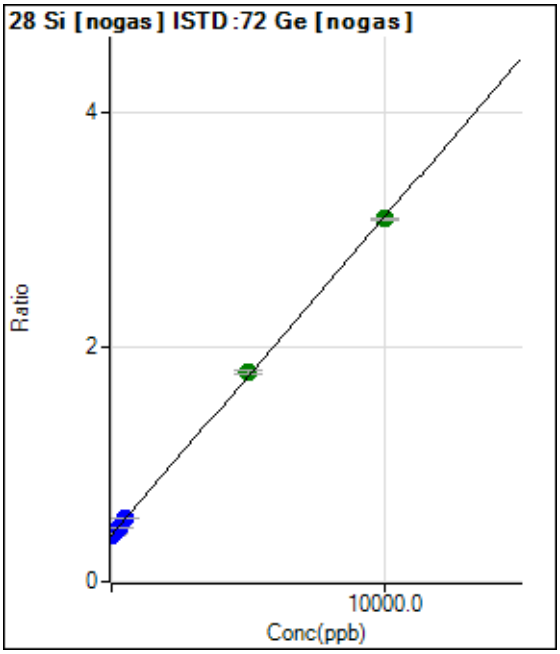
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.00	0.0005	P	15.6
2	☐	2.000	1.601	403.35	0.0011	P	22.2
3	☐	5.000	4.239	760.03	0.0021	P	12.6
4	☐	10.000	9.706	1483.42	0.0041	P	6.8
5	☐	100.000	99.007	12874.59	0.0372	P	2.7
6	☐	200.000	200.534	25230.32	0.0748	P	1.5
7	☐	1.000					

y = 3.7048E-004 * x + 5.2726E-004
R = 1.0000
DL = 0.6661
BEC = 1.423

Weight: <None>
Min Conc: <None>

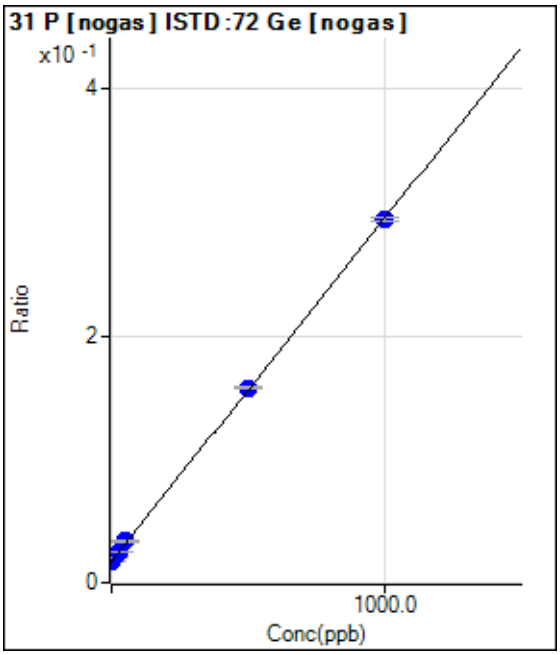


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	584992.23	0.3982	P	1.0
2	☐	100.000	56.664	614134.09	0.4136	P	2.5
3	☐	250.000	235.852	692904.86	0.4622	P	1.7
4	☐	500.000	522.682	802075.64	0.5400	P	1.7
5	☐	5000.000	5123.425	2588102.62	1.7879	A	2.6
6	☐	10000.00	9937.940	4420838.79	3.0938	A	0.3
7	☐	50.000					

y = 2.7124E-004 * x + 0.3982
R = 0.9999
DL = 45.57
BEC = 1468

Weight: <None>
Min Conc: <None>

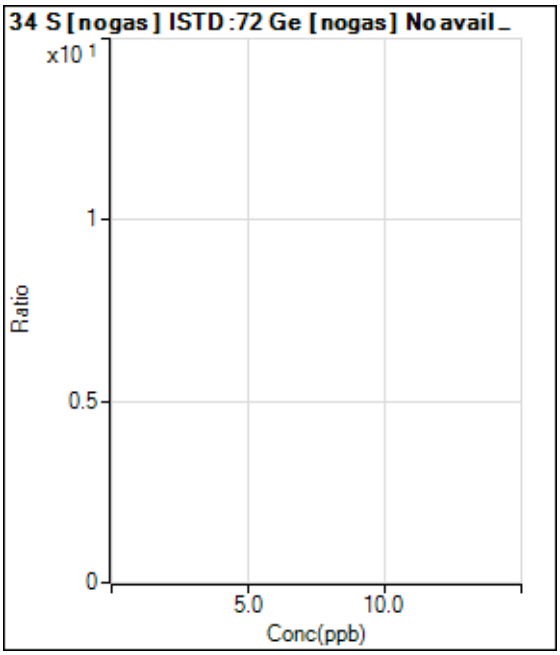
Calibration for 140_ICV.d



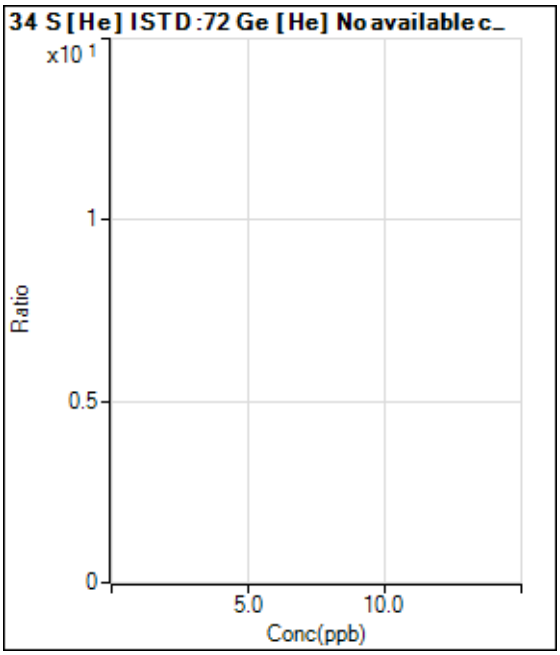
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	25634.31	0.0175	P	1.8
2	☐	10.000	12.191	30945.63	0.0208	P	3.0
3	☐	25.000	28.694	38118.72	0.0254	P	0.5
4	☐	50.000	58.504	50063.09	0.0337	P	1.5
5	☐	500.000	506.651	228968.98	0.1582	P	1.6
6	☐	1000.000	996.135	420228.03	0.2941	P	0.9
7	☐	5.000					

y = 2.7772E-004 * x + 0.0175
R = 1.0000
DL = 3.397
BEC = 62.84

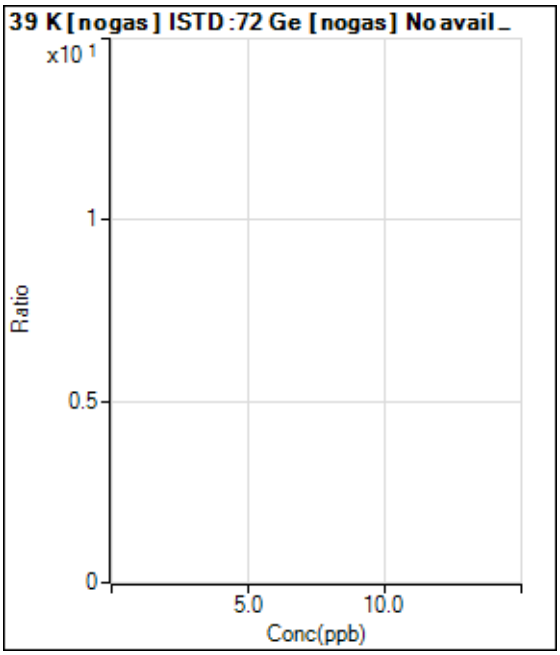
Weight: <None>
Min Conc: <None>



	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					

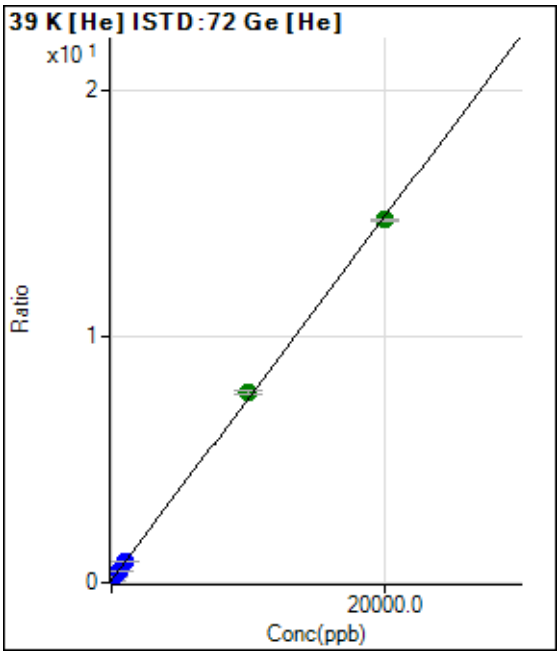


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.00					
6	☐	40000.00					
7	☐	200.000					



	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					

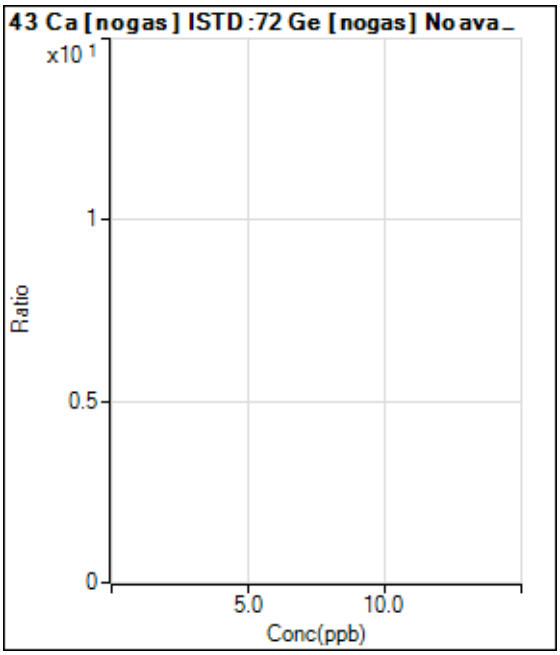
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36212.12	0.1005	P	4.8
2	☐	200.000	195.779	88507.63	0.2452	P	1.7
3	☐	500.000	490.164	167618.72	0.4627	P	1.2
4	☐	1000.000	1034.958	311395.29	0.8652	P	0.6
5	☐	10000.00	10321.48	2674376.78	7.7268	A	2.0
6	☐	20000.00	19837.79	4976763.36	14.7581	A	0.8
7	☐	100.000					

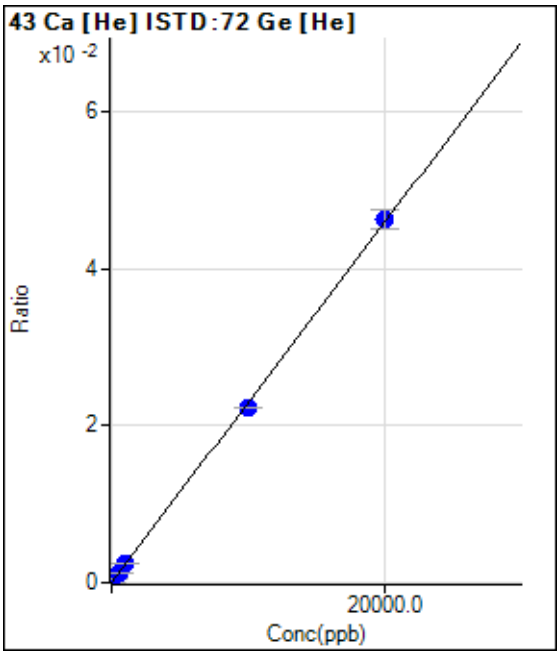
y = 7.3887E-004 * x + 0.1005
R = 0.9998
DL = 19.5
BEC = 136

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					

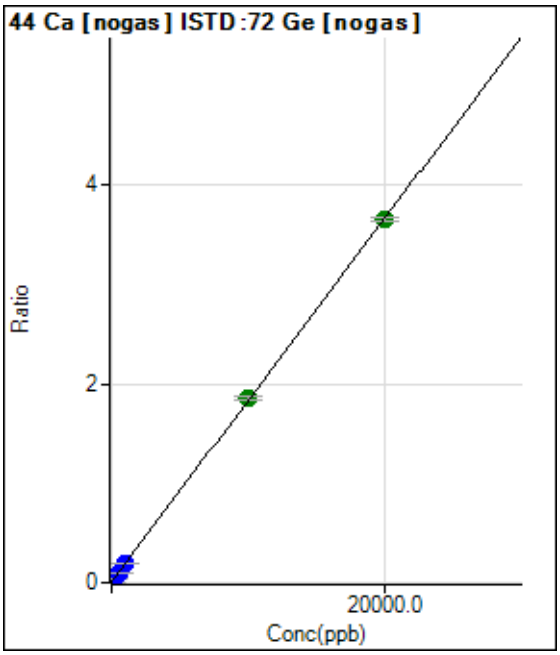
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	86.6
2	☐	200.000	264.770	226.67	0.0006	P	25.6
3	☐	500.000	508.805	430.01	0.0012	P	9.2
4	☐	1000.000	1092.878	910.04	0.0025	P	3.7
5	☐	10000.00	9699.619	7715.03	0.0223	P	0.1
6	☐	20000.00	20144.67	15606.66	0.0463	P	5.2
7	☐	100.000					

y = 2.2964E-006 * x + 1.8520E-005
R = 0.9998
DL = 20.95
BEC = 8.065

Weight: <None>
Min Conc: <None>

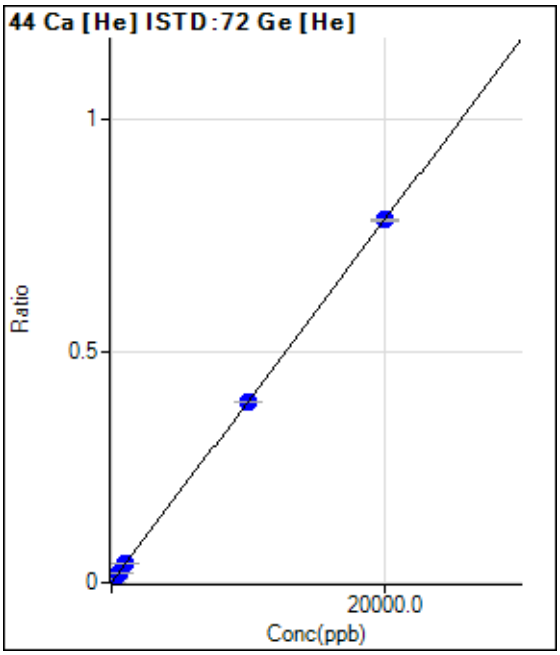


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11560.46	0.0079	P	3.2
2	☐	200.000	198.875	65594.26	0.0442	P	0.9
3	☐	500.000	499.471	148457.12	0.0990	P	1.6
4	☐	1000.000	1045.548	295136.05	0.1987	P	1.4
5	☐	10000.00	10122.67	2685635.06	1.8551	A	1.6
6	☐	20000.00	19936.41	5209711.07	3.6460	A	0.9
7	☐	100.000					

y = 1.8249E-004 * x + 0.0079
R = 1.0000
DL = 4.088
BEC = 43.14

Weight: <None>
Min Conc: <None>

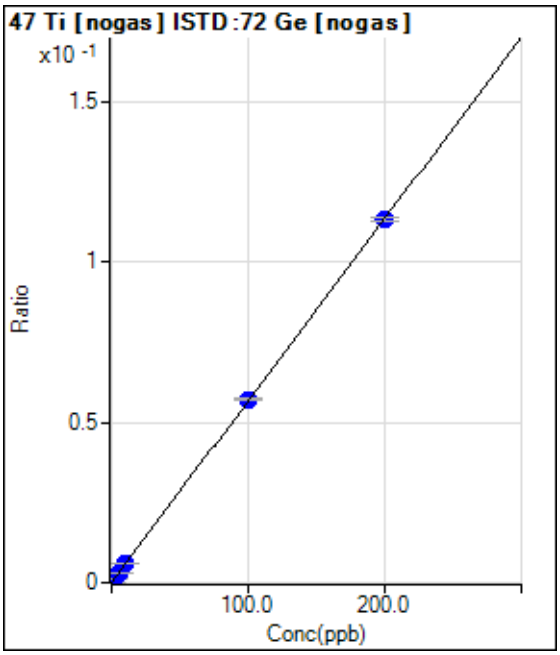
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	210.00	0.0006	P	25.3
2	☐	200.000	204.694	3096.97	0.0086	P	6.2
3	☐	500.000	525.413	7651.70	0.0211	P	6.5
4	☐	1000.000	1030.444	14709.32	0.0409	P	1.8
5	☐	10000.00	9959.687	134955.89	0.3900	P	0.4
6	☐	20000.00	20017.95	264097.44	0.7832	P	0.4
7	☐	100.000					

y = 3.9095E-005 * x + 5.8297E-004
R = 1.0000
DL = 11.31
BEC = 14.91

Weight: <None>
Min Conc: <None>

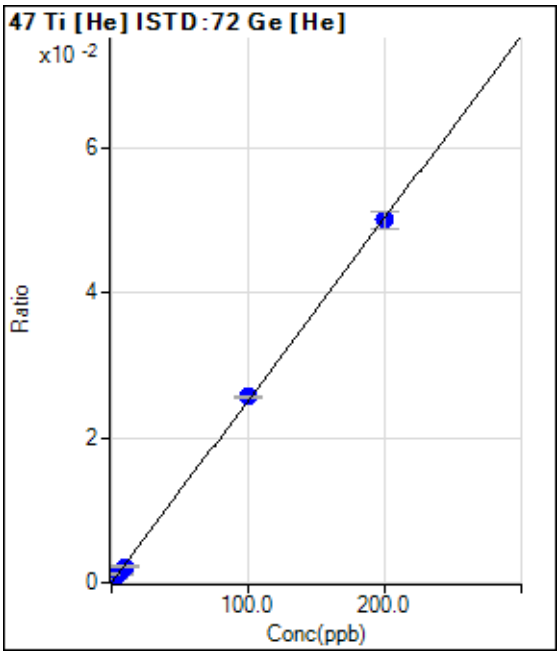


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96.67	0.0001	P	38.3
2	☐	2.000	2.062	1836.78	0.0012	P	5.3
3	☐	5.000	5.164	4493.94	0.0030	P	2.7
4	☐	10.000	10.257	8745.49	0.0059	P	1.4
5	☐	100.000	100.899	82994.04	0.0573	P	1.0
6	☐	200.000	199.533	161892.69	0.1133	P	1.0
7	☐	1.000					

y = 5.6749E-004 * x + 6.6132E-005
R = 1.0000
DL = 0.1339
BEC = 0.1165

Weight: <None>
Min Conc: <None>

Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	2.087	190.00	0.0005	P	22.5
3	☐	5.000	4.901	446.68	0.0012	P	23.2
4	☐	10.000	8.836	800.03	0.0022	P	11.4
5	☐	100.000	101.969	8882.20	0.0257	P	1.4
6	☐	200.000	199.075	16897.91	0.0501	P	4.5
7	☐	1.000					

y = 2.5168E-004 * x + 0.0000E+000

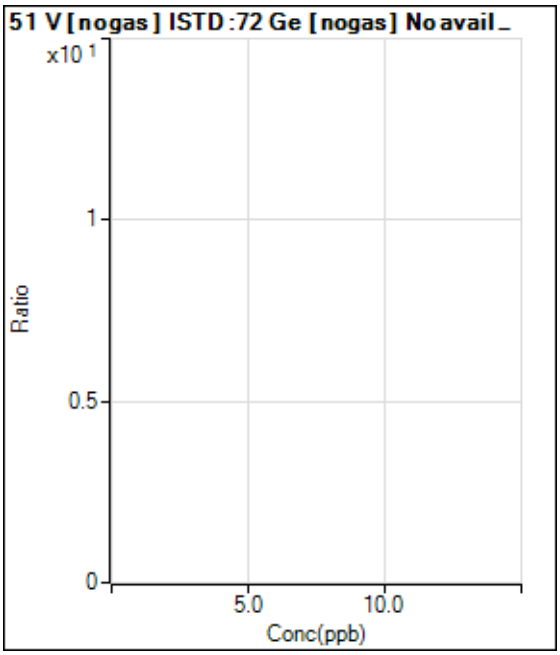
R = 0.9999

DL = 0

BEC = 0

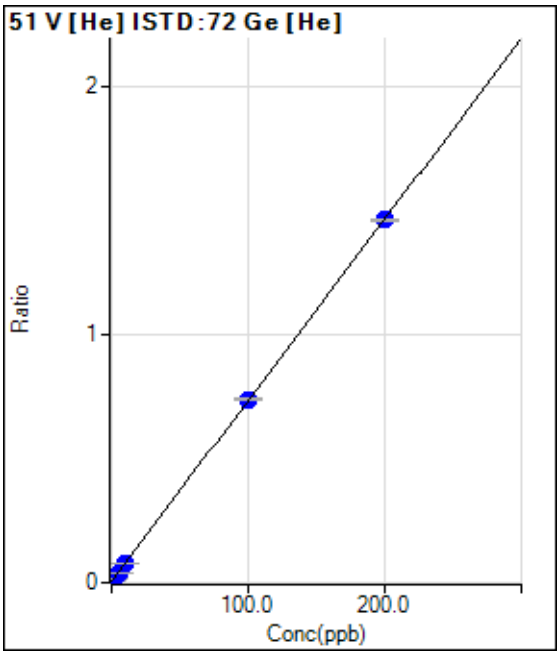
Weight: <None>

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					

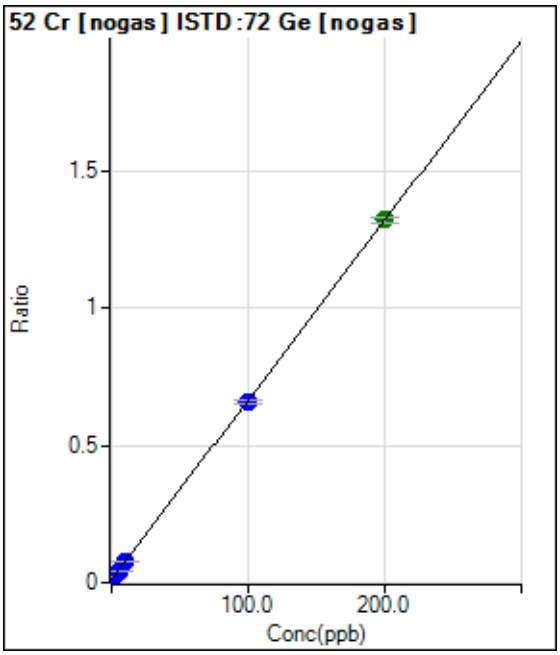
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1792.32	0.0050	P	3.9
2	☐	2.000	1.964	6960.22	0.0193	P	4.0
3	☐	5.000	4.996	14990.49	0.0414	P	3.2
4	☐	10.000	10.290	28772.20	0.0799	P	0.9
5	☐	100.000	100.397	254883.03	0.7365	P	0.8
6	☐	200.000	199.787	492567.62	1.4607	P	0.4
7	☐	1.000					

y = 0.0073 * x + 0.0050
R = 1.0000
DL = 0.08039
BEC = 0.6827

Weight: <None>
Min Conc: <None>

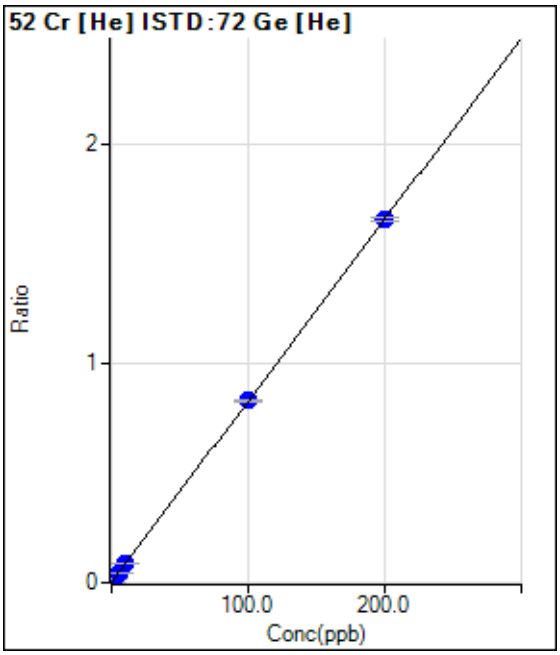


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15947.01	0.0109	P	4.0
2	☐	2.000	1.977	35313.77	0.0238	P	1.1
3	☐	5.000	4.991	65187.39	0.0435	P	2.0
4	☐	10.000	10.580	118850.37	0.0800	P	1.0
5	☐	100.000	99.207	954276.89	0.6592	P	2.0
6	☐	200.000	200.368	1886365.75	1.3203	A	1.7
7	☐	1.000					

y = 0.0065 * x + 0.0109
R = 1.0000
DL = 0.1969
BEC = 1.662

Weight: <None>
Min Conc: <None>

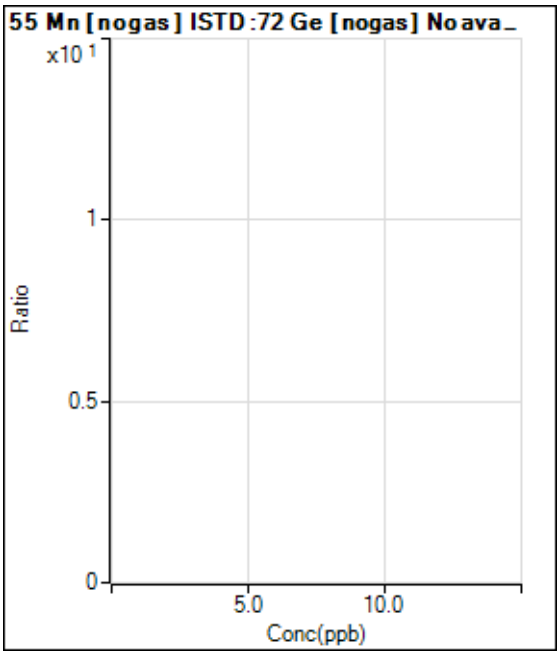
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	500.01	0.0014	P	12.1
2	☐	2.000	1.939	6291.14	0.0174	P	3.4
3	☐	5.000	4.991	15453.28	0.0427	P	1.3
4	☐	10.000	10.616	32087.86	0.0892	P	3.6
5	☐	100.000	100.073	286889.70	0.8289	P	0.5
6	☐	200.000	199.933	558017.17	1.6547	P	1.0
7	☐	1.000					

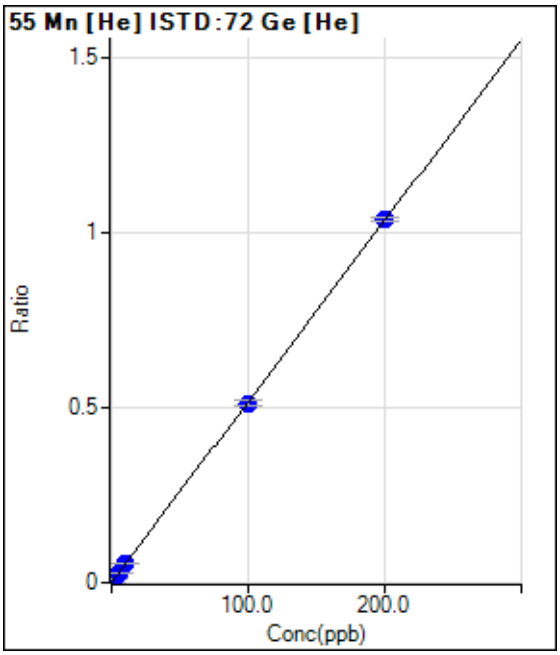
y = 0.0083 * x + 0.0014
R = 1.0000
DL = 0.06105
BEC = 0.1678

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					

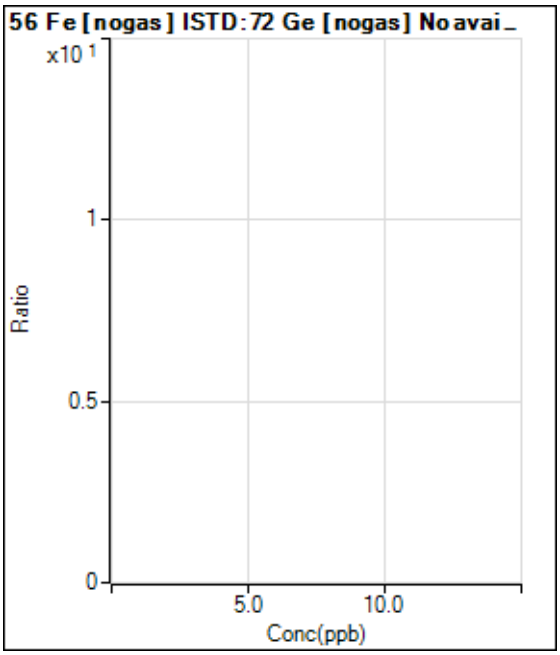
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	140.00	0.0004	P	7.2
2	☐	2.000	2.002	3880.46	0.0108	P	8.4
3	☐	5.000	4.946	9415.85	0.0260	P	3.1
4	☐	10.000	10.403	19520.54	0.0542	P	2.3
5	☐	100.000	99.016	177505.16	0.5130	P	2.8
6	☐	200.000	200.473	350103.99	1.0382	P	1.0
7	☐	1.000					

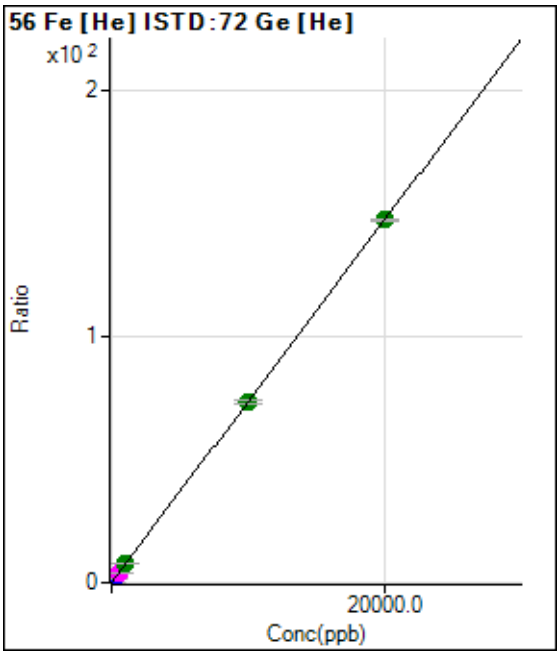
y = 0.0052 * x + 3.8860E-004
R = 1.0000
DL = 0.01619
BEC = 0.07507

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					

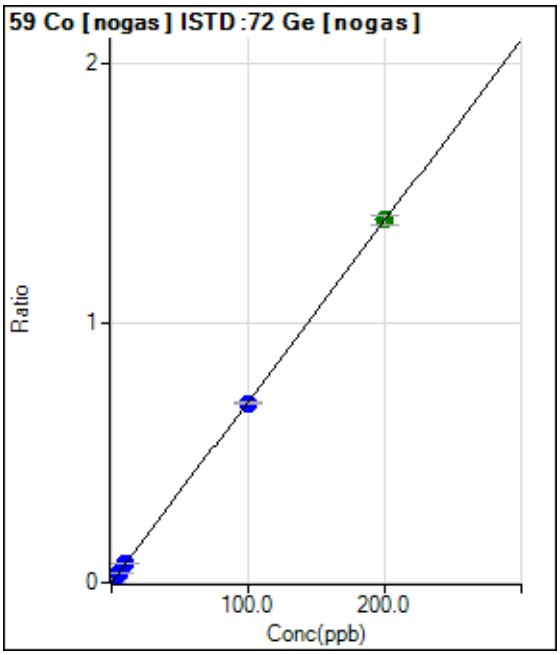
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4023.83	0.0112	P	5.8
2	☐	200.000	195.698	524931.71	1.4543	P	2.3
3	☐	500.000	505.431	1354455.92	3.7385	M	3.1
4	☐	1000.000	1083.796	2880453.60	8.0036	A	1.2
5	☐	10000.00	9966.696	25438390.4	73.5102	A	1.5
6	☐	20000.00	20012.37	49770745.9	147.591	A	0.6
7	☐	100.000					

y = 0.0074 * x + 0.0112
R = 1.0000
DL = 0.2616
BEC = 1.515

Weight: <None>
Min Conc: <None>

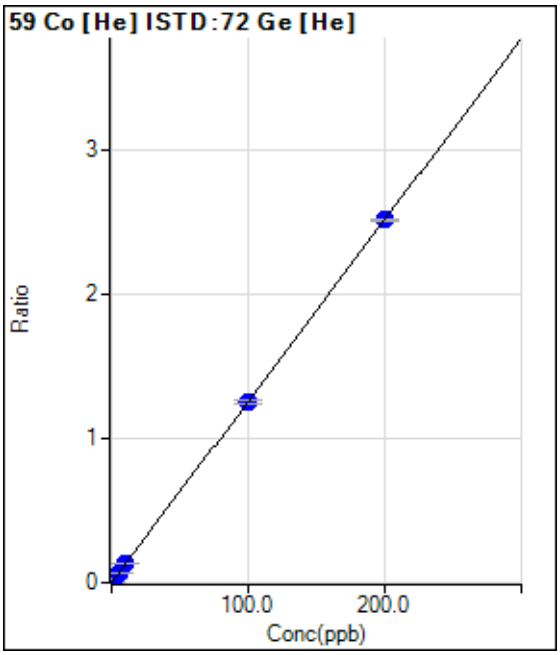


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0002	P	25.7
2	☐	2.000	1.978	20691.76	0.0139	P	3.1
3	☐	5.000	4.967	52120.20	0.0348	P	2.2
4	☐	10.000	10.392	107739.12	0.0725	P	2.9
5	☐	100.000	98.984	998371.34	0.6896	P	0.9
6	☐	200.000	200.490	1995241.64	1.3966	A	2.4
7	☐	1.000					

y = 0.0070 * x + 1.5936E-004
R = 1.0000
DL = 0.01765
BEC = 0.02288

Weight: <None>
Min Conc: <None>

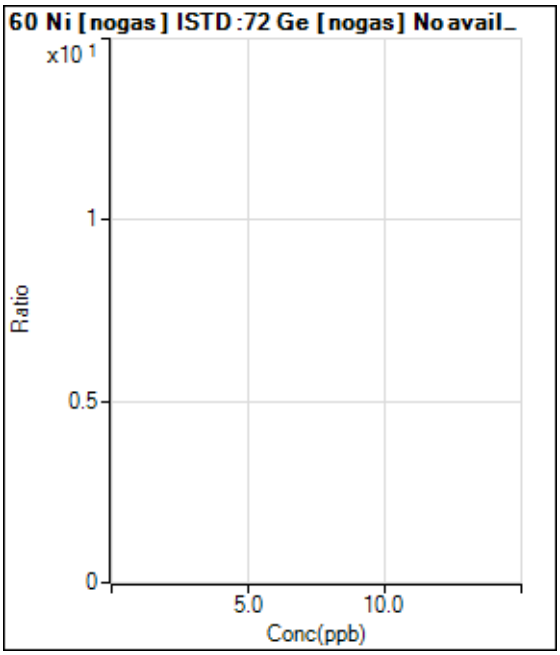
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	76.67	0.0002	P	42.1
2	☐	2.000	2.117	9669.29	0.0268	P	1.5
3	☐	5.000	5.134	23418.48	0.0646	P	2.2
4	☐	10.000	10.846	49058.64	0.1363	P	3.1
5	☐	100.000	99.743	433241.13	1.2520	P	1.5
6	☐	200.000	200.082	846811.42	2.5112	P	0.5
7	☐	1.000					

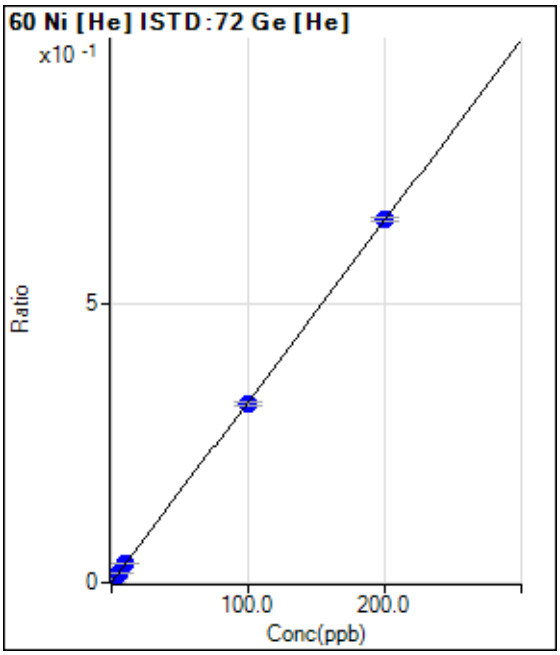
y = 0.0125 * x + 2.1290E-004
R = 1.0000
DL = 0.0214
BEC = 0.01696

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					

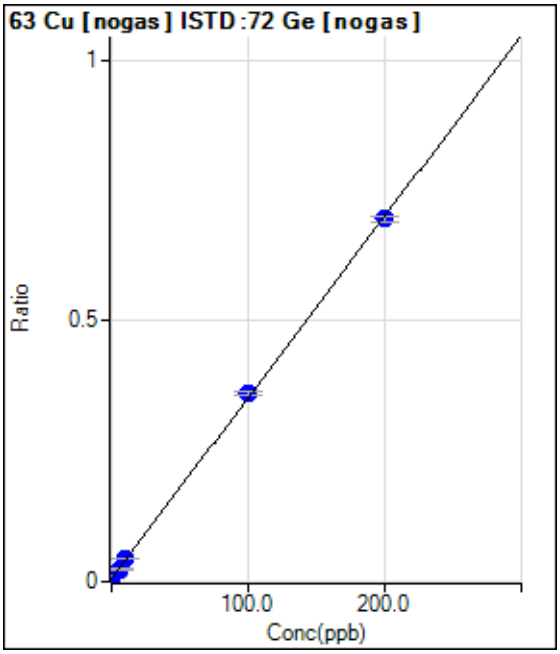
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0001	P	32.7
2	☐	2.000	1.923	2303.51	0.0064	P	6.0
3	☐	5.000	5.064	6014.40	0.0166	P	3.3
4	☐	10.000	10.530	12374.31	0.0344	P	1.4
5	☐	100.000	99.022	111511.13	0.3222	P	1.6
6	☐	200.000	200.461	219918.62	0.6522	P	0.9
7	☐	1.000					

y = 0.0033 * x + 1.2952E-004
R = 1.0000
DL = 0.03905
BEC = 0.03982

Weight: <None>
Min Conc: <None>

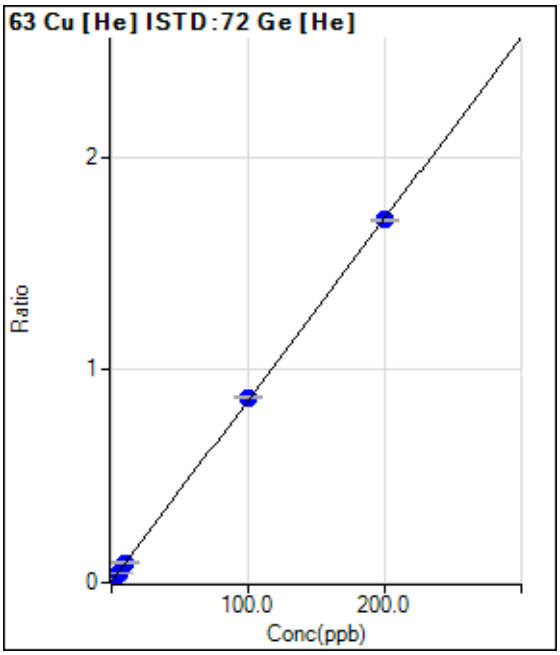


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8378.70	0.0057	P	5.2
2	☐	2.000	2.078	19176.95	0.0129	P	6.7
3	☐	5.000	5.176	35470.98	0.0237	P	3.5
4	☐	10.000	11.084	65566.55	0.0442	P	4.2
5	☐	100.000	102.335	522128.09	0.3607	P	1.7
6	☐	200.000	198.773	993233.55	0.6952	P	1.5
7	☐	1.000					

y = 0.0035 * x + 0.0057
R = 0.9999
DL = 0.2566
BEC = 1.645

Weight: <None>
Min Conc: <None>

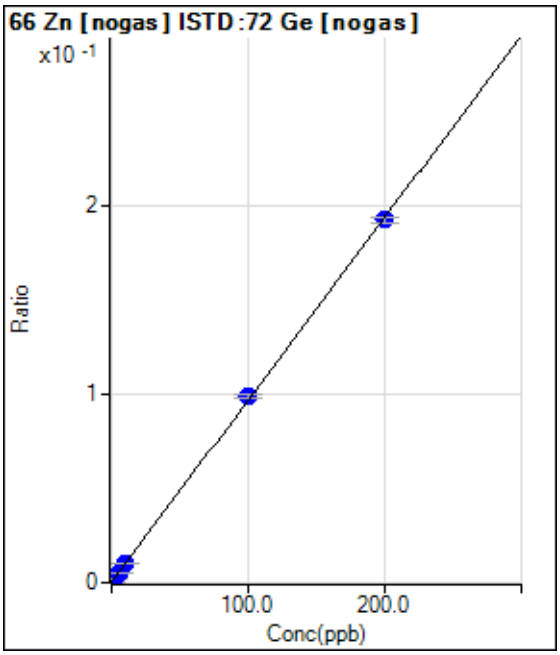
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1823.45	0.0051	P	9.9
2	☐	2.000	1.910	7721.74	0.0214	P	5.0
3	☐	5.000	5.131	17698.65	0.0489	P	3.2
4	☐	10.000	10.462	33958.12	0.0944	P	2.7
5	☐	100.000	101.198	300691.86	0.8689	P	1.0
6	☐	200.000	199.376	575593.33	1.7069	P	0.6
7	☐	1.000					

y = 0.0085 * x + 0.0051
R = 1.0000
DL = 0.1768
BEC = 0.593

Weight: <None>
Min Conc: <None>

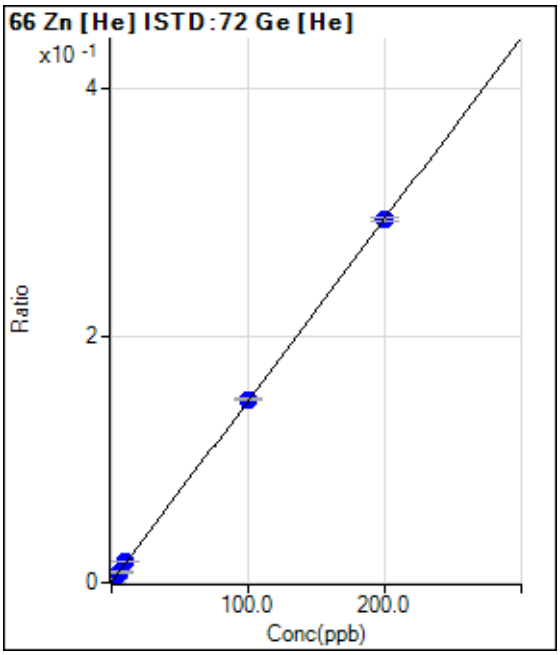


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0003	P	4.7
2	☐	2.000	2.151	3467.06	0.0023	P	1.0
3	☐	5.000	5.242	7975.19	0.0053	P	7.4
4	☐	10.000	10.632	15623.50	0.0105	P	2.5
5	☐	100.000	102.185	143102.68	0.0989	P	2.5
6	☐	200.000	198.868	274532.93	0.1921	P	1.3
7	☐	1.000					

y = 9.6487E-004 * x + 2.5882E-004
R = 0.9999
DL = 0.03801
BEC = 0.2682

Weight: <None>
Min Conc: <None>

Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0004	P	27.5
2	☐	2.000	2.218	1313.41	0.0036	P	6.3
3	☐	5.000	5.410	3020.29	0.0083	P	7.3
4	☐	10.000	11.126	6027.73	0.0167	P	4.4
5	☐	100.000	100.688	51385.18	0.1485	P	1.0
6	☐	200.000	199.587	99125.91	0.2940	P	0.9
7	☐	1.000					

y = 0.0015 * x + 3.7922E-004

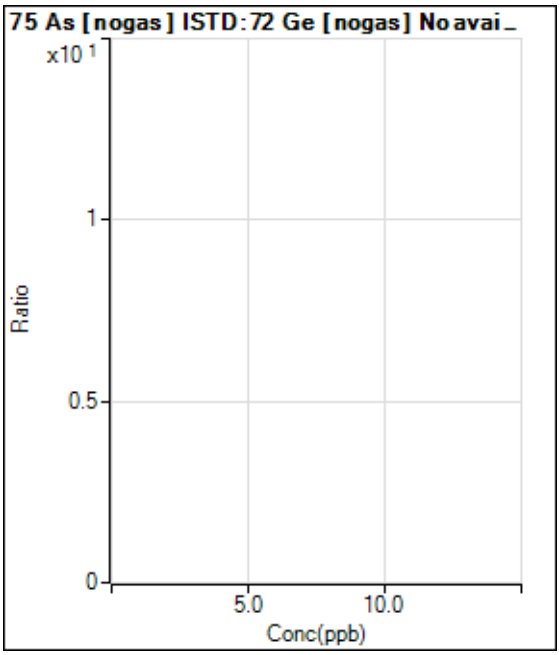
R = 1.0000

DL = 0.2129

BEC = 0.2578

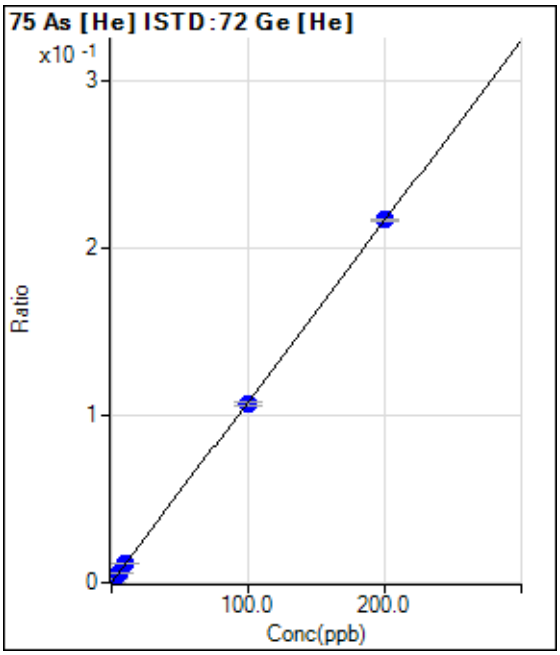
Weight: <None>

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					

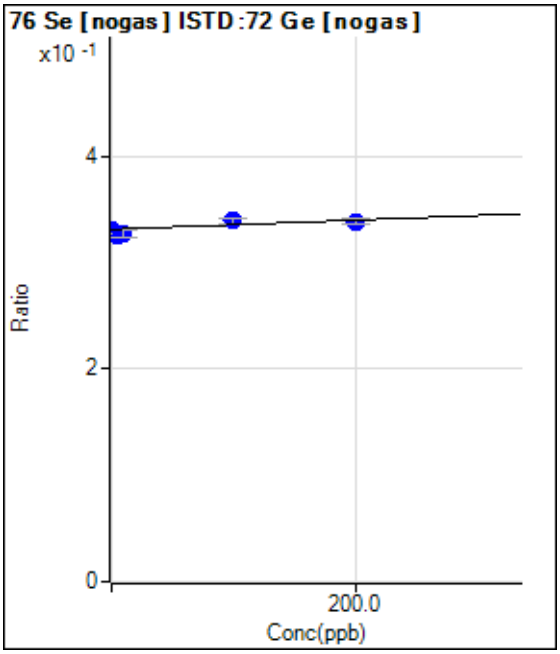
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	35.55	0.0001	P	38.0
2	☐	2.000	1.861	761.13	0.0021	P	12.0
3	☐	5.000	4.797	1910.11	0.0053	P	1.3
4	☐	10.000	10.365	4059.36	0.0113	P	5.8
5	☐	100.000	98.753	36892.69	0.1066	P	1.4
6	☐	200.000	200.612	72991.56	0.2165	P	0.5
7	☐	1.000					

y = 0.0011 * x + 9.8718E-005
R = 1.0000
DL = 0.1043
BEC = 0.09154

Weight: <None>
Min Conc: <None>

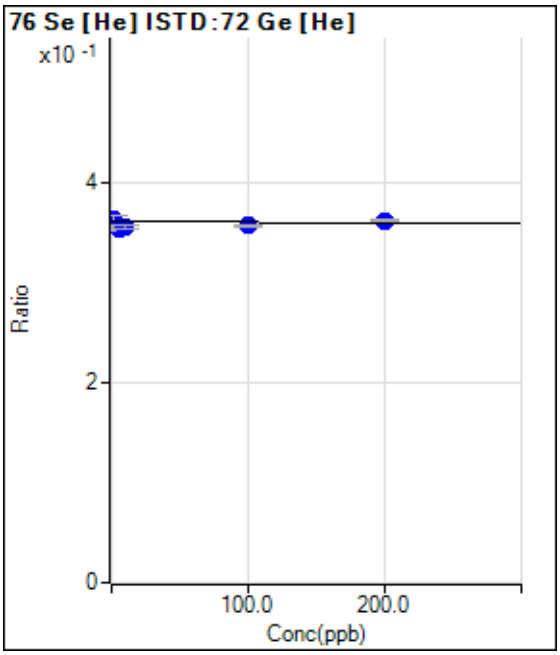


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	486251.48	0.3310	P	1.8
2	☐	2.000	-68.520	487221.91	0.3281	P	1.2
3	☐	5.000	-142.700	487071.42	0.3249	P	0.8
4	☐	10.000	-108.936	484698.49	0.3263	P	2.1
5	☐	100.000	178.152	490456.41	0.3388	P	1.4
6	☐	200.000	171.268	483614.54	0.3385	P	1.4
7	☐	1.000					

y = 4.3408E-005 * x + 0.3310
R = 0.8501
DL = 415.5
BEC = 7626

Weight: <None>
Min Conc: <None>

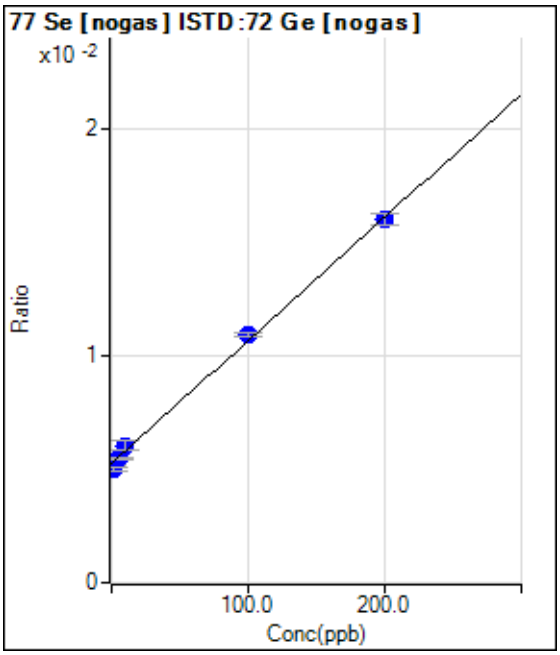
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	129916.60	0.3606	P	0.8
2	☐	2.000	-248.855	130719.40	0.3622	P	2.4
3	☐	5.000	1194.431	127915.53	0.3531	P	1.4
4	☐	10.000	820.036	127922.59	0.3554	P	0.8
5	☐	100.000	669.788	123345.00	0.3564	P	0.7
6	☐	200.000	-152.623	121924.62	0.3616	P	0.5
7	☐	1.000					

y = -6.2839E-006 * x + 0.3606
R = 0.2904
DL = -1320
BEC = -5.739E+04

Weight: <None>
Min Conc: <None>

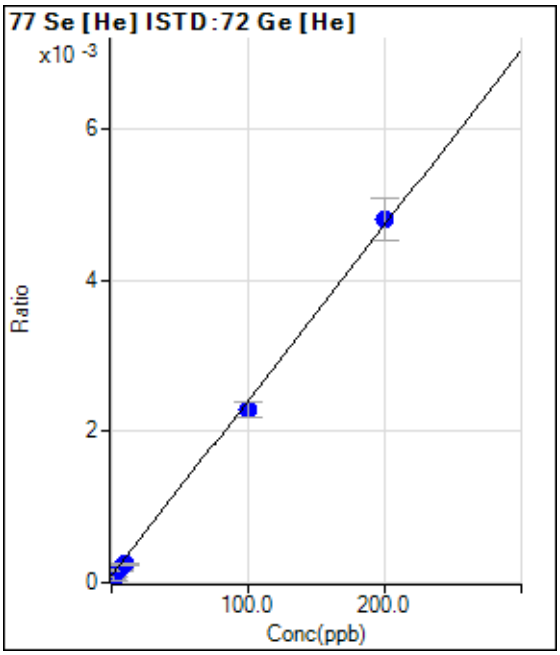


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7741.81	0.0053	P	4.8
2	☐	2.000	-4.454	7461.64	0.0050	P	2.5
3	☐	5.000	3.835	8208.63	0.0055	P	1.7
4	☐	10.000	14.165	8962.35	0.0060	P	6.8
5	☐	100.000	104.305	15833.78	0.0109	P	1.3
6	☐	200.000	197.733	22878.02	0.0160	P	3.1
7	☐	1.000					

y = 5.4347E-005 * x + 0.0053
R = 0.9988
DL = 13.9
BEC = 96.91

Weight: <None>
Min Conc: <None>

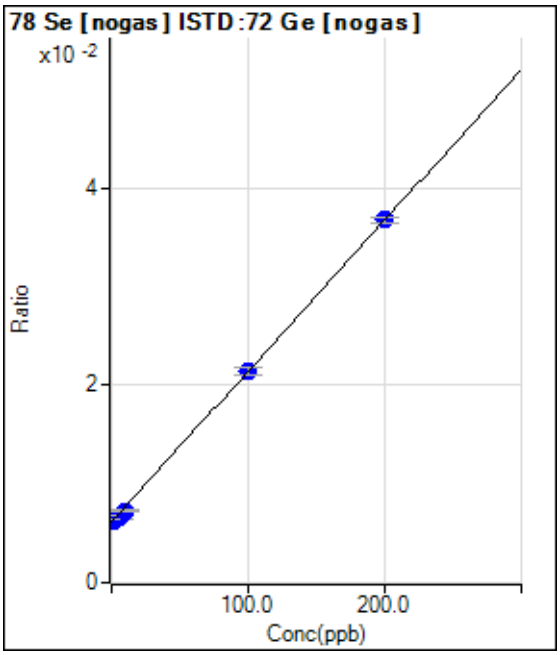
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0001	P	69.1
2	☐	2.000	-1.620	20.00	0.0001	P	100.7
3	☐	5.000	3.549	63.33	0.0002	P	18.3
4	☐	10.000	6.795	90.00	0.0003	P	11.9
5	☐	100.000	94.411	790.03	0.0023	P	8.9
6	☐	200.000	203.027	1620.10	0.0048	P	11.8
7	☐	1.000					

y = 2.3215E-005 * x + 9.2459E-005
R = 0.9995
DL = 8.259
BEC = 3.983

Weight: <None>
Min Conc: <None>

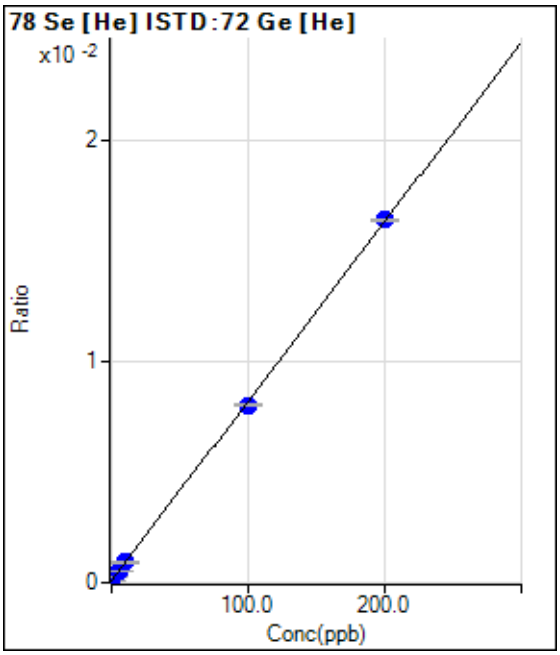


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9052.42	0.0062	P	2.8
2	☐	2.000	0.758	9319.17	0.0063	P	2.8
3	☐	5.000	3.144	9959.50	0.0066	P	4.8
4	☐	10.000	7.345	10816.67	0.0073	P	2.5
5	☐	100.000	99.919	31030.03	0.0214	P	3.3
6	☐	200.000	200.232	52539.31	0.0368	P	1.4
7	☐	1.000					

y = 1.5288E-004 * x + 0.0062
R = 0.9999
DL = 3.443
BEC = 40.29

Weight: <None>
Min Conc: <None>

Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	35.33	0.0001	P	34.0
2	☐	2.000	2.675	113.33	0.0003	P	18.1
3	☐	5.000	4.880	178.67	0.0005	P	4.5
4	☐	10.000	10.316	336.00	0.0009	P	5.1
5	☐	100.000	97.752	2773.55	0.0080	P	1.3
6	☐	200.000	201.104	5524.18	0.0164	P	0.3
7	☐	1.000					

y = 8.0972E-005 * x + 9.8043E-005

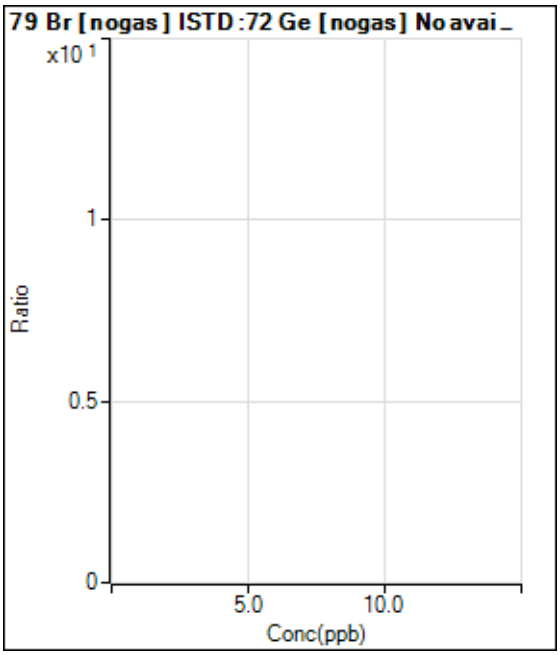
R = 0.9999

DL = 1.236

BEC = 1.211

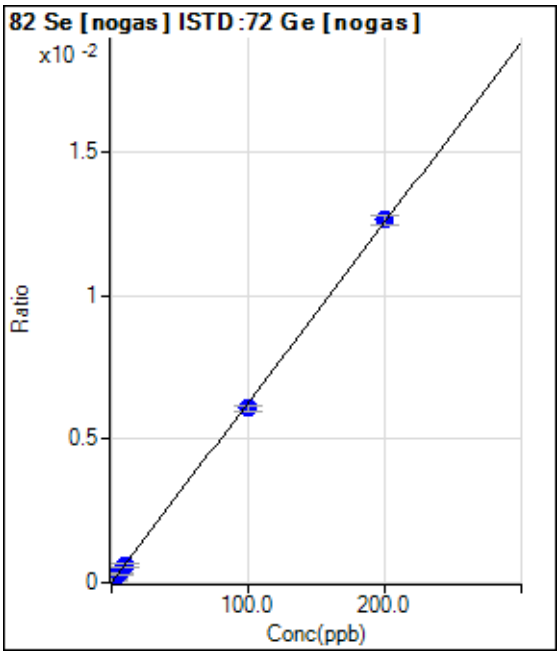
Weight: <None>

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					

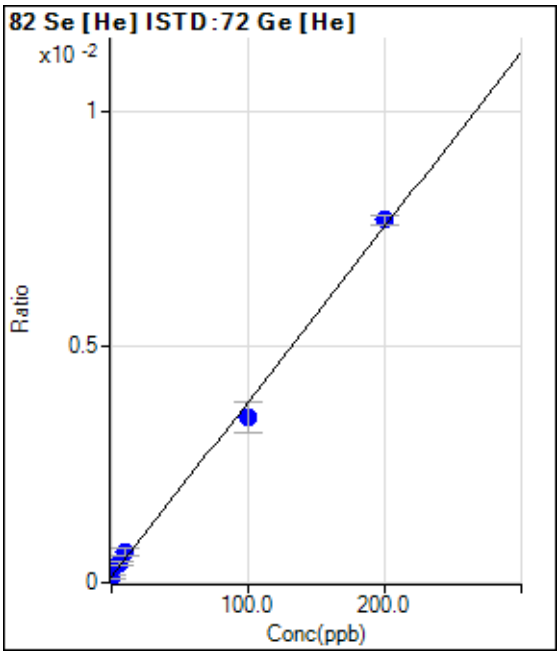
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-3.24	0.0000	P	-3552.
2	☐	2.000	1.983	180.34	0.0001	P	42.6
3	☐	5.000	5.008	467.08	0.0003	P	18.8
4	☐	10.000	9.598	889.88	0.0006	P	11.8
5	☐	100.000	97.092	8819.82	0.0061	P	3.4
6	☐	200.000	201.474	18069.73	0.0126	P	2.3
7	☐	1.000					

y = 6.2783E-005 * x - 2.8167E-006
R = 0.9999
DL = 4.781
BEC = -0.04486

Weight: <None>
Min Conc: <None>

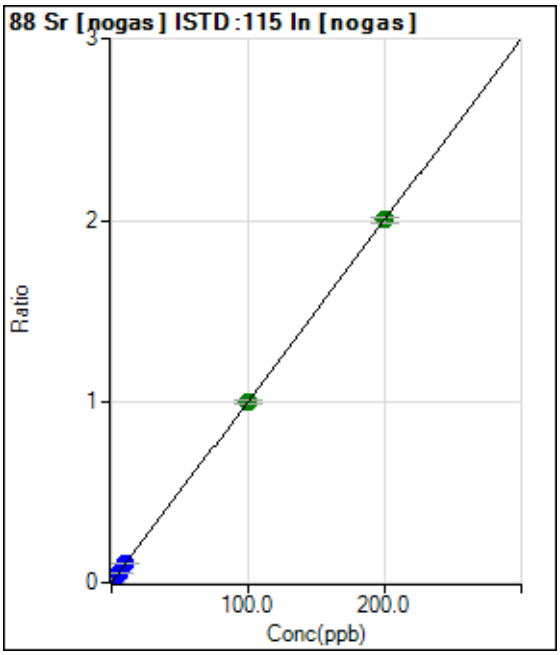


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0001	P	81.0
2	☐	2.000	5.713	123.33	0.0003	P	19.0
3	☐	5.000	7.440	146.67	0.0004	P	26.3
4	☐	10.000	13.990	233.34	0.0006	P	20.6
5	☐	100.000	91.353	1216.72	0.0035	P	18.5
6	☐	200.000	204.026	2593.55	0.0077	P	2.6
7	☐	1.000					

y = 3.7062E-005 * x + 1.2941E-004
R = 0.9982
DL = 8.484
BEC = 3.492

Weight: <None>
Min Conc: <None>

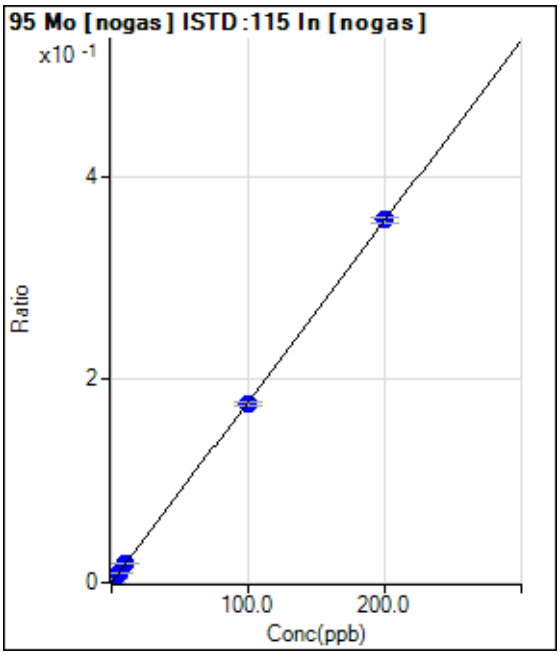
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1383.41	0.0009	P	10.7
2	☐	2.000	1.882	32279.29	0.0197	P	2.3
3	☐	5.000	4.812	80020.88	0.0490	P	2.4
4	☐	10.000	10.360	167888.72	0.1045	P	0.7
5	☐	100.000	99.833	1588671.33	1.0001	A	2.1
6	☐	200.000	200.071	3083717.35	2.0033	A	1.6
7	☐	1.000					

y = 0.0100 * x + 8.5326E-004
R = 1.0000
DL = 0.02744
BEC = 0.08525

Weight: <None>
Min Conc: <None>

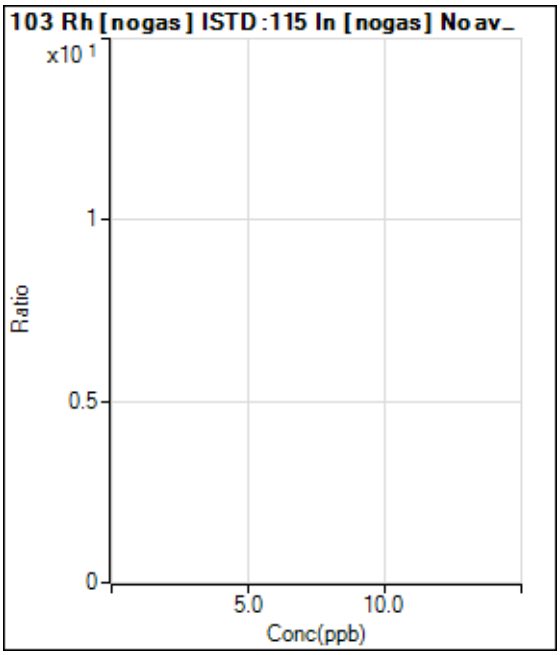


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0000	P	48.7
2	☐	2.000	1.859	5487.57	0.0033	P	6.0
3	☐	5.000	4.977	14529.40	0.0089	P	4.6
4	☐	10.000	10.557	30249.12	0.0188	P	2.6
5	☐	100.000	98.673	279173.82	0.1757	P	2.2
6	☐	200.000	200.638	550066.72	0.3573	P	1.3
7	☐	1.000					

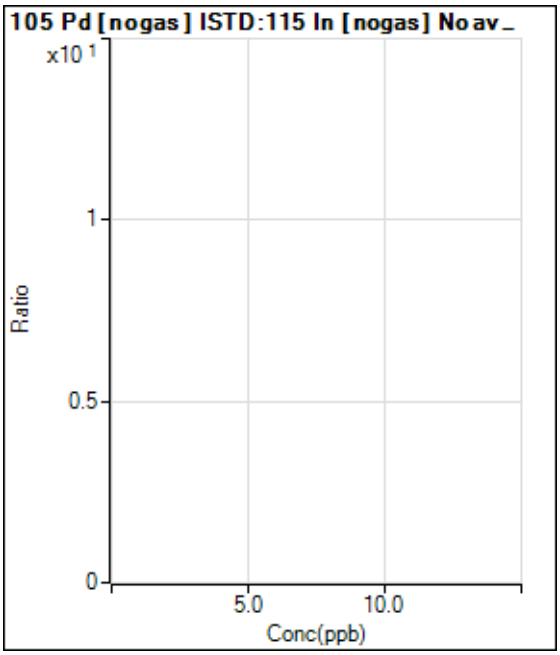
y = 0.0018 * x + 3.8753E-005
R = 1.0000
DL = 0.03182
BEC = 0.02176

Weight: <None>
Min Conc: <None>

Calibration for 140_ICV.d

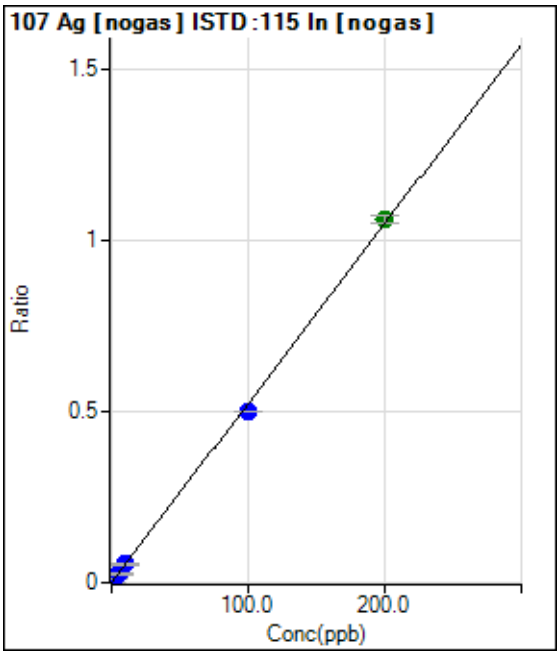


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	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					

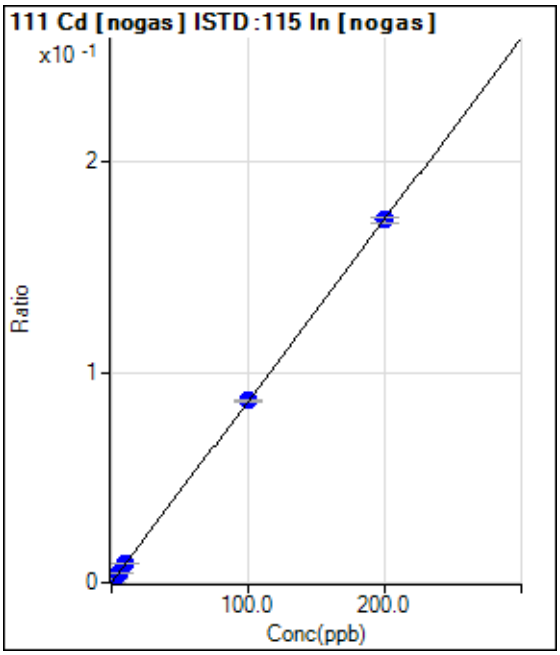
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0000	P	73.6
2	☐	2.000	1.878	16154.20	0.0099	P	2.7
3	☐	5.000	4.890	41822.84	0.0256	P	3.6
4	☐	10.000	10.190	85702.91	0.0534	P	1.1
5	☐	100.000	95.382	793372.93	0.4993	P	0.3
6	☐	200.000	202.304	1630167.94	1.0590	A	2.2
7	☐	1.000					

y = 0.0052 * x + 2.4573E-005
R = 0.9996
DL = 0.01036
BEC = 0.004694

Weight: <None>
Min Conc: <None>

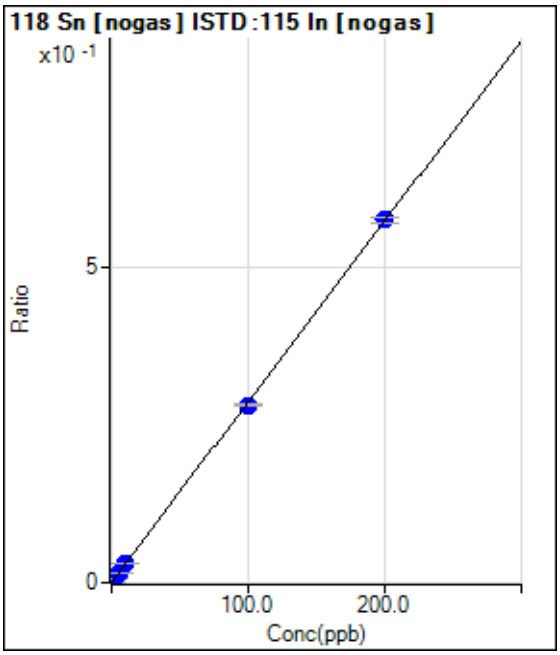


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	86.6
2	☐	2.000	1.940	2753.58	0.0017	P	0.4
3	☐	5.000	5.166	7284.95	0.0045	P	5.9
4	☐	10.000	10.762	14929.82	0.0093	P	0.9
5	☐	100.000	100.184	137446.18	0.0865	P	0.9
6	☐	200.000	199.867	265672.02	0.1726	P	1.3
7	☐	1.000					

y = 8.6345E-004 * x + 4.1496E-006
R = 1.0000
DL = 0.01249
BEC = 0.004806

Weight: <None>
Min Conc: <None>

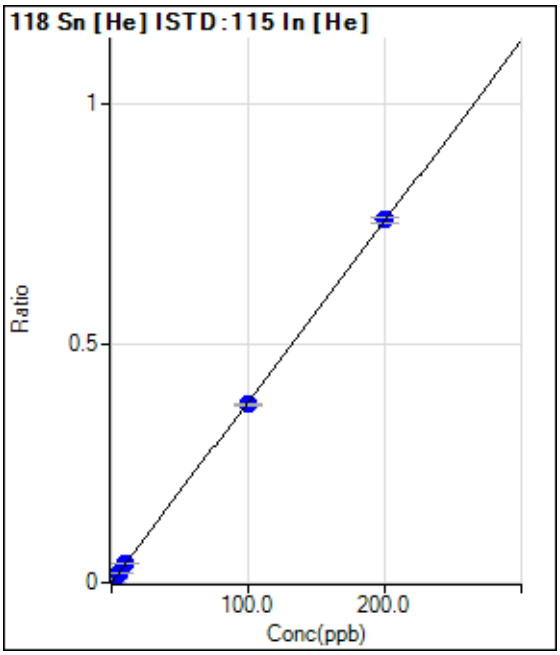
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	550.02	0.0003	P	3.5
2	☐	2.000	1.997	9929.63	0.0061	P	4.6
3	☐	5.000	4.863	23268.95	0.0143	P	2.9
4	☐	10.000	10.506	48818.21	0.0304	P	3.6
5	☐	100.000	98.362	447659.77	0.2818	P	1.6
6	☐	200.000	200.797	884876.86	0.5749	P	1.5
7	☐	1.000					

y = 0.0029 * x + 3.3892E-004
R = 0.9999
DL = 0.0123
BEC = 0.1185

Weight: <None>
Min Conc: <None>

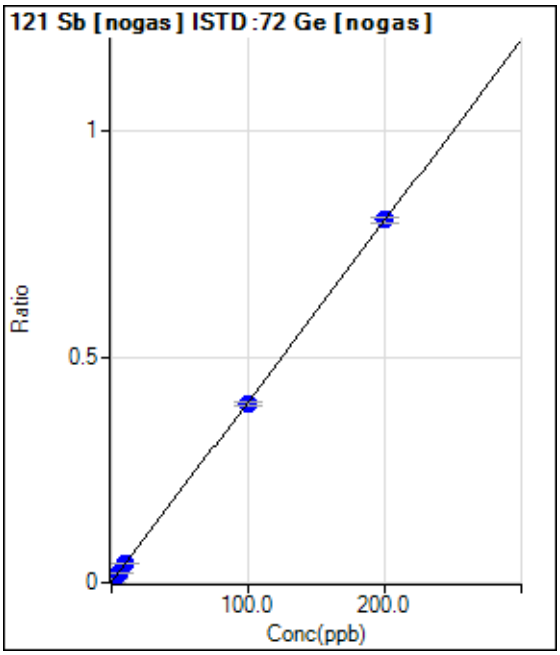


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	270.01	0.0005	P	22.2
2	☐	2.000	2.000	4644.00	0.0080	P	5.0
3	☐	5.000	5.015	11203.73	0.0194	P	1.9
4	☐	10.000	10.219	22281.09	0.0391	P	2.0
5	☐	100.000	98.441	202228.38	0.3723	P	0.3
6	☐	200.000	200.768	405924.13	0.7588	P	1.9
7	☐	1.000					

y = 0.0038 * x + 4.6635E-004
R = 1.0000
DL = 0.08222
BEC = 0.1235

Weight: <None>
Min Conc: <None>

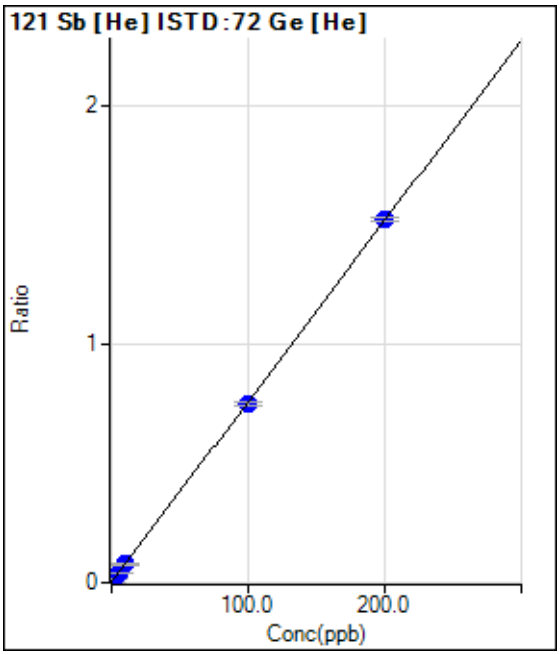
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1176.72	0.0008	P	4.8
2	☐	2.000	1.837	12127.65	0.0082	P	2.4
3	☐	5.000	4.760	29815.65	0.0199	P	2.6
4	☐	10.000	10.140	61548.04	0.0414	P	3.8
5	☐	100.000	99.059	575998.85	0.3979	P	2.3
6	☐	200.000	200.471	1149213.19	0.8044	P	1.9
7	☐	1.000					

y = 0.0040 * x + 8.0090E-004
R = 1.0000
DL = 0.0289
BEC = 0.1998

Weight: <None>
Min Conc: <None>

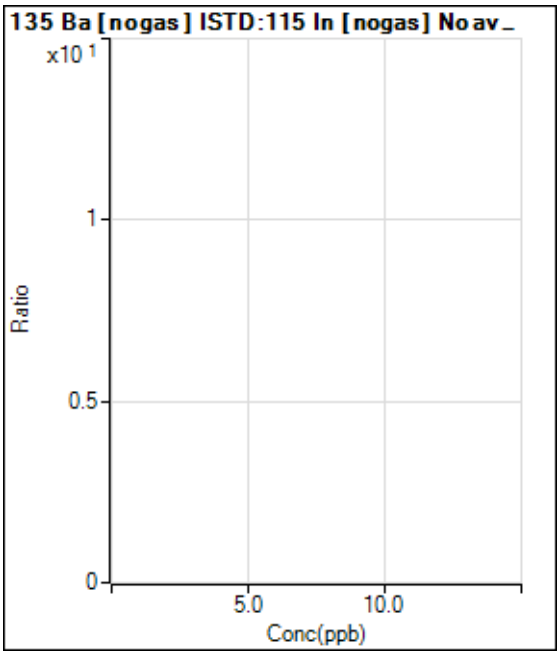


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	556.68	0.0015	P	25.1
2	☐	2.000	1.991	6011.11	0.0166	P	1.1
3	☐	5.000	4.753	13615.47	0.0376	P	1.4
4	☐	10.000	10.098	28106.09	0.0781	P	3.7
5	☐	100.000	98.789	259712.16	0.7506	P	2.7
6	☐	200.000	200.607	513424.43	1.5226	P	1.2
7	☐	1.000					

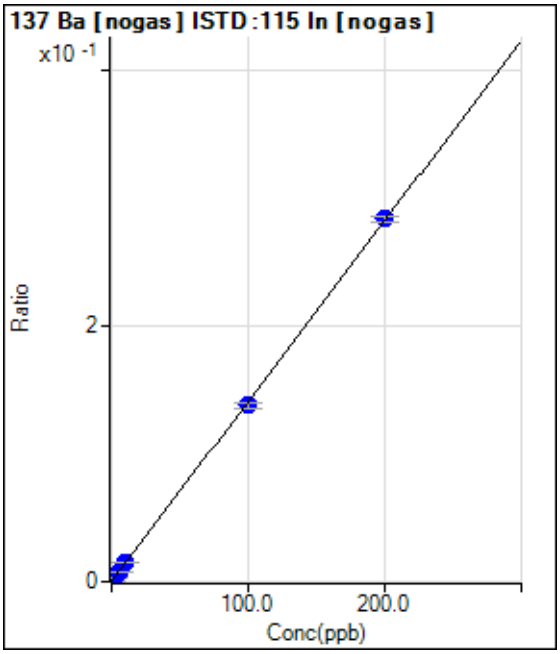
y = 0.0076 * x + 0.0015
R = 1.0000
DL = 0.1533
BEC = 0.2038

Weight: <None>
Min Conc: <None>

Calibration for 140_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	430.01	0.0003	P	11.3
2	☐	2.000	1.914	4860.77	0.0030	P	6.3
3	☐	5.000	4.899	11707.50	0.0072	P	1.8
4	☐	10.000	10.407	23983.57	0.0149	P	1.9
5	☐	100.000	97.582	218897.42	0.1378	P	2.4
6	☐	200.000	201.192	436889.06	0.2838	P	1.6
7	☐	1.000					

y = 0.0014 * x + 2.6469E-004

R = 0.9999

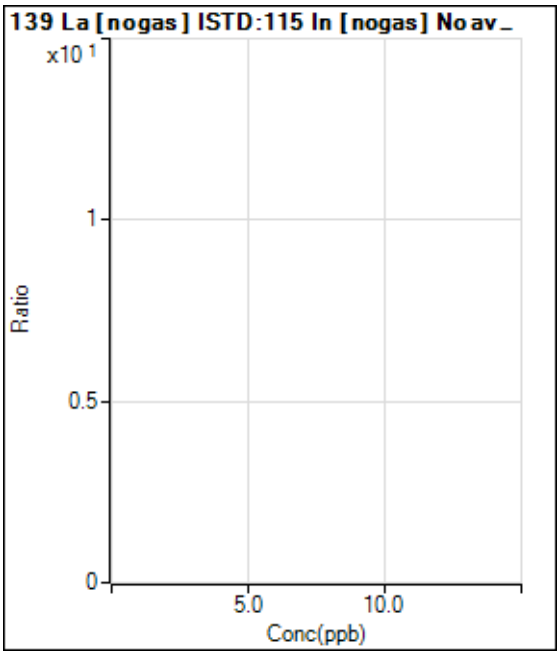
DL = 0.06384

BEC = 0.1878

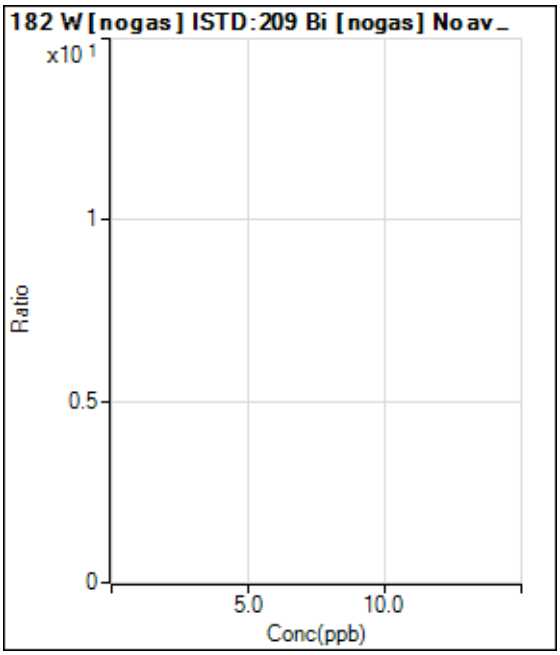
Weight: <None>

Min Conc: <None>

Calibration for 140_ICV.d

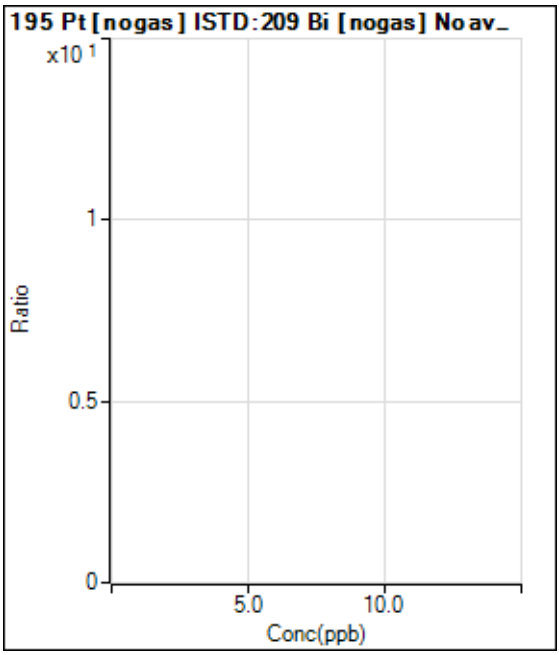


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

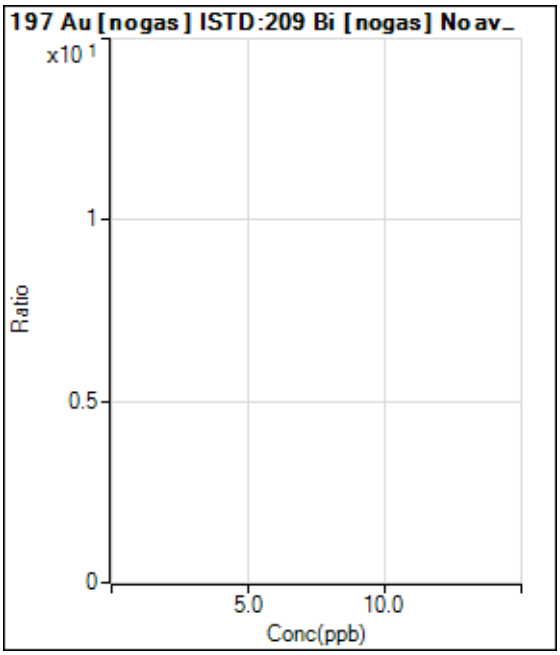


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

Calibration for 140_ICV.d

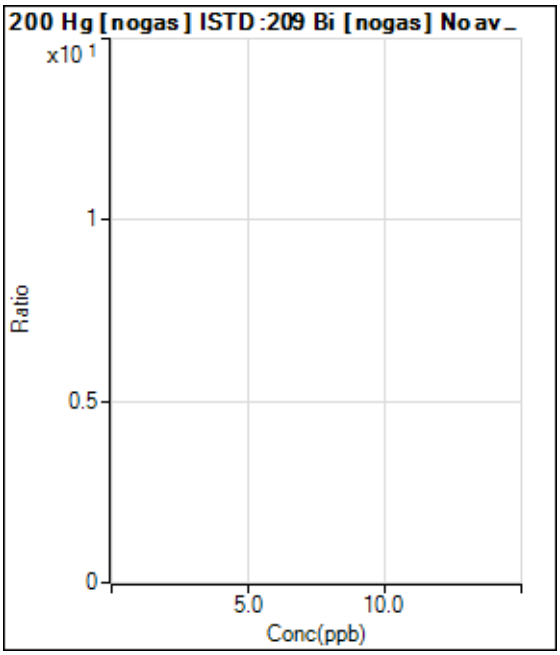


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

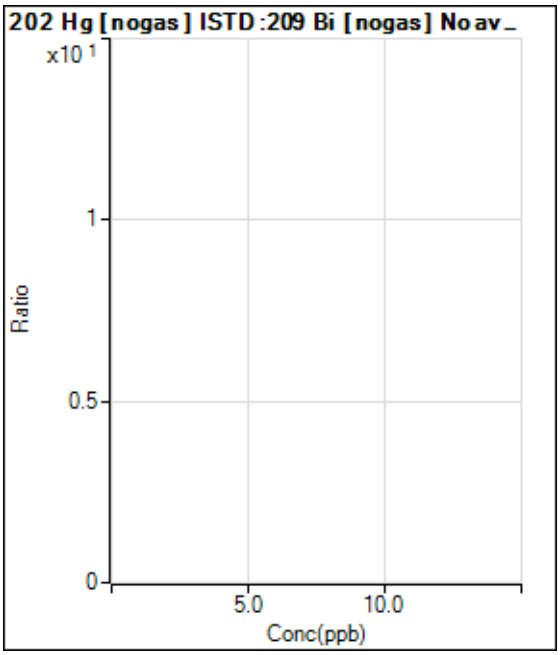


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

Calibration for 140_ICV.d

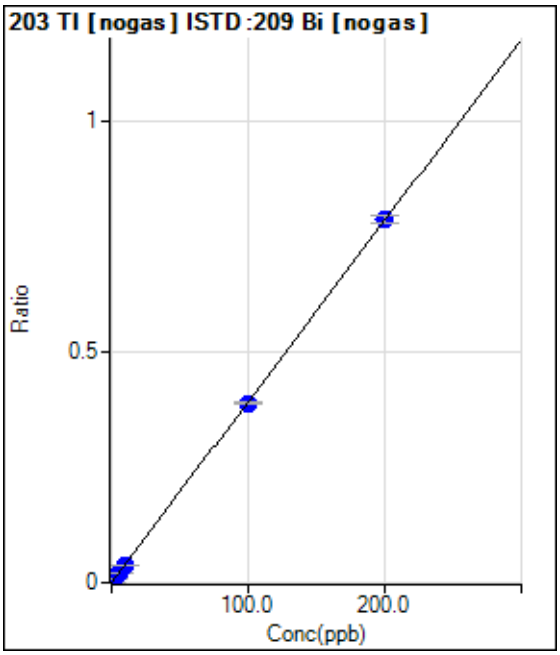


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	2.000					
6	☐	5.000					
7	☐	10.000					



	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					

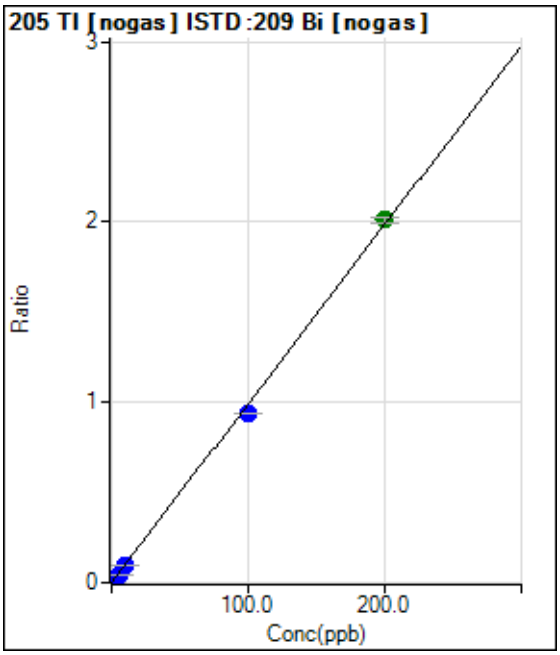
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	49.5
2	☐	2.000	1.913	9372.81	0.0075	P	5.3
3	☐	5.000	4.863	23797.51	0.0191	P	2.3
4	☐	10.000	10.038	49204.20	0.0394	P	0.9
5	☐	100.000	99.105	464590.85	0.3890	P	0.7
6	☐	200.000	200.450	913579.13	0.7867	P	2.1
7	☐	1.000					

y = 0.0039 * x + 1.8995E-005
R = 1.0000
DL = 0.007181
BEC = 0.00484

Weight: <None>
Min Conc: <None>

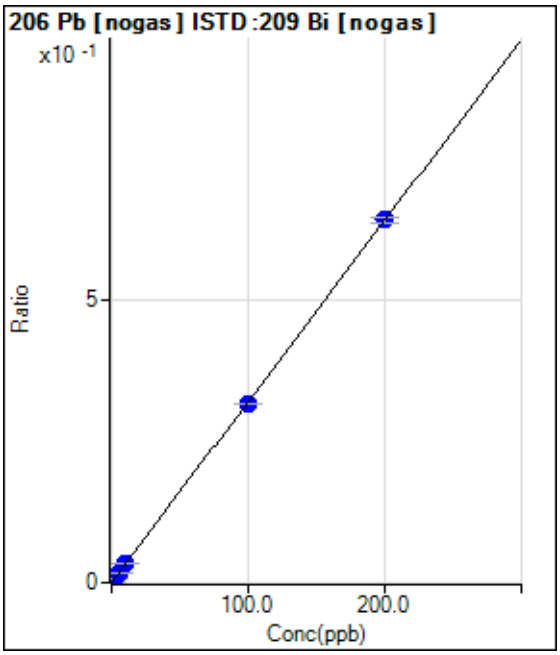


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0001	P	48.2
2	☐	2.000	1.831	22679.26	0.0182	P	2.0
3	☐	5.000	4.641	57400.41	0.0461	P	0.4
4	☐	10.000	9.676	119851.79	0.0960	P	1.6
5	☐	100.000	94.459	1118883.11	0.9367	P	0.6
6	☐	200.000	202.797	2335467.62	2.0110	A	1.6
7	☐	1.000					

y = 0.0099 * x + 5.4271E-005
R = 0.9995
DL = 0.007911
BEC = 0.005473

Weight: <None>
Min Conc: <None>

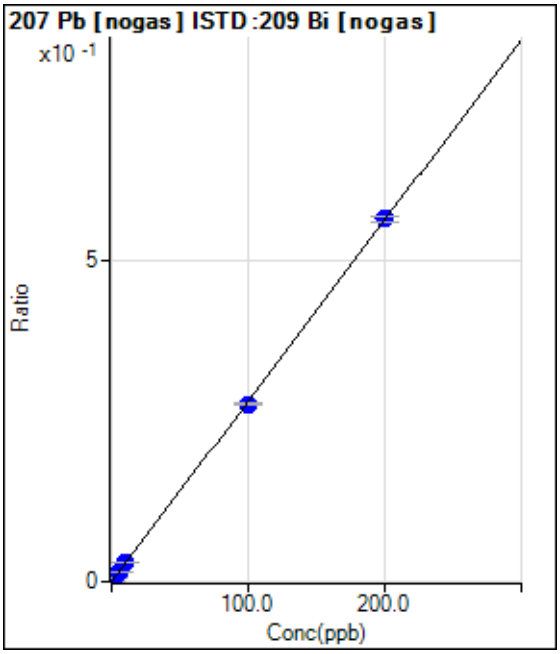
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	166.67	0.0001	P	19.3
2	☐	2.000	1.991	8085.45	0.0065	P	3.2
3	☐	5.000	4.900	19655.31	0.0158	P	1.6
4	☐	10.000	10.308	41248.83	0.0330	P	0.8
5	☐	100.000	98.933	377391.70	0.3160	P	0.7
6	☐	200.000	200.521	743533.37	0.6402	P	1.5
7	☐	1.000					

y = 0.0032 * x + 1.3571E-004
R = 1.0000
DL = 0.02465
BEC = 0.04251

Weight: <None>
Min Conc: <None>

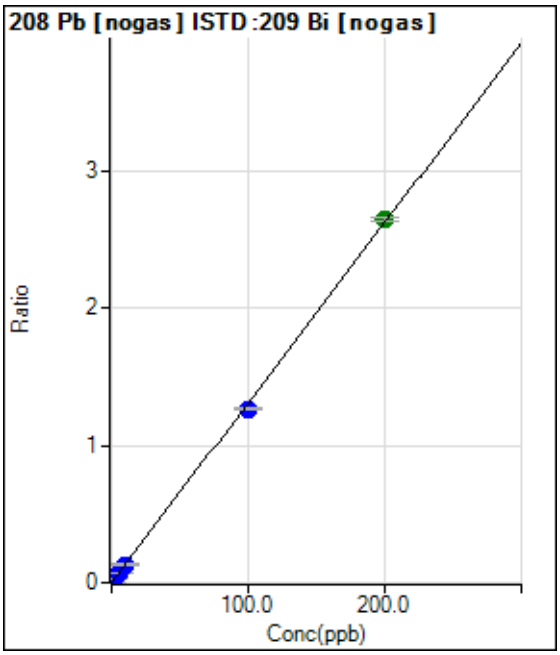


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	140.00	0.0001	P	12.4
2	☐	2.000	2.028	7245.04	0.0058	P	1.3
3	☐	5.000	4.911	17342.70	0.0139	P	1.6
4	☐	10.000	10.234	36063.26	0.0289	P	1.7
5	☐	100.000	98.254	330088.97	0.2764	P	1.0
6	☐	200.000	200.863	655984.92	0.5649	P	1.5
7	☐	1.000					

y = 0.0028 * x + 1.1400E-004
R = 0.9999
DL = 0.01512
BEC = 0.04055

Weight: <None>
Min Conc: <None>

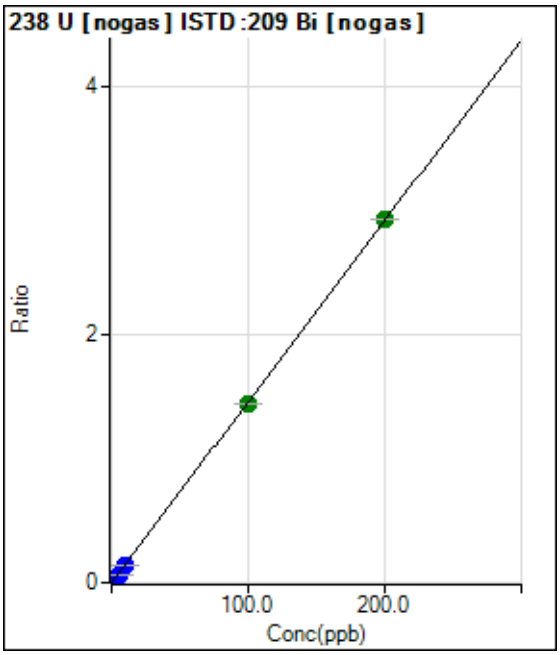
Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	686.68	0.0006	P	10.0
2	☐	2.000	1.953	32596.43	0.0262	P	1.9
3	☐	5.000	4.824	79503.40	0.0638	P	1.6
4	☐	10.000	10.097	166004.91	0.1330	P	1.4
5	☐	100.000	96.587	1513571.41	1.2672	P	0.5
6	☐	200.000	201.706	3072647.65	2.6457	A	1.0
7	☐	1.000					

y = 0.0131 * x + 5.5913E-004
R = 0.9998
DL = 0.01275
BEC = 0.04264

Weight: <None>
Min Conc: <None>

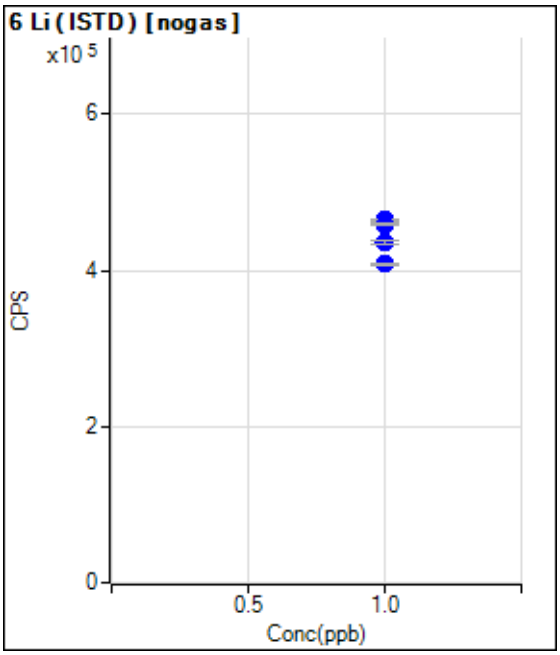


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	173.2
2	☐	2.000	1.772	32162.65	0.0258	P	1.5
3	☐	5.000	4.545	82461.67	0.0662	P	0.8
4	☐	10.000	9.457	171969.83	0.1377	P	1.5
5	☐	100.000	98.766	1718163.10	1.4384	A	0.4
6	☐	200.000	200.658	3394275.05	2.9224	A	0.1
7	☐	1.000					

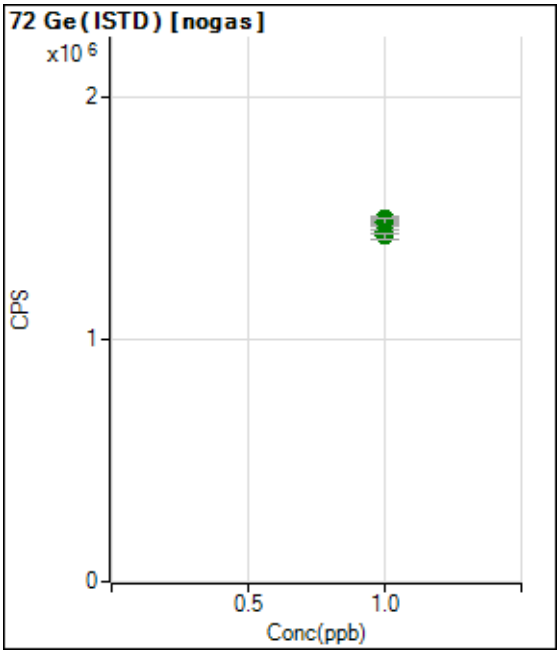
y = 0.0146 * x + 5.4249E-006
R = 1.0000
DL = 0.001935
BEC = 0.0003725

Weight: <None>
Min Conc: <None>

Calibration for 140_ICV.d

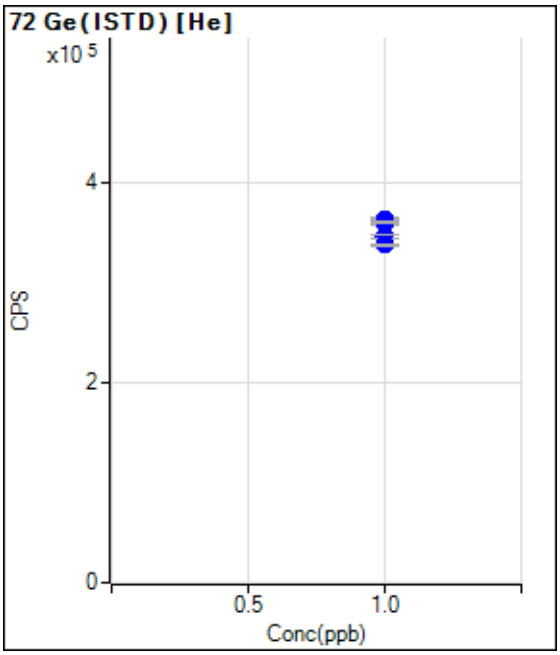


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		464528.68		P	0.5
2	☐	1.000		464217.96		P	1.0
3	☐	1.000		463896.72		P	0.7
4	☐	1.000		458990.63		P	0.7
5	☐	1.000		436174.64		P	1.3
6	☐	1.000		407897.41		P	0.9
7	☐	1.000					

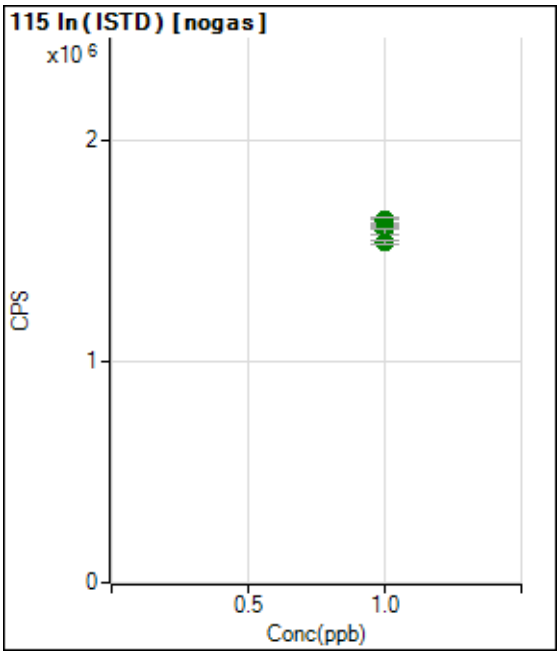


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1469236.80		A	2.3
2	☐	1.000		1485210.19		A	0.8
3	☐	1.000		1499452.16		A	1.0
4	☐	1.000		1485780.03		A	2.0
5	☐	1.000		1447857.06		A	1.1
6	☐	1.000		1428980.91		A	1.5
7	☐	1.000					

Calibration for 140_ICV.d

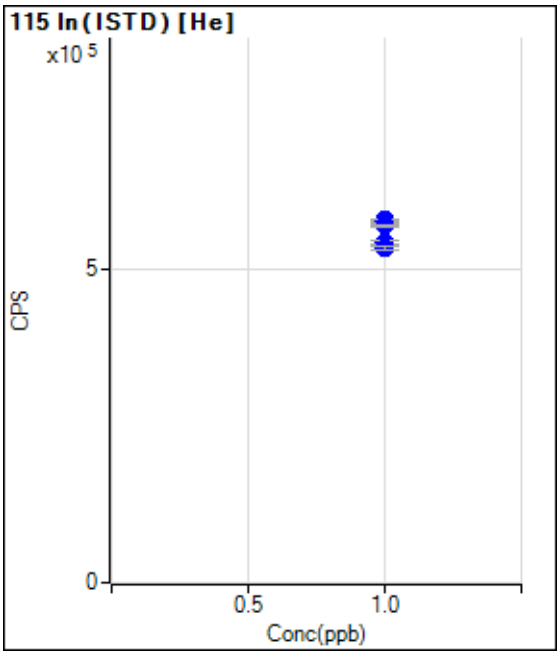


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		360281.52		P	0.2
2	☐	1.000		361083.12		P	2.5
3	☐	1.000		362274.03		P	0.4
4	☐	1.000		359906.51		P	0.9
5	☐	1.000		346088.94		P	1.1
6	☐	1.000		337214.12		P	0.5
7	☐	1.000					

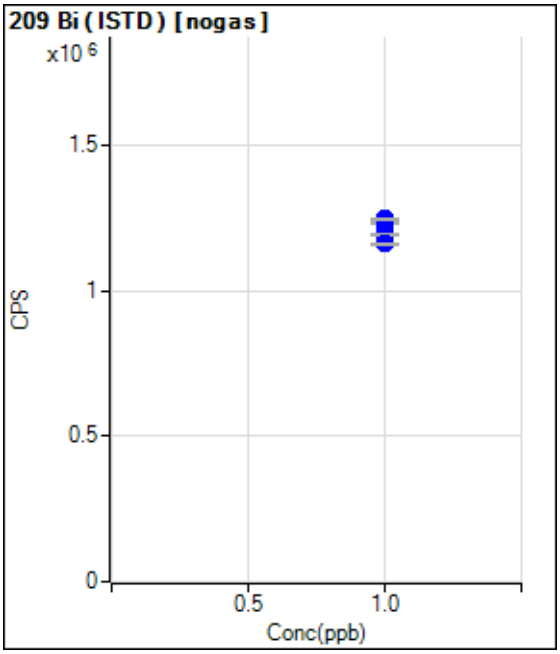


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1623713.00		A	2.6
2	☐	1.000		1639893.41		A	1.5
3	☐	1.000		1633020.10		A	2.3
4	☐	1.000		1605998.55		A	0.7
5	☐	1.000		1588892.33		A	1.5
6	☐	1.000		1539502.90		A	1.4
7	☐	1.000					

Calibration for 140_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		578631.13		P	0.8
2	☐	1.000		578969.77		P	0.8
3	☐	1.000		577295.33		P	1.1
4	☐	1.000		570375.78		P	0.4
5	☐	1.000		543205.49		P	0.7
6	☐	1.000		535020.36		P	1.2
7	☐	1.000					



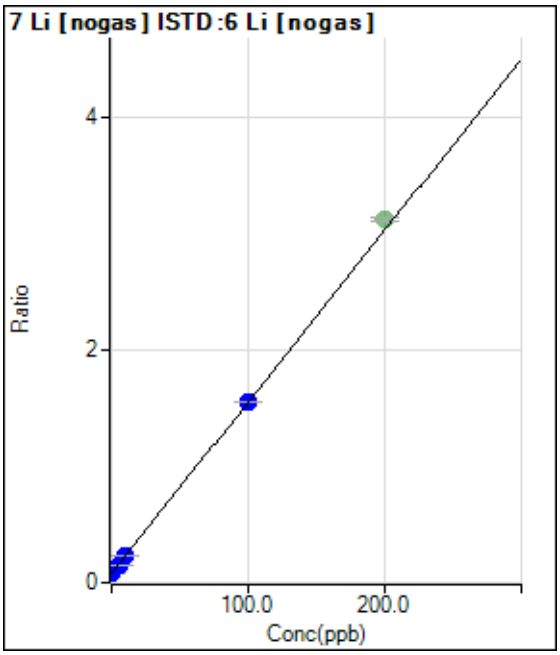
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1228158.68		P	0.1
2	☐	1.000		1245791.70		P	1.0
3	☐	1.000		1245704.07		P	0.5
4	☐	1.000		1248452.61		P	0.6
5	☐	1.000		1194465.30		P	0.7
6	☐	1.000		1161462.61		P	1.1
7	☐	1.000					

Calibration for 023_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\061020A.b\
Analysis File: 061020A.batch.bin
DA Date-Time: 6/10/2020 2:52:52 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	012CALB.d	CAL BLK	6/10/2020 12:20:59 PM
2	013CALS.d	2/10/200	6/10/2020 12:23:21 PM
3	014CALS.d	5/25/500	6/10/2020 12:25:45 PM
4	015CALS.d	10/50/1000	6/10/2020 12:28:09 PM
5	016CALS.d	100/500/10K	6/10/2020 12:30:30 PM
6	017CALS.d	200/1000/20K	6/10/2020 12:32:50 PM
7			

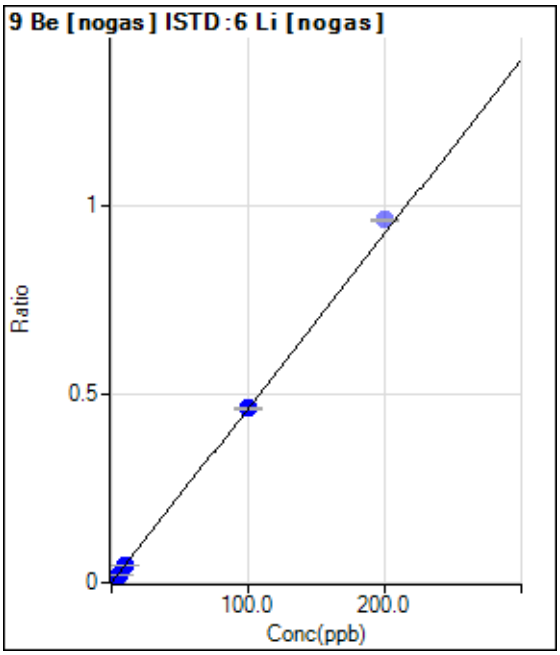
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40903.22	0.0802	P	0.6
2	☐	2.000	1.895	55378.86	0.1081	P	1.0
3	☐	5.000	4.753	77278.31	0.1502	P	1.1
4	☐	10.000	10.175	117097.81	0.2300	P	1.2
5	☐	100.000	99.997	737869.21	1.5522	P	0.6
6	☑	200.000		1370873.15	3.1163	A	1.1
7	☐	1.000					

y = 0.0147 * x + 0.0802
R = 1.0000
DL = 0.09536
BEC = 5.448

Weight: <None>
Min Conc: <None>

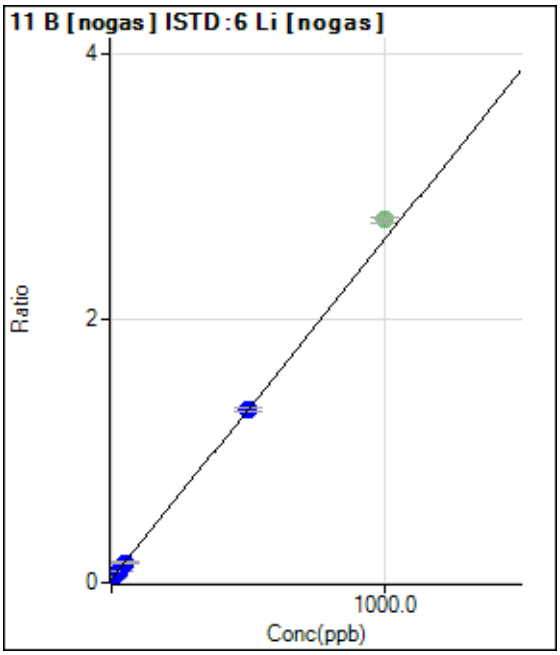


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	100.00	0.0002	P	13.2
2	☐	2.000	1.887	4565.59	0.0089	P	3.2
3	☐	5.000	4.778	11455.14	0.0223	P	1.8
4	☐	10.000	9.974	23551.06	0.0463	P	1.3
5	☐	100.000	100.016	219611.78	0.4620	P	1.2
6	☑	200.000		422772.55	0.9611	P	0.6
7	☐	1.000					

y = 0.0046 * x + 1.9605E-004
R = 1.0000
DL = 0.01676
BEC = 0.04246

Weight: <None>
Min Conc: <None>

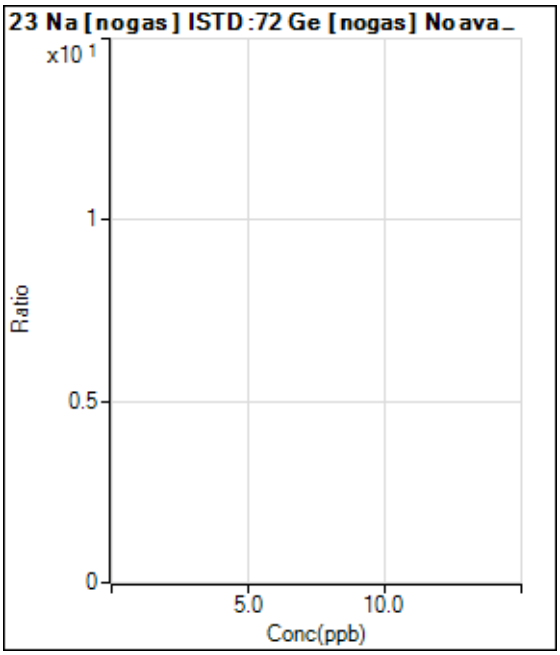
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12872.73	0.0252	P	3.0
2	☐	10.000	9.179	25017.99	0.0488	P	0.9
3	☐	25.000	22.462	42695.57	0.0830	P	1.0
4	☐	50.000	49.452	77561.80	0.1523	P	0.7
5	☐	500.000	500.198	622982.78	1.3106	P	2.0
6	☑	1000.000		1207726.00	2.7456	A	1.9
7	☐	5.000					

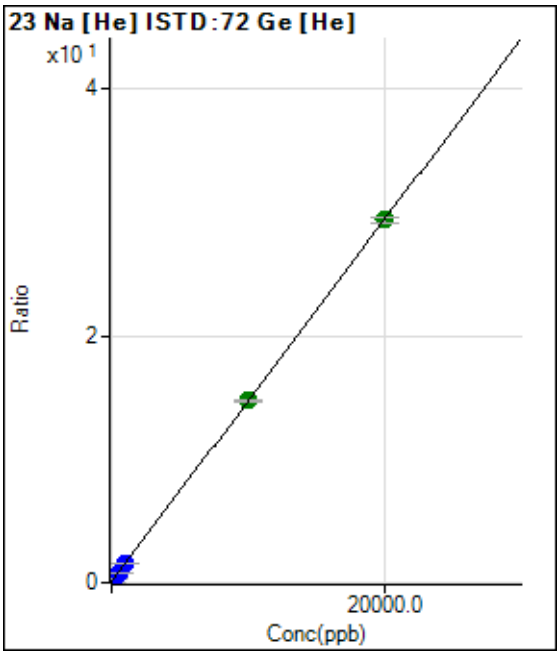
y = 0.0026 * x + 0.0252
R = 1.0000
DL = 0.8704
BEC = 9.822

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					

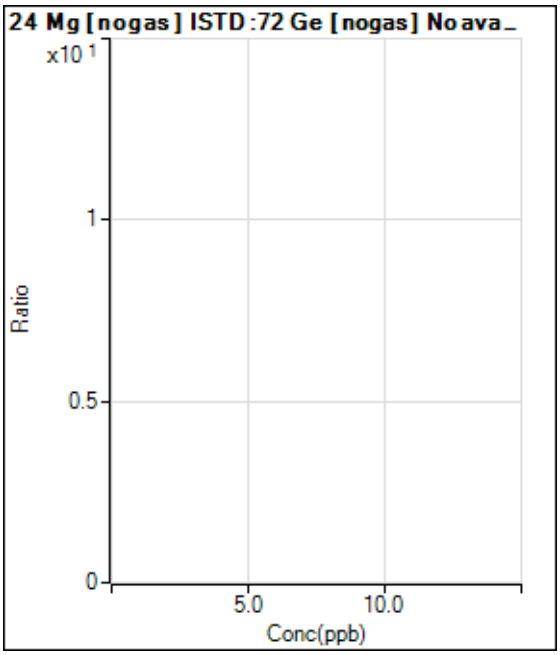
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	32274.75	0.0765	P	0.4
2	☐	200.000	200.773	156660.65	0.3710	P	1.8
3	☐	500.000	507.650	344725.48	0.8211	P	0.3
4	☐	1000.000	1050.995	684699.52	1.6180	P	1.0
5	☐	10000.00	10014.67	5904691.58	14.7651	A	0.7
6	☐	20000.00	19989.91	11309853.1	29.3959	A	1.8
7	☐	100.000					

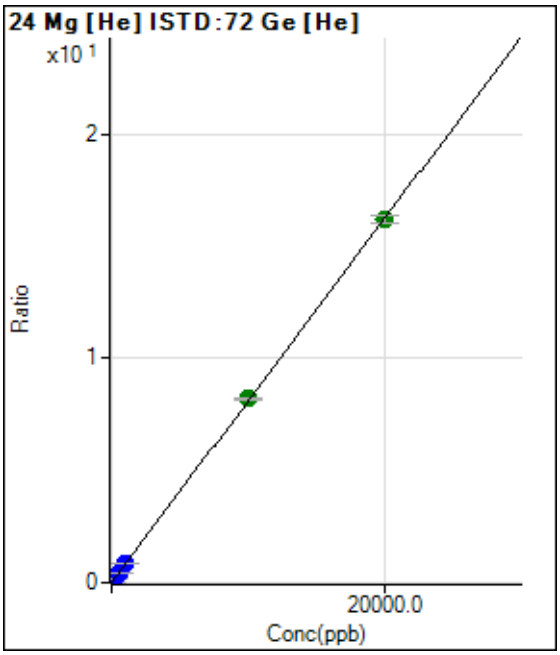
y = 0.0015 * x + 0.0765
R = 1.0000
DL = 0.5829
BEC = 52.16

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					

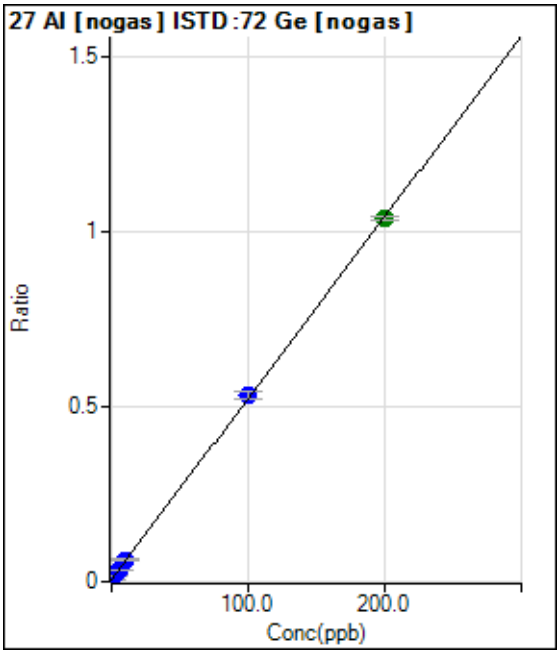
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	216.67	0.0005	P	10.1
2	☐	200.000	202.314	69506.62	0.1646	P	0.5
3	☐	500.000	509.656	173731.03	0.4138	P	1.0
4	☐	1000.000	1052.306	361332.60	0.8538	P	0.6
5	☐	10000.00	10118.72	3281600.16	8.2059	A	0.7
6	☐	20000.00	19937.75	6220514.28	16.1682	A	2.1
7	☐	100.000					

y = 8.1091E-004 * x + 5.1302E-004
R = 1.0000
DL = 0.1924
BEC = 0.6326

Weight: <None>
Min Conc: <None>

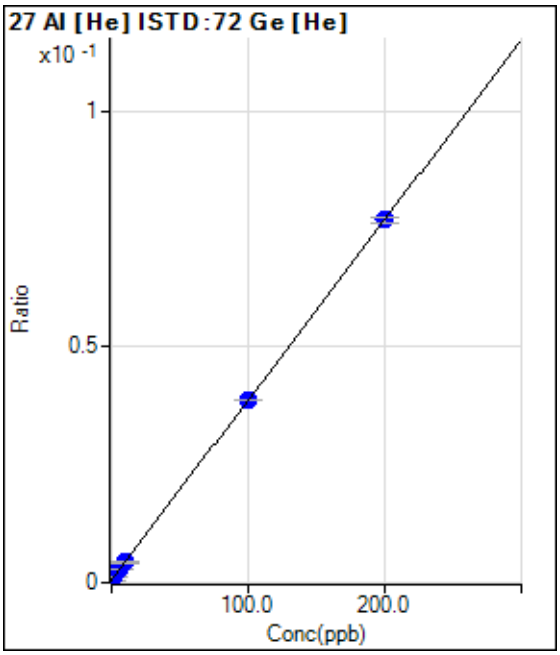


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9832.73	0.0062	P	0.8
2	☐	2.000	2.112	27050.30	0.0171	P	1.4
3	☐	5.000	5.332	53715.81	0.0338	P	1.1
4	☐	10.000	10.927	99985.06	0.0627	P	3.3
5	☐	100.000	101.825	813809.89	0.5334	P	3.3
6	☐	200.000	199.032	1565837.84	1.0367	A	1.2
7	☐	1.000					

y = 0.0052 * x + 0.0062
R = 0.9999
DL = 0.02939
BEC = 1.188

Weight: <None>
Min Conc: <None>

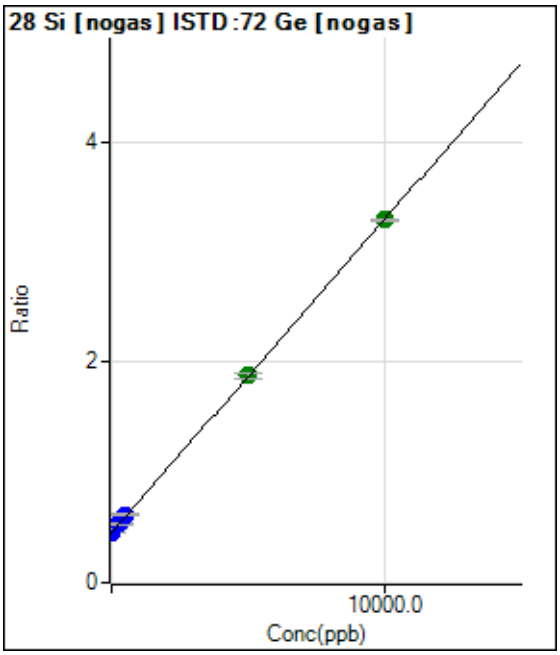
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0006	P	14.0
2	☐	2.000	1.899	540.01	0.0013	P	17.5
3	☐	5.000	5.670	1140.05	0.0027	P	4.1
4	☐	10.000	9.827	1820.12	0.0043	P	9.0
5	☐	100.000	99.767	15439.78	0.0386	P	0.4
6	☐	200.000	200.110	29580.00	0.0769	P	1.6
7	☐	1.000					

y = 3.8144E-004 * x + 5.5268E-004
R = 1.0000
DL = 0.6105
BEC = 1.449

Weight: <None>
Min Conc: <None>

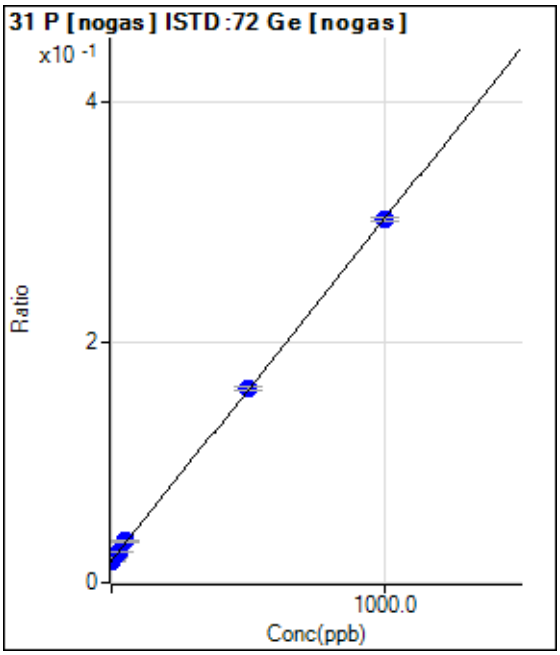


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	722477.70	0.4521	P	1.4
2	☐	100.000	159.994	787639.73	0.4976	P	2.8
3	☐	250.000	292.096	851381.55	0.5352	P	2.1
4	☐	500.000	587.377	986432.25	0.6191	P	4.8
5	☐	5000.000	5015.907	2866521.10	1.8784	A	2.5
6	☐	10000.00	9986.025	4971400.65	3.2917	A	0.7
7	☐	50.000					

y = 2.8436E-004 * x + 0.4521
R = 1.0000
DL = 65.76
BEC = 1590

Weight: <None>
Min Conc: <None>

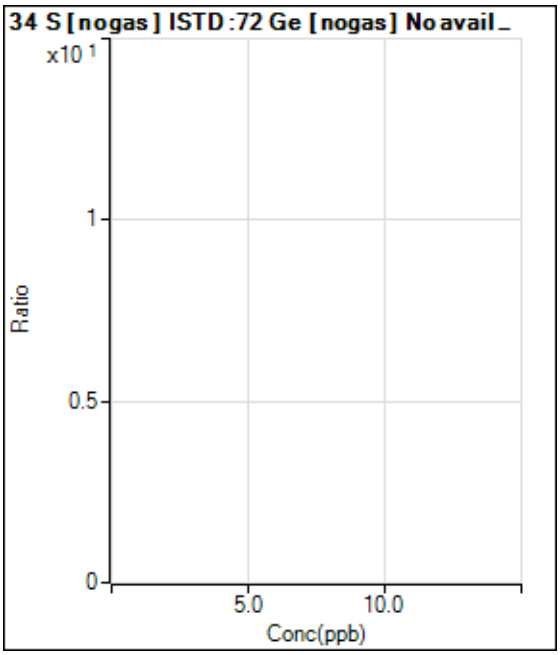
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29299.56	0.0183	P	1.5
2	☐	10.000	7.024	32187.81	0.0203	P	2.9
3	☐	25.000	25.970	40934.59	0.0257	P	2.7
4	☐	50.000	57.213	55177.48	0.0346	P	4.9
5	☐	500.000	504.941	247494.72	0.1622	P	2.1
6	☐	1000.000	997.175	456665.41	0.3024	P	1.1
7	☐	5.000					

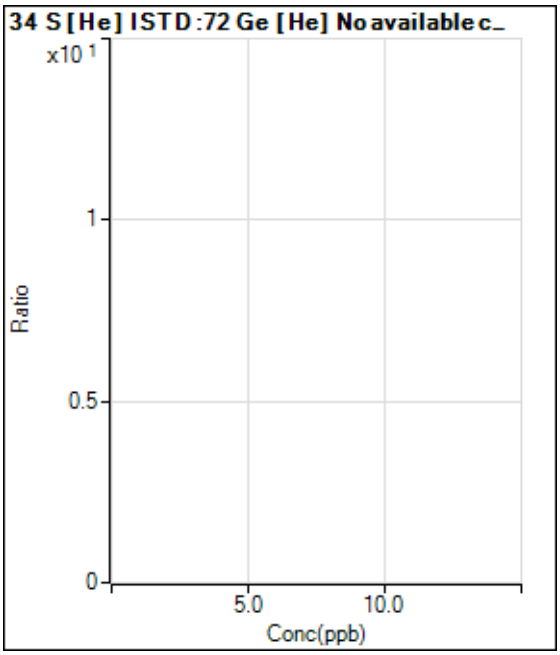
y = 2.8486E-004 * x + 0.0183
R = 1.0000
DL = 2.922
BEC = 64.36

Weight: <None>
Min Conc: <None>

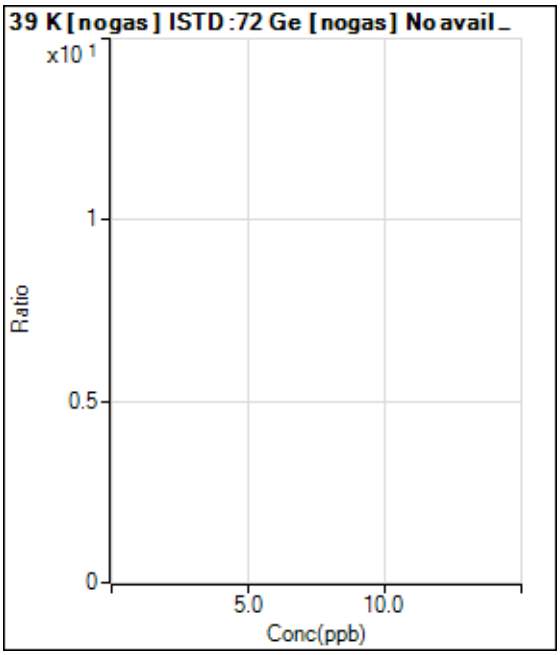


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.00					
6	☐	40000.00					
7	☐	200.000					

Calibration for 023_ICV.d

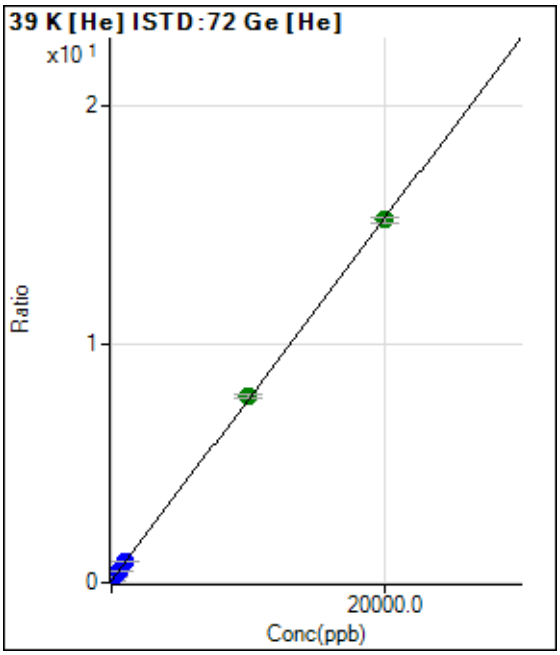


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.00					
6	☐	40000.00					
7	☐	200.000					



	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					

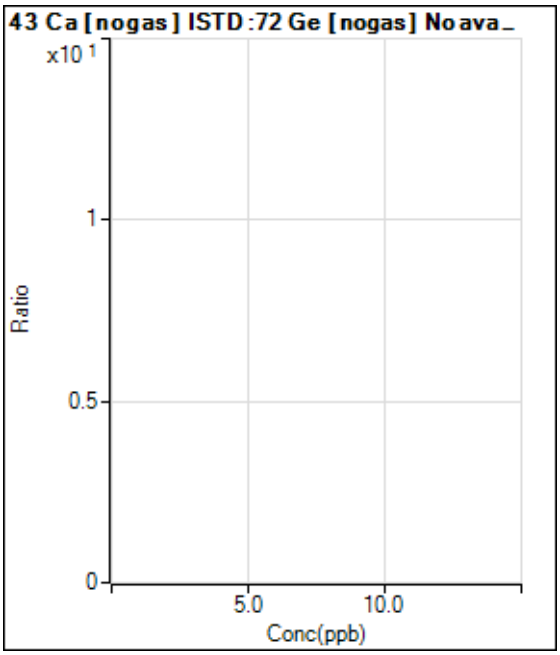
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38072.69	0.0903	P	5.2
2	☐	200.000	201.899	102929.62	0.2438	P	2.0
3	☐	500.000	509.612	200530.25	0.4776	P	1.0
4	☐	1000.000	1044.882	374282.08	0.8844	P	0.9
5	☐	10000.00	10146.16	3119912.97	7.8017	A	2.2
6	☐	20000.00	19924.41	5861032.00	15.2336	A	1.5
7	☐	100.000					

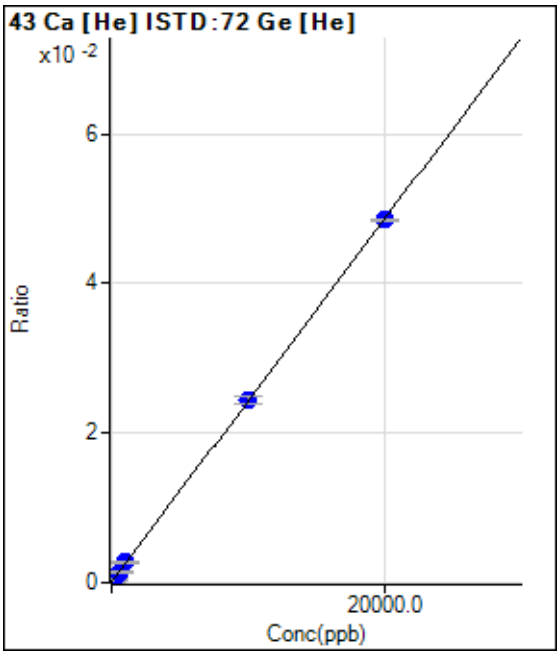
y = 7.6004E-004 * x + 0.0903
R = 1.0000
DL = 18.56
BEC = 118.8

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					

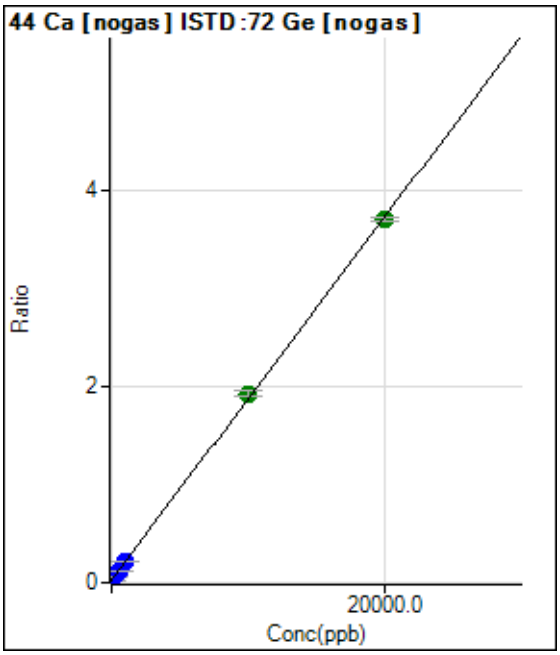
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0001	P	41.2
2	☐	200.000	150.113	180.00	0.0004	P	21.6
3	☐	500.000	520.553	556.68	0.0013	P	18.0
4	☐	1000.000	1127.303	1183.39	0.0028	P	9.6
5	☐	10000.00	10061.31	9786.03	0.0245	P	4.0
6	☐	20000.00	19962.96	18659.53	0.0485	P	0.4
7	☐	100.000					

y = 2.4261E-006 * x + 6.2891E-005
R = 1.0000
DL = 32.07
BEC = 25.92

Weight: <None>
Min Conc: <None>

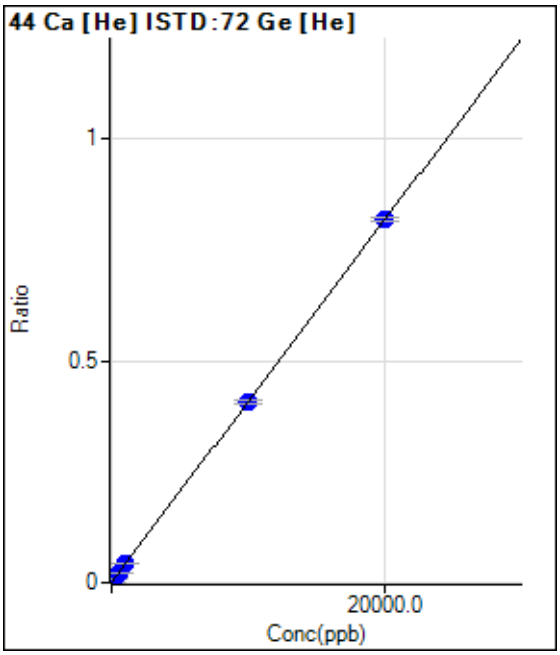


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	42483.24	0.0266	P	5.2
2	☐	200.000	201.878	101061.92	0.0638	P	1.6
3	☐	500.000	507.142	191226.22	0.1202	P	0.6
4	☐	1000.000	1059.926	354178.58	0.2222	P	2.5
5	☐	10000.00	10278.13	2934970.17	1.9236	A	3.4
6	☐	20000.00	19857.74	5575208.04	3.6917	A	1.0
7	☐	100.000					

y = 1.8457E-004 * x + 0.0266
R = 0.9999
DL = 22.61
BEC = 144

Weight: <None>
Min Conc: <None>

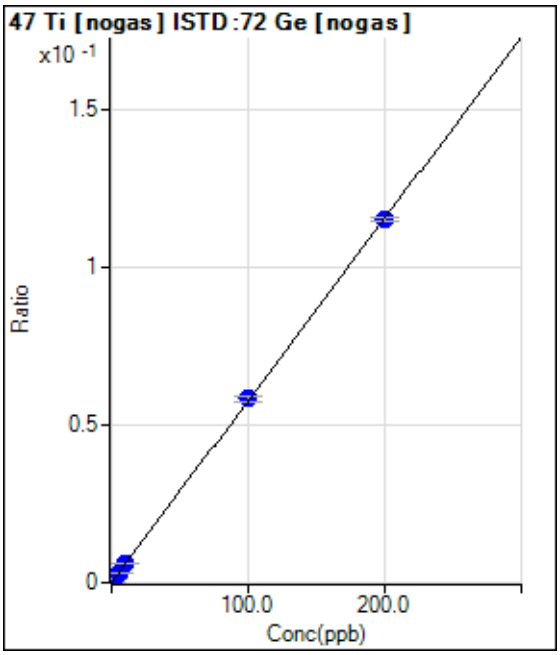
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	246.67	0.0006	P	39.5
2	☐	200.000	202.813	3740.42	0.0089	P	5.1
3	☐	500.000	498.145	8778.84	0.0209	P	4.2
4	☐	1000.000	1048.736	18355.85	0.0434	P	1.8
5	☐	10000.00	9950.677	162610.11	0.4066	P	1.9
6	☐	20000.00	20022.24	314594.79	0.8176	P	1.0
7	☐	100.000					

y = 4.0807E-005 * x + 5.8117E-004
R = 1.0000
DL = 16.87
BEC = 14.24

Weight: <None>
Min Conc: <None>

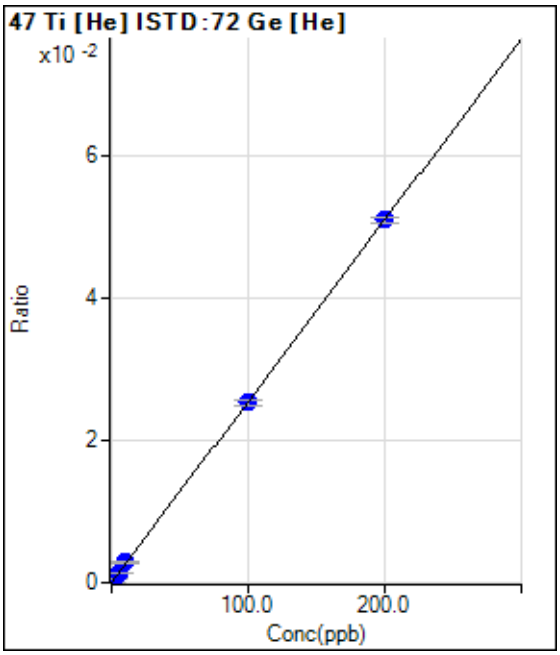


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	100.00	0.0001	P	43.9
2	☐	2.000	2.016	1943.47	0.0012	P	9.4
3	☐	5.000	5.207	4884.06	0.0031	P	5.1
4	☐	10.000	10.569	9836.05	0.0062	P	1.3
5	☐	100.000	101.194	89296.24	0.0585	P	2.8
6	☐	200.000	199.369	174033.41	0.1152	P	1.2
7	☐	1.000					

y = 5.7768E-004 * x + 6.2651E-005
R = 1.0000
DL = 0.1429
BEC = 0.1085

Weight: <None>
Min Conc: <None>

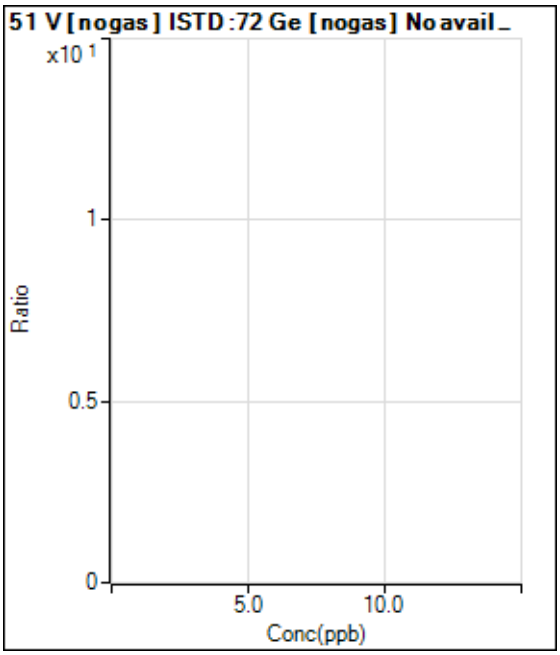
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	2.137	233.34	0.0006	P	19.5
3	☐	5.000	5.450	586.69	0.0014	P	8.1
4	☐	10.000	11.315	1223.40	0.0029	P	15.2
5	☐	100.000	99.342	10129.60	0.0253	P	2.8
6	☐	200.000	200.251	19643.89	0.0511	P	1.5
7	☐	1.000					

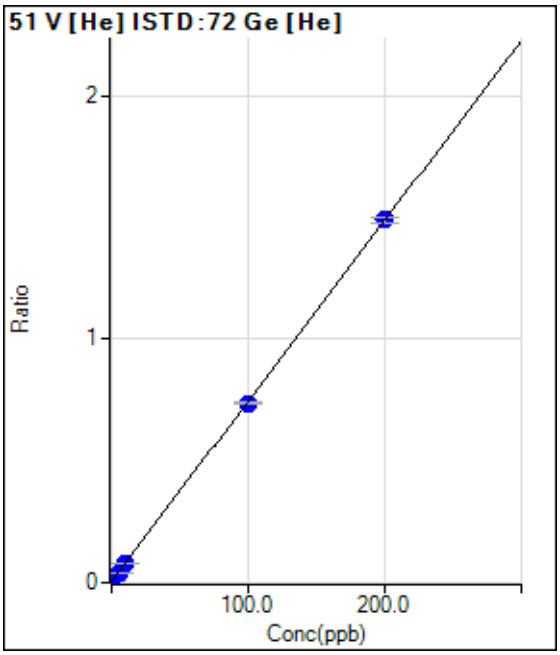
y = 2.5491E-004 * x + 8.1101E-006
R = 1.0000
DL = 0.1653
BEC = 0.03182

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					

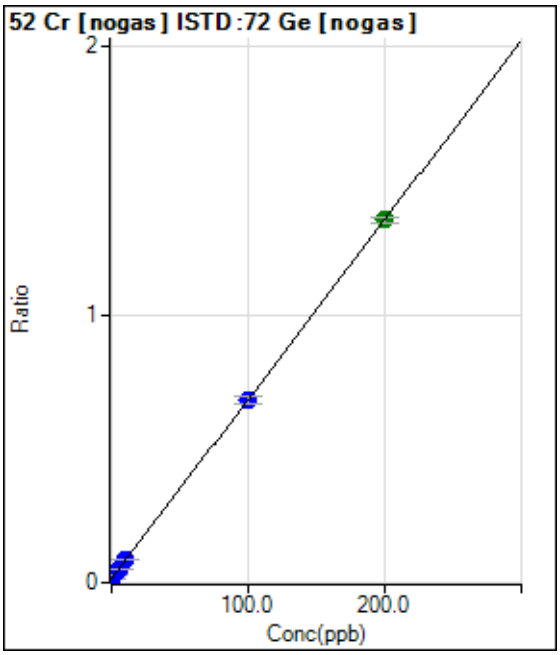
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2530.18	0.0060	P	2.2
2	☐	2.000	1.970	8688.73	0.0206	P	3.8
3	☐	5.000	4.985	18013.18	0.0429	P	2.0
4	☐	10.000	10.318	34865.91	0.0824	P	1.4
5	☐	100.000	98.838	295040.41	0.7378	P	0.4
6	☐	200.000	200.566	573625.08	1.4909	P	1.3
7	☐	1.000					

y = 0.0074 * x + 0.0060
R = 1.0000
DL = 0.05438
BEC = 0.8102

Weight: <None>
Min Conc: <None>

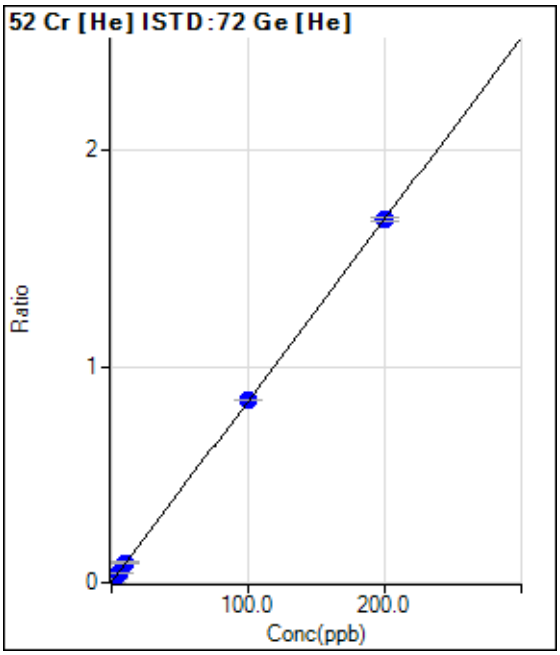


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22921.18	0.0143	P	1.4
2	☐	2.000	2.123	45185.03	0.0285	P	1.7
3	☐	5.000	5.034	76386.54	0.0480	P	2.3
4	☐	10.000	10.640	136283.76	0.0855	P	2.6
5	☐	100.000	99.778	1039901.34	0.6817	P	4.0
6	☐	200.000	200.077	2042767.78	1.3525	A	1.3
7	☐	1.000					

y = 0.0067 * x + 0.0143
R = 1.0000
DL = 0.09208
BEC = 2.144

Weight: <None>
Min Conc: <None>

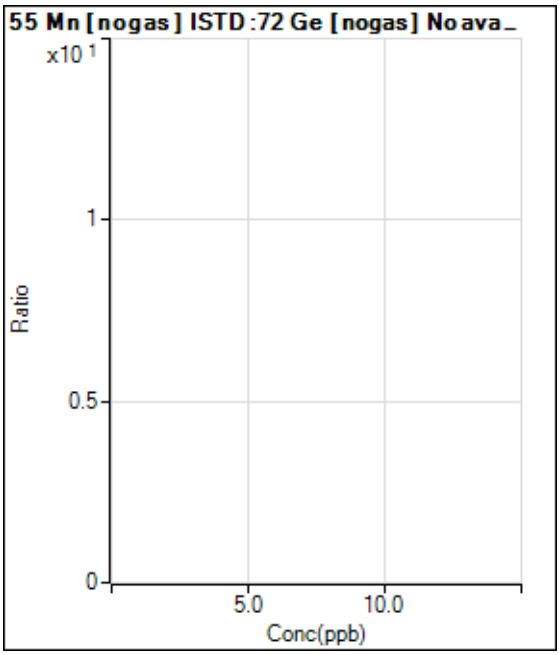
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	670.03	0.0016	P	17.9
2	☐	2.000	1.982	7688.35	0.0182	P	11.7
3	☐	5.000	4.869	17825.44	0.0425	P	1.5
4	☐	10.000	10.836	39158.13	0.0925	P	1.8
5	☐	100.000	100.482	337909.63	0.8449	P	0.7
6	☐	200.000	199.721	645531.54	1.6778	P	1.2
7	☐	1.000					

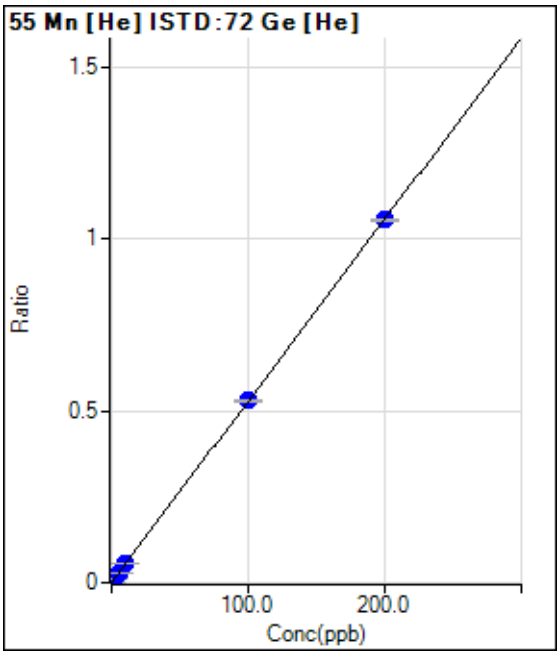
y = 0.0084 * x + 0.0016
R = 1.0000
DL = 0.1016
BEC = 0.1894

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					

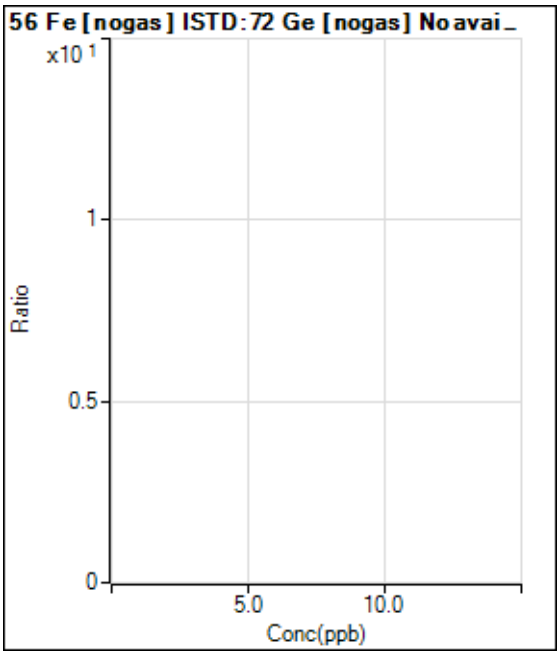
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	173.34	0.0004	P	39.5
2	☐	2.000	1.952	4527.29	0.0107	P	5.5
3	☐	5.000	5.160	11617.17	0.0277	P	3.6
4	☐	10.000	10.301	23198.06	0.0548	P	4.1
5	☐	100.000	100.286	212031.74	0.5302	P	0.9
6	☐	200.000	199.838	406340.49	1.0561	P	0.3
7	☐	1.000					

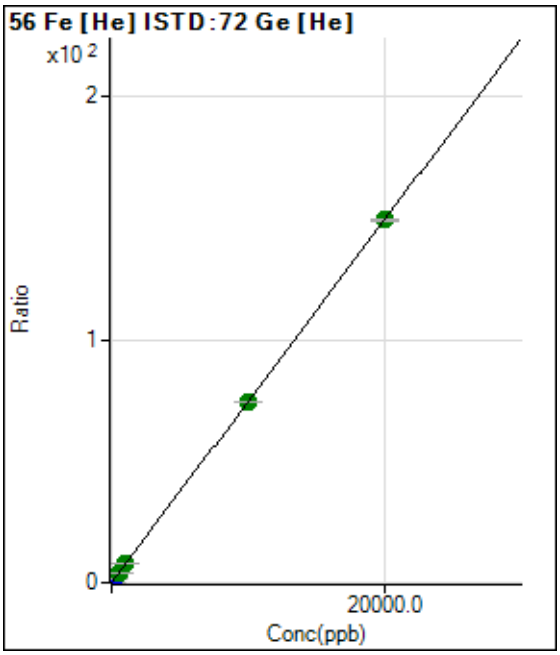
y = 0.0053 * x + 4.1266E-004
R = 1.0000
DL = 0.09256
BEC = 0.07812

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					

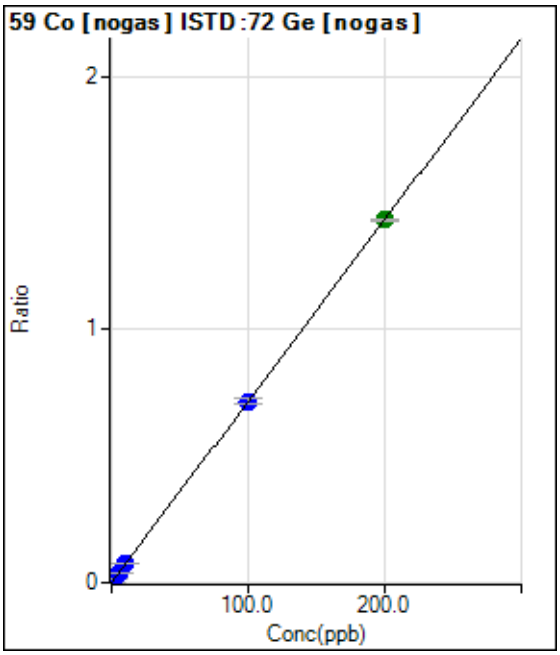
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4527.30	0.0107	P	2.3
2	☐	200.000	194.714	617769.21	1.4629	P	1.7
3	☐	500.000	526.952	1654529.04	3.9408	A	1.1
4	☐	1000.000	1059.427	3348148.80	7.9120	A	1.2
5	☐	10000.00	9983.770	29782600.3	74.4703	A	0.4
6	☐	20000.00	20004.52	57408269.1	149.205	A	0.8
7	☐	100.000					

y = 0.0075 * x + 0.0107
R = 1.0000
DL = 0.1002
BEC = 1.438

Weight: <None>
Min Conc: <None>

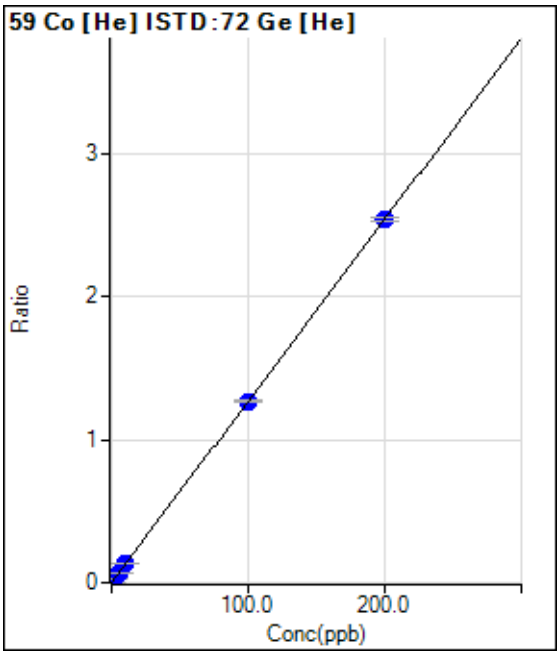


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	366.68	0.0002	P	16.6
2	☐	2.000	1.969	22680.86	0.0143	P	2.7
3	☐	5.000	4.995	57268.79	0.0360	P	0.5
4	☐	10.000	10.644	121866.52	0.0764	P	2.3
5	☐	100.000	99.859	1091251.03	0.7152	P	3.1
6	☐	200.000	200.039	2163427.99	1.4325	A	0.8
7	☐	1.000					

y = 0.0072 * x + 2.2924E-004
R = 1.0000
DL = 0.01591
BEC = 0.03202

Weight: <None>
Min Conc: <None>

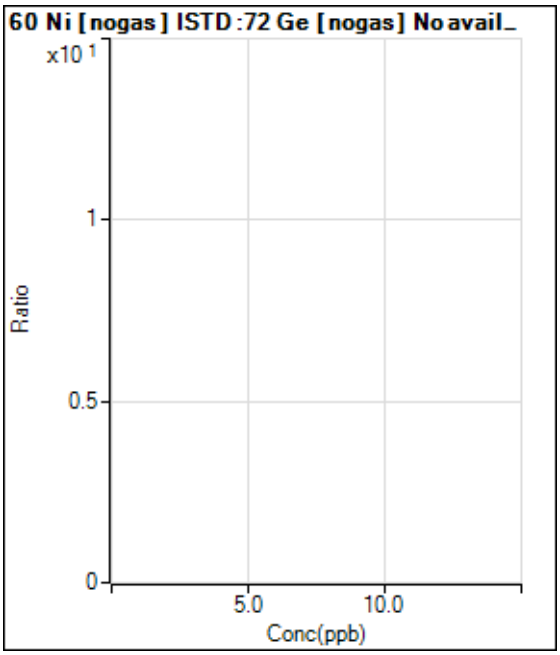
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0002	P	4.5
2	☐	2.000	1.995	10763.29	0.0255	P	6.6
3	☐	5.000	5.062	27023.36	0.0644	P	1.5
4	☐	10.000	10.454	56148.83	0.1327	P	2.4
5	☐	100.000	100.112	507407.11	1.2688	P	0.8
6	☐	200.000	199.920	974813.94	2.5336	P	0.9
7	☐	1.000					

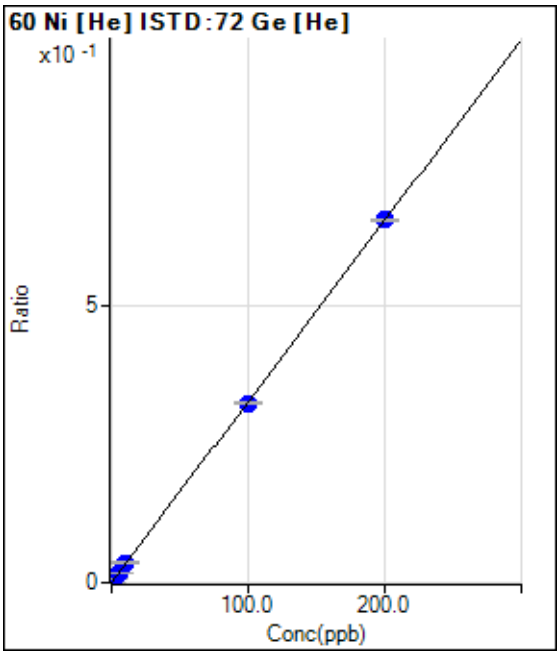
y = 0.0127 * x + 2.2112E-004
R = 1.0000
DL = 0.002379
BEC = 0.01745

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					

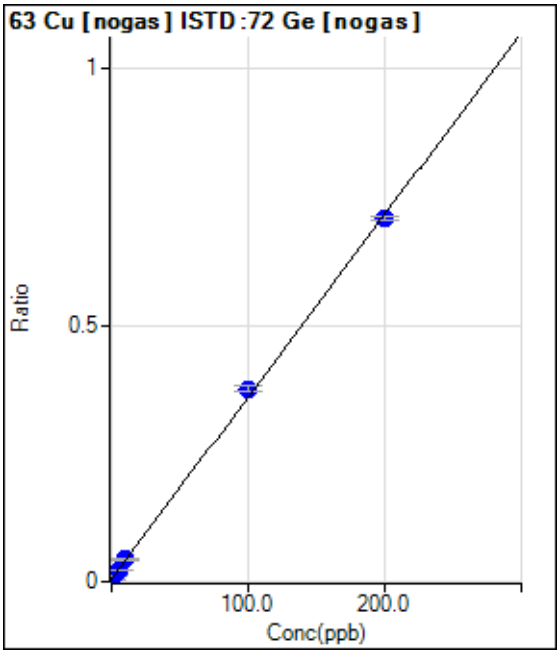
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0002	P	34.0
2	☐	2.000	2.046	2876.93	0.0068	P	9.0
3	☐	5.000	5.008	6914.75	0.0165	P	7.6
4	☐	10.000	10.962	15183.19	0.0359	P	2.9
5	☐	100.000	99.024	129101.64	0.3228	P	0.7
6	☐	200.000	200.439	251375.44	0.6533	P	0.8
7	☐	1.000					

y = 0.0033 * x + 1.5049E-004
R = 1.0000
DL = 0.04713
BEC = 0.04618

Weight: <None>
Min Conc: <None>

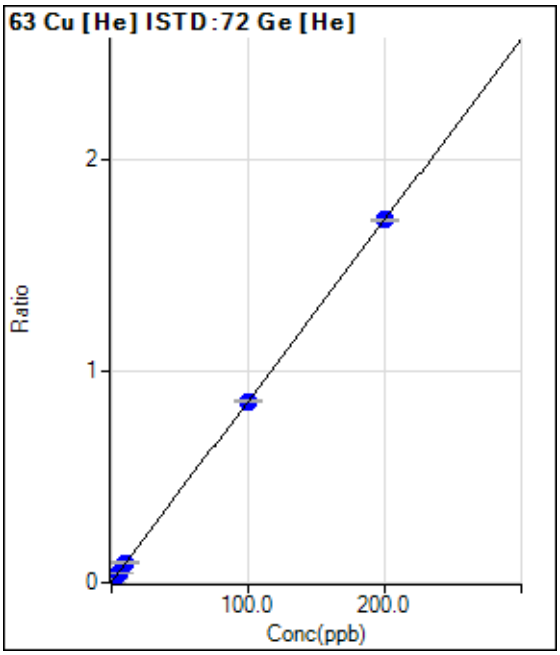


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8178.62	0.0051	P	3.1
2	☐	2.000	2.108	19947.69	0.0126	P	0.4
3	☐	5.000	5.214	37588.51	0.0236	P	4.0
4	☐	10.000	10.886	69748.52	0.0438	P	3.6
5	☐	100.000	104.289	572695.30	0.3753	P	2.8
6	☐	200.000	197.805	1068144.12	0.7073	P	0.9
7	☐	1.000					

y = 0.0035 * x + 0.0051
R = 0.9997
DL = 0.1353
BEC = 1.442

Weight: <None>
Min Conc: <None>

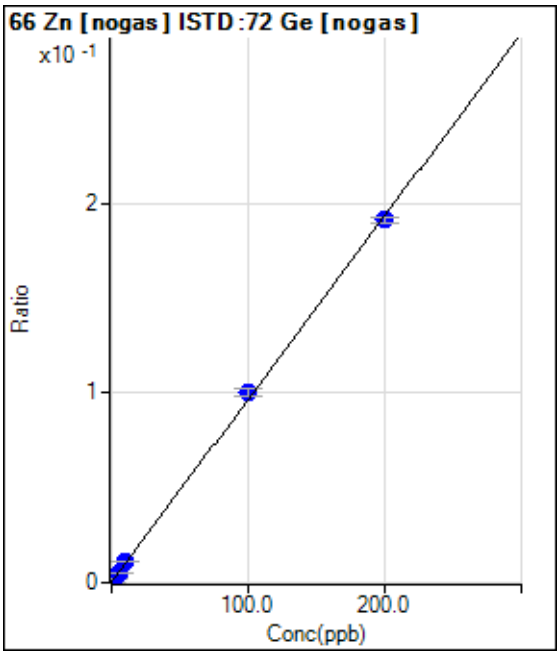
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1293.40	0.0031	P	7.6
2	☐	2.000	2.073	8802.23	0.0208	P	4.3
3	☐	5.000	5.302	20374.88	0.0485	P	2.5
4	☐	10.000	10.715	40177.33	0.0949	P	1.7
5	☐	100.000	99.779	343340.10	0.8586	P	1.4
6	☐	200.000	200.066	661195.04	1.7184	P	0.5
7	☐	1.000					

y = 0.0086 * x + 0.0031
R = 1.0000
DL = 0.08108
BEC = 0.3579

Weight: <None>
Min Conc: <None>

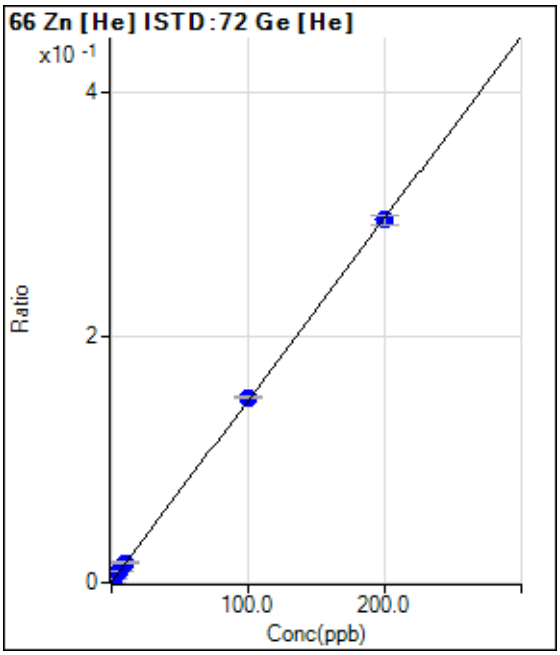


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	426.68	0.0003	P	3.3
2	☐	2.000	2.116	3653.75	0.0023	P	8.8
3	☐	5.000	5.273	8512.09	0.0054	P	4.0
4	☐	10.000	11.000	17331.70	0.0109	P	2.7
5	☐	100.000	103.830	153160.14	0.1004	P	3.3
6	☐	200.000	198.027	288772.45	0.1912	P	1.4
7	☐	1.000					

y = 9.6427E-004 * x + 2.6701E-004
R = 0.9997
DL = 0.02747
BEC = 0.2769

Weight: <None>
Min Conc: <None>

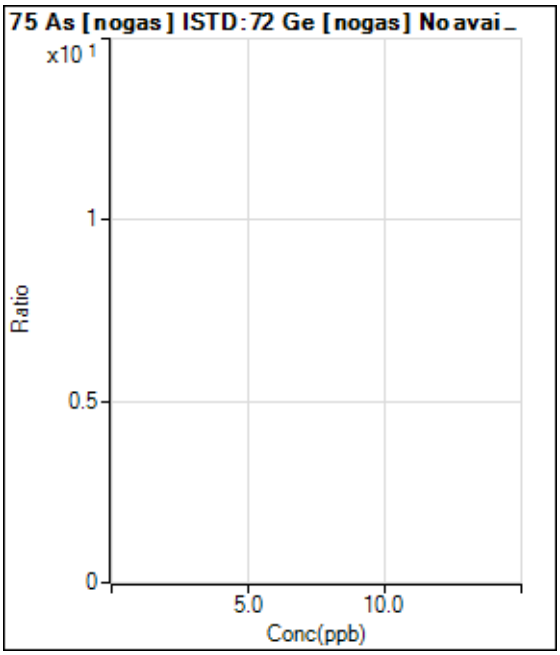
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	163.33	0.0004	P	28.7
2	☐	2.000	1.873	1333.41	0.0032	P	11.9
3	☐	5.000	5.670	3690.43	0.0088	P	2.3
4	☐	10.000	10.638	6834.71	0.0162	P	5.5
5	☐	100.000	101.590	60379.32	0.1510	P	1.5
6	☐	200.000	199.157	113740.66	0.2956	P	2.4
7	☐	1.000					

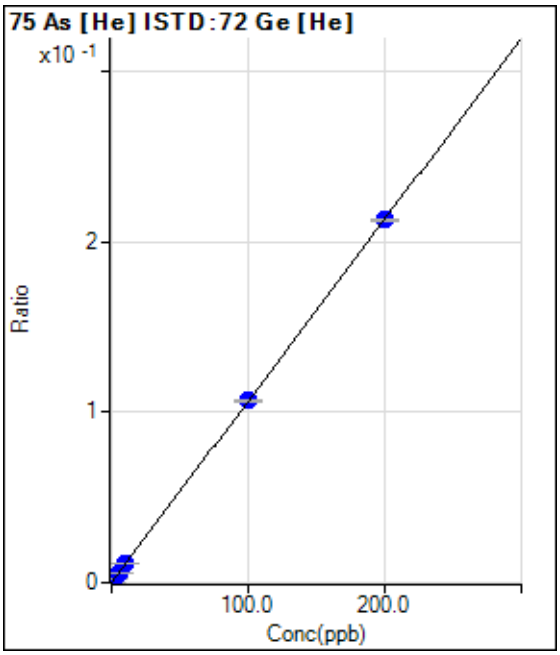
y = 0.0015 * x + 3.8535E-004
R = 1.0000
DL = 0.224
BEC = 0.26

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					

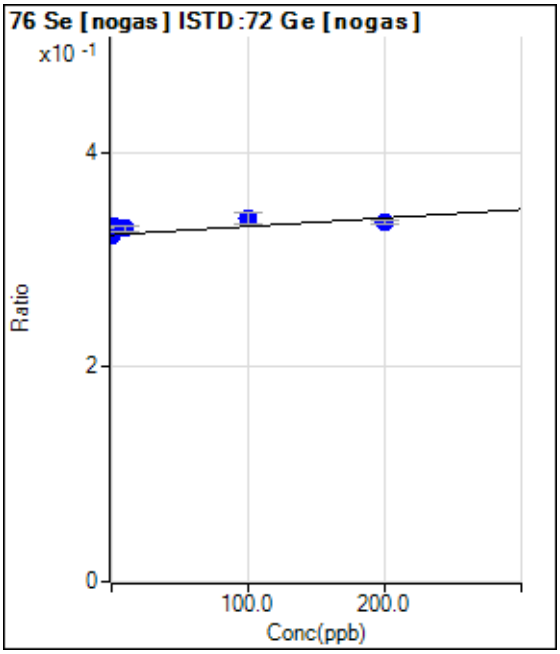
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	51.11	0.0001	P	15.7
2	☐	2.000	2.072	982.26	0.0023	P	3.7
3	☐	5.000	5.067	2314.60	0.0055	P	2.0
4	☐	10.000	10.508	4783.99	0.0113	P	4.2
5	☐	100.000	100.179	42681.91	0.1067	P	1.7
6	☐	200.000	199.883	81883.50	0.2128	P	0.4
7	☐	1.000					

y = 0.0011 * x + 1.2142E-004
R = 1.0000
DL = 0.0537
BEC = 0.1141

Weight: <None>
Min Conc: <None>

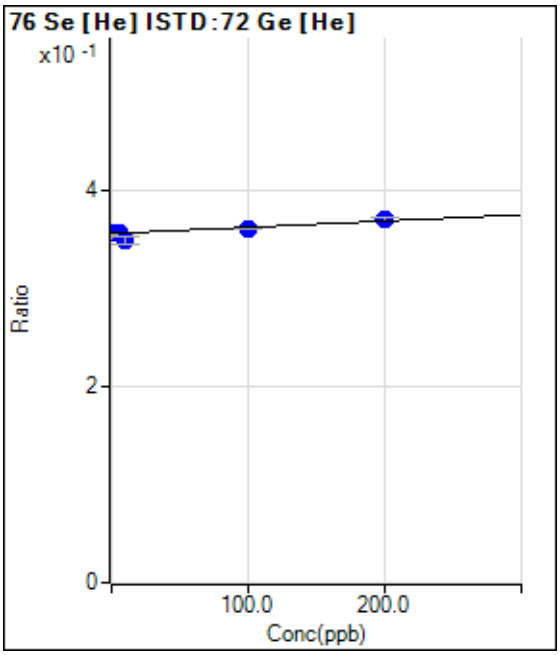


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	516958.96	0.3235	P	0.5
2	☐	2.000	108.999	525667.96	0.3321	P	0.5
3	☐	5.000	80.649	524812.09	0.3298	P	0.2
4	☐	10.000	72.661	524829.09	0.3292	P	1.3
5	☐	100.000	188.158	516124.19	0.3383	P	3.2
6	☐	200.000	149.827	506311.79	0.3353	P	1.2
7	☐	1.000					

y = 7.8489E-005 * x + 0.3235
R = 0.6880
DL = 64.94
BEC = 4122

Weight: <None>
Min Conc: <None>

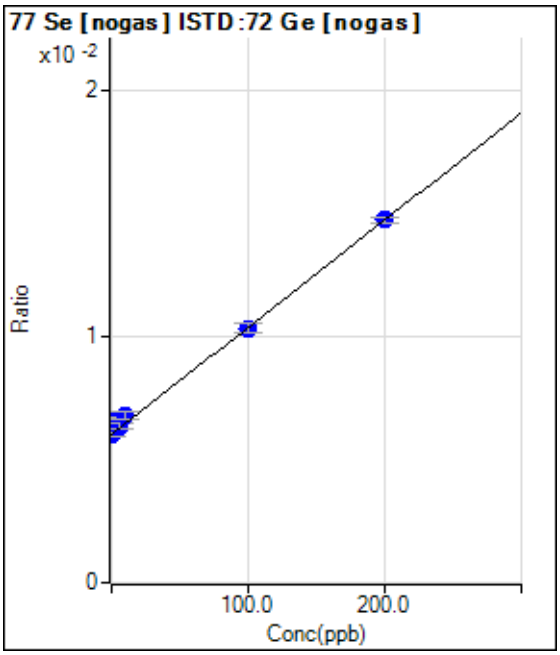
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	150429.10	0.3566	P	2.5
2	☐	2.000	1.847	150642.08	0.3568	P	2.7
3	☐	5.000	-1.662	149693.67	0.3565	P	0.4
4	☐	10.000	-102.363	148153.59	0.3501	P	2.2
5	☐	100.000	78.215	144635.91	0.3617	P	0.4
6	☐	200.000	216.679	142560.33	0.3705	P	1.1
7	☐	1.000					

y = 6.4030E-005 * x + 0.3566
R = 0.9129
DL = 423.3
BEC = 5570

Weight: <None>
Min Conc: <None>

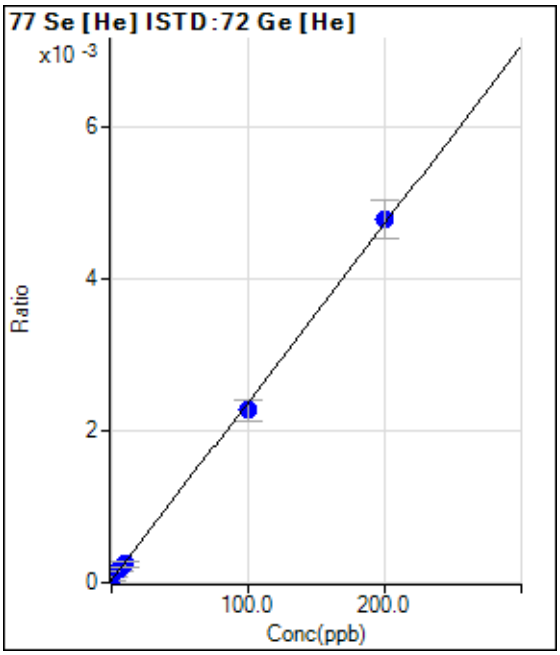


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9646.06	0.0060	P	3.7
2	☐	2.000	11.837	10373.16	0.0066	P	4.6
3	☐	5.000	7.486	10126.34	0.0064	P	3.5
4	☐	10.000	17.757	10856.78	0.0068	P	4.1
5	☐	100.000	98.711	15773.76	0.0103	P	3.8
6	☐	200.000	200.096	22287.19	0.0148	P	1.7
7	☐	1.000					

y = 4.3575E-005 * x + 0.0060
R = 0.9988
DL = 15.18
BEC = 138.5

Weight: <None>
Min Conc: <None>

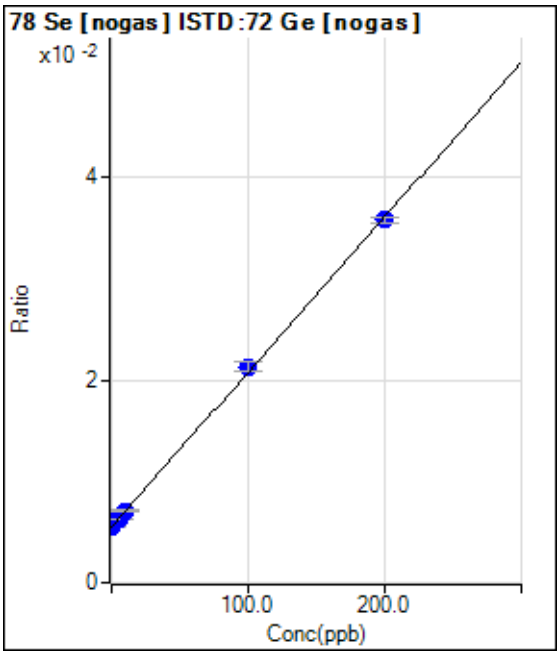
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	41.2
2	☐	2.000	4.086	53.33	0.0001	P	79.7
3	☐	5.000	6.446	76.67	0.0002	P	20.0
4	☐	10.000	9.417	106.67	0.0003	P	30.6
5	☐	100.000	95.358	906.71	0.0023	P	12.9
6	☐	200.000	202.293	1836.80	0.0048	P	10.5
7	☐	1.000					

y = 2.3450E-005 * x + 3.1445E-005
R = 0.9995
DL = 1.659
BEC = 1.341

Weight: <None>
Min Conc: <None>

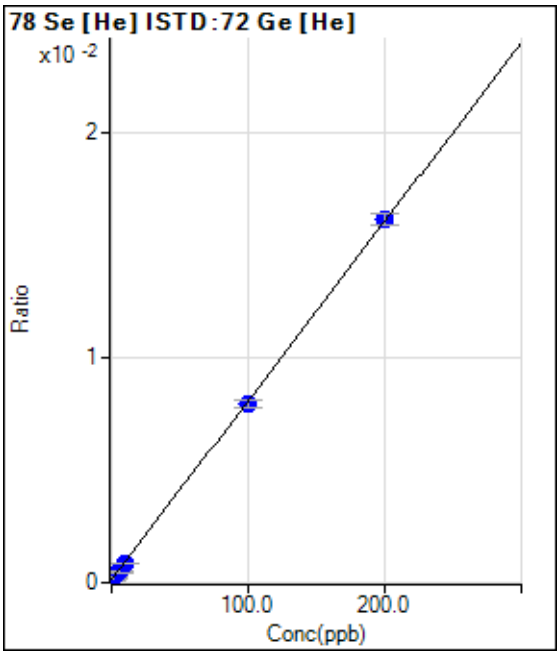


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8798.89	0.0055	P	3.4
2	☐	2.000	3.441	9549.29	0.0060	P	3.7
3	☐	5.000	4.822	9936.16	0.0062	P	2.1
4	☐	10.000	10.411	11313.67	0.0071	P	3.8
5	☐	100.000	103.568	32559.44	0.0213	P	3.9
6	☐	200.000	198.185	54087.19	0.0358	P	1.9
7	☐	1.000					

y = 1.5291E-004 * x + 0.0055
R = 0.9998
DL = 3.626
BEC = 36.01

Weight: <None>
Min Conc: <None>

Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	55.33	0.0001	P	12.2
2	☐	2.000	1.252	97.33	0.0002	P	21.1
3	☐	5.000	4.649	210.67	0.0005	P	12.8
4	☐	10.000	9.259	368.00	0.0009	P	4.1
5	☐	100.000	98.074	3179.62	0.0080	P	4.0
6	☐	200.000	201.016	6217.74	0.0162	P	3.3
7	☐	1.000					

y = 7.9734E-005 * x + 1.3112E-004

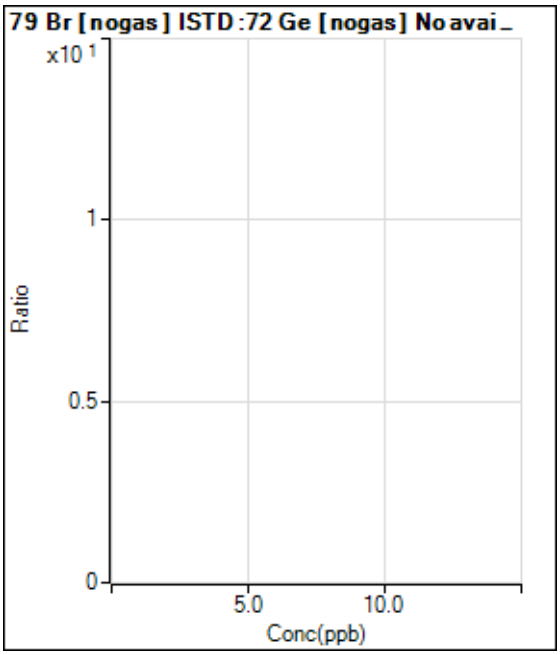
R = 0.9999

DL = 0.6002

BEC = 1.645

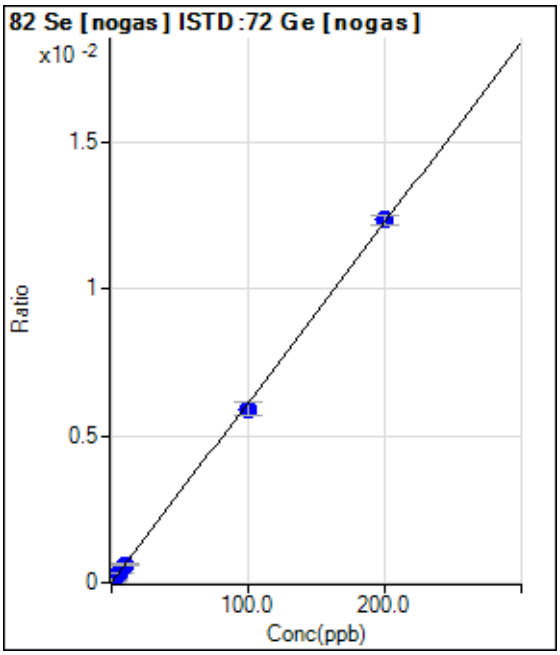
Weight: <None>

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					

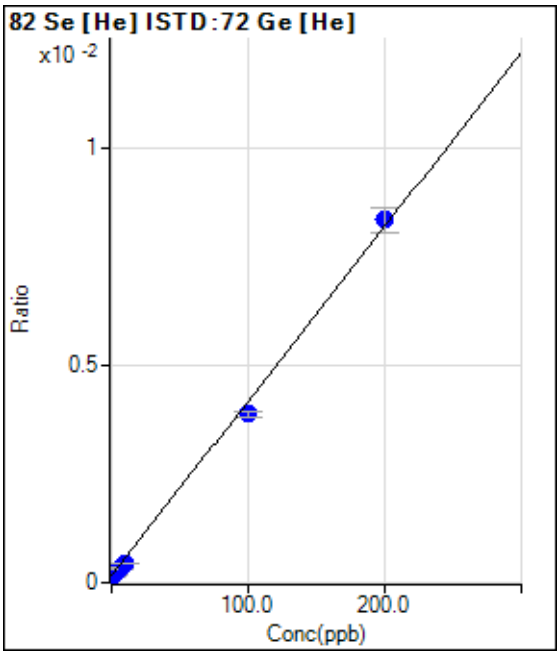
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-43.42	0.0000	P	-141.2
2	☐	2.000	1.850	136.50	0.0001	P	91.7
3	☐	5.000	5.392	483.84	0.0003	P	16.6
4	☐	10.000	9.830	919.72	0.0006	P	8.2
5	☐	100.000	96.649	9025.21	0.0059	P	6.8
6	☐	200.000	201.676	18699.83	0.0124	P	2.5
7	☐	1.000					

y = 6.1535E-005 * x - 2.7332E-005
R = 0.9998
DL = 1.881
BEC = -0.4442

Weight: <None>
Min Conc: <None>

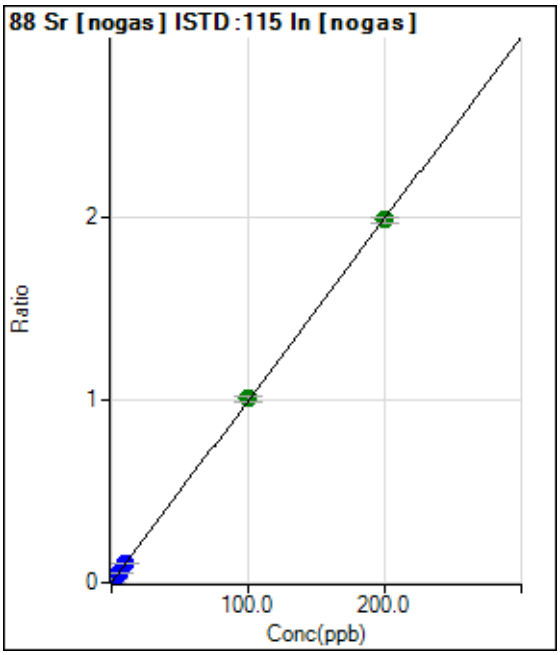


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0002	P	50.0
2	☐	2.000	0.413	76.67	0.0002	P	18.4
3	☐	5.000	4.009	136.67	0.0003	P	16.8
4	☐	10.000	7.090	190.00	0.0004	P	6.2
5	☐	100.000	92.478	1550.09	0.0039	P	2.7
6	☐	200.000	203.947	3213.67	0.0083	P	6.9
7	☐	1.000					

y = 4.0131E-005 * x + 1.6460E-004
R = 0.9991
DL = 6.148
BEC = 4.101

Weight: <None>
Min Conc: <None>

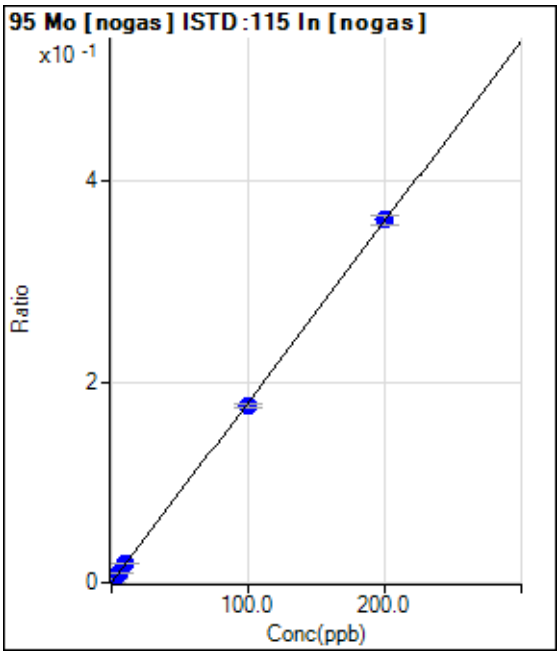
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1170.07	0.0007	P	14.3
2	☐	2.000	1.932	33264.25	0.0199	P	2.5
3	☐	5.000	4.980	84082.57	0.0503	P	1.3
4	☐	10.000	10.551	176793.90	0.1057	P	1.9
5	☐	100.000	101.104	1690637.27	1.0069	A	3.5
6	☐	200.000	199.422	3154504.54	1.9853	A	1.3
7	☐	1.000					

y = 0.0100 * x + 7.1040E-004
R = 1.0000
DL = 0.03055
BEC = 0.07138

Weight: <None>
Min Conc: <None>

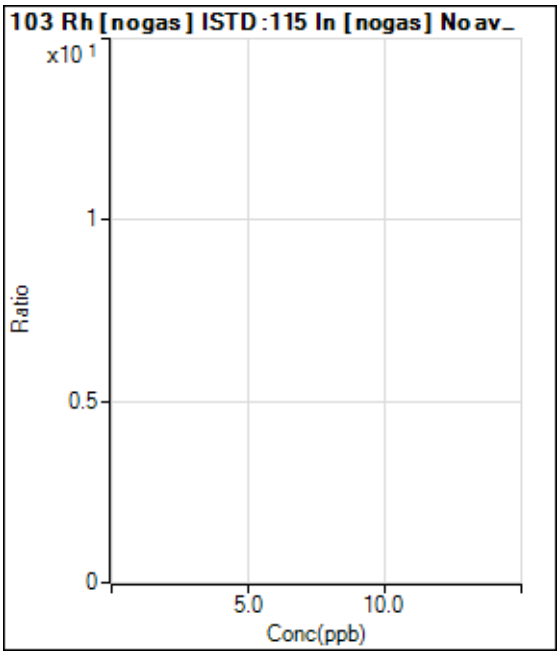


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.00	0.0001	P	28.2
2	☐	2.000	1.922	5857.70	0.0035	P	2.8
3	☐	5.000	4.973	15056.54	0.0090	P	3.9
4	☐	10.000	10.806	32606.66	0.0195	P	2.0
5	☐	100.000	98.154	296629.30	0.1767	P	2.3
6	☐	200.000	200.884	574229.83	0.3615	P	2.9
7	☐	1.000					

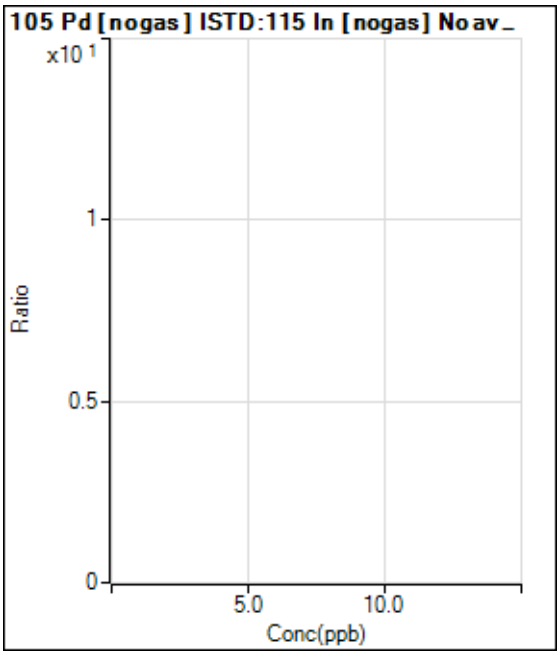
y = 0.0018 * x + 5.4557E-005
R = 0.9999
DL = 0.02565
BEC = 0.03032

Weight: <None>
Min Conc: <None>

Calibration for 023_ICV.d

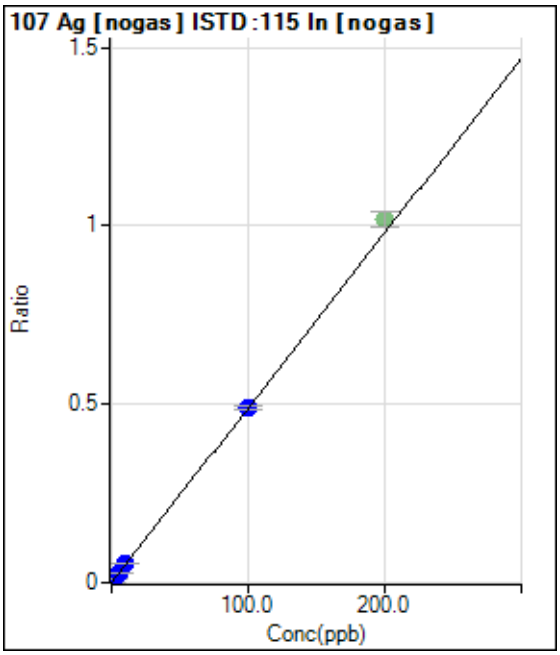


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	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					

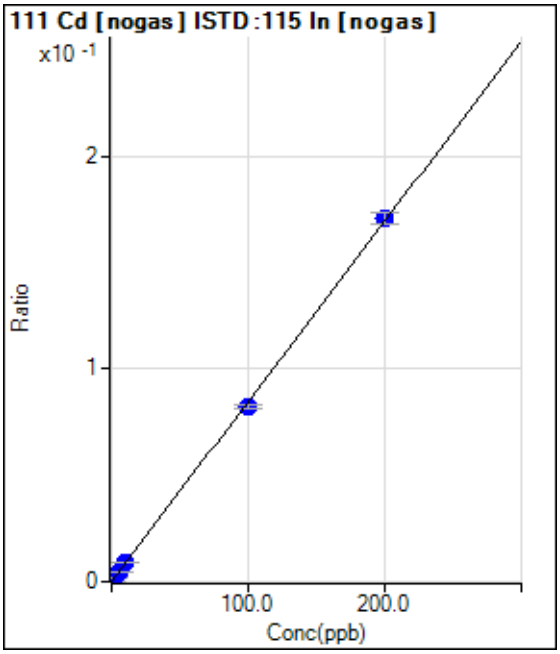
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0000	P	34.2
2	☐	2.000	2.093	17178.58	0.0103	P	1.3
3	☐	5.000	5.299	43450.19	0.0260	P	4.3
4	☐	10.000	11.180	91599.52	0.0548	P	1.4
5	☐	100.000	99.865	820902.18	0.4889	P	2.3
6	☑	200.000		1614169.51	1.0164	A	4.2
7	☐	1.000					

y = 0.0049 * x + 4.8781E-005
R = 0.9999
DL = 0.01022
BEC = 0.009966

Weight: <None>
Min Conc: <None>

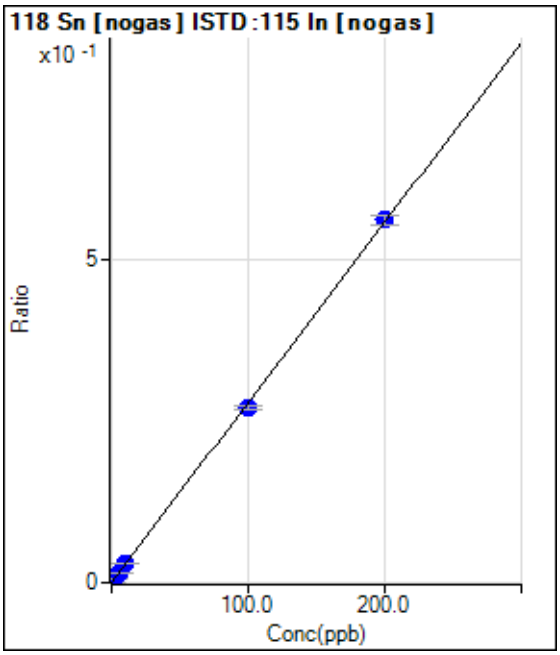


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	21.9
2	☐	2.000	2.011	2863.61	0.0017	P	5.5
3	☐	5.000	5.208	7398.32	0.0044	P	2.4
4	☐	10.000	10.886	15430.24	0.0092	P	1.7
5	☐	100.000	96.931	137726.74	0.0820	P	2.1
6	☐	200.000	201.485	270743.38	0.1704	P	3.2
7	☐	1.000					

y = 8.4589E-004 * x + 1.6216E-005
R = 0.9998
DL = 0.01258
BEC = 0.01917

Weight: <None>
Min Conc: <None>

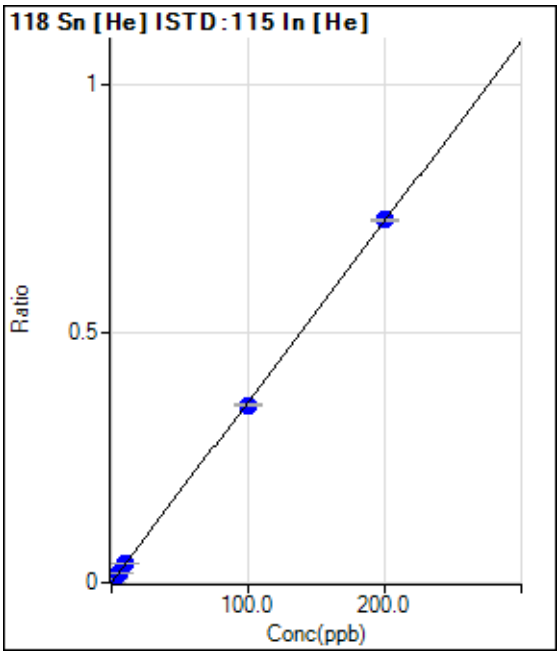
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	656.69	0.0004	P	12.4
2	☐	2.000	2.154	10686.74	0.0064	P	1.7
3	☐	5.000	4.989	23933.26	0.0143	P	3.8
4	☐	10.000	10.611	50148.64	0.0300	P	2.3
5	☐	100.000	96.798	453992.14	0.2703	P	2.1
6	☐	200.000	201.569	893584.39	0.5625	P	2.9
7	☐	1.000					

y = 0.0028 * x + 3.9874E-004
R = 0.9998
DL = 0.05338
BEC = 0.143

Weight: <None>
Min Conc: <None>

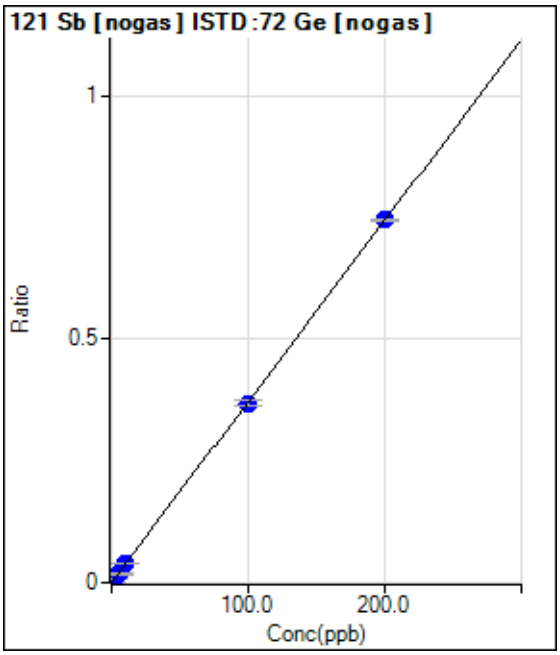


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	346.67	0.0005	P	37.2
2	☐	2.000	2.041	5207.50	0.0079	P	3.7
3	☐	5.000	4.991	12414.59	0.0186	P	1.3
4	☐	10.000	10.524	25398.64	0.0386	P	2.0
5	☐	100.000	98.332	226717.34	0.3567	P	1.2
6	☐	200.000	200.807	449902.00	0.7279	P	0.9
7	☐	1.000					

y = 0.0036 * x + 5.2043E-004
R = 0.9999
DL = 0.1603
BEC = 0.1437

Weight: <None>
Min Conc: <None>

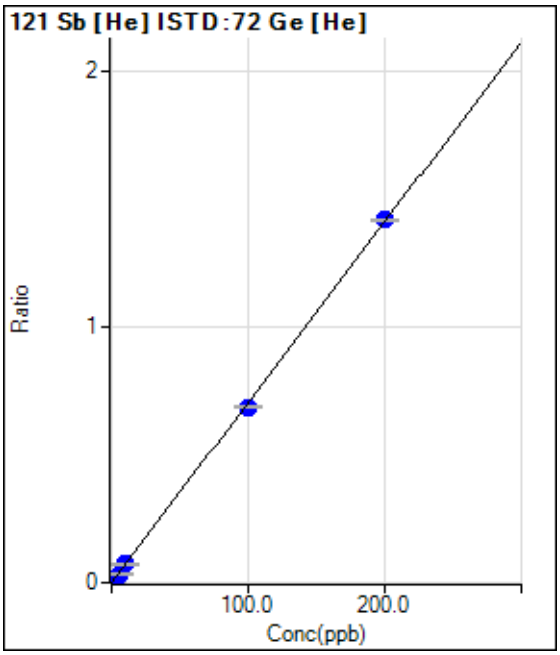
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	550.02	0.0003	P	13.1
2	☐	2.000	1.888	11644.05	0.0074	P	3.8
3	☐	5.000	4.730	28493.41	0.0179	P	2.7
4	☐	10.000	10.130	60534.48	0.0380	P	1.2
5	☐	100.000	99.070	561869.88	0.3683	P	3.7
6	☐	200.000	200.466	1124940.19	0.7449	P	0.7
7	☐	1.000					

y = 0.0037 * x + 3.4430E-004
R = 1.0000
DL = 0.03634
BEC = 0.0927

Weight: <None>
Min Conc: <None>

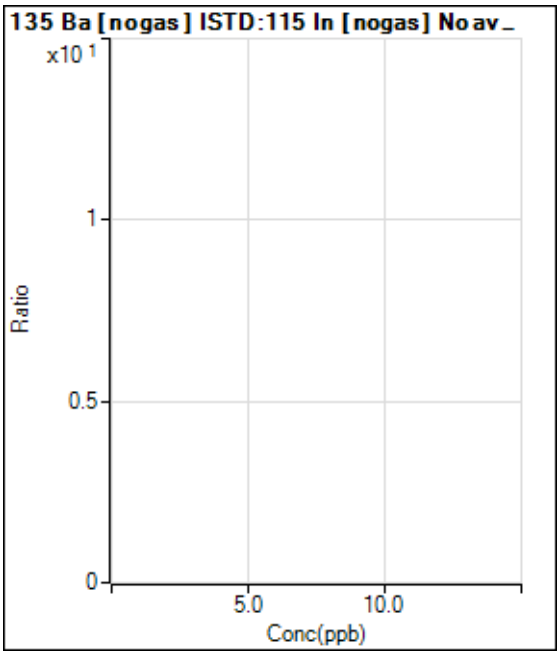


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	300.01	0.0007	P	31.3
2	☐	2.000	1.766	5557.63	0.0132	P	4.1
3	☐	5.000	4.675	14132.51	0.0337	P	2.1
4	☐	10.000	10.107	30443.28	0.0719	P	1.6
5	☐	100.000	97.357	274705.75	0.6869	P	1.2
6	☐	200.000	201.326	546214.37	1.4196	P	0.8
7	☐	1.000					

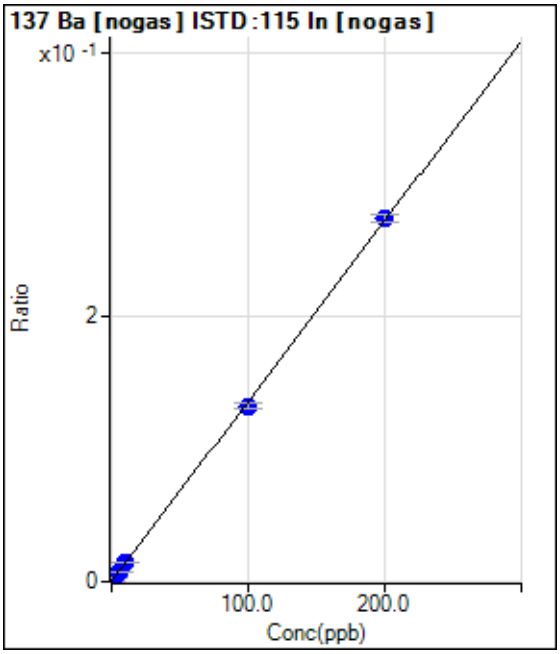
y = 0.0070 * x + 7.1308E-004
R = 0.9999
DL = 0.09514
BEC = 0.1012

Weight: <None>
Min Conc: <None>

Calibration for 023_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	416.68	0.0003	P	2.2
2	☐	2.000	1.961	4870.77	0.0029	P	1.9
3	☐	5.000	4.880	11527.33	0.0069	P	0.6
4	☐	10.000	10.598	24531.08	0.0147	P	1.5
5	☐	100.000	97.387	222832.05	0.1327	P	3.0
6	☐	200.000	201.280	435313.77	0.2740	P	2.2
7	☐	1.000					

y = 0.0014 * x + 2.5332E-004

R = 0.9999

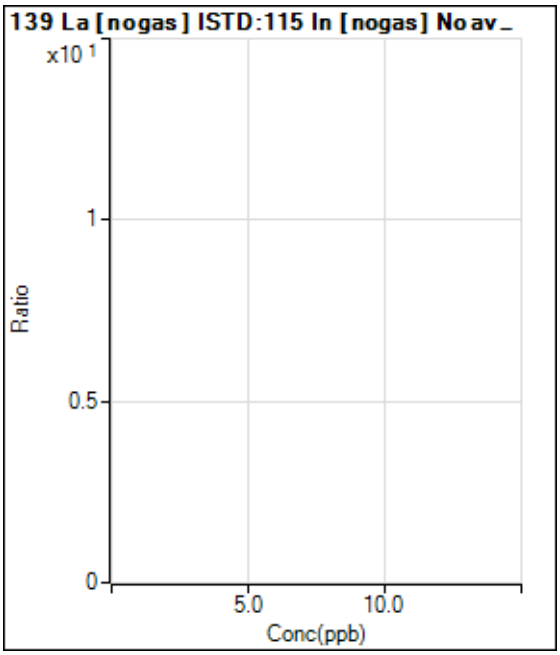
DL = 0.01215

BEC = 0.1863

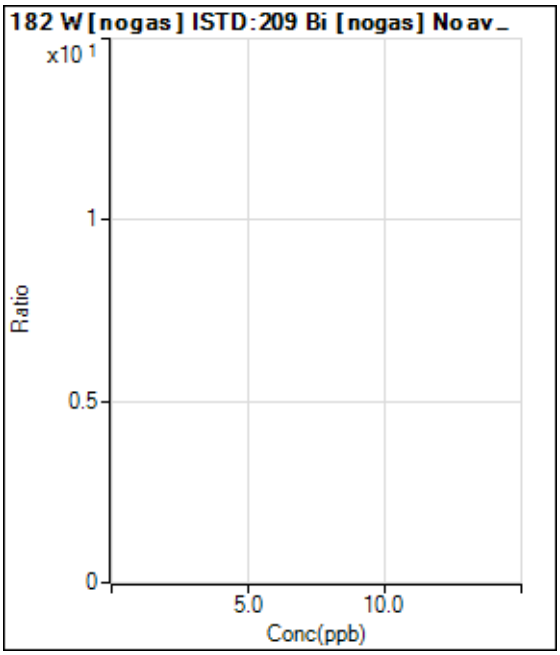
Weight: <None>

Min Conc: <None>

Calibration for 023_ICV.d

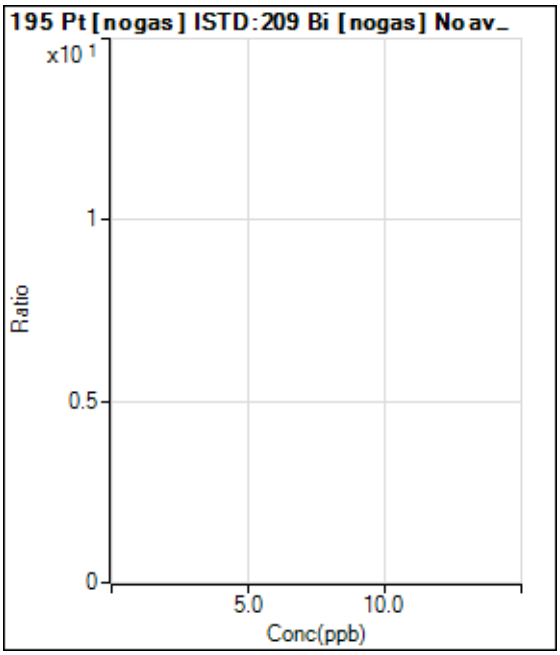


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

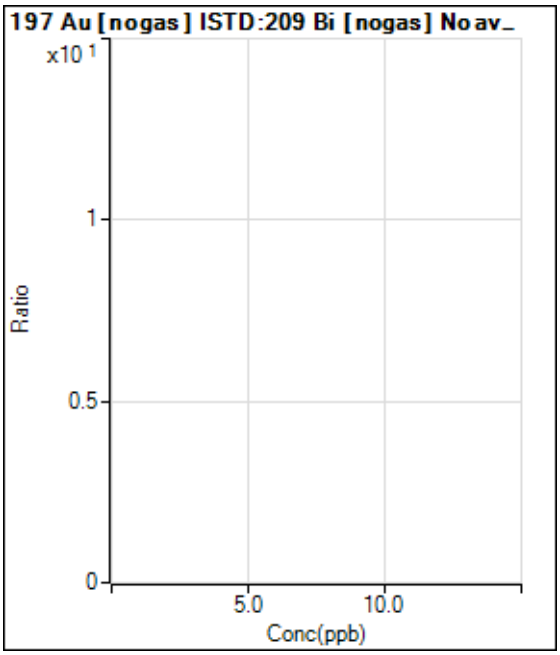


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

Calibration for 023_ICV.d

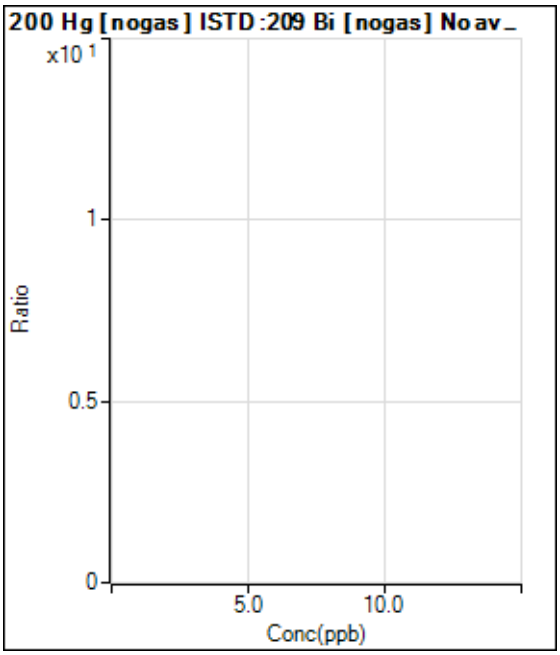


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

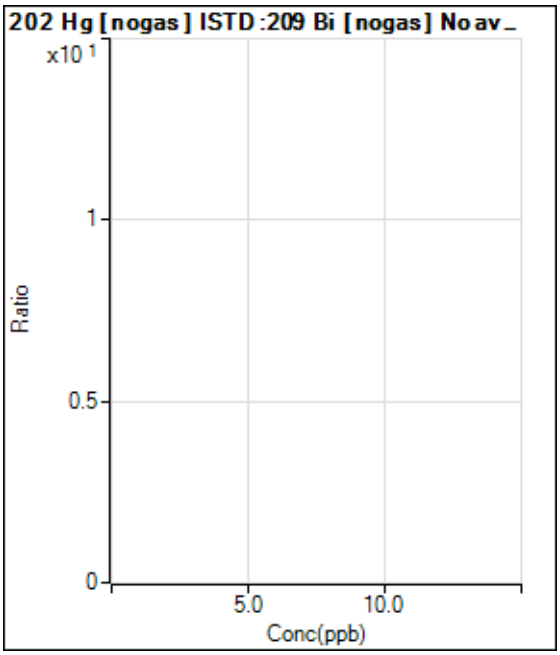


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

Calibration for 023_ICV.d

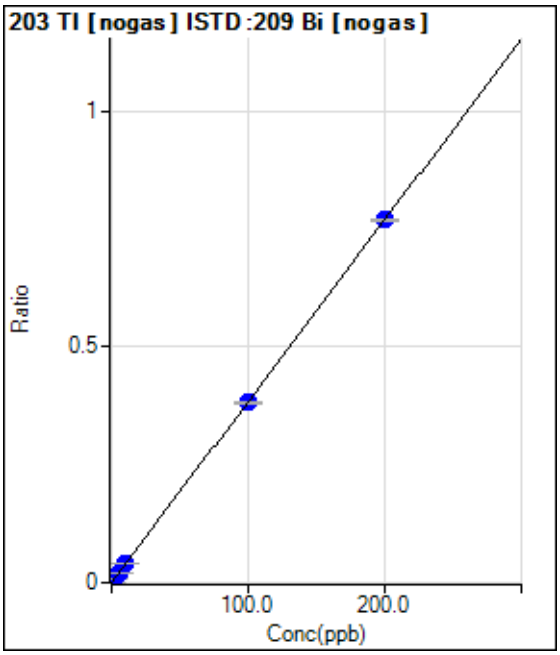


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	2.000					
6	☐	5.000					
7	☐	10.000					



	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					

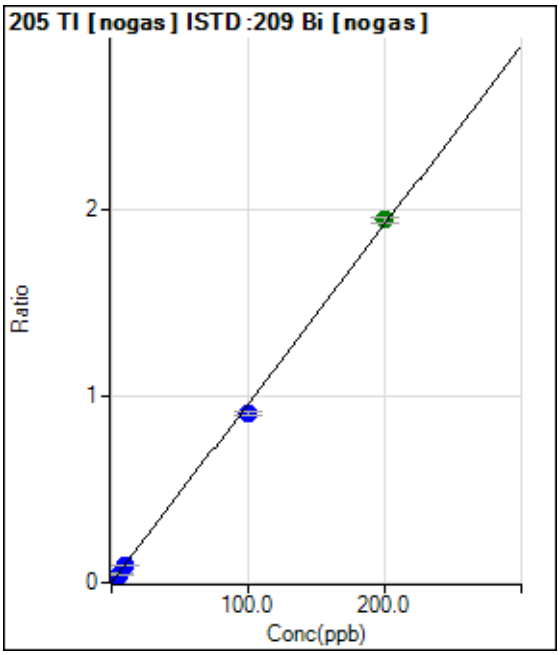
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	73.33	0.0001	P	43.5
2	☐	2.000	1.922	9349.44	0.0075	P	5.1
3	☐	5.000	4.973	24304.86	0.0192	P	1.3
4	☐	10.000	10.359	50695.29	0.0399	P	0.9
5	☐	100.000	99.564	468144.46	0.3830	P	1.4
6	☐	200.000	200.202	906031.21	0.7700	P	0.8
7	☐	1.000					

y = 0.0038 * x + 5.8629E-005
R = 1.0000
DL = 0.0199
BEC = 0.01525

Weight: <None>
Min Conc: <None>

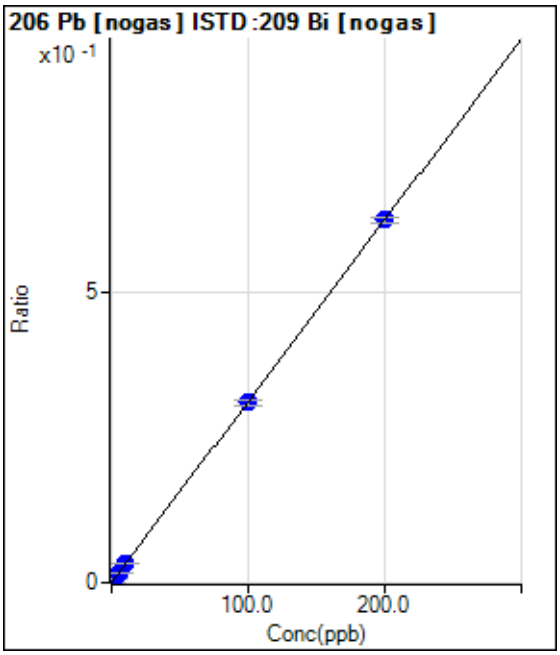


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	196.67	0.0002	P	25.5
2	☐	2.000	1.880	22876.28	0.0182	P	2.2
3	☐	5.000	4.799	58655.11	0.0463	P	2.5
4	☐	10.000	10.029	122716.92	0.0966	P	1.7
5	☐	100.000	94.632	1112144.85	0.9100	P	3.1
6	☐	200.000	202.689	2293098.51	1.9489	A	1.4
7	☐	1.000					

y = 0.0096 * x + 1.5752E-004
R = 0.9995
DL = 0.01251
BEC = 0.01638

Weight: <None>
Min Conc: <None>

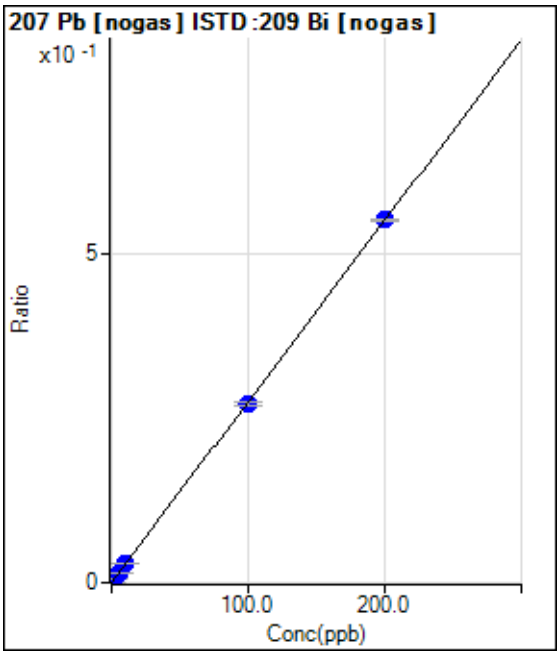
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.68	0.0002	P	15.4
2	☐	2.000	1.923	7798.63	0.0062	P	2.6
3	☐	5.000	4.946	19815.60	0.0156	P	0.6
4	☐	10.000	10.680	42575.56	0.0335	P	1.6
5	☐	100.000	99.486	379180.40	0.3103	P	3.5
6	☐	200.000	200.225	734513.48	0.6242	P	1.7
7	☐	1.000					

y = 0.0031 * x + 2.2166E-004
R = 1.0000
DL = 0.03291
BEC = 0.07113

Weight: <None>
Min Conc: <None>

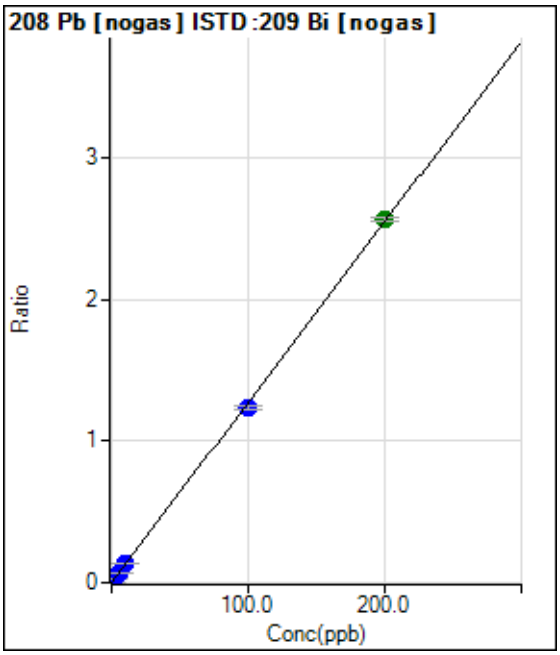


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	293.34	0.0002	P	29.8
2	☐	2.000	2.061	7415.11	0.0059	P	0.7
3	☐	5.000	4.904	17406.18	0.0137	P	2.2
4	☐	10.000	10.492	36998.76	0.0291	P	1.9
5	☐	100.000	98.920	333137.60	0.2726	P	2.1
6	☐	200.000	200.517	649826.18	0.5523	P	0.8
7	☐	1.000					

y = 0.0028 * x + 2.3485E-004
R = 1.0000
DL = 0.07615
BEC = 0.08531

Weight: <None>
Min Conc: <None>

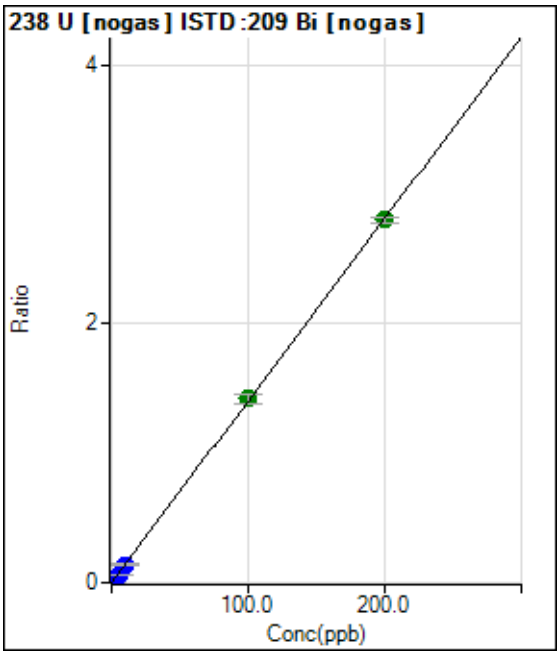
Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1146.70	0.0009	P	16.4
2	☐	2.000	1.973	32653.26	0.0260	P	0.9
3	☐	5.000	4.900	80181.70	0.0633	P	1.2
4	☐	10.000	10.415	169550.64	0.1334	P	0.9
5	☐	100.000	97.432	1516285.46	1.2405	P	2.0
6	☐	200.000	201.266	3014316.56	2.5616	A	1.0
7	☐	1.000					

y = 0.0127 * x + 9.1868E-004
R = 0.9999
DL = 0.03551
BEC = 0.07221

Weight: <None>
Min Conc: <None>

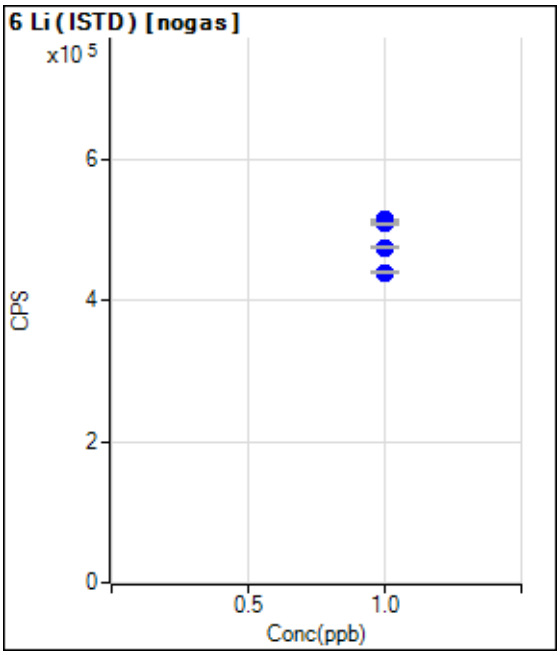


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	86.6
2	☐	2.000	1.899	33482.09	0.0267	P	0.5
3	☐	5.000	4.649	82783.63	0.0653	P	1.4
4	☐	10.000	9.992	178387.63	0.1404	P	1.6
5	☐	100.000	101.000	1734809.35	1.4191	A	4.3
6	☐	200.000	199.510	3298458.60	2.8032	A	1.5
7	☐	1.000					

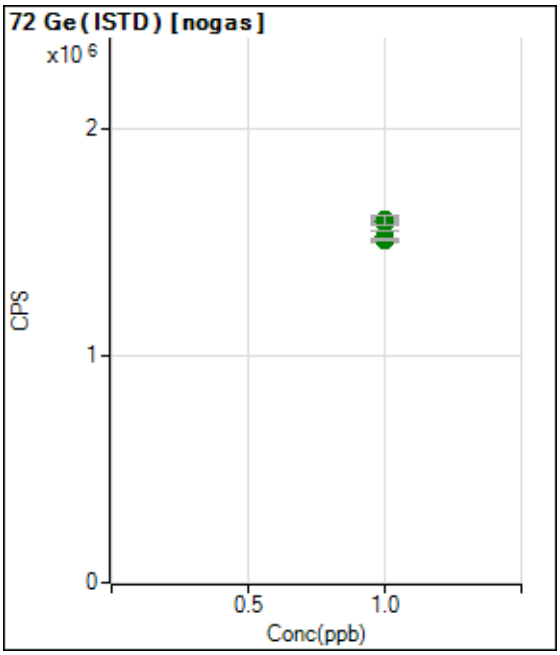
y = 0.0141 * x + 5.3019E-006
R = 1.0000
DL = 0.0009804
BEC = 0.0003773

Weight: <None>
Min Conc: <None>

Calibration for 023_ICV.d

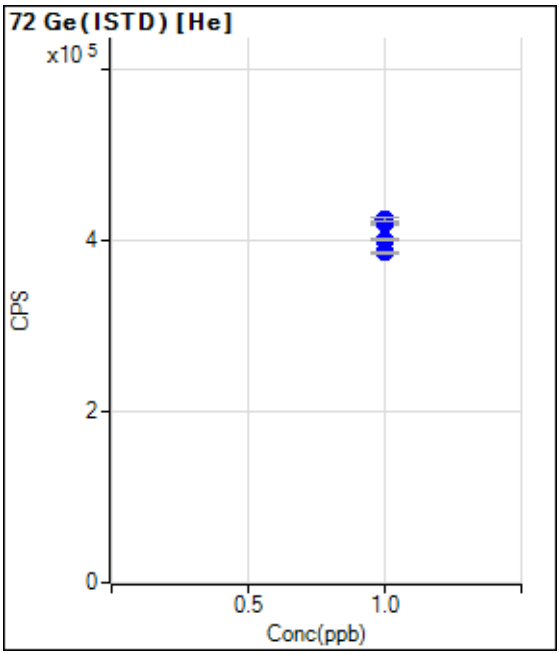


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		510056.29		P	0.5
2	☐	1.000		512387.16		P	0.7
3	☐	1.000		514652.84		P	0.3
4	☐	1.000		509213.39		P	0.4
5	☐	1.000		475376.19		P	0.6
6	☐	1.000		439903.47		P	0.6
7	☐	1.000					

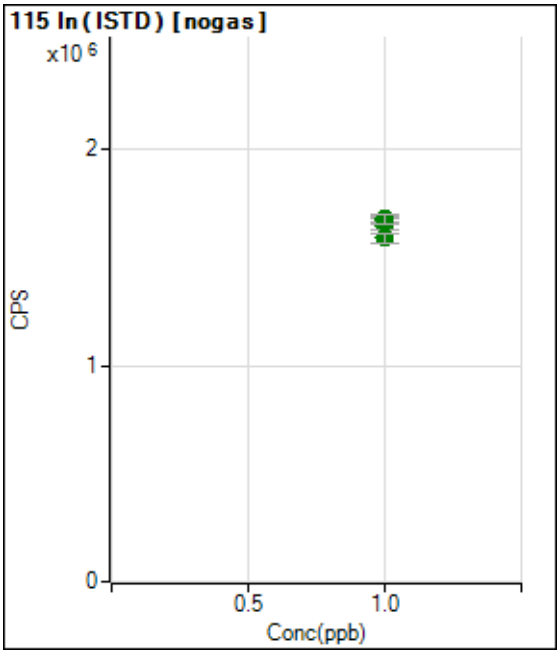


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1597939.30		A	1.0
2	☐	1.000		1583060.96		A	0.6
3	☐	1.000		1591141.38		A	1.2
4	☐	1.000		1594543.83		A	2.5
5	☐	1.000		1526827.53		A	3.4
6	☐	1.000		1510259.61		A	0.7
7	☐	1.000					

Calibration for 023_ICV.d

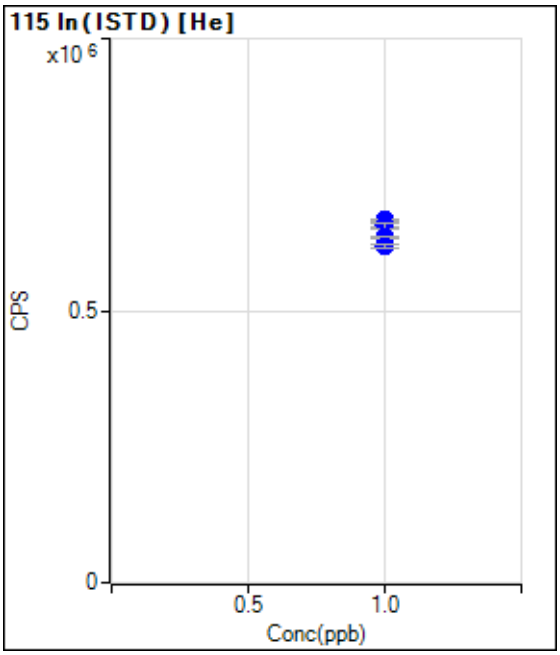


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		421931.39		P	2.4
2	☐	1.000		422361.45		P	1.6
3	☐	1.000		419847.76		P	0.1
4	☐	1.000		423201.13		P	0.9
5	☐	1.000		399920.02		P	0.7
6	☐	1.000		384776.45		P	0.9
7	☐	1.000					

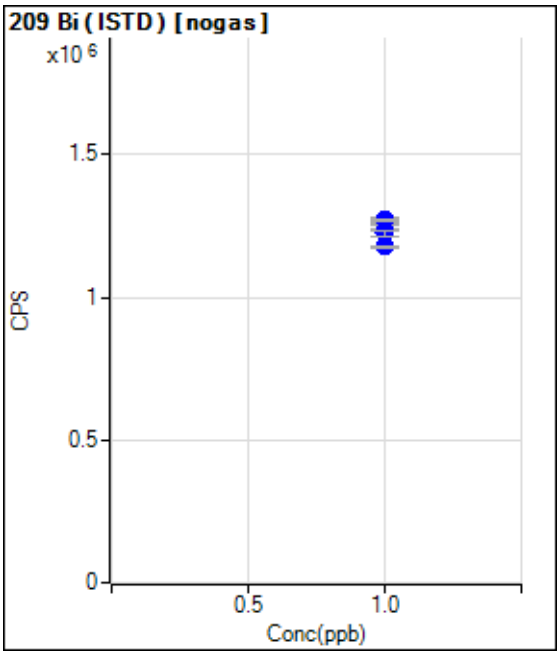


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1645123.59		A	1.5
2	☐	1.000		1668384.99		A	1.2
3	☐	1.000		1673040.12		A	2.2
4	☐	1.000		1672481.69		A	1.2
5	☐	1.000		1679734.55		A	2.3
6	☐	1.000		1589290.63		A	2.7
7	☐	1.000					

Calibration for 023_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		666365.56		P	0.2
2	☐	1.000		657975.56		P	1.1
3	☐	1.000		667393.82		P	0.5
4	☐	1.000		657283.83		P	1.5
5	☐	1.000		635498.84		P	0.9
6	☐	1.000		618073.48		P	0.9
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1249408.16		P	1.2
2	☐	1.000		1254658.47		P	0.1
3	☐	1.000		1267253.96		P	1.9
4	☐	1.000		1270660.19		P	0.4
5	☐	1.000		1222470.03		P	1.2
6	☐	1.000		1176677.67		P	0.6
7	☐	1.000					

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	012CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:20:59-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	100	13.23
B	11	1	nogas	12873	0.02
Al	27	1	nogas	9833	0.01
P	31	1	nogas	29300	0.01
Ca	44	1	nogas	42483	0.01
Ti	47	1	nogas	100	43.59
Cr	52	1	nogas	22921	0.01
Co	59	1	nogas	367	4.78
Cu	63	1	nogas	8179	0.05
Zn	66	1	nogas	427	0.84
Se	77	1	nogas	9646	0.04
Sr	88	1	nogas	1170	1.33
Mo	95	1	nogas	90	32.66
Ag	107	1	nogas	80	41.34
Cd	111	1	nogas	27	81.19
Sn	118	1	nogas	657	2.10
Sb	121	1	nogas	550	2.31
Ba	137	1	nogas	417	0.33
Tl	205	1	nogas	197	12.75
Pb	208	1	nogas	1147	1.36
Li	7	1	nogas	40903	0.00
Si	28	1	nogas	722478	0.00
Na	23	2	He	32275	0.01
Mg	24	2	He	217	5.36
Al	27	2	He	233	6.45
K	39	2	He	38073	0.01
Ca	43	2	He	27	162.38
Ca	44	2	He	247	16.63
V	51	2	He	2530	0.04
Cr	52	2	He	670	2.53
Mn	55	2	He	173	21.66
Fe	56	2	He	4527	0.10
Co	59	2	He	93	6.63
Ni	60	2	He	63	51.90
Cu	63	2	He	1293	0.40
Zn	66	2	He	163	18.87
As	75	2	He	51	26.57
Sb	121	2	He	300	10.18

Calibration Blank Report

Se	78	2	He	55	22.94

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	1597939	0.97
In	115	1	nogas	1645124	1.50
Li	6	1	nogas	510056	0.48
Bi	209	1	nogas	1249408	1.17
Ge	72	2	He	421931	2.39
In	115	2	He	666366	0.17

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	013CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:23:21-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	4566	0.08
B	11	1	nogas	25018	0.00
Al	27	1	nogas	27050	0.00
P	31	1	nogas	32188	0.01
Ca	44	1	nogas	101062	0.00
Ti	47	1	nogas	1943	0.49
Cr	52	1	nogas	45185	0.00
Co	59	1	nogas	22681	0.01
Cu	63	1	nogas	19948	0.00
Zn	66	1	nogas	3654	0.25
Se	77	1	nogas	10373	0.04
Se	82	1	nogas	136	67.12
Sr	88	1	nogas	33264	0.01
Mo	95	1	nogas	5858	0.03
Ag	107	1	nogas	17179	0.01
Cd	111	1	nogas	2864	0.15
Sn	118	1	nogas	10687	0.03
Sb	121	1	nogas	11644	0.03
Ba	137	1	nogas	4871	0.02
Tl	205	1	nogas	22876	0.01
Pb	208	1	nogas	32653	0.00
Si	28	1	nogas	787640	0.00
Na	23	2	He	156661	0.00
Mg	24	2	He	69507	0.00
Al	27	2	He	540	3.43
K	39	2	He	102930	0.00
Ca	43	2	He	180	11.13
Ca	44	2	He	3740	0.13
V	51	2	He	8689	0.02
Cr	52	2	He	7688	0.13
Mn	55	2	He	4527	0.09
Fe	56	2	He	617769	0.00
Co	59	2	He	10763	0.05
Ni	60	2	He	2877	0.25
Cu	63	2	He	8802	0.05
Zn	66	2	He	1333	0.76

Calibration Standard Report

As	75	2	He	982	0.33
Sb	121	2	He	5558	0.09
Se	78	2	He	97	20.06

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	1583061	0.56	1597939	99.07	70	120	
In	115	1	nogas	1668385	1.21	1645124	101.41	70	120	
Li	6	1	nogas	512387	0.69	510056	100.46	70	120	
Bi	209	1	nogas	1254658	0.11	1249408	100.42	70	120	
Ge	72	2	He	422361	1.64	421931	100.10	70	120	
In	115	2	He	657976	1.15	666366	98.74	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	014CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:25:45-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	11455	0.02
B	11	1	nogas	42696	0.00
Al	27	1	nogas	53716	0.00
P	31	1	nogas	40935	0.00
Ca	44	1	nogas	191226	0.00
Ti	47	1	nogas	4884	0.08
Cr	52	1	nogas	76387	0.00
Co	59	1	nogas	57269	0.00
Cu	63	1	nogas	37589	0.01
Zn	66	1	nogas	8512	0.03
Se	77	1	nogas	10126	0.04
Se	82	1	nogas	484	3.17
Sr	88	1	nogas	84083	0.00
Mo	95	1	nogas	15057	0.02
Ag	107	1	nogas	43450	0.01
Cd	111	1	nogas	7398	0.05
Sn	118	1	nogas	23933	0.01
Sb	121	1	nogas	28493	0.01
Ba	137	1	nogas	11527	0.02
Tl	205	1	nogas	58655	0.00
Pb	208	1	nogas	80182	0.00
Si	28	1	nogas	851382	0.00
Na	23	2	He	344725	0.00
Mg	24	2	He	173731	0.00
Al	27	2	He	1140	0.35
K	39	2	He	200530	0.00
Ca	43	2	He	557	3.25
Ca	44	2	He	8779	0.05
V	51	2	He	18013	0.01
Cr	52	2	He	17825	0.01
Mn	55	2	He	11617	0.03
Fe	56	2	He	1654529	0.00
Co	59	2	He	27023	0.01
Ni	60	2	He	6915	0.11
Cu	63	2	He	20375	0.01
Zn	66	2	He	3690	0.06

Calibration Standard Report

As	75	2	He	2315	0.08
Sb	121	2	He	14133	0.02
Se	78	2	He	211	6.09

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	1591141	1.19	1597939	99.57	70	120	
In	115	1	nogas	1673040	2.17	1645124	101.70	70	120	
Li	6	1	nogas	514653	0.33	510056	100.90	70	120	
Bi	209	1	nogas	1267254	1.93	1249408	101.43	70	120	
Ge	72	2	He	419848	0.08	421931	99.51	70	120	
In	115	2	He	667394	0.51	666366	100.15	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	015CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:28:09-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	23551	0.01
B	11	1	nogas	77562	0.00
Al	27	1	nogas	99985	0.00
P	31	1	nogas	55177	0.00
Ca	44	1	nogas	354179	0.00
Ti	47	1	nogas	9836	0.03
Cr	52	1	nogas	136284	0.00
Co	59	1	nogas	121867	0.00
Cu	63	1	nogas	69749	0.00
Zn	66	1	nogas	17332	0.00
Se	77	1	nogas	10857	0.03
Se	82	1	nogas	920	0.61
Sr	88	1	nogas	176794	0.00
Mo	95	1	nogas	32607	0.01
Ag	107	1	nogas	91600	0.00
Cd	111	1	nogas	15430	0.02
Sn	118	1	nogas	50149	0.00
Sb	121	1	nogas	60534	0.00
Ba	137	1	nogas	24531	0.01
Tl	205	1	nogas	122717	0.00
Pb	208	1	nogas	169551	0.00
Si	28	1	nogas	986432	0.00
Na	23	2	He	684700	0.00
Mg	24	2	He	361333	0.00
Al	27	2	He	1820	0.49
K	39	2	He	374282	0.00
Ca	43	2	He	1183	0.73
Ca	44	2	He	18356	0.01
V	51	2	He	34866	0.00
Cr	52	2	He	39158	0.00
Mn	55	2	He	23198	0.01
Fe	56	2	He	3348149	0.00
Co	59	2	He	56149	0.00
Ni	60	2	He	15183	0.03
Cu	63	2	He	40177	0.00
Zn	66	2	He	6835	0.07

Calibration Standard Report

As	75	2	He	4784	0.10
Sb	121	2	He	30443	0.00
Se	78	2	He	368	1.35

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	1594544	2.49	1597939	99.79	70	120	
In	115	1	nogas	1672482	1.21	1645124	101.66	70	120	
Li	6	1	nogas	509213	0.42	510056	99.83	70	120	
Bi	209	1	nogas	1270660	0.37	1249408	101.70	70	120	
Ge	72	2	He	423201	0.95	421931	100.30	70	120	
In	115	2	He	657284	1.48	666366	98.64	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	016CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:30:30-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	219612	0.00
B	11	1	nogas	622983	0.00
Al	27	1	nogas	813810	0.00
P	31	1	nogas	247495	0.00
Ca	44	1	nogas	2934970	0.00
Ti	47	1	nogas	89296	0.00
Cr	52	1	nogas	1039901	0.00
Co	59	1	nogas	1091251	0.00
Cu	63	1	nogas	572695	0.00
Zn	66	1	nogas	153160	0.00
Se	77	1	nogas	15774	0.01
Se	82	1	nogas	9025	0.04
Sr	88	1	nogas	1690637	0.00
Mo	95	1	nogas	296629	0.00
Ag	107	1	nogas	820902	0.00
Cd	111	1	nogas	137727	0.00
Sn	118	1	nogas	453992	0.00
Sb	121	1	nogas	561870	0.00
Ba	137	1	nogas	222832	0.00
Tl	205	1	nogas	1112145	0.00
Pb	208	1	nogas	1516285	0.00
Si	28	1	nogas	2866521	0.00
Na	23	2	He	5904692	0.00
Mg	24	2	He	3281600	0.00
Al	27	2	He	15440	0.00
K	39	2	He	3119913	0.00
Ca	43	2	He	9786	0.04
Ca	44	2	He	162610	0.00
V	51	2	He	295040	0.00
Cr	52	2	He	337910	0.00
Mn	55	2	He	212032	0.00
Fe	56	2	He	29782600	0.00
Co	59	2	He	507407	0.00
Ni	60	2	He	129102	0.00
Cu	63	2	He	343340	0.00
Zn	66	2	He	60379	0.00

Calibration Standard Report

As	75	2	He	42682	0.01
Sb	121	2	He	274706	0.00
Se	78	2	He	3180	0.12

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	1526828	3.39	1597939	95.55	70	120	
In	115	1	nogas	1679735	2.31	1645124	102.10	70	120	
Li	6	1	nogas	475376	0.63	510056	93.20	70	120	
Bi	209	1	nogas	1222470	1.21	1249408	97.84	70	120	
Ge	72	2	He	399920	0.69	421931	94.78	70	120	
In	115	2	He	635499	0.92	666366	95.37	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	017CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:32:50-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	422773	0.00
B	11	1	nogas	1207726	0.00
Al	27	1	nogas	1565838	0.00
P	31	1	nogas	456665	0.00
Ca	44	1	nogas	5575208	0.00
Ti	47	1	nogas	174033	0.00
Cr	52	1	nogas	2042768	0.00
Co	59	1	nogas	2163428	0.00
Cu	63	1	nogas	1068144	0.00
Zn	66	1	nogas	288772	0.00
Se	77	1	nogas	22287	0.01
Se	82	1	nogas	18700	0.01
Sr	88	1	nogas	3154505	0.00
Mo	95	1	nogas	574230	0.00
Ag	107	1	nogas	1614170	0.00
Cd	111	1	nogas	270743	0.00
Sn	118	1	nogas	893584	0.00
Sb	121	1	nogas	1124940	0.00
Ba	137	1	nogas	435314	0.00
Tl	205	1	nogas	2293099	0.00
Pb	208	1	nogas	3014317	0.00
Si	28	1	nogas	4971401	0.00
Na	23	2	He	11309853	0.00
Mg	24	2	He	6220514	0.00
Al	27	2	He	29580	0.00
K	39	2	He	5861032	0.00
Ca	43	2	He	18660	0.00
Ca	44	2	He	314595	0.00
V	51	2	He	573625	0.00
Cr	52	2	He	645532	0.00
Mn	55	2	He	406340	0.00
Fe	56	2	He	57408269	0.00
Co	59	2	He	974814	0.00
Ni	60	2	He	251375	0.00
Cu	63	2	He	661195	0.00
Zn	66	2	He	113741	0.00

Calibration Standard Report

As	75	2	He	81884	0.00
Sb	121	2	He	546214	0.00
Se	78	2	He	6218	0.06

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	1510260	0.73	1597939	94.51	70	120	
In	115	1	nogas	1589291	2.67	1645124	96.61	70	120	
Li	6	1	nogas	439903	0.57	510056	86.25	70	120	
Bi	209	1	nogas	1176678	0.58	1249408	94.18	70	120	
Ge	72	2	He	384776	0.93	421931	91.19	70	120	
In	115	2	He	618073	0.93	666366	92.75	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	022_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:47:17-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	-0.012	-79.9	73	32.2	1	
B	11	1	nogas	5.511	8.3	20533	3.6	10	
Al	27	1	nogas	0.074	39.8	10260	4.0	5	
P	31	1	nogas	-5.082	-58.0	26489	3.7	10	
Ca	44	1	nogas	-30.498	-11.6	32873	1.3	100	
Ti	47	1	nogas	0.071	59.8	163	24.7	2.5	
Cr	52	1	nogas	-0.498	-15.4	17272	2.8	2.5	
Co	59	1	nogas	-0.004	-45.9	317	6.6	2.5	
Cu	63	1	nogas	-0.163	-49.8	7121	4.9	1	
Zn	66	1	nogas	-0.007	-796.6	407	20.0	2.5	
Se	77	1	nogas	-26.306	-48.7	7665	9.5	2.5	
Se	82	1	nogas	-0.144	-205.1	-57	-51.3	1	
Sr	88	1	nogas	-0.004	-68.0	1133	2.5	2.5	
Mo	95	1	nogas	0.062	7.6	280	3.6	2.5	
Ag	107	1	nogas	0.006	78.0	133	31.2	2.5	
Cd	111	1	nogas	-0.010	-43.2	13	43.3	1	
Sn	118	1	nogas	0.037	34.6	850	8.9	5	
Sb	121	1	nogas	0.237	10.8	1920	7.9	2.5	
Ba	137	1	nogas	-0.017	-44.7	390	2.6	2.5	
Tl	205	1	nogas	0.014	27.5	363	11.1	1	
Pb	208	1	nogas	-0.007	-62.7	1050	6.7	2.5	
U	238	1	nogas	0.006	21.1	107	19.5	2.5	
Si	28	1	nogas	-32.921	-45.0	694745	0.9	5	
Na	23	2	He	-0.225	-620.8	31557	3.1	100	
Mg	24	2	He	0.527	61.0	390	28.2	100	
Al	27	2	He	-0.245	-96.6	190	19.0	5	
K	39	2	He	-2.062	-52.9	36760	0.6	100	
Ca	43	2	He	-6.016	-165.0	20	50.0	100	
Ca	44	2	He	-1.619	-107.6	213	13.5	100	
V	51	2	He	-0.150	-32.9	2025	7.0	2.5	
Cr	52	2	He	-0.018	-137.4	597	13.5	2.5	
Mn	55	2	He	0.013	57.8	200	8.7	2.5	
Fe	56	2	He	0.278	26.4	5301	3.7	100	
Co	59	2	He	0.000	1399.7	93	27.0	2.5	
Ni	60	2	He	0.016	71.1	83	18.3	2.5	
Cu	63	2	He	-0.050	-100.0	1093	16.5	1	

Initial Calibration Blank (ICB) Report

Zn	66	2	He	0.012	777.7	167	33.0	2.5	
As	75	2	He	0.002	2310.0	51	39.3	2.5	
Sb	121	2	He	0.203	4.4	887	2.6	2.5	
Se	78	2	He	-0.069	-644.7	52	27.7	1	
Ti	47	2	He	-0.032	0.0	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	1569390	1.83	1597939	98.21	70	120	
In	115	1	nogas	1694283	1.90	1645124	102.99	70	120	
Li	6	1	nogas	521040	0.62	510056	102.15	70	120	
Bi	209	1	nogas	1264174	1.40	1249408	101.18	70	120	
Ge	72	2	He	414277	0.73	421931	98.19	70	120	
In	115	2	He	650130	0.31	666366	97.56	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	023_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:49:48-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	98.290	1.280	223902	0.58	100	98.3	90	110	
B	11	1	nogas	495.200	0.767	640020	0.71	500	99.0	90	110	
Al	27	1	nogas	98.832	2.445	835044	1.32	100	98.8	90	110	
P	31	1	nogas	485.111	1.504	252388	0.14	500	97.0	90	110	
Ca	44	1	nogas	9947.522	0.910	3003744	1.79	10000	99.5	90	110	
Ti	47	1	nogas	99.382	2.068	92669	0.67	100	99.4	90	110	
Cr	52	1	nogas	96.877	1.983	1067873	0.72	100	96.9	90	110	
Co	59	1	nogas	97.815	2.127	1129578	0.72	100	97.8	90	110	
Cu	63	1	nogas	100.355	2.280	582635	1.10	100	100.4	90	110	
Zn	66	1	nogas	100.921	2.911	157329	1.65	100	100.9	90	110	
Se	77	1	nogas	80.101	9.048	15360	2.00	100	80.1	90	110	ICV Main CR1 Failed
Se	82	1	nogas	101.702	2.993	10049	3.74	100	101.7	90	110	
Sr	88	1	nogas	103.294	2.597	1709912	1.10	100	103.3	90	110	
Mo	95	1	nogas	101.706	4.053	304164	0.75	100	101.7	90	110	
Ag	107	1	nogas	102.552	3.325	834377	0.96	100	102.6	90	110	
Cd	111	1	nogas	101.043	2.130	142130	2.25	100	101.0	90	110	
Sn	118	1	nogas	102.661	3.925	476456	1.67	100	102.7	90	110	
Sb	121	1	nogas	98.190	2.230	588549	0.81	100	98.2	90	110	
Ba	137	1	nogas	102.704	4.464	232514	1.47	100	102.7	90	110	
Tl	205	1	nogas	93.640	0.926	1145090	0.66	100	93.6	90	110	
Pb	208	1	nogas	96.745	0.571	1566513	0.71	100	96.7	90	110	
U	238	1	nogas	101.490	0.700	1813499	1.11	100	101.5	90	110	
Li	7	1	nogas	100.832	0.510	771536	0.47	100	100.8	90	110	
Si	28	1	nogas	4900.736	3.824	2975688	1.58	5000	98.0	90	110	
Tl	203	1	nogas	98.237	0.250	480530	0.75	100	98.2	90	110	
Na	23	2	He	10099.740	1.273	6043721	0.56	10000	101.0	90	110	
Mg	24	2	He	10046.107	0.824	3306955	0.84	10000	100.5	90	110	
Al	27	2	He	100.410	1.906	15770	1.34	100	100.4	90	110	
K	39	2	He	10096.567	1.754	3151397	1.37	10000	101.0	90	110	
Ca	43	2	He	9857.444	1.599	9733	1.16	10000	98.6	90	110	
Ca	44	2	He	9923.900	0.532	164616	0.33	10000	99.2	90	110	
V	51	2	He	98.895	0.509	299637	0.58	100	98.9	90	110	
Cr	52	2	He	99.904	0.460	340998	0.87	100	99.9	90	110	
Mn	55	2	He	99.441	2.077	213380	1.71	100	99.4	90	110	
Fe	56	2	He	10002.368	1.800	30283629	1.49	10000	100.0	90	110	
Co	59	2	He	100.669	1.947	517859	1.32	100	100.7	90	110	
Ni	60	2	He	101.973	1.119	134940	1.22	100	102.0	90	110	
Cu	63	2	He	100.814	0.914	352110	1.10	100	100.8	90	110	
Zn	66	2	He	101.397	1.318	61165	0.70	100	101.4	90	110	
As	75	2	He	100.590	2.172	43499	2.68	100	100.6	90	110	
Sn	118	2	He	100.672	2.084	233871	1.14	100	100.7	90	110	
Sb	121	2	He	97.927	0.457	280445	1.15	100	97.9	90	110	
Se	78	2	He	98.836	3.453	3252	2.76	100	98.8	90	110	
Ti	47	2	He	102.891	2.839	10650	2.99	100	102.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1612666	1.42	1597939	100.92	70	120	
In	115	1	nogas	1663237	3.48	1645124	101.10	70	120	
Li	6	1	nogas	493181	0.81	510056	96.69	70	120	
Bi	209	1	nogas	1271740	0.71	1249408	101.79	70	120	
Ge	72	2	He	405919	0.73	421931	96.20	70	120	

Initial Calibration Verification (ICV) Report

In	115	2	He	640469	1.05	666366	96.11	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	025ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:54:32-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	-10.8	35	14.3	0	ICSA Main CR1 Failed
B	11	1	nogas	7.360	12.0	18319	5.2	0	ICSA Main CR1 Failed
Al	27	1	nogas	102890.166	0.5	684869643	0.5	0	
P	31	1	nogas	99154.372	0.2	36332189	0.3	0	
Ca	44	1	nogas	102367.099	0.3	24321533	0.4	0	
Ti	47	1	nogas	2168.808	0.3	1610640	0.5	0	
Cr	52	1	nogas	1.562	1.8	31864	0.6	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.466	6.1	4581	5.6	0	ICSA Main CR1 Failed
Cu	63	1	nogas	2.302	6.3	17081	3.7	0	
Zn	66	1	nogas	1.840	5.1	2624	4.6	0	ICSA Main CR1 Failed
Se	77	1	nogas	25.700	64.3	9199	9.9	0	
Se	82	1	nogas	0.201	428.7	-19	-352.6	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.905	5.5	13015	2.5	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2134.817	3.1	5145287	2.1	0	
Ag	107	1	nogas	0.016	63.0	170	36.7	0	ICSA Main CR1 Failed
Cd	111	1	nogas	2.295	7.4	2620	4.5	0	
Sn	118	1	nogas	0.152	14.0	1103	6.9	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.654	20.2	3564	17.6	0	ICSA Main CR1 Failed
Ba	137	1	nogas	-0.009	-263.4	323	12.5	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.015	16.1	310	8.5	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.022	19.6	1223	3.9	0	ICSA Main CR1 Failed
Si	28	1	nogas	320.599	6.6	698354	1.1	0	
Na	23	2	He	101223.048	1.3	53197969	1.3	0	
Mg	24	2	He	99671.556	0.6	28946175	0.4	0	
Al	27	2	He	103766.427	1.5	14174688	0.6	0	
K	39	2	He	101709.987	1.7	27715252	0.8	0	
Ca	43	2	He	96660.002	0.8	84007	0.3	0	
Ca	44	2	He	101818.128	0.8	1488359	1.8	0	
V	51	2	He	0.017	360.6	2192	6.6	0	ICSA Main CR1 Failed
Cr	52	2	He	0.980	6.4	3514	4.7	0	ICSA Main CR1 Failed
Mn	55	2	He	0.126	23.5	387	14.2	0	ICSA Main CR1 Failed
Fe	56	2	He	100455.303	1.3	268307143	0.6	0	
Co	59	2	He	0.216	1.9	1060	1.6	0	ICSA Main CR1 Failed
Ni	60	2	He	0.225	44.6	317	37.7	0	ICSA Main CR1 Failed
Cu	63	2	He	0.199	7.8	1710	2.0	0	ICSA Main CR1 Failed
Zn	66	2	He	0.430	41.6	367	26.5	0	ICSA Main CR1 Failed
As	75	2	He	0.157	9.5	103	5.6	0	ICSA Main CR1 Failed
Sb	121	2	He	0.508	21.9	1540	19.2	0	ICSA Main CR1 Failed
Se	78	2	He	-0.036	-1174.1	46	27.2	0	ICSA Main CR1 Failed
Ti	47	2	He	2026.661	1.1	185018	0.6	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	1285478	0.18	1597939	80.45	70	120	

Interference Check Solution A (ICS-A) Report

In	115	1	nogas	1340154	2.87	1645124	81.46	70	120	
Li	6	1	nogas	414896	0.04	510056	81.34	70	120	
Bi	209	1	nogas	1025244	0.91	1249408	82.06	70	120	
Ge	72	2	He	358146	0.94	421931	84.88	70	120	
In	115	2	He	568455	0.79	666366	85.31	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	026ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T12:56:51-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	101.746	1.300	190482	1.03	100	101.7	80	120	
B	11	1	nogas	511.858	0.306	543341	0.22	100	511.9	80	120	
Al	27	1	nogas	102394.108	5.155	689219136	0.63	100	102394.1	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	113737.590	5.756	27316304	0.68	100	113737.6	80	120	
Ti	47	1	nogas	2260.369	8.222	1698624	7.82	100	2260.4	80	120	
Cr	52	1	nogas	100.127	4.907	889299	0.96	100	100.1	80	120	
Co	59	1	nogas	100.258	5.312	933365	0.38	100	100.3	80	120	
Cu	63	1	nogas	103.935	6.216	486076	0.76	100	103.9	80	120	
Zn	66	1	nogas	104.484	6.045	131269	0.52	100	104.5	80	120	
Se	77	1	nogas	153.787	3.109	16581	4.14	100	153.8	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	105.836	4.038	8435	2.84	100	105.8	80	120	
Sr	88	1	nogas	98.330	4.076	1395276	3.78	100	98.3	80	120	
Mo	95	1	nogas	2149.536	1.360	5510823	1.21	100	2149.5	80	120	ICSB Main CR1 Failed
Ag	107	1	nogas	93.757	0.461	654021	0.92	100	93.8	80	120	
Cd	111	1	nogas	99.629	1.177	120106	0.96	100	99.6	80	120	
Sn	118	1	nogas	100.352	2.396	399320	1.98	100	100.4	80	120	
Sb	121	1	nogas	104.552	5.410	505190	1.02	100	104.6	80	120	
Ba	137	1	nogas	100.289	1.699	194707	1.26	100	100.3	80	120	
Tl	205	1	nogas	93.411	2.753	934783	1.42	100	93.4	80	120	
Pb	208	1	nogas	97.688	2.346	1294465	1.25	100	97.7	80	120	
U	238	1	nogas	98.480	3.364	1439922	2.08	100	98.5	80	120	
Si	28	1	nogas	5547.173	9.458	2636782	3.29	100	5547.2	80	120	ICSB Main CR1 Failed
Na	23	2	He	111456.277	1.386	59342647	1.12	100	111456.3	80	120	
Mg	24	2	He	108978.068	0.446	32065875	0.77	100	108978.1	80	120	
Al	27	2	He	103854.129	0.803	14374348	1.00	100	103854.1	80	120	
K	39	2	He	111223.826	0.833	30706247	1.08	100	111223.8	80	120	
Ca	43	2	He	106153.247	0.309	93472	0.63	100	106153.2	80	120	
Ca	44	2	He	110658.852	0.325	1638720	0.26	100	110658.9	80	120	
V	51	2	He	97.986	0.270	265408	0.59	100	98.0	80	120	
Cr	52	2	He	97.427	0.917	297270	0.84	100	97.4	80	120	
Mn	55	2	He	98.187	0.891	188353	1.21	100	98.2	80	120	
Fe	56	2	He	109246.374	0.539	295644482	0.86	100	109246.4	80	120	
Co	59	2	He	95.853	0.450	440803	0.11	100	95.9	80	120	
Ni	60	2	He	95.594	1.639	113084	1.87	100	95.6	80	120	
Cu	63	2	He	93.573	0.634	292224	0.71	100	93.6	80	120	
Zn	66	2	He	97.014	2.482	52321	2.53	100	97.0	80	120	
As	75	2	He	99.318	1.211	38390	1.22	100	99.3	80	120	
Sb	121	2	He	100.394	1.325	256986	0.99	100	100.4	80	120	
Se	78	2	He	101.807	1.592	2993	1.30	100	101.8	80	120	
Ti	47	2	He	2084.831	1.302	192832	0.97	100	2084.8	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	1302407	5.62	1597939	81.51	70	120	
In	115	1	nogas	1424927	0.47	1645124	86.62	70	120	
Li	6	1	nogas	405306	0.32	510056	79.46	70	120	
Bi	209	1	nogas	1040938	1.34	1249408	83.31	70	120	
Ge	72	2	He	362849	0.34	421931	86.00	70	120	
In	115	2	He	570358	1.16	666366	85.59	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	053_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T14:27:38-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	100.214	0.498	233826	0.35	100	100.2	90	110	
B	11	1	nogas	502.495	1.755	664968	1.09	500	100.5	90	110	
Al	27	1	nogas	103.020	5.700	879654	0.96	100	103.0	90	110	
P	31	1	nogas	515.150	6.117	269146	1.35	500	103.0	90	110	
Ca	44	1	nogas	10385.758	5.791	3168134	0.91	10000	103.9	90	110	
Ti	47	1	nogas	102.878	4.986	97011	1.01	100	102.9	90	110	
Cr	52	1	nogas	101.282	5.049	1127975	0.57	100	101.3	90	110	
Co	59	1	nogas	100.757	5.877	1176326	1.07	100	100.8	90	110	
Cu	63	1	nogas	105.376	5.081	618270	0.32	100	105.4	90	110	
Zn	66	1	nogas	103.912	6.009	163763	1.33	100	103.9	90	110	
Se	77	1	nogas	139.431	12.850	19741	1.68	100	139.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	103.110	4.820	10306	3.44	100	103.1	90	110	
Sr	88	1	nogas	106.163	2.284	1759697	0.74	100	106.2	90	110	
Mo	95	1	nogas	106.592	5.434	319103	2.41	100	106.6	90	110	
Ag	107	1	nogas	108.094	4.150	880450	1.38	100	108.1	90	110	
Cd	111	1	nogas	107.114	3.516	150803	0.92	100	107.1	90	110	
Sn	118	1	nogas	104.634	2.530	486329	0.54	100	104.6	90	110	
Sb	121	1	nogas	100.853	5.170	611292	0.63	100	100.9	90	110	
Ba	137	1	nogas	105.235	3.136	238604	0.38	100	105.2	90	110	
Tl	205	1	nogas	96.579	2.266	1191067	0.85	100	96.6	90	110	
Pb	208	1	nogas	99.598	0.982	1626556	0.53	100	99.6	90	110	
U	238	1	nogas	104.910	0.505	1890932	1.77	100	104.9	90	110	
Li	7	1	nogas	101.145	0.405	792572	0.30	100	101.1	90	110	
Si	28	1	nogas	5157.678	3.652	3131402	3.04	5000	103.2	90	110	
Tl	203	1	nogas	100.453	1.674	495555	0.20	100	100.5	90	110	
Na	23	2	He	10482.780	1.284	6430666	1.10	10000	104.8	90	110	
Mg	24	2	He	10565.027	0.831	3565776	0.84	10000	105.7	90	110	
Al	27	2	He	101.724	2.702	16381	3.21	100	101.7	90	110	
K	39	2	He	10445.453	1.413	3341504	0.87	10000	104.5	90	110	
Ca	43	2	He	9766.362	6.141	9889	6.60	10000	97.7	90	110	
Ca	44	2	He	10153.438	0.290	172685	0.85	10000	101.5	90	110	
V	51	2	He	101.316	1.234	314677	1.16	100	101.3	90	110	
Cr	52	2	He	102.795	1.177	359709	0.72	100	102.8	90	110	
Mn	55	2	He	101.274	0.556	222821	0.39	100	101.3	90	110	
Fe	56	2	He	10285.136	0.731	31929202	0.95	10000	102.9	90	110	
Co	59	2	He	102.954	1.215	543082	1.79	100	103.0	90	110	
Ni	60	2	He	102.834	2.306	139527	2.51	100	102.8	90	110	
Cu	63	2	He	102.031	1.386	365375	1.74	100	102.0	90	110	
Zn	66	2	He	103.344	1.577	63921	2.09	100	103.3	90	110	
As	75	2	He	101.724	0.931	45100	1.33	100	101.7	90	110	
Sb	121	2	He	100.578	1.198	295300	0.64	100	100.6	90	110	
Se	78	2	He	99.171	2.090	3346	2.42	100	99.2	90	110	
Ti	47	2	He	104.017	3.270	11040	3.83	100	104.0	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	1633249	4.98	1597939	102.21	70	120	
In	115	1	nogas	1665202	2.99	1645124	101.22	70	120	
Li	6	1	nogas	505133	0.64	510056	99.03	70	120	
Bi	209	1	nogas	1282788	1.46	1249408	102.67	70	120	
Ge	72	2	He	416189	0.58	421931	98.64	70	120	
In	115	2	He	650632	1.09	666366	97.64	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	054_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T14:29:59-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	-0.010	-178.4	82	51.0	1	
B	11	1	nogas	10.881	12.9	28655	5.9	10	CCB Main CR1 Failed
Al	27	1	nogas	0.081	74.7	10613	4.7	5	
P	31	1	nogas	-2.098	-97.2	28635	3.4	10	
Ca	44	1	nogas	-71.868	-6.0	21503	6.1	100	
Ti	47	1	nogas	0.092	6.4	187	3.1	2.5	
Cr	52	1	nogas	-0.622	-6.6	16434	2.6	2.5	
Co	59	1	nogas	0.019	8.3	590	2.9	2.5	
Cu	63	1	nogas	0.863	13.2	13208	4.8	2	
Zn	66	1	nogas	0.004	1792.4	437	22.9	2.5	
Se	77	1	nogas	-27.034	-34.9	7845	8.6	2.5	
Se	82	1	nogas	-0.904	-110.2	-134	-73.8	2	
Sr	88	1	nogas	0.022	46.6	1647	10.7	2.5	
Mo	95	1	nogas	0.312	15.0	1087	11.0	2.5	
Ag	107	1	nogas	0.010	13.9	173	8.8	2.5	
Cd	111	1	nogas	0.008	236.4	40	66.1	1	
Sn	118	1	nogas	0.205	28.9	1717	16.2	5	
Sb	121	1	nogas	0.955	9.9	6281	8.9	2.5	
Ba	137	1	nogas	0.041	57.7	547	10.1	2.5	
Tl	205	1	nogas	0.096	34.8	1397	29.4	1	
Pb	208	1	nogas	0.017	120.1	1470	22.6	2.5	
U	238	1	nogas	0.033	36.7	613	36.2	2.5	
Si	28	1	nogas	-26.078	-103.7	717905	1.7	5	
Na	23	2	He	83.581	3.6	84856	2.4	100	
Mg	24	2	He	1.756	15.9	827	13.3	100	
Al	27	2	He	-0.034	-475.4	230	11.5	5	
K	39	2	He	8.745	56.9	41306	2.1	100	
Ca	43	2	He	-16.203	-59.5	10	100.0	100	
Ca	44	2	He	-1.580	-150.6	220	18.2	100	
V	51	2	He	-0.238	-9.0	1806	2.4	2.5	
Cr	52	2	He	0.000	-76959.4	677	15.8	2.5	
Mn	55	2	He	-0.010	-157.3	153	21.0	2.5	
Fe	56	2	He	1.886	4.9	10563	1.0	100	
Co	59	2	He	0.010	35.8	150	11.5	2.5	
Ni	60	2	He	0.016	116.9	87	29.0	2.5	
Cu	63	2	He	-0.009	-144.8	1273	3.3	2	
Zn	66	2	He	-0.001	-5025.0	163	23.2	2.5	
As	75	2	He	0.045	104.5	72	30.7	2.5	
Sb	121	2	He	0.856	3.2	2874	1.1	2.5	

Continuing Calibration Blank (CCB) Report

Se	78	2	He	-0.192	-96.7	49	12.4	2	
Ti	47	2	He	0.029	366.5	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	1614428	0.16	1597939	101.03	70	120	
In	115	1	nogas	1771445	3.02	1645124	107.68	70	120	
Li	6	1	nogas	538835	1.01	510056	105.64	70	120	
Bi	209	1	nogas	1291886	1.12	1249408	103.40	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	426261	1.84	421931	101.03	70	120	
In	115	2	He	678244	1.56	666366	101.78	70	120	

Sample Report

Sample Table

Sample Name	MBLK-154157
Data File Name	055SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T14:34:27-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	-0.015	-0.015	-58.84	70	-0.02	2000	
B	11	1	nogas	3.366	3.366	14.47	18451	0.02	2000	
Al	27	1	nogas	0.368	0.368	19.46	13365	0.00	2000	
Ca	44	1	nogas	-73.809	-73.809	-6.50	21496	-0.34	200000	
Ti	47	1	nogas	0.094	0.094	47.64	193	0.05	2000	
Cr	52	1	nogas	-0.639	-0.639	-2.47	16701	0.00	2000	
Co	59	1	nogas	-0.001	-0.001	-789.85	370	0.00	2000	
Cu	63	1	nogas	0.623	0.623	18.68	12158	0.01	2000	
Zn	66	1	nogas	-0.008	-0.008	-750.13	430	0.00	2000	
Se	77	1	nogas	-26.978	-26.978	-18.39	8062	-0.33	2000	
Se	82	1	nogas	0.184	0.184	237.73	-27	-0.69	2000	
Sr	88	1	nogas	0.007	0.007	148.09	1343	0.00	2000	
Mo	95	1	nogas	0.072	0.072	42.48	320	0.02	2000	
Ag	107	1	nogas	-0.003	-0.003	-72.10	60	0.00	2000	
Cd	111	1	nogas	-0.005	-0.005	-125.25	20	-0.03	2000	
Sn	118	1	nogas	0.053	0.053	33.53	947	0.01	2000	
Sb	121	1	nogas	0.382	0.382	4.29	2927	0.01	2000	
Ba	137	1	nogas	0.060	0.060	29.53	580	0.01	2000	
Tl	205	1	nogas	0.011	0.011	23.68	347	0.00	2000	
Pb	208	1	nogas	-0.017	-0.017	-13.52	923	0.00	2000	
U	238	1	nogas	0.005	0.005	81.28	107	0.01	2000	
Li	7	1	nogas	0.041	0.041	160.94	43990	0.00	1000	
Si	28	1	nogas	-52.212	-52.212	-77.74	725162	-0.01	2000	
Tl	203	1	nogas	0.007	0.007	83.72	113	0.01	2000	
Na	23	2	He	55.955	55.955	3.04	68012	0.08	200000	
Mg	24	2	He	1.630	1.630	8.41	787	0.21	200000	
Al	27	2	He	-0.044	-0.044	-490.30	230	-0.02	2000	
K	39	2	He	7.805	7.805	42.42	41273	0.02	200000	
Ca	43	2	He	-13.120	-13.120	-41.94	13	-98.40	200000	
Ca	44	2	He	-6.629	-6.629	-12.25	133	-4.97	200000	
V	51	2	He	-0.195	-0.195	-6.01	1955	-0.01	2000	
Cr	52	2	He	-0.003	-0.003	-469.64	670	0.00	2000	
Mn	55	2	He	0.021	0.021	122.15	223	0.01	2000	
Fe	56	2	He	0.570	0.570	16.86	6425	0.01	200000	
Co	59	2	He	0.007	0.007	196.83	133	0.01	2000	
Ni	60	2	He	-0.013	-0.013	-67.54	47	-0.03	2000	

Sample Report

Cu	63	2	He	-0.037	-0.037	-100.80	1180	0.00	2000	
Zn	66	2	He	0.023	0.023	239.87	180	0.01	2000	
As	75	2	He	0.000	0.000	2687.45	52	0.00	2000	
Sb	121	2	He	0.351	0.351	17.05	1367	0.03	2000	
Se	78	2	He	-0.183	-0.183	-146.31	50	-0.37	2000	
Ti	47	2	He	-0.032	-0.032	0.00	0	#DIV/0!	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	1658821	1.27	1597939	103.81	70	120	
In	115	1	nogas	1731694	0.42	1645124	105.26	70	120	
Li	6	1	nogas	544413	0.21	510056	106.74	70	120	
Bi	209	1	nogas	1303426	0.52	1249408	104.32	70	120	
Ge	72	2	He	428940	0.92	421931	101.66	70	120	
In	115	2	He	664839	1.44	666366	99.77	70	120	

Sample Report

Sample Table

Sample Name	LCS-154157
Data File Name	057SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T14:40:41-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	50.444	50.444	1.53	124283	0.04	2000	
B	11	1	nogas	463.642	463.642	2.00	648747	0.07	2000	
Al	27	1	nogas	106.903	106.903	0.93	991531	0.01	2000	
Ca	44	1	nogas	4980.029	4980.029	1.89	1675333	0.30	200000	
Ti	47	1	nogas	140.801	140.801	1.42	144202	0.10	2000	
Cr	52	1	nogas	46.688	46.688	2.85	578553	0.01	2000	
Co	59	1	nogas	47.433	47.433	2.48	602013	0.01	2000	
Cu	63	1	nogas	51.600	51.600	0.44	333576	0.02	2000	
Zn	66	1	nogas	52.774	52.774	1.39	90622	0.06	2000	
Se	77	1	nogas	20.014	20.014	54.08	12238	0.16	2000	
Se	82	1	nogas	51.410	51.410	6.00	5557	0.93	2000	
Sr	88	1	nogas	96.252	96.252	2.60	1731225	0.01	2000	
Mo	95	1	nogas	48.702	48.702	2.99	158345	0.03	2000	
Ag	107	1	nogas	44.525	44.525	3.08	393711	0.01	2000	
Cd	111	1	nogas	51.925	51.925	3.79	79344	0.07	2000	
Sn	118	1	nogas	94.889	94.889	1.21	478701	0.02	2000	
Sb	121	1	nogas	50.658	50.658	0.66	333939	0.02	2000	
Ba	137	1	nogas	48.837	48.837	1.51	120427	0.04	2000	
Tl	205	1	nogas	43.240	43.240	5.59	580386	0.01	2000	
Pb	208	1	nogas	48.035	48.035	4.36	854495	0.01	2000	
U	238	1	nogas	89.393	89.393	3.82	1754615	0.01	2000	
Li	7	1	nogas	95.342	95.342	1.60	791010	0.01	1000	
Si	28	1	nogas	5396.764	5396.764	1.20	3519756	0.15	2000	>LDR
Tl	203	1	nogas	44.820	44.820	5.94	240608	0.02	2000	
Na	23	2	He	5226.798	5226.798	1.42	3385702	0.15	200000	
Mg	24	2	He	5163.186	5163.186	3.32	1831164	0.28	200000	
Al	27	2	He	107.100	107.100	3.04	18105	0.59	2000	
K	39	2	He	5110.362	5110.362	0.82	1737944	0.29	200000	
Ca	43	2	He	4926.783	4926.783	2.37	5254	93.77	200000	
Ca	44	2	He	4982.190	4982.190	1.53	89159	5.59	200000	
V	51	2	He	49.282	49.282	1.51	162177	0.03	2000	
Cr	52	2	He	49.692	49.692	0.93	183069	0.03	2000	
Mn	55	2	He	50.371	50.371	1.36	116534	0.04	2000	
Fe	56	2	He	4945.269	4945.269	0.48	16132729	0.03	200000	
Co	59	2	He	50.590	50.590	1.08	280419	0.02	2000	
Ni	60	2	He	51.118	51.118	1.83	72907	0.07	2000	
Cu	63	2	He	50.792	50.792	2.20	191779	0.03	2000	
Zn	66	2	He	54.034	54.034	0.21	35194	0.15	2000	

Sample Report

As	75	2	He	51.302	51.302	1.48	23924	0.21	2000	
Sb	121	2	He	50.614	50.614	0.78	156297	0.03	2000	
Se	78	2	He	53.300	53.300	8.26	1915	2.78	2000	
Ti	47	2	He	148.909	148.909	4.49	16601	0.90	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	1771619	0.74	1597939	110.87	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1806467	1.47	1645124	109.81	70	120	
Li	6	1	nogas	533206	0.94	510056	104.54	70	120	
Bi	209	1	nogas	1397979	4.70	1249408	111.89	70	120	
Ge	72	2	He	437285	0.27	421931	103.64	70	120	
In	115	2	He	675592	0.60	666366	101.38	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	065_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T15:25:19-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	98.695	0.171	163609	0.47	100	98.7	90	110	
B	11	1	nogas	500.070	2.293	470193	1.75	500	100.0	90	110	
Al	27	1	nogas	101.572	0.664	650669	0.57	100	101.6	90	110	
P	31	1	nogas	517.358	0.505	202636	0.41	500	103.5	90	110	
Ca	44	1	nogas	10540.494	0.317	2411459	0.27	10000	105.4	90	110	
Ti	47	1	nogas	103.475	0.794	73173	0.85	100	103.5	90	110	
Cr	52	1	nogas	100.465	1.020	839222	0.92	100	100.5	90	110	
Co	59	1	nogas	101.146	0.313	885866	0.25	100	101.1	90	110	
Cu	63	1	nogas	105.287	0.445	463295	0.52	100	105.3	90	110	
Zn	66	1	nogas	105.457	0.687	124677	0.70	100	105.5	90	110	
Se	77	1	nogas	65.207	10.109	10857	3.15	100	65.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	104.131	3.657	7802	3.71	100	104.1	90	110	
Sr	88	1	nogas	106.563	2.455	1412540	2.32	100	106.6	90	110	
Mo	95	1	nogas	103.586	0.410	248153	0.38	100	103.6	90	110	
Ag	107	1	nogas	107.737	1.082	702044	1.16	100	107.7	90	110	
Cd	111	1	nogas	106.860	1.700	120343	1.82	100	106.9	90	110	
Sn	118	1	nogas	108.217	0.868	402256	1.04	100	108.2	90	110	
Sb	121	1	nogas	111.988	1.134	509039	1.16	100	112.0	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	107.888	0.319	195654	0.57	100	107.9	90	110	
Tl	205	1	nogas	95.130	0.801	998784	1.28	100	95.1	90	110	
Pb	208	1	nogas	99.687	0.770	1385806	1.24	100	99.7	90	110	
U	238	1	nogas	99.602	1.858	1528050	2.29	100	99.6	90	110	
Li	7	1	nogas	101.337	0.492	564102	0.05	100	101.3	90	110	
Si	28	1	nogas	5064.057	1.401	2313774	1.11	5000	101.3	90	110	
Tl	203	1	nogas	98.642	0.424	414257	0.88	100	98.6	90	110	
Na	23	2	He	9892.988	1.735	4585244	1.08	10000	98.9	90	110	
Mg	24	2	He	9771.623	0.960	2491291	1.63	10000	97.7	90	110	
Al	27	2	He	97.462	3.133	11861	3.08	100	97.5	90	110	
K	39	2	He	10165.558	2.785	2456956	2.07	10000	101.7	90	110	
Ca	43	2	He	9632.518	5.124	7365	4.46	10000	96.3	90	110	
Ca	44	2	He	9647.929	1.612	123944	1.12	10000	96.5	90	110	
V	51	2	He	98.454	0.250	231033	0.55	100	98.5	90	110	
Cr	52	2	He	99.137	0.680	262062	0.74	100	99.1	90	110	
Mn	55	2	He	100.014	0.633	166215	0.61	100	100.0	90	110	
Fe	56	2	He	10037.068	1.547	23534550	0.92	10000	100.4	90	110	
Co	59	2	He	100.717	1.196	401265	0.59	100	100.7	90	110	
Ni	60	2	He	99.626	1.115	102098	0.53	100	99.6	90	110	
Cu	63	2	He	101.116	0.889	273506	0.78	100	101.1	90	110	
Zn	66	2	He	100.183	2.090	46803	1.43	100	100.2	90	110	
As	75	2	He	100.265	0.451	33578	0.60	100	100.3	90	110	
Sb	121	2	He	108.664	0.673	240976	0.61	100	108.7	90	110	
Se	78	2	He	102.443	1.600	2609	0.90	100	102.4	90	110	
Ti	47	2	He	101.665	3.420	8149	2.86	100	101.7	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	1222841	0.09	1597939	76.53	70	120	
In	115	1	nogas	1331106	0.30	1645124	80.91	70	120	
Li	6	1	nogas	358875	0.49	510056	70.36	70	120	
Bi	209	1	nogas	1091824	0.49	1249408	87.39	70	120	
Ge	72	2	He	314369	0.68	421931	74.51	70	120	
In	115	2	He	510107	0.49	666366	76.55	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	066_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T15:27:39-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	0.012	95.8	98	20.5	1	
B	11	1	nogas	10.119	8.8	19977	4.7	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.029	-109.5	7482	2.9	5	
P	31	1	nogas	4.031	18.7	24279	0.8	10	
Ca	44	1	nogas	-87.837	-1.9	12925	2.7	100	
Ti	47	1	nogas	0.095	22.9	147	10.4	2.5	
Cr	52	1	nogas	-0.640	-6.6	12538	3.2	2.5	
Co	59	1	nogas	0.018	48.9	450	17.6	2.5	
Cu	63	1	nogas	-0.258	-27.2	5234	5.5	2	
Zn	66	1	nogas	0.006	216.6	340	5.1	2.5	
Se	77	1	nogas	-45.119	-14.1	5074	7.1	2.5	
Se	82	1	nogas	0.409	85.1	-3	-958.1	2	
Sr	88	1	nogas	0.184	2.4	3657	4.1	2.5	
Mo	95	1	nogas	0.269	21.1	773	17.6	2.5	
Ag	107	1	nogas	0.011	48.9	150	24.0	2.5	
Cd	111	1	nogas	0.005	254.7	30	57.7	1	
Sn	118	1	nogas	0.212	38.8	1423	24.3	5	
Sb	121	1	nogas	0.899	8.2	4591	7.3	2.5	
Ba	137	1	nogas	0.056	68.3	473	15.3	2.5	
Tl	205	1	nogas	0.108	24.1	1340	21.8	1	
Pb	208	1	nogas	0.028	68.2	1427	19.7	2.5	
U	238	1	nogas	0.038	30.7	603	31.4	2.5	
Si	28	1	nogas	-217.011	-25.1	486527	4.0	5	
Na	23	2	He	8.809	0.9	29090	0.8	100	
Mg	24	2	He	1.455	33.2	550	22.3	100	
Al	27	2	He	-0.158	-208.4	160	25.0	5	
K	39	2	He	15.177	33.4	33123	2.9	100	
Ca	43	2	He	12.109	106.0	30	33.3	100	
Ca	44	2	He	9.380	41.5	313	15.7	100	
V	51	2	He	-0.341	-17.0	1131	12.7	2.5	
Cr	52	2	He	-0.028	-34.4	440	6.0	2.5	
Mn	55	2	He	0.032	133.5	190	39.7	2.5	
Fe	56	2	He	1.789	20.4	7828	11.0	100	
Co	59	2	He	0.009	71.2	110	24.1	2.5	
Ni	60	2	He	0.023	133.5	73	43.8	2.5	
Cu	63	2	He	0.072	63.6	1200	11.5	2	
Zn	66	2	He	0.044	69.7	147	10.4	2.5	
As	75	2	He	0.030	174.5	50	37.1	2.5	
Sb	121	2	He	0.666	2.0	1760	2.3	2.5	
Se	78	2	He	-0.024	-1487.2	42	21.8	2	
Ti	47	2	He	0.009	807.8	3	173.2	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	1246254	0.57	1597939	77.99	70	120	
In	115	1	nogas	1436277	2.42	1645124	87.31	70	120	
Li	6	1	nogas	389832	0.86	510056	76.43	70	120	
Bi	209	1	nogas	1118293	0.92	1249408	89.51	70	120	
Ge	72	2	He	325327	0.92	421931	77.10	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	2	He	532878	0.79	666366	79.97	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	077_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:02:11-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	95.830	0.387	166240	0.78	100	95.8	90	110	
B	11	1	nogas	480.726	0.811	473410	1.34	500	96.1	90	110	
Al	27	1	nogas	99.571	0.410	656649	0.90	100	99.6	90	110	
P	31	1	nogas	507.239	2.031	204912	1.04	500	101.4	90	110	
Ca	44	1	nogas	10244.131	2.212	2412807	1.35	10000	102.4	90	110	
Ti	47	1	nogas	101.941	0.852	74194	0.50	100	101.9	90	110	
Cr	52	1	nogas	99.411	1.026	854842	0.50	100	99.4	90	110	
Co	59	1	nogas	99.542	1.274	897233	0.26	100	99.5	90	110	
Cu	63	1	nogas	103.704	1.811	469718	0.97	100	103.7	90	110	
Zn	66	1	nogas	105.909	1.089	128876	1.85	100	105.9	90	110	
Se	77	1	nogas	96.163	15.435	12871	6.29	100	96.2	90	110	
Se	82	1	nogas	109.542	2.199	8449	2.45	100	109.5	90	110	
Sr	88	1	nogas	103.061	1.105	1486425	0.69	100	103.1	90	110	
Mo	95	1	nogas	98.026	0.529	255510	0.15	100	98.0	90	110	
Ag	107	1	nogas	100.915	0.461	715499	0.97	100	100.9	90	110	
Cd	111	1	nogas	101.536	0.657	124419	1.21	100	101.5	90	110	
Sn	118	1	nogas	102.288	1.151	413712	1.11	100	102.3	90	110	
Sb	121	1	nogas	112.209	0.603	524937	0.46	100	112.2	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	103.769	0.927	204765	0.94	100	103.8	90	110	
Tl	205	1	nogas	97.721	1.468	1037887	1.32	100	97.7	90	110	
Pb	208	1	nogas	101.510	0.535	1427519	0.49	100	101.5	90	110	
U	238	1	nogas	104.503	1.659	1621863	1.97	100	104.5	90	110	
Li	7	1	nogas	99.385	0.797	579511	0.73	100	99.4	90	110	
Si	28	1	nogas	4881.227	1.638	2315985	1.59	5000	97.6	90	110	
Tl	203	1	nogas	100.669	0.294	427683	0.41	100	100.7	90	110	
Na	23	2	He	10158.508	1.413	4683828	0.77	10000	101.6	90	110	
Mg	24	2	He	10100.041	0.994	2561736	0.54	10000	101.0	90	110	
Al	27	2	He	97.005	4.880	11744	4.22	100	97.0	90	110	
K	39	2	He	10013.302	2.549	2408360	1.99	10000	100.1	90	110	
Ca	43	2	He	9574.835	1.353	7285	0.65	10000	95.7	90	110	
Ca	44	2	He	9556.945	0.838	122160	0.85	10000	95.6	90	110	
V	51	2	He	98.354	1.033	229620	0.39	100	98.4	90	110	
Cr	52	2	He	99.718	0.639	262252	0.24	100	99.7	90	110	
Mn	55	2	He	98.565	0.608	162976	0.13	100	98.6	90	110	
Fe	56	2	He	9925.991	1.345	23156458	0.94	10000	99.3	90	110	
Co	59	2	He	100.827	1.485	399661	1.00	100	100.8	90	110	
Ni	60	2	He	102.100	0.663	104109	1.33	100	102.1	90	110	
Cu	63	2	He	102.515	0.335	275872	0.48	100	102.5	90	110	
Zn	66	2	He	101.718	1.724	47281	1.79	100	101.7	90	110	
As	75	2	He	100.314	1.406	33422	0.85	100	100.3	90	110	
Sb	121	2	He	109.003	0.817	240494	0.19	100	109.0	90	110	
Se	78	2	He	101.711	1.045	2578	1.13	100	101.7	90	110	
Ti	47	2	He	98.190	2.172	7832	2.77	100	98.2	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	1258598	1.02	1597939	78.76	70	120	
In	115	1	nogas	1448306	0.61	1645124	88.04	70	120	
Li	6	1	nogas	375541	0.54	510056	73.63	70	120	
Bi	209	1	nogas	1104534	0.40	1249408	88.40	70	120	
Ge	72	2	He	312773	0.71	421931	74.13	70	120	
In	115	2	He	508729	1.39	666366	76.34	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	078_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:04:31-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	0.010	123.9	98	23.5	1	
B	11	1	nogas	7.512	12.6	18010	4.8	10	
Al	27	1	nogas	0.004	1643.4	7785	5.6	5	
P	31	1	nogas	5.651	34.1	25147	3.0	10	
Ca	44	1	nogas	-86.653	-2.9	13352	4.2	100	
Ti	47	1	nogas	0.152	17.5	190	10.5	2.5	
Cr	52	1	nogas	-0.644	-5.3	12651	2.2	2.5	
Co	59	1	nogas	0.005	150.3	330	18.4	2.5	
Cu	63	1	nogas	0.543	11.6	8882	3.3	2	
Zn	66	1	nogas	0.066	125.5	417	24.0	2.5	
Se	77	1	nogas	-27.321	-19.0	6111	4.9	2.5	
Se	82	1	nogas	-1.369	-87.6	-141	-66.0	2	
Sr	88	1	nogas	0.129	9.2	2904	5.8	2.5	
Mo	95	1	nogas	0.299	10.9	863	8.7	2.5	
Ag	107	1	nogas	0.015	93.9	177	55.0	2.5	
Cd	111	1	nogas	0.010	115.9	37	41.7	1	
Sn	118	1	nogas	0.201	28.5	1400	17.1	5	
Sb	121	1	nogas	0.670	10.4	3570	9.1	2.5	
Ba	137	1	nogas	0.093	1.7	553	2.8	2.5	
Tl	205	1	nogas	0.117	15.8	1453	15.2	1	
Pb	208	1	nogas	0.011	115.1	1207	17.1	2.5	
U	238	1	nogas	0.038	38.0	607	39.1	2.5	
Si	28	1	nogas	-156.813	-72.9	513752	7.8	5	
Na	23	2	He	32.532	2.1	39348	0.3	100	
Mg	24	2	He	1.483	20.8	543	14.3	100	
Al	27	2	He	-0.704	-20.5	90	19.2	5	
K	39	2	He	18.615	20.8	33086	2.4	100	
Ca	43	2	He	-21.578	-34.9	3	173.2	100	
Ca	44	2	He	6.369	89.6	267	28.1	100	
V	51	2	He	-0.322	-11.9	1146	7.6	2.5	
Cr	52	2	He	-0.018	-204.8	457	21.3	2.5	
Mn	55	2	He	0.002	1665.1	133	33.8	2.5	
Fe	56	2	He	1.793	5.3	7635	3.1	100	
Co	59	2	He	0.020	11.6	150	6.7	2.5	
Ni	60	2	He	0.018	198.4	67	56.8	2.5	
Cu	63	2	He	0.048	87.1	1103	10.3	2	

Continuing Calibration Blank (CCB) Report

Zn	66	2	He	-0.075	-99.0	87	40.5	2.5	
As	75	2	He	0.064	122.7	60	44.1	2.5	
Sb	121	2	He	0.556	8.3	1467	7.5	2.5	
Se	78	2	He	-0.404	-108.5	31	35.2	2	
Ti	47	2	He	0.010	751.3	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	1260843	0.32	1597939	78.90	70	120	
In	115	1	nogas	1456784	2.31	1645124	88.55	70	120	
Li	6	1	nogas	404426	0.69	510056	79.29	70	120	
Bi	209	1	nogas	1132456	1.43	1249408	90.64	70	120	
Ge	72	2	He	316793	0.48	421931	75.08	70	120	
In	115	2	He	514326	1.24	666366	77.18	70	120	

Sample Report

Sample Table

Sample Name	HS20060116-01
Data File Name	079SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:07:08-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	0.099	0.099	27.25	255	0.04	2000	
B	11	1	nogas	46.303	46.303	1.96	56263	0.08	2000	
Al	27	1	nogas	63.873	63.873	0.46	422532	0.02	2000	
Ca	44	1	nogas	31641.617	31641.617	0.73	7357361	0.43	200000	
Ti	47	1	nogas	3.022	3.022	8.21	2267	0.13	2000	
Cr	52	1	nogas	0.231	0.231	53.13	19938	0.00	2000	
Co	59	1	nogas	6.217	6.217	1.36	56105	0.01	2000	
Cu	63	1	nogas	7.366	7.366	6.67	39195	0.02	2000	
Zn	66	1	nogas	15.703	15.703	1.24	19327	0.08	2000	
Se	77	1	nogas	-12.039	-12.039	-144.93	6921	-0.17	2000	
Se	82	1	nogas	3.082	3.082	10.67	203	1.52	2000	
Sr	88	1	nogas	560.647	560.647	0.55	7616454	0.01	2000	
Mo	95	1	nogas	0.522	0.522	16.32	1357	0.04	2000	
Ag	107	1	nogas	0.003	0.003	108.45	87	0.00	2000	
Cd	111	1	nogas	0.117	0.117	31.23	157	0.07	2000	
Sn	118	1	nogas	0.056	0.056	53.24	760	0.01	2000	
Sb	121	1	nogas	0.226	0.226	6.31	1483	0.02	2000	
Ba	137	1	nogas	549.304	549.304	1.06	1019922	0.05	2000	
Tl	205	1	nogas	0.018	0.018	56.10	357	0.01	2000	
Pb	208	1	nogas	0.071	0.071	2.43	1960	0.00	2000	
U	238	1	nogas	0.453	0.453	2.82	6865	0.01	2000	
Li	7	1	nogas	19.471	19.471	1.27	143097	0.01	1000	
Si	28	1	nogas	193407.949	193407.949	0.59	69540419	0.28	2000	>LDR
Tl	203	1	nogas	0.011	0.011	105.23	110	0.01	2000	
Na	23	2	He	156094.698	156094.698	0.68	72898461	0.21	200000	
Mg	24	2	He	22986.901	22986.901	0.64	5933463	0.39	200000	
Al	27	2	He	59.870	59.870	5.57	7445	0.80	2000	
K	39	2	He	1059.060	1059.060	0.85	284946	0.37	200000	
Ca	43	2	He	30319.020	30319.020	1.33	23435	129.38	200000	
Ca	44	2	He	29771.873	29771.873	0.74	386898	7.70	200000	
V	51	2	He	0.401	0.401	14.83	2856	0.01	2000	
Cr	52	2	He	0.801	0.801	3.97	2647	0.03	2000	
Mn	55	2	He	381.899	381.899	0.58	642254	0.06	2000	
Fe	56	2	He	689.914	689.914	1.39	1641272	0.04	200000	
Co	59	2	He	6.048	6.048	1.33	24463	0.02	2000	
Ni	60	2	He	9.031	9.031	2.17	9416	0.10	2000	
Cu	63	2	He	4.579	4.579	1.04	13472	0.03	2000	
Zn	66	2	He	14.796	14.796	3.23	7105	0.21	2000	

Sample Report

As	75	2	He	0.991	0.991	16.96	374	0.26	2000	
Sb	121	2	He	0.177	0.177	10.48	623	0.03	2000	
Se	78	2	He	0.221	0.221	25.82	47	0.47	2000	
Ti	47	2	He	0.462	0.462	80.34	40	1.16	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	1254167	1.27	1597939	78.49	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1364924	1.98	1645124	82.97	70	120	
Li	6	1	nogas	390098	1.11	510056	76.48	70	120	
Bi	209	1	nogas	1077472	1.33	1249408	86.24	70	120	
Ge	72	2	He	318301	0.63	421931	75.44	70	120	
In	115	2	He	504134	1.93	666366	75.65	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01SD
Data File Name	083SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:16:38-05:00
Sample Type	Sample
Dilution	5
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	-0.027	-0.135	-16.58	30	-0.09	2000	
B	11	1	nogas	6.120	30.601	0.64	17226	0.04	2000	
Al	27	1	nogas	10.581	52.904	4.60	81006	0.01	2000	
Ca	44	1	nogas	1713.901	8569.506	2.58	455685	0.38	200000	
Ti	47	1	nogas	0.773	3.865	18.84	677	0.11	2000	
Cr	52	1	nogas	0.464	2.320	13.95	23191	0.00	2000	
Co	59	1	nogas	0.321	1.606	12.70	3360	0.01	2000	
Cu	63	1	nogas	1.832	9.158	6.37	15440	0.01	2000	
Zn	66	1	nogas	8.949	44.744	2.86	11831	0.08	2000	
Se	77	1	nogas	30.133	150.664	22.47	9776	0.31	2000	
Se	82	1	nogas	0.692	3.460	179.26	21	3.30	2000	
Sr	88	1	nogas	43.050	215.250	3.66	640854	0.01	2000	
Mo	95	1	nogas	0.267	1.334	14.44	800	0.03	2000	
Ag	107	1	nogas	-0.001	-0.007	-240.76	63	0.00	2000	
Cd	111	1	nogas	0.002	0.009	910.48	27	0.01	2000	
Sn	118	1	nogas	0.013	0.064	188.19	650	0.00	2000	
Sb	121	1	nogas	0.127	0.636	8.21	1087	0.01	2000	
Ba	137	1	nogas	27.387	136.934	3.45	56004	0.05	2000	
Tl	205	1	nogas	-0.001	-0.003	-194.53	173	0.00	2000	
Pb	208	1	nogas	-0.011	-0.057	-45.75	883	0.00	2000	
U	238	1	nogas	0.050	0.248	18.07	803	0.01	2000	
Li	7	1	nogas	3.664	18.320	4.30	56395	0.01	1000	
Si	28	1	nogas	24523.280	122616.398	2.34	9867894	0.25	2000	>LDR
Tl	203	1	nogas	-0.002	-0.008	-278.87	60	0.00	2000	
Na	23	2	He	51092.899	255464.493	0.12	24978353	0.20	200000	
Mg	24	2	He	2428.214	12141.070	1.33	655842	0.37	200000	
Al	27	2	He	11.571	57.854	19.91	1653	0.70	2000	
K	39	2	He	263.763	1318.817	1.44	96818	0.27	200000	
Ca	43	2	He	1802.209	9011.046	3.79	1477	122.04	200000	
Ca	44	2	He	1742.148	8710.742	0.45	23865	7.30	200000	
V	51	2	He	0.546	2.728	9.29	3343	0.02	2000	
Cr	52	2	He	0.461	2.303	9.42	1817	0.03	2000	
Mn	55	2	He	18.946	94.731	1.35	33464	0.06	2000	
Fe	56	2	He	63.677	318.386	6.00	161729	0.04	200000	
Co	59	2	He	0.333	1.667	11.33	1480	0.02	2000	
Ni	60	2	He	0.891	4.454	9.68	1017	0.09	2000	
Cu	63	2	He	0.499	2.495	12.42	2447	0.02	2000	
Zn	66	2	He	8.648	43.241	2.77	4397	0.20	2000	

Sample Report

As	75	2	He	0.099	0.495	23.08	76	0.13	2000	
Sb	121	2	He	0.153	0.765	30.64	597	0.03	2000	
Se	78	2	He	-0.389	-1.945	-11.27	33	-1.17	2000	
Ti	47	2	He	0.598	2.992	120.81	53	1.12	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	1329396	2.55	1597939	83.19	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1494097	2.05	1645124	90.82	70	120	
Li	6	1	nogas	420486	0.78	510056	82.44	70	120	
Bi	209	1	nogas	1141249	0.94	1249408	91.34	70	120	
Ge	72	2	He	332977	0.38	421931	78.92	70	120	
In	115	2	He	534801	0.31	666366	80.26	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01MS
Data File Name	084SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:19:03-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	51.766	51.766	0.53	89220	0.06	2000	
B	11	1	nogas	530.897	530.897	0.55	518239	0.10	2000	
Al	27	1	nogas	159.223	159.223	0.69	1069980	0.01	2000	
Ca	44	1	nogas	15049.501	15049.501	2.59	3610835	0.42	200000	
Ti	47	1	nogas	148.895	148.895	1.98	110847	0.13	2000	
Cr	52	1	nogas	50.905	50.905	1.83	456942	0.01	2000	
Co	59	1	nogas	50.102	50.102	2.25	462225	0.01	2000	
Cu	63	1	nogas	58.994	58.994	1.07	276369	0.02	2000	
Zn	66	1	nogas	98.792	98.792	0.14	123049	0.08	2000	
Se	77	1	nogas	67.594	67.594	0.99	11571	0.58	2000	
Se	82	1	nogas	52.934	52.934	7.35	4157	1.27	2000	
Sr	88	1	nogas	333.766	333.766	0.82	4796916	0.01	2000	
Mo	95	1	nogas	49.197	49.197	1.47	127850	0.04	2000	
Ag	107	1	nogas	42.537	42.537	1.65	300623	0.01	2000	
Cd	111	1	nogas	50.551	50.551	2.17	61741	0.08	2000	
Sn	118	1	nogas	94.244	94.244	2.33	379942	0.02	2000	
Sb	121	1	nogas	56.271	56.271	1.40	269614	0.02	2000	
Ba	137	1	nogas	198.299	198.299	1.46	389668	0.05	2000	
Tl	205	1	nogas	45.632	45.632	1.64	468315	0.01	2000	
Pb	208	1	nogas	50.118	50.118	0.55	681433	0.01	2000	
U	238	1	nogas	100.920	100.920	2.45	1513041	0.01	2000	
Li	7	1	nogas	110.125	110.125	0.45	634511	0.02	1000	
Si	28	1	nogas	140484.306	140484.306	2.13	52024213	0.27	2000	>LDR
Tl	203	1	nogas	47.294	47.294	2.90	194136	0.02	2000	
Na	23	2	He	282780.187	282780.187	2.11	134380088	0.21	200000	>LDR
Mg	24	2	He	18293.197	18293.197	0.82	4806019	0.38	200000	
Al	27	2	He	165.746	165.746	2.74	20665	0.80	2000	
K	39	2	He	6438.421	6438.421	1.19	1614560	0.40	200000	
Ca	43	2	He	14463.838	14463.838	3.02	11387	127.02	200000	
Ca	44	2	He	14325.528	14325.528	1.74	189567	7.56	200000	
V	51	2	He	49.518	49.518	1.33	120709	0.04	2000	
Cr	52	2	He	50.197	50.197	1.41	137001	0.04	2000	
Mn	55	2	He	153.649	153.649	1.80	263084	0.06	2000	
Fe	56	2	He	5144.096	5144.096	1.47	12432638	0.04	200000	
Co	59	2	He	50.766	50.766	2.64	208453	0.02	2000	
Ni	60	2	He	52.718	52.718	3.71	55691	0.09	2000	
Cu	63	2	He	51.042	51.042	1.16	142772	0.04	2000	
Zn	66	2	He	95.145	95.145	0.89	45817	0.21	2000	

Sample Report

As	75	2	He	53.281	53.281	0.40	18407	0.29	2000	
Sb	121	2	He	54.718	54.718	3.08	125156	0.04	2000	
Se	78	2	He	48.598	48.598	9.13	1297	3.75	2000	
Ti	47	2	He	140.697	140.697	2.50	11620	1.21	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	1288073	2.01	1597939	80.61	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1443803	2.27	1645124	87.76	70	120	
Li	6	1	nogas	372979	0.85	510056	73.13	70	120	
Bi	209	1	nogas	1067120	0.44	1249408	85.41	70	120	
Ge	72	2	He	323987	1.08	421931	76.79	70	120	
In	115	2	He	514570	1.11	666366	77.22	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01MSD
Data File Name	085SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:21:26-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	50.567	50.567	0.65	86705	0.06	2000	
B	11	1	nogas	528.665	528.665	0.78	513433	0.10	2000	
Al	27	1	nogas	166.768	166.768	1.08	1110385	0.02	2000	
Ca	44	1	nogas	15060.738	15060.738	0.76	3583002	0.42	200000	
Ti	47	1	nogas	145.403	145.403	0.73	107326	0.14	2000	
Cr	52	1	nogas	49.771	49.771	0.77	443327	0.01	2000	
Co	59	1	nogas	49.053	49.053	0.80	448710	0.01	2000	
Cu	63	1	nogas	60.927	60.927	1.18	282678	0.02	2000	
Zn	66	1	nogas	96.682	96.682	1.89	119372	0.08	2000	
Se	77	1	nogas	72.918	72.918	12.30	11764	0.62	2000	
Se	82	1	nogas	53.654	53.654	3.35	4181	1.28	2000	
Sr	88	1	nogas	335.302	335.302	1.27	4681922	0.01	2000	
Mo	95	1	nogas	48.791	48.791	1.56	123229	0.04	2000	
Ag	107	1	nogas	42.246	42.246	4.15	290031	0.01	2000	
Cd	111	1	nogas	49.640	49.640	2.90	58911	0.08	2000	
Sn	118	1	nogas	94.229	94.229	2.06	369146	0.03	2000	
Sb	121	1	nogas	54.462	54.462	0.36	258696	0.02	2000	
Ba	137	1	nogas	200.233	200.233	4.17	382199	0.05	2000	
Tl	205	1	nogas	44.154	44.154	0.32	450531	0.01	2000	
Pb	208	1	nogas	48.158	48.158	0.81	651019	0.01	2000	
U	238	1	nogas	91.725	91.725	1.89	1367238	0.01	2000	
Li	7	1	nogas	109.439	109.439	0.69	627510	0.02	1000	
Si	28	1	nogas	142358.363	142358.363	0.40	52261669	0.27	2000	>LDR
Tl	203	1	nogas	46.166	46.166	0.51	188415	0.02	2000	
Na	23	2	He	279944.710	279944.710	1.02	133274101	0.21	200000	>LDR
Mg	24	2	He	17949.558	17949.558	0.67	4723961	0.38	200000	
Al	27	2	He	155.624	155.624	8.45	19437	0.80	2000	
K	39	2	He	6322.857	6322.857	2.18	1589065	0.40	200000	
Ca	43	2	He	14075.314	14075.314	1.11	11103	126.77	200000	
Ca	44	2	He	14152.672	14152.672	1.41	187610	7.54	200000	
V	51	2	He	47.815	47.815	0.24	116836	0.04	2000	
Cr	52	2	He	49.399	49.399	0.96	135063	0.04	2000	
Mn	55	2	He	149.331	149.331	0.78	256135	0.06	2000	
Fe	56	2	He	4947.221	4947.221	1.29	11977273	0.04	200000	
Co	59	2	He	49.273	49.273	1.47	202697	0.02	2000	
Ni	60	2	He	51.343	51.343	2.93	54340	0.09	2000	
Cu	63	2	He	49.160	49.160	1.92	137777	0.04	2000	
Zn	66	2	He	91.398	91.398	0.94	44093	0.21	2000	

Sample Report

As	75	2	He	51.747	51.747	0.96	17910	0.29	2000	
Sb	121	2	He	52.293	52.293	0.56	119837	0.04	2000	
Se	78	2	He	49.114	49.114	4.91	1313	3.74	2000	
Ti	47	2	He	137.923	137.923	1.84	11414	1.21	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	1276763	0.50	1597939	79.90	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1403055	2.31	1645124	85.29	70	120	
Li	6	1	nogas	371049	0.47	510056	72.75	70	120	
Bi	209	1	nogas	1060899	0.34	1249408	84.91	70	120	
Ge	72	2	He	324540	0.69	421931	76.92	70	120	
In	115	2	He	514051	0.42	666366	77.14	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01PDS
Data File Name	086SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:23:50-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 154157
ISTD Ref FileName	012CALB.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	98.427	98.427	1.47	172236	0.06	2000	
B	11	1	nogas	401.593	401.593	1.52	400487	0.10	2000	
Al	27	1	nogas	145.150	145.150	1.92	964828	0.02	2000	
Ca	44	1	nogas	19555.417	19555.417	0.83	4629320	0.42	200000	
Ti	47	1	nogas	239.356	239.356	1.15	176139	0.14	2000	
Cr	52	1	nogas	97.454	97.454	1.28	848200	0.01	2000	
Co	59	1	nogas	97.900	97.900	0.87	892808	0.01	2000	
Cu	63	1	nogas	116.896	116.896	2.69	534889	0.02	2000	
Zn	66	1	nogas	150.063	150.063	2.11	184592	0.08	2000	
Se	77	1	nogas	142.007	142.007	7.01	15567	0.91	2000	
Se	82	1	nogas	105.141	105.141	1.86	8203	1.28	2000	
Sr	88	1	nogas	392.395	392.395	0.25	5426057	0.01	2000	
Mo	95	1	nogas	97.703	97.703	0.55	244288	0.04	2000	
Ag	107	1	nogas	77.908	77.908	0.85	529863	0.01	2000	
Cd	111	1	nogas	100.130	100.130	1.34	117689	0.09	2000	
Sn	118	1	nogas	116.042	116.042	0.20	450134	0.03	2000	
Sb	121	1	nogas	101.990	101.990	0.99	482751	0.02	2000	
Ba	137	1	nogas	249.780	249.780	1.50	472288	0.05	2000	
Tl	205	1	nogas	95.596	95.596	3.59	959625	0.01	2000	
Pb	208	1	nogas	98.261	98.261	1.63	1306306	0.01	2000	
U	238	1	nogas	74.989	74.989	0.43	1100248	0.01	2000	
Li	7	1	nogas	86.480	86.480	1.80	512593	0.02	1000	
Si	28	1	nogas	135853.155	135853.155	1.69	49762238	0.27	2000	>LDR
Tl	203	1	nogas	99.481	99.481	3.31	399463	0.02	2000	
Na	23	2	He	278473.397	278473.397	0.51	131181078	0.21	200000	>LDR
Mg	24	2	He	22533.923	22533.923	0.94	5868013	0.38	200000	
Al	27	2	He	140.281	140.281	3.89	17358	0.81	2000	
K	39	2	He	11059.441	11059.441	2.10	2728069	0.41	200000	
Ca	43	2	He	19104.307	19104.307	2.13	14903	128.19	200000	
Ca	44	2	He	18914.344	18914.344	1.84	248026	7.63	200000	
V	51	2	He	96.779	96.779	1.20	232003	0.04	2000	
Cr	52	2	He	97.822	97.822	0.58	264144	0.04	2000	
Mn	55	2	He	198.772	198.772	0.36	337308	0.06	2000	
Fe	56	2	He	9744.427	9744.427	0.73	23340301	0.04	200000	
Co	59	2	He	98.063	98.063	1.94	399079	0.02	2000	
Ni	60	2	He	99.430	99.430	1.69	104085	0.10	2000	
Cu	63	2	He	98.797	98.797	1.53	272988	0.04	2000	
Zn	66	2	He	145.365	145.365	2.26	69314	0.21	2000	

Sample Report

As	75	2	He	105.509	105.509	2.36	36088	0.29	2000	
Sb	121	2	He	99.174	99.174	1.63	224664	0.04	2000	
Se	78	2	He	100.780	100.780	3.74	2622	3.84	2000	
Ti	47	2	He	236.451	236.451	2.05	19357	1.22	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	1273253	0.37	1597939	79.68	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1389237	0.45	1645124	84.45	70	120	
Li	6	1	nogas	378865	1.48	510056	74.28	70	120	
Bi	209	1	nogas	1044286	1.45	1249408	83.58	70	120	
Ge	72	2	He	321122	0.59	421931	76.11	70	120	
In	115	2	He	511950	1.36	666366	76.83	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	089_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:31:17-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	78.5	128	27.4	1	
B	11	1	nogas	13.207	8.8	25070	4.7	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.003	-731.1	8049	3.8	5	
P	31	1	nogas	3.088	87.3	25187	2.5	10	
Ca	44	1	nogas	-92.066	-1.6	12574	1.5	100	
Ti	47	1	nogas	0.253	77.1	273	53.3	2.5	
Cr	52	1	nogas	-0.546	-12.1	14022	5.4	2.5	
Co	59	1	nogas	0.010	12.2	390	2.6	2.5	
Cu	63	1	nogas	1.409	2.2	13272	1.4	2	
Zn	66	1	nogas	0.017	480.0	370	25.8	2.5	
Se	77	1	nogas	-16.695	-40.4	6965	6.3	2.5	
Se	82	1	nogas	-1.080	-105.6	-123	-74.5	2	
Sr	88	1	nogas	0.073	23.4	2150	10.7	2.5	
Mo	95	1	nogas	0.335	29.8	983	27.5	2.5	
Ag	107	1	nogas	0.013	27.9	167	15.1	2.5	
Cd	111	1	nogas	-0.009	-54.6	13	43.3	1	
Sn	118	1	nogas	0.370	5.6	2140	5.1	5	
Sb	121	1	nogas	0.785	7.6	4271	5.2	2.5	
Ba	137	1	nogas	0.061	113.6	503	29.0	2.5	
Tl	205	1	nogas	0.137	19.8	1703	19.7	1	
Pb	208	1	nogas	0.014	86.5	1257	14.6	2.5	
U	238	1	nogas	0.041	12.7	677	14.0	2.5	
Si	28	1	nogas	-195.843	-17.6	519746	1.5	5	
Na	23	2	He	175.709	0.8	111012	0.7	100	CCB Main CR1 Failed
Mg	24	2	He	2.449	6.7	830	5.3	100	
Al	27	2	He	-0.502	-15.8	120	8.3	5	
K	39	2	He	13.751	35.4	33467	3.7	100	
Ca	43	2	He	-13.513	-0.1	10	0.0	100	
Ca	44	2	He	-0.715	-630.6	183	33.3	100	
V	51	2	He	-0.160	-27.0	1599	6.8	2.5	
Cr	52	2	He	0.029	43.1	610	5.7	2.5	
Mn	55	2	He	-0.015	-194.7	110	48.1	2.5	
Fe	56	2	He	1.959	9.8	8415	5.7	100	
Co	59	2	He	0.011	37.3	120	14.4	2.5	
Ni	60	2	He	0.012	384.2	63	81.0	2.5	
Cu	63	2	He	0.163	59.5	1483	18.6	2	
Zn	66	2	He	0.099	105.6	177	29.0	2.5	
As	75	2	He	0.071	62.4	66	24.0	2.5	
Sb	121	2	He	0.718	1.2	1917	1.1	2.5	
Se	78	2	He	-0.058	-450.5	42	16.5	2	
Ti	47	2	He	0.047	290.7	7	173.2	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	1311441	1.72	1597939	82.07	70	120	
In	115	1	nogas	1495934	1.13	1645124	90.93	70	120	
Li	6	1	nogas	423692	0.61	510056	83.07	70	120	
Bi	209	1	nogas	1151091	1.97	1249408	92.13	70	120	
Ge	72	2	He	332158	0.12	421931	78.72	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	2	He	537223	1.02	666366	80.62	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	091_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:38:52-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	94.031	0.400	176351	0.44	100	94.0	90	110	
B	11	1	nogas	473.796	1.581	504541	0.98	500	94.8	90	110	
Al	27	1	nogas	98.922	2.107	692584	0.74	100	98.9	90	110	
P	31	1	nogas	497.634	3.506	213851	0.36	500	99.5	90	110	
Ca	44	1	nogas	10151.843	2.117	2539033	1.44	10000	101.5	90	110	
Ti	47	1	nogas	101.389	2.396	78341	1.69	100	101.4	90	110	
Cr	52	1	nogas	99.021	2.226	904016	0.77	100	99.0	90	110	
Co	59	1	nogas	97.277	3.136	930701	0.69	100	97.3	90	110	
Cu	63	1	nogas	102.713	1.554	494033	1.25	100	102.7	90	110	
Zn	66	1	nogas	104.261	3.567	134643	0.81	100	104.3	90	110	
Se	77	1	nogas	118.421	6.874	14963	3.41	100	118.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	105.467	5.290	8629	2.59	100	105.5	90	110	
Sr	88	1	nogas	98.669	5.942	1491187	3.38	100	98.7	90	110	
Mo	95	1	nogas	96.694	2.659	264240	0.96	100	96.7	90	110	
Ag	107	1	nogas	100.922	2.819	750135	0.86	100	100.9	90	110	
Cd	111	1	nogas	99.678	1.662	128067	0.91	100	99.7	90	110	
Sn	118	1	nogas	100.089	3.200	424380	0.73	100	100.1	90	110	
Sb	121	1	nogas	109.128	1.717	542015	1.05	100	109.1	90	110	
Ba	137	1	nogas	100.326	3.733	207523	1.24	100	100.3	90	110	
Tl	205	1	nogas	95.700	0.737	1048008	0.18	100	95.7	90	110	
Pb	208	1	nogas	99.911	0.274	1448745	0.89	100	99.9	90	110	
U	238	1	nogas	102.549	0.637	1641014	1.40	100	102.5	90	110	
Li	7	1	nogas	96.540	0.982	609501	0.20	100	96.5	90	110	
Si	28	1	nogas	4889.335	3.726	2461308	0.53	5000	97.8	90	110	
Tl	203	1	nogas	99.068	2.157	433922	1.44	100	99.1	90	110	
Na	23	2	He	10256.846	0.086	4956721	0.83	10000	102.6	90	110	
Mg	24	2	He	10032.380	1.949	2666821	1.25	10000	100.3	90	110	
Al	27	2	He	94.818	5.153	12041	5.85	100	94.8	90	110	
K	39	2	He	9961.751	1.680	2511808	2.42	10000	99.6	90	110	
Ca	43	2	He	9462.797	3.532	7548	4.42	10000	94.6	90	110	
Ca	44	2	He	9674.975	1.093	129612	0.86	10000	96.7	90	110	
V	51	2	He	97.882	2.294	239500	1.43	100	97.9	90	110	
Cr	52	2	He	99.053	0.453	273042	0.53	100	99.1	90	110	
Mn	55	2	He	98.523	0.941	170746	1.21	100	98.5	90	110	
Fe	56	2	He	9967.157	1.224	24370470	0.36	10000	99.7	90	110	
Co	59	2	He	100.359	0.454	416977	1.22	100	100.4	90	110	
Ni	60	2	He	100.644	0.496	107558	0.81	100	100.6	90	110	
Cu	63	2	He	101.857	1.458	287293	1.58	100	101.9	90	110	
Zn	66	2	He	102.984	1.893	50169	1.70	100	103.0	90	110	
As	75	2	He	100.642	1.425	35145	1.39	100	100.6	90	110	
Sb	121	2	He	106.468	0.452	246211	0.54	100	106.5	90	110	
Se	78	2	He	96.915	0.510	2576	1.01	100	96.9	90	110	
Ti	47	2	He	96.892	2.334	8099	1.69	100	96.9	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	1336578	2.78	1597939	83.64	70	120	
In	115	1	nogas	1519027	2.55	1645124	92.34	70	120	
Li	6	1	nogas	406010	0.79	510056	79.60	70	120	
Bi	209	1	nogas	1138884	0.92	1249408	91.15	70	120	
Ge	72	2	He	327820	0.91	421931	77.70	70	120	
In	115	2	He	530948	1.65	666366	79.68	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	092_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:41:13-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	94.441	1.894	175123	0.73	100	94.4	90	110	
B	11	1	nogas	488.499	2.074	514062	1.39	500	97.7	90	110	
Al	27	1	nogas	99.536	1.047	684341	0.95	100	99.5	90	110	
P	31	1	nogas	512.134	1.030	215474	0.32	500	102.4	90	110	
Ca	44	1	nogas	10414.370	0.546	2556981	0.46	10000	104.1	90	110	
Ti	47	1	nogas	102.428	1.843	77718	1.43	100	102.4	90	110	
Cr	52	1	nogas	99.922	1.218	895708	0.65	100	99.9	90	110	
Co	59	1	nogas	99.609	1.583	936152	2.02	100	99.6	90	110	
Cu	63	1	nogas	104.131	0.879	491743	1.16	100	104.1	90	110	
Zn	66	1	nogas	105.358	1.124	133666	2.00	100	105.4	90	110	
Se	77	1	nogas	101.761	6.430	13742	3.56	100	101.8	90	110	
Se	82	1	nogas	104.741	3.679	8423	4.35	100	104.7	90	110	
Sr	88	1	nogas	101.503	1.000	1503360	1.14	100	101.5	90	110	
Mo	95	1	nogas	98.637	0.738	264015	0.88	100	98.6	90	110	
Ag	107	1	nogas	101.845	1.605	741479	1.56	100	101.8	90	110	
Cd	111	1	nogas	102.755	1.363	129290	1.24	100	102.8	90	110	
Sn	118	1	nogas	101.994	0.325	423617	0.24	100	102.0	90	110	
Sb	121	1	nogas	110.695	1.751	539881	1.33	100	110.7	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	101.327	1.217	205332	1.37	100	101.3	90	110	
Tl	205	1	nogas	96.798	1.917	1063382	0.40	100	96.8	90	110	
Pb	208	1	nogas	99.859	2.346	1452450	0.77	100	99.9	90	110	
U	238	1	nogas	100.759	0.882	1617708	1.93	100	100.8	90	110	
Li	7	1	nogas	97.722	0.994	609683	0.41	100	97.7	90	110	
Si	28	1	nogas	4959.848	1.049	2443934	1.41	5000	99.2	90	110	
Tl	203	1	nogas	100.281	1.490	440676	0.51	100	100.3	90	110	
Na	23	2	He	9938.455	2.445	4831311	2.06	10000	99.4	90	110	
Mg	24	2	He	10132.553	0.300	2709392	0.43	10000	101.3	90	110	
Al	27	2	He	98.767	0.241	12604	0.56	100	98.8	90	110	
K	39	2	He	9851.407	1.176	2498542	1.00	10000	98.5	90	110	
Ca	43	2	He	9472.924	3.917	7598	3.72	10000	94.7	90	110	
Ca	44	2	He	9492.545	1.639	127911	1.20	10000	94.9	90	110	
V	51	2	He	97.994	1.116	241193	0.77	100	98.0	90	110	
Cr	52	2	He	97.659	1.362	270769	1.01	100	97.7	90	110	
Mn	55	2	He	97.042	1.006	169157	0.67	100	97.0	90	110	
Fe	56	2	He	9825.227	1.272	24164143	0.82	10000	98.3	90	110	
Co	59	2	He	98.483	1.542	411540	1.08	100	98.5	90	110	
Ni	60	2	He	98.994	3.332	106402	2.88	100	99.0	90	110	
Cu	63	2	He	100.903	0.171	286271	0.41	100	100.9	90	110	
Zn	66	2	He	99.395	0.886	48708	0.80	100	99.4	90	110	
As	75	2	He	100.238	2.206	35207	1.97	100	100.2	90	110	
Sb	121	2	He	107.193	2.019	249323	1.65	100	107.2	90	110	
Se	78	2	He	98.399	1.090	2630	1.13	100	98.4	90	110	
Ti	47	2	He	98.543	1.302	8285	1.36	100	98.5	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	1312165	0.95	1597939	82.12	70	120	
In	115	1	nogas	1487215	0.17	1645124	90.40	70	120	
Li	6	1	nogas	401487	1.19	510056	78.71	70	120	
Bi	209	1	nogas	1142661	1.56	1249408	91.46	70	120	
Ge	72	2	He	329728	0.46	421931	78.15	70	120	
In	115	2	He	524692	0.29	666366	78.74	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01SD
Data File Name	096SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:52:01-05:00
Sample Type	Sample
Dilution	50
Comment	
ISTD Ref FileName	012CALB.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	-0.019	-0.930	-34.28	47	-0.04	2000	
B	11	1	nogas	4.053	202.666	13.83	15099	0.03	2000	
Al	27	1	nogas	1.119	55.966	15.84	15632	0.01	2000	
Ca	44	1	nogas	102.611	5130.540	0.33	59571	0.17	200000	
Ti	47	1	nogas	0.165	8.239	27.41	207	0.08	2000	
Cr	52	1	nogas	-0.346	-17.315	-16.61	15737	0.00	2000	
Co	59	1	nogas	0.033	1.674	26.05	613	0.01	2000	
Cu	63	1	nogas	1.530	76.502	9.37	13802	0.01	2000	
Zn	66	1	nogas	0.975	48.761	15.85	1580	0.06	2000	
Se	77	1	nogas	-15.902	-795.080	-31.59	6995	-0.23	2000	
Se	82	1	nogas	-1.336	-66.819	-122.37	-143	0.93	2000	
Sr	88	1	nogas	4.529	226.447	0.80	68788	0.01	2000	
Mo	95	1	nogas	0.033	1.626	59.45	170	0.02	2000	
Ag	107	1	nogas	-0.002	-0.113	-90.06	57	0.00	2000	
Cd	111	1	nogas	-0.014	-0.697	-65.14	7	-0.21	2000	
Sn	118	1	nogas	0.085	4.266	17.13	957	0.01	2000	
Sb	121	1	nogas	0.149	7.435	5.57	1173	0.01	2000	
Ba	137	1	nogas	2.801	140.052	4.27	6104	0.05	2000	
Tl	205	1	nogas	-0.002	-0.123	-106.63	157	0.00	2000	
Pb	208	1	nogas	-0.028	-1.393	-23.23	660	0.00	2000	
U	238	1	nogas	0.005	0.255	35.18	90	0.01	2000	
Li	7	1	nogas	0.931	46.537	2.84	39762	0.00	1000	
Si	28	1	nogas	2511.013	125550.638	1.87	1526120	0.16	2000	>LDR
Tl	203	1	nogas	-0.004	-0.205	-197.84	50	-0.01	2000	
Na	23	2	He	5395.806	269790.309	0.99	2626453	0.21	200000	
Mg	24	2	He	252.654	12632.704	1.79	67513	0.37	200000	
Al	27	2	He	0.920	46.012	92.07	297	0.31	2000	
K	39	2	He	39.212	1960.577	10.31	39475	0.10	200000	
Ca	43	2	He	145.472	7273.589	13.28	137	106.44	200000	
Ca	44	2	He	188.382	9419.106	8.57	2717	6.93	200000	
V	51	2	He	-0.208	-10.403	-14.79	1466	-0.01	2000	
Cr	52	2	He	0.022	1.105	86.11	583	0.00	2000	
Mn	55	2	He	1.905	95.246	4.21	3444	0.06	2000	
Fe	56	2	He	6.372	318.595	3.39	19144	0.03	200000	
Co	59	2	He	0.047	2.332	37.00	267	0.02	2000	
Ni	60	2	He	0.082	4.079	47.22	137	0.06	2000	

Sample Report

Cu	63	2	He	0.135	6.770	28.91	1390	0.01	2000	
Zn	66	2	He	1.123	56.144	16.01	673	0.17	2000	
As	75	2	He	0.025	1.270	288.56	49	0.05	2000	
Sb	121	2	He	0.152	7.614	41.96	587	0.03	2000	
Se	78	2	He	-0.347	-17.352	-101.26	34	-1.02	2000	
Ti	47	2	He	0.008	0.409	846.46	3	0.25	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	1308640	0.69	1597939	81.90	70	120	
In	115	1	nogas	1502525	0.49	1645124	91.33	70	120	
Li	6	1	nogas	423476	0.27	510056	83.03	70	120	
Bi	209	1	nogas	1169364	0.74	1249408	93.59	70	120	
Ge	72	2	He	328683	0.68	421931	77.90	70	120	
In	115	2	He	535630	1.16	666366	80.38	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01PDS
Data File Name	097SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:54:24-05:00
Sample Type	Sample
Dilution	10
Comment	
ISTD Ref FileName	012CALB.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	205.066	2050.663	1.34	357641	0.06	2000	
B	11	1	nogas	517.217	5172.166	0.82	511456	0.10	2000	
Al	27	1	nogas	216.287	2162.871	0.53	1438199	0.02	2000	
Ca	44	1	nogas	21403.345	214033.449	0.61	5079128	0.42	200000	
Ti	47	1	nogas	199.237	1992.366	0.89	147074	0.14	2000	
Cr	52	1	nogas	205.096	2050.959	1.73	1770199	0.01	2000	
Co	59	1	nogas	203.819	2038.187	1.90	1864227	0.01	2000	
Cu	63	1	nogas	203.495	2034.949	0.14	929116	0.02	2000	
Zn	66	1	nogas	215.495	2154.955	1.04	265723	0.08	2000	
Se	77	1	nogas	208.430	2084.296	1.54	19310	1.08	2000	
Se	82	1	nogas	216.518	2165.180	2.34	16982	1.28	2000	
Sr	88	1	nogas	21.321	213.207	2.50	307488	0.01	2000	
Mo	95	1	nogas	200.589	2005.894	3.51	521256	0.04	2000	
Ag	107	1	nogas	161.547	1615.469	3.26	1141980	0.01	2000	
Cd	111	1	nogas	206.417	2064.174	3.67	252174	0.08	2000	
Sn	118	1	nogas	0.082	0.821	7.52	907	0.01	2000	
Sb	121	1	nogas	218.043	2180.432	1.66	1034754	0.02	2000	
Ba	137	1	nogas	219.807	2198.066	1.23	432209	0.05	2000	
Tl	205	1	nogas	207.359	2073.593	1.83	2177457	0.01	2000	
Pb	208	1	nogas	211.593	2115.929	1.07	2941458	0.01	2000	
U	238	1	nogas	0.027	0.274	15.18	427	0.01	2000	
Li	7	1	nogas	91.022	910.221	0.58	536304	0.02	1000	
Si	28	1	nogas	16962.639	169626.387	0.89	6737716	0.25	2000	>LDR
Tl	203	1	nogas	201.541	2015.411	2.82	846436	0.02	2000	
Na	23	2	He	44923.244	449232.439	0.99	20644016	0.22	200000	
Mg	24	2	He	21045.784	210457.843	1.70	5341277	0.39	200000	
Al	27	2	He	202.518	2025.183	3.70	24346	0.83	2000	
K	39	2	He	19791.856	197918.560	2.28	4735688	0.42	200000	
Ca	43	2	He	18976.525	189765.250	0.98	14429	131.52	200000	
Ca	44	2	He	19638.969	196389.686	0.24	250995	7.82	200000	
V	51	2	He	200.518	2005.183	0.93	466477	0.04	2000	
Cr	52	2	He	200.124	2001.238	0.85	526130	0.04	2000	
Mn	55	2	He	209.830	2098.299	0.57	347018	0.06	2000	
Fe	56	2	He	19773.876	197738.755	0.68	46157534	0.04	200000	
Co	59	2	He	203.591	2035.905	0.75	807446	0.03	2000	
Ni	60	2	He	203.752	2037.520	0.32	207840	0.10	2000	
Cu	63	2	He	203.814	2038.142	0.34	547860	0.04	2000	
Zn	66	2	He	212.166	2121.665	1.30	98557	0.22	2000	

Sample Report

As	75	2	He	208.875	2088.754	0.53	69599	0.30	2000	
Sb	121	2	He	208.516	2085.165	0.98	460136	0.05	2000	
Se	78	2	He	205.288	2052.878	3.96	5163	3.98	2000	
Ti	47	2	He	191.828	1918.284	2.25	15306	1.25	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	1277171	0.55	1597939	79.93	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	1444835	2.47	1645124	87.83	70	120	
Li	6	1	nogas	377656	0.78	510056	74.04	70	120	
Bi	209	1	nogas	1092308	1.57	1249408	87.43	70	120	
Ge	72	2	He	312966	0.79	421931	74.17	70	120	
In	115	2	He	497378	0.72	666366	74.64	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	099_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T16:59:09-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	94.282	3.305	171225	2.68	100	94.3	90	110	
B	11	1	nogas	480.971	4.221	495851	3.72	500	96.2	90	110	
Al	27	1	nogas	100.128	1.966	664794	1.54	100	100.1	90	110	
P	31	1	nogas	512.672	1.505	208317	1.92	500	102.5	90	110	
Ca	44	1	nogas	10482.878	1.678	2485769	2.29	10000	104.8	90	110	
Ti	47	1	nogas	101.187	0.376	74157	0.96	100	101.2	90	110	
Cr	52	1	nogas	99.439	0.630	860996	0.29	100	99.4	90	110	
Co	59	1	nogas	99.324	1.286	901464	0.64	100	99.3	90	110	
Cu	63	1	nogas	104.760	2.144	477713	1.52	100	104.8	90	110	
Zn	66	1	nogas	105.910	1.028	129755	0.60	100	105.9	90	110	
Se	77	1	nogas	105.114	6.080	13455	2.71	100	105.1	90	110	
Se	82	1	nogas	103.932	4.984	8072	5.67	100	103.9	90	110	
Sr	88	1	nogas	98.157	3.627	1436844	2.26	100	98.2	90	110	
Mo	95	1	nogas	97.309	2.184	257461	1.26	100	97.3	90	110	
Ag	107	1	nogas	101.636	1.719	731457	0.76	100	101.6	90	110	
Cd	111	1	nogas	100.548	1.473	125062	0.31	100	100.5	90	110	
Sn	118	1	nogas	100.727	1.600	413550	0.15	100	100.7	90	110	
Sb	121	1	nogas	113.974	0.802	536900	1.45	100	114.0	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	101.373	2.040	203056	1.05	100	101.4	90	110	
Tl	205	1	nogas	96.981	1.718	1041152	1.15	100	97.0	90	110	
Pb	208	1	nogas	99.741	0.463	1417915	1.04	100	99.7	90	110	
U	238	1	nogas	103.226	0.562	1619444	1.44	100	103.2	90	110	
Li	7	1	nogas	97.736	1.757	597188	1.00	100	97.7	90	110	
Si	28	1	nogas	4837.219	2.220	2315959	1.25	5000	96.7	90	110	
Tl	203	1	nogas	101.089	1.939	434110	1.77	100	101.1	90	110	
Na	23	2	He	10313.092	0.548	4754510	0.96	10000	103.1	90	110	
Mg	24	2	He	10198.018	1.741	2586222	1.25	10000	102.0	90	110	
Al	27	2	He	96.858	0.236	11727	0.76	100	96.9	90	110	
K	39	2	He	9913.233	1.199	2384417	0.67	10000	99.1	90	110	
Ca	43	2	He	9539.222	3.804	7258	4.21	10000	95.4	90	110	
Ca	44	2	He	9448.342	2.601	120764	2.82	10000	94.5	90	110	
V	51	2	He	98.256	0.496	229371	0.22	100	98.3	90	110	
Cr	52	2	He	99.704	1.384	262183	1.14	100	99.7	90	110	
Mn	55	2	He	99.582	1.753	164630	1.22	100	99.6	90	110	
Fe	56	2	He	10076.297	0.966	23504592	0.56	10000	100.8	90	110	
Co	59	2	He	100.757	0.767	399351	0.65	100	100.8	90	110	
Ni	60	2	He	100.832	2.523	102808	2.93	100	100.8	90	110	
Cu	63	2	He	101.526	0.894	273186	0.89	100	101.5	90	110	
Zn	66	2	He	100.903	2.006	46900	2.40	100	100.9	90	110	
As	75	2	He	100.093	0.275	33346	0.66	100	100.1	90	110	
Sb	121	2	He	110.444	0.404	243654	0.92	100	110.4	90	110	CCV Main CR1-2 Failed
Se	78	2	He	99.616	1.727	2525	1.16	100	99.6	90	110	
Ti	47	2	He	97.991	2.591	7815	3.13	100	98.0	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	1267269	0.65	1597939	79.31	70	120	
In	115	1	nogas	1470357	1.58	1645124	89.38	70	120	
Li	6	1	nogas	393207	0.67	510056	77.09	70	120	
Bi	209	1	nogas	1116534	0.89	1249408	89.37	70	120	
Ge	72	2	He	312735	0.54	421931	74.12	70	120	
In	115	2	He	507169	1.00	666366	76.11	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	100_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-10T17:01:29-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.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	0.029	37.6	138	14.6	1	
B	11	1	nogas	15.210	8.0	26807	4.3	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.003	-1911.7	7925	4.1	5	
P	31	1	nogas	7.214	11.1	26335	0.5	10	
Ca	44	1	nogas	-91.419	-1.3	12541	1.3	100	
Ti	47	1	nogas	0.137	32.9	183	19.2	2.5	
Cr	52	1	nogas	-0.761	-5.4	11957	3.8	2.5	
Co	59	1	nogas	0.013	33.7	413	10.1	2.5	
Cu	63	1	nogas	1.628	5.1	14076	3.4	2	
Zn	66	1	nogas	0.076	135.3	440	29.8	2.5	
Se	77	1	nogas	-31.918	-12.9	6001	3.7	2.5	
Se	82	1	nogas	-0.979	-78.0	-113	-54.1	2	
Sr	88	1	nogas	0.074	12.9	2160	6.4	2.5	
Mo	95	1	nogas	0.327	31.1	963	29.8	2.5	
Ag	107	1	nogas	0.020	41.0	223	29.8	2.5	
Cd	111	1	nogas	-0.001	-539.0	23	24.7	1	
Sn	118	1	nogas	0.261	9.6	1687	8.1	5	
Sb	121	1	nogas	1.152	9.9	5968	8.3	2.5	
Ba	137	1	nogas	0.058	21.7	497	3.1	2.5	
Tl	205	1	nogas	0.137	40.2	1693	36.1	1	
Pb	208	1	nogas	0.008	172.9	1173	17.5	2.5	
U	238	1	nogas	0.032	41.0	530	40.9	2.5	
Si	28	1	nogas	-244.244	-1.2	494263	0.9	5	
Na	23	2	He	57.562	2.0	51210	0.6	100	
Mg	24	2	He	2.672	13.3	853	11.5	100	
Al	27	2	He	0.007	3705.2	177	17.3	5	
K	39	2	He	12.638	27.6	31797	3.3	100	
Ca	43	2	He	-0.092	-13859.6	20	50.0	100	
Ca	44	2	He	-0.149	-2869.4	183	31.0	100	
V	51	2	He	-0.276	-11.1	1260	6.3	2.5	
Cr	52	2	He	-0.038	-72.2	403	17.6	2.5	
Mn	55	2	He	0.001	741.6	133	11.5	2.5	
Fe	56	2	He	2.143	14.4	8495	7.8	100	
Co	59	2	He	0.009	59.9	107	19.5	2.5	
Ni	60	2	He	-0.001	-3471.2	47	86.6	2.5	
Cu	63	2	He	0.009	1155.2	1000	27.8	2	
Zn	66	2	He	0.058	68.7	150	13.3	2.5	
As	75	2	He	0.034	194.5	50	43.7	2.5	
Sb	121	2	He	1.091	10.6	2674	9.2	2.5	
Se	78	2	He	-0.435	-30.2	31	10.0	2	
Ti	47	2	He	0.051	281.0	7	173.2	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	1291714	0.93	1597939	80.84	70	120	
In	115	1	nogas	1494379	2.13	1645124	90.84	70	120	
Li	6	1	nogas	416823	0.78	510056	81.72	70	120	
Bi	209	1	nogas	1150445	0.88	1249408	92.08	70	120	
Ge	72	2	He	318238	0.87	421931	75.42	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	2	He	516529	0.79	666366	77.51	70	120	

Tune Report

Batch Folder C:\Agilent\ICPMH\1\DATA\061020A.b
Report Comment
Instrument Name G3281A JP11080910

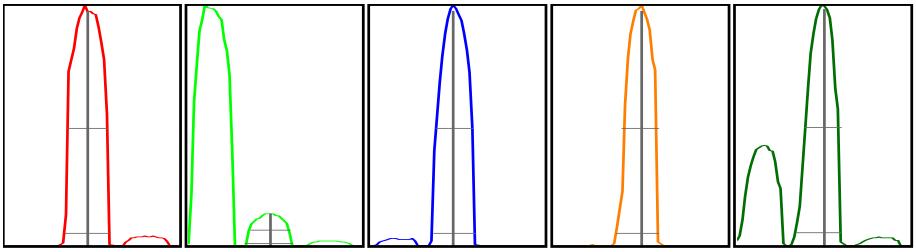
[nogas]

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		11134				NaN	-	
24		35266				NaN	-	
59		49094				NaN	-	
115		68649				NaN	-	
208		36443				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	1.08	5.00				
24	0.82	5.00				
59	0.50	5.00				
115	0.45	5.00				
208	0.89	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	11083	11110	11250	11257	10973
24	35122	35746	35231	34988	35243
59	49083	48882	48890	49134	49482
115	68377	68553	68697	68463	69155
208	36530	35991	36382	36898	36412

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	1746.53	8.95	8.9 - 9.1		0.67	0.778		
24	5645.38	23.95	23.9 - 24.1		0.67	0.788		
59	8335.73	58.95	58.9 - 59.1		0.63	0.741		
115	12415.13	115.05	114.9 - 115.1		0.58	0.719		
208	6468.70	208.05	207.9 - 208.1		0.60	0.783		

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		273				NaN	-	
24		2284				NaN	-	
59		28056				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	4.34	5.00				
24	1.53	5.00				
59	0.16	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	275	291	275	267	259
24	2308	2225	2311	2290	2287
59	28032	28005	28116	28092	28035

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	45.40	8.95	8.9 - 9.1		0.67	0.765		
24	372.00	24.00	23.9 - 24.1		0.67	0.788		
59	4750.41	59.00	58.9 - 59.1		0.63	0.740		

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

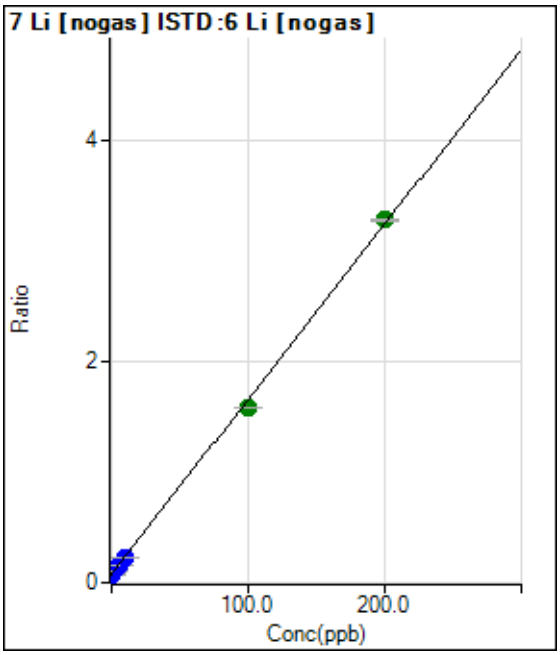
OctP Bias	-18.0 V	He Flow	4.3 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

Calibration for 179_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\061520A.b\
Analysis File: 061520A.batch.bin
DA Date-Time: 6/15/2020 10:26:07 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	169CALB.d	CAL BLK	6/15/2020 8:06:40 PM
2	170CALS.d	2/10/200	6/15/2020 8:09:08 PM
3	171CALS.d	5/25/500	6/15/2020 8:11:37 PM
4	172CALS.d	10/50/1000	6/15/2020 8:14:05 PM
5	173CALS.d	100/500/10K	6/15/2020 8:16:33 PM
6	174CALS.d	200/1000/20K	6/15/2020 8:18:58 PM
7			

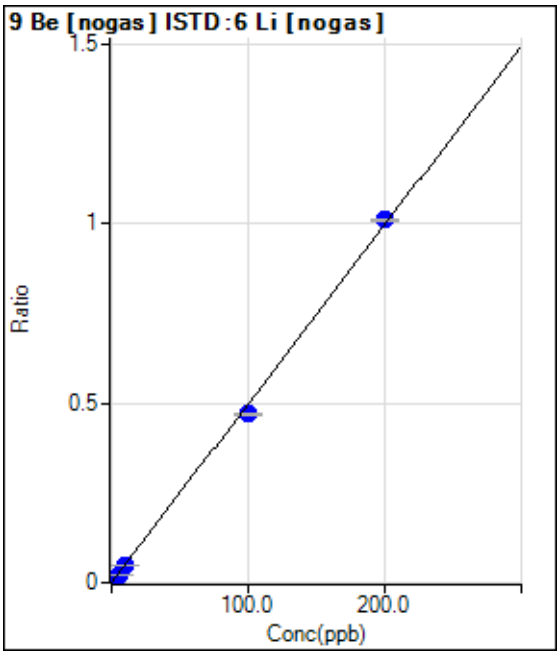
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63828.05	0.0779	P	2.0
2	☐	2.000	1.821	88182.56	0.1068	P	1.4
3	☐	5.000	4.573	124190.98	0.1504	P	0.2
4	☐	10.000	9.357	187226.25	0.2262	P	0.3
5	☐	100.000	94.932	1250159.90	1.5817	A	0.4
6	☐	200.000	202.578	2409076.21	3.2868	A	0.6
7	☐	1.000					

y = 0.0158 * x + 0.0779
R = 0.9996
DL = 0.2916
BEC = 4.921

Weight: <None>
Min Conc: <None>

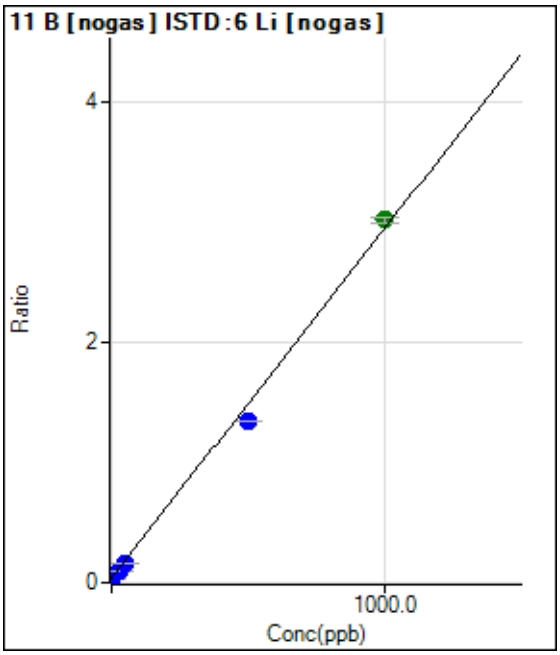


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96.67	0.0001	P	9.0
2	☐	2.000	1.726	7201.40	0.0087	P	1.5
3	☐	5.000	4.457	18443.89	0.0223	P	2.4
4	☐	10.000	9.270	38346.36	0.0463	P	0.8
5	☐	100.000	94.267	371450.18	0.4700	P	1.2
6	☐	200.000	202.919	741418.45	1.0116	P	0.2
7	☐	1.000					

y = 0.0050 * x + 1.1812E-004
R = 0.9994
DL = 0.006416
BEC = 0.0237

Weight: <None>
Min Conc: <None>

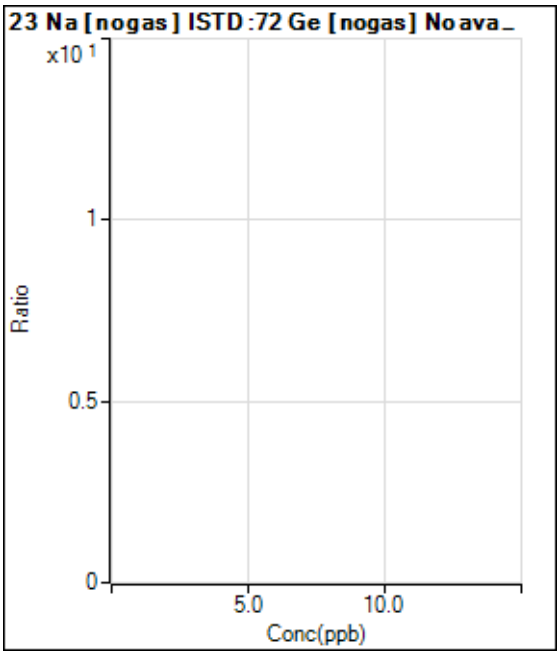
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	32195.21	0.0393	P	2.9
2	☐	10.000	7.301	49982.77	0.0605	P	2.9
3	☐	25.000	19.446	79144.53	0.0958	P	0.7
4	☐	50.000	43.028	136065.13	0.1644	P	1.3
5	☐	500.000	450.233	1065218.79	1.3477	P	0.7
6	☐	1000.000	1025.398	2213007.83	3.0191	A	1.8
7	☐	5.000					

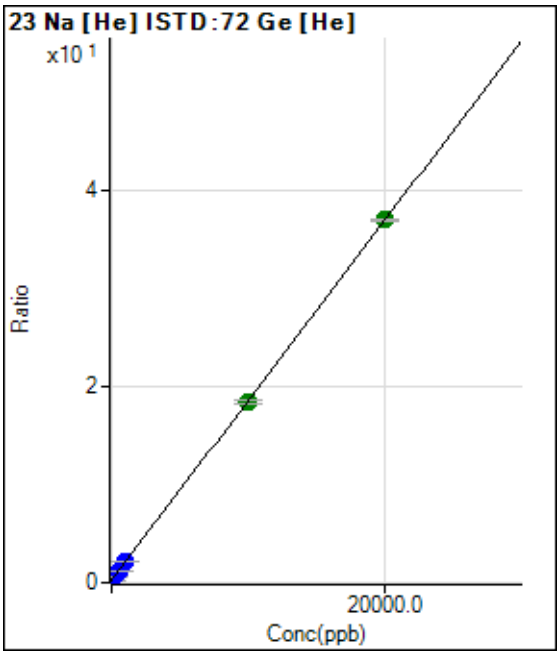
y = 0.0029 * x + 0.0393
R = 0.9984
DL = 1.162
BEC = 13.53

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

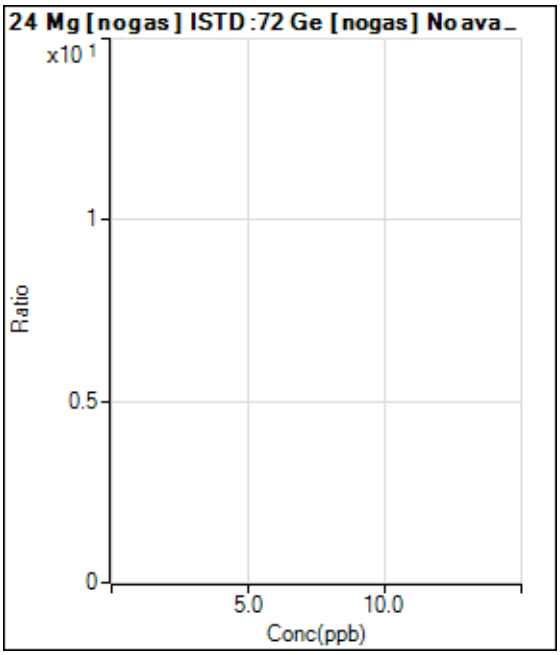
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	128222.59	0.2482	P	1.7
2	☐	200.000	187.199	308106.35	0.5907	P	0.6
3	☐	500.000	469.590	581933.23	1.1074	P	1.1
4	☐	1000.000	1001.165	1083524.88	2.0800	P	1.0
5	☐	10000.000	9909.297	9346976.94	18.3794	A	2.1
6	☐	20000.000	20046.181	18485716.39	36.9270	A	0.4
7	☐	100.000					

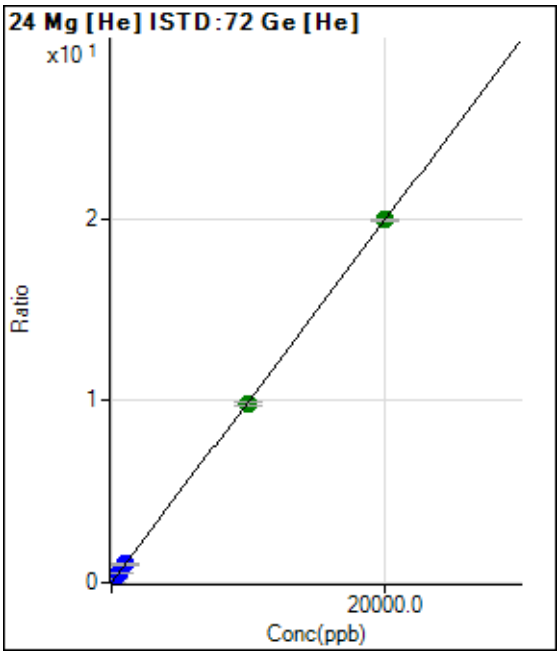
y = 0.0018 * x + 0.2482
R = 1.0000
DL = 6.721
BEC = 135.7

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

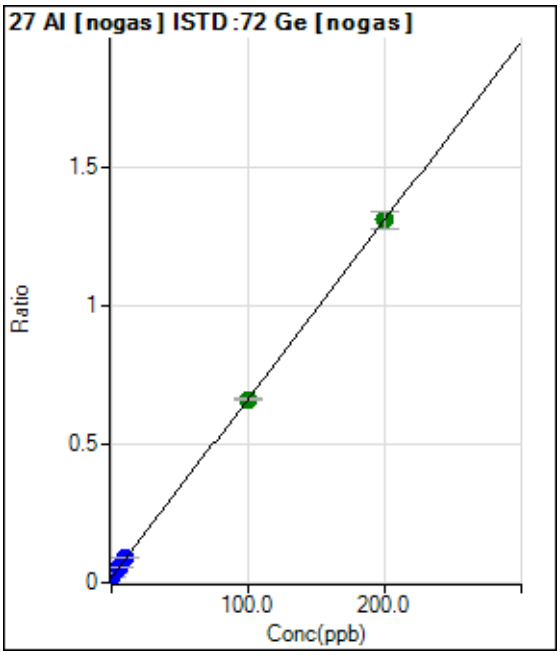
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2233.50	0.0043	P	11.0
2	☐	200.000	191.180	101347.64	0.1943	P	0.9
3	☐	500.000	479.436	252645.83	0.4808	P	1.1
4	☐	1000.000	1009.269	524738.32	1.0073	P	0.9
5	☐	10000.000	9914.761	5013162.01	9.8576	A	1.9
6	☐	20000.000	20042.758	9973269.02	19.9227	A	0.4
7	☐	100.000					

y = 9.9380E-004 * x + 0.0043
R = 1.0000
DL = 1.43
BEC = 4.352

Weight: <None>
Min Conc: <None>

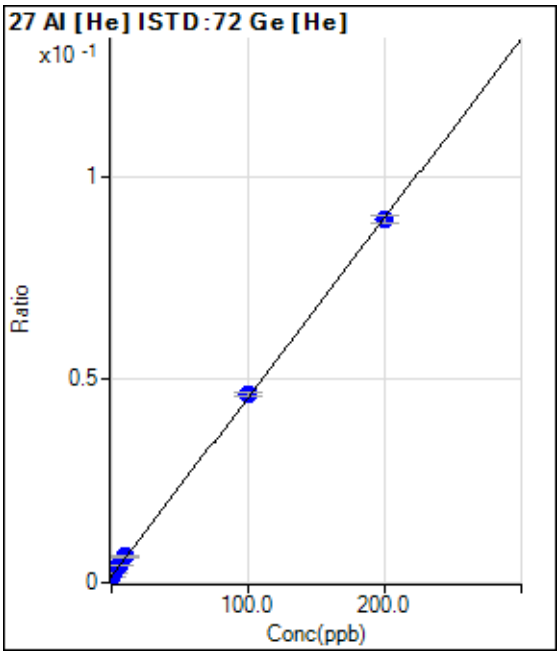


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43386.44	0.0198	P	2.4
2	☐	2.000	2.460	77082.41	0.0357	P	1.8
3	☐	5.000	5.319	118147.72	0.0541	P	0.8
4	☐	10.000	10.584	194392.94	0.0880	P	2.6
5	☐	100.000	99.674	1421773.83	0.6621	A	1.4
6	☐	200.000	200.121	2761071.73	1.3094	A	4.5
7	☐	1.000					

y = 0.0064 * x + 0.0198
R = 1.0000
DL = 0.2169
BEC = 3.072

Weight: <None>
Min Conc: <None>

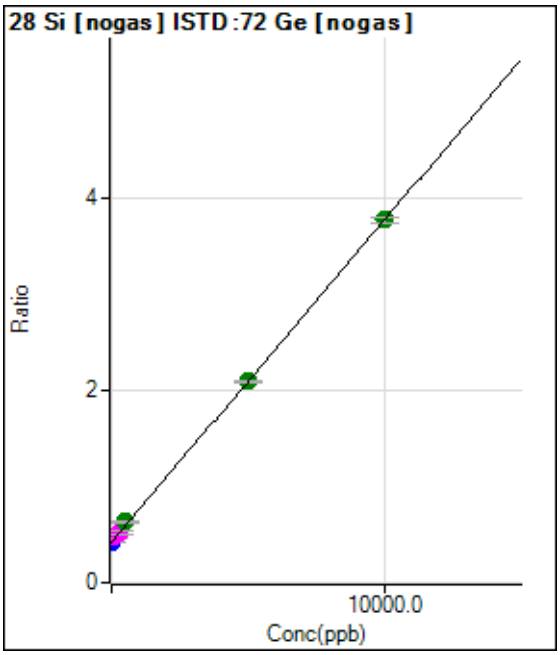
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	800.03	0.0015	P	7.1
2	☐	2.000	2.056	1280.07	0.0025	P	3.4
3	☐	5.000	5.809	2160.16	0.0041	P	2.3
4	☐	10.000	11.364	3417.03	0.0066	P	7.3
5	☐	100.000	101.908	23654.97	0.0465	P	1.7
6	☐	200.000	198.957	44719.46	0.0893	P	2.2
7	☐	1.000					

y = 4.4122E-004 * x + 0.0015
R = 0.9999
DL = 0.7486
BEC = 3.507

Weight: <None>
Min Conc: <None>

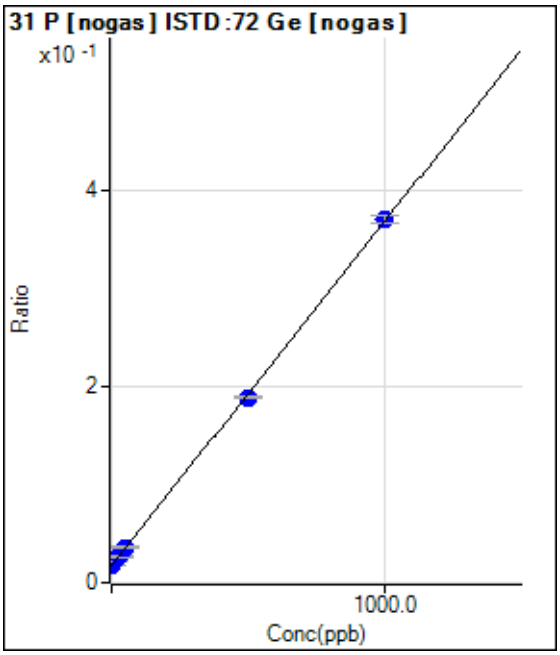


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	925756.73	0.4224	P	2.4
2	☐	100.000	159.359	1029345.69	0.4759	M	4.8
3	☐	250.000	271.082	1121777.22	0.5134	M	7.2
4	☐	500.000	637.977	1406243.47	0.6366	A	3.0
5	☐	5000.000	4982.397	4499783.79	2.0956	A	0.9
6	☐	10000.000	10000.782	7975601.97	3.7808	A	1.9
7	☐	50.000					

y = 3.3582E-004 * x + 0.4224
R = 0.9999
DL = 90.51
BEC = 1258

Weight: <None>
Min Conc: <None>

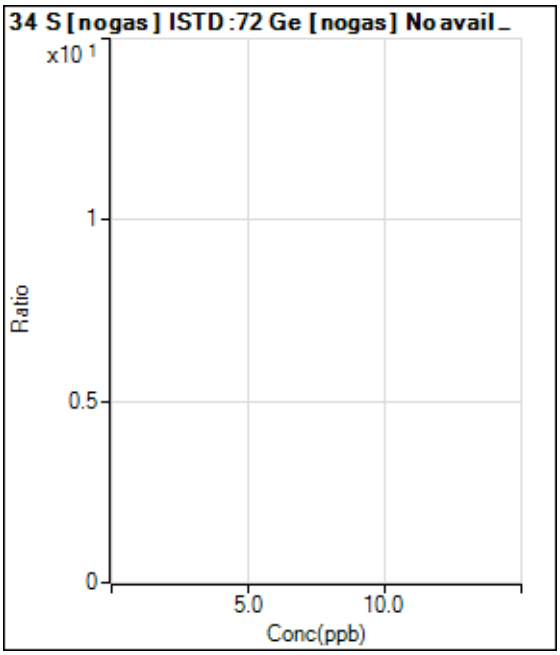
Calibration for 179_ICV.d



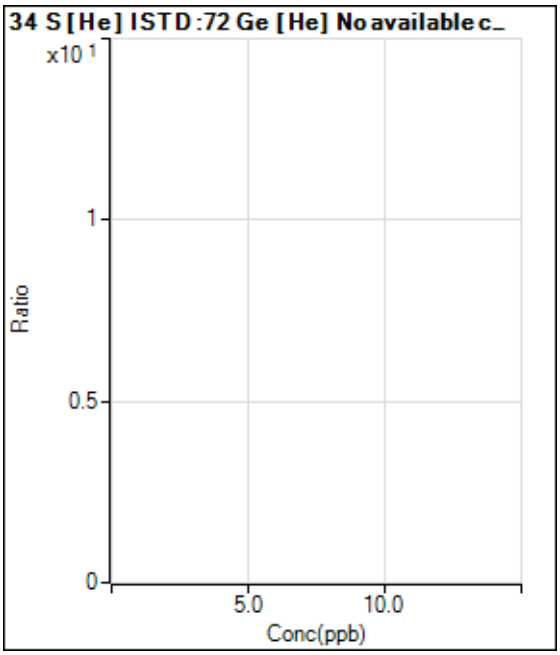
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38152.04	0.0174	P	0.9
2	☐	10.000	11.005	45966.06	0.0213	P	4.1
3	☐	25.000	25.938	57921.95	0.0265	P	1.5
4	☐	50.000	52.361	79040.89	0.0358	P	3.1
5	☐	500.000	489.756	406531.86	0.1893	P	0.6
6	☐	1000.000	1004.970	780851.16	0.3702	P	2.2
7	☐	5.000					

y = 3.5103E-004 * x + 0.0174
R = 0.9999
DL = 1.383
BEC = 49.58

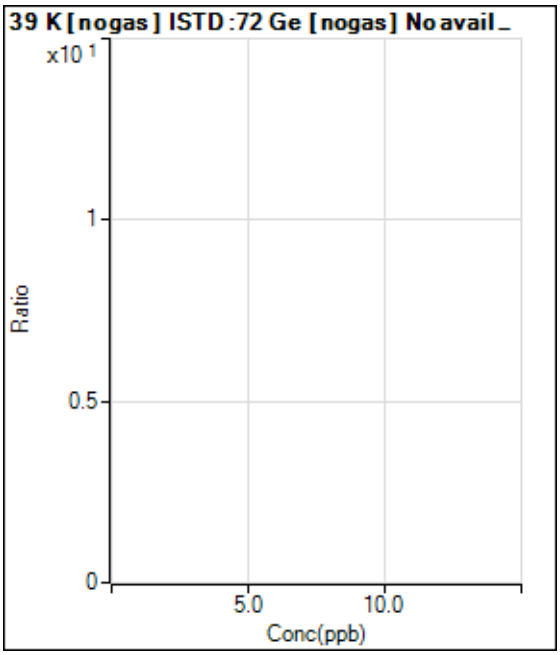
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.000					
6	☐	40000.000					
7	☐	200.000					

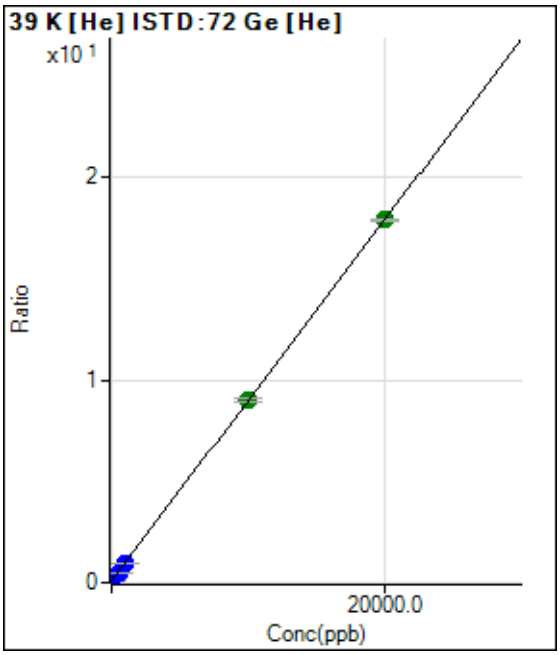


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.000					
6	☐	40000.000					
7	☐	200.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	51146.56	0.0990	P	3.3
2	☐	200.000	186.043	138032.04	0.2646	P	1.0
3	☐	500.000	470.983	272368.90	0.5183	P	0.8
4	☐	1000.000	992.206	511701.44	0.9823	P	0.9
5	☐	10000.000	10010.373	4582438.99	9.0105	A	1.6
6	☐	20000.000	19996.068	8960808.82	17.9000	A	0.2
7	☐	100.000					

y = 8.9022E-004 * x + 0.0990

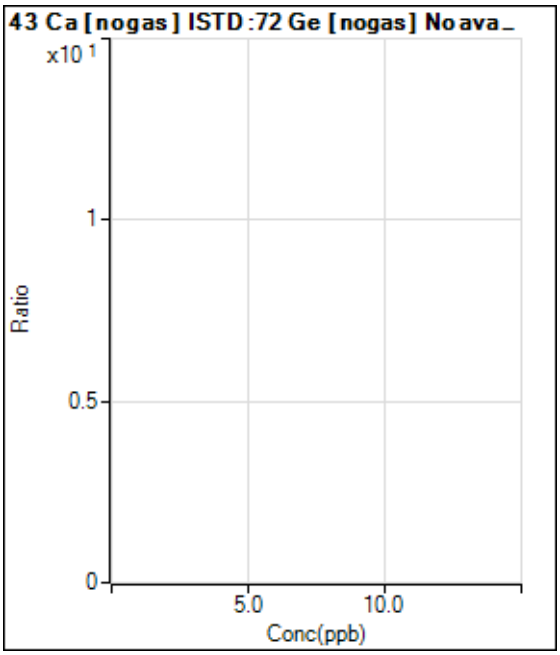
R = 1.0000

DL = 11.13

BEC = 111.2

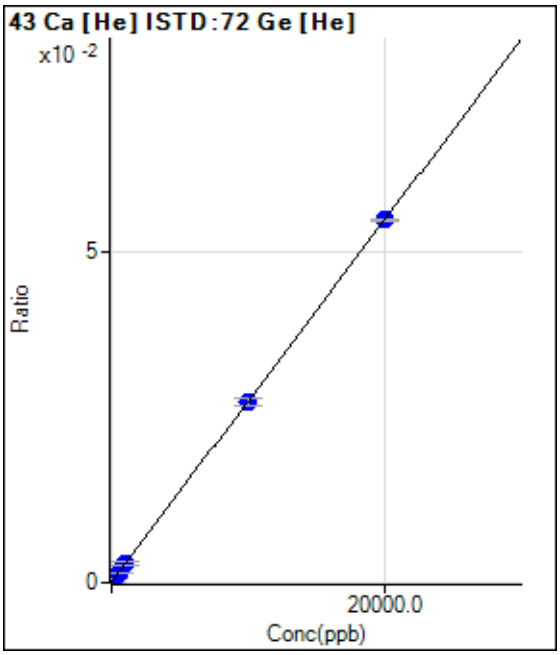
Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

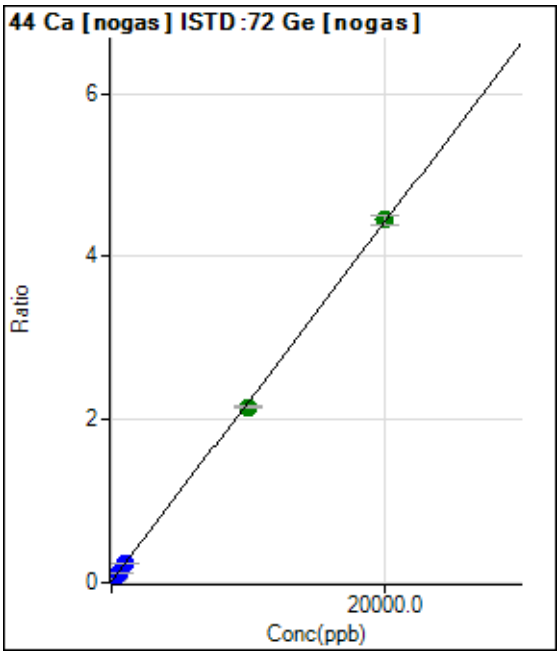
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0001	P	45.8
2	☐	200.000	160.724	276.68	0.0005	P	5.9
3	☐	500.000	467.534	720.02	0.0014	P	3.9
4	☐	1000.000	1012.752	1493.42	0.0029	P	24.3
5	☐	10000.000	9967.323	13918.68	0.0274	P	3.5
6	☐	20000.000	20016.905	27470.36	0.0549	P	0.8
7	☐	100.000					

y = 2.7368E-006 * x + 9.0675E-005
R = 1.0000
DL = 45.5
BEC = 33.13

Weight: <None>
Min Conc: <None>

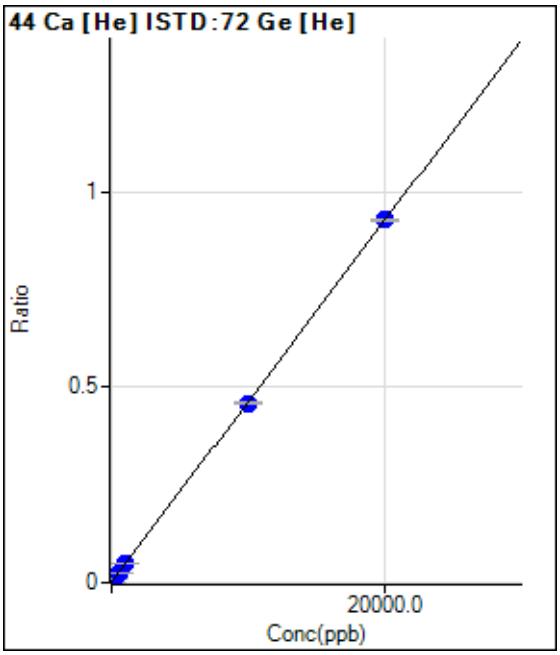


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30511.99	0.0139	P	3.2
2	☐	200.000	178.491	115033.96	0.0532	P	3.4
3	☐	500.000	468.881	255955.38	0.1172	P	1.3
4	☐	1000.000	980.270	507383.01	0.2297	P	3.6
5	☐	10000.000	9720.260	4625278.47	2.1539	A	1.1
6	☐	20000.000	20141.850	9383142.15	4.4483	A	2.5
7	☐	100.000					

y = 2.2016E-004 * x + 0.0139
R = 0.9999
DL = 6.106
BEC = 63.25

Weight: <None>
Min Conc: <None>

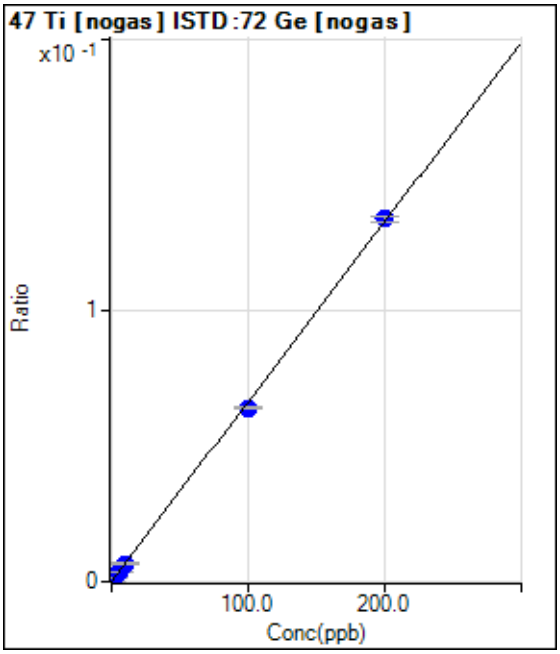
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	746.70	0.0014	P	4.7
2	☐	200.000	181.779	5137.44	0.0099	P	5.5
3	☐	500.000	459.072	11917.28	0.0227	P	1.4
4	☐	1000.000	1009.530	25077.05	0.0481	P	1.4
5	☐	10000.000	9892.773	233447.15	0.4590	P	1.3
6	☐	20000.000	20054.343	465039.64	0.9290	P	0.6
7	☐	100.000					

y = 4.6250E-005 * x + 0.0014
R = 1.0000
DL = 4.42
BEC = 31.23

Weight: <None>
Min Conc: <None>

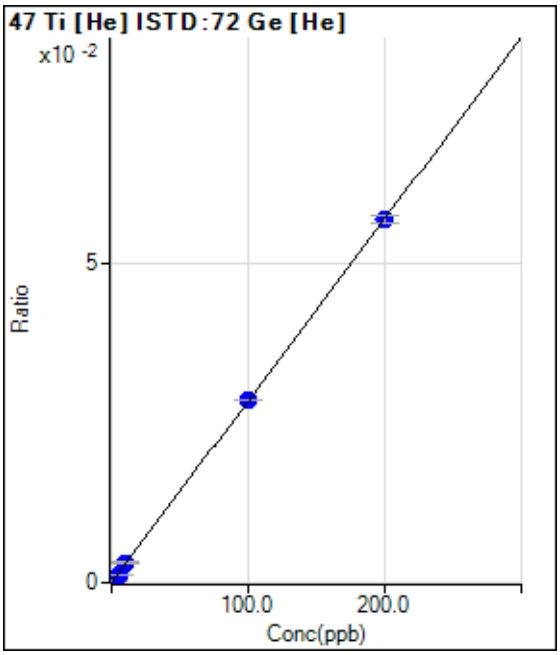


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	263.34	0.0001	P	24.9
2	☐	2.000	1.904	2986.96	0.0014	P	8.4
3	☐	5.000	4.774	7168.15	0.0033	P	3.2
4	☐	10.000	9.888	14722.63	0.0067	P	4.4
5	☐	100.000	96.519	137479.40	0.0640	P	1.3
6	☐	200.000	201.753	282029.93	0.1337	P	1.6
7	☐	1.000					

y = 6.6205E-004 * x + 1.2057E-004
R = 0.9998
DL = 0.1359
BEC = 0.1821

Weight: <None>
Min Conc: <None>

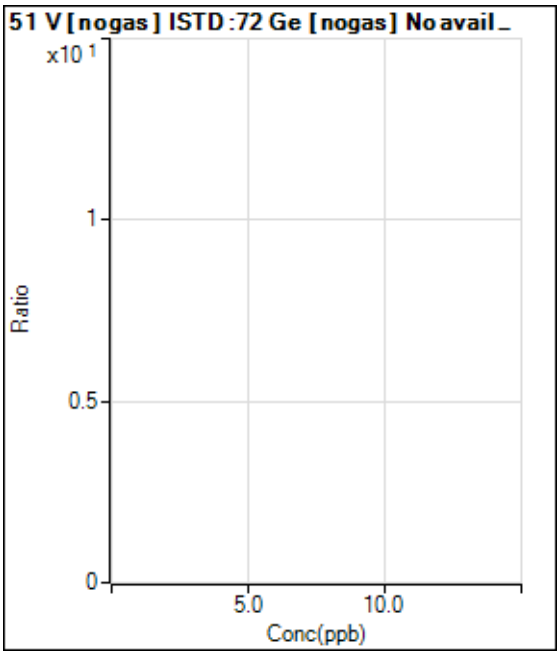
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	100.8
2	☐	2.000	1.643	253.34	0.0005	P	20.0
3	☐	5.000	4.264	646.69	0.0012	P	7.5
4	☐	10.000	10.633	1583.43	0.0030	P	7.9
5	☐	100.000	100.849	14579.22	0.0287	P	0.2
6	☐	200.000	199.566	28388.48	0.0567	P	2.1
7	☐	1.000					

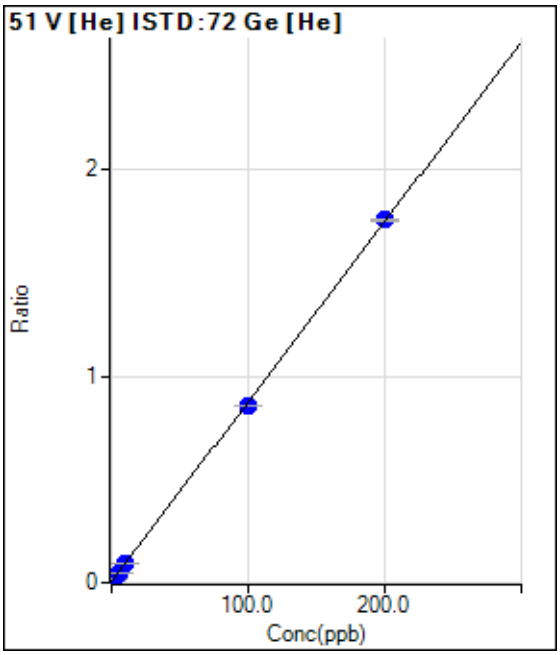
y = 2.8405E-004 * x + 1.9326E-005
R = 1.0000
DL = 0.2058
BEC = 0.06804

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					

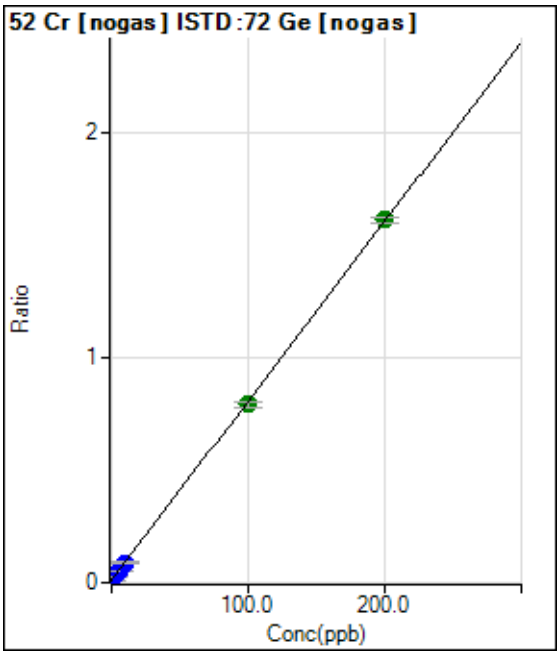
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2641.32	0.0051	P	8.4
2	☐	2.000	1.885	11220.09	0.0215	P	2.5
3	☐	5.000	4.737	24352.58	0.0463	P	1.5
4	☐	10.000	10.076	48354.63	0.0928	P	1.1
5	☐	100.000	97.747	435375.21	0.8560	P	0.1
6	☐	200.000	201.131	879060.62	1.7560	P	0.7
7	☐	1.000					

y = 0.0087 * x + 0.0051
R = 0.9999
DL = 0.1482
BEC = 0.5868

Weight: <None>
Min Conc: <None>

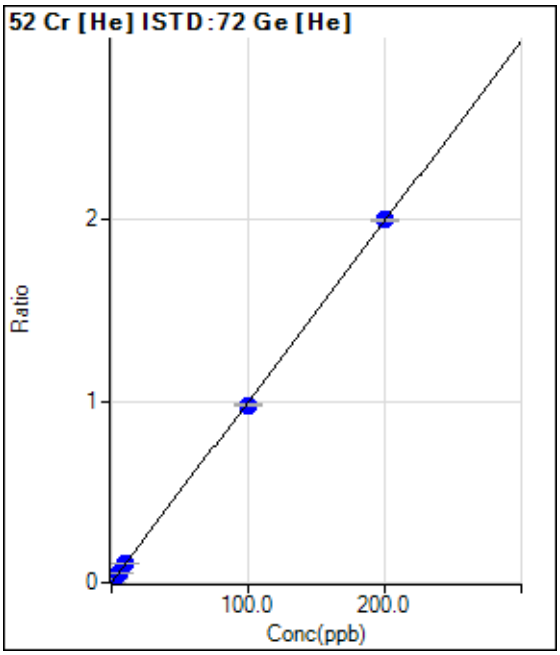


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24573.15	0.0112	P	5.7
2	☐	2.000	1.870	56489.04	0.0261	P	2.8
3	☐	5.000	4.728	106908.88	0.0489	P	1.9
4	☐	10.000	9.742	196427.01	0.0889	P	3.3
5	☐	100.000	98.066	1703801.17	0.7934	A	2.8
6	☐	200.000	200.988	3405598.18	1.6143	A	1.4
7	☐	1.000					

y = 0.0080 * x + 0.0112
R = 0.9999
DL = 0.2409
BEC = 1.407

Weight: <None>
Min Conc: <None>

Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	840.03	0.0016	P	10.4
2	☐	2.000	1.841	10389.69	0.0199	P	2.2
3	☐	5.000	4.893	26402.32	0.0502	P	2.9
4	☐	10.000	10.146	53350.04	0.1024	P	2.0
5	☐	100.000	98.192	496970.76	0.9772	P	0.9
6	☐	200.000	200.901	999983.37	1.9976	P	0.7
7	☐	1.000					

y = 0.0099 * x + 0.0016

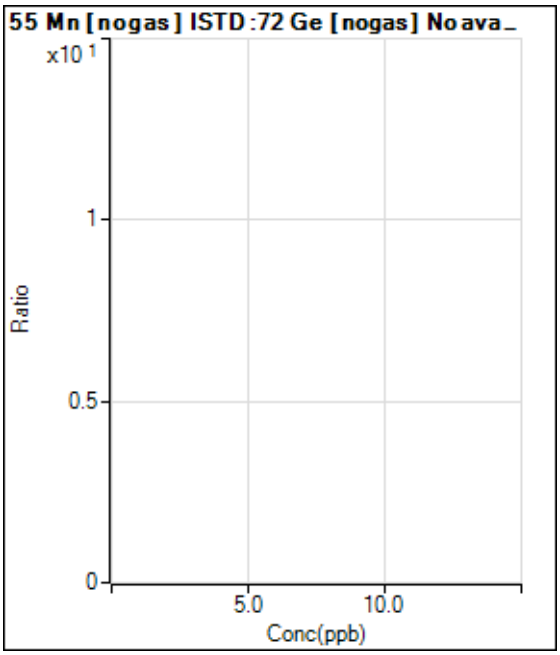
R = 0.9999

DL = 0.05112

BEC = 0.1635

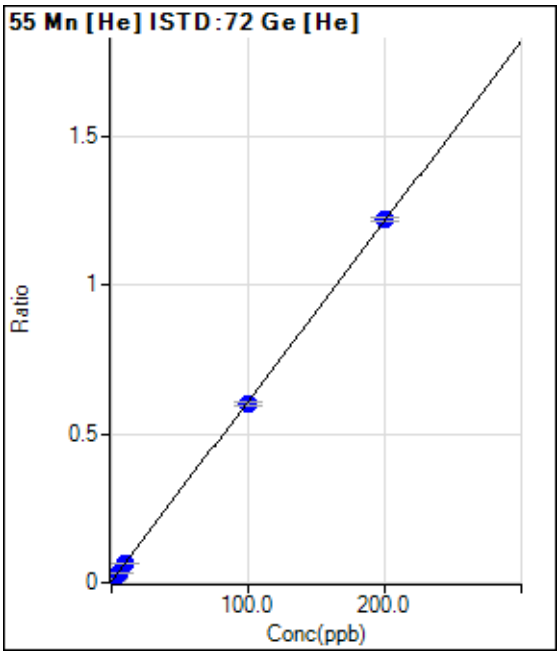
Weight: <None>

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					

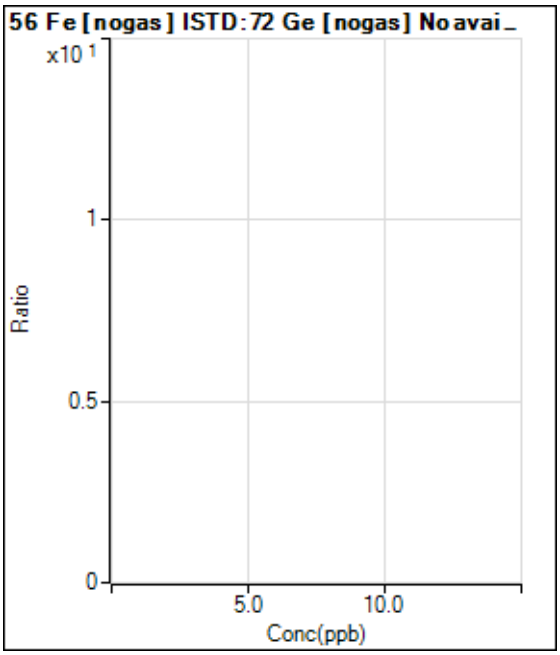
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2086.82	0.0040	P	1.7
2	☐	2.000	1.765	7675.01	0.0147	P	2.2
3	☐	5.000	4.592	16721.12	0.0318	P	1.8
4	☐	10.000	9.976	33540.71	0.0644	P	2.9
5	☐	100.000	98.601	305443.66	0.6006	P	1.2
6	☐	200.000	200.713	609905.30	1.2184	P	1.0
7	☐	1.000					

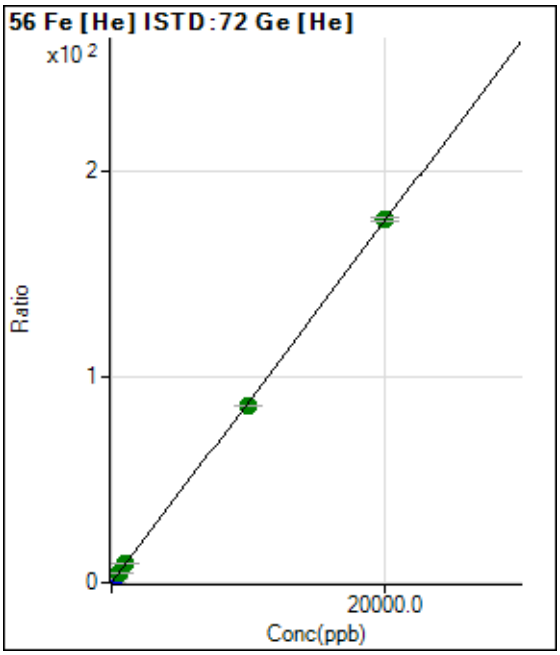
y = 0.0061 * x + 0.0040
R = 1.0000
DL = 0.03442
BEC = 0.6677

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

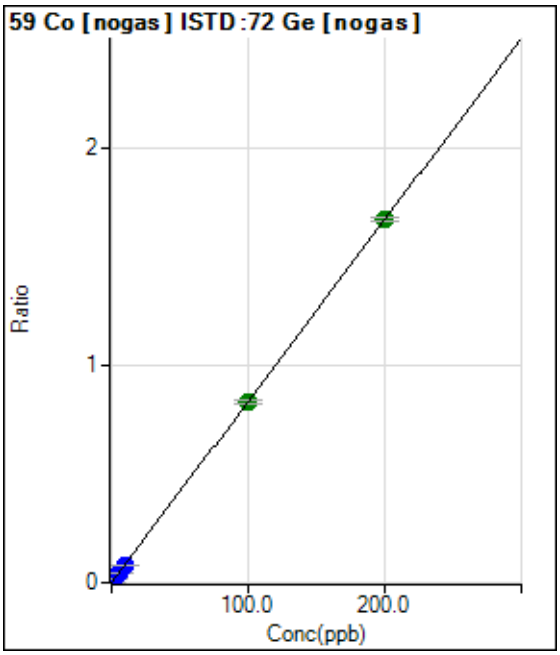
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9862.95	0.0191	P	4.2
2	☐	200.000	185.359	859569.75	1.6481	P	1.7
3	☐	500.000	494.077	2291703.40	4.3612	A	1.6
4	☐	1000.000	1032.681	4737532.22	9.0946	A	0.9
5	☐	10000.000	9807.683	43846689.35	86.2121	A	0.4
6	☐	20000.000	20094.819	88414435.35	176.6187	A	1.1
7	☐	100.000					

y = 0.0088 * x + 0.0191
R = 0.9999
DL = 0.2741
BEC = 2.173

Weight: <None>
Min Conc: <None>

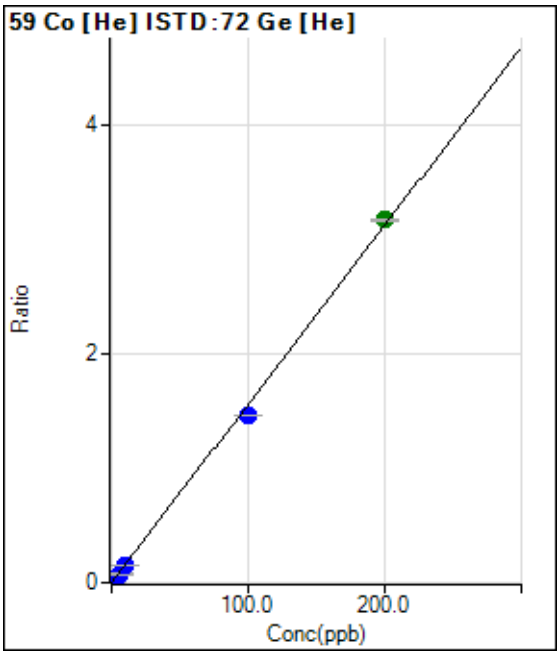


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	520.01	0.0002	P	27.7
2	☐	2.000	1.912	34969.90	0.0162	P	3.8
3	☐	5.000	4.794	87861.51	0.0402	P	0.5
4	☐	10.000	9.674	178735.95	0.0809	P	2.6
5	☐	100.000	99.950	1790413.52	0.8337	A	2.6
6	☐	200.000	200.047	3520093.80	1.6684	A	1.1
7	☐	1.000					

y = 0.0083 * x + 2.3762E-004
R = 1.0000
DL = 0.02368
BEC = 0.0285

Weight: <None>
Min Conc: <None>

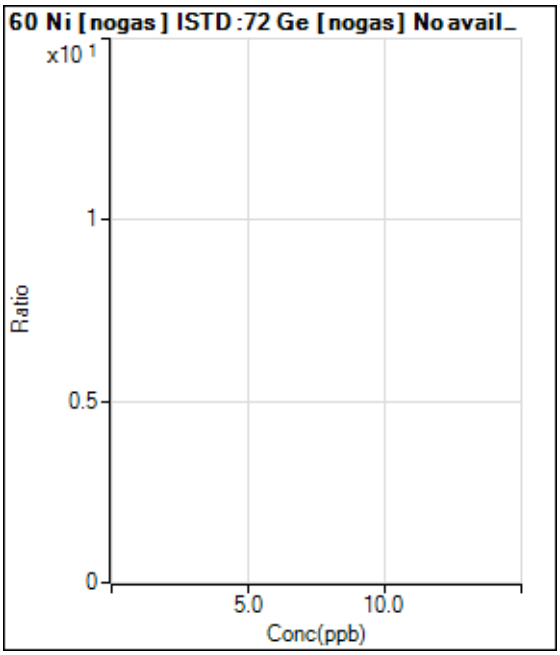
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	143.33	0.0003	P	23.2
2	☐	2.000	1.843	15126.38	0.0290	P	1.5
3	☐	5.000	4.818	39609.24	0.0754	P	2.1
4	☐	10.000	9.745	79256.02	0.1522	P	1.2
5	☐	100.000	93.537	741546.97	1.4580	P	0.6
6	☐	200.000	203.250	1585844.98	3.1679	A	0.7
7	☐	1.000					

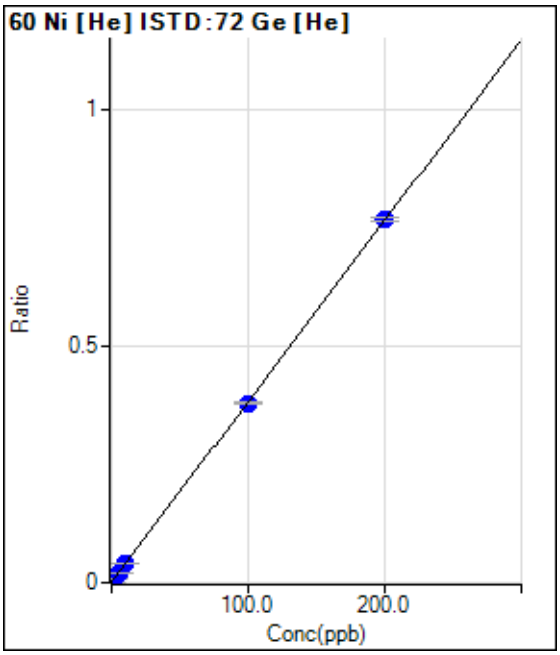
y = 0.0156 * x + 2.7779E-004
R = 0.9993
DL = 0.01242
BEC = 0.01782

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					

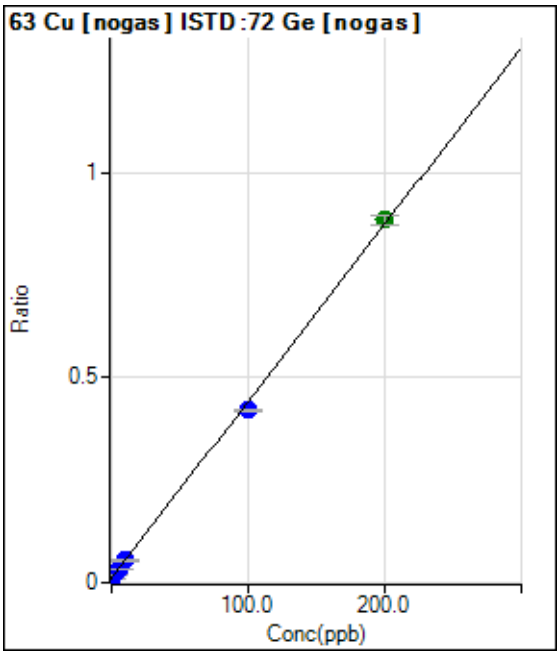
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	573.35	0.0011	P	6.2
2	☐	2.000	1.933	4427.27	0.0085	P	8.6
3	☐	5.000	4.762	10142.90	0.0193	P	1.4
4	☐	10.000	10.387	21249.12	0.0408	P	2.1
5	☐	100.000	99.058	192990.01	0.3795	P	0.6
6	☐	200.000	200.458	383840.43	0.7668	P	0.9
7	☐	1.000					

y = 0.0038 * x + 0.0011
R = 1.0000
DL = 0.05448
BEC = 0.2906

Weight: <None>
Min Conc: <None>

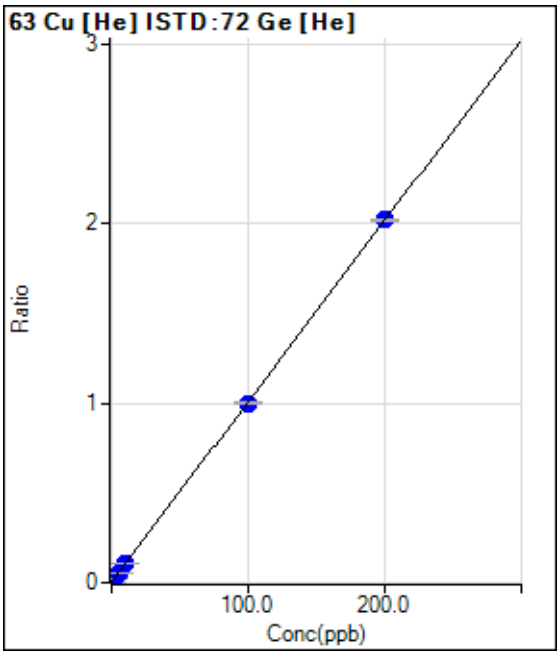


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24610.09	0.0112	P	1.2
2	☐	2.000	2.010	42970.28	0.0199	P	3.9
3	☐	5.000	4.867	70323.47	0.0322	P	1.2
4	☐	10.000	9.948	119413.83	0.0541	P	3.5
5	☐	100.000	94.756	900376.52	0.4193	P	0.3
6	☐	200.000	202.628	1865695.13	0.8839	A	2.8
7	☐	1.000					

y = 0.0043 * x + 0.0112
R = 0.9995
DL = 0.09042
BEC = 2.606

Weight: <None>
Min Conc: <None>

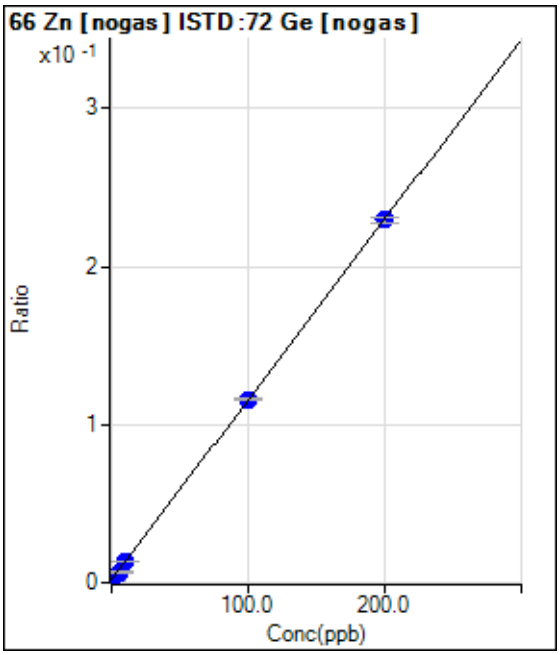
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2150.15	0.0042	P	2.3
2	☐	2.000	1.983	12571.11	0.0241	P	4.5
3	☐	5.000	4.926	28221.93	0.0537	P	3.0
4	☐	10.000	10.525	57305.75	0.1100	P	1.1
5	☐	100.000	98.803	507450.96	0.9978	P	1.2
6	☐	200.000	200.574	1011845.14	2.0212	P	0.7
7	☐	1.000					

y = 0.0101 * x + 0.0042
R = 1.0000
DL = 0.02797
BEC = 0.4137

Weight: <None>
Min Conc: <None>

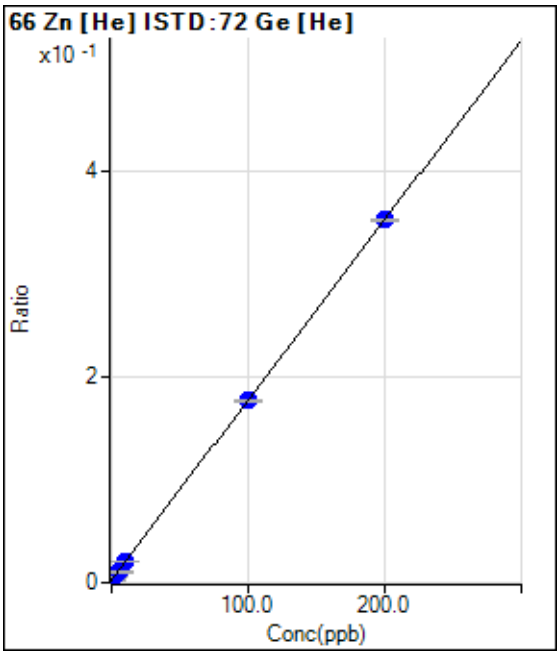


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4047.17	0.0018	P	6.7
2	☐	2.000	1.788	8398.71	0.0039	P	2.3
3	☐	5.000	4.244	14592.64	0.0067	P	1.2
4	☐	10.000	10.431	30315.24	0.0137	P	3.3
5	☐	100.000	100.225	249076.39	0.1160	P	0.8
6	☐	200.000	199.887	484184.85	0.2295	P	1.5
7	☐	1.000					

y = 0.0011 * x + 0.0018
R = 1.0000
DL = 0.3232
BEC = 1.62

Weight: <None>
Min Conc: <None>

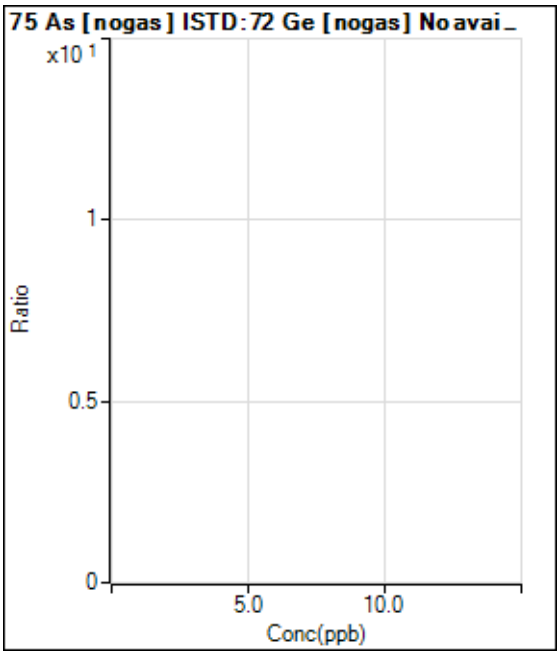
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1433.41	0.0028	P	7.3
2	☐	2.000	1.815	3103.64	0.0060	P	7.0
3	☐	5.000	4.384	5490.91	0.0104	P	5.4
4	☐	10.000	10.309	10843.33	0.0208	P	3.8
5	☐	100.000	99.746	90206.82	0.1774	P	0.8
6	☐	200.000	200.129	176744.59	0.3531	P	0.6
7	☐	1.000					

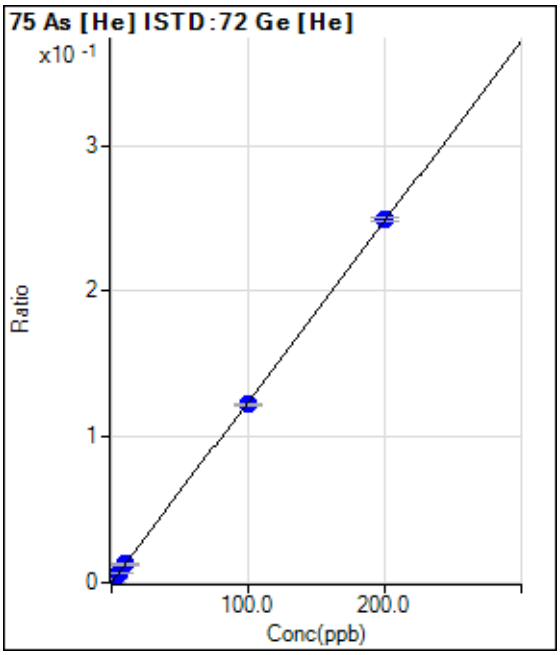
y = 0.0018 * x + 0.0028
R = 1.0000
DL = 0.3495
BEC = 1.585

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					

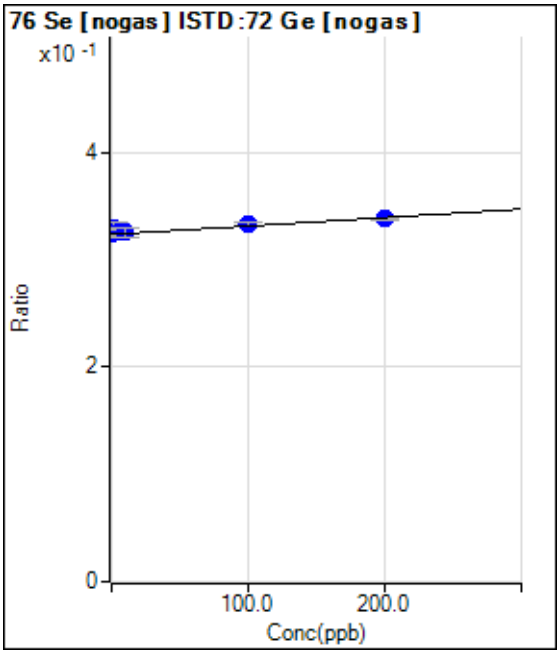
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	78.89	0.0002	P	34.7
2	☐	2.000	1.918	1318.94	0.0025	P	6.5
3	☐	5.000	4.827	3223.63	0.0061	P	1.8
4	☐	10.000	10.019	6548.98	0.0126	P	3.5
5	☐	100.000	98.416	62111.66	0.1221	P	0.5
6	☐	200.000	200.796	124653.41	0.2490	P	1.1
7	☐	1.000					

y = 0.0012 * x + 1.5233E-004
R = 1.0000
DL = 0.1278
BEC = 0.1229

Weight: <None>
Min Conc: <None>

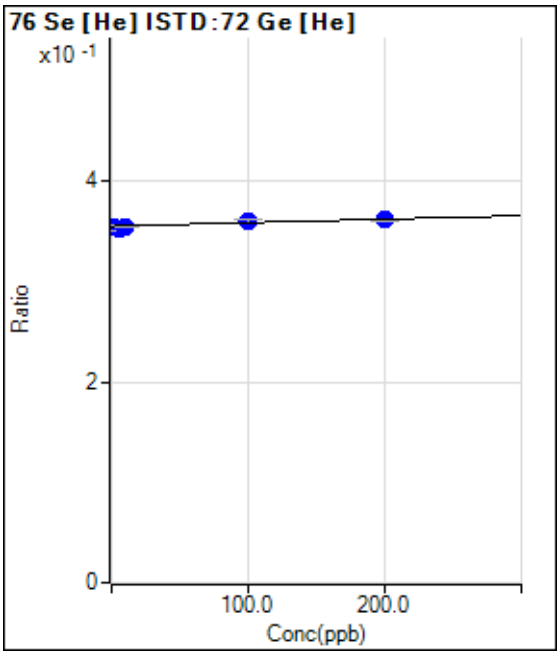


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	709516.94	0.3237	P	0.4
2	☐	2.000	78.950	713007.57	0.3299	P	3.2
3	☐	5.000	21.100	710767.38	0.3253	P	1.4
4	☐	10.000	22.701	718875.74	0.3254	P	2.7
5	☐	100.000	129.175	716749.57	0.3338	P	1.2
6	☐	200.000	183.605	713311.71	0.3381	P	0.8
7	☐	1.000					

y = 7.8496E-005 * x + 0.3237
R = 0.9209
DL = 53.64
BEC = 4123

Weight: <None>
Min Conc: <None>

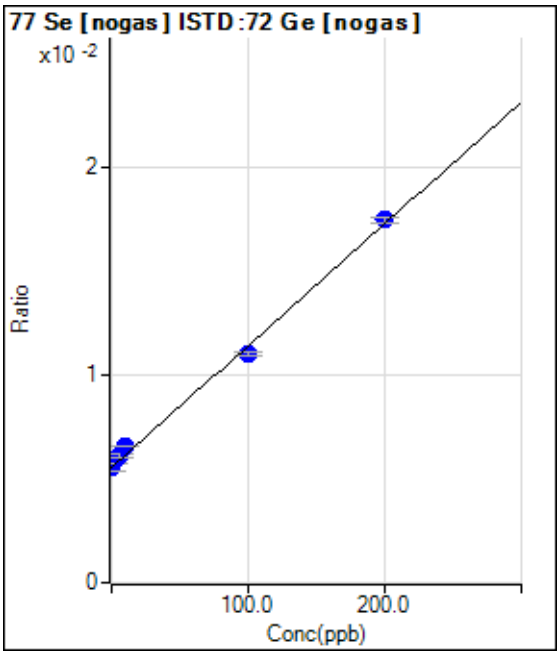
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	183793.98	0.3558	P	1.5
2	☐	2.000	-39.778	184845.68	0.3544	P	0.3
3	☐	5.000	-99.847	185134.51	0.3523	P	1.1
4	☐	10.000	0.694	185352.54	0.3558	P	0.4
5	☐	100.000	154.024	183673.53	0.3611	P	1.0
6	☐	200.000	176.492	181181.57	0.3619	P	0.8
7	☐	1.000					

y = 3.4798E-005 * x + 0.3558
R = 0.8917
DL = 457.6
BEC = 1.022E+04

Weight: <None>
Min Conc: <None>

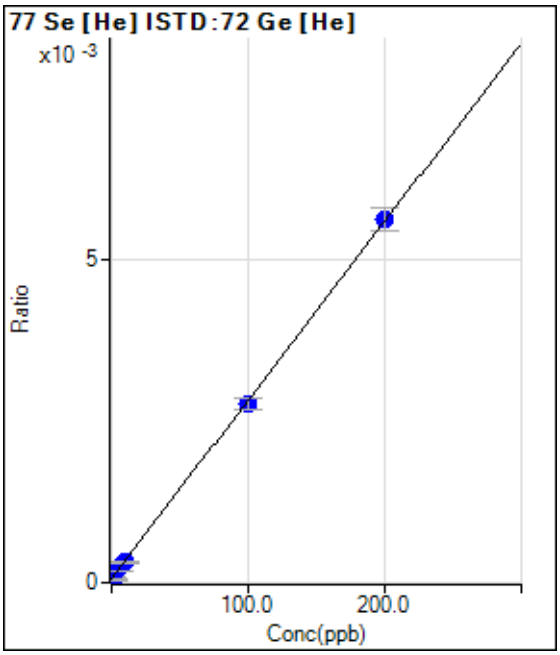


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12144.25	0.0055	P	6.7
2	☐	2.000	4.907	12604.57	0.0058	P	3.0
3	☐	5.000	9.770	13361.82	0.0061	P	2.1
4	☐	10.000	17.328	14492.68	0.0066	P	1.2
5	☐	100.000	92.722	23565.49	0.0110	P	1.7
6	☐	200.000	203.124	36800.79	0.0174	P	1.6
7	☐	1.000					

y = 5.8568E-005 * x + 0.0055
R = 0.9982
DL = 18.99
BEC = 94.65

Weight: <None>
Min Conc: <None>

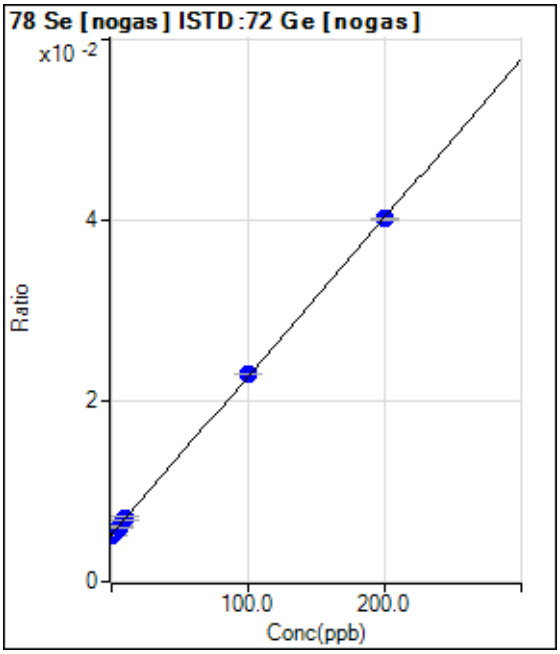
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0001	P	76.1
2	☐	2.000	-0.253	30.00	0.0001	P	57.8
3	☐	5.000	5.933	120.00	0.0002	P	50.0
4	☐	10.000	9.050	163.33	0.0003	P	13.5
5	☐	100.000	98.056	1406.74	0.0028	P	6.7
6	☐	200.000	201.019	2803.60	0.0056	P	6.4
7	☐	1.000					

y = 2.7542E-005 * x + 6.4503E-005
R = 0.9999
DL = 5.347
BEC = 2.342

Weight: <None>
Min Conc: <None>

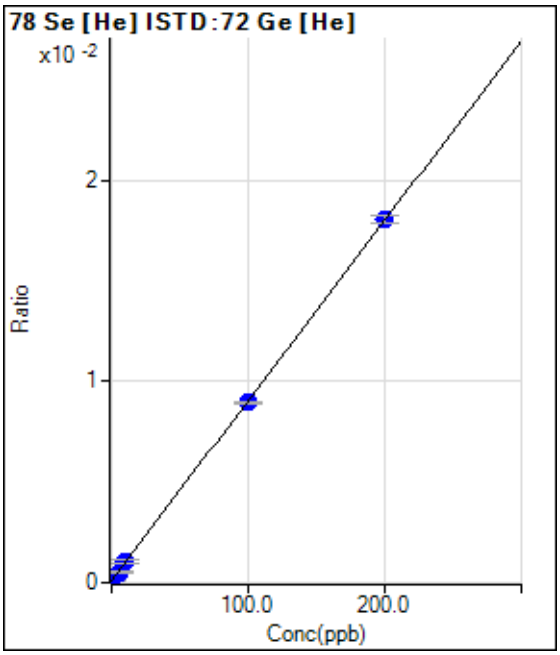


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11420.41	0.0052	P	5.3
2	☐	2.000	0.657	11513.82	0.0053	P	5.6
3	☐	5.000	4.821	13238.37	0.0061	P	1.5
4	☐	10.000	10.024	15396.77	0.0070	P	5.6
5	☐	100.000	101.622	49494.13	0.0231	P	0.4
6	☐	200.000	199.206	84773.43	0.0402	P	0.4
7	☐	1.000					

y = 1.7552E-004 * x + 0.0052
R = 0.9999
DL = 4.698
BEC = 29.7

Weight: <None>
Min Conc: <None>

Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	57.33	0.0001	P	17.4
2	☐	2.000	1.789	141.33	0.0003	P	11.1
3	☐	5.000	4.373	264.00	0.0005	P	9.5
4	☐	10.000	10.577	550.68	0.0011	P	10.9
5	☐	100.000	99.000	4559.92	0.0090	P	1.0
6	☐	200.000	200.489	9032.25	0.0180	P	2.2
7	☐	1.000					

y = 8.9437E-005 * x + 1.1109E-004

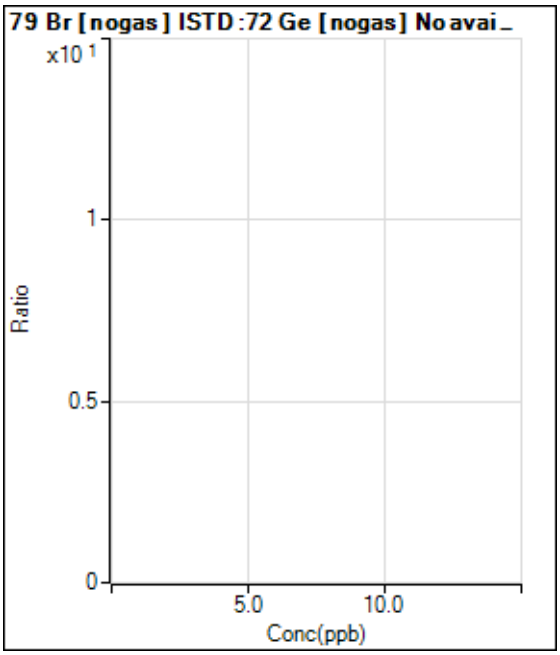
R = 1.0000

DL = 0.6467

BEC = 1.242

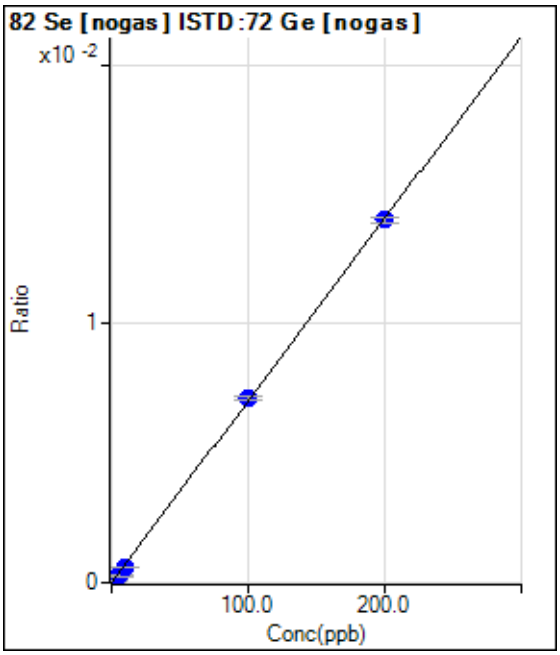
Weight: <None>

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					

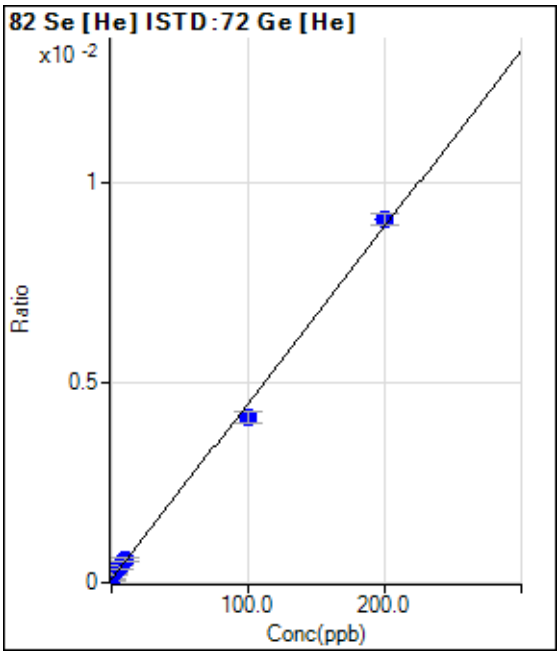
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-26.87	0.0000	P	-530.0
2	☐	2.000	1.203	155.69	0.0001	P	23.3
3	☐	5.000	3.725	545.47	0.0002	P	34.2
4	☐	10.000	8.735	1329.74	0.0006	P	2.9
5	☐	100.000	101.324	15282.14	0.0071	P	2.2
6	☐	200.000	199.441	29587.24	0.0140	P	1.4
7	☐	1.000					

y = 7.0358E-005 * x - 1.2611E-005
R = 0.9999
DL = 2.85
BEC = -0.1792

Weight: <None>
Min Conc: <None>

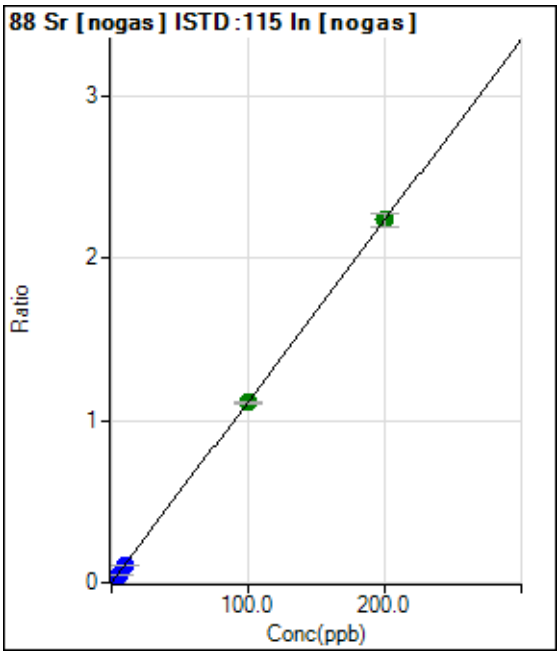


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0001	P	58.7
2	☐	2.000	3.155	116.67	0.0002	P	21.0
3	☐	5.000	6.995	206.67	0.0004	P	21.7
4	☐	10.000	11.152	300.01	0.0006	P	21.5
5	☐	100.000	91.918	2106.82	0.0041	P	8.1
6	☐	200.000	203.922	4547.31	0.0091	P	3.1
7	☐	1.000					

y = 4.4135E-005 * x + 8.4240E-005
R = 0.9987
DL = 3.361
BEC = 1.909

Weight: <None>
Min Conc: <None>

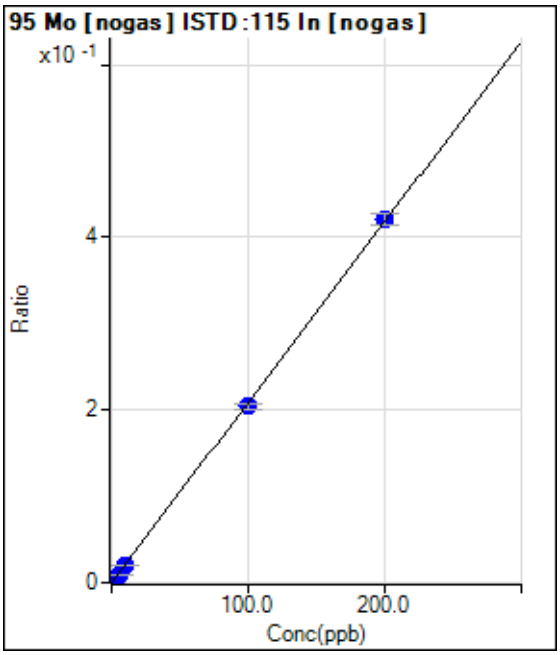
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1663.44	0.0007	P	6.3
2	☐	2.000	1.850	47766.95	0.0214	P	2.3
3	☐	5.000	4.558	117803.10	0.0516	P	1.5
4	☐	10.000	9.749	245868.54	0.1096	P	2.7
5	☐	100.000	99.404	2456767.88	1.1107	A	1.6
6	☐	200.000	200.323	4810121.07	2.2376	A	3.5
7	☐	1.000					

y = 0.0112 * x + 7.3121E-004
R = 1.0000
DL = 0.01228
BEC = 0.06548

Weight: <None>
Min Conc: <None>

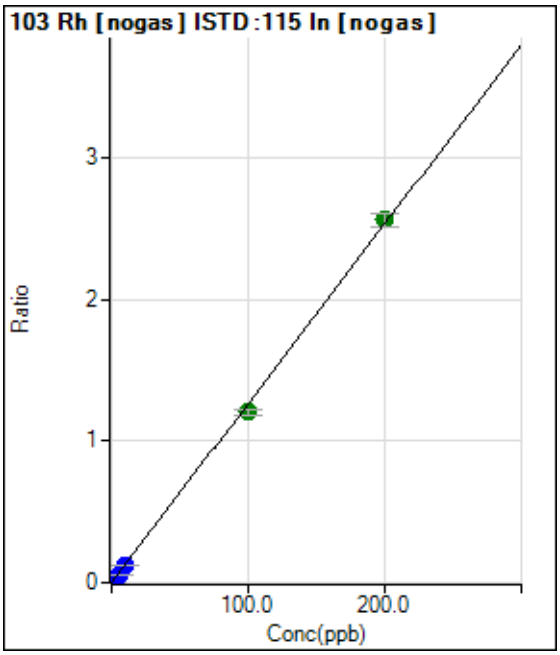


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	226.67	0.0001	P	10.6
2	☐	2.000	1.837	8778.95	0.0039	P	5.0
3	☐	5.000	4.647	22357.53	0.0098	P	3.6
4	☐	10.000	9.871	46453.84	0.0207	P	3.3
5	☐	100.000	97.687	451149.26	0.2040	P	3.7
6	☐	200.000	201.174	902990.82	0.4201	P	3.1
7	☐	1.000					

y = 0.0021 * x + 9.9605E-005
R = 0.9999
DL = 0.01514
BEC = 0.04771

Weight: <None>
Min Conc: <None>

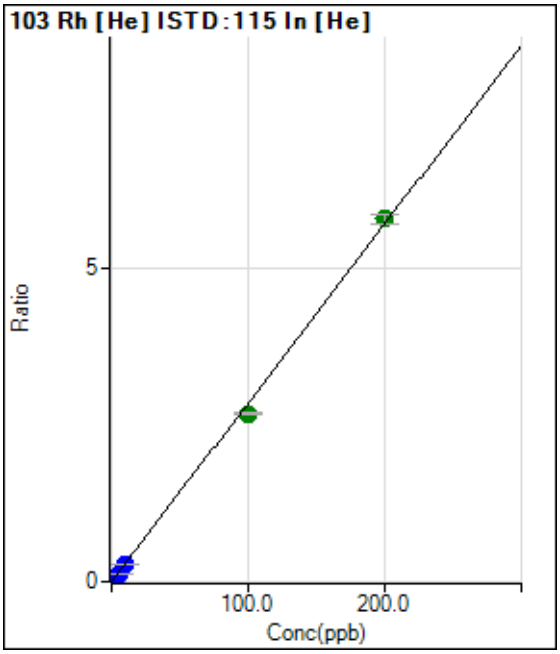
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0000	P	115.6
2	☐	2.000	1.882	53223.03	0.0238	P	3.0
3	☐	5.000	4.632	133823.69	0.0587	P	2.7
4	☐	10.000	9.838	279426.34	0.1246	P	3.6
5	☐	100.000	95.218	2665588.61	1.2055	A	3.0
6	☐	200.000	202.409	5507727.00	2.5625	A	3.4
7	☐	1.000					

y = 0.0127 * x + 1.9432E-005
R = 0.9996
DL = 0.005323
BEC = 0.001535

Weight: <None>
Min Conc: <None>

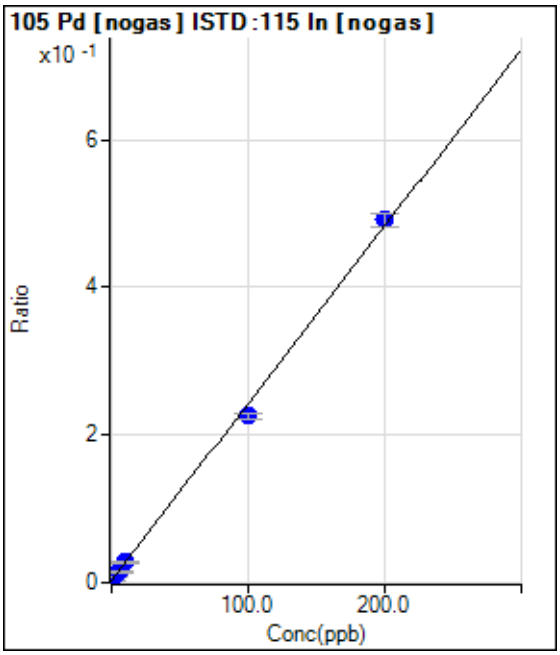


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	86.6
2	☐	2.000	1.874	41094.46	0.0534	P	0.8
3	☐	5.000	4.722	101431.01	0.1345	P	0.9
4	☐	10.000	9.658	210385.90	0.2751	P	1.8
5	☐	100.000	93.987	1998801.48	2.6772	A	0.6
6	☐	200.000	203.032	4201272.23	5.7834	A	2.6
7	☐	1.000					

y = 0.0285 * x + 1.7779E-005
R = 0.9994
DL = 0.001622
BEC = 0.0006242

Weight: <None>
Min Conc: <None>

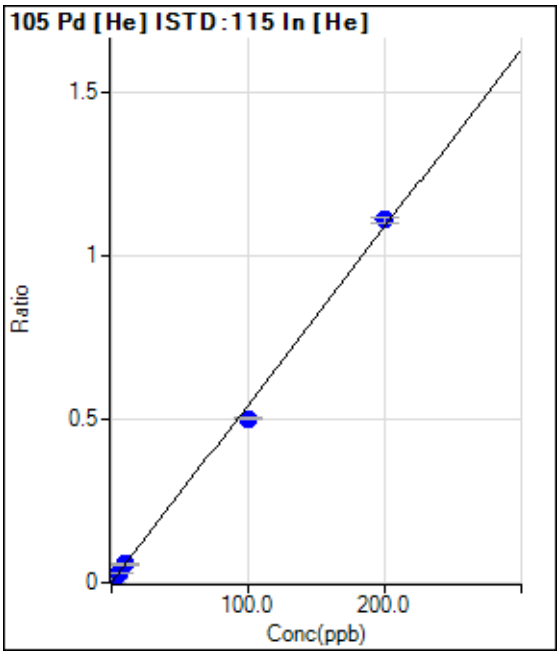
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6798.04	0.0030	P	0.8
2	☐	2.000	1.967	17188.56	0.0077	P	4.7
3	☐	5.000	4.821	33187.99	0.0145	P	3.5
4	☐	10.000	10.230	61737.50	0.0275	P	2.6
5	☐	100.000	92.725	498284.17	0.2254	P	3.3
6	☐	200.000	203.631	1055927.30	0.4913	P	3.5
7	☐	1.000					

y = 0.0024 * x + 0.0030
R = 0.9991
DL = 0.03162
BEC = 1.245

Weight: <None>
Min Conc: <None>

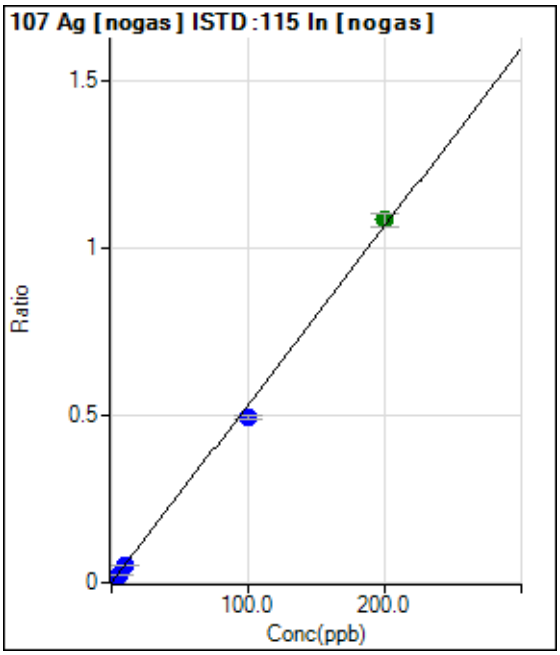


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	600.02	0.0008	P	9.8
2	☐	2.000	1.941	8735.60	0.0114	P	0.5
3	☐	5.000	4.998	21086.14	0.0280	P	2.6
4	☐	10.000	10.204	43035.78	0.0563	P	2.1
5	☐	100.000	91.951	373821.04	0.5007	P	1.0
6	☐	200.000	204.015	806424.78	1.1100	P	1.4
7	☐	1.000					

y = 0.0054 * x + 7.9883E-004
R = 0.9989
DL = 0.04335
BEC = 0.1469

Weight: <None>
Min Conc: <None>

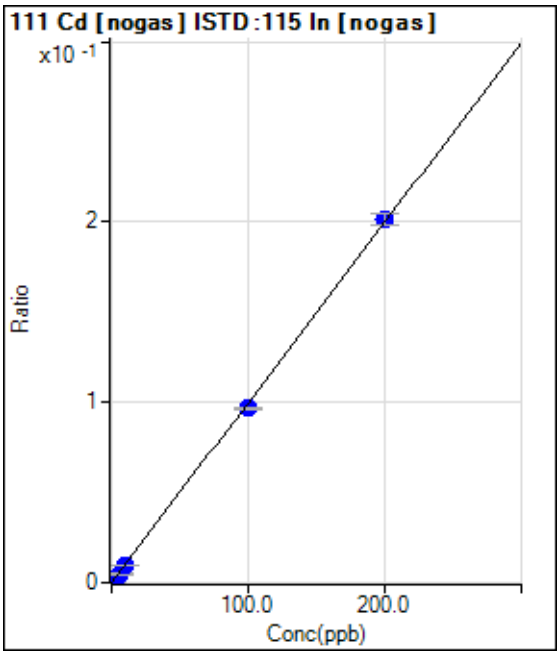
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	140.00	0.0001	P	49.5
2	☐	2.000	1.825	21860.37	0.0098	P	3.3
3	☐	5.000	4.625	56399.71	0.0247	P	2.6
4	☐	10.000	9.655	115605.08	0.0515	P	2.7
5	☐	100.000	92.801	1094431.21	0.4948	P	1.3
6	☐	200.000	203.628	2334091.94	1.0856	A	3.7
7	☐	1.000					

y = 0.0053 * x + 6.2093E-005
R = 0.9991
DL = 0.01731
BEC = 0.01165

Weight: <None>
Min Conc: <None>

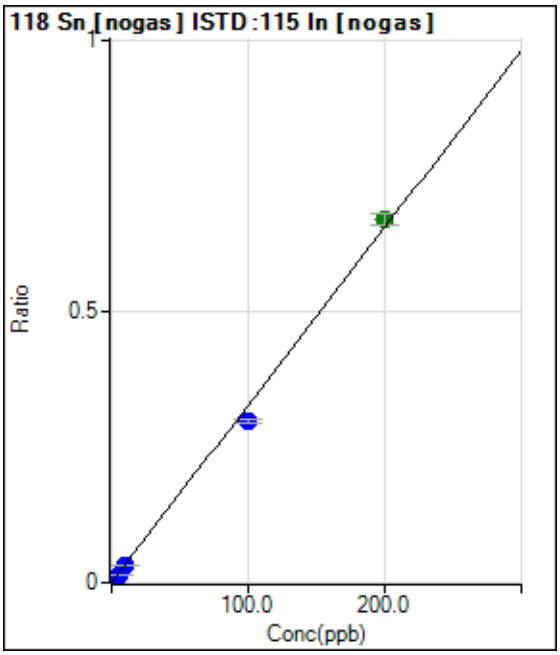


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	50.6
2	☐	2.000	1.845	4127.21	0.0018	P	6.8
3	☐	5.000	4.721	10760.11	0.0047	P	5.4
4	☐	10.000	9.855	22080.66	0.0098	P	1.2
5	☐	100.000	96.864	213798.88	0.0966	P	0.6
6	☐	200.000	201.584	432258.34	0.2011	P	3.1
7	☐	1.000					

y = 9.9761E-004 * x + 8.8356E-006
R = 0.9998
DL = 0.01345
BEC = 0.008857

Weight: <None>
Min Conc: <None>

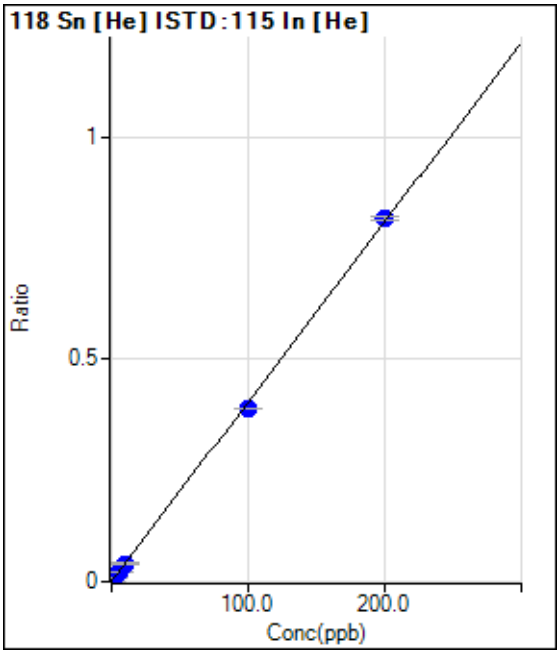
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1346.74	0.0006	P	10.0
2	☐	2.000	1.806	14489.48	0.0065	P	3.2
3	☐	5.000	4.377	33966.65	0.0149	P	0.6
4	☐	10.000	9.534	71147.66	0.0317	P	4.9
5	☐	100.000	91.239	660223.87	0.2985	P	2.1
6	☐	200.000	204.421	1435897.69	0.6681	A	3.4
7	☐	1.000					

y = 0.0033 * x + 5.9252E-004
R = 0.9987
DL = 0.05425
BEC = 0.1815

Weight: <None>
Min Conc: <None>

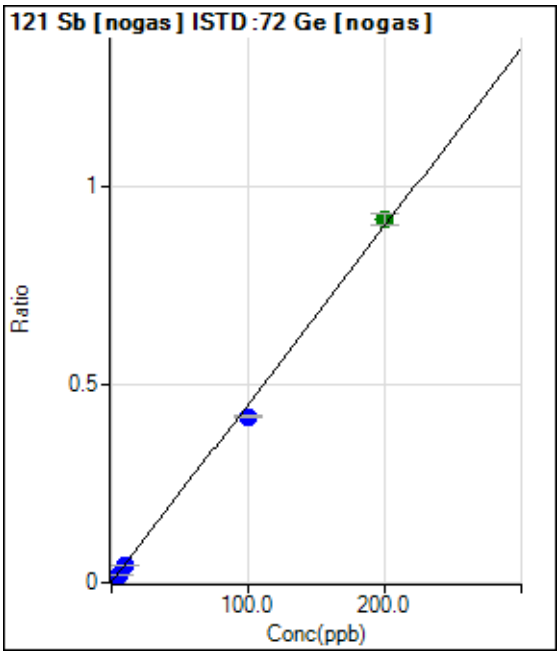


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	570.02	0.0008	P	7.7
2	☐	2.000	1.874	6407.93	0.0083	P	1.0
3	☐	5.000	4.768	15083.32	0.0200	P	3.7
4	☐	10.000	9.960	31334.81	0.0410	P	1.0
5	☐	100.000	96.242	290673.44	0.3894	P	0.8
6	☐	200.000	201.888	592792.56	0.8159	P	1.0
7	☐	1.000					

y = 0.0040 * x + 7.5898E-004
R = 0.9998
DL = 0.0433
BEC = 0.188

Weight: <None>
Min Conc: <None>

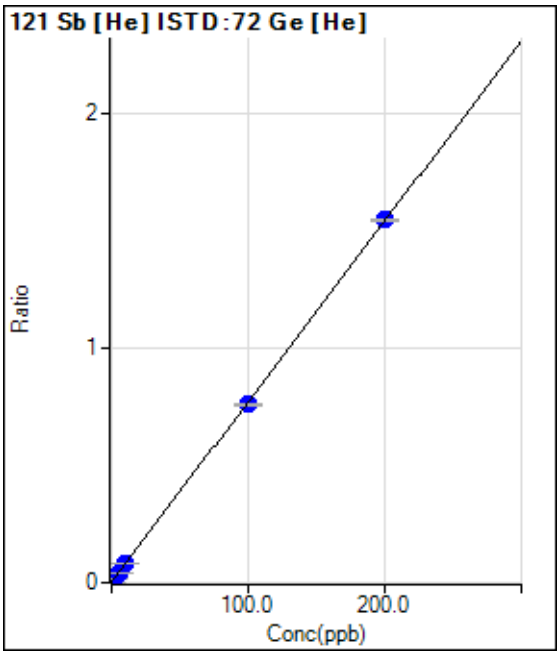
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2516.88	0.0011	P	3.8
2	☐	2.000	1.875	20719.17	0.0096	P	4.5
3	☐	5.000	4.464	46394.68	0.0212	P	1.9
4	☐	10.000	9.458	96567.42	0.0437	P	2.2
5	☐	100.000	93.050	901668.06	0.4199	P	0.5
6	☐	200.000	203.517	1934323.04	0.9171	A	3.3
7	☐	1.000					

y = 0.0045 * x + 0.0011
R = 0.9992
DL = 0.0292
BEC = 0.255

Weight: <None>
Min Conc: <None>

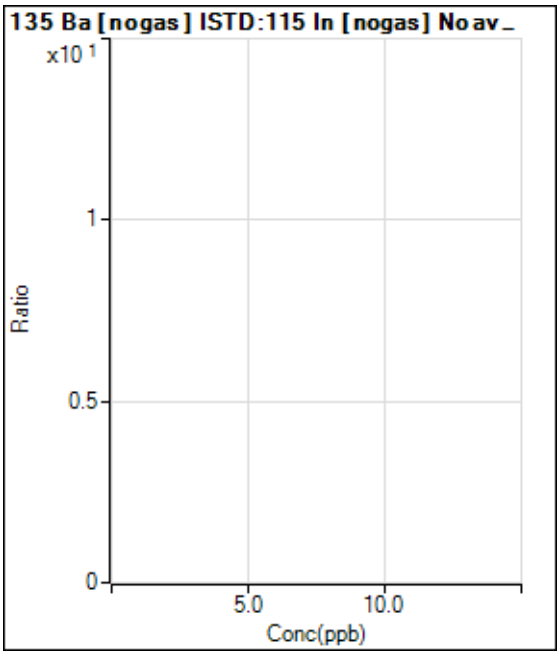


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1103.38	0.0021	P	8.7
2	☐	2.000	1.918	8792.34	0.0169	P	3.5
3	☐	5.000	4.766	20348.76	0.0387	P	2.3
4	☐	10.000	9.956	40931.29	0.0786	P	1.7
5	☐	100.000	98.367	385149.46	0.7573	P	1.0
6	☐	200.000	200.826	772882.05	1.5439	P	0.9
7	☐	1.000					

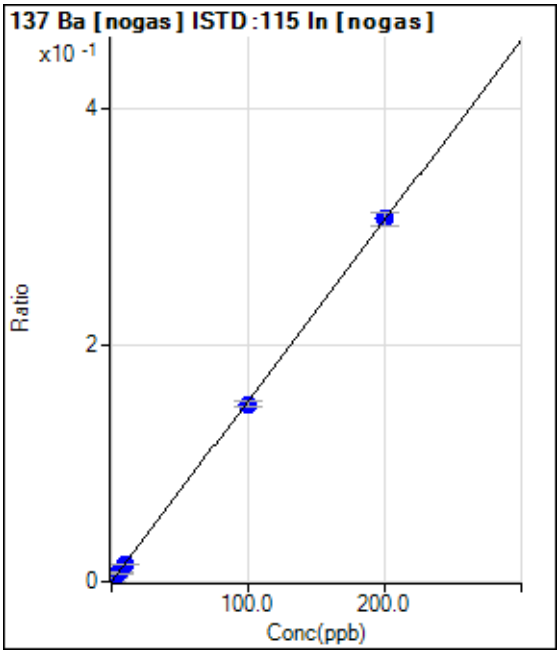
y = 0.0077 * x + 0.0021
R = 1.0000
DL = 0.0729
BEC = 0.278

Weight: <None>
Min Conc: <None>

Calibration for 179_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	373.34	0.0002	P	8.9
2	☐	2.000	1.951	7004.86	0.0031	P	7.6
3	☐	5.000	4.794	17038.57	0.0075	P	7.1
4	☐	10.000	9.768	33780.04	0.0151	P	3.2
5	☐	100.000	98.308	331833.81	0.1501	P	2.6
6	☐	200.000	200.863	658526.60	0.3064	P	3.6
7	☐	1.000					

y = 0.0015 * x + 1.6419E-004

R = 1.0000

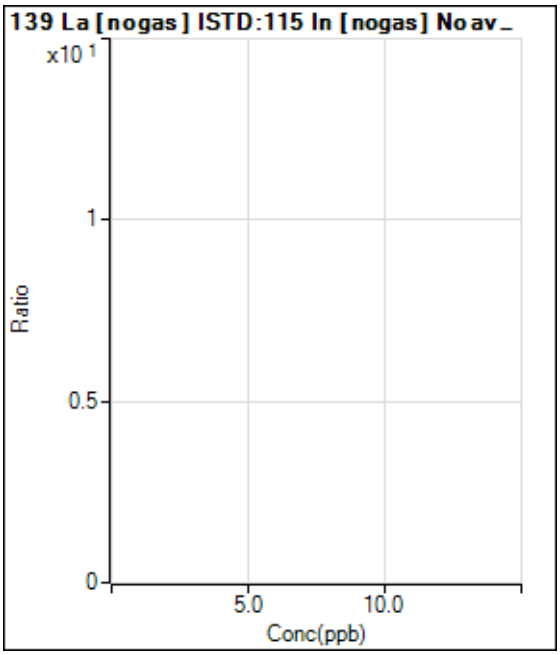
DL = 0.02877

BEC = 0.1077

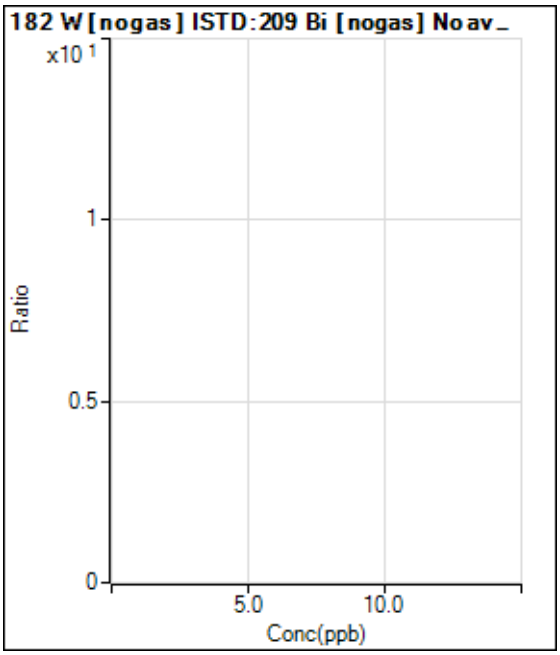
Weight: <None>

Min Conc: <None>

Calibration for 179_ICV.d

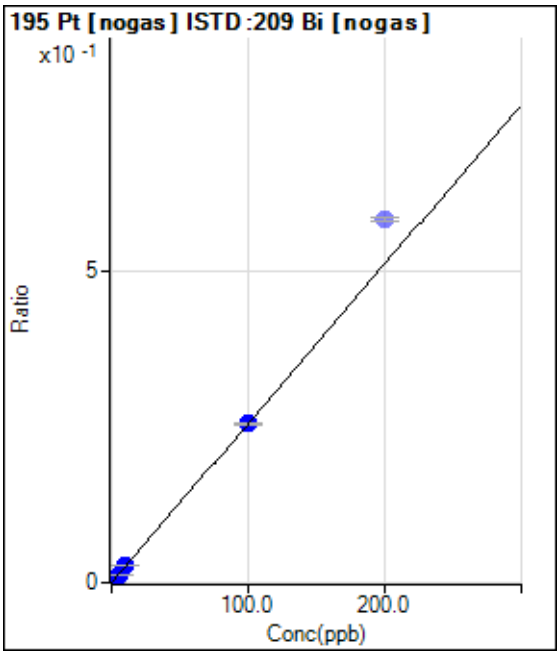


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	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					

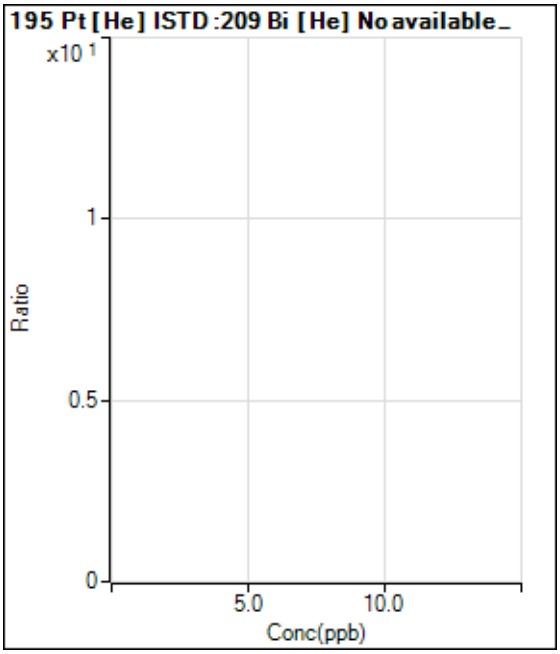
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	63.6
2	☐	2.000	1.971	8945.88	0.0051	P	6.8
3	☐	5.000	5.079	23336.70	0.0130	P	1.8
4	☐	10.000	10.702	47842.99	0.0274	P	2.1
5	☐	100.000	99.926	449143.73	0.2556	P	0.7
6	☑	200.000		982408.40	0.5827	P	0.9
7	☐	1.000					

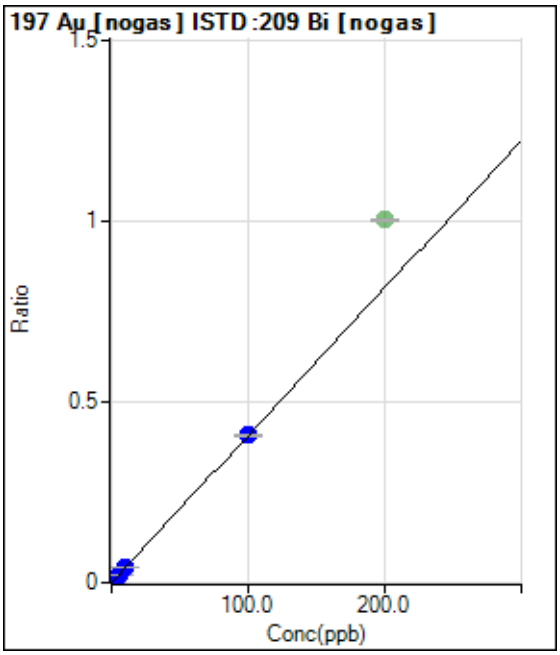
y = 0.0026 * x + 1.3246E-005
R = 1.0000
DL = 0.009875
BEC = 0.005179

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		10.00		P	
2	☐	2.000		8942.60		P	
3	☐	5.000		23453.48		P	
4	☐	10.000		49524.45		P	
5	☐	100.000		452846.46		P	
6	☐	200.000		985534.91		P	
7	☐	1.000					

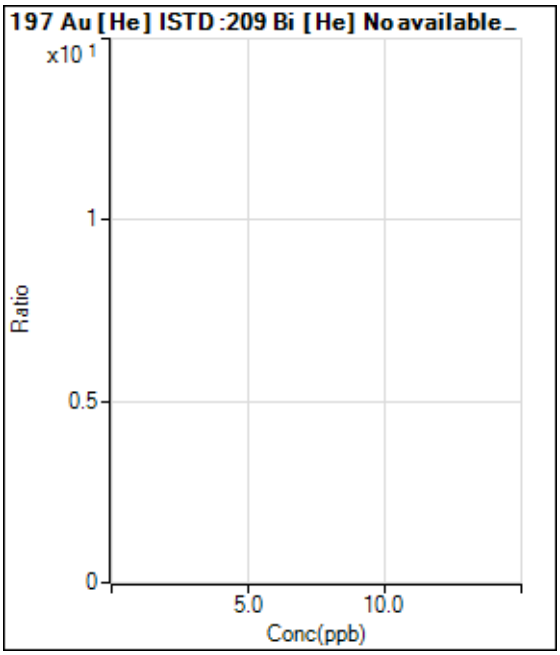
Calibration for 179_ICV.d



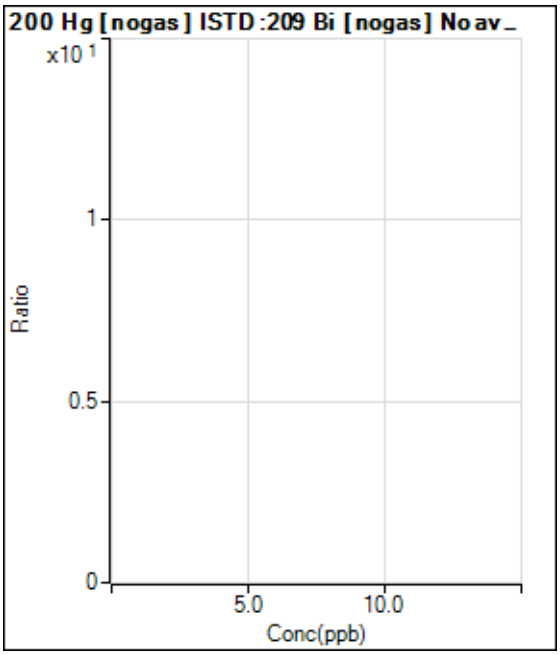
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	176.67	0.0001	P	26.9
2	☐	2.000	1.997	14609.99	0.0083	P	1.6
3	☐	5.000	5.143	37843.61	0.0211	P	2.1
4	☐	10.000	10.800	77123.48	0.0442	P	4.0
5	☐	100.000	99.913	716680.64	0.4079	P	1.0
6	☑	200.000		1693873.15	1.0046	A	0.5
7	☐	1.000					

y = 0.0041 * x + 1.0070E-004
R = 1.0000
DL = 0.01988
BEC = 0.02467

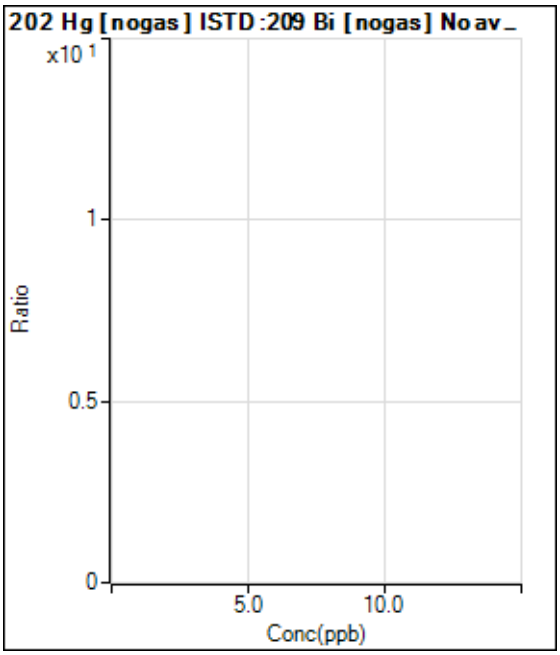
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		130.00		P	
2	☐	2.000		14987.05		P	
3	☐	5.000		37670.00		P	
4	☐	10.000		79518.29		P	
5	☐	100.000		726333.71		P	
6	☐	200.000		1714254.77		A	
7	☐	1.000					

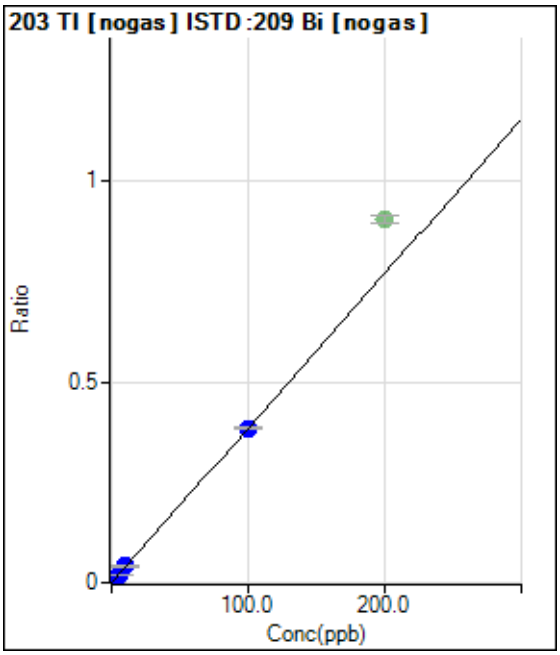


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	2.000					
6	☐	5.000					
7	☐	10.000					



	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					

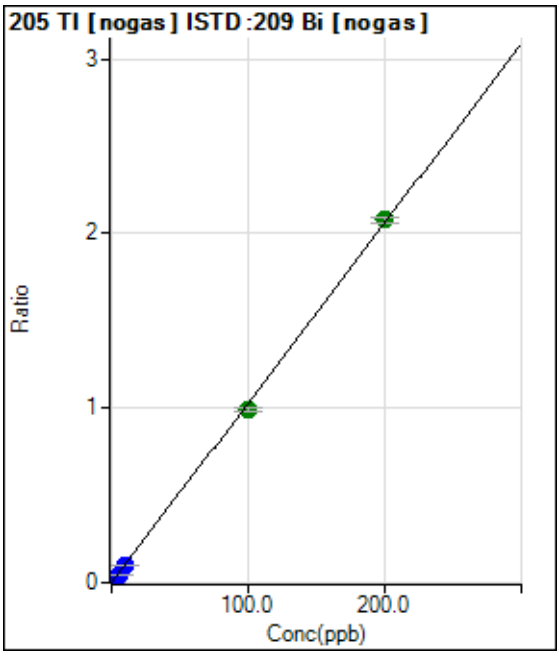
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	126.67	0.0001	P	36.7
2	☐	2.000	1.927	13262.19	0.0075	P	1.3
3	☐	5.000	4.947	34302.93	0.0191	P	2.0
4	☐	10.000	10.756	72419.74	0.0415	P	3.8
5	☐	100.000	99.928	675949.16	0.3847	P	0.7
6	☑	200.000		1523785.34	0.9038	A	2.0
7	☐	1.000					

y = 0.0038 * x + 7.2426E-005
R = 1.0000
DL = 0.02071
BEC = 0.01882

Weight: <None>
Min Conc: <None>

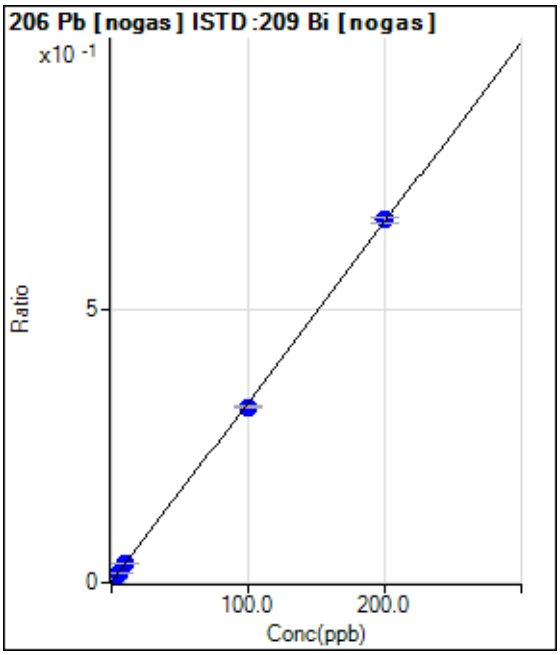


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	373.34	0.0002	P	17.4
2	☐	2.000	1.767	32556.18	0.0184	P	1.0
3	☐	5.000	4.389	81384.98	0.0454	P	1.8
4	☐	10.000	9.514	171213.72	0.0981	P	4.0
5	☐	100.000	96.229	1739248.36	0.9900	A	2.3
6	☐	200.000	201.927	3502156.61	2.0771	A	1.8
7	☐	1.000					

y = 0.0103 * x + 2.1298E-004
R = 0.9998
DL = 0.01079
BEC = 0.02071

Weight: <None>
Min Conc: <None>

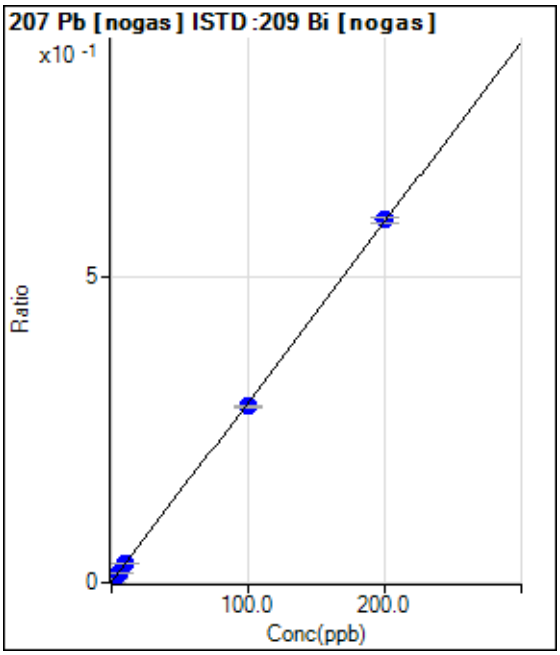
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1500.09	0.0009	P	5.8
2	☐	2.000	1.874	12424.86	0.0070	P	4.3
3	☐	5.000	4.753	29573.69	0.0165	P	2.5
4	☐	10.000	10.393	61130.99	0.0350	P	4.2
5	☐	100.000	97.397	564013.68	0.3210	P	1.2
6	☐	200.000	201.289	1117042.38	0.6625	P	1.6
7	☐	1.000					

y = 0.0033 * x + 8.5654E-004
R = 0.9999
DL = 0.04529
BEC = 0.2606

Weight: <None>
Min Conc: <None>

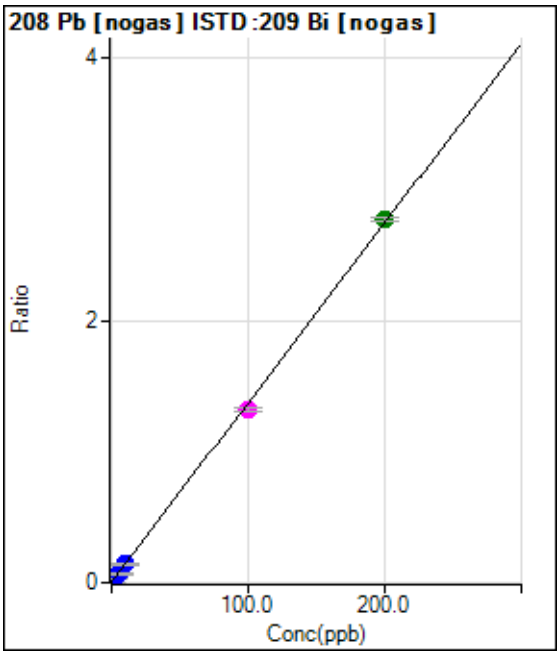


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1390.08	0.0008	P	0.7
2	☐	2.000	1.910	11350.75	0.0064	P	5.6
3	☐	5.000	4.673	26084.49	0.0145	P	4.1
4	☐	10.000	10.266	54092.98	0.0310	P	3.2
5	☐	100.000	97.535	505303.64	0.2876	P	1.7
6	☐	200.000	201.228	999052.67	0.5925	P	1.9
7	☐	1.000					

y = 0.0029 * x + 7.9418E-004
R = 0.9999
DL = 0.005937
BEC = 0.2701

Weight: <None>
Min Conc: <None>

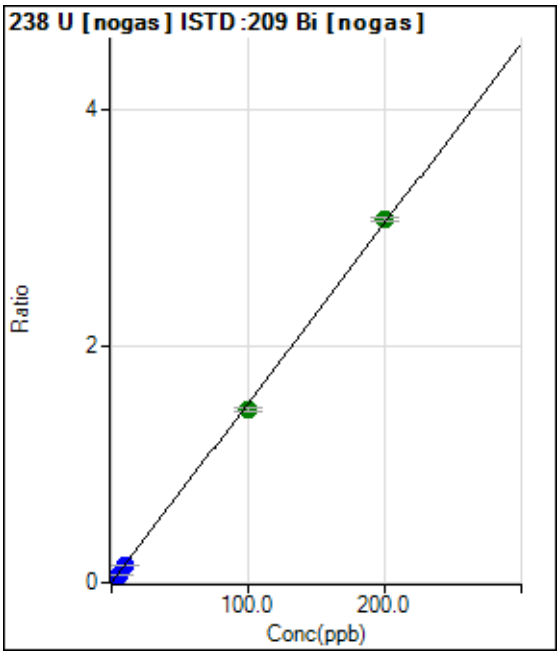
Calibration for 179_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6050.53	0.0035	P	2.6
2	☐	2.000	1.842	50791.55	0.0287	P	3.4
3	☐	5.000	4.605	119429.32	0.0666	P	2.1
4	☐	10.000	9.964	244452.37	0.1400	P	2.5
5	☐	100.000	96.343	2325274.04	1.3235	M	2.0
6	☐	200.000	201.842	4668868.03	2.7691	A	1.2
7	☐	1.000					

y = 0.0137 * x + 0.0035
R = 0.9998
DL = 0.01932
BEC = 0.2523

Weight: <None>
Min Conc: <None>

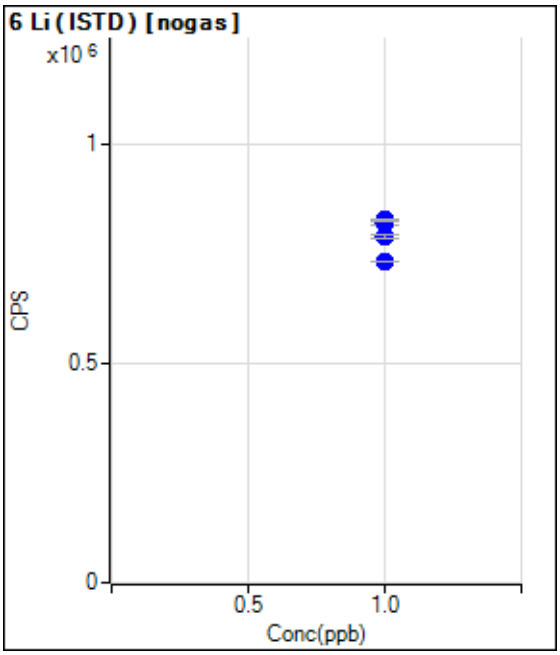


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	18.2
2	☐	2.000	1.748	46996.15	0.0265	P	1.9
3	☐	5.000	4.442	120926.08	0.0674	P	1.5
4	☐	10.000	9.204	243867.29	0.1396	P	1.2
5	☐	100.000	96.084	2560221.73	1.4572	A	2.4
6	☐	200.000	202.014	5165462.11	3.0636	A	1.1
7	☐	1.000					

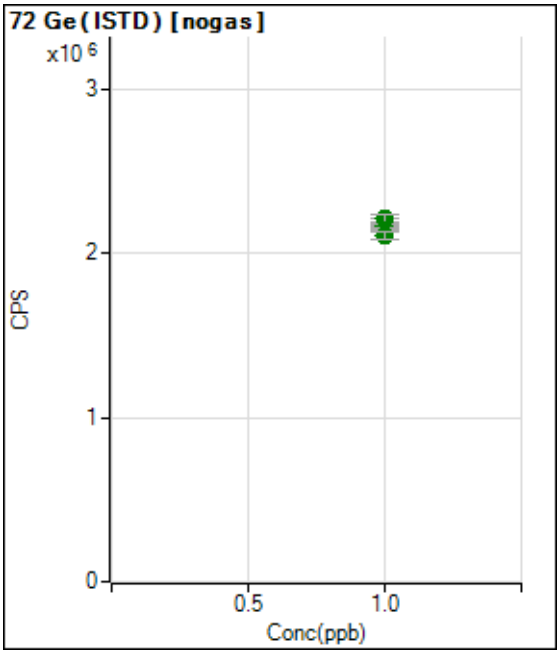
y = 0.0152 * x + 3.2302E-005
R = 0.9997
DL = 0.001166
BEC = 0.00213

Weight: <None>
Min Conc: <None>

Calibration for 179_ICV.d

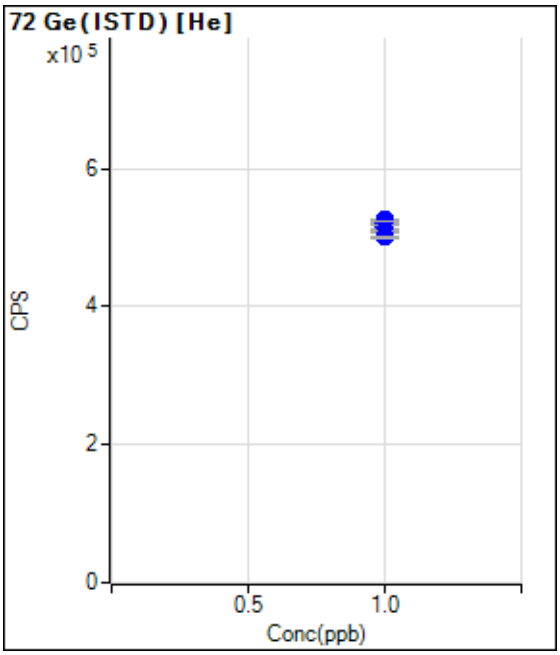


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		818909.94		P	1.2
2	☐	1.000		825692.62		P	0.5
3	☐	1.000		825863.24		P	0.1
4	☐	1.000		827827.66		P	0.3
5	☐	1.000		790398.44		P	0.8
6	☐	1.000		732951.59		P	0.5
7	☐	1.000					

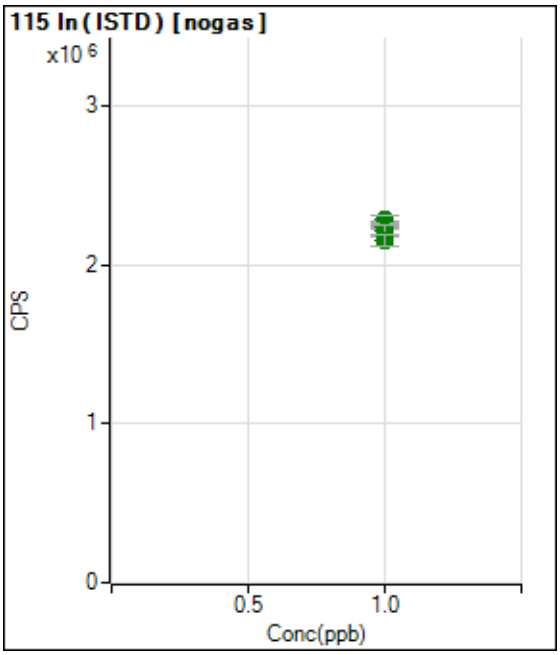


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2192195.49		A	2.2
2	☐	1.000		2162820.91		A	2.9
3	☐	1.000		2184786.84		A	0.3
4	☐	1.000		2209784.45		A	2.4
5	☐	1.000		2147278.35		A	0.6
6	☐	1.000		2110048.98		A	2.2
7	☐	1.000					

Calibration for 179_ICV.d

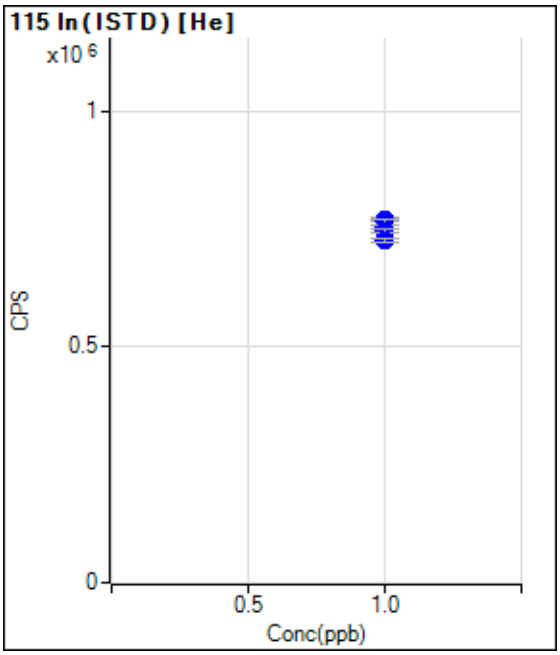


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		516667.21		P	1.6
2	☐	1.000		521572.32		P	0.6
3	☐	1.000		525508.34		P	0.6
4	☐	1.000		520947.02		P	1.0
5	☐	1.000		508598.86		P	0.6
6	☐	1.000		500601.80		P	0.3
7	☐	1.000					

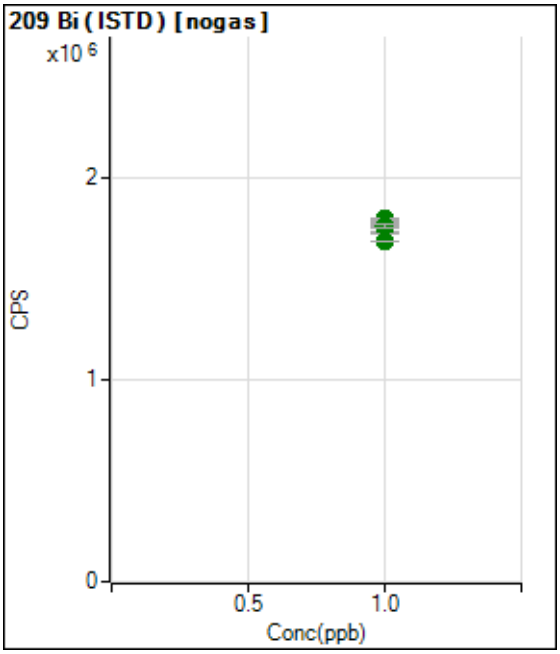


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2276906.43		A	3.0
2	☐	1.000		2233868.15		A	3.5
3	☐	1.000		2282322.66		A	2.3
4	☐	1.000		2244190.31		A	2.0
5	☐	1.000		2212525.07		A	2.9
6	☐	1.000		2150840.00		A	3.4
7	☐	1.000					

Calibration for 179_ICV.d

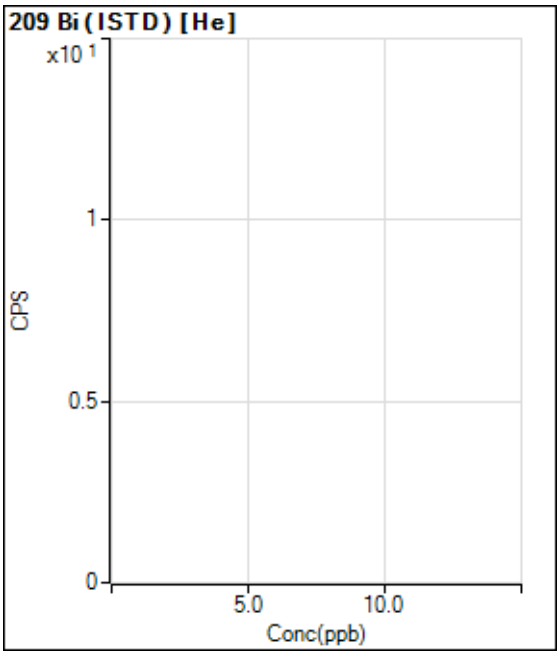


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		751046.19		P	0.3
2	☐	1.000		769503.51		P	1.0
3	☐	1.000		753979.23		P	1.0
4	☐	1.000		764824.13		P	1.9
5	☐	1.000		746571.19		P	0.7
6	☐	1.000		726544.15		P	0.9
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1750171.75		A	2.2
2	☐	1.000		1770527.99		A	1.0
3	☐	1.000		1794416.85		A	0.4
4	☐	1.000		1747188.10		A	3.3
5	☐	1.000		1757049.56		A	1.0
6	☐	1.000		1686046.33		A	0.2
7	☐	1.000					

Calibration for 179_ICV.d



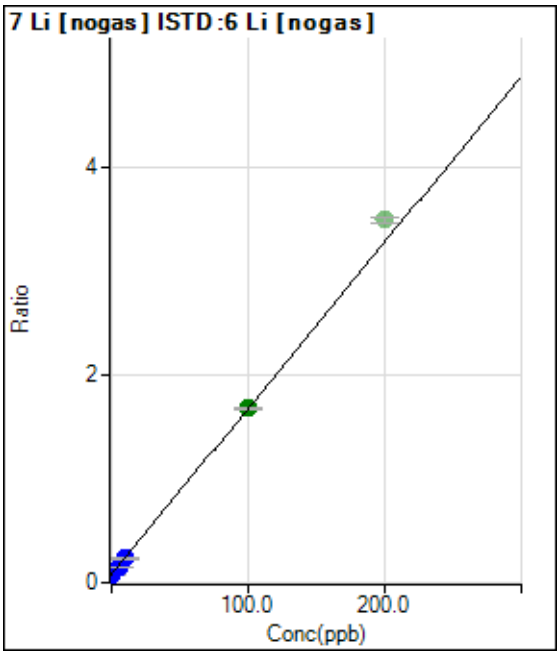
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000					
2	☐	1.000					
3	☐	1.000					
4	☐	1.000					
5	☐	1.000					
6	☐	1.000					
7	☐	1.000					

Calibration for 105_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\061520A.b\
Analysis File: 061520A.batch.bin
DA Date-Time: 6/15/2020 10:26:07 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	098CALB.d	CAL BLK	6/15/2020 4:41:03 PM
2	099CALS.d	2/10/200	6/15/2020 4:43:29 PM
3	100CALS.d	5/25/500	6/15/2020 4:45:57 PM
4	101CALS.d	10/50/1000	6/15/2020 4:48:24 PM
5	102CALS.d	100/500/10K	6/15/2020 4:50:52 PM
6	103CALS.d	200/1000/20K	6/15/2020 4:53:16 PM
7			

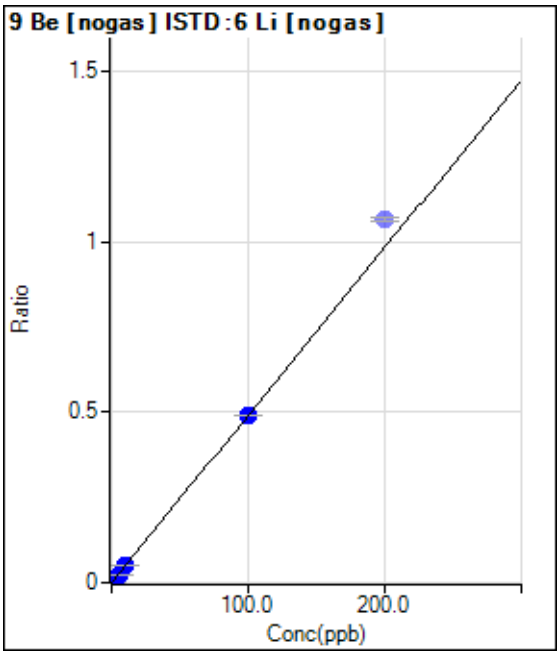
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	72004.84	0.0813	P	0.9
2	☐	2.000	1.842	98629.22	0.1107	P	1.2
3	☐	5.000	4.599	138054.91	0.1548	P	0.5
4	☐	10.000	9.434	203135.43	0.2320	P	0.9
5	☐	100.000	100.080	1363508.99	1.6796	A	0.8
6	☑	200.000		2622384.65	3.4916	A	1.6
7	☐	1.000					

y = 0.0160 * x + 0.0813
R = 1.0000
DL = 0.1311
BEC = 5.093

Weight: <None>
Min Conc: <None>

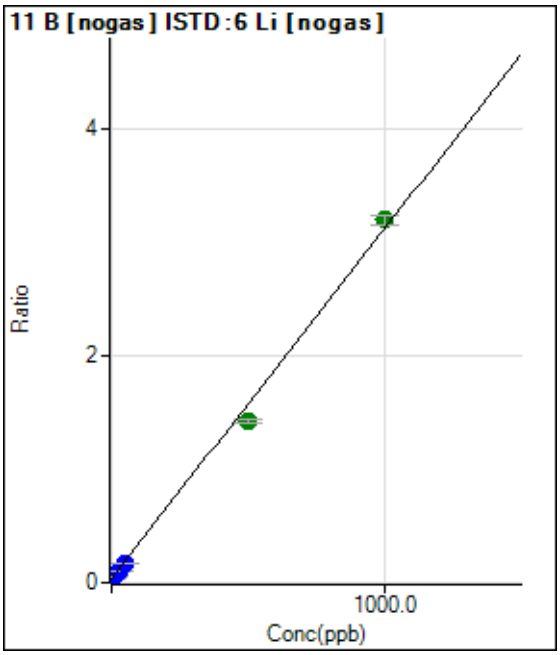


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	121.67	0.0001	P	15.2
2	☐	2.000	1.852	8233.47	0.0092	P	3.8
3	☐	5.000	4.622	20390.81	0.0229	P	0.5
4	☐	10.000	9.824	42414.75	0.0484	P	1.6
5	☐	100.000	100.039	399431.48	0.4920	P	0.4
6	☑	200.000		800317.69	1.0656	P	1.1
7	☐	1.000					

y = 0.0049 * x + 1.3738E-004
R = 1.0000
DL = 0.01272
BEC = 0.02794

Weight: <None>
Min Conc: <None>

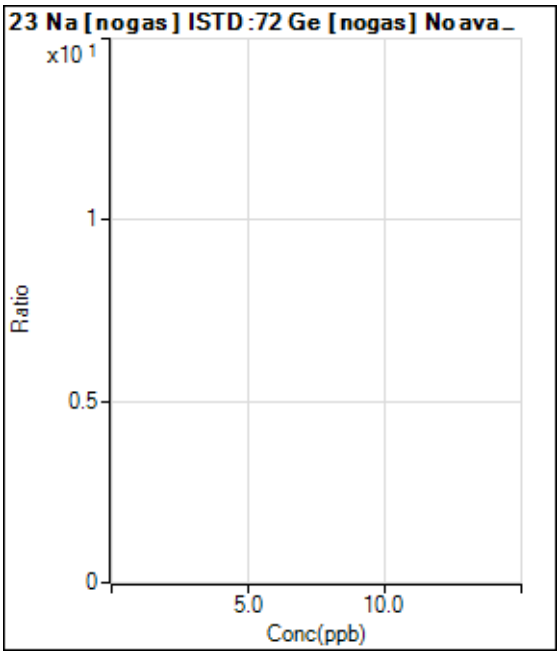
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	32816.21	0.0371	P	1.1
2	☐	10.000	6.915	51963.03	0.0583	P	1.1
3	☐	25.000	18.698	84374.84	0.0946	P	0.2
4	☐	50.000	41.927	145406.16	0.1661	P	2.3
5	☐	500.000	450.032	1154178.14	1.4217	A	1.6
6	☐	1000.000	1025.576	2397804.49	3.1926	A	2.8
7	☐	5.000					

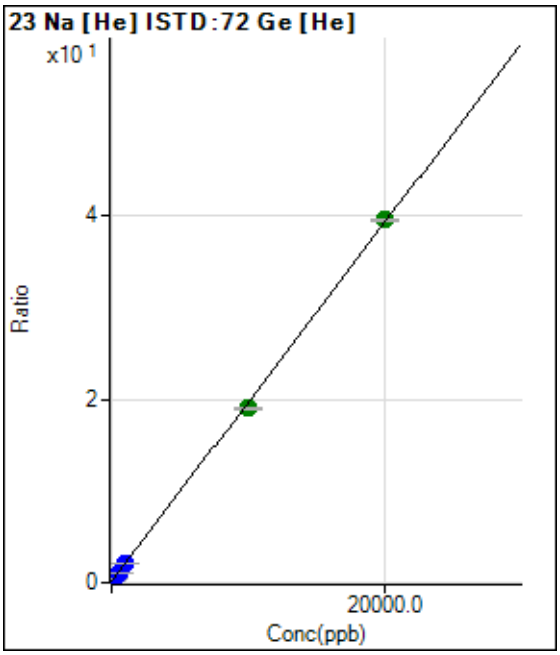
y = 0.0031 * x + 0.0371
R = 0.9984
DL = 0.3872
BEC = 12.05

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

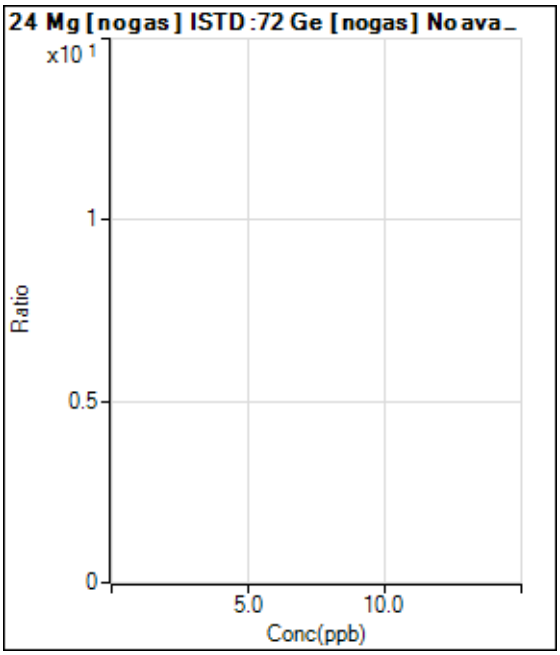
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	71540.80	0.1271	P	2.1
2	☐	200.000	181.223	273005.03	0.4816	P	0.5
3	☐	500.000	465.016	583186.66	1.0367	P	0.5
4	☐	1000.000	978.916	1126988.58	2.0420	P	0.4
5	☐	10000.000	9673.251	10060372.98	19.0489	A	1.4
6	☐	20000.000	20165.491	20298008.87	39.5727	A	0.7
7	☐	100.000					

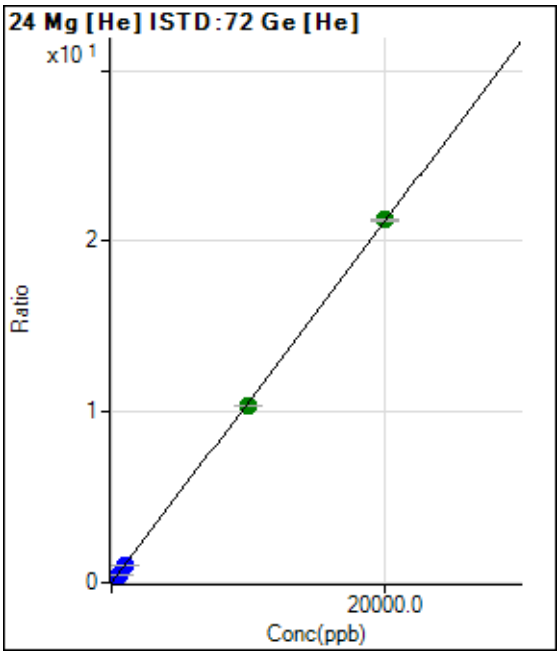
y = 0.0020 * x + 0.1271
R = 0.9998
DL = 4.086
BEC = 64.99

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

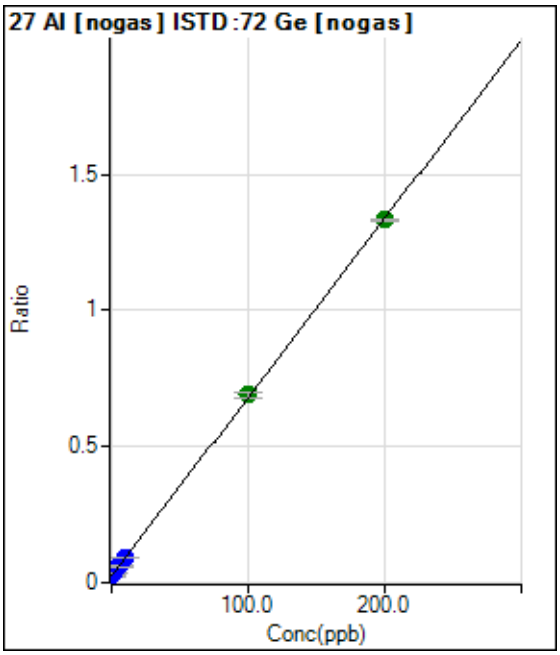
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1296.73	0.0023	P	14.6
2	☐	200.000	187.485	113632.75	0.2005	P	0.5
3	☐	500.000	471.535	281638.04	0.5007	P	0.7
4	☐	1000.000	983.673	575061.48	1.0419	P	0.5
5	☐	10000.000	9799.772	5471678.88	10.3596	A	0.6
6	☐	20000.000	20101.767	10898339.42	21.2478	A	0.8
7	☐	100.000					

y = 0.0011 * x + 0.0023
R = 0.9999
DL = 0.9543
BEC = 2.18

Weight: <None>
Min Conc: <None>

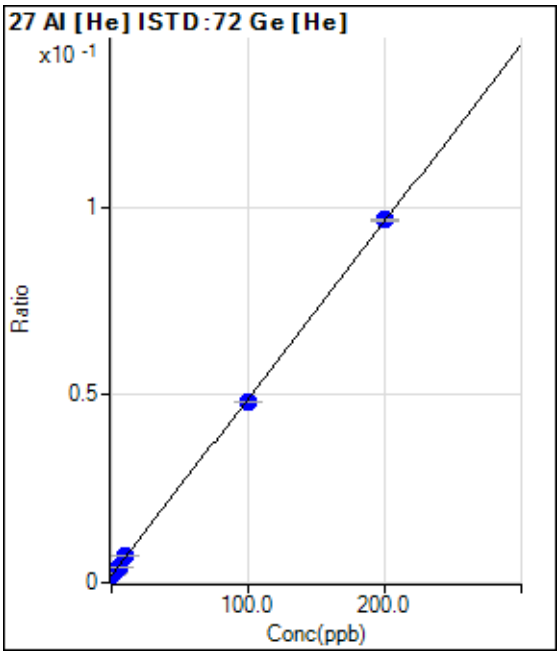


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	57256.14	0.0248	P	0.9
2	☐	2.000	1.944	87299.73	0.0375	P	1.3
3	☐	5.000	5.401	137076.34	0.0602	P	2.5
4	☐	10.000	9.891	208274.67	0.0896	P	1.7
5	☐	100.000	101.240	1525999.56	0.6886	A	2.7
6	☐	200.000	199.376	2925285.37	1.3321	A	0.6
7	☐	1.000					

y = 0.0066 * x + 0.0248
R = 1.0000
DL = 0.1057
BEC = 3.779

Weight: <None>
Min Conc: <None>

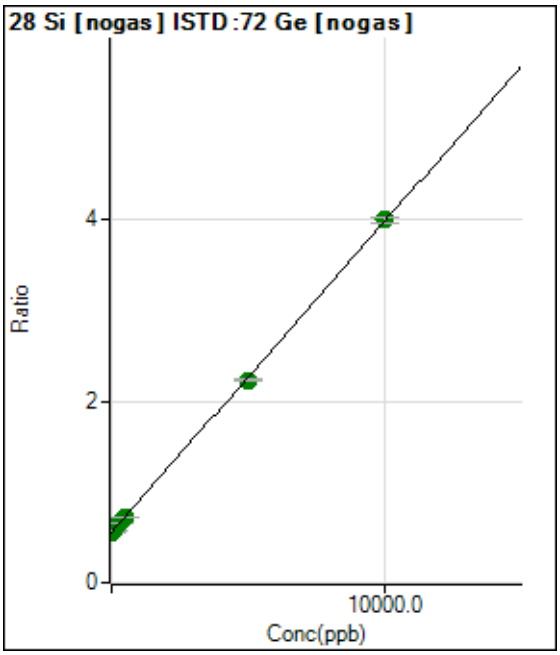
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1096.72	0.0019	P	8.4
2	☐	2.000	1.677	1553.42	0.0027	P	15.7
3	☐	5.000	4.697	2343.51	0.0042	P	6.2
4	☐	10.000	10.797	3887.14	0.0070	P	0.6
5	☐	100.000	98.072	25467.37	0.0482	P	0.5
6	☐	200.000	200.935	49625.00	0.0967	P	0.8
7	☐	1.000					

y = 4.7178E-004 * x + 0.0019
R = 0.9999
DL = 1.039
BEC = 4.131

Weight: <None>
Min Conc: <None>

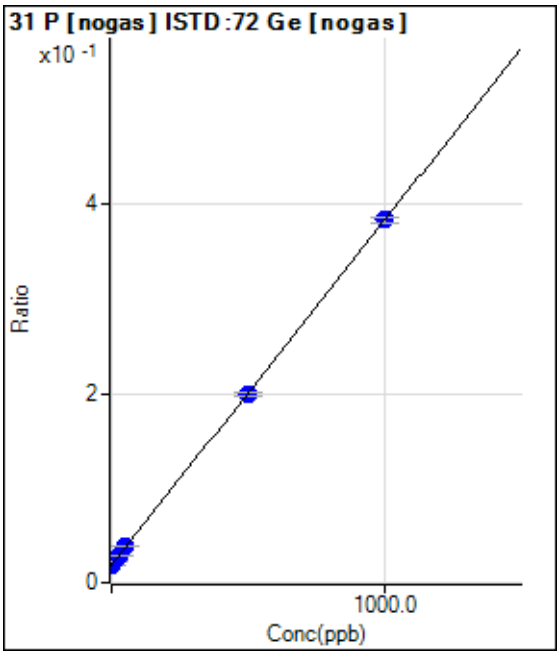


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1286380.35	0.5567	A	3.0
2	☐	100.000	58.778	1342071.23	0.5768	A	1.1
3	☐	250.000	277.589	1484769.14	0.6517	A	0.5
4	☐	500.000	485.233	1679554.56	0.7228	A	2.0
5	☐	5000.000	4896.498	4949247.63	2.2331	A	1.3
6	☐	10000.000	10052.212	8778937.37	3.9983	A	1.9
7	☐	50.000					

y = 3.4237E-004 * x + 0.5567
R = 0.9999
DL = 145.6
BEC = 1626

Weight: <None>
Min Conc: <None>

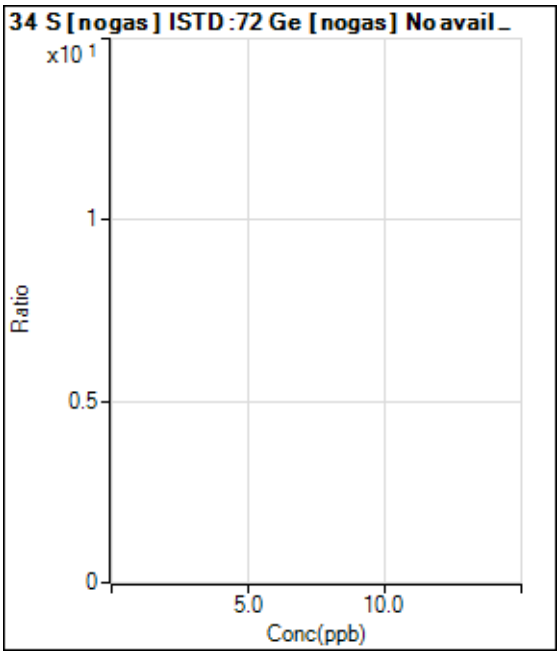
Calibration for 105_ICV.d



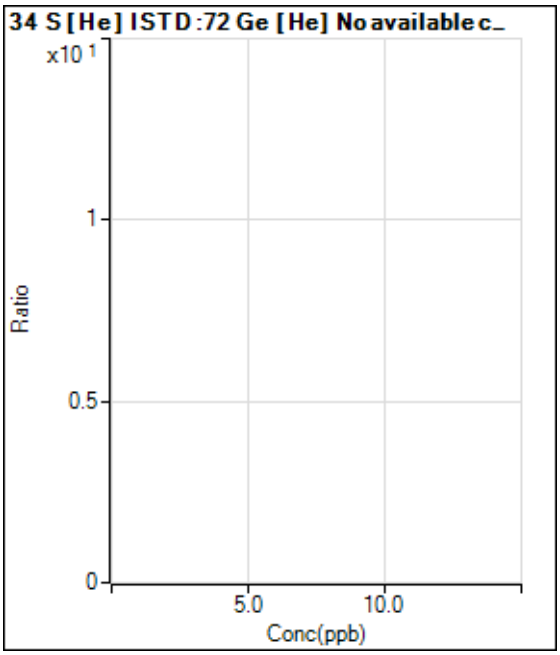
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43303.24	0.0187	P	4.1
2	☐	10.000	8.386	50704.80	0.0218	P	3.1
3	☐	25.000	27.003	65078.32	0.0286	P	1.2
4	☐	50.000	53.521	88814.07	0.0382	P	1.1
5	☐	500.000	496.915	442322.88	0.1996	P	2.3
6	☐	1000.000	1001.333	841336.71	0.3832	P	1.6
7	☐	5.000					

y = 3.6395E-004 * x + 0.0187
R = 1.0000
DL = 6.264
BEC = 51.5

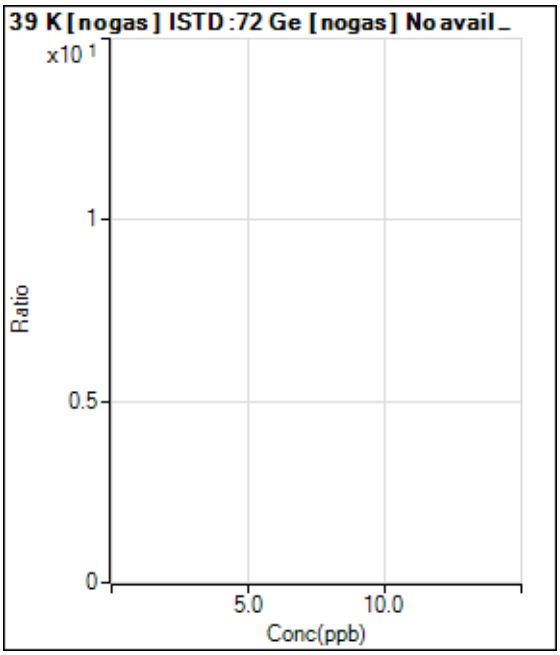
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.000					
6	☐	40000.000					
7	☐	200.000					

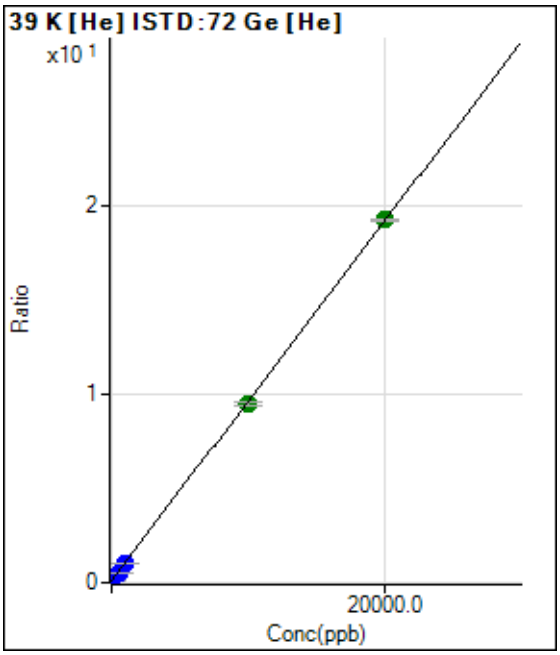


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.000					
6	☐	40000.000					
7	☐	200.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

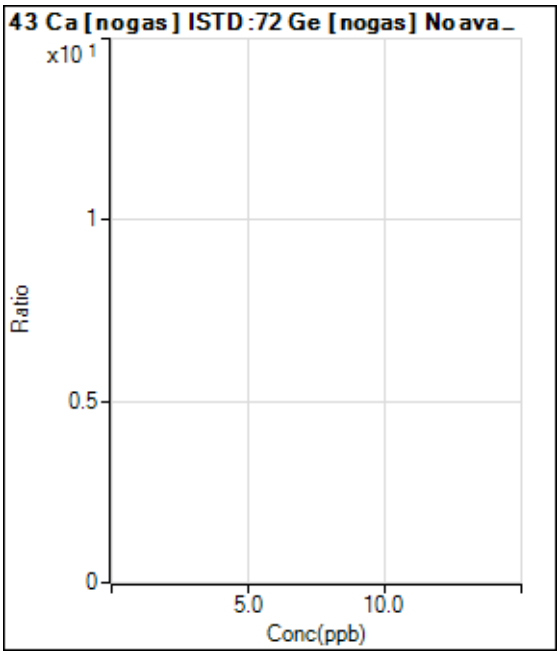
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	61249.84	0.1088	P	2.7
2	☐	200.000	182.485	160279.74	0.2828	P	0.7
3	☐	500.000	469.822	313090.03	0.5566	P	0.7
4	☐	1000.000	967.623	569019.81	1.0310	P	0.4
5	☐	10000.000	9842.977	5011720.97	9.4893	A	1.2
6	☐	20000.000	20081.060	9871881.73	19.2463	A	0.6
7	☐	100.000					

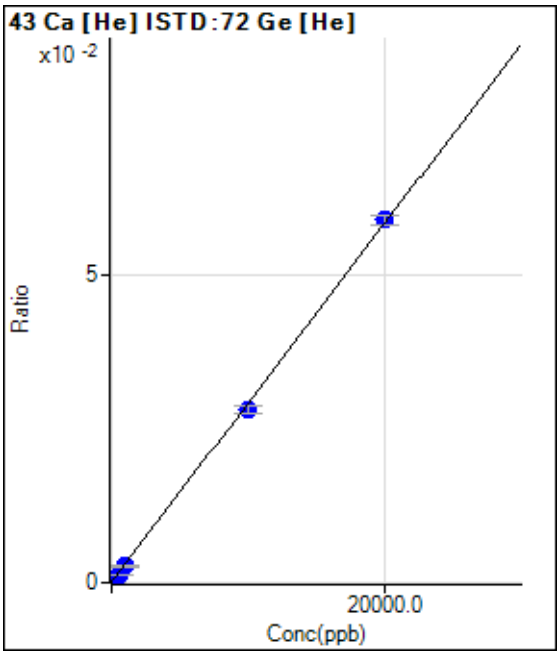
y = 9.5301E-004 * x + 0.1088
R = 1.0000
DL = 9.219
BEC = 114.2

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

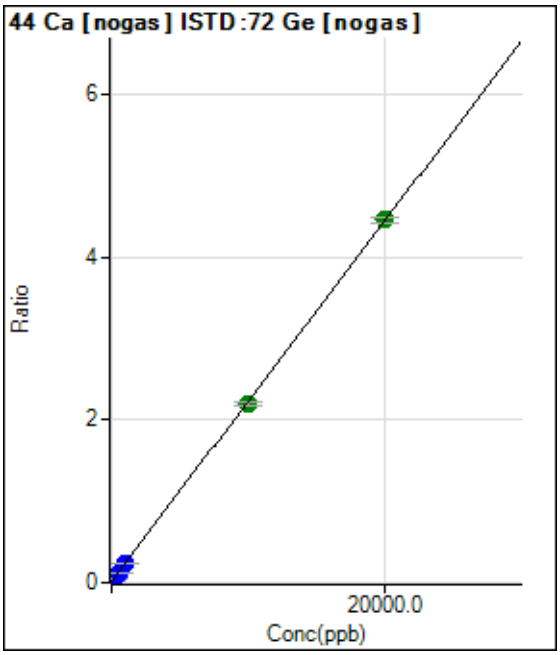
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0001	P	78.2
2	☐	200.000	223.948	433.35	0.0008	P	21.4
3	☐	500.000	417.901	746.69	0.0013	P	10.8
4	☐	1000.000	892.001	1493.42	0.0027	P	5.9
5	☐	10000.000	9594.965	14792.68	0.0280	P	4.0
6	☐	20000.000	20209.731	30194.61	0.0589	P	2.4
7	☐	100.000					

y = 2.9074E-006 * x + 1.1276E-004
R = 0.9997
DL = 90.95
BEC = 38.78

Weight: <None>
Min Conc: <None>

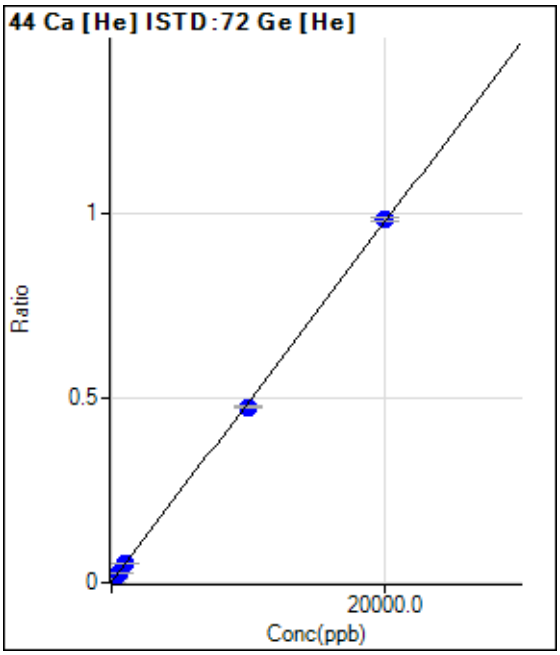


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	42237.99	0.0183	P	1.4
2	☐	200.000	177.382	133907.62	0.0576	P	2.6
3	☐	500.000	475.295	281431.45	0.1235	P	0.7
4	☐	1000.000	974.079	543752.37	0.2340	P	1.0
5	☐	10000.000	9850.602	4874876.28	2.1999	A	3.0
6	☐	20000.000	20076.839	9802969.64	4.4648	A	1.8
7	☐	100.000					

y = 2.2147E-004 * x + 0.0183
R = 1.0000
DL = 3.54
BEC = 82.54

Weight: <None>
Min Conc: <None>

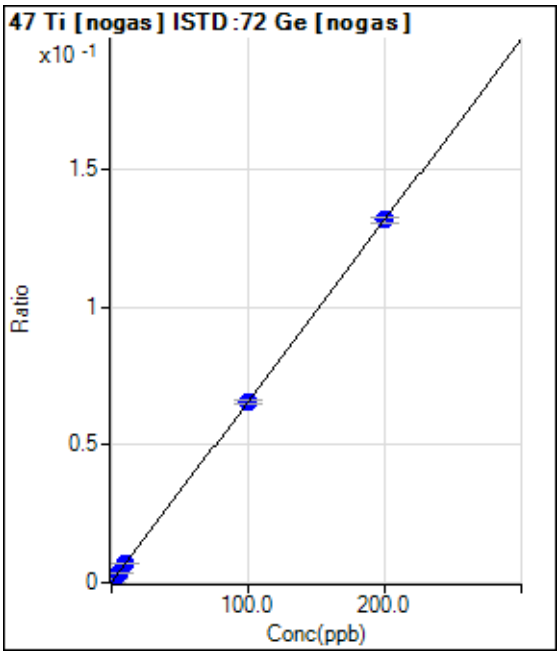
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1016.71	0.0018	P	16.2
2	☐	200.000	175.460	5861.00	0.0103	P	1.3
3	☐	500.000	477.086	14065.46	0.0250	P	1.9
4	☐	1000.000	997.048	27754.11	0.0503	P	1.8
5	☐	10000.000	9727.797	250771.69	0.4748	P	1.2
6	☐	20000.000	20137.067	503145.23	0.9810	P	0.9
7	☐	100.000					

y = 4.8624E-005 * x + 0.0018
R = 0.9999
DL = 18.1
BEC = 37.17

Weight: <None>
Min Conc: <None>

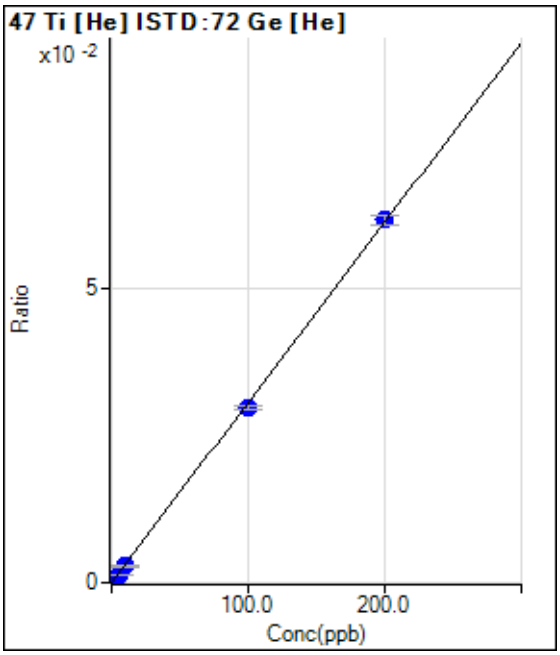


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	240.00	0.0001	P	5.4
2	☐	2.000	2.001	3300.34	0.0014	P	4.5
3	☐	5.000	4.886	7548.29	0.0033	P	5.2
4	☐	10.000	10.145	15736.85	0.0068	P	2.5
5	☐	100.000	99.512	145204.29	0.0655	P	1.6
6	☐	200.000	200.239	289246.55	0.1317	P	1.5
7	☐	1.000					

y = 6.5736E-004 * x + 1.0391E-004
R = 1.0000
DL = 0.02568
BEC = 0.1581

Weight: <None>
Min Conc: <None>

Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	114.5
2	☐	2.000	1.843	346.68	0.0006	P	28.9
3	☐	5.000	4.045	723.36	0.0013	P	14.2
4	☐	10.000	9.243	1586.76	0.0029	P	7.4
5	☐	100.000	97.077	15713.45	0.0297	P	1.4
6	☐	200.000	201.525	31647.06	0.0617	P	2.8
7	☐	1.000					

y = 3.0595E-004 * x + 4.7580E-005

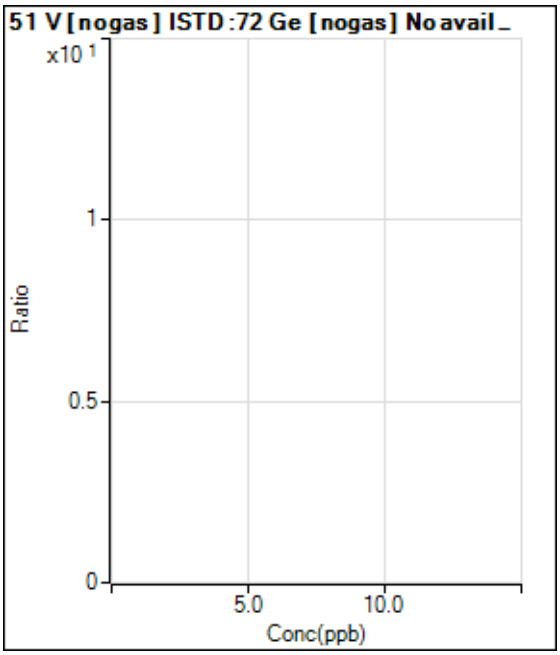
R = 0.9999

DL = 0.534

BEC = 0.1555

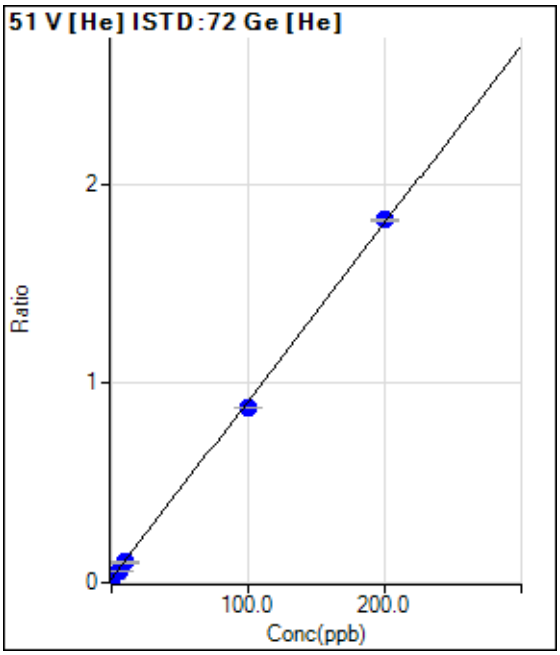
Weight: <None>

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					

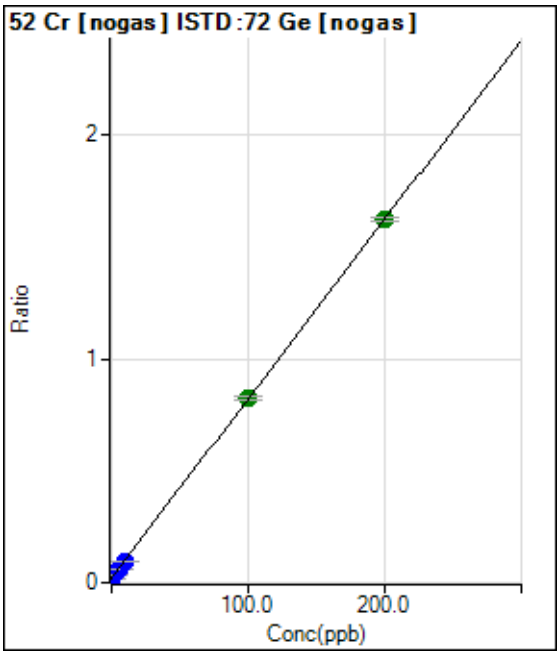
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11812.68	0.0210	P	1.9
2	☐	2.000	1.823	21104.17	0.0372	P	1.5
3	☐	5.000	4.426	33990.93	0.0604	P	2.0
4	☐	10.000	9.033	56015.83	0.1015	P	0.7
5	☐	100.000	96.319	464467.36	0.8794	P	0.6
6	☐	200.000	201.905	933721.15	1.8204	P	0.6
7	☐	1.000					

y = 0.0089 * x + 0.0210
R = 0.9998
DL = 0.137
BEC = 2.355

Weight: <None>
Min Conc: <None>

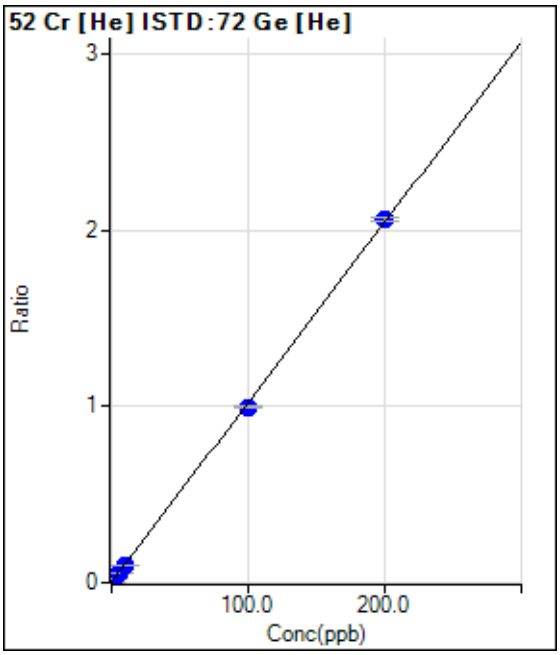


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	48824.24	0.0211	P	1.3
2	☐	2.000	1.802	82709.89	0.0356	P	1.9
3	☐	5.000	4.823	136037.08	0.0597	P	2.0
4	☐	10.000	9.538	226474.48	0.0975	P	0.2
5	☐	100.000	100.449	1828500.34	0.8251	A	2.2
6	☐	200.000	199.805	3558061.30	1.6203	A	1.0
7	☐	1.000					

y = 0.0080 * x + 0.0211
R = 1.0000
DL = 0.1021
BEC = 2.64

Weight: <None>
Min Conc: <None>

Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1170.05	0.0021	P	7.2
2	☐	2.000	1.933	12370.99	0.0218	P	2.2
3	☐	5.000	4.863	29109.78	0.0517	P	2.0
4	☐	10.000	9.809	56442.51	0.1023	P	1.9
5	☐	100.000	97.254	525751.93	0.9955	P	1.5
6	☐	200.000	201.387	1056226.11	2.0591	P	1.1
7	☐	1.000					

y = 0.0102 * x + 0.0021

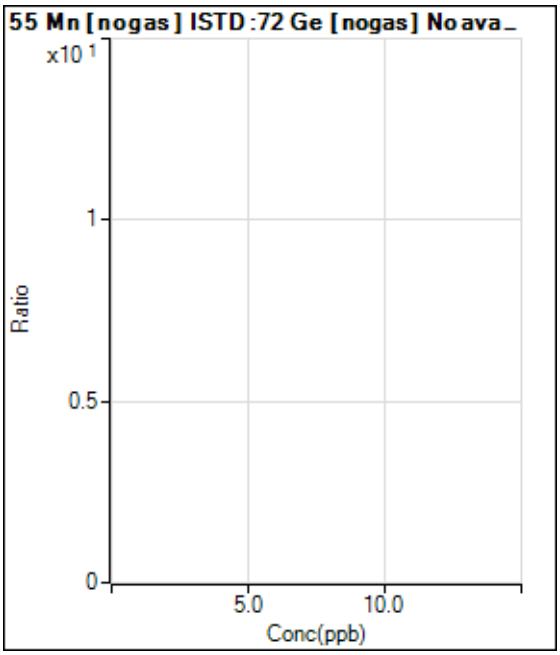
R = 0.9999

DL = 0.04405

BEC = 0.2036

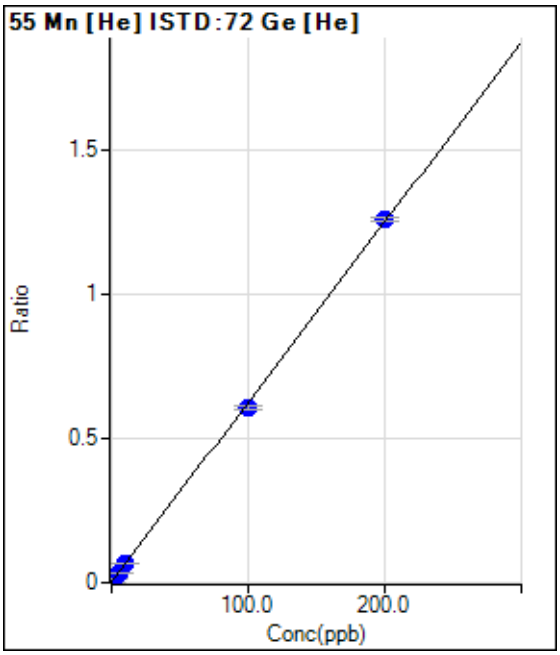
Weight: <None>

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					

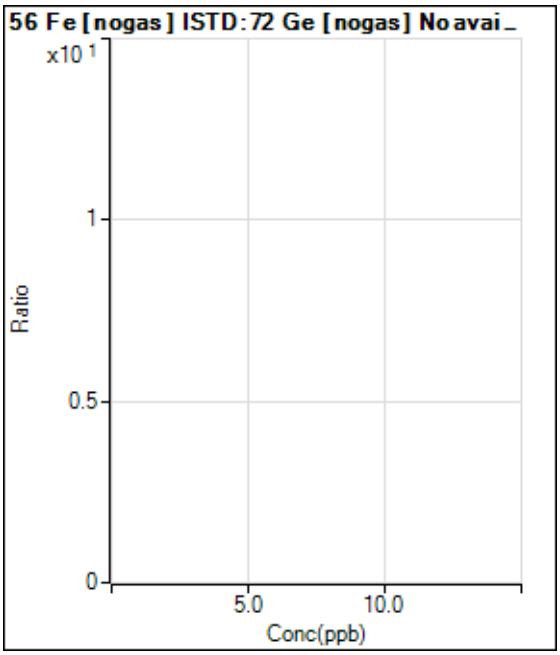
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1300.07	0.0023	P	12.4
2	☐	2.000	1.685	7264.87	0.0128	P	4.3
3	☐	5.000	4.879	18409.32	0.0327	P	0.9
4	☐	10.000	9.941	35477.59	0.0643	P	1.3
5	☐	100.000	97.317	321613.47	0.6090	P	1.9
6	☐	200.000	201.351	645020.95	1.2575	P	1.2
7	☐	1.000					

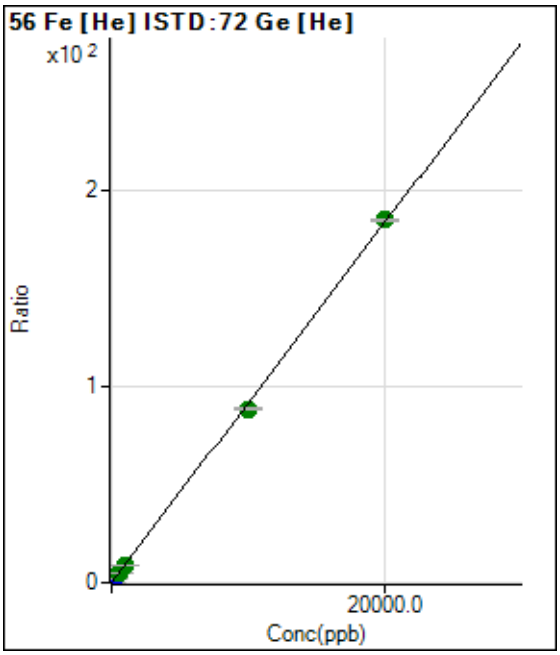
y = 0.0062 * x + 0.0023
R = 0.9999
DL = 0.1383
BEC = 0.3707

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

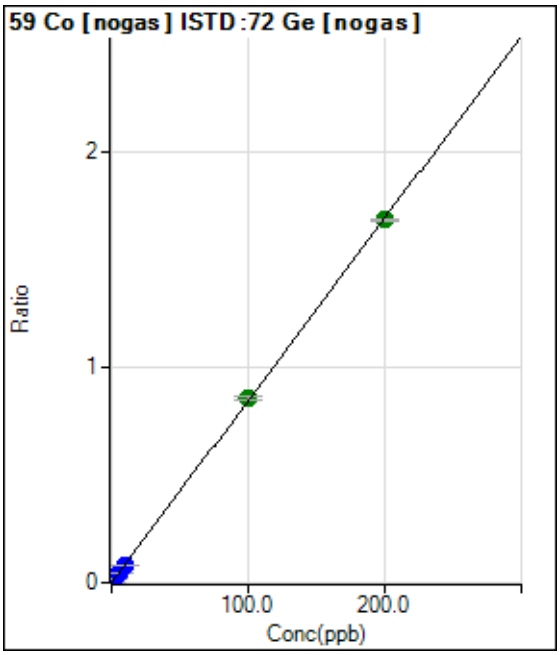
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17982.31	0.0320	P	2.7
2	☐	200.000	182.707	965878.63	1.7039	P	1.0
3	☐	500.000	498.144	2582327.67	4.5905	A	1.9
4	☐	1000.000	999.403	5065270.86	9.1776	A	0.2
5	☐	10000.000	9659.173	46700529.31	88.4242	A	1.2
6	☐	20000.000	20170.662	94693658.59	184.6161	A	0.6
7	☐	100.000					

y = 0.0092 * x + 0.0320
R = 0.9998
DL = 0.2864
BEC = 3.492

Weight: <None>
Min Conc: <None>

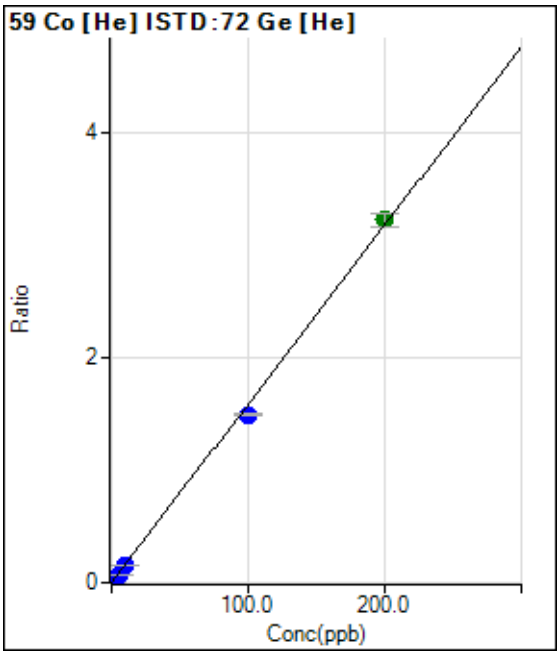


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	603.35	0.0003	P	10.6
2	☐	2.000	1.893	37872.38	0.0163	P	4.5
3	☐	5.000	5.017	97328.46	0.0427	P	2.6
4	☐	10.000	9.776	192916.60	0.0830	P	1.2
5	☐	100.000	101.517	1905212.42	0.8597	A	2.0
6	☐	200.000	199.253	3704843.90	1.6871	A	0.7
7	☐	1.000					

y = 0.0085 * x + 2.6075E-004
R = 1.0000
DL = 0.009832
BEC = 0.0308

Weight: <None>
Min Conc: <None>

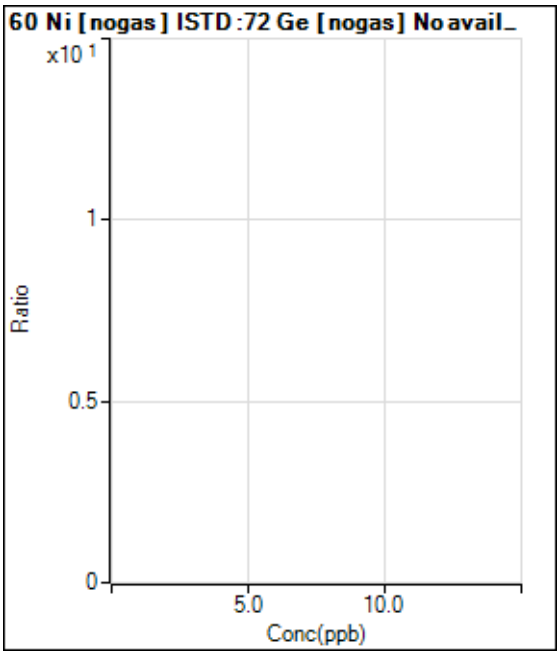
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	236.67	0.0004	P	10.1
2	☐	2.000	1.872	17111.49	0.0302	P	0.3
3	☐	5.000	4.655	41864.34	0.0744	P	0.7
4	☐	10.000	9.785	86076.12	0.1560	P	2.3
5	☐	100.000	93.812	787842.85	1.4917	P	1.3
6	☐	200.000	203.115	1656379.82	3.2293	A	3.4
7	☐	1.000					

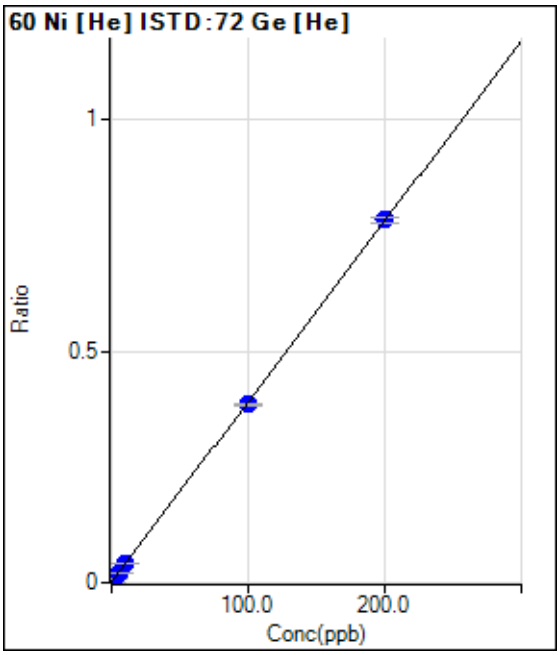
y = 0.0159 * x + 4.2040E-004
R = 0.9993
DL = 0.007979
BEC = 0.02645

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					

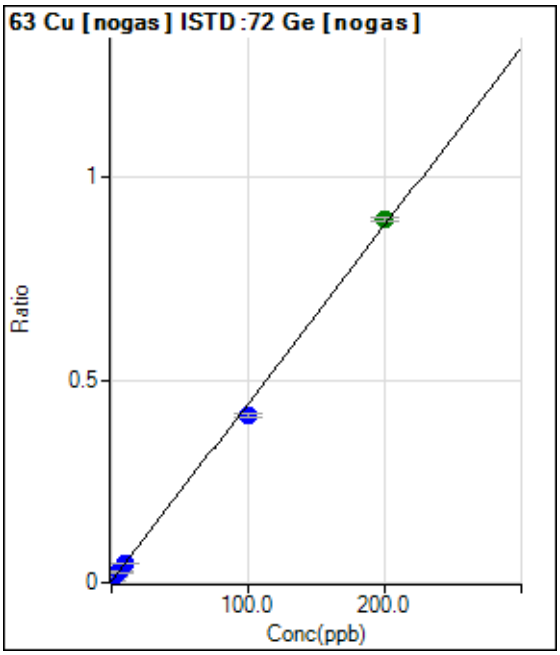
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	563.35	0.0010	P	1.7
2	☐	2.000	1.789	4517.27	0.0080	P	4.5
3	☐	5.000	5.024	11573.81	0.0206	P	0.6
4	☐	10.000	10.057	22176.82	0.0402	P	2.0
5	☐	100.000	98.336	202861.57	0.3841	P	1.8
6	☐	200.000	200.831	401814.41	0.7834	P	1.3
7	☐	1.000					

y = 0.0039 * x + 0.0010
R = 1.0000
DL = 0.01297
BEC = 0.257

Weight: <None>
Min Conc: <None>

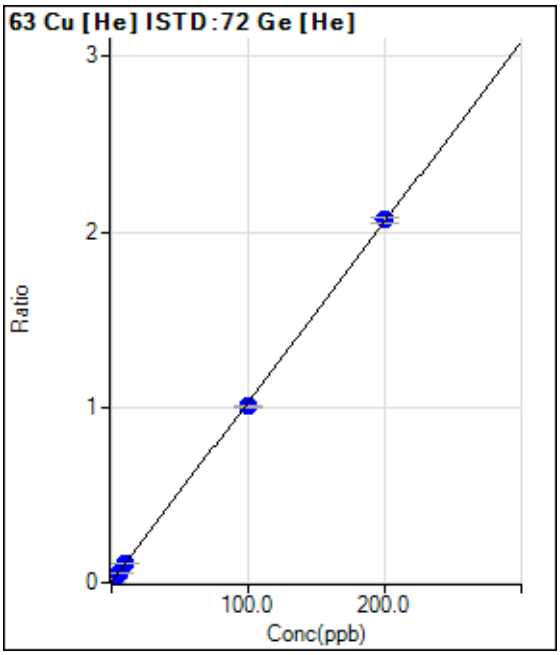


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8375.35	0.0036	P	5.4
2	☐	2.000	1.993	28762.63	0.0124	P	2.5
3	☐	5.000	5.127	59472.49	0.0261	P	3.0
4	☐	10.000	9.973	110086.50	0.0474	P	1.1
5	☐	100.000	93.591	918009.80	0.4143	P	2.6
6	☐	200.000	203.203	1966005.02	0.8952	A	1.1
7	☐	1.000					

y = 0.0044 * x + 0.0036
R = 0.9993
DL = 0.1345
BEC = 0.8256

Weight: <None>
Min Conc: <None>

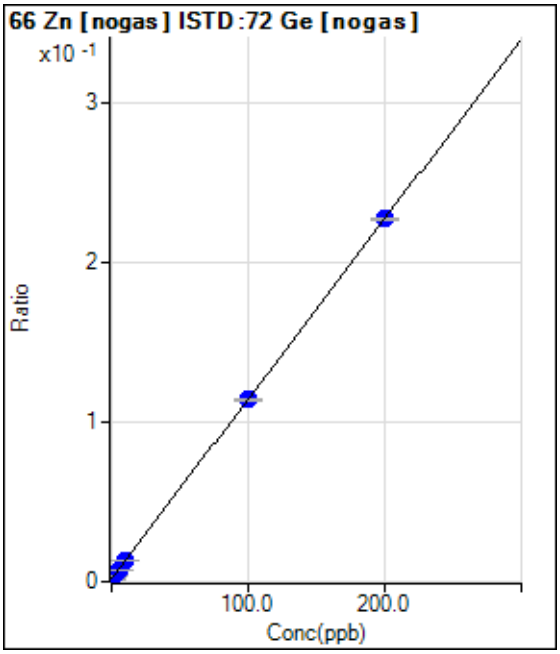
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2580.22	0.0046	P	10.6
2	☐	2.000	1.890	13591.82	0.0240	P	0.7
3	☐	5.000	4.984	31347.03	0.0557	P	2.7
4	☐	10.000	10.451	61713.42	0.1118	P	1.0
5	☐	100.000	97.676	531719.84	1.0067	P	1.2
6	☐	200.000	201.141	1060838.94	2.0683	P	1.3
7	☐	1.000					

y = 0.0103 * x + 0.0046
R = 0.9999
DL = 0.1424
BEC = 0.4471

Weight: <None>
Min Conc: <None>

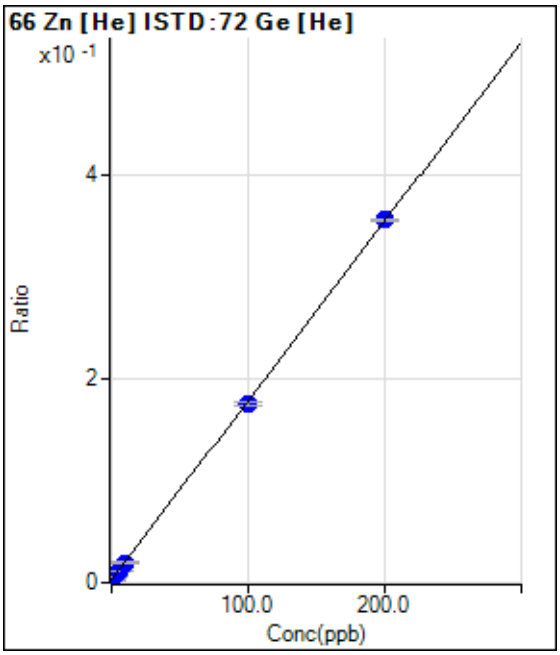


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4193.88	0.0018	P	6.5
2	☐	2.000	1.701	8688.87	0.0037	P	2.3
3	☐	5.000	4.953	16861.26	0.0074	P	4.4
4	☐	10.000	10.130	30782.69	0.0132	P	0.8
5	☐	100.000	99.575	253058.13	0.1142	P	1.4
6	☐	200.000	200.210	500136.78	0.2277	P	0.2
7	☐	1.000					

y = 0.0011 * x + 0.0018
R = 1.0000
DL = 0.3124
BEC = 1.609

Weight: <None>
Min Conc: <None>

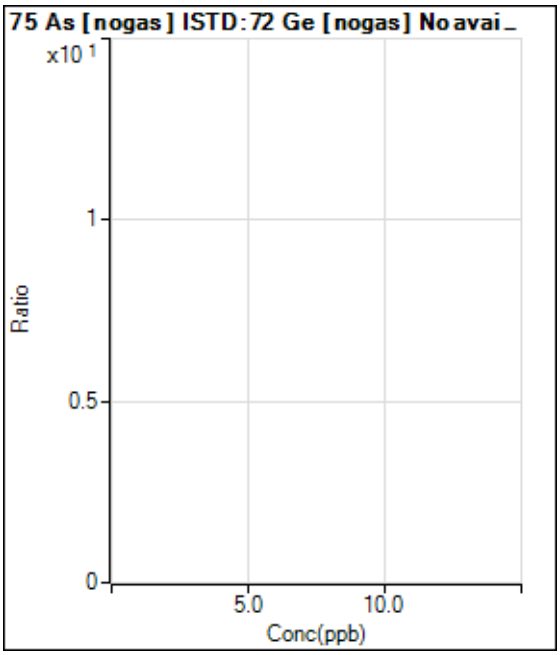
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1650.10	0.0029	P	7.9
2	☐	2.000	1.744	3400.35	0.0060	P	13.4
3	☐	5.000	4.821	6421.21	0.0114	P	4.4
4	☐	10.000	9.571	10913.37	0.0198	P	3.2
5	☐	100.000	98.253	92856.65	0.1758	P	1.2
6	☐	200.000	200.902	182829.37	0.3564	P	0.5
7	☐	1.000					

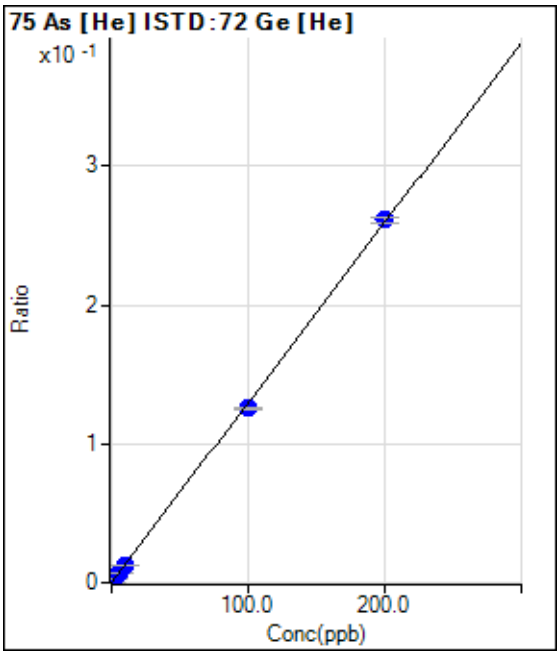
y = 0.0018 * x + 0.0029
R = 0.9999
DL = 0.3973
BEC = 1.667

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					

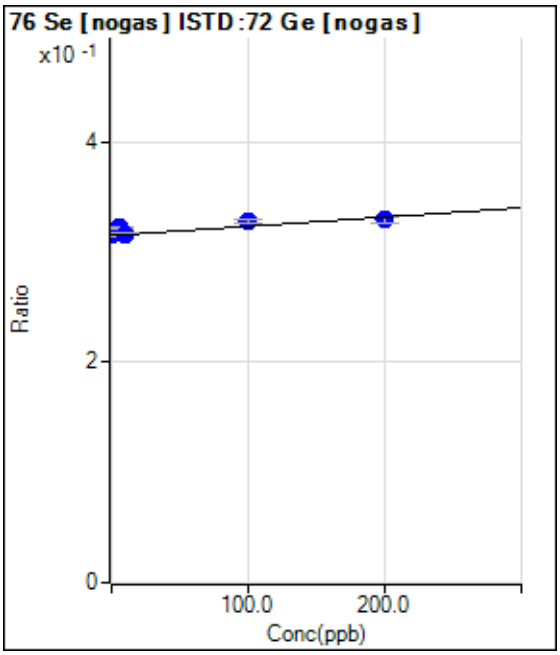
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	124.45	0.0002	P	10.0
2	☐	2.000	1.905	1522.29	0.0027	P	5.2
3	☐	5.000	4.708	3551.47	0.0063	P	2.1
4	☐	10.000	9.643	7009.14	0.0127	P	3.6
5	☐	100.000	96.676	66196.92	0.1253	P	0.4
6	☐	200.000	201.688	133988.60	0.2612	P	1.3
7	☐	1.000					

y = 0.0013 * x + 2.2101E-004
R = 0.9998
DL = 0.05101
BEC = 0.1708

Weight: <None>
Min Conc: <None>

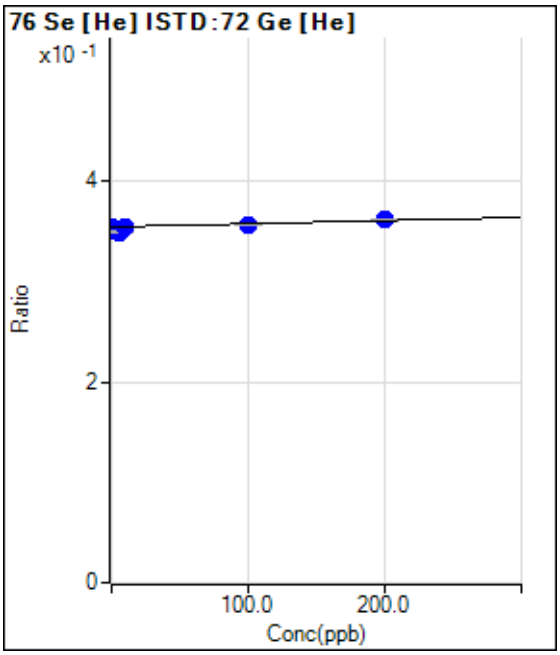


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	727226.37	0.3147	P	1.2
2	☐	2.000	36.093	739248.01	0.3178	P	2.0
3	☐	5.000	83.353	732949.81	0.3217	P	0.3
4	☐	10.000	12.062	733684.83	0.3158	P	0.5
5	☐	100.000	157.668	726943.69	0.3280	P	1.2
6	☐	200.000	168.763	722210.35	0.3289	P	1.5
7	☐	1.000					

y = 8.4034E-005 * x + 0.3147
R = 0.8673
DL = 140.2
BEC = 3745

Weight: <None>
Min Conc: <None>

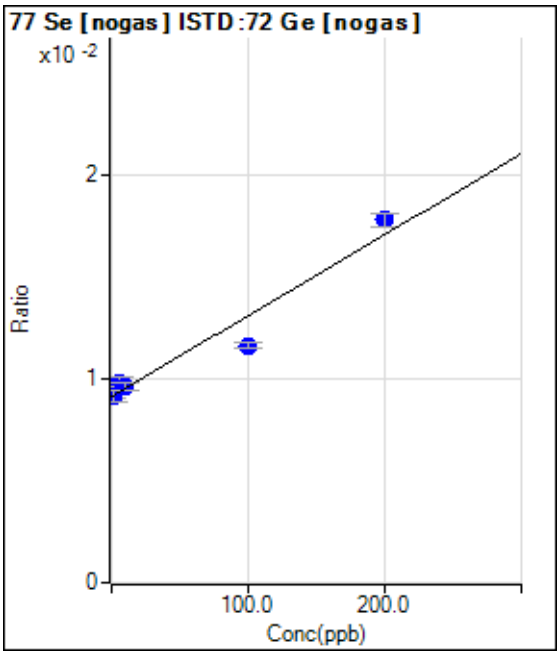
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	199785.21	0.3550	P	1.8
2	☐	2.000	-113.940	199245.06	0.3515	P	1.0
3	☐	5.000	-163.646	196855.93	0.3499	P	0.3
4	☐	10.000	-9.730	195784.01	0.3547	P	0.4
5	☐	100.000	73.551	188731.72	0.3573	P	0.2
6	☐	200.000	219.587	185615.91	0.3619	P	0.3
7	☐	1.000					

y = 3.1126E-005 * x + 0.3550
R = 0.8919
DL = 618.8
BEC = 1.141E+04

Weight: <None>
Min Conc: <None>

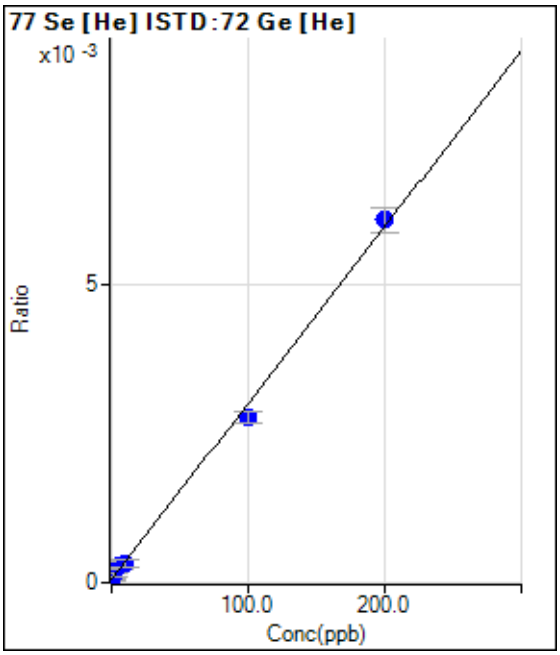


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21109.28	0.0091	P	2.3
2	☐	2.000	-0.437	21202.73	0.0091	P	6.0
3	☐	5.000	17.549	22387.34	0.0098	P	4.7
4	☐	10.000	12.049	22340.78	0.0096	P	3.4
5	☐	100.000	62.956	25788.65	0.0116	P	2.5
6	☐	200.000	218.130	39095.41	0.0178	P	3.7
7	☐	1.000					

y = 3.9730E-005 * x + 0.0091
R = 0.9738
DL = 15.72
BEC = 230

Weight: <None>
Min Conc: <None>

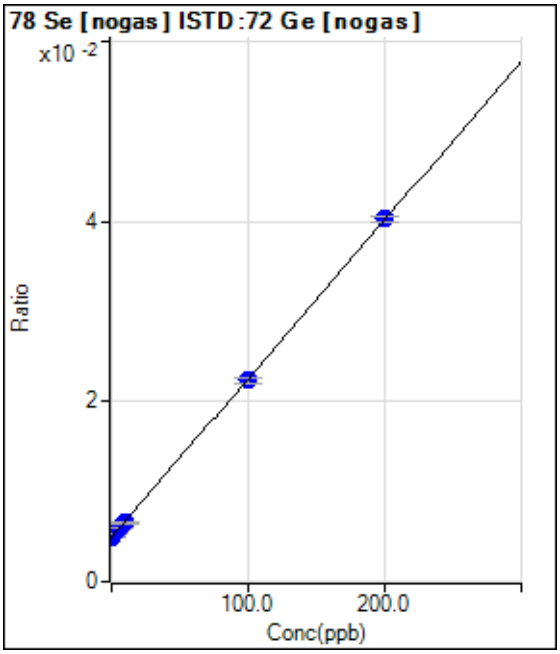
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30.00	0.0001	P	34.0
2	☐	2.000	2.571	73.33	0.0001	P	51.5
3	☐	5.000	7.618	156.67	0.0003	P	43.1
4	☐	10.000	9.051	176.67	0.0003	P	31.4
5	☐	100.000	91.892	1460.08	0.0028	P	6.7
6	☐	200.000	204.030	3113.64	0.0061	P	7.0
7	☐	1.000					

y = 2.9488E-005 * x + 5.3402E-005
R = 0.9987
DL = 1.847
BEC = 1.811

Weight: <None>
Min Conc: <None>

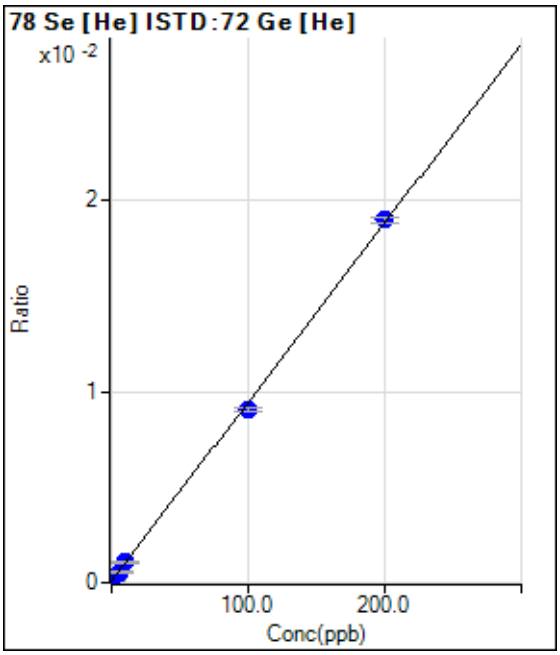


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11437.08	0.0050	P	4.6
2	☐	2.000	2.418	12514.52	0.0054	P	1.4
3	☐	5.000	6.247	13792.05	0.0061	P	1.1
4	☐	10.000	9.145	15253.23	0.0066	P	2.2
5	☐	100.000	98.651	49517.50	0.0223	P	2.6
6	☐	200.000	200.682	88564.52	0.0403	P	1.5
7	☐	1.000					

y = 1.7631E-004 * x + 0.0050
R = 0.9999
DL = 3.844
BEC = 28.09

Weight: <None>
Min Conc: <None>

Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50.67	0.0001	P	9.1
2	☐	2.000	2.157	165.33	0.0003	P	10.8
3	☐	5.000	4.918	309.33	0.0005	P	7.9
4	☐	10.000	10.427	588.01	0.0011	P	7.4
5	☐	100.000	96.161	4797.31	0.0091	P	2.2
6	☐	200.000	201.899	9731.94	0.0190	P	1.8
7	☐	1.000					

y = 9.3531E-005 * x + 8.9987E-005

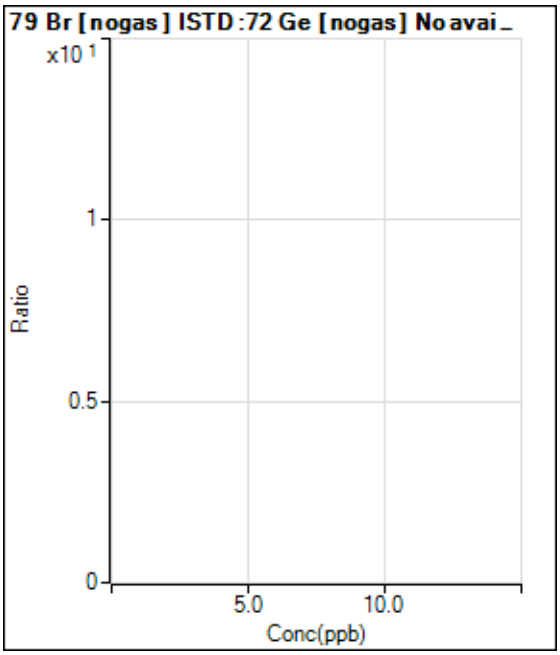
R = 0.9997

DL = 0.2629

BEC = 0.9621

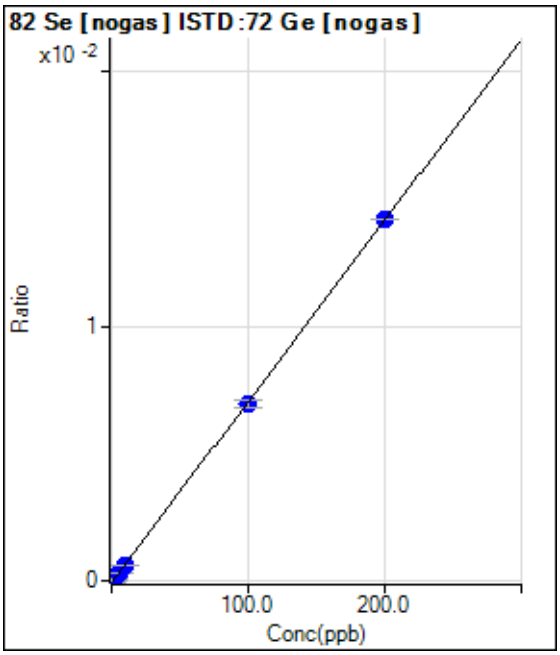
Weight: <None>

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					

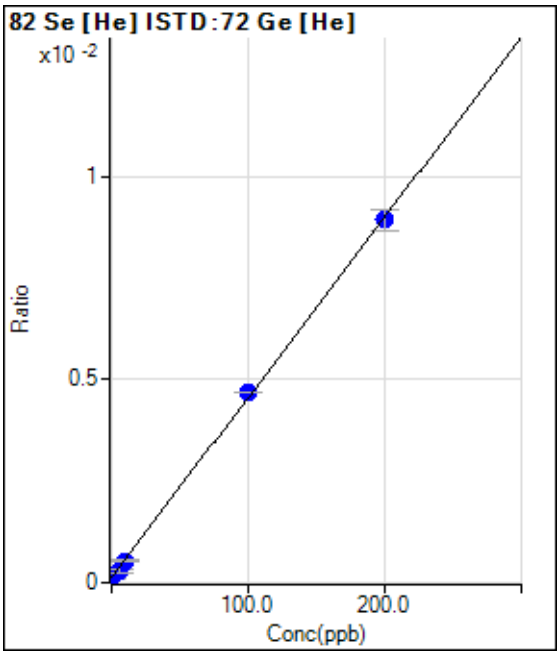
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-160.48	-0.0001	P	-99.3
2	☐	2.000	1.626	109.35	0.0000	P	98.8
3	☐	5.000	5.350	709.30	0.0003	P	9.6
4	☐	10.000	9.571	1419.72	0.0006	P	6.4
5	☐	100.000	98.632	15370.34	0.0069	P	4.7
6	☐	200.000	200.701	31150.77	0.0142	P	0.1
7	☐	1.000					

y = 7.1019E-005 * x - 6.8732E-005
R = 1.0000
DL = 2.882
BEC = -0.9678

Weight: <None>
Min Conc: <None>

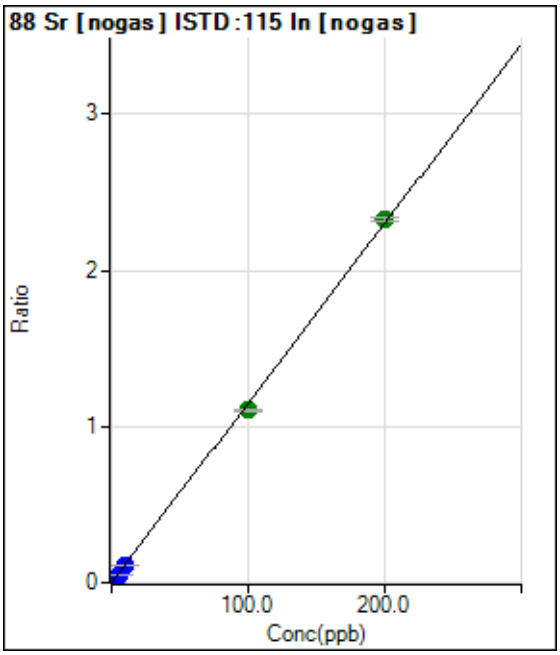


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0001	P	13.5
2	☐	2.000	1.438	106.67	0.0002	P	19.0
3	☐	5.000	3.616	160.00	0.0003	P	27.4
4	☐	10.000	9.185	293.34	0.0005	P	6.9
5	☐	100.000	102.849	2473.54	0.0047	P	0.5
6	☐	200.000	198.656	4580.65	0.0089	P	5.9
7	☐	1.000					

y = 4.4326E-005 * x + 1.2430E-004
R = 0.9998
DL = 1.135
BEC = 2.804

Weight: <None>
Min Conc: <None>

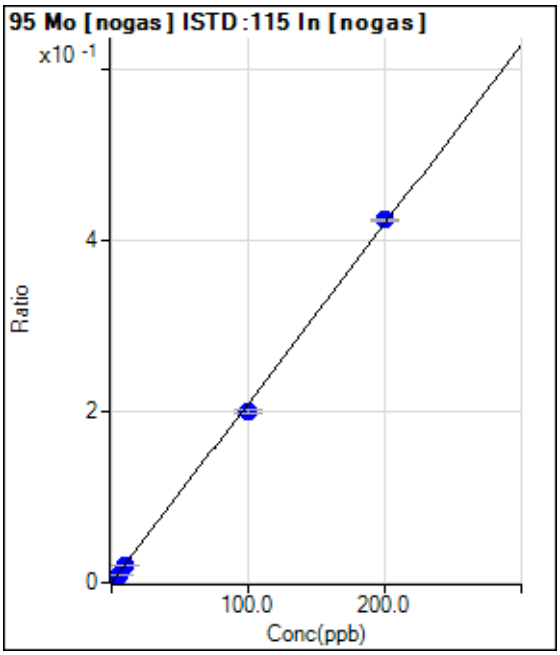
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2563.55	0.0011	P	6.0
2	☐	2.000	1.800	50250.33	0.0218	P	1.2
3	☐	5.000	4.524	122806.35	0.0531	P	1.3
4	☐	10.000	9.292	252065.98	0.1079	P	1.6
5	☐	100.000	95.836	2491484.23	1.1022	A	1.3
6	☐	200.000	202.131	5025044.82	2.3235	A	1.1
7	☐	1.000					

y = 0.0115 * x + 0.0011
R = 0.9997
DL = 0.01762
BEC = 0.09766

Weight: <None>
Min Conc: <None>

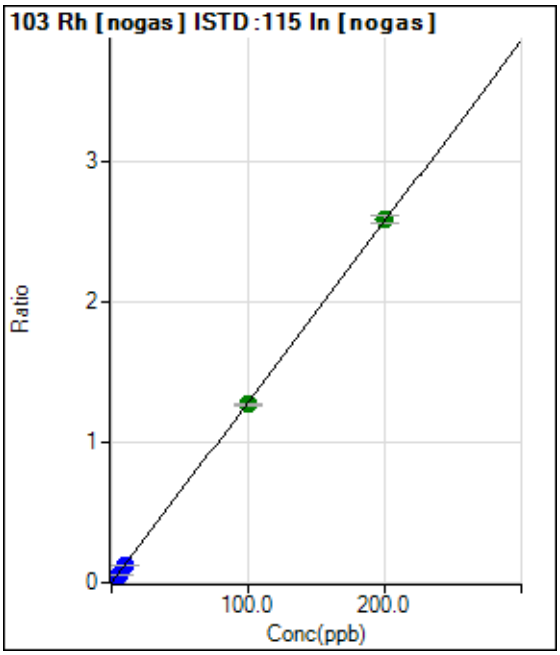


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	163.33	0.0001	P	5.4
2	☐	2.000	1.890	9302.53	0.0040	P	0.9
3	☐	5.000	4.621	22587.74	0.0098	P	0.9
4	☐	10.000	9.716	47797.21	0.0205	P	1.5
5	☐	100.000	95.384	452474.68	0.2002	P	1.4
6	☐	200.000	202.333	918183.37	0.4246	P	0.8
7	☐	1.000					

y = 0.0021 * x + 7.1412E-005
R = 0.9996
DL = 0.00549
BEC = 0.03404

Weight: <None>
Min Conc: <None>

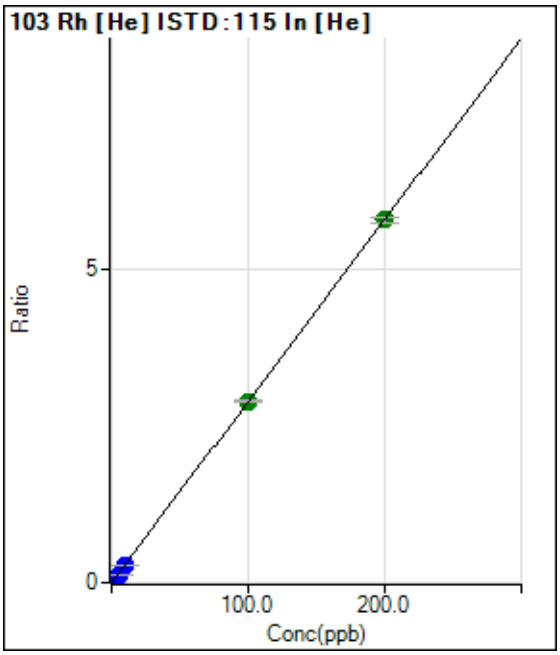
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0000	P	67.5
2	☐	2.000	1.852	55062.14	0.0239	P	2.6
3	☐	5.000	4.650	138685.99	0.0600	P	0.1
4	☐	10.000	9.460	284976.93	0.1220	P	1.5
5	☐	100.000	98.459	2868897.67	1.2692	A	1.5
6	☐	200.000	200.807	5598077.63	2.5885	A	2.1
7	☐	1.000					

y = 0.0129 * x + 1.9209E-005
R = 1.0000
DL = 0.003019
BEC = 0.00149

Weight: <None>
Min Conc: <None>

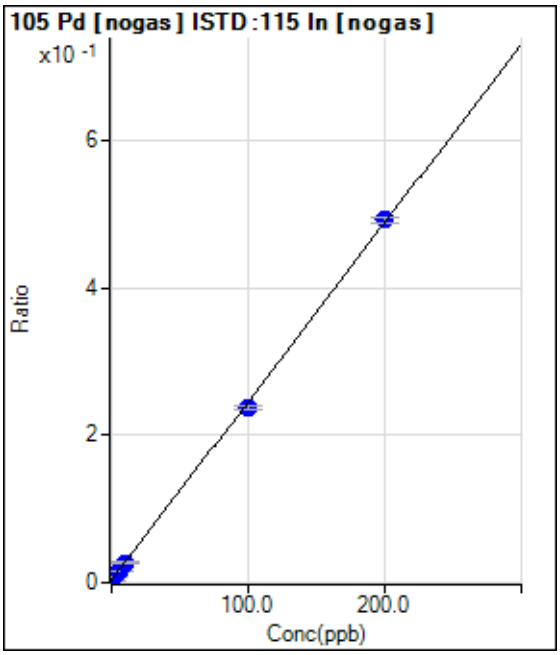


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0000	P	74.6
2	☐	2.000	1.780	42066.69	0.0517	P	0.8
3	☐	5.000	4.576	106205.20	0.1327	P	2.5
4	☐	10.000	9.605	218585.62	0.2785	P	1.8
5	☐	100.000	99.930	2193561.79	2.8975	A	1.1
6	☐	200.000	200.068	4249782.33	5.8009	A	1.3
7	☐	1.000					

y = 0.0290 * x + 4.0944E-005
R = 1.0000
DL = 0.003161
BEC = 0.001412

Weight: <None>
Min Conc: <None>

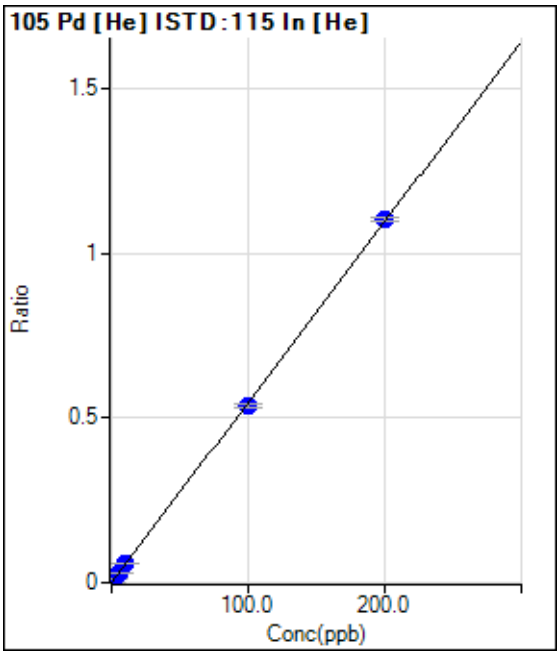
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7515.04	0.0033	P	8.1
2	☐	2.000	1.943	18443.12	0.0080	P	4.8
3	☐	5.000	4.756	34296.87	0.0148	P	1.4
4	☐	10.000	9.903	63824.78	0.0273	P	1.2
5	☐	100.000	96.538	536747.14	0.2375	P	1.3
6	☐	200.000	201.742	1065463.47	0.4927	P	1.3
7	☐	1.000					

y = 0.0024 * x + 0.0033
R = 0.9998
DL = 0.3296
BEC = 1.357

Weight: <None>
Min Conc: <None>

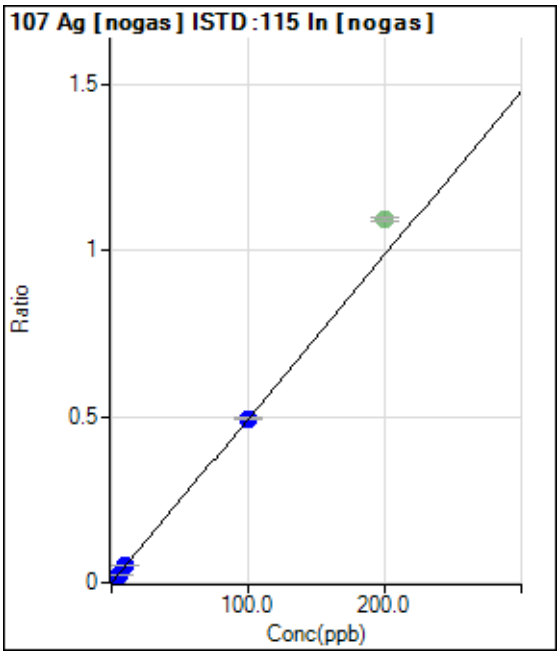


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	723.36	0.0009	P	17.2
2	☐	2.000	1.901	9209.19	0.0113	P	4.7
3	☐	5.000	4.811	21827.04	0.0273	P	4.3
4	☐	10.000	10.167	44422.43	0.0566	P	2.6
5	☐	100.000	97.903	406810.37	0.5374	P	1.3
6	☐	200.000	201.046	807734.10	1.1025	P	0.9
7	☐	1.000					

y = 0.0055 * x + 8.9474E-004
R = 0.9999
DL = 0.08441
BEC = 0.1633

Weight: <None>
Min Conc: <None>

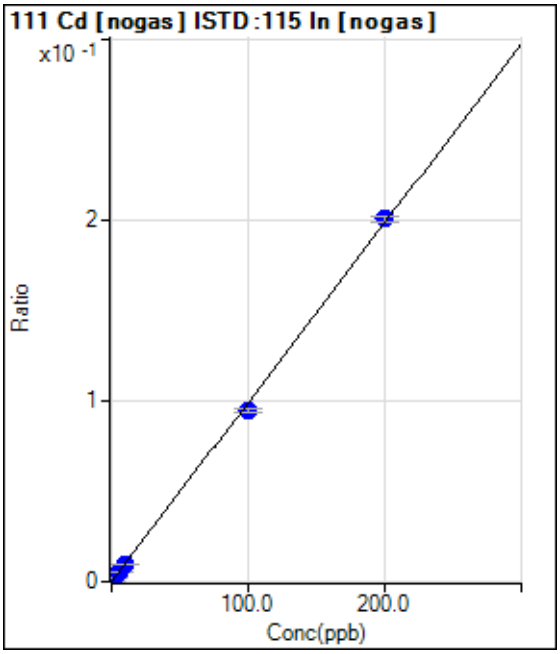
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	210.01	0.0001	P	13.9
2	☐	2.000	2.024	23188.73	0.0101	P	2.2
3	☐	5.000	5.117	58523.28	0.0253	P	1.0
4	☐	10.000	10.372	119587.62	0.0512	P	2.2
5	☐	100.000	99.956	1113139.30	0.4925	P	1.4
6	☑	200.000		2360205.69	1.0913	A	1.0
7	☐	1.000					

y = 0.0049 * x + 9.1835E-005
R = 1.0000
DL = 0.007784
BEC = 0.01864

Weight: <None>
Min Conc: <None>

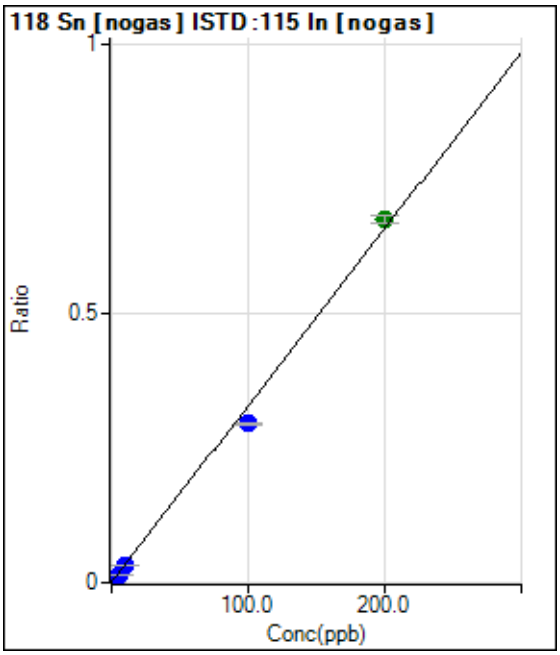


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	3.0
2	☐	2.000	1.955	4477.31	0.0019	P	4.8
3	☐	5.000	4.998	11463.90	0.0050	P	1.7
4	☐	10.000	9.887	22891.76	0.0098	P	2.8
5	☐	100.000	95.224	213220.05	0.0943	P	1.9
6	☐	200.000	202.394	433628.35	0.2005	P	1.4
7	☐	1.000					

y = 9.9065E-004 * x + 4.3767E-006
R = 0.9996
DL = 0.0004016
BEC = 0.004418

Weight: <None>
Min Conc: <None>

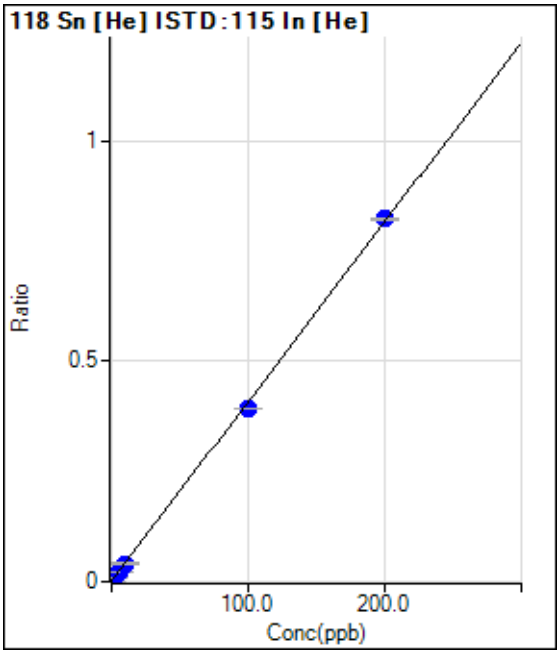
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2160.16	0.0009	P	11.5
2	☐	2.000	1.729	15273.57	0.0066	P	1.3
3	☐	5.000	4.427	35826.86	0.0155	P	1.0
4	☐	10.000	9.206	72861.13	0.0312	P	1.0
5	☐	100.000	89.792	668725.48	0.2959	P	1.6
6	☐	200.000	205.161	1459354.92	0.6748	A	2.0
7	☐	1.000					

y = 0.0033 * x + 9.4675E-004
R = 0.9982
DL = 0.09982
BEC = 0.2882

Weight: <None>
Min Conc: <None>

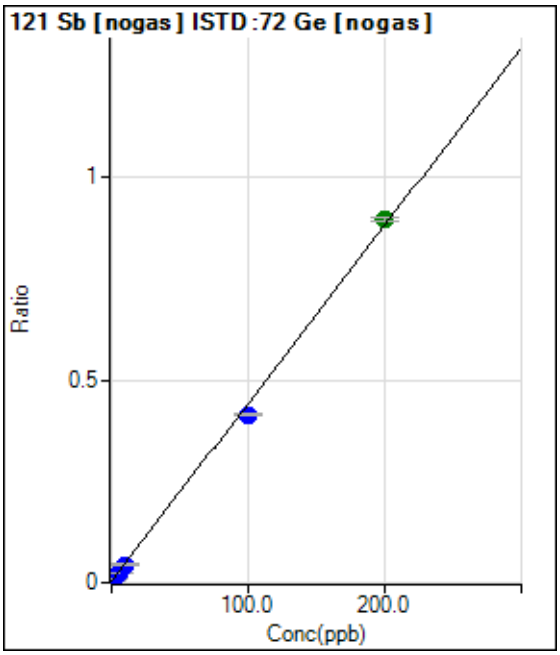


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1113.38	0.0014	P	11.6
2	☐	2.000	1.834	7198.23	0.0088	P	5.7
3	☐	5.000	4.723	16484.68	0.0206	P	3.9
4	☐	10.000	9.824	32463.84	0.0414	P	2.9
5	☐	100.000	96.345	297982.78	0.3936	P	0.5
6	☐	200.000	201.845	603017.52	0.8231	P	0.4
7	☐	1.000					

y = 0.0041 * x + 0.0014
R = 0.9998
DL = 0.1179
BEC = 0.3382

Weight: <None>
Min Conc: <None>

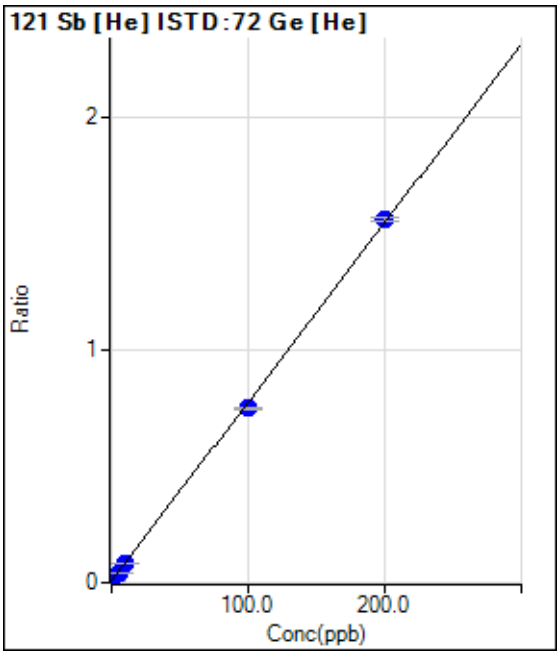
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9012.45	0.0039	P	5.0
2	☐	2.000	1.743	26860.74	0.0115	P	1.4
3	☐	5.000	4.681	55638.28	0.0244	P	2.7
4	☐	10.000	9.348	104331.54	0.0449	P	1.3
5	☐	100.000	93.627	918751.55	0.4146	P	1.5
6	☐	200.000	203.230	1965933.20	0.8953	A	0.9
7	☐	1.000					

y = 0.0044 * x + 0.0039
R = 0.9993
DL = 0.134
BEC = 0.8889

Weight: <None>
Min Conc: <None>

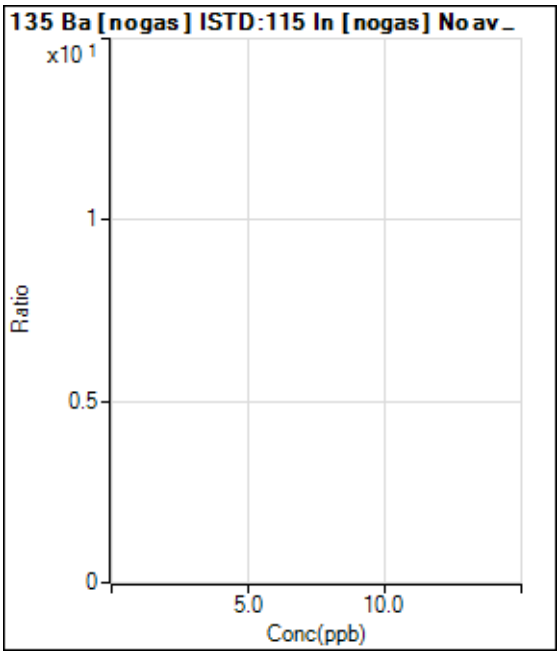


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4123.88	0.0073	P	4.8
2	☐	2.000	1.807	12027.61	0.0212	P	1.4
3	☐	5.000	4.810	24927.90	0.0443	P	3.5
4	☐	10.000	9.929	46180.87	0.0837	P	1.7
5	☐	100.000	96.475	395714.16	0.7492	P	1.0
6	☐	200.000	201.773	799550.66	1.5588	P	0.9
7	☐	1.000					

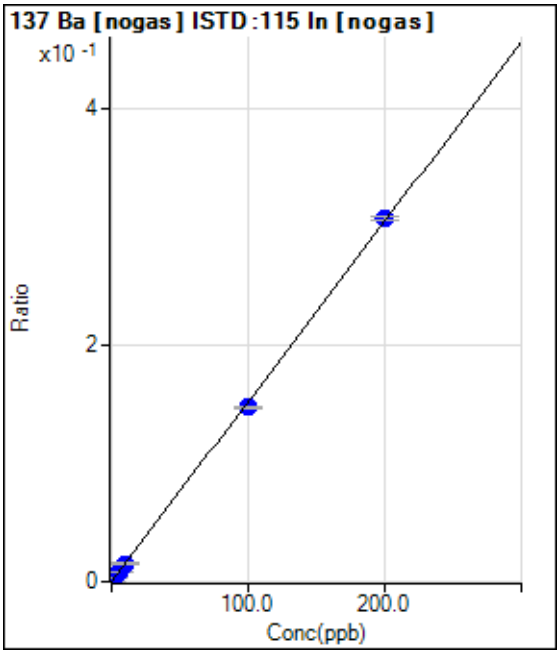
y = 0.0077 * x + 0.0073
R = 0.9998
DL = 0.1372
BEC = 0.9528

Weight: <None>
Min Conc: <None>

Calibration for 105_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	383.35	0.0002	P	26.1
2	☐	2.000	1.914	7091.54	0.0031	P	5.3
3	☐	5.000	4.871	17522.46	0.0076	P	1.3
4	☐	10.000	9.861	35429.79	0.0152	P	3.8
5	☐	100.000	96.755	333001.86	0.1473	P	1.8
6	☐	200.000	201.634	663637.00	0.3069	P	0.9
7	☐	1.000					

y = 0.0015 * x + 1.6700E-004

R = 0.9998

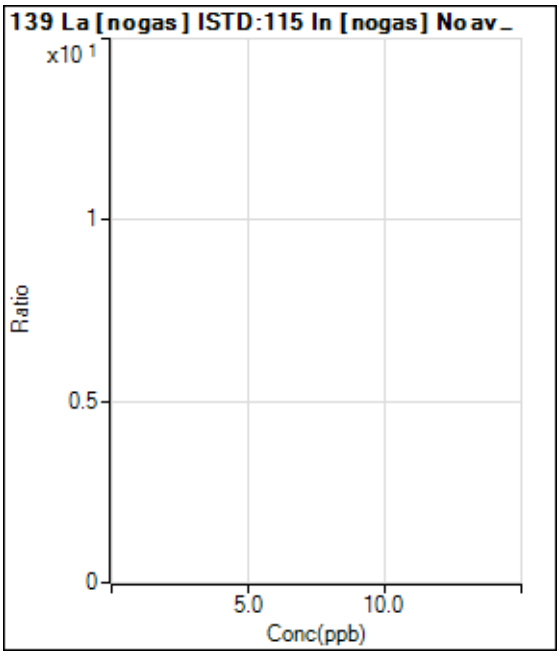
DL = 0.086

BEC = 0.1098

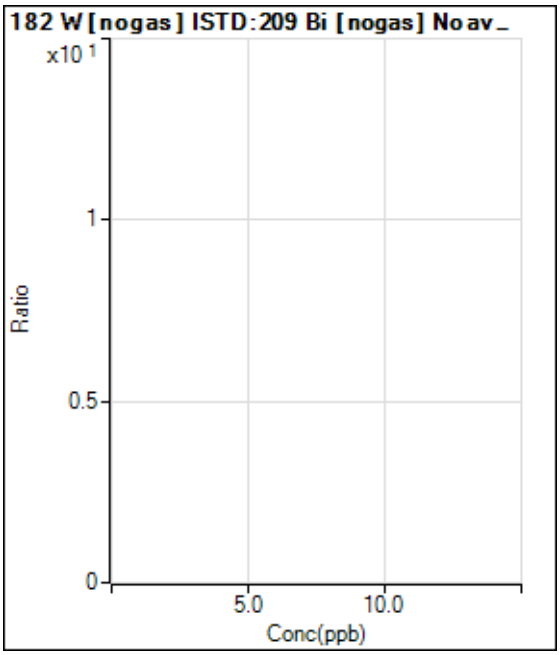
Weight: <None>

Min Conc: <None>

Calibration for 105_ICV.d

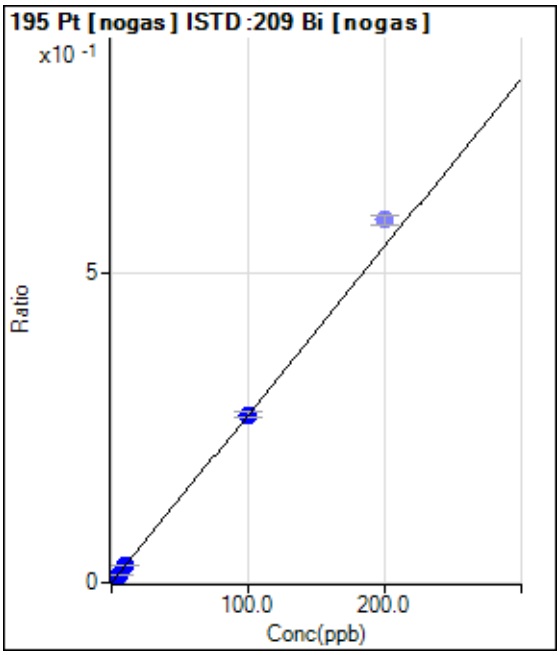


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	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					

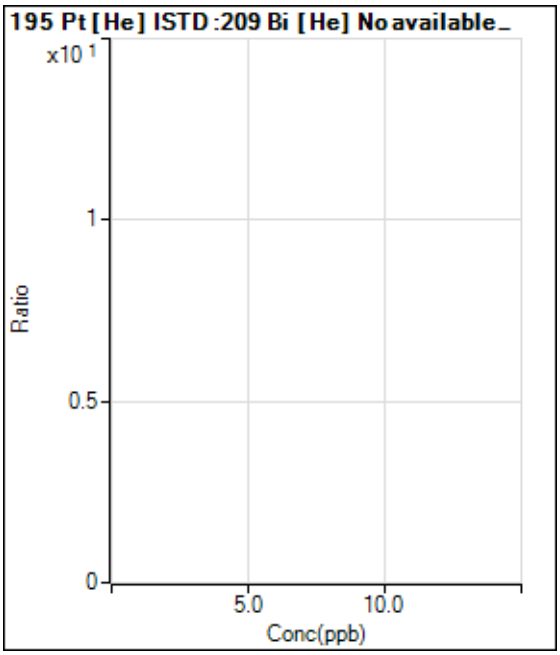
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	86.6
2	☐	2.000	1.894	9152.72	0.0052	P	0.7
3	☐	5.000	4.940	23603.80	0.0135	P	1.8
4	☐	10.000	10.072	48073.92	0.0274	P	1.7
5	☐	100.000	99.998	473695.85	0.2721	P	3.1
6	☑	200.000		977942.54	0.5877	P	3.0
7	☐	1.000					

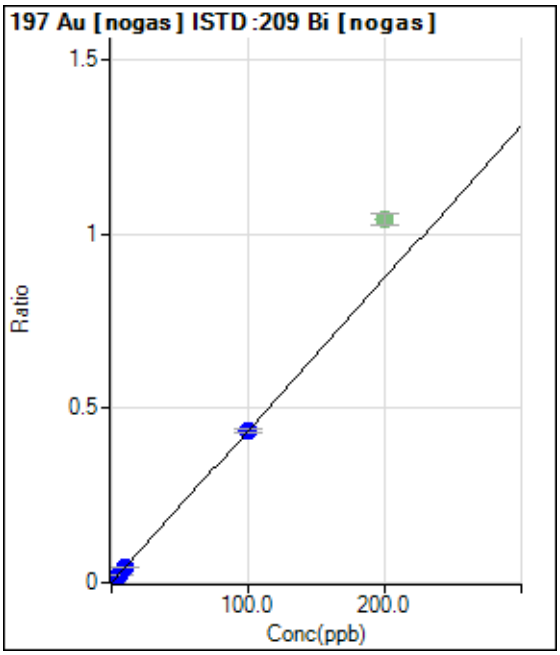
y = 0.0027 * x + 1.1115E-005
R = 1.0000
DL = 0.01061
BEC = 0.004085

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		13.33		P	
2	☐	2.000		8689.09		P	
3	☐	5.000		23477.03		P	
4	☐	10.000		48809.17		P	
5	☐	100.000		469277.91		P	
6	☐	200.000		967549.05		P	
7	☐	1.000					

Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	283.34	0.0002	P	23.0
2	☐	2.000	1.980	15597.52	0.0088	P	5.9
3	☐	5.000	4.979	38414.98	0.0219	P	1.8
4	☐	10.000	10.349	79484.37	0.0453	P	1.3
5	☐	100.000	99.967	760057.90	0.4366	P	3.2
6	☑	200.000		1730454.92	1.0400	A	3.3
7	☐	1.000					

y = 0.0044 * x + 1.5780E-004

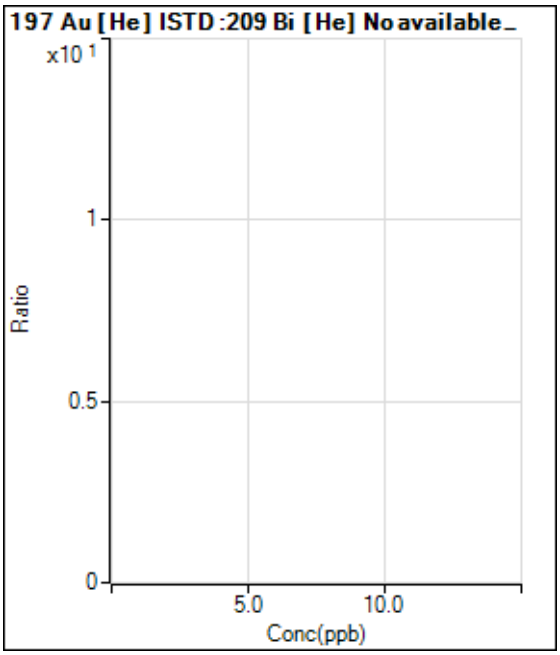
R = 1.0000

DL = 0.02499

BEC = 0.03614

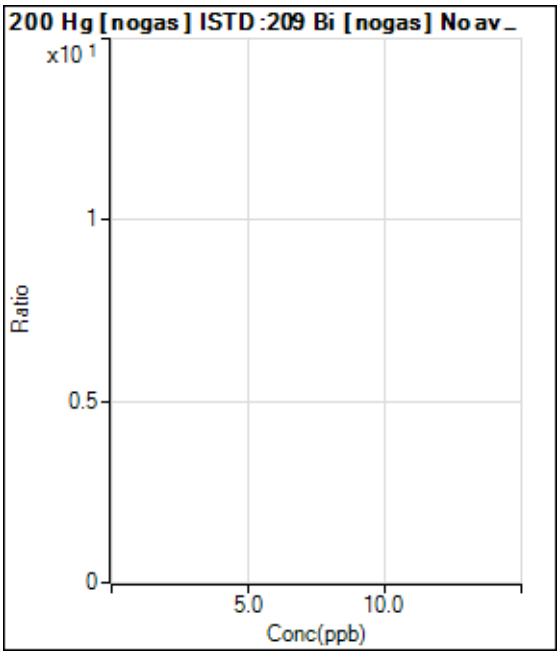
Weight: <None>

Min Conc: <None>

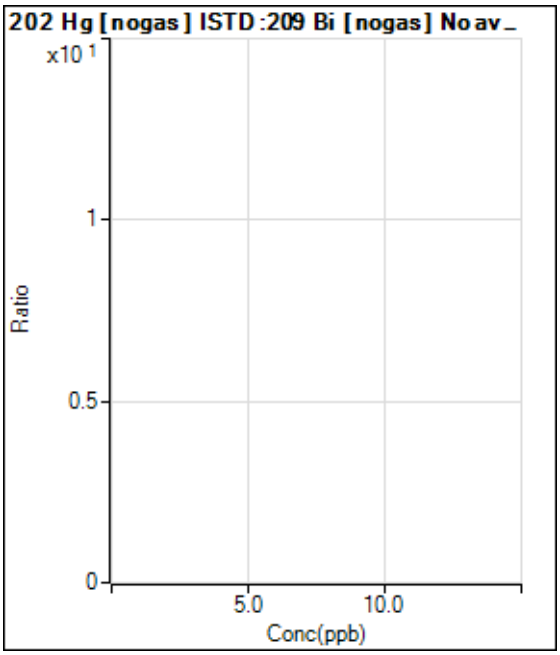


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		273.34		P	
2	☐	2.000		14866.88		P	
3	☐	5.000		38508.73		P	
4	☐	10.000		79585.45		P	
5	☐	100.000		757700.51		P	
6	☐	200.000		1738173.78		A	
7	☐	1.000					

Calibration for 105_ICV.d

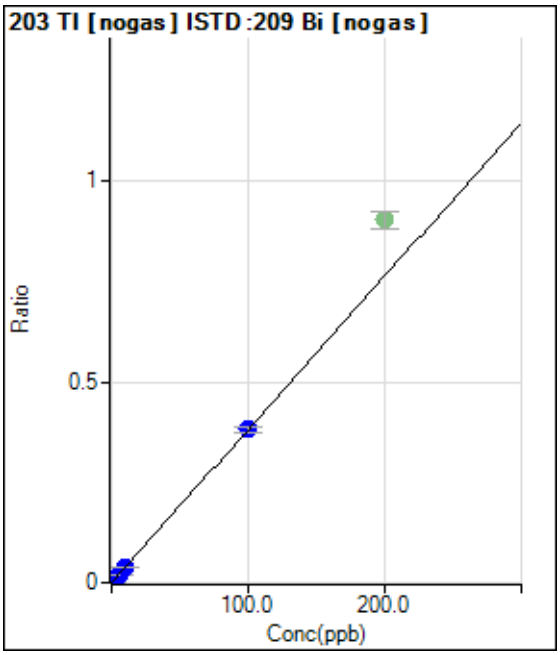


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	2.000					
6	☐	5.000					
7	☐	10.000					



	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					

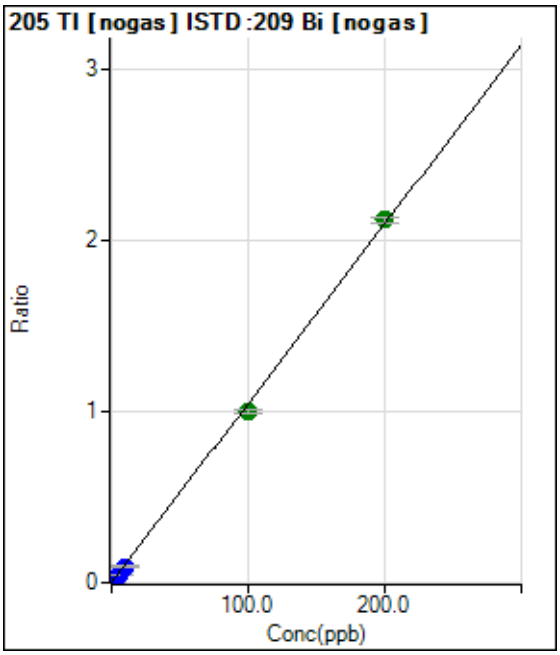
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0001	P	20.7
2	☐	2.000	1.940	13365.60	0.0075	P	4.2
3	☐	5.000	5.030	33948.74	0.0194	P	2.1
4	☐	10.000	10.516	70671.96	0.0403	P	0.9
5	☐	100.000	99.948	665048.04	0.3821	P	3.8
6	☑	200.000		1505335.65	0.9047	A	4.7
7	☐	1.000					

y = 0.0038 * x + 1.2978E-004
R = 1.0000
DL = 0.02106
BEC = 0.03396

Weight: <None>
Min Conc: <None>

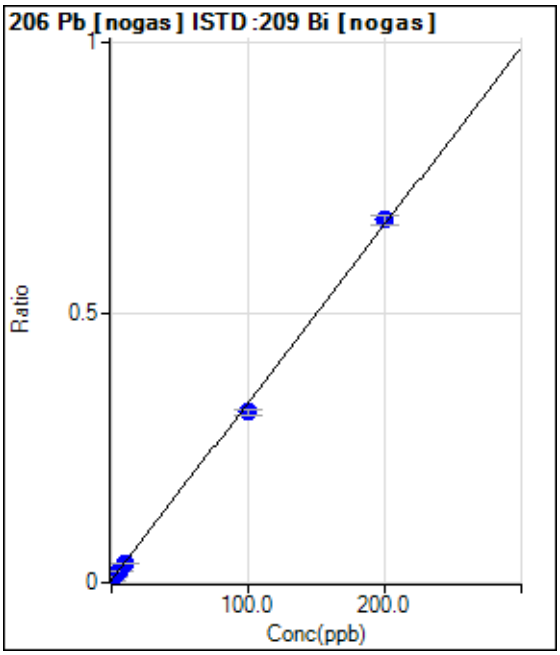


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	550.02	0.0003	P	12.3
2	☐	2.000	1.729	32642.76	0.0184	P	1.6
3	☐	5.000	4.358	80664.77	0.0460	P	1.8
4	☐	10.000	9.065	167077.61	0.0953	P	1.3
5	☐	100.000	95.319	1739924.30	0.9993	A	2.0
6	☐	200.000	202.406	3530928.39	2.1216	A	1.9
7	☐	1.000					

y = 0.0105 * x + 3.0621E-004
R = 0.9996
DL = 0.01079
BEC = 0.02922

Weight: <None>
Min Conc: <None>

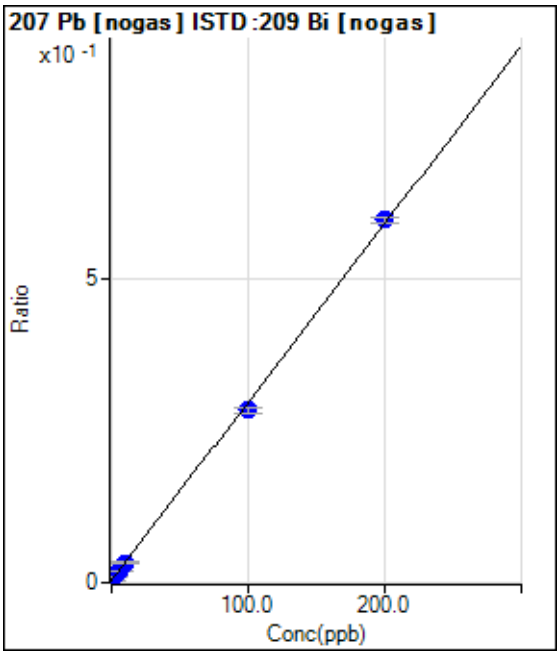
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8352.23	0.0046	P	5.6
2	☐	2.000	1.890	19248.20	0.0109	P	2.7
3	☐	5.000	4.679	35141.38	0.0200	P	3.2
4	☐	10.000	9.866	65009.49	0.0371	P	1.0
5	☐	100.000	94.415	548464.26	0.3151	P	2.7
6	☐	200.000	202.808	1117377.87	0.6714	P	2.6
7	☐	1.000					

y = 0.0033 * x + 0.0046
R = 0.9995
DL = 0.2395
BEC = 1.414

Weight: <None>
Min Conc: <None>

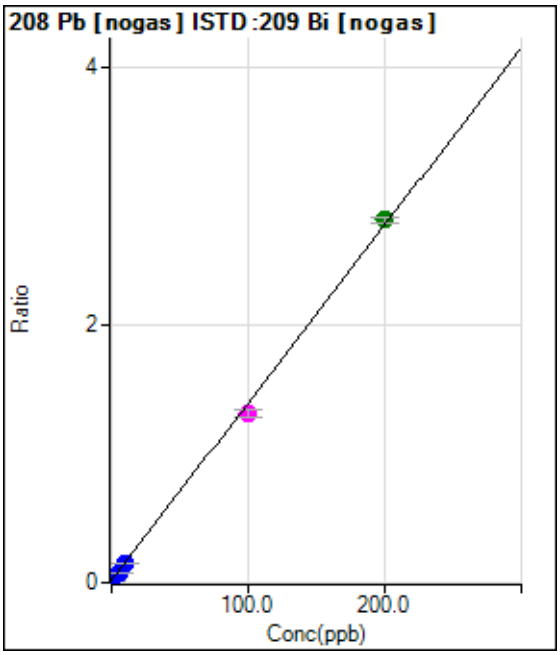


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6858.20	0.0038	P	7.4
2	☐	2.000	1.939	16822.23	0.0095	P	2.4
3	☐	5.000	4.704	30869.41	0.0176	P	1.1
4	☐	10.000	10.019	58143.87	0.0332	P	2.5
5	☐	100.000	95.455	493483.81	0.2834	P	2.7
6	☐	200.000	202.280	992573.89	0.5964	P	1.4
7	☐	1.000					

y = 0.0029 * x + 0.0038
R = 0.9996
DL = 0.2876
BEC = 1.303

Weight: <None>
Min Conc: <None>

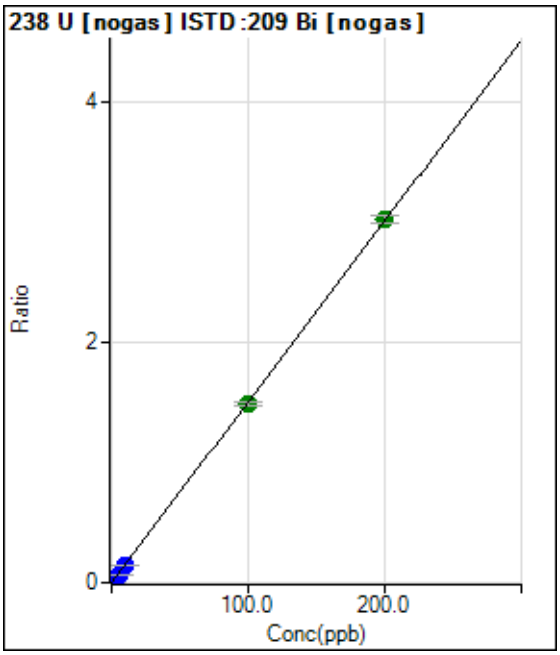
Calibration for 105_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	32603.24	0.0181	P	1.6
2	☐	2.000	1.775	75498.09	0.0426	P	1.8
3	☐	5.000	4.507	140811.74	0.0803	P	0.9
4	☐	10.000	9.558	262786.27	0.1499	P	0.6
5	☐	100.000	93.997	2288158.31	1.3139	M	3.5
6	☐	200.000	203.038	4688297.14	2.8170	A	1.9
7	☐	1.000					

y = 0.0138 * x + 0.0181
R = 0.9994
DL = 0.06425
BEC = 1.316

Weight: <None>
Min Conc: <None>

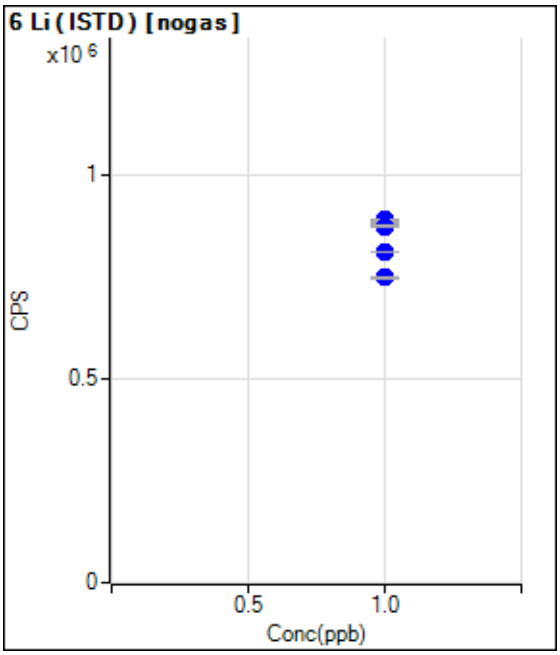


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0000	P	86.2
2	☐	2.000	1.694	45207.73	0.0255	P	1.8
3	☐	5.000	4.490	118598.22	0.0676	P	2.3
4	☐	10.000	9.170	241993.95	0.1380	P	1.0
5	☐	100.000	98.666	2585333.66	1.4850	A	2.4
6	☐	200.000	200.724	5027635.76	3.0211	A	2.0
7	☐	1.000					

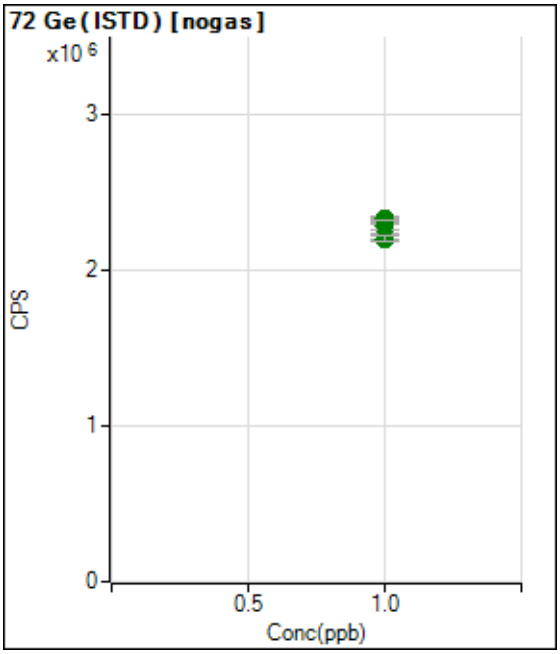
y = 0.0151 * x + 2.2206E-005
R = 1.0000
DL = 0.003814
BEC = 0.001475

Weight: <None>
Min Conc: <None>

Calibration for 105_ICV.d

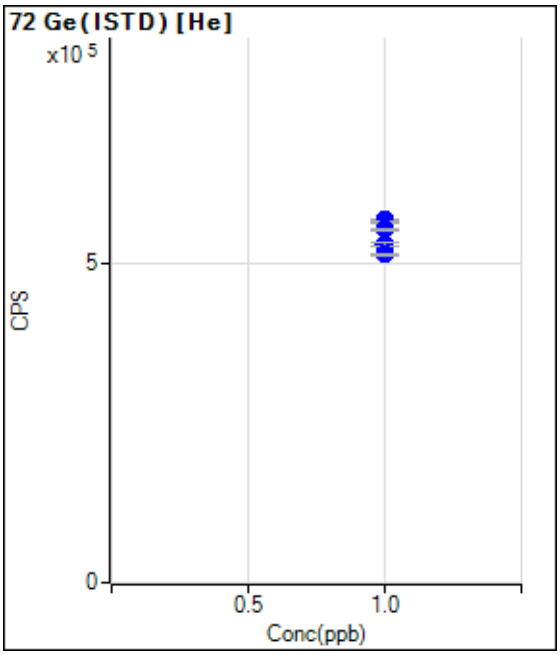


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		885255.50		P	0.5
2	☐	1.000		890605.36		P	0.6
3	☐	1.000		891898.86		P	0.2
4	☐	1.000		875606.98		P	0.5
5	☐	1.000		811796.29		P	0.2
6	☐	1.000		751064.93		P	0.7
7	☐	1.000					

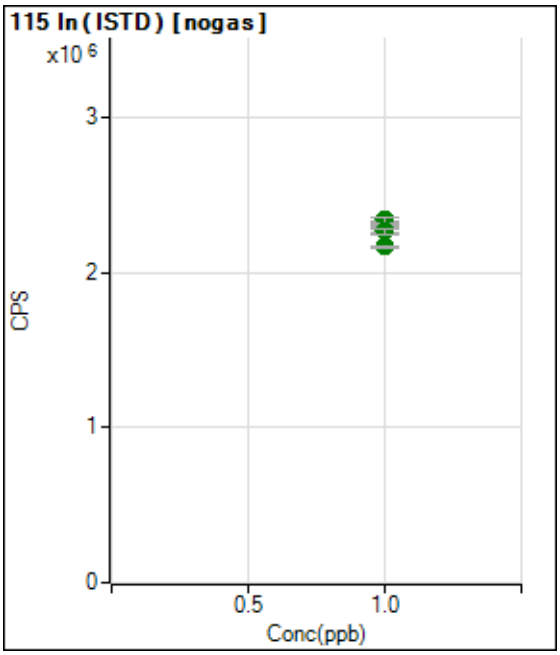


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2310931.63		A	2.0
2	☐	1.000		2326879.08		A	1.8
3	☐	1.000		2278085.96		A	2.0
4	☐	1.000		2323596.37		A	0.0
5	☐	1.000		2216547.36		A	1.4
6	☐	1.000		2196069.91		A	1.7
7	☐	1.000					

Calibration for 105_ICV.d

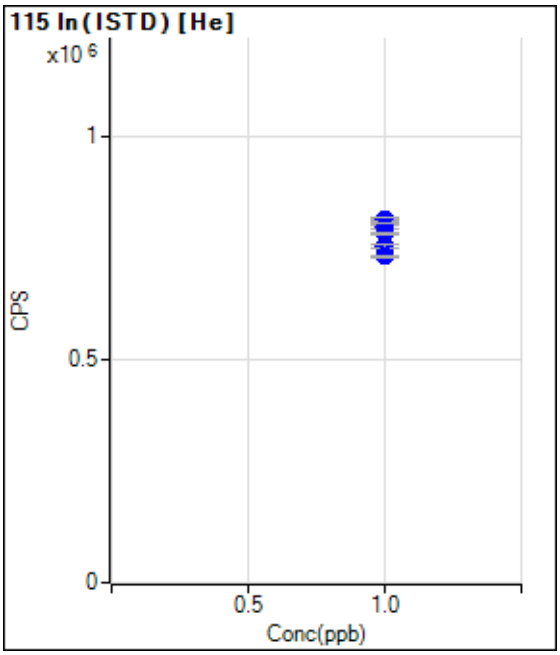


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		562772.07		P	0.8
2	☐	1.000		566864.90		P	0.6
3	☐	1.000		562534.00		P	0.6
4	☐	1.000		551916.82		P	0.3
5	☐	1.000		528184.70		P	1.0
6	☐	1.000		512929.03		P	0.5
7	☐	1.000					

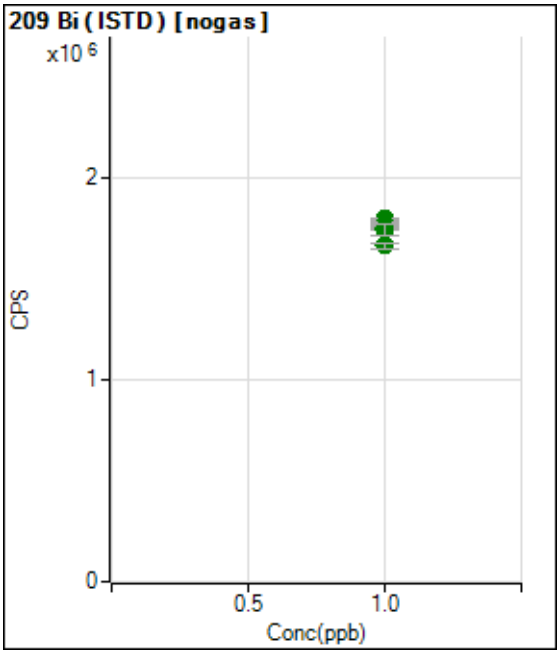


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2286220.35		A	3.1
2	☐	1.000		2304897.59		A	1.6
3	☐	1.000		2313014.38		A	0.6
4	☐	1.000		2336789.23		A	1.4
5	☐	1.000		2260512.24		A	1.3
6	☐	1.000		2162703.06		A	0.2
7	☐	1.000					

Calibration for 105_ICV.d

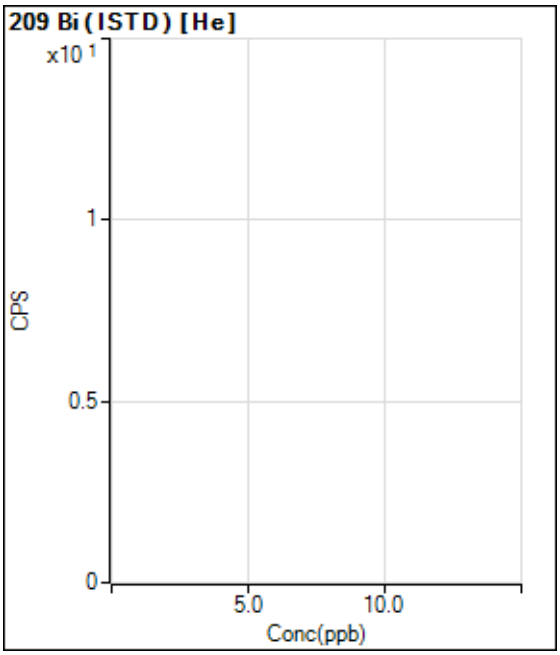


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		808760.14		P	1.4
2	☐	1.000		814324.99		P	1.2
3	☐	1.000		800472.64		P	1.6
4	☐	1.000		784828.53		P	0.6
5	☐	1.000		757112.00		P	1.2
6	☐	1.000		732637.59		P	0.6
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1796808.41		A	0.4
2	☐	1.000		1771930.91		A	0.9
3	☐	1.000		1754327.89		A	0.6
4	☐	1.000		1753079.61		A	1.3
5	☐	1.000		1741739.61		A	2.9
6	☐	1.000		1664555.08		A	1.6
7	☐	1.000					

Calibration for 105_ICV.d



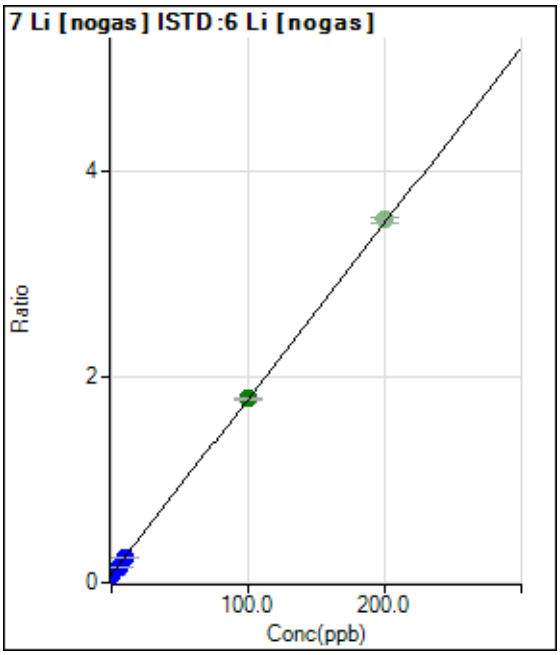
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000					
2	☐	1.000					
3	☐	1.000					
4	☐	1.000					
5	☐	1.000					
6	☐	1.000					
7	☐	1.000					

Calibration for 026_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\061520A.b\
Analysis File: 061520A.batch.bin
DA Date-Time: 6/15/2020 10:26:07 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	015CALB.d	CAL BLK	6/15/2020 12:06:22 PM
2	016CALS.d	2/10/200	6/15/2020 12:08:49 PM
3	017CALS.d	5/25/500	6/15/2020 12:11:16 PM
4	018CALS.d	10/50/1000	6/15/2020 12:13:44 PM
5	019CALS.d	100/500/10K	6/15/2020 12:16:13 PM
6	020CALS.d	200/1000/20K	6/15/2020 12:18:37 PM
7			

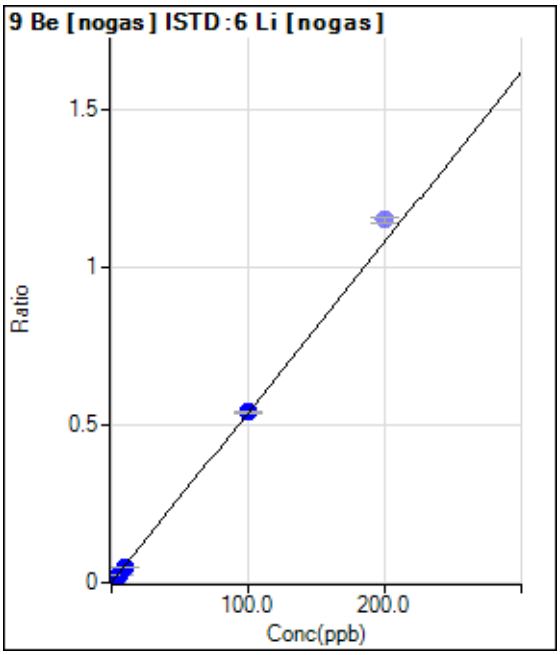
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60315.06	0.0804	P	0.6
2	☐	2.000	1.730	81754.67	0.1100	P	0.5
3	☐	5.000	4.457	116634.48	0.1567	P	1.4
4	☐	10.000	9.079	173837.29	0.2357	P	0.8
5	☐	100.000	100.125	1193261.42	1.7931	A	0.8
6	☑	200.000		2205796.58	3.5347	A	1.8
7	☐	1.000					

y = 0.0171 * x + 0.0804
R = 1.0000
DL = 0.08008
BEC = 4.702

Weight: <None>
Min Conc: <None>

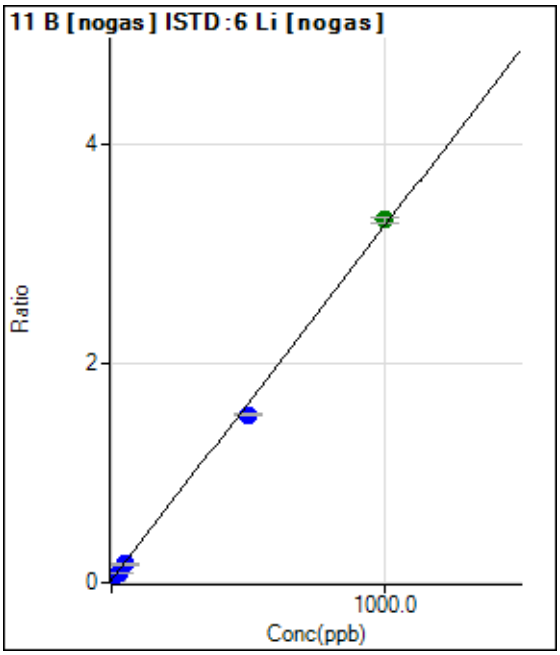


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	65.00	0.0001	P	26.6
2	☐	2.000	1.767	7159.70	0.0096	P	5.2
3	☐	5.000	4.510	18206.97	0.0245	P	2.1
4	☐	10.000	9.486	37870.39	0.0513	P	0.9
5	☐	100.000	100.081	359956.96	0.5409	P	0.3
6	☑	200.000		718756.89	1.1518	P	1.4
7	☐	1.000					

y = 0.0054 * x + 8.6674E-005
R = 1.0000
DL = 0.01281
BEC = 0.01604

Weight: <None>
Min Conc: <None>

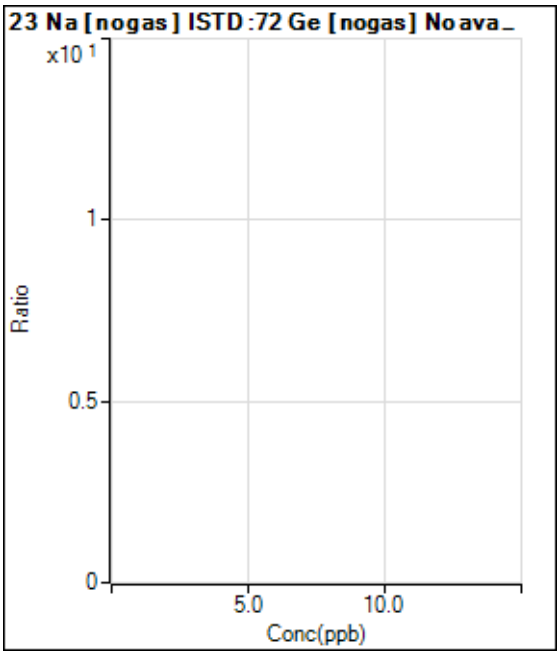
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	18196.97	0.0243	P	2.5
2	☐	10.000	7.732	36624.75	0.0493	P	1.4
3	☐	25.000	20.697	67917.60	0.0912	P	1.4
4	☐	50.000	44.354	123709.42	0.1678	P	2.2
5	☐	500.000	465.646	1018748.55	1.5309	P	1.2
6	☐	1000.000	1017.589	2069656.85	3.3167	A	1.7
7	☐	5.000					

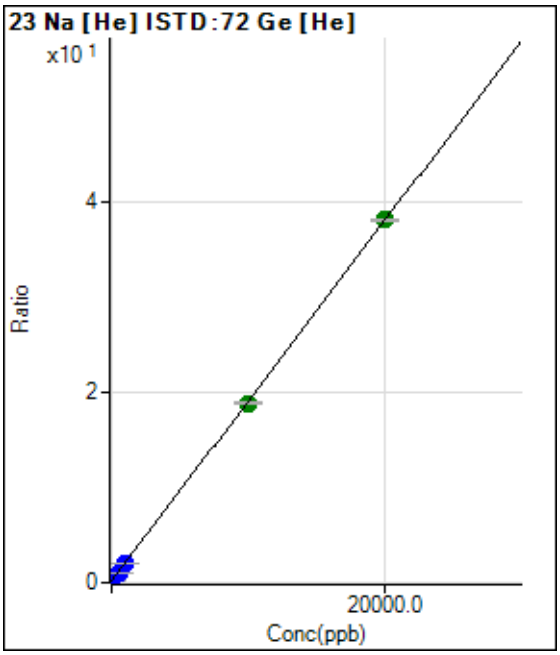
y = 0.0032 * x + 0.0243
R = 0.9992
DL = 0.5587
BEC = 7.5

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

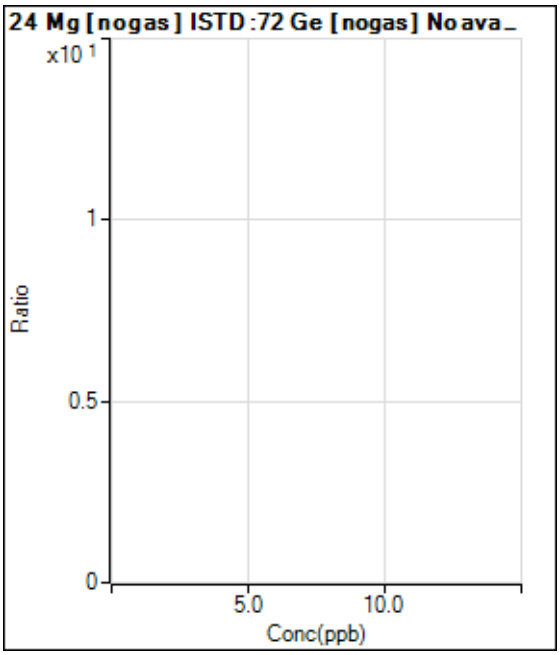
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96538.43	0.1775	P	2.7
2	☐	200.000	187.082	289114.78	0.5320	P	0.6
3	☐	500.000	482.272	589423.27	1.0912	P	0.6
4	☐	1000.000	1007.867	1115115.61	2.0870	P	0.8
5	☐	10000.000	9875.076	9752484.65	18.8865	A	1.3
6	☐	20000.000	20062.641	19206107.21	38.1876	A	0.8
7	☐	100.000					

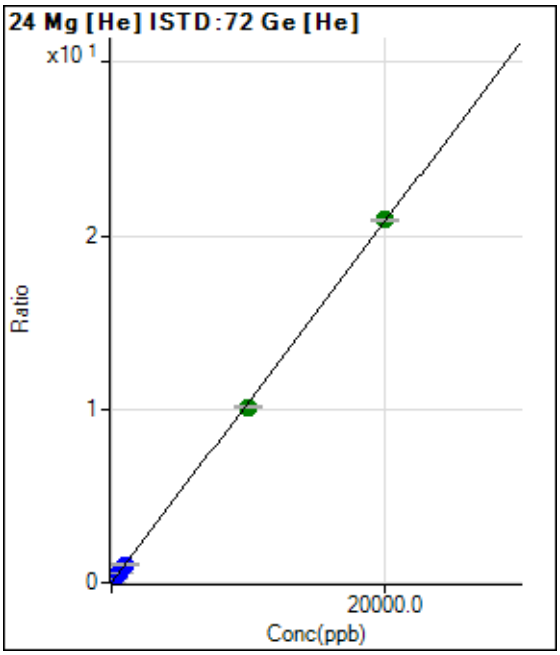
y = 0.0019 * x + 0.1775
R = 1.0000
DL = 7.714
BEC = 93.71

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

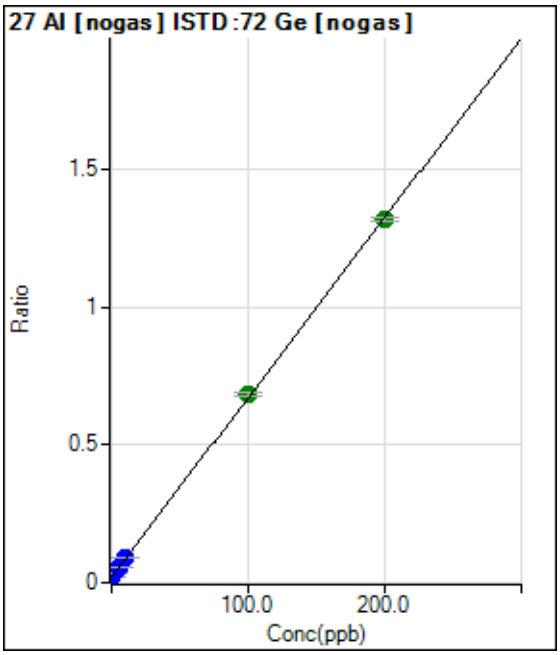
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1093.39	0.0020	P	5.0
2	☐	200.000	191.388	109147.07	0.2008	P	0.0
3	☐	500.000	483.736	272507.79	0.5045	P	1.1
4	☐	1000.000	1010.784	562135.67	1.0520	P	0.4
5	☐	10000.000	9740.467	5226113.88	10.1207	A	0.6
6	☐	20000.000	20129.720	10518301.51	20.9134	A	0.4
7	☐	100.000					

y = 0.0010 * x + 0.0020
R = 0.9999
DL = 0.2918
BEC = 1.936

Weight: <None>
Min Conc: <None>

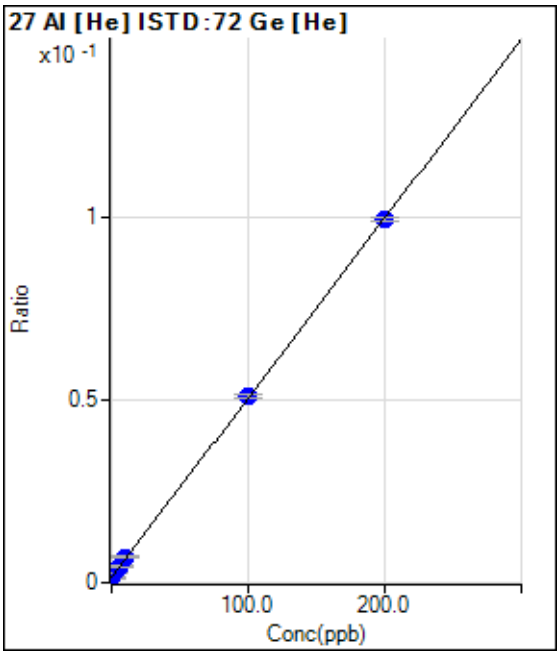


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	39374.36	0.0200	P	2.4
2	☐	2.000	2.148	67018.02	0.0340	P	3.6
3	☐	5.000	5.252	107458.58	0.0543	P	2.1
4	☐	10.000	10.891	177971.74	0.0911	P	1.4
5	☐	100.000	102.045	1302764.75	0.6862	A	1.9
6	☐	200.000	198.925	2480607.20	1.3187	A	1.1
7	☐	1.000					

y = 0.0065 * x + 0.0200
R = 0.9999
DL = 0.2253
BEC = 3.066

Weight: <None>
Min Conc: <None>

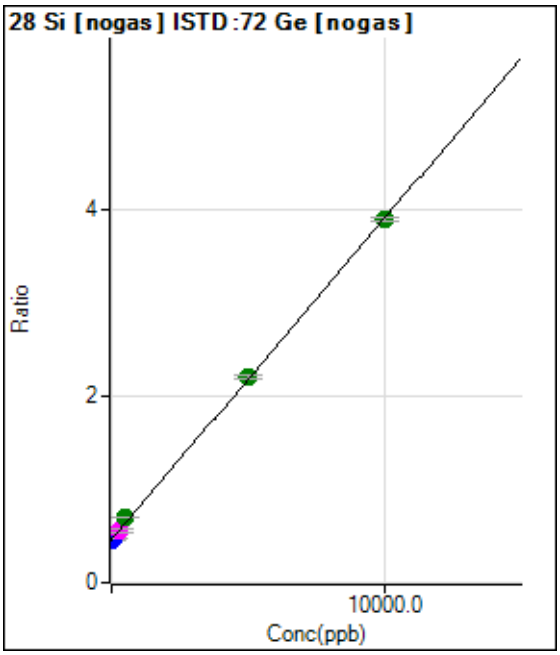
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	770.03	0.0014	P	23.3
2	☐	2.000	2.507	1440.08	0.0026	P	0.5
3	☐	5.000	5.903	2333.51	0.0043	P	10.1
4	☐	10.000	11.345	3737.09	0.0070	P	6.2
5	☐	100.000	101.354	26448.71	0.0512	P	2.0
6	☐	200.000	199.228	49949.23	0.0993	P	1.0
7	☐	1.000					

y = 4.9137E-004 * x + 0.0014
R = 1.0000
DL = 2.019
BEC = 2.885

Weight: <None>
Min Conc: <None>

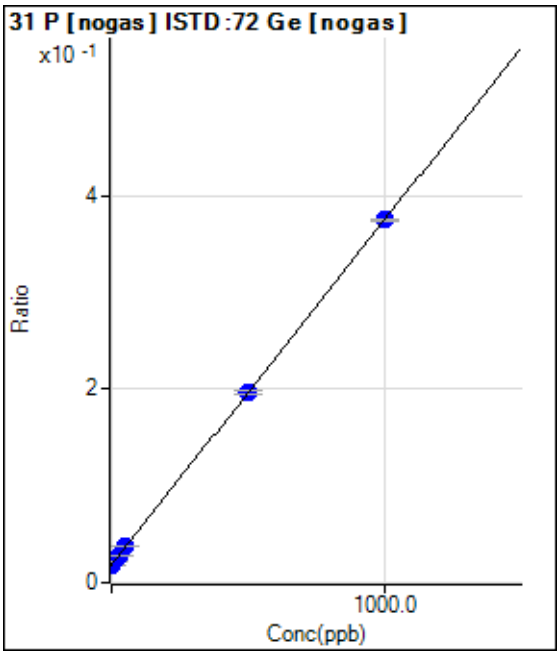


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	906787.33	0.4611	P	1.9
2	☐	100.000	52.378	943654.05	0.4791	P	1.1
3	☐	250.000	268.019	1094501.67	0.5533	M	6.8
4	☐	500.000	703.018	1373355.03	0.7031	A	1.3
5	☐	5000.000	5078.108	4193764.42	2.2090	A	1.9
6	☐	10000.000	9950.821	7310276.77	3.8863	A	1.1
7	☐	50.000					

y = 3.4421E-004 * x + 0.4611
R = 0.9997
DL = 76.01
BEC = 1339

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36532.42	0.0186	P	1.8
2	☐	10.000	8.740	42698.55	0.0217	P	3.9
3	☐	25.000	24.592	54080.51	0.0273	P	1.5
4	☐	50.000	54.479	74168.27	0.0380	P	0.6
5	☐	500.000	499.446	372780.76	0.1964	P	1.8
6	☐	1000.000	1000.076	704571.97	0.3746	P	0.5
7	☐	5.000					

y = 3.5596E-004 * x + 0.0186

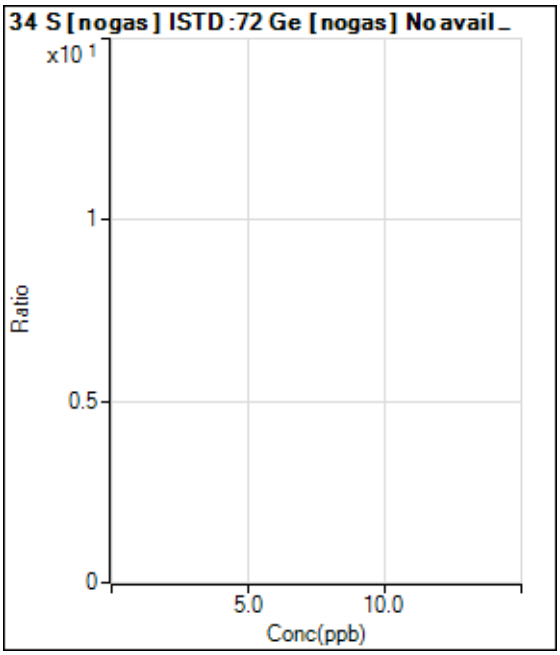
R = 1.0000

DL = 2.741

BEC = 52.18

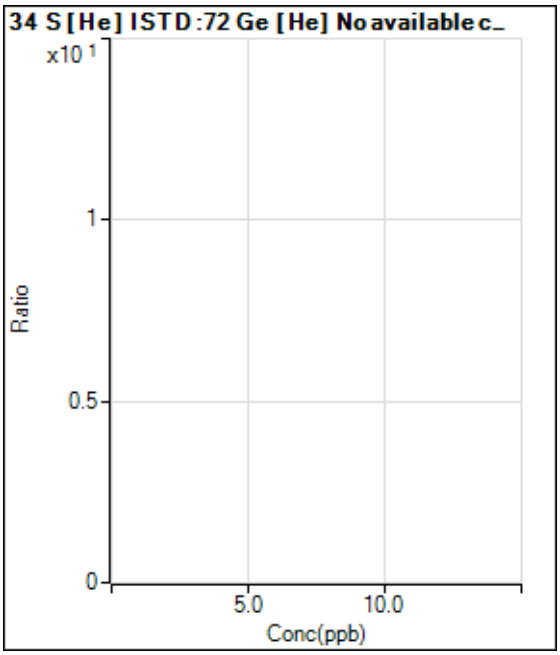
Weight: <None>

Min Conc: <None>

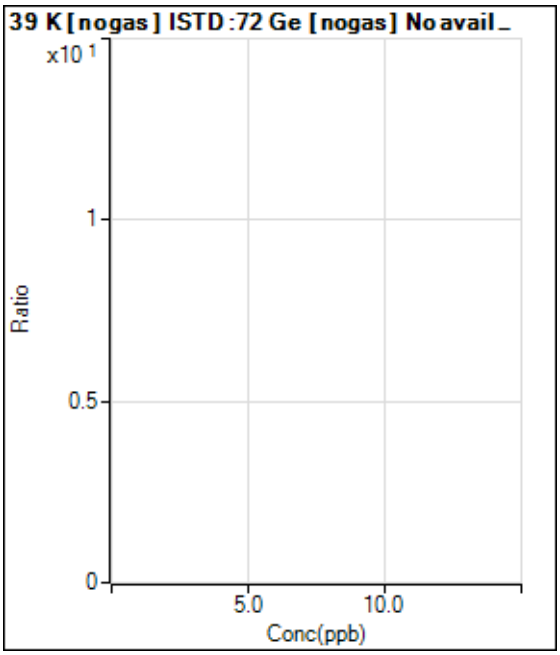


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.000					
6	☐	40000.000					
7	☐	200.000					

Calibration for 026_ICV.d

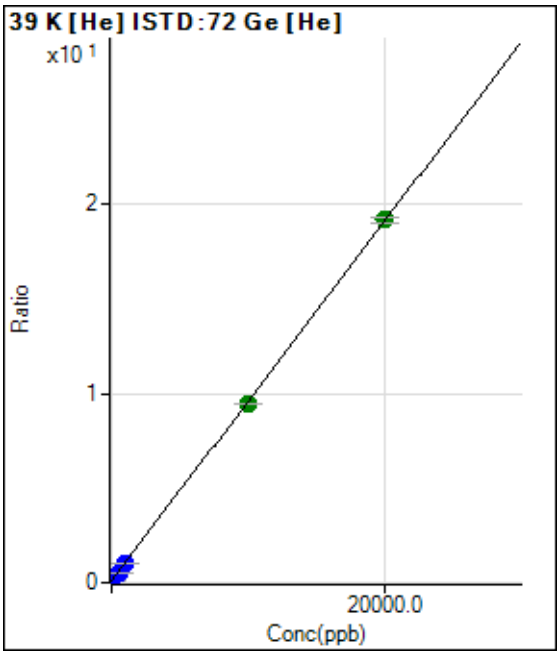


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	400.000					
3	☐	1000.000					
4	☐	2000.000					
5	☐	20000.000					
6	☐	40000.000					
7	☐	200.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	200.000					
3	☐	500.000					
4	☐	1000.000					
5	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

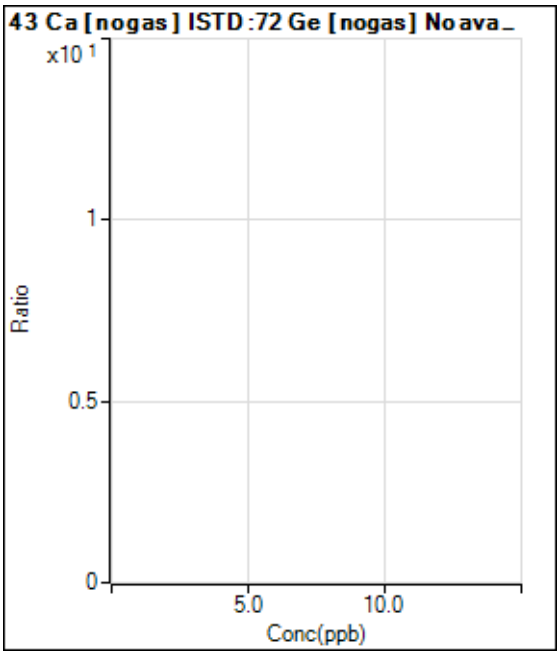
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	55017.57	0.1012	P	2.6
2	☐	200.000	189.517	152784.27	0.2811	P	1.4
3	☐	500.000	475.273	298375.40	0.5524	P	1.3
4	☐	1000.000	992.949	557793.08	1.0439	P	0.5
5	☐	10000.000	9843.398	4878110.97	9.4469	A	0.8
6	☐	20000.000	20079.377	9639105.90	19.1653	A	1.5
7	☐	100.000					

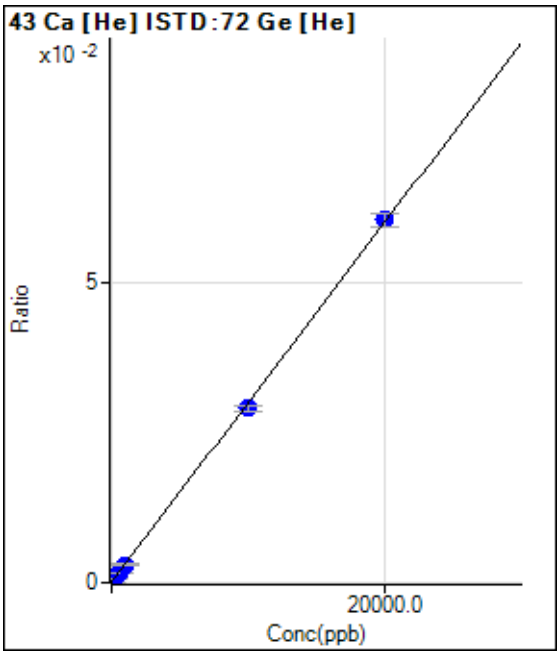
y = 9.4944E-004 * x + 0.1012
R = 1.0000
DL = 8.278
BEC = 106.6

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

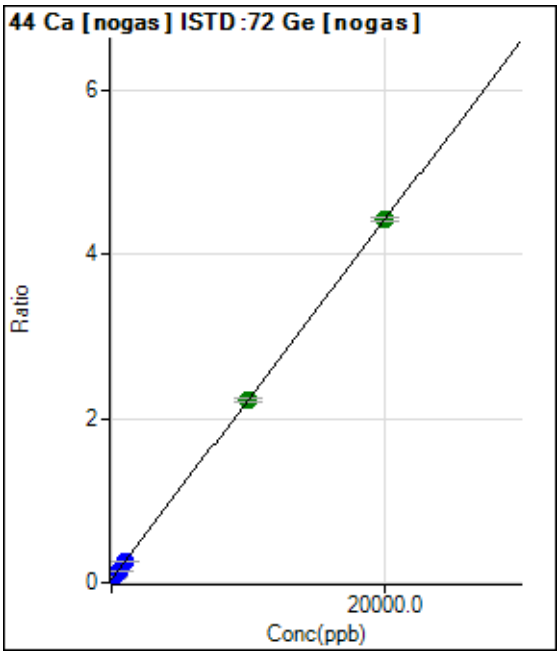
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0001	P	74.6
2	☐	200.000	170.104	320.01	0.0006	P	18.8
3	☐	500.000	497.562	846.70	0.0016	P	9.6
4	☐	1000.000	981.569	1610.09	0.0030	P	19.0
5	☐	10000.000	9681.280	14982.81	0.0290	P	2.9
6	☐	20000.000	20160.642	30348.13	0.0603	P	3.5
7	☐	100.000					

y = 2.9890E-006 * x + 7.9887E-005
R = 0.9998
DL = 59.78
BEC = 26.73

Weight: <None>
Min Conc: <None>

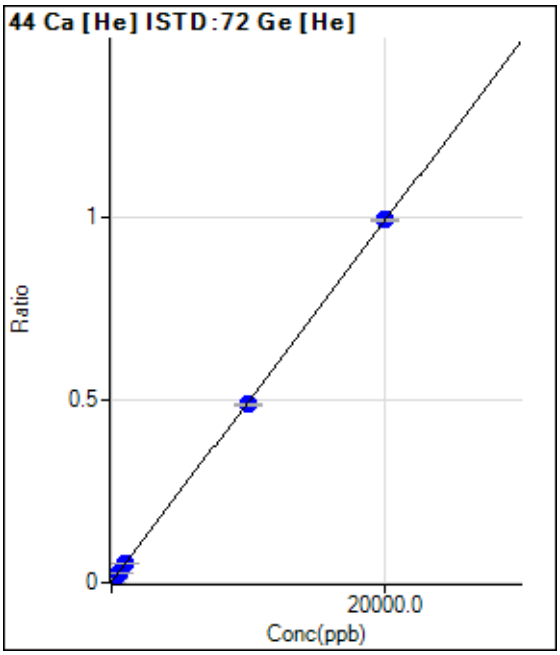


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	82554.48	0.0420	P	1.7
2	☐	200.000	176.092	158535.09	0.0805	P	3.3
3	☐	500.000	462.612	283438.82	0.1432	P	1.4
4	☐	1000.000	990.847	505597.53	0.2588	P	1.5
5	☐	10000.000	9984.186	4228294.41	2.2272	A	2.7
6	☐	20000.000	20009.539	8316733.42	4.4215	A	1.0
7	☐	100.000					

y = 2.1887E-004 * x + 0.0420
R = 1.0000
DL = 9.737
BEC = 191.8

Weight: <None>
Min Conc: <None>

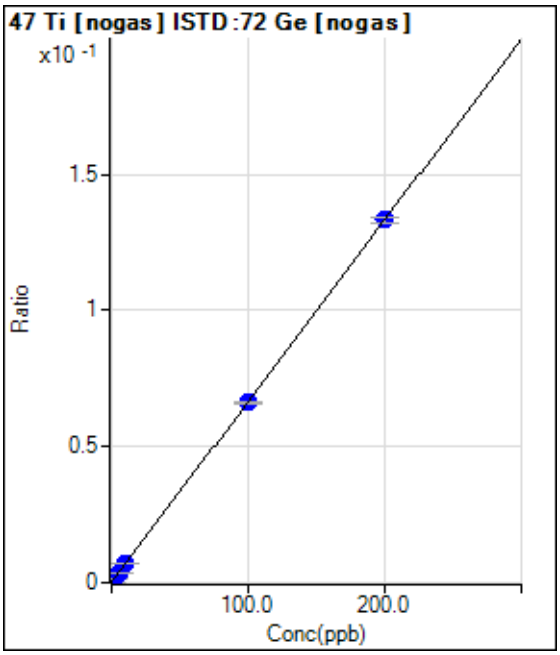
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	840.03	0.0015	P	7.4
2	☐	200.000	178.910	5654.26	0.0104	P	4.1
3	☐	500.000	478.460	13631.83	0.0252	P	0.8
4	☐	1000.000	1010.168	27553.93	0.0516	P	0.9
5	☐	10000.000	9855.637	252817.73	0.4896	P	1.2
6	☐	20000.000	20072.423	500706.98	0.9956	P	0.7
7	☐	100.000					

y = 4.9521E-005 * x + 0.0015
R = 1.0000
DL = 6.912
BEC = 31.18

Weight: <None>
Min Conc: <None>

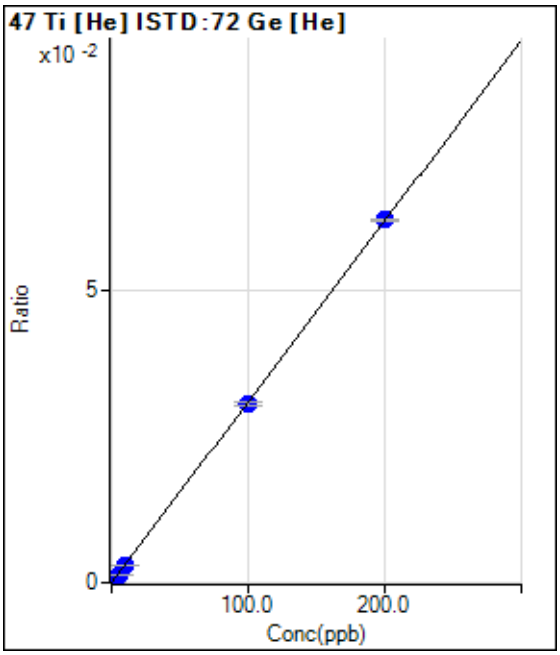


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	246.67	0.0001	P	27.5
2	☐	2.000	1.854	2673.57	0.0014	P	6.5
3	☐	5.000	4.777	6534.57	0.0033	P	3.1
4	☐	10.000	10.397	13745.27	0.0070	P	4.6
5	☐	100.000	99.422	125760.44	0.0662	P	0.6
6	☐	200.000	200.276	250698.60	0.1333	P	1.7
7	☐	1.000					

y = 6.6491E-004 * x + 1.2543E-004
R = 1.0000
DL = 0.1559
BEC = 0.1886

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	2.107	356.68	0.0007	P	12.8
3	☐	5.000	4.420	740.03	0.0014	P	7.7
4	☐	10.000	9.364	1546.76	0.0029	P	6.1
5	☐	100.000	98.578	15706.76	0.0304	P	2.2
6	☐	200.000	200.756	31152.92	0.0619	P	0.8
7	☐	1.000					

y = 3.0851E-004 * x + 6.1577E-006

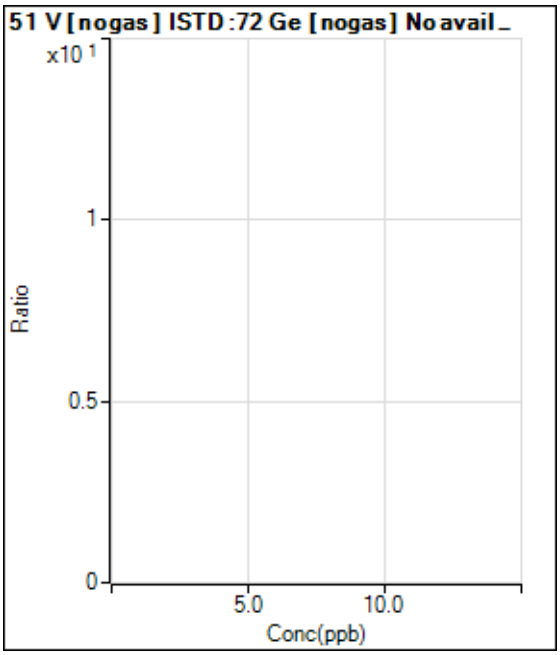
R = 1.0000

DL = 0.1037

BEC = 0.01996

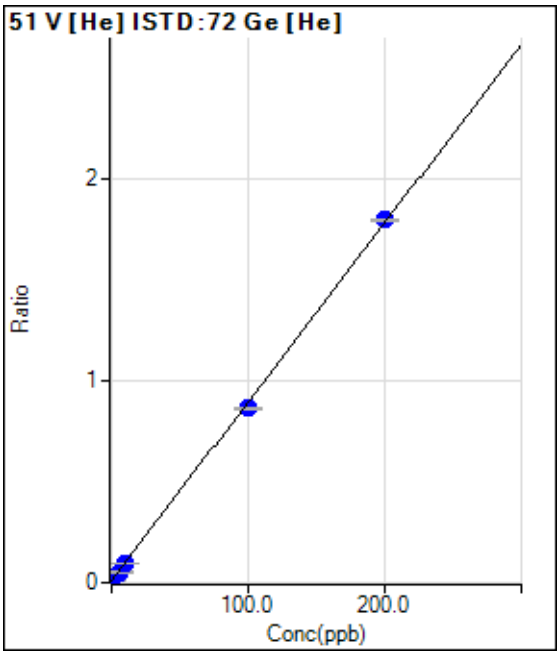
Weight: <None>

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					

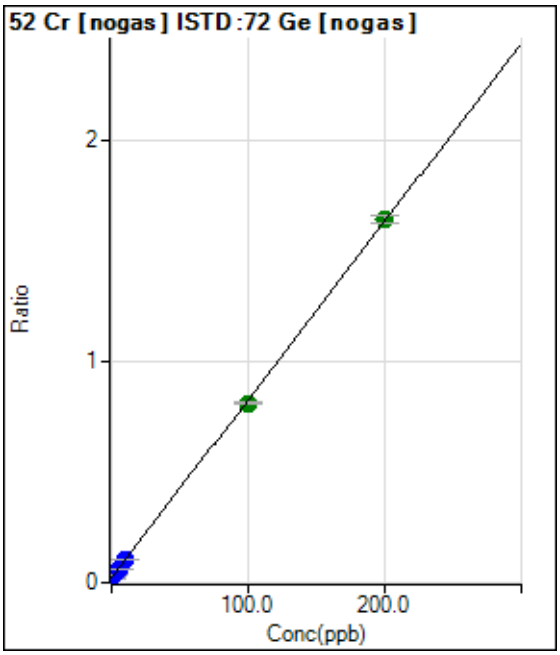
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5967.66	0.0110	P	3.8
2	☐	2.000	1.925	15204.02	0.0280	P	2.3
3	☐	5.000	4.641	28064.43	0.0520	P	2.0
4	☐	10.000	9.699	51633.36	0.0966	P	1.7
5	☐	100.000	96.297	444827.80	0.8615	P	1.2
6	☐	200.000	201.876	902247.22	1.7939	P	0.4
7	☐	1.000					

y = 0.0088 * x + 0.0110
R = 0.9998
DL = 0.1407
BEC = 1.242

Weight: <None>
Min Conc: <None>

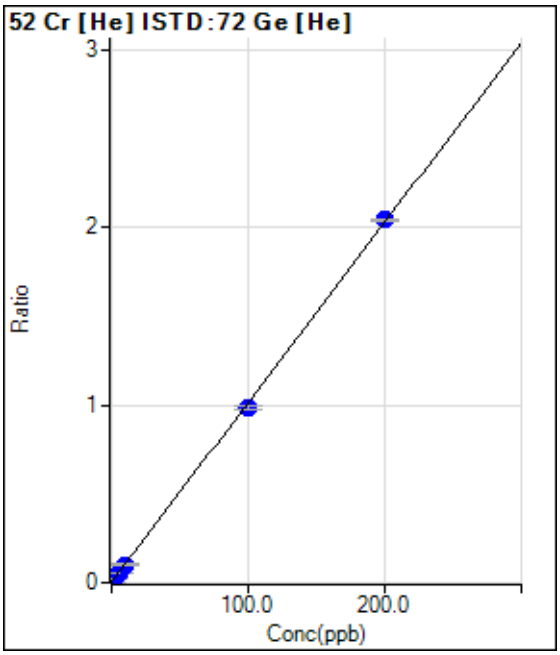


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	42999.86	0.0219	P	1.4
2	☐	2.000	1.920	73568.12	0.0374	P	1.7
3	☐	5.000	4.734	118836.72	0.0601	P	1.5
4	☐	10.000	9.848	197878.12	0.1013	P	1.0
5	☐	100.000	98.106	1543933.36	0.8132	A	1.7
6	☐	200.000	200.962	3090272.56	1.6429	A	2.0
7	☐	1.000					

y = 0.0081 * x + 0.0219
R = 0.9999
DL = 0.1148
BEC = 2.71

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1216.73	0.0022	P	15.1
2	☐	2.000	1.812	11173.54	0.0206	P	3.3
3	☐	5.000	4.782	27320.33	0.0506	P	1.5
4	☐	10.000	9.855	54433.00	0.1019	P	3.0
5	☐	100.000	96.948	507305.49	0.9825	P	1.6
6	☐	200.000	201.541	1025989.41	2.0400	P	0.5
7	☐	1.000					

y = 0.0101 * x + 0.0022

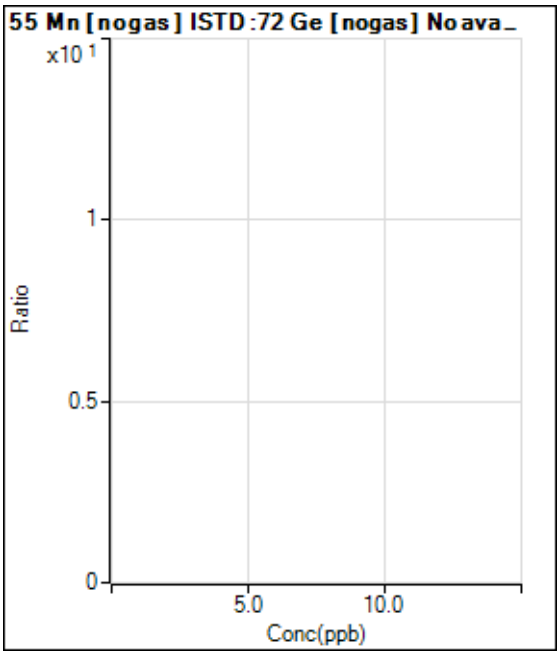
R = 0.9998

DL = 0.1

BEC = 0.2212

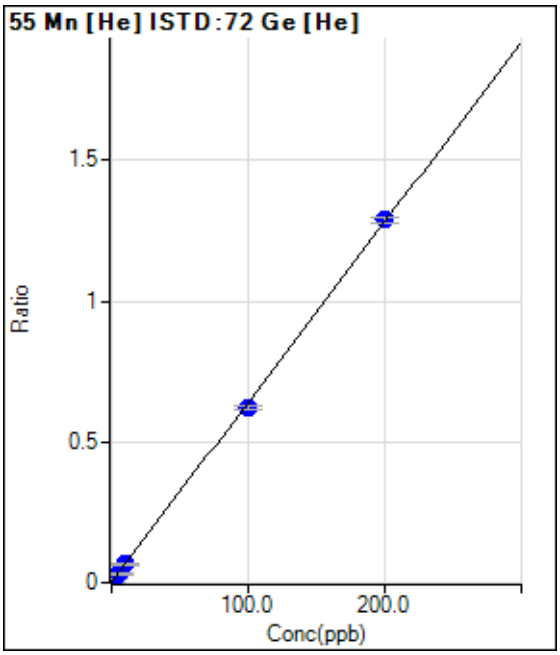
Weight: <None>

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					

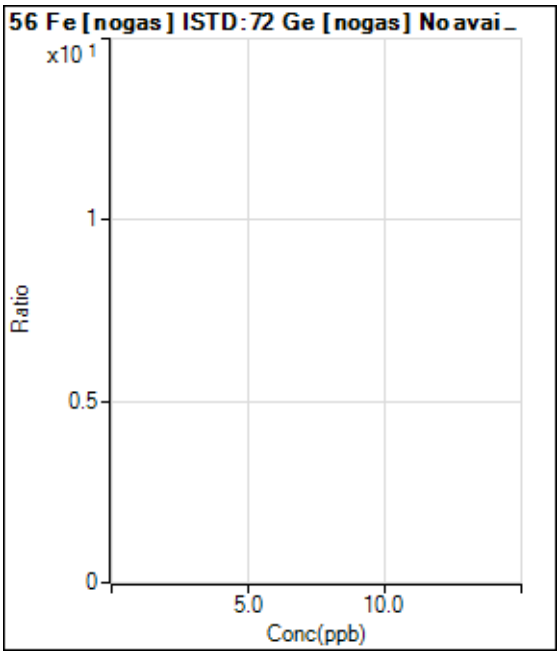
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1243.40	0.0023	P	4.5
2	☐	2.000	1.676	7061.48	0.0130	P	1.3
3	☐	5.000	4.595	17084.75	0.0316	P	6.9
4	☐	10.000	9.833	34782.84	0.0651	P	1.7
5	☐	100.000	97.382	322352.27	0.6243	P	2.1
6	☐	200.000	201.331	647889.42	1.2882	P	1.5
7	☐	1.000					

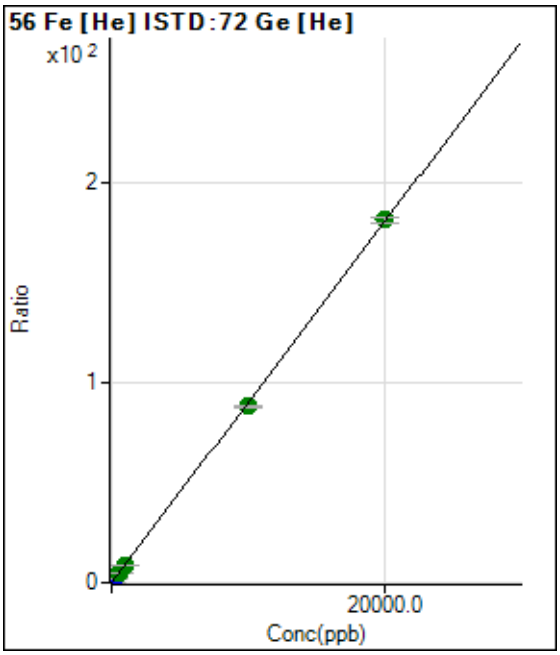
y = 0.0064 * x + 0.0023
R = 0.9999
DL = 0.04845
BEC = 0.3579

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	☐	10000.000					
6	☐	20000.000					
7	☐	100.000					

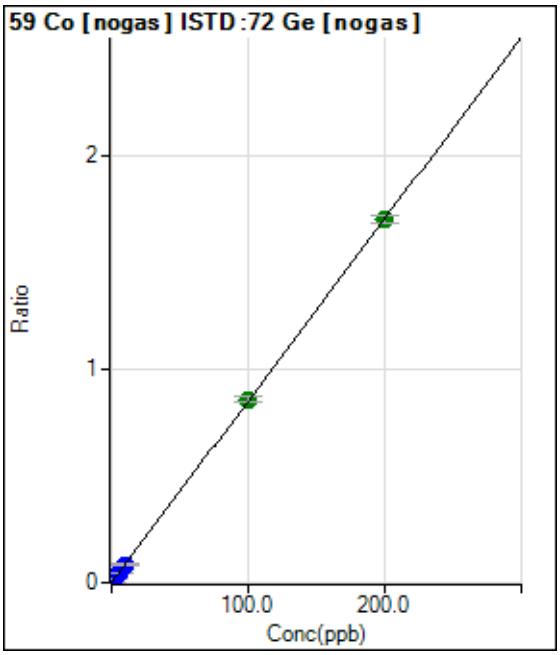
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9002.31	0.0166	P	2.0
2	☐	200.000	187.970	928126.65	1.7078	P	0.6
3	☐	500.000	503.547	2455971.68	4.5471	A	1.7
4	☐	1000.000	1002.541	4828589.41	9.0367	A	0.4
5	☐	10000.000	9767.864	45389454.33	87.9011	A	1.4
6	☐	20000.000	20115.973	91033888.64	181.0064	A	1.9
7	☐	100.000					

y = 0.0090 * x + 0.0166
R = 0.9999
DL = 0.1103
BEC = 1.84

Weight: <None>
Min Conc: <None>

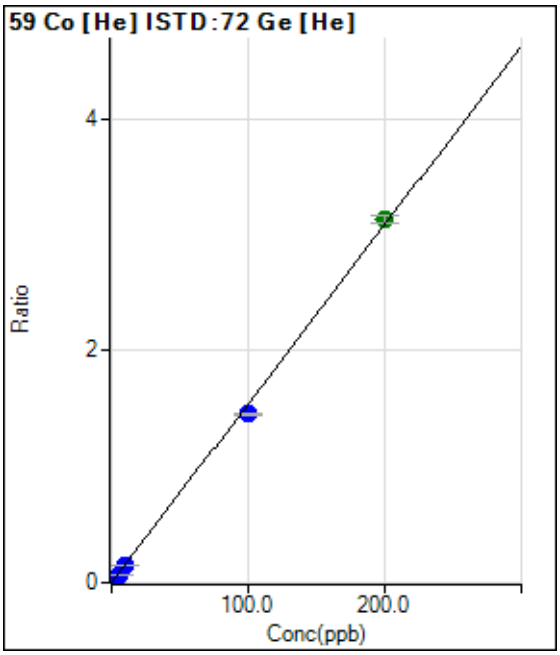


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.02	0.0003	P	22.4
2	☐	2.000	1.940	33129.92	0.0168	P	2.8
3	☐	5.000	4.860	82530.19	0.0417	P	0.8
4	☐	10.000	10.016	167247.44	0.0856	P	2.4
5	☐	100.000	100.793	1630777.11	0.8590	A	2.9
6	☐	200.000	199.607	3199162.87	1.7009	A	2.1
7	☐	1.000					

y = 0.0085 * x + 2.9548E-004
R = 1.0000
DL = 0.02327
BEC = 0.03468

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	200.00	0.0004	P	30.2
2	☐	2.000	1.939	16437.51	0.0302	P	1.8
3	☐	5.000	4.675	39114.99	0.0724	P	2.0
4	☐	10.000	9.775	80689.35	0.1510	P	3.0
5	☐	100.000	94.361	751204.60	1.4548	P	1.5
6	☐	200.000	202.840	1572631.33	3.1269	A	2.3
7	☐	1.000					

y = 0.0154 * x + 3.6782E-004

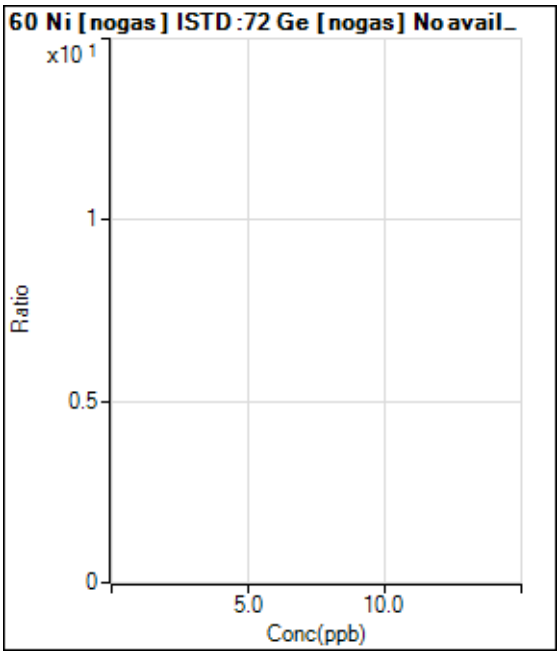
R = 0.9995

DL = 0.0216

BEC = 0.02386

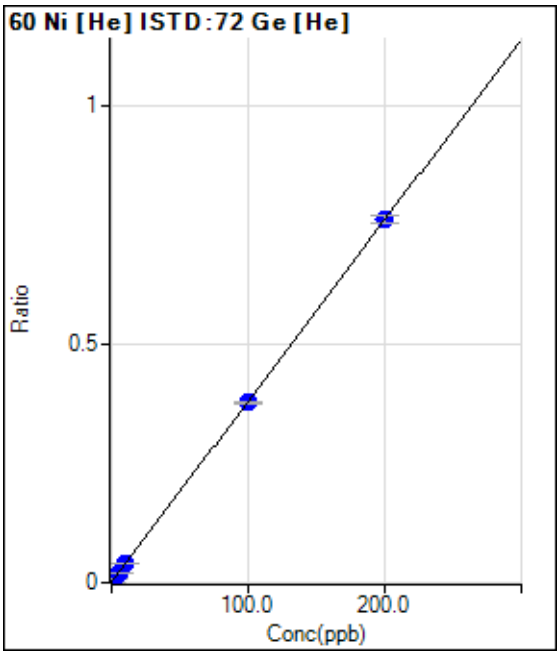
Weight: <None>

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					

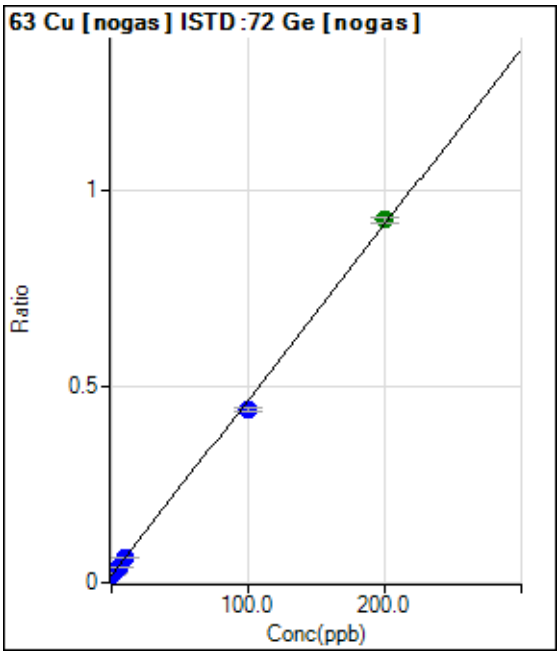
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	596.68	0.0011	P	14.2
2	☐	2.000	1.784	4270.56	0.0079	P	2.4
3	☐	5.000	4.759	10336.40	0.0191	P	4.5
4	☐	10.000	10.174	21185.70	0.0397	P	2.1
5	☐	100.000	99.470	195210.88	0.3780	P	0.8
6	☐	200.000	200.264	382228.82	0.7600	P	2.0
7	☐	1.000					

y = 0.0038 * x + 0.0011
R = 1.0000
DL = 0.1239
BEC = 0.2898

Weight: <None>
Min Conc: <None>

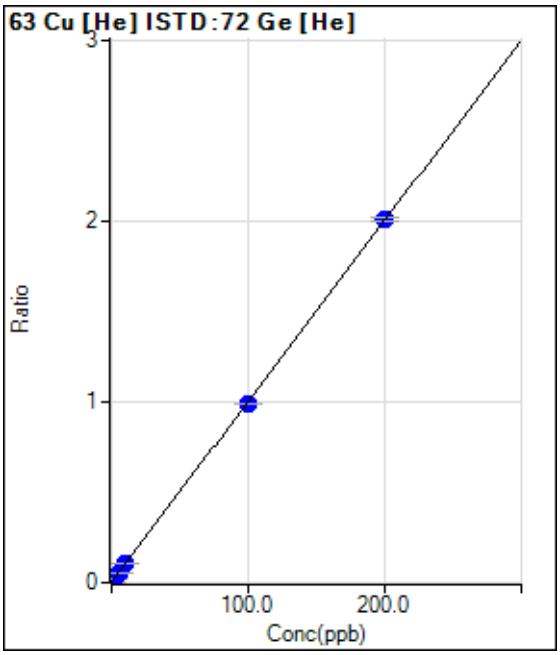


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36880.66	0.0188	P	2.4
2	☐	2.000	1.689	51789.56	0.0263	P	3.3
3	☐	5.000	4.730	78944.90	0.0399	P	0.8
4	☐	10.000	9.689	121212.38	0.0620	P	1.1
5	☐	100.000	94.737	839211.94	0.4420	P	1.9
6	☐	200.000	202.657	1738678.62	0.9242	A	1.6
7	☐	1.000					

y = 0.0045 * x + 0.0188
R = 0.9995
DL = 0.3008
BEC = 4.197

Weight: <None>
Min Conc: <None>

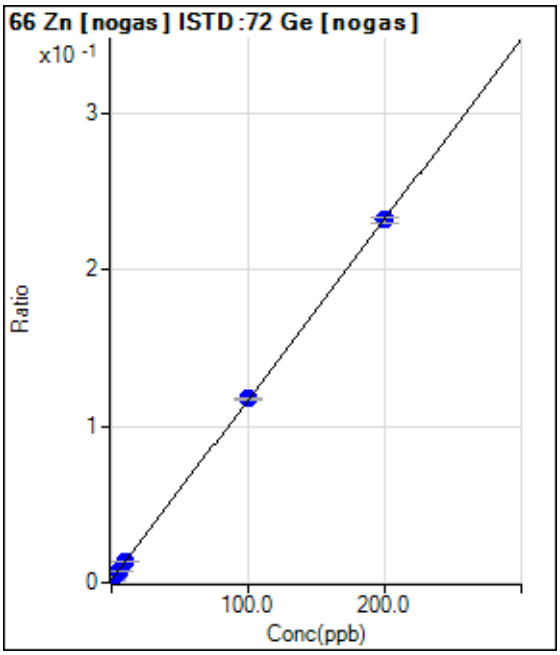
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2240.17	0.0041	P	2.7
2	☐	2.000	2.014	13178.29	0.0242	P	1.5
3	☐	5.000	4.831	28308.67	0.0524	P	3.2
4	☐	10.000	10.435	57937.62	0.1084	P	2.6
5	☐	100.000	99.009	513262.00	0.9940	P	0.3
6	☐	200.000	200.478	1010099.36	2.0084	P	1.2
7	☐	1.000					

y = 0.0100 * x + 0.0041
R = 1.0000
DL = 0.03315
BEC = 0.412

Weight: <None>
Min Conc: <None>

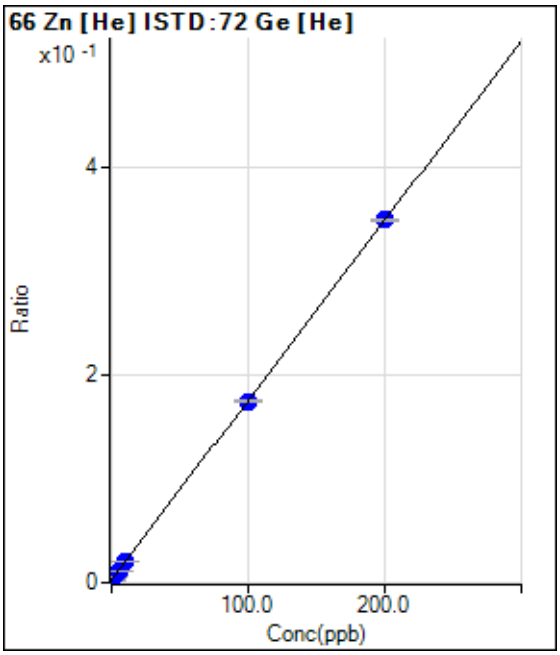


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3627.08	0.0018	P	3.3
2	☐	2.000	1.536	7111.48	0.0036	P	2.7
3	☐	5.000	4.573	14055.61	0.0071	P	4.1
4	☐	10.000	9.854	25745.01	0.0132	P	1.0
5	☐	100.000	100.468	222872.40	0.1174	P	1.7
6	☐	200.000	199.789	435639.44	0.2316	P	1.8
7	☐	1.000					

y = 0.0012 * x + 0.0018
R = 1.0000
DL = 0.159
BEC = 1.604

Weight: <None>
Min Conc: <None>

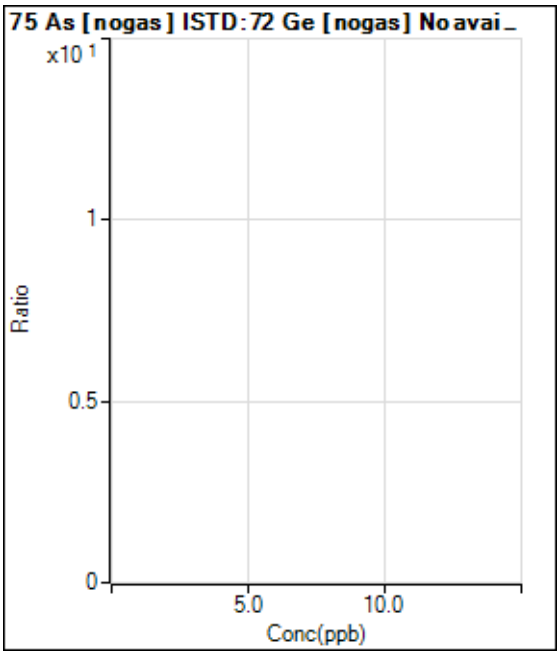
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1496.75	0.0028	P	21.6
2	☐	2.000	1.493	2900.27	0.0053	P	7.8
3	☐	5.000	4.405	5610.93	0.0104	P	2.7
4	☐	10.000	9.904	10643.26	0.0199	P	2.6
5	☐	100.000	99.273	90293.76	0.1749	P	1.1
6	☐	200.000	200.388	176112.27	0.3502	P	0.8
7	☐	1.000					

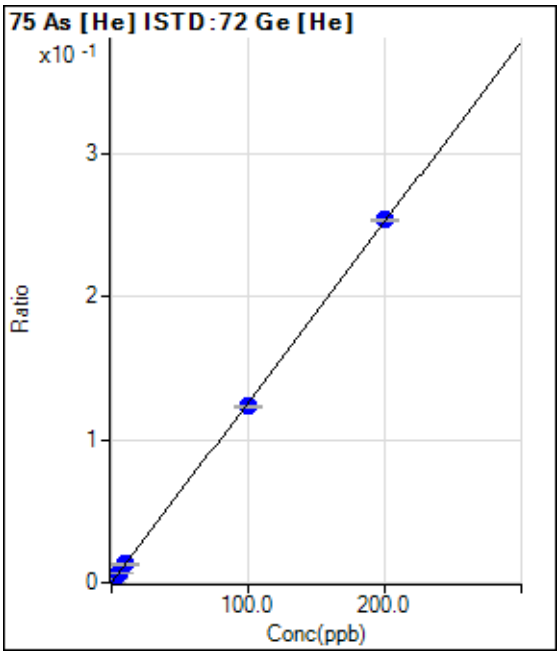
y = 0.0017 * x + 0.0028
R = 1.0000
DL = 1.03
BEC = 1.586

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					

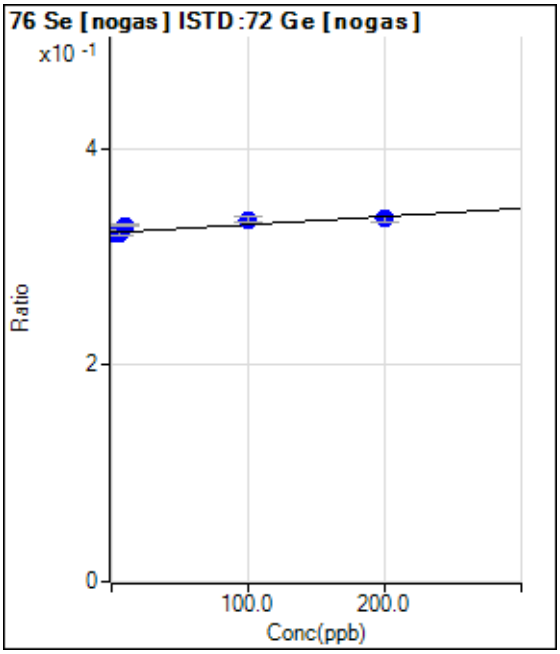
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	98.89	0.0002	P	28.9
2	☐	2.000	1.881	1385.61	0.0026	P	6.0
3	☐	5.000	4.708	3299.20	0.0061	P	0.6
4	☐	10.000	10.087	6881.32	0.0129	P	2.4
5	☐	100.000	97.803	63669.18	0.1233	P	0.8
6	☐	200.000	201.103	127411.18	0.2533	P	0.6
7	☐	1.000					

y = 0.0013 * x + 1.8214E-004
R = 0.9999
DL = 0.1255
BEC = 0.1447

Weight: <None>
Min Conc: <None>

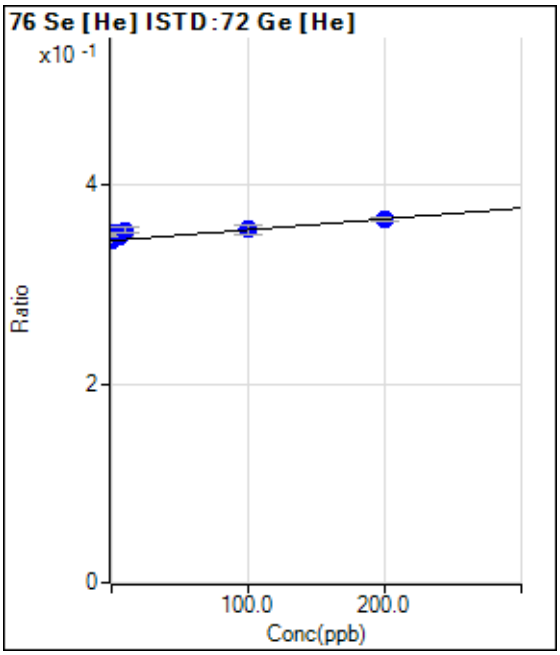


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	634638.09	0.3227	P	2.0
2	☐	2.000	-5.369	634683.02	0.3223	P	2.3
3	☐	5.000	-9.108	637237.28	0.3220	P	1.7
4	☐	10.000	86.975	643123.91	0.3292	P	0.7
5	☐	100.000	154.768	634707.33	0.3343	P	1.6
6	☐	200.000	169.194	630842.83	0.3354	P	1.6
7	☐	1.000					

y = 7.5123E-005 * x + 0.3227
R = 0.8655
DL = 252.7
BEC = 4295

Weight: <None>
Min Conc: <None>

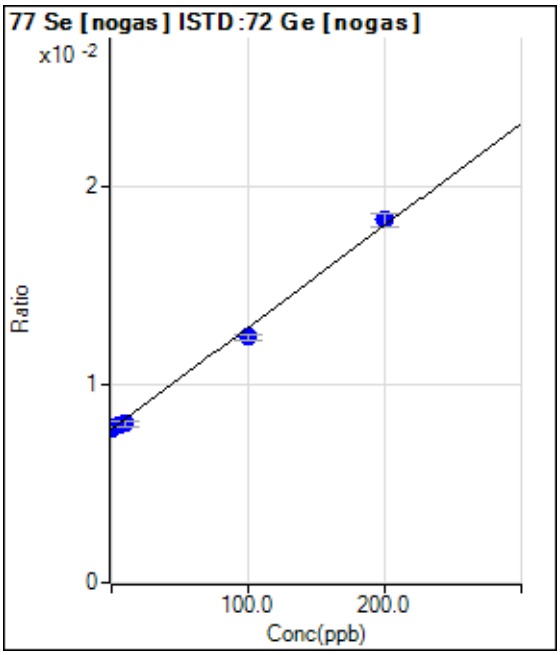
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	187188.67	0.3442	P	0.5
2	☐	2.000	71.213	191310.27	0.3520	P	0.4
3	☐	5.000	44.736	188576.22	0.3491	P	0.5
4	☐	10.000	97.775	189633.28	0.3549	P	2.0
5	☐	100.000	106.452	183751.46	0.3559	P	2.8
6	☐	200.000	190.700	183615.83	0.3651	P	1.0
7	☐	1.000					

y = 1.0936E-004 * x + 0.3442
R = 0.8774
DL = 42.69
BEC = 3148

Weight: <None>
Min Conc: <None>

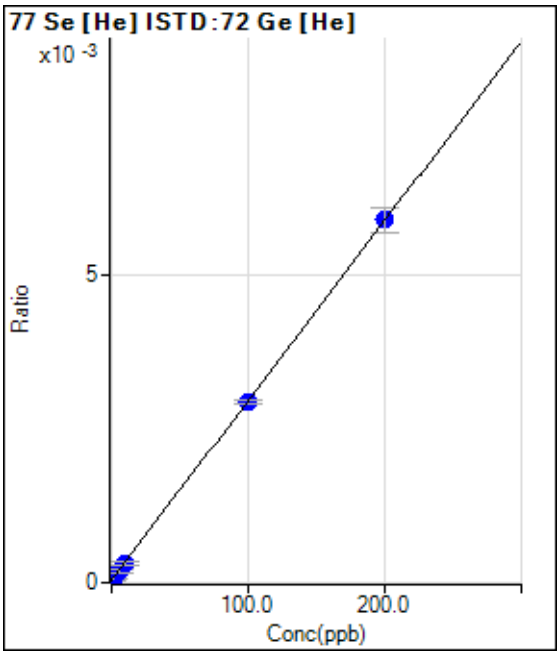


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15216.60	0.0077	P	1.9
2	☐	2.000	2.702	15510.17	0.0079	P	1.7
3	☐	5.000	4.878	15803.82	0.0080	P	2.9
4	☐	10.000	5.272	15637.02	0.0080	P	4.2
5	☐	100.000	90.029	23478.71	0.0124	P	2.7
6	☐	200.000	205.218	34399.31	0.0183	P	3.8
7	☐	1.000					

y = 5.1430E-005 * x + 0.0077
R = 0.9981
DL = 8.508
BEC = 150.4

Weight: <None>
Min Conc: <None>

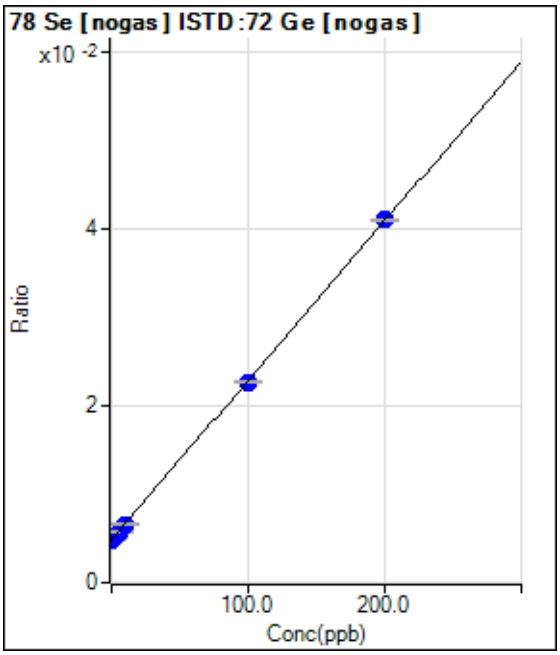
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	23.8
2	☐	2.000	0.637	33.33	0.0001	P	18.2
3	☐	5.000	5.103	103.33	0.0002	P	39.5
4	☐	10.000	9.232	166.67	0.0003	P	18.9
5	☐	100.000	98.930	1510.09	0.0029	P	1.8
6	☐	200.000	200.584	2960.28	0.0059	P	6.8
7	☐	1.000					

y = 2.9127E-005 * x + 4.2852E-005
R = 1.0000
DL = 1.052
BEC = 1.471

Weight: <None>
Min Conc: <None>

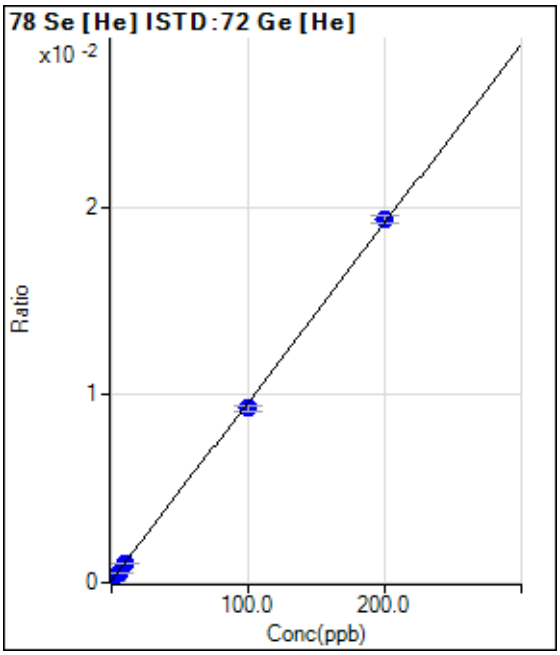


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9602.64	0.0049	P	2.3
2	☐	2.000	1.147	10022.92	0.0051	P	2.9
3	☐	5.000	4.470	11246.96	0.0057	P	4.3
4	☐	10.000	9.520	12881.40	0.0066	P	1.7
5	☐	100.000	98.789	43001.07	0.0226	P	1.3
6	☐	200.000	200.651	77062.35	0.0410	P	0.7
7	☐	1.000					

y = 1.7986E-004 * x + 0.0049
R = 1.0000
DL = 1.881
BEC = 27.14

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.00	0.0001	P	31.5
2	☐	2.000	1.944	156.67	0.0003	P	10.8
3	☐	5.000	4.251	274.67	0.0005	P	7.0
4	☐	10.000	9.573	542.68	0.0010	P	4.6
5	☐	100.000	96.331	4795.31	0.0093	P	3.5
6	☐	200.000	201.875	9731.95	0.0193	P	2.1
7	☐	1.000					

y = 9.5340E-005 * x + 1.0305E-004

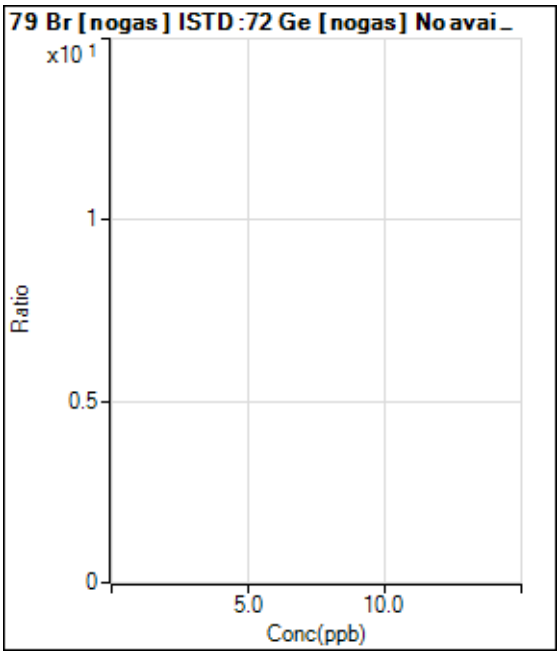
R = 0.9998

DL = 1.022

BEC = 1.081

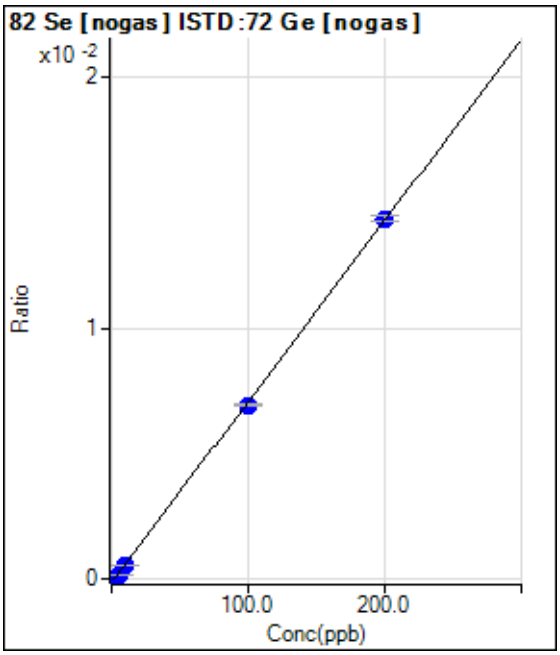
Weight: <None>

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					

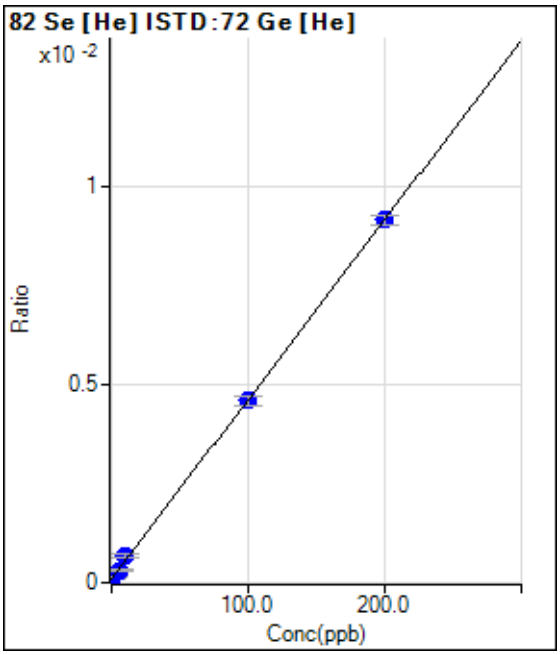
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-238.26	-0.0001	P	-82.6
2	☐	2.000	2.500	115.75	0.0001	P	60.0
3	☐	5.000	4.537	405.55	0.0002	P	13.6
4	☐	10.000	9.163	1051.38	0.0005	P	3.2
5	☐	100.000	98.066	13180.04	0.0069	P	1.0
6	☐	200.000	201.016	27002.25	0.0144	P	1.7
7	☐	1.000					

y = 7.2016E-005 * x - 1.2169E-004
R = 0.9999
DL = 4.188
BEC = -1.69

Weight: <None>
Min Conc: <None>

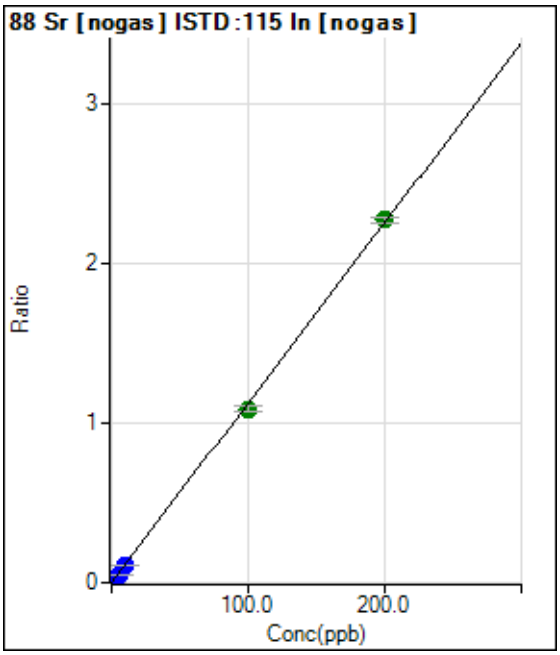


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50.00	0.0001	P	34.3
2	☐	2.000	2.034	100.00	0.0002	P	27.0
3	☐	5.000	4.775	166.67	0.0003	P	9.8
4	☐	10.000	13.097	366.68	0.0007	P	9.5
5	☐	100.000	99.650	2383.52	0.0046	P	5.3
6	☐	200.000	200.025	4613.98	0.0092	P	2.7
7	☐	1.000					

y = 4.5406E-005 * x + 9.1858E-005
R = 0.9999
DL = 2.084
BEC = 2.023

Weight: <None>
Min Conc: <None>

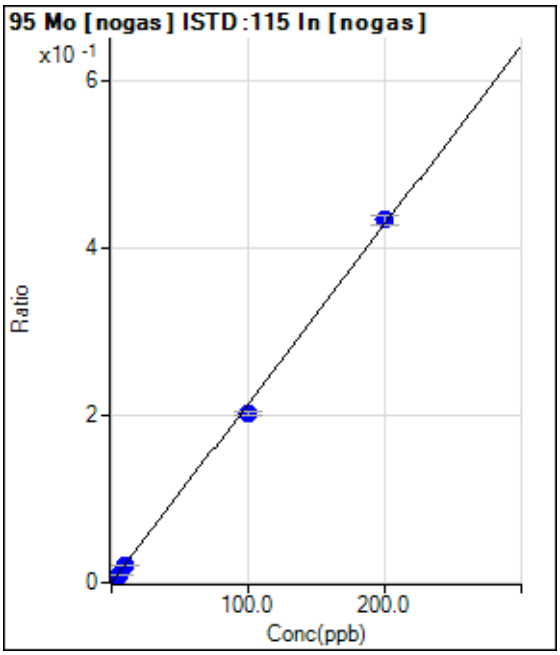
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1653.44	0.0008	P	5.7
2	☐	2.000	1.832	43596.55	0.0215	P	1.9
3	☐	5.000	4.577	106791.38	0.0524	P	1.9
4	☐	10.000	9.634	219236.01	0.1095	P	1.7
5	☐	100.000	96.577	2143569.40	1.0899	A	2.6
6	☐	200.000	201.742	4351395.77	2.2759	A	1.7
7	☐	1.000					

y = 0.0113 * x + 8.2297E-004
R = 0.9998
DL = 0.0124
BEC = 0.07298

Weight: <None>
Min Conc: <None>

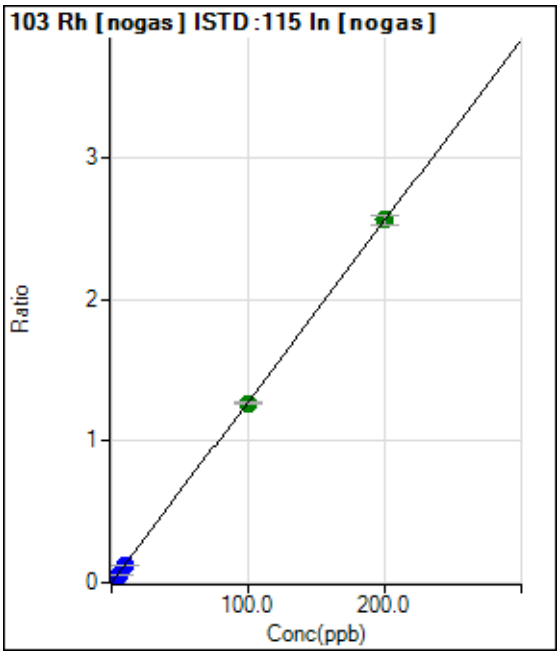


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	163.33	0.0001	P	14.7
2	☐	2.000	1.850	8188.65	0.0040	P	4.9
3	☐	5.000	4.654	20428.59	0.0100	P	2.7
4	☐	10.000	9.924	42654.26	0.0213	P	2.7
5	☐	100.000	94.691	398348.58	0.2025	P	2.7
6	☐	200.000	202.669	828539.60	0.4334	P	2.7
7	☐	1.000					

y = 0.0021 * x + 8.1253E-005
R = 0.9995
DL = 0.01677
BEC = 0.038

Weight: <None>
Min Conc: <None>

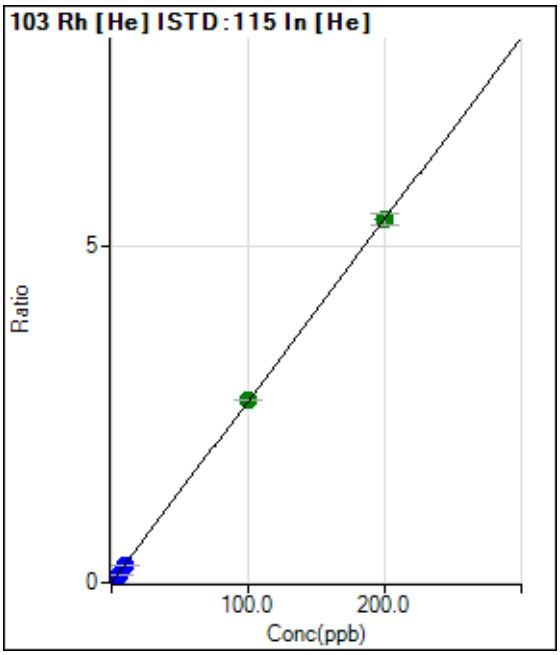
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0000	P	23.9
2	☐	2.000	1.850	48118.74	0.0237	P	2.6
3	☐	5.000	4.650	121364.68	0.0596	P	1.4
4	☐	10.000	9.998	256506.83	0.1281	P	1.0
5	☐	100.000	99.221	2499850.33	1.2709	A	1.7
6	☐	200.000	200.400	4907233.78	2.5669	A	2.7
7	☐	1.000					

y = 0.0128 * x + 2.3201E-005
R = 1.0000
DL = 0.001298
BEC = 0.001811

Weight: <None>
Min Conc: <None>

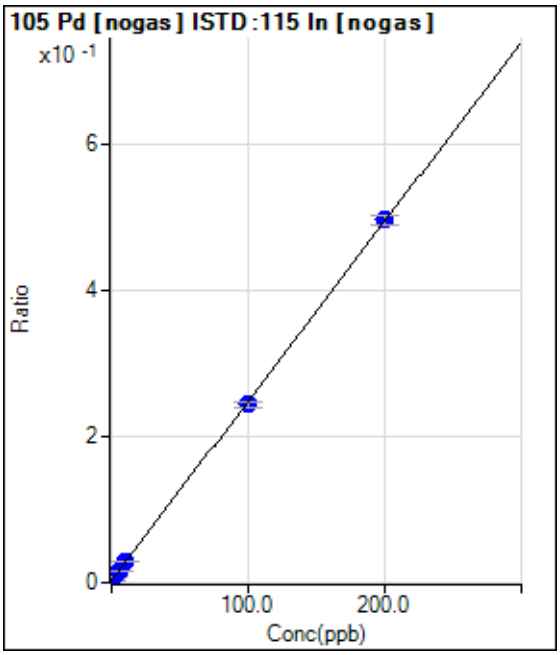


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0001	P	43.9
2	☐	2.000	1.875	40690.15	0.0506	P	0.9
3	☐	5.000	4.633	100074.03	0.1250	P	2.7
4	☐	10.000	9.714	209165.99	0.2621	P	2.5
5	☐	100.000	100.483	2056935.28	2.7102	A	0.4
6	☐	200.000	199.783	4026684.21	5.3885	A	3.1
7	☐	1.000					

y = 0.0270 * x + 5.8692E-005
R = 1.0000
DL = 0.002869
BEC = 0.002176

Weight: <None>
Min Conc: <None>

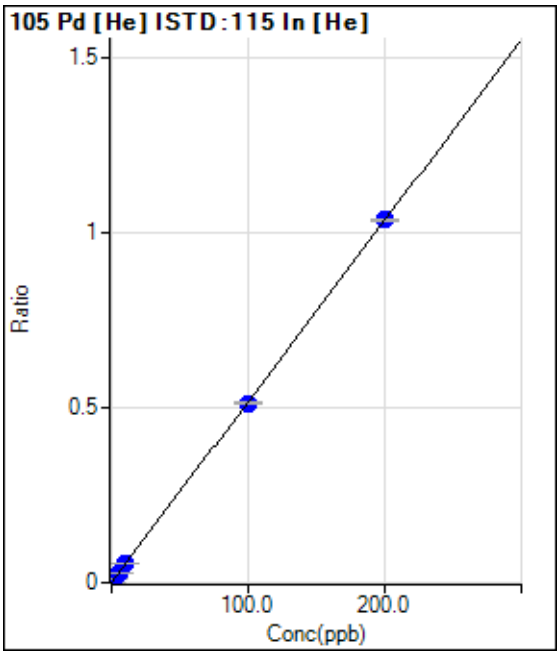
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6294.57	0.0031	P	3.5
2	☐	2.000	1.882	15743.87	0.0078	P	2.4
3	☐	5.000	4.764	30209.21	0.0148	P	3.0
4	☐	10.000	10.133	56132.23	0.0280	P	1.9
5	☐	100.000	98.021	479747.48	0.2439	P	2.4
6	☐	200.000	200.990	949859.15	0.4969	P	2.5
7	☐	1.000					

y = 0.0025 * x + 0.0031
R = 0.9999
DL = 0.134
BEC = 1.276

Weight: <None>
Min Conc: <None>

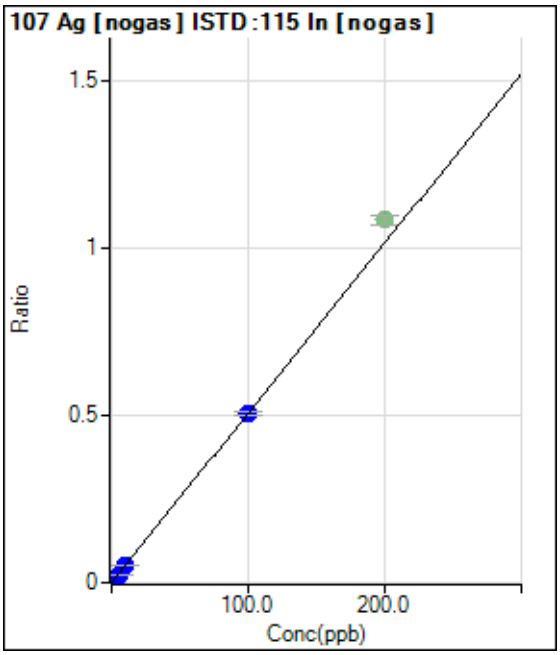


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	593.35	0.0007	P	9.5
2	☐	2.000	1.908	8525.50	0.0106	P	4.7
3	☐	5.000	4.817	20522.15	0.0256	P	2.8
4	☐	10.000	10.073	42140.02	0.0528	P	1.6
5	☐	100.000	99.133	389290.30	0.5129	P	0.3
6	☐	200.000	200.435	774366.68	1.0363	P	0.6
7	☐	1.000					

y = 0.0052 * x + 7.4735E-004
R = 1.0000
DL = 0.04125
BEC = 0.1447

Weight: <None>
Min Conc: <None>

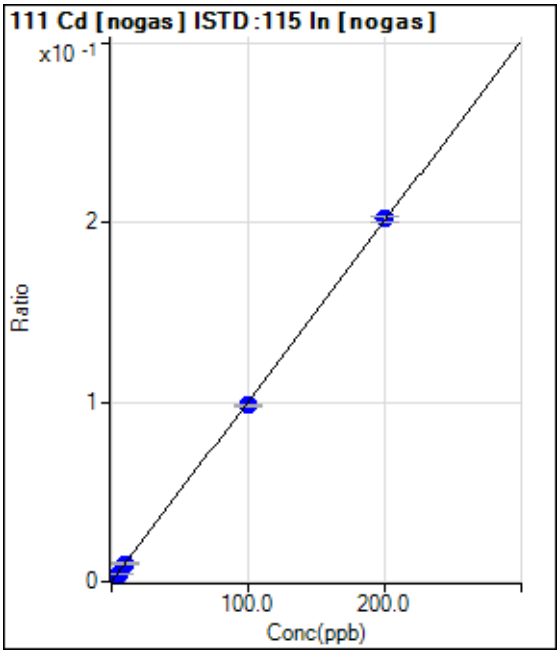
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0000	P	24.5
2	☐	2.000	1.983	20512.11	0.0101	P	1.4
3	☐	5.000	4.976	51525.05	0.0253	P	3.4
4	☐	10.000	10.555	107430.40	0.0536	P	0.8
5	☐	100.000	99.946	998406.39	0.5076	P	1.8
6	☑	200.000		2075968.35	1.0859	A	2.8
7	☐	1.000					

y = 0.0051 * x + 3.4830E-005
R = 1.0000
DL = 0.005046
BEC = 0.006858

Weight: <None>
Min Conc: <None>

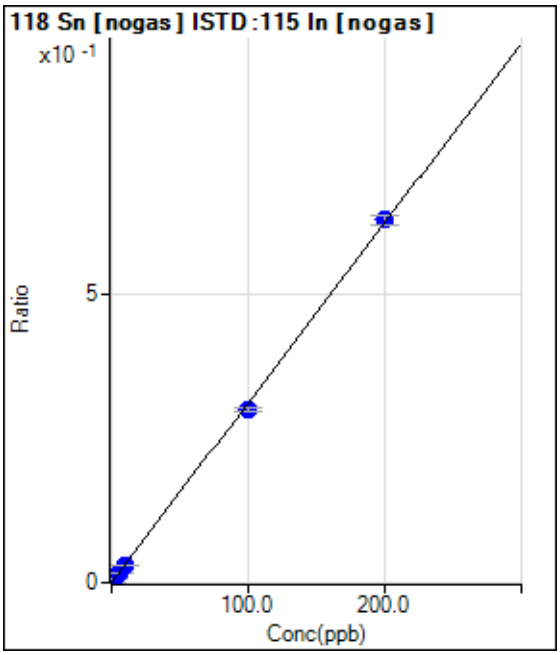


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	173.2
2	☐	2.000	1.886	3860.49	0.0019	P	5.1
3	☐	5.000	4.696	9619.40	0.0047	P	1.6
4	☐	10.000	10.061	20245.24	0.0101	P	3.9
5	☐	100.000	97.876	193293.75	0.0983	P	0.9
6	☐	200.000	201.068	385949.58	0.2019	P	1.9
7	☐	1.000					

y = 0.0010 * x + 8.2225E-006
R = 0.9999
DL = 0.04256
BEC = 0.00819

Weight: <None>
Min Conc: <None>

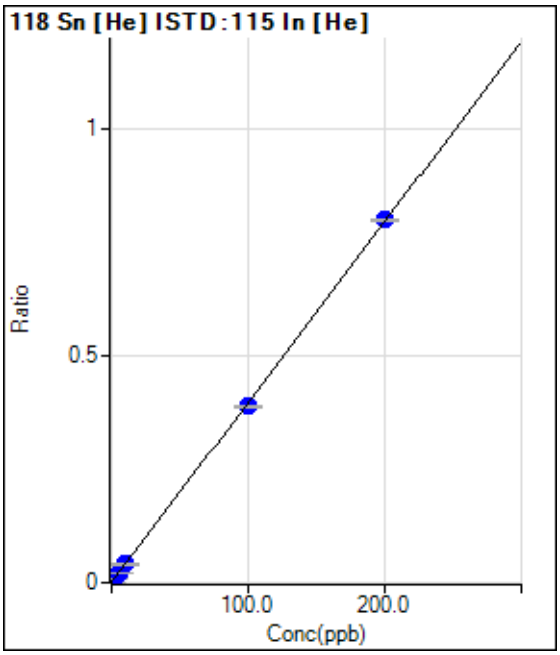
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1063.38	0.0005	P	11.7
2	☐	2.000	1.904	13118.40	0.0065	P	2.0
3	☐	5.000	4.791	31505.29	0.0155	P	0.1
4	☐	10.000	9.866	62655.30	0.0313	P	1.5
5	☐	100.000	96.340	591729.84	0.3009	P	1.6
6	☐	200.000	201.843	1203950.24	0.6297	P	2.6
7	☐	1.000					

y = 0.0031 * x + 5.2956E-004
R = 0.9998
DL = 0.0596
BEC = 0.1699

Weight: <None>
Min Conc: <None>

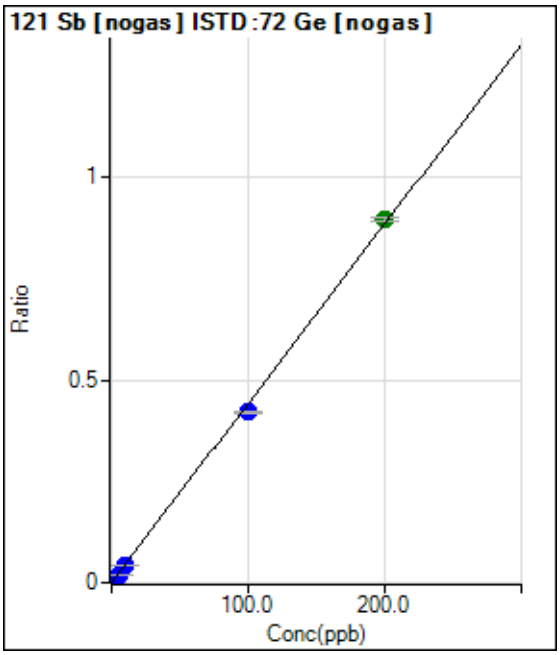


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	610.02	0.0008	P	35.6
2	☐	2.000	1.875	6604.68	0.0082	P	1.1
3	☐	5.000	5.091	16808.10	0.0210	P	9.0
4	☐	10.000	9.954	32183.00	0.0403	P	1.2
5	☐	100.000	97.655	295063.21	0.3887	P	1.1
6	☐	200.000	201.174	597822.53	0.8000	P	0.5
7	☐	1.000					

y = 0.0040 * x + 7.6746E-004
R = 0.9999
DL = 0.2062
BEC = 0.1932

Weight: <None>
Min Conc: <None>

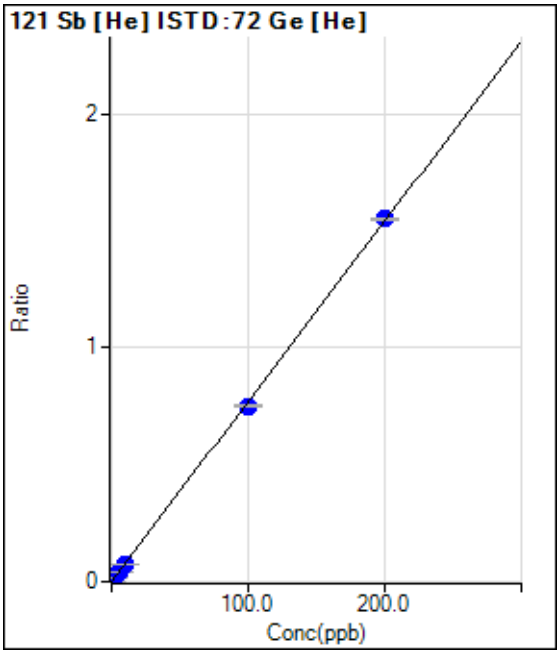
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1133.39	0.0006	P	7.0
2	☐	2.000	1.829	17061.83	0.0087	P	2.0
3	☐	5.000	4.573	41141.77	0.0208	P	3.2
4	☐	10.000	9.794	85694.99	0.0439	P	0.9
5	☐	100.000	95.137	799636.21	0.4211	P	0.9
6	☐	200.000	202.454	1684431.80	0.8955	A	1.1
7	☐	1.000					

y = 0.0044 * x + 5.7593E-004
R = 0.9996
DL = 0.0274
BEC = 0.1303

Weight: <None>
Min Conc: <None>

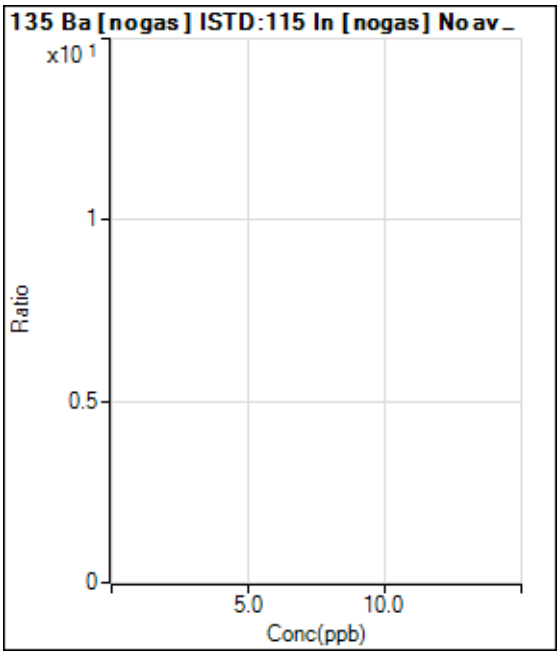


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	503.34	0.0009	P	2.3
2	☐	2.000	2.001	8882.35	0.0163	P	3.4
3	☐	5.000	4.754	20285.27	0.0376	P	1.1
4	☐	10.000	9.780	40757.52	0.0763	P	0.7
5	☐	100.000	97.258	387416.91	0.7503	P	1.1
6	☐	200.000	201.388	780854.65	1.5526	P	0.2
7	☐	1.000					

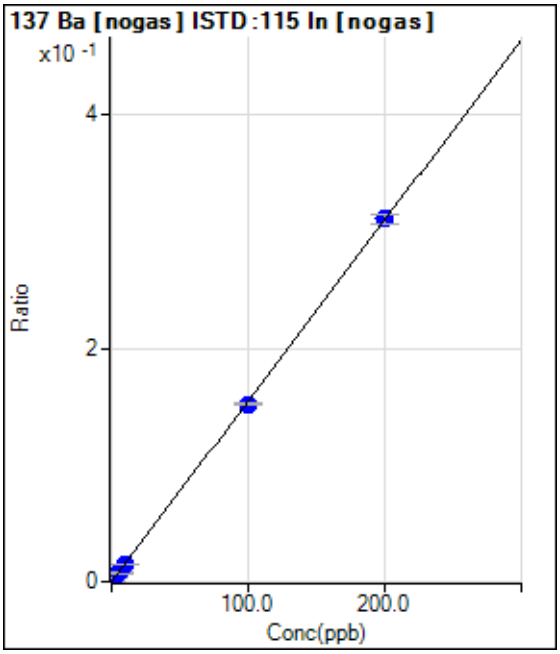
y = 0.0077 * x + 9.2550E-004
R = 0.9999
DL = 0.008119
BEC = 0.1201

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	206.67	0.0001	P	6.9
2	☐	2.000	1.892	6151.19	0.0030	P	4.0
3	☐	5.000	4.807	15357.00	0.0075	P	4.7
4	☐	10.000	9.887	30851.21	0.0154	P	1.0
5	☐	100.000	98.317	299483.48	0.1523	P	1.8
6	☐	200.000	200.853	594431.01	0.3109	P	2.8
7	☐	1.000					

y = 0.0015 * x + 1.0285E-004

R = 1.0000

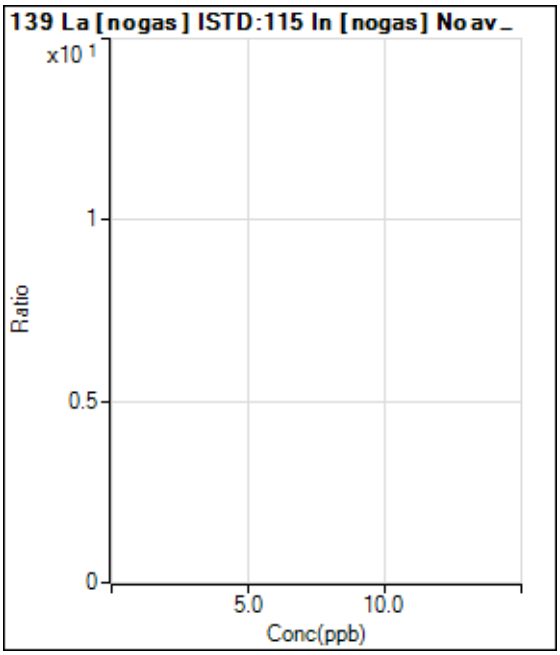
DL = 0.01377

BEC = 0.06646

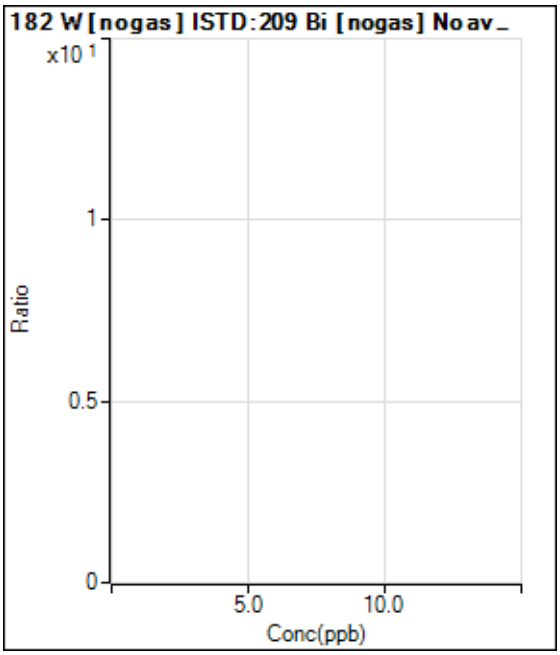
Weight: <None>

Min Conc: <None>

Calibration for 026_ICV.d

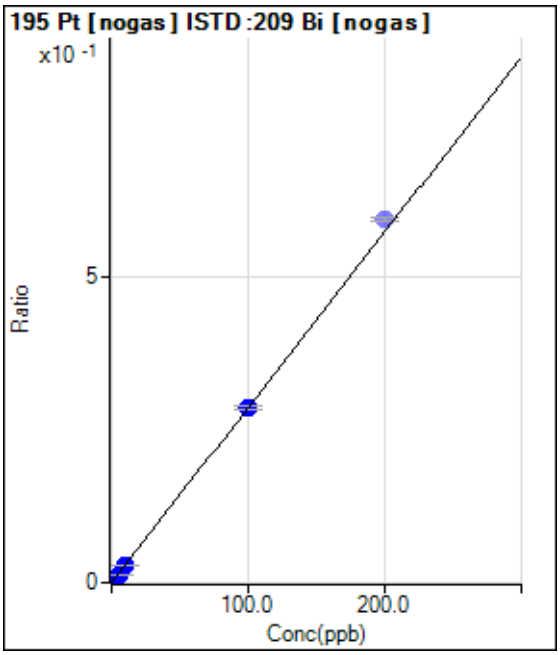


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					



	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	0.000	0.00	0.0000	P	
2	☐	2.000	1.796	8252.18	0.0051	P	5.5
3	☐	5.000	4.538	21417.47	0.0130	P	2.2
4	☐	10.000	9.429	45245.65	0.0270	P	0.8
5	☐	100.000	100.084	444214.73	0.2865	P	1.7
6	☑	200.000		906000.72	0.5927	P	1.0
7	☐	1.000					

y = 0.0029 * x + 0.0000E+000

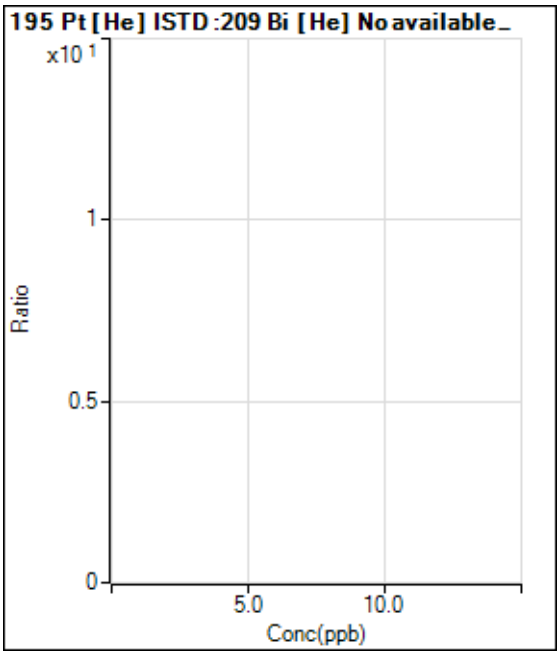
R = 1.0000

DL = 0

BEC = 0

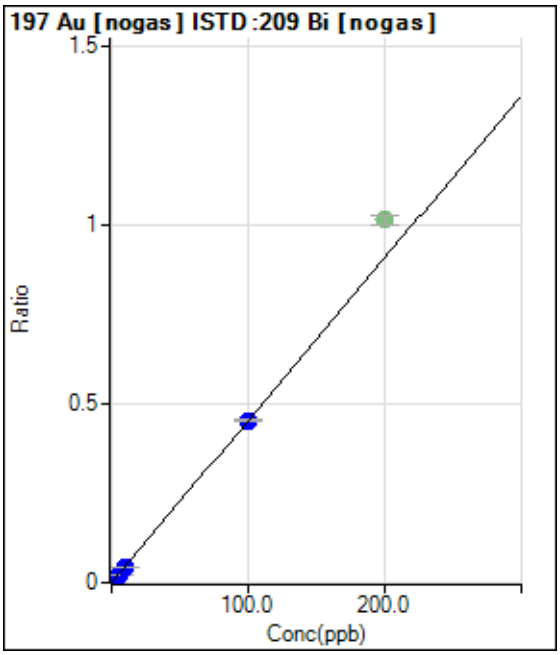
Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		6.67		P	
2	☐	2.000		8772.47		P	
3	☐	5.000		21774.61		P	
4	☐	10.000		45068.39		P	
5	☐	100.000		449554.02		P	
6	☐	200.000		926372.36		P	
7	☐	1.000					

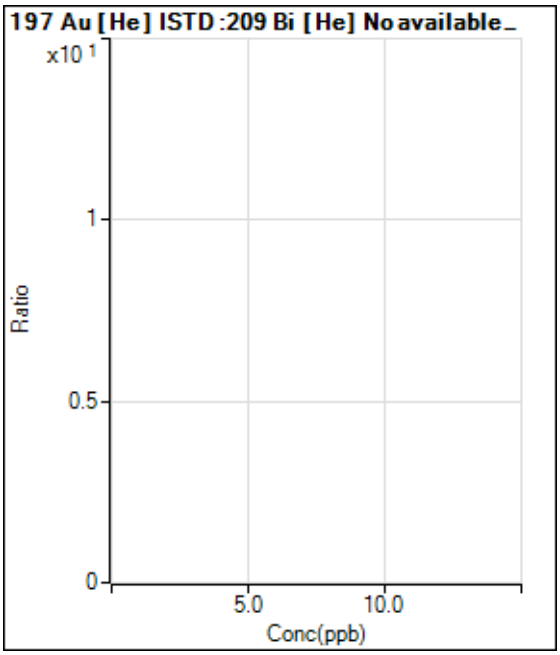
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0000	P	62.8
2	☐	2.000	1.852	13539.04	0.0084	P	1.6
3	☐	5.000	4.655	34873.86	0.0211	P	3.6
4	☐	10.000	9.458	72003.65	0.0430	P	2.2
5	☐	100.000	100.074	704444.05	0.4543	P	0.8
6	☑	200.000		1550835.55	1.0147	A	3.0
7	☐	1.000					

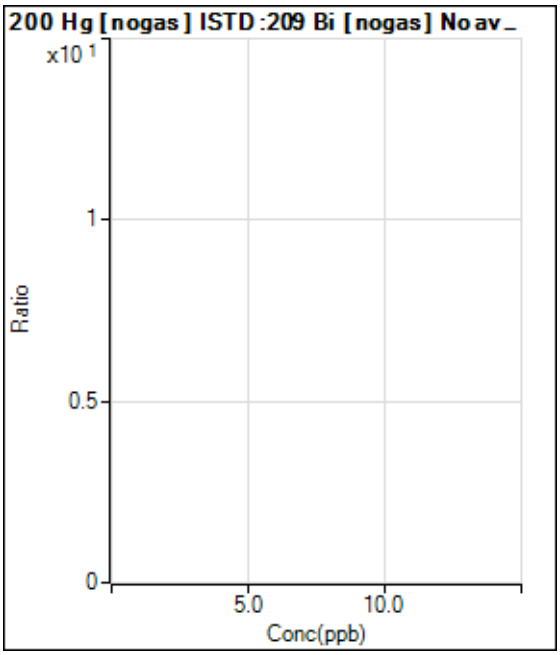
y = 0.0045 * x + 2.0534E-005
R = 1.0000
DL = 0.008517
BEC = 0.004524

Weight: <None>
Min Conc: <None>

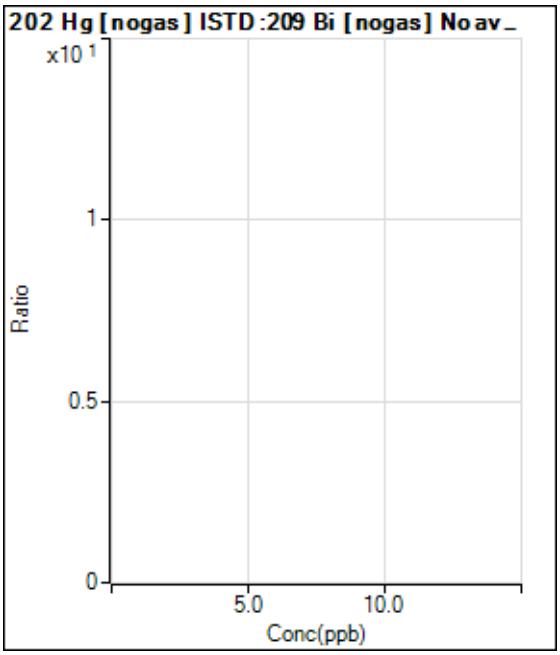


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		46.67		P	
2	☐	2.000		13916.02		P	
3	☐	5.000		35805.69		P	
4	☐	10.000		74565.73		P	
5	☐	100.000		727026.81		P	
6	☐	200.000		1584403.52		A	
7	☐	1.000					

Calibration for 026_ICV.d

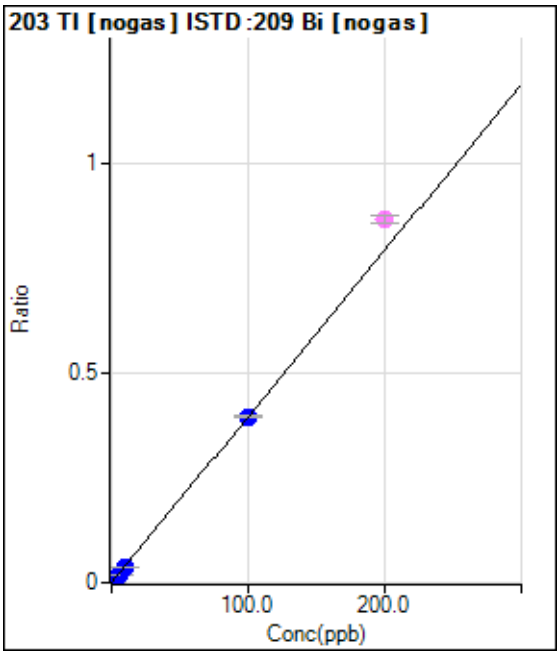


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	0.050					
3	☐	0.200					
4	☐	0.500					
5	☐	2.000					
6	☐	5.000					
7	☐	10.000					



	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					

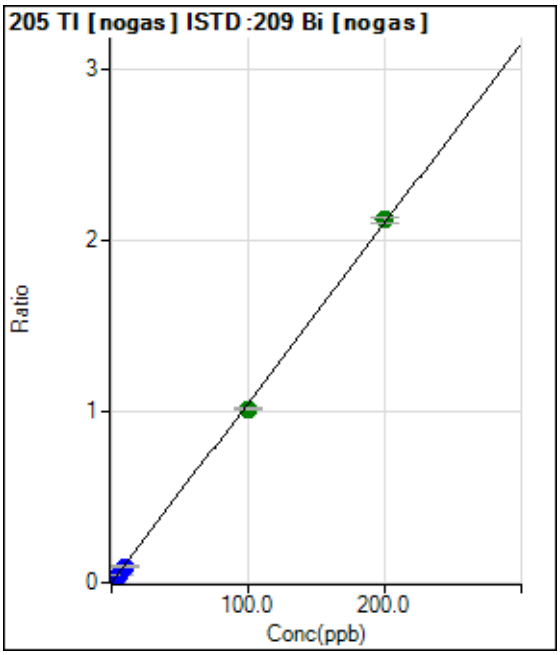
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	410.01	0.0003	P	18.0
2	☐	2.000	1.904	12528.29	0.0078	P	3.5
3	☐	5.000	4.764	31543.88	0.0191	P	3.1
4	☐	10.000	9.691	64804.79	0.0387	P	0.9
5	☐	100.000	100.045	615116.93	0.3967	P	1.3
6	☑	200.000		1323881.93	0.8658	M	2.1
7	☐	1.000					

y = 0.0040 * x + 2.5265E-004
R = 1.0000
DL = 0.03452
BEC = 0.06376

Weight: <None>
Min Conc: <None>

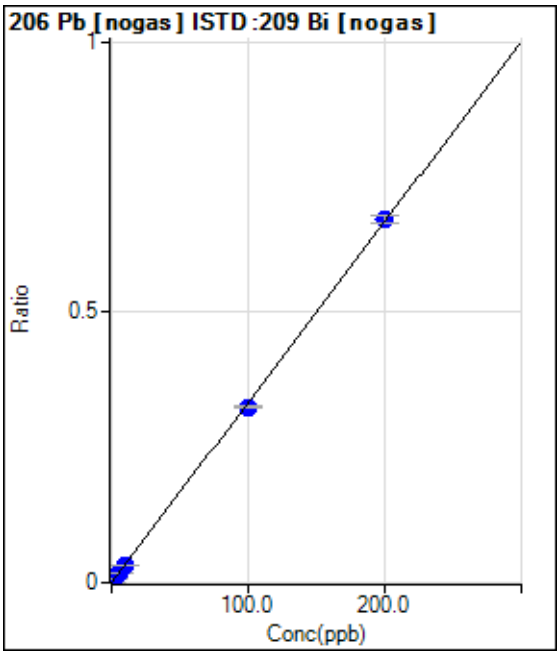


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	933.37	0.0006	P	8.3
2	☐	2.000	1.791	31093.06	0.0194	P	2.5
3	☐	5.000	4.399	77027.77	0.0467	P	1.9
4	☐	10.000	8.943	158198.94	0.0944	P	2.5
5	☐	100.000	96.450	1569486.02	1.0121	A	1.0
6	☐	200.000	201.845	3236655.58	2.1175	A	1.8
7	☐	1.000					

y = 0.0105 * x + 5.7468E-004
R = 0.9998
DL = 0.0136
BEC = 0.05479

Weight: <None>
Min Conc: <None>

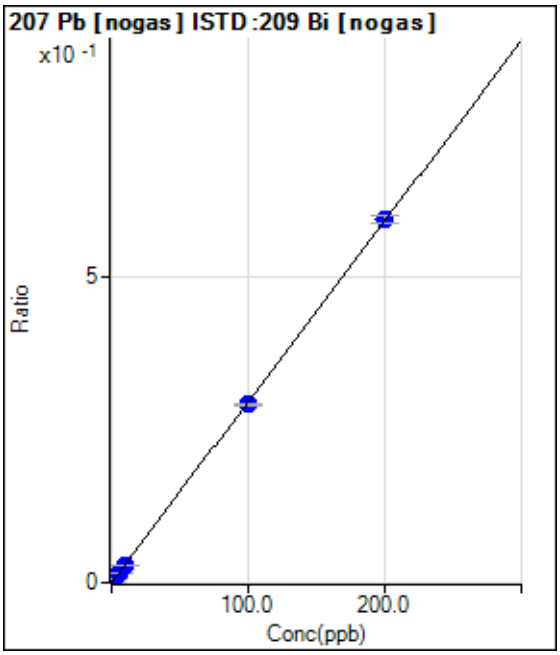
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	466.68	0.0003	P	19.5
2	☐	2.000	1.995	11123.95	0.0069	P	6.6
3	☐	5.000	4.863	27172.93	0.0165	P	1.3
4	☐	10.000	9.748	54895.85	0.0327	P	0.7
5	☐	100.000	97.552	504096.89	0.3251	P	0.6
6	☐	200.000	201.240	1024508.21	0.6703	P	2.0
7	☐	1.000					

y = 0.0033 * x + 2.8698E-004
R = 0.9999
DL = 0.05036
BEC = 0.0862

Weight: <None>
Min Conc: <None>

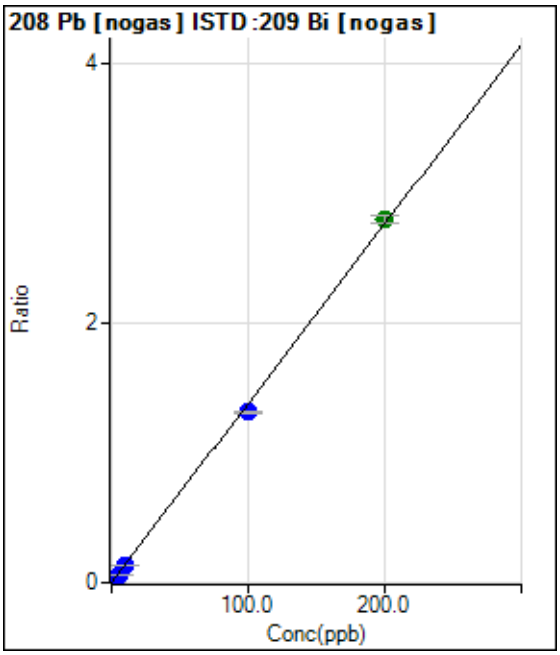


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	450.01	0.0003	P	6.9
2	☐	2.000	1.927	9582.98	0.0060	P	7.5
3	☐	5.000	4.887	24261.65	0.0147	P	0.1
4	☐	10.000	9.838	49180.89	0.0293	P	0.6
5	☐	100.000	98.488	451507.26	0.2912	P	1.2
6	☐	200.000	200.768	906736.26	0.5932	P	2.2
7	☐	1.000					

y = 0.0030 * x + 2.7724E-004
R = 1.0000
DL = 0.01931
BEC = 0.09387

Weight: <None>
Min Conc: <None>

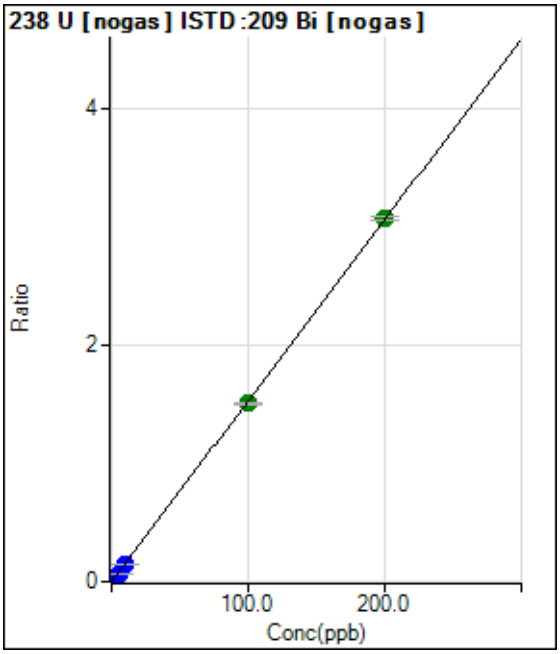
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2090.08	0.0013	P	3.5
2	☐	2.000	1.886	43930.41	0.0274	P	3.9
3	☐	5.000	4.685	108919.35	0.0660	P	0.6
4	☐	10.000	9.562	223759.56	0.1335	P	0.6
5	☐	100.000	95.226	2043270.33	1.3176	P	1.1
6	☐	200.000	202.418	4278667.51	2.7994	A	2.2
7	☐	1.000					

y = 0.0138 * x + 0.0013
R = 0.9996
DL = 0.009855
BEC = 0.09309

Weight: <None>
Min Conc: <None>

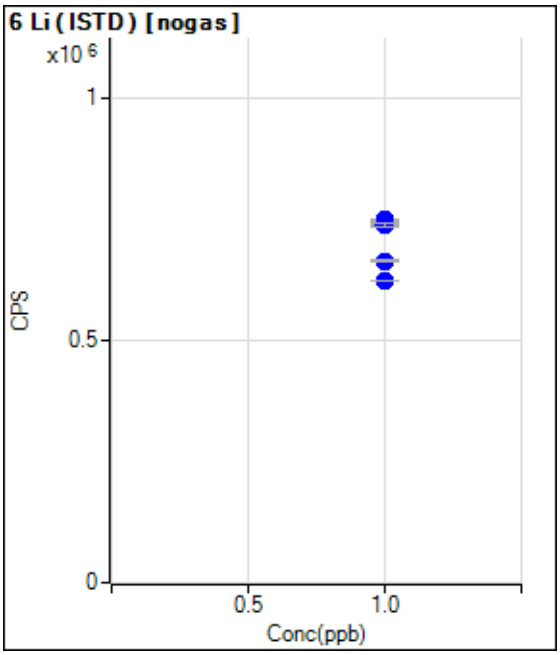


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0000	P	12.2
2	☐	2.000	1.787	43944.13	0.0274	P	1.2
3	☐	5.000	4.455	112350.82	0.0681	P	1.0
4	☐	10.000	9.140	234280.66	0.1397	P	1.9
5	☐	100.000	98.759	2341014.86	1.5096	A	1.2
6	☐	200.000	200.679	4689660.35	3.0676	A	0.9
7	☐	1.000					

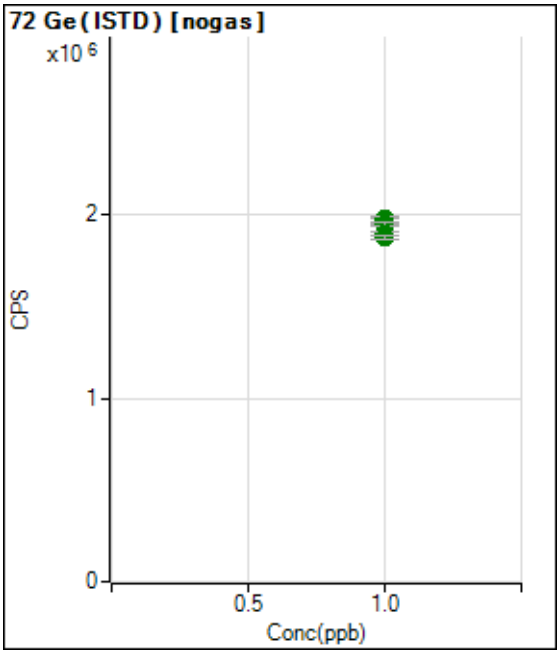
y = 0.0153 * x + 2.8735E-005
R = 1.0000
DL = 0.0006905
BEC = 0.00188

Weight: <None>
Min Conc: <None>

Calibration for 026_ICV.d

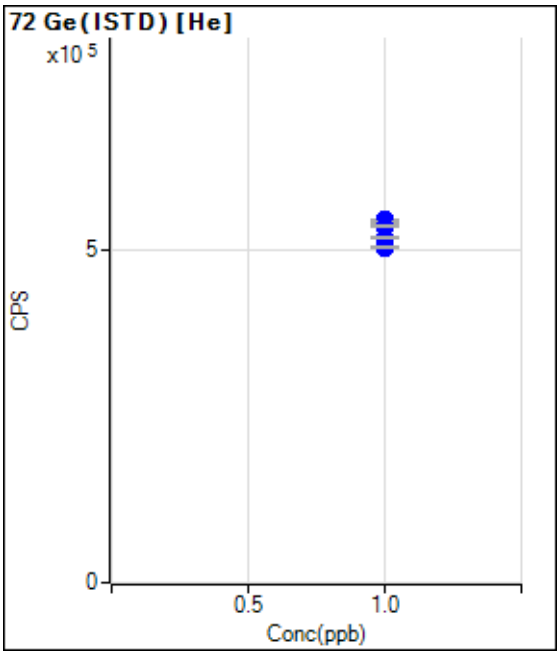


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		749893.98		P	0.2
2	☐	1.000		743112.61		P	0.7
3	☐	1.000		744486.15		P	0.6
4	☐	1.000		737471.78		P	1.1
5	☐	1.000		665473.93		P	0.4
6	☐	1.000		624028.49		P	0.3
7	☐	1.000					

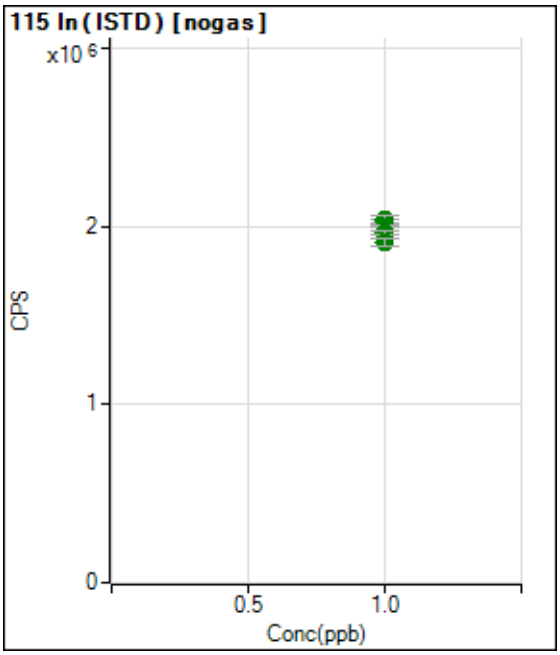


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1967072.73		A	1.4
2	☐	1.000		1969933.51		A	2.1
3	☐	1.000		1979210.02		A	1.3
4	☐	1.000		1953566.74		A	1.3
5	☐	1.000		1898861.38		A	1.6
6	☐	1.000		1881045.60		A	1.0
7	☐	1.000					

Calibration for 026_ICV.d

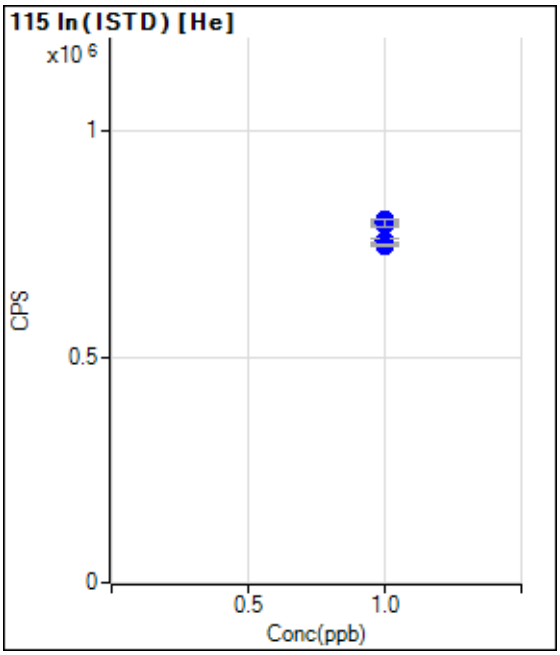


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		543801.02		P	0.8
2	☐	1.000		543476.94		P	0.8
3	☐	1.000		540146.49		P	0.7
4	☐	1.000		534332.29		P	0.8
5	☐	1.000		516385.19		P	0.5
6	☐	1.000		502945.72		P	0.3
7	☐	1.000					

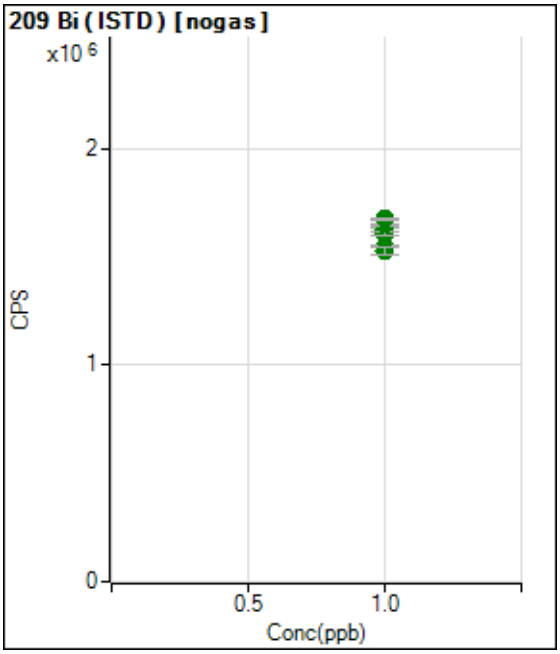


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2008904.46		A	0.8
2	☐	1.000		2029435.79		A	1.0
3	☐	1.000		2037108.11		A	2.0
4	☐	1.000		2002776.76		A	0.3
5	☐	1.000		1967097.83		A	1.3
6	☐	1.000		1912477.48		A	2.3
7	☐	1.000					

Calibration for 026_ICV.d

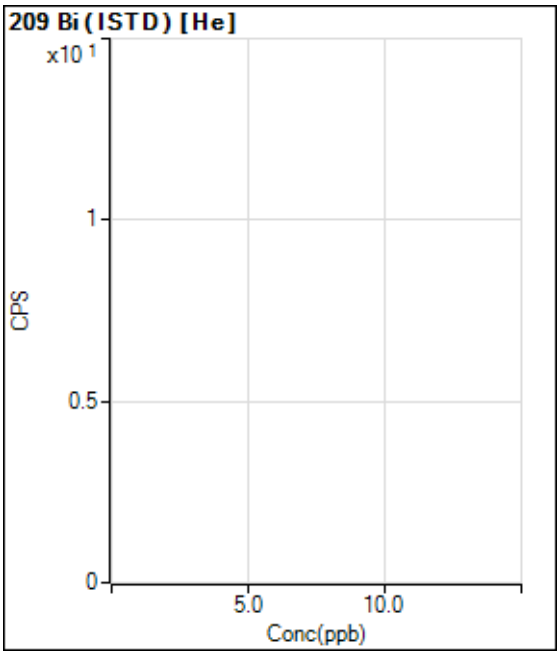


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		793603.27		P	0.7
2	☐	1.000		803868.35		P	0.6
3	☐	1.000		800696.19		P	1.0
4	☐	1.000		798406.86		P	2.2
5	☐	1.000		758979.49		P	1.3
6	☐	1.000		747267.78		P	0.2
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1623891.69		A	1.1
2	☐	1.000		1606471.54		A	1.3
3	☐	1.000		1649224.61		A	0.9
4	☐	1.000		1676619.97		A	0.9
5	☐	1.000		1550692.79		A	0.4
6	☐	1.000		1528820.29		A	1.8
7	☐	1.000					

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000					
2	☐	1.000					
3	☐	1.000					
4	☐	1.000					
5	☐	1.000					
6	☐	1.000					
7	☐	1.000					

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	015CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:06:22-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	65	41.00
B	11	1	nogas	18197	0.01
Al	27	1	nogas	39374	0.01
P	31	1	nogas	36532	0.00
Ca	44	1	nogas	82554	0.00
Ti	47	1	nogas	247	11.19
Cr	52	1	nogas	43000	0.00
Co	59	1	nogas	580	3.60
Cu	63	1	nogas	36881	0.00
Zn	66	1	nogas	3627	0.07
Se	77	1	nogas	15217	0.01
Sr	88	1	nogas	1653	0.36
Mo	95	1	nogas	163	9.43
Ag	107	1	nogas	70	35.35
Cd	111	1	nogas	17	1039.23
Sn	118	1	nogas	1063	1.05
Sb	121	1	nogas	1133	0.70
Ba	137	1	nogas	207	3.58
Tl	205	1	nogas	933	0.92
Pb	208	1	nogas	2090	0.22
Li	7	1	nogas	60315	0.00
Si	28	1	nogas	906787	0.00
Na	23	2	He	96538	0.00
Mg	24	2	He	1093	0.41
Al	27	2	He	770	2.94
K	39	2	He	55018	0.00
Ca	43	2	He	43	171.19
Ca	44	2	He	840	0.98
V	51	2	He	5968	0.07
Cr	52	2	He	1217	1.27
Mn	55	2	He	1243	0.43
Fe	56	2	He	9002	0.01
Co	59	2	He	200	15.00
Ni	60	2	He	597	2.27
Cu	63	2	He	2240	0.14
Zn	66	2	He	1497	1.48
As	75	2	He	99	28.58
Sb	121	2	He	503	0.60

Calibration Blank Report

Se	78	2	He	56	55.60

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	1967073	1.41
In	115	1	nogas	2008904	0.79
Li	6	1	nogas	749894	0.22
Bi	209	1	nogas	1623892	1.09
Ge	72	2	He	543801	0.83
In	115	2	He	793603	0.67

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	016CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:08:49-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	015CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	7160	0.08
B	11	1	nogas	36625	0.01
Al	27	1	nogas	67018	0.00
P	31	1	nogas	42699	0.01
Ca	44	1	nogas	158535	0.00
Ti	47	1	nogas	2674	0.18
Cr	52	1	nogas	73568	0.00
Co	59	1	nogas	33130	0.00
Cu	63	1	nogas	51790	0.00
Zn	66	1	nogas	7111	0.04
Se	77	1	nogas	15510	0.01
Se	82	1	nogas	116	52.72
Sr	88	1	nogas	43597	0.00
Mo	95	1	nogas	8189	0.05
Ag	107	1	nogas	20512	0.00
Cd	111	1	nogas	3860	0.15
Sn	118	1	nogas	13118	0.01
Sb	121	1	nogas	17062	0.00
Ba	137	1	nogas	6151	0.08
Tl	205	1	nogas	31093	0.01
Pb	208	1	nogas	43930	0.01
Si	28	1	nogas	943654	0.00
Na	23	2	He	289115	0.00
Mg	24	2	He	109147	0.00
Al	27	2	He	1440	0.05
K	39	2	He	152784	0.00
Ca	43	2	He	320	6.10
Ca	44	2	He	5654	0.07
V	51	2	He	15204	0.01
Cr	52	2	He	11174	0.04
Mn	55	2	He	7061	0.03
Fe	56	2	He	928127	0.00
Co	59	2	He	16438	0.01
Ni	60	2	He	4271	0.04
Cu	63	2	He	13178	0.01
Zn	66	2	He	2900	0.25

Calibration Standard Report

As	75	2	He	1386	0.37
Sb	121	2	He	8882	0.04
Se	78	2	He	157	6.64

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	1969934	2.05	1967073	100.15	70	120	
In	115	1	nogas	2029436	1.01	2008904	101.02	70	120	
Li	6	1	nogas	743113	0.71	749894	99.10	70	120	
Bi	209	1	nogas	1606472	1.26	1623892	98.93	70	120	
Ge	72	2	He	543477	0.84	543801	99.94	70	120	
In	115	2	He	803868	0.56	793603	101.29	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	017CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:11:16-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	015CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	18207	0.01
B	11	1	nogas	67918	0.00
Al	27	1	nogas	107459	0.00
P	31	1	nogas	54081	0.00
Ca	44	1	nogas	283439	0.00
Ti	47	1	nogas	6535	0.05
Cr	52	1	nogas	118837	0.00
Co	59	1	nogas	82530	0.00
Cu	63	1	nogas	78945	0.00
Zn	66	1	nogas	14056	0.02
Se	77	1	nogas	15804	0.01
Se	82	1	nogas	406	3.21
Sr	88	1	nogas	106791	0.00
Mo	95	1	nogas	20429	0.00
Ag	107	1	nogas	51525	0.00
Cd	111	1	nogas	9619	0.01
Sn	118	1	nogas	31505	0.01
Sb	121	1	nogas	41142	0.00
Ba	137	1	nogas	15357	0.02
Tl	205	1	nogas	77028	0.00
Pb	208	1	nogas	108919	0.00
Si	28	1	nogas	1094502	0.00
Na	23	2	He	589423	0.00
Mg	24	2	He	272508	0.00
Al	27	2	He	2334	0.46
K	39	2	He	298375	0.00
Ca	43	2	He	847	1.19
Ca	44	2	He	13632	0.00
V	51	2	He	28064	0.01
Cr	52	2	He	27320	0.00
Mn	55	2	He	17085	0.04
Fe	56	2	He	2455972	0.00
Co	59	2	He	39115	0.00
Ni	60	2	He	10336	0.05
Cu	63	2	He	28309	0.01
Zn	66	2	He	5611	0.06

Calibration Standard Report

As	75	2	He	3299	0.02
Sb	121	2	He	20285	0.01
Se	78	2	He	275	2.72

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	1979210	1.31	1967073	100.62	70	120	
In	115	1	nogas	2037108	2.04	2008904	101.40	70	120	
Li	6	1	nogas	744486	0.59	749894	99.28	70	120	
Bi	209	1	nogas	1649225	0.95	1623892	101.56	70	120	
Ge	72	2	He	540146	0.67	543801	99.33	70	120	
In	115	2	He	800696	0.97	793603	100.89	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	018CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:13:44-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	015CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	37870	0.00
B	11	1	nogas	123709	0.00
Al	27	1	nogas	177972	0.00
P	31	1	nogas	74168	0.00
Ca	44	1	nogas	505598	0.00
Ti	47	1	nogas	13745	0.03
Cr	52	1	nogas	197878	0.00
Co	59	1	nogas	167247	0.00
Cu	63	1	nogas	121212	0.00
Zn	66	1	nogas	25745	0.01
Se	77	1	nogas	15637	0.02
Se	82	1	nogas	1051	0.34
Sr	88	1	nogas	219236	0.00
Mo	95	1	nogas	42654	0.01
Ag	107	1	nogas	107430	0.00
Cd	111	1	nogas	20245	0.02
Sn	118	1	nogas	62655	0.00
Sb	121	1	nogas	85695	0.00
Ba	137	1	nogas	30851	0.00
Tl	205	1	nogas	158199	0.00
Pb	208	1	nogas	223760	0.00
Si	28	1	nogas	1373355	0.00
Na	23	2	He	1115116	0.00
Mg	24	2	He	562136	0.00
Al	27	2	He	3737	0.18
K	39	2	He	557793	0.00
Ca	43	2	He	1610	1.17
Ca	44	2	He	27554	0.00
V	51	2	He	51633	0.00
Cr	52	2	He	54433	0.00
Mn	55	2	He	34783	0.01
Fe	56	2	He	4828589	0.00
Co	59	2	He	80689	0.00
Ni	60	2	He	21186	0.01
Cu	63	2	He	57938	0.00
Zn	66	2	He	10643	0.02

Calibration Standard Report

As	75	2	He	6881	0.02
Sb	121	2	He	40758	0.00
Se	78	2	He	543	0.81

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	1953567	1.29	1967073	99.31	70	120	
In	115	1	nogas	2002777	0.30	2008904	99.69	70	120	
Li	6	1	nogas	737472	1.10	749894	98.34	70	120	
Bi	209	1	nogas	1676620	0.86	1623892	103.25	70	120	
Ge	72	2	He	534332	0.79	543801	98.26	70	120	
In	115	2	He	798407	2.16	793603	100.61	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	019CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:16:13-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	015CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	359957	0.00
B	11	1	nogas	1018749	0.00
Al	27	1	nogas	1302765	0.00
P	31	1	nogas	372781	0.00
Ca	44	1	nogas	4228294	0.00
Ti	47	1	nogas	125760	0.00
Cr	52	1	nogas	1543933	0.00
Co	59	1	nogas	1630777	0.00
Cu	63	1	nogas	839212	0.00
Zn	66	1	nogas	222872	0.00
Se	77	1	nogas	23479	0.01
Se	82	1	nogas	13180	0.02
Sr	88	1	nogas	2143569	0.00
Mo	95	1	nogas	398349	0.00
Ag	107	1	nogas	998406	0.00
Cd	111	1	nogas	193294	0.00
Sn	118	1	nogas	591730	0.00
Sb	121	1	nogas	799636	0.00
Ba	137	1	nogas	299483	0.00
Tl	205	1	nogas	1569486	0.00
Pb	208	1	nogas	2043270	0.00
Si	28	1	nogas	4193764	0.00
Na	23	2	He	9752485	0.00
Mg	24	2	He	5226114	0.00
Al	27	2	He	26449	0.01
K	39	2	He	4878111	0.00
Ca	43	2	He	14983	0.02
Ca	44	2	He	252818	0.00
V	51	2	He	444828	0.00
Cr	52	2	He	507305	0.00
Mn	55	2	He	322352	0.00
Fe	56	2	He	45389454	0.00
Co	59	2	He	751205	0.00
Ni	60	2	He	195211	0.00
Cu	63	2	He	513262	0.00
Zn	66	2	He	90294	0.00

Calibration Standard Report

As	75	2	He	63669	0.00
Sb	121	2	He	387417	0.00
Se	78	2	He	4795	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	1898861	1.60	1967073	96.53	70	120	
In	115	1	nogas	1967098	1.28	2008904	97.92	70	120	
Li	6	1	nogas	665474	0.45	749894	88.74	70	120	
Bi	209	1	nogas	1550693	0.37	1623892	95.49	70	120	
Ge	72	2	He	516385	0.47	543801	94.96	70	120	
In	115	2	He	758979	1.29	793603	95.64	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	020CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:18:37-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	015CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	718757	0.00
B	11	1	nogas	2069657	0.00
Al	27	1	nogas	2480607	0.00
P	31	1	nogas	704572	0.00
Ca	44	1	nogas	8316733	0.00
Ti	47	1	nogas	250699	0.00
Cr	52	1	nogas	3090273	0.00
Co	59	1	nogas	3199163	0.00
Cu	63	1	nogas	1738679	0.00
Zn	66	1	nogas	435639	0.00
Se	77	1	nogas	34399	0.01
Se	82	1	nogas	27002	0.01
Sr	88	1	nogas	4351396	0.00
Mo	95	1	nogas	828540	0.00
Ag	107	1	nogas	2075968	0.00
Cd	111	1	nogas	385950	0.00
Sn	118	1	nogas	1203950	0.00
Sb	121	1	nogas	1684432	0.00
Ba	137	1	nogas	594431	0.00
Tl	205	1	nogas	3236656	0.00
Pb	208	1	nogas	4278668	0.00
Si	28	1	nogas	7310277	0.00
Na	23	2	He	19206107	0.00
Mg	24	2	He	10518302	0.00
Al	27	2	He	49949	0.00
K	39	2	He	9639106	0.00
Ca	43	2	He	30348	0.01
Ca	44	2	He	500707	0.00
V	51	2	He	902247	0.00
Cr	52	2	He	1025989	0.00
Mn	55	2	He	647889	0.00
Fe	56	2	He	91033889	0.00
Co	59	2	He	1572631	0.00
Ni	60	2	He	382229	0.00
Cu	63	2	He	1010099	0.00
Zn	66	2	He	176112	0.00

Calibration Standard Report

As	75	2	He	127411	0.00
Sb	121	2	He	780855	0.00
Se	78	2	He	9732	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	1881046	0.99	1967073	95.63	70	120	
In	115	1	nogas	1912477	2.28	2008904	95.20	70	120	
Li	6	1	nogas	624028	0.34	749894	83.22	70	120	
Bi	209	1	nogas	1528820	1.83	1623892	94.15	70	120	
Ge	72	2	He	502946	0.26	543801	92.49	70	120	
In	115	2	He	747268	0.17	793603	94.16	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	022_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:24:07-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	95.941	0.415	362601	0.57	100	95.9	90	110	
B	11	1	nogas	543.878	0.526	1185417	0.60	500	108.8	90	110	
Al	27	1	nogas	127.848	1.064	1655088	0.80	100	127.8	90	110	ICV Main CR1 Failed
P	31	1	nogas	480.406	2.219	367091	0.48	500	96.1	90	110	
Ca	44	1	nogas	9284.049	2.083	4016195	1.36	10000	92.8	90	110	
Ti	47	1	nogas	94.599	2.239	122036	0.71	100	94.6	90	110	
Cr	52	1	nogas	99.417	1.597	1595282	0.94	100	99.4	90	110	
Co	59	1	nogas	99.609	0.809	1644112	1.09	100	99.6	90	110	
Cu	63	1	nogas	93.890	1.786	848633	0.19	100	93.9	90	110	
Zn	66	1	nogas	99.486	1.878	225132	0.76	100	99.5	90	110	
Se	77	1	nogas	58.207	12.024	20779	3.33	100	58.2	90	110	ICV Main CR1 Failed
Se	82	1	nogas	93.509	2.230	12806	2.35	100	93.5	90	110	
Sr	88	1	nogas	95.491	2.666	2140671	1.90	100	95.5	90	110	
Mo	95	1	nogas	92.883	2.240	394658	1.61	100	92.9	90	110	
Ag	107	1	nogas	88.453	4.954	940941	1.23	100	88.5	90	110	ICV Main CR1 Failed
Cd	111	1	nogas	95.798	4.112	190972	0.54	100	95.8	90	110	
Sn	118	1	nogas	94.136	2.013	584020	1.82	100	94.1	90	110	
Sb	121	1	nogas	93.760	2.574	803625	0.96	100	93.8	90	110	
Ba	137	1	nogas	97.276	4.514	299098	1.23	100	97.3	90	110	
Tl	205	1	nogas	101.215	3.366	1639011	1.80	100	101.2	90	110	
Pb	208	1	nogas	96.258	3.623	2055010	0.81	100	96.3	90	110	
U	238	1	nogas	94.406	2.881	2227041	1.23	100	94.4	90	110	
Li	7	1	nogas	95.060	4.046	1142070	3.10	100	95.1	90	110	
Si	28	1	nogas	12539.981	2.463	9251202	1.43	5000	250.8	90	110	ICV Main CR1 Failed
Au	197	1	nogas	0.242	8.638	1893	10.96	100	0.2	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	96.594	3.009	634514	1.67	100	96.6	90	110	
Na	23	2	He	9402.224	1.630	9328975	0.53	10000	94.0	90	110	
Mg	24	2	He	9438.716	2.141	5085300	1.04	10000	94.4	90	110	
Al	27	2	He	127.304	1.408	33172	0.22	100	127.3	90	110	ICV Main CR1 Failed
K	39	2	He	9467.386	2.150	4713417	1.28	10000	94.7	90	110	
Ca	43	2	He	9264.945	1.469	14402	1.25	10000	92.6	90	110	
Ca	44	2	He	9309.208	0.408	239875	0.79	10000	93.1	90	110	
V	51	2	He	96.569	0.829	447979	0.35	100	96.6	90	110	
Cr	52	2	He	96.797	1.690	508652	0.59	100	96.8	90	110	
Mn	55	2	He	98.169	1.014	326343	0.68	100	98.2	90	110	
Fe	56	2	He	9310.524	0.901	43449979	0.76	10000	93.1	90	110	
Co	59	2	He	95.373	1.254	762521	1.07	100	95.4	90	110	
Ni	60	2	He	99.650	0.998	196394	0.50	100	99.6	90	110	
Cu	63	2	He	100.294	2.335	522052	1.39	100	100.3	90	110	
Zn	66	2	He	99.957	1.350	91289	0.18	100	100.0	90	110	
As	75	2	He	99.175	0.448	64841	1.60	100	99.2	90	110	
Sn	118	2	He	94.736	0.121	288827	0.36	100	94.7	90	110	
Sb	121	2	He	98.013	1.630	392063	0.49	100	98.0	90	110	
Se	78	2	He	98.889	2.420	4942	1.34	100	98.9	90	110	
Ti	47	2	He	94.875	0.336	15183	1.48	100	94.9	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	1936768	1.67	1967073	98.46	70	120	
In	115	1	nogas	1987519	3.65	2008904	98.94	70	120	
Li	6	1	nogas	664490	0.95	749894	88.61	70	120	
Bi	209	1	nogas	1544274	3.69	1623892	95.10	70	120	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	518608	1.17	543801	95.37	70	120	
In	115	2	He	765828	0.39	793603	96.50	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	025_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:31:25-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	0.008	34.3	98	12.8	1	
B	11	1	nogas	9.444	4.1	41094	2.8	10	
Al	27	1	nogas	-0.175	-4.4	37090	1.1	5	
P	31	1	nogas	0.295	168.9	36706	0.2	10	
Ca	44	1	nogas	-46.094	-3.8	62648	0.7	100	
Ti	47	1	nogas	-0.061	-81.6	167	39.0	2.5	
Cr	52	1	nogas	-0.511	-12.8	34853	2.1	2.5	
Co	59	1	nogas	0.001	419.4	597	10.8	2.5	
Cu	63	1	nogas	-0.650	-25.3	31140	4.3	1	
Zn	66	1	nogas	-0.537	-21.3	2410	9.9	2.5	
Se	77	1	nogas	-24.117	-4.9	12765	1.0	2.5	
Se	82	1	nogas	-0.402	-219.0	-296	-41.4	1	
Sr	88	1	nogas	-0.014	-19.1	1347	3.3	2.5	
Mo	95	1	nogas	0.026	65.6	277	27.6	2.5	
Ag	107	1	nogas	0.003	153.3	103	48.7	2.5	
Cd	111	1	nogas	0.013	121.5	43	74.2	1	
Sn	118	1	nogas	0.069	24.6	1497	6.3	5	
Sb	121	1	nogas	0.040	37.2	1477	9.6	2.5	
Ba	137	1	nogas	0.033	51.8	310	16.8	2.5	
Tl	205	1	nogas	0.013	96.4	1150	19.0	1	
Pb	208	1	nogas	-0.016	-36.6	1740	9.2	2.5	
U	238	1	nogas	0.002	33.4	107	19.5	2.5	
Si	28	1	nogas	-37.194	-80.5	880838	1.9	5	
Au	197	1	nogas	0.105	26.5	880	26.2	2.5	
Na	23	2	He	-4.847	-46.5	90801	3.1	100	
Mg	24	2	He	0.064	211.6	1120	6.2	100	
Al	27	2	He	-0.115	-524.5	733	21.1	5	
K	39	2	He	-0.642	-691.3	54228	3.6	100	
Ca	43	2	He	0.073	25697.9	43	70.5	100	
Ca	44	2	He	-10.468	-60.5	553	30.8	100	
V	51	2	He	-0.392	-6.0	4052	3.3	2.5	
Cr	52	2	He	-0.024	-93.4	1073	12.2	2.5	
Mn	55	2	He	-0.066	-70.1	1003	15.3	2.5	
Fe	56	2	He	0.298	32.4	10376	5.1	100	
Co	59	2	He	-0.003	-85.5	173	12.0	2.5	
Ni	60	2	He	-0.097	-24.5	393	12.5	2.5	

Initial Calibration Blank (ICB) Report

Cu	63	2	He	-0.030	-101.4	2060	7.8	1	
Zn	66	2	He	-0.507	-24.3	1010	12.0	2.5	
As	75	2	He	-0.002	-418.4	97	6.9	2.5	
Sb	121	2	He	0.064	33.7	763	11.8	2.5	
Se	78	2	He	0.126	111.7	62	11.2	1	
Ti	47	2	He	0.040	1.0	10	0.0	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	1965174	0.94	1967073	99.90	70	120	
In	115	1	nogas	2013619	1.13	2008904	100.23	70	120	
Li	6	1	nogas	749540	1.26	749894	99.95	70	120	
Bi	209	1	nogas	1623965	2.10	1623892	100.00	70	120	
Ge	72	2	He	539262	0.67	543801	99.17	70	120	
In	115	2	He	780842	1.08	793603	98.39	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\061
Acq Date Time	2020-06-15T12:34:02-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	97.426	0.223	361630	0.79	100	97.4	90	110	
B	11	1	nogas	458.012	1.781	1034345	1.36	500	91.6	90	110	
Al	27	1	nogas	97.252	1.029	1297936	1.81	100	97.3	90	110	
P	31	1	nogas	478.544	1.153	374364	0.36	500	95.7	90	110	
Ca	44	1	nogas	9559.368	0.831	4229550	1.07	10000	95.6	90	110	
Ti	47	1	nogas	95.536	0.829	126133	1.03	100	95.5	90	110	
Cr	52	1	nogas	98.333	0.330	1615264	1.11	100	98.3	90	110	
Co	59	1	nogas	99.938	1.936	1687816	1.28	100	99.9	90	110	
Cu	63	1	nogas	90.633	0.959	839650	0.97	100	90.6	90	110	
Zn	66	1	nogas	96.496	1.268	223576	0.76	100	96.5	90	110	
Se	77	1	nogas	69.841	13.532	22444	3.53	100	69.8	90	110	ICV Main CR1 Failed
Se	82	1	nogas	95.533	1.364	13393	1.75	100	95.5	90	110	
Sr	88	1	nogas	96.509	2.129	2207896	2.95	100	96.5	90	110	
Mo	95	1	nogas	94.727	1.084	410672	0.62	100	94.7	90	110	
Ag	107	1	nogas	97.274	1.026	1001366	0.23	100	97.3	90	110	
Cd	111	1	nogas	96.690	0.550	196764	0.41	100	96.7	90	110	
Sn	118	1	nogas	96.145	0.590	608561	0.37	100	96.1	90	110	
Sb	121	1	nogas	91.926	1.155	806406	0.38	100	91.9	90	110	
Ba	137	1	nogas	93.934	1.394	294855	0.75	100	93.9	90	110	
Tl	205	1	nogas	97.139	6.392	1625466	2.04	100	97.1	90	110	
Pb	208	1	nogas	93.753	3.169	2070523	1.29	100	93.8	90	110	
U	238	1	nogas	96.744	2.596	2360768	2.03	100	96.7	90	110	
Li	7	1	nogas	94.189	3.537	1161693	3.20	100	94.2	90	110	
Si	28	1	nogas	4875.380	1.176	4239308	0.78	5000	97.5	90	110	
Au	197	1	nogas	89.821	5.434	711398	0.97	100	89.8	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	92.695	5.961	629246	1.54	100	92.7	90	110	
Na	23	2	He	9749.798	1.299	9685030	1.86	10000	97.5	90	110	
Mg	24	2	He	9793.403	1.689	5284553	2.19	10000	97.9	90	110	
Al	27	2	He	99.175	1.162	26041	0.56	100	99.2	90	110	
K	39	2	He	9764.947	1.008	4866995	0.84	10000	97.6	90	110	
Ca	43	2	He	9567.559	3.660	14893	3.83	10000	95.7	90	110	
Ca	44	2	He	9743.754	1.662	251363	1.12	10000	97.4	90	110	
V	51	2	He	96.544	0.026	448491	0.58	100	96.5	90	110	
Cr	52	2	He	96.861	0.921	509750	1.40	100	96.9	90	110	
Mn	55	2	He	96.488	0.555	321227	0.89	100	96.5	90	110	
Fe	56	2	He	9835.555	1.622	45965339	2.05	10000	98.4	90	110	
Co	59	2	He	95.621	0.362	765579	0.95	100	95.6	90	110	
Ni	60	2	He	99.201	0.422	195786	0.49	100	99.2	90	110	
Cu	63	2	He	99.122	0.885	516734	0.49	100	99.1	90	110	
Zn	66	2	He	98.565	0.892	90167	0.99	100	98.6	90	110	
As	75	2	He	97.338	0.867	63724	0.74	100	97.3	90	110	
Sn	118	2	He	97.635	1.957	300438	0.98	100	97.6	90	110	
Sb	121	2	He	98.248	0.746	393584	1.12	100	98.2	90	110	
Se	78	2	He	96.100	1.276	4811	1.15	100	96.1	90	110	
Ti	47	2	He	94.820	3.016	15193	2.62	100	94.8	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	1981745	0.81	1967073	100.75	70	120	
In	115	1	nogas	2026957	0.94	2008904	100.90	70	120	
Li	6	1	nogas	686774	0.63	749894	91.58	70	120	
Bi	209	1	nogas	1597520	4.34	1623892	98.38	70	120	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	519302	0.59	543801	95.49	70	120	
In	115	2	He	773120	1.23	793603	97.42	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	028ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:46:48-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	-0.002	-194.0	48	26.0	0	ICSA Main CR1 Failed
B	11	1	nogas	4.929	12.9	25505	6.2	0	ICSA Main CR1 Failed
Al	27	1	nogas	94191.600	4.8	1076126171	1.0	0	
P	31	1	nogas	94537.329	4.9	58918976	1.0	0	
Ca	44	1	nogas	96715.923	3.8	37128064	0.5	0	
Ti	47	1	nogas	2045.631	2.5	2382033	1.9	0	
Cr	52	1	nogas	1.000	18.4	52384	2.3	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.481	0.7	7692	4.4	0	ICSA Main CR1 Failed
Cu	63	1	nogas	1.989	7.0	48431	4.8	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.025	7.1	5294	2.1	0	ICSA Main CR1 Failed
Se	77	1	nogas	-10.360	-57.6	12611	3.1	0	ICSA Main CR1 Failed
Se	82	1	nogas	-2.035	-29.8	-470	-16.3	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.890	0.7	18403	1.1	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2055.104	3.2	7442333	2.1	0	
Ag	107	1	nogas	0.019	46.1	220	34.3	0	ICSA Main CR1 Failed
Cd	111	1	nogas	2.394	3.8	4084	2.6	0	
Sn	118	1	nogas	0.139	11.4	1633	5.6	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.290	12.4	3250	6.1	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.040	43.6	280	15.6	0	ICSA Main CR1 Failed
Tl	205	1	nogas	-0.002	-234.1	790	8.3	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.037	15.9	2597	6.9	0	ICSA Main CR1 Failed
Si	28	1	nogas	222.360	40.0	940546	1.7	0	
Na	23	2	He	97715.710	1.3	89170699	0.3	0	
Mg	24	2	He	96491.360	1.1	48238534	1.1	0	
Al	27	2	He	98924.519	1.1	23392586	1.2	0	
K	39	2	He	97779.859	1.1	44723554	0.9	0	
Ca	43	2	He	92455.771	1.9	133018	1.2	0	
Ca	44	2	He	97253.998	1.4	2318681	2.3	0	
V	51	2	He	-0.495	-4.5	3176	3.8	0	ICSA Main CR1 Failed
Cr	52	2	He	0.849	3.1	5207	1.9	0	ICSA Main CR1 Failed
Mn	55	2	He	-0.052	-113.8	940	19.7	0	ICSA Main CR1 Failed
Fe	56	2	He	97308.266	1.4	421326900	1.2	0	
Co	59	2	He	0.172	6.0	1453	4.5	0	ICSA Main CR1 Failed
Ni	60	2	He	0.047	120.7	613	16.1	0	ICSA Main CR1 Failed
Cu	63	2	He	0.155	27.6	2727	6.6	0	ICSA Main CR1 Failed
Zn	66	2	He	-0.244	-25.0	1120	3.6	0	ICSA Main CR1 Failed
As	75	2	He	0.103	38.2	150	16.8	0	ICSA Main CR1 Failed
Sb	121	2	He	0.227	25.2	1287	15.4	0	ICSA Main CR1 Failed
Se	78	2	He	0.286	74.4	63	15.1	0	ICSA Main CR1 Failed
Ti	47	2	He	1969.190	1.3	292350	1.0	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	1752264	4.14	1967073	89.08	70	120	

Interference Check Solution A (ICS-A) Report

In	115	1	nogas	1694153	1.34	2008904	84.33	70	120	
Li	6	1	nogas	634045	1.10	749894	84.55	70	120	
Bi	209	1	nogas	1440153	2.56	1623892	88.69	70	120	
Ge	72	2	He	481246	0.97	543801	88.50	70	120	
In	115	2	He	714948	0.57	793603	90.09	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	029ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T12:49:13-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	98.637	0.526	335199	0.50	100	98.6	80	120	
B	11	1	nogas	464.505	0.562	960250	0.51	100	464.5	80	120	
Al	27	1	nogas	95073.712	0.976	1107593103	0.62	100	95073.7	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	108250.062	1.098	42353283	0.56	100	108250.1	80	120	
Ti	47	1	nogas	2227.756	2.046	2643212	1.09	100	2227.8	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	100.468	2.131	1485252	2.42	100	100.5	80	120	
Co	59	1	nogas	100.187	0.495	1523808	1.31	100	100.2	80	120	
Cu	63	1	nogas	92.499	1.308	770931	0.76	100	92.5	80	120	
Zn	66	1	nogas	99.615	0.589	207738	1.07	100	99.6	80	120	
Se	77	1	nogas	128.488	6.754	25595	2.80	100	128.5	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	99.666	5.072	12585	3.62	100	99.7	80	120	
Sr	88	1	nogas	101.788	0.245	2079022	1.90	100	101.8	80	120	
Mo	95	1	nogas	2110.525	0.451	8167214	1.76	100	2110.5	80	120	ICSB Main CR1 Failed
Ag	107	1	nogas	96.384	1.440	885864	0.59	100	96.4	80	120	
Cd	111	1	nogas	101.161	0.989	183804	0.97	100	101.2	80	120	
Sn	118	1	nogas	99.627	1.060	562989	0.78	100	99.6	80	120	
Sb	121	1	nogas	95.352	1.949	753111	0.35	100	95.4	80	120	
Ba	137	1	nogas	98.029	2.397	274693	0.73	100	98.0	80	120	
Tl	205	1	nogas	99.503	1.230	1462835	1.15	100	99.5	80	120	
Pb	208	1	nogas	97.243	2.840	1884567	1.02	100	97.2	80	120	
U	238	1	nogas	105.501	1.888	2259099	0.59	100	105.5	80	120	
Si	28	1	nogas	5412.470	1.354	4147369	1.26	100	5412.5	80	120	ICSB Main CR1 Failed
Na	23	2	He	108822.982	0.893	100487692	0.60	100	108823.0	80	120	
Mg	24	2	He	107413.557	1.026	54340328	0.83	100	107413.6	80	120	
Al	27	2	He	99612.293	0.915	23836749	0.88	100	99612.3	80	120	ICSB Main CR1 Failed
K	39	2	He	109733.023	1.564	50784721	1.40	100	109733.0	80	120	
Ca	43	2	He	103941.186	1.616	151336	1.56	100	103941.2	80	120	
Ca	44	2	He	110400.607	2.597	2663296	2.81	100	110400.6	80	120	ICSB Main CR1 Failed
V	51	2	He	98.367	0.356	428418	0.25	100	98.4	80	120	
Cr	52	2	He	98.703	0.941	487079	0.85	100	98.7	80	120	
Mn	55	2	He	98.916	1.411	308779	1.11	100	98.9	80	120	
Fe	56	2	He	107873.743	1.597	472648220	1.28	100	107873.7	80	120	
Co	59	2	He	94.651	1.314	710633	1.02	100	94.7	80	120	
Ni	60	2	He	97.001	0.106	179544	0.42	100	97.0	80	120	
Cu	63	2	He	94.729	0.687	463210	0.98	100	94.7	80	120	
Zn	66	2	He	99.578	0.758	85411	0.43	100	99.6	80	120	
As	75	2	He	100.607	1.130	61762	0.83	100	100.6	80	120	
Sb	121	2	He	98.825	2.013	371248	1.93	100	98.8	80	120	
Se	78	2	He	105.957	2.792	4969	2.45	100	106.0	80	120	
Ti	47	2	He	2062.596	0.638	309883	0.33	100	2062.6	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1784619	1.59	1967073	90.72	70	120	
In	115	1	nogas	1809889	1.75	2008904	90.09	70	120	
Li	6	1	nogas	628773	0.04	749894	83.85	70	120	
Bi	209	1	nogas	1401121	1.80	1623892	86.28	70	120	
Ge	72	2	He	486986	0.32	543801	89.55	70	120	
In	115	2	He	715657	0.86	793603	90.18	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	055_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T14:14:57-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	93.241	1.006	366123	0.85	100	93.2	90	110	
B	11	1	nogas	441.878	1.461	1056330	1.24	500	88.4	90	110	CCV Main CR1-2 Failed
Al	27	1	nogas	98.876	2.615	1338883	1.45	100	98.9	90	110	
P	31	1	nogas	487.842	1.036	386774	0.74	500	97.6	90	110	
Ca	44	1	nogas	9768.766	1.246	4386363	0.08	10000	97.7	90	110	
Ti	47	1	nogas	97.173	1.405	130250	0.64	100	97.2	90	110	
Cr	52	1	nogas	97.485	0.740	1626382	1.86	100	97.5	90	110	
Co	59	1	nogas	97.856	1.221	1678355	2.31	100	97.9	90	110	
Cu	63	1	nogas	89.376	0.959	841209	0.40	100	89.4	90	110	CCV Main CR1-2 Failed
Zn	66	1	nogas	97.765	0.988	229945	0.46	100	97.8	90	110	
Se	77	1	nogas	114.187	7.772	27384	3.70	100	114.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.750	4.281	13916	3.22	100	97.7	90	110	
Sr	88	1	nogas	97.181	2.211	2274150	1.90	100	97.2	90	110	
Mo	95	1	nogas	95.175	0.960	422138	0.63	100	95.2	90	110	
Ag	107	1	nogas	100.066	0.831	1053920	0.77	100	100.1	90	110	
Cd	111	1	nogas	95.987	1.088	199849	1.49	100	96.0	90	110	
Sn	118	1	nogas	96.025	0.852	621840	0.87	100	96.0	90	110	
Sb	121	1	nogas	94.724	1.710	843625	0.71	100	94.7	90	110	
Ba	137	1	nogas	96.402	0.391	309600	0.74	100	96.4	90	110	
Tl	205	1	nogas	94.316	0.580	1683617	0.66	100	94.3	90	110	
Pb	208	1	nogas	92.031	0.941	2166154	0.57	100	92.0	90	110	
U	238	1	nogas	97.057	1.159	2523767	1.43	100	97.1	90	110	
Li	7	1	nogas	93.089	1.741	1215302	1.48	100	93.1	90	110	
Si	28	1	nogas	4742.721	1.554	4212307	0.38	5000	94.9	90	110	
Au	197	1	nogas	88.250	2.082	745326	0.91	100	88.2	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	90.198	1.334	653067	0.48	100	90.2	90	110	
Na	23	2	He	10003.059	0.589	9708978	0.40	10000	100.0	90	110	
Mg	24	2	He	9937.183	1.248	5240333	0.53	10000	99.4	90	110	
Al	27	2	He	96.724	0.657	24843	1.24	100	96.7	90	110	
K	39	2	He	9756.995	0.506	4753160	0.39	10000	97.6	90	110	
Ca	43	2	He	9657.441	0.785	14693	1.52	10000	96.6	90	110	
Ca	44	2	He	9723.178	0.576	245173	0.32	10000	97.2	90	110	
V	51	2	He	98.151	1.362	445527	0.60	100	98.2	90	110	
Cr	52	2	He	98.270	0.454	505438	0.46	100	98.3	90	110	
Mn	55	2	He	97.806	0.264	318239	0.75	100	97.8	90	110	
Fe	56	2	He	9959.425	0.335	45489838	0.58	10000	99.6	90	110	
Co	59	2	He	96.122	0.913	752177	0.98	100	96.1	90	110	
Ni	60	2	He	100.505	1.475	193857	0.78	100	100.5	90	110	
Cu	63	2	He	100.399	1.265	511520	0.46	100	100.4	90	110	
Zn	66	2	He	98.400	1.660	87977	0.79	100	98.4	90	110	
As	75	2	He	98.109	0.399	62777	0.83	100	98.1	90	110	
Sb	121	2	He	99.324	0.141	388895	0.95	100	99.3	90	110	
Se	78	2	He	96.800	1.665	4737	1.93	100	96.8	90	110	
Ti	47	2	He	94.511	4.001	14799	3.20	100	94.5	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	2012214	1.30	1967073	102.29	70	120	
In	115	1	nogas	2073688	0.41	2008904	103.22	70	120	
Li	6	1	nogas	726526	0.20	749894	96.88	70	120	
Bi	209	1	nogas	1701109	1.20	1623892	104.76	70	120	
Ge	72	2	He	507569	0.89	543801	93.34	70	120	
In	115	2	He	756496	2.02	793603	95.32	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	056_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T14:17:20-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	52.4	170	30.7	1	
B	11	1	nogas	18.087	8.2	64820	5.3	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.219	-27.1	37908	1.0	5	
P	31	1	nogas	-0.873	-123.7	37260	2.8	10	
Ca	44	1	nogas	-89.674	-4.8	45563	2.9	100	
Ti	47	1	nogas	0.015	356.7	277	27.1	2.5	
Cr	52	1	nogas	-0.990	-5.2	28295	1.9	2.5	
Co	59	1	nogas	0.005	122.1	690	16.5	2.5	
Cu	63	1	nogas	-1.945	-1.6	20532	2.5	2	
Zn	66	1	nogas	-0.339	-20.7	2967	5.1	2.5	
Se	77	1	nogas	-30.397	-20.2	12588	4.1	2.5	
Se	82	1	nogas	0.989	72.5	-104	-102.9	2	
Sr	88	1	nogas	0.020	45.4	2230	10.1	2.5	
Mo	95	1	nogas	0.197	27.3	1060	21.6	2.5	
Ag	107	1	nogas	0.014	26.0	223	15.7	2.5	
Cd	111	1	nogas	0.006	137.9	30	57.7	1	
Sn	118	1	nogas	0.224	23.9	2597	11.9	5	
Sb	121	1	nogas	0.308	11.3	3954	7.9	2.5	
Ba	137	1	nogas	0.064	14.5	427	5.9	2.5	
Tl	205	1	nogas	0.230	53.5	5088	43.5	1	
Pb	208	1	nogas	0.000	-5220.2	2183	12.6	2.5	
U	238	1	nogas	0.021	57.7	597	53.5	2.5	
Si	28	1	nogas	-163.094	-6.1	826006	0.5	5	
Au	197	1	nogas	0.827	28.7	7025	28.8	2.5	
Na	23	2	He	-8.284	-24.0	82888	1.6	100	
Mg	24	2	He	1.678	21.8	1923	10.5	100	
Al	27	2	He	0.454	76.9	840	9.7	5	
K	39	2	He	6.406	11.3	54937	0.3	100	
Ca	43	2	He	10.427	323.4	57	90.6	100	
Ca	44	2	He	0.754	410.3	810	9.9	100	
V	51	2	He	-0.467	-9.1	3508	5.4	2.5	
Cr	52	2	He	-0.029	-101.0	997	14.3	2.5	
Mn	55	2	He	0.004	323.7	1183	4.0	2.5	
Fe	56	2	He	1.760	11.2	16588	4.9	100	
Co	59	2	He	0.011	20.2	273	5.6	2.5	
Ni	60	2	He	0.086	31.0	730	7.6	2.5	
Cu	63	2	He	-0.008	-208.8	2067	4.9	2	
Zn	66	2	He	-0.262	-76.6	1177	15.4	2.5	
As	75	2	He	0.055	36.7	129	10.8	2.5	
Sb	121	2	He	0.327	10.0	1763	6.8	2.5	
Se	78	2	He	0.053	454.4	55	20.9	2	
Ti	47	2	He	0.022	164.2	7	86.6	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	2040048	1.31	1967073	103.71	70	120	
In	115	1	nogas	2116808	1.66	2008904	105.37	70	120	
Li	6	1	nogas	783166	0.93	749894	104.44	70	120	
Bi	209	1	nogas	1702652	1.82	1623892	104.85	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	512168	0.69	543801	94.18	70	120	
In	115	2	He	771820	1.35	793603	97.26	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	068_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T15:00:53-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	89.655	1.314	393971	0.63	100	89.7	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	475.274	2.505	1183339	3.13	500	95.1	90	110	
Al	27	1	nogas	103.142	3.233	1543665	2.19	100	103.1	90	110	
P	31	1	nogas	497.859	3.813	435808	0.70	500	99.6	90	110	
Ca	44	1	nogas	10021.934	1.140	4978074	1.61	10000	100.2	90	110	
Ti	47	1	nogas	99.639	1.688	147793	1.11	100	99.6	90	110	
Cr	52	1	nogas	99.579	2.817	1836988	1.65	100	99.6	90	110	
Co	59	1	nogas	101.146	2.156	1919287	0.59	100	101.1	90	110	
Cu	63	1	nogas	91.400	4.023	950683	1.24	100	91.4	90	110	
Zn	66	1	nogas	103.931	3.804	270155	1.05	100	103.9	90	110	
Se	77	1	nogas	48.728	14.247	22798	0.92	100	48.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.935	4.336	15606	6.41	100	98.9	90	110	
Sr	88	1	nogas	100.830	2.321	2547257	1.38	100	100.8	90	110	
Mo	95	1	nogas	97.421	0.767	466531	0.90	100	97.4	90	110	
Ag	107	1	nogas	101.046	0.639	1149091	1.50	100	101.0	90	110	
Cd	111	1	nogas	98.394	1.419	221167	1.13	100	98.4	90	110	
Sn	118	1	nogas	98.942	2.594	691600	1.06	100	98.9	90	110	
Sb	121	1	nogas	94.097	2.933	927305	1.31	100	94.1	90	110	
Ba	137	1	nogas	99.108	2.098	343609	1.51	100	99.1	90	110	
Tl	205	1	nogas	99.613	4.096	1788199	0.67	100	99.6	90	110	
Pb	208	1	nogas	98.333	1.097	2329400	2.99	100	98.3	90	110	
U	238	1	nogas	98.859	3.764	2585791	2.25	100	98.9	90	110	
Li	7	1	nogas	89.675	1.182	1312713	1.86	100	89.7	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	5107.527	3.970	4939921	0.82	5000	102.2	90	110	
Au	197	1	nogas	90.495	5.400	768493	2.09	100	90.5	90	110	
Tl	203	1	nogas	93.980	5.132	684139	1.32	100	94.0	90	110	
Na	23	2	He	9724.202	0.662	10098941	0.61	10000	97.2	90	110	
Mg	24	2	He	9719.079	0.886	5483050	1.41	10000	97.2	90	110	
Al	27	2	He	93.539	2.083	25724	1.99	100	93.5	90	110	
K	39	2	He	9531.613	0.379	4968459	1.01	10000	95.3	90	110	
Ca	43	2	He	8892.507	1.272	14476	2.03	10000	88.9	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9520.375	0.422	256812	0.48	10000	95.2	90	110	
V	51	2	He	97.357	0.301	472799	0.54	100	97.4	90	110	
Cr	52	2	He	97.752	0.099	537839	0.91	100	97.8	90	110	
Mn	55	2	He	95.814	0.800	333500	0.37	100	95.8	90	110	
Fe	56	2	He	9828.846	1.249	48020341	0.49	10000	98.3	90	110	
Co	59	2	He	96.613	1.032	808689	0.51	100	96.6	90	110	
Ni	60	2	He	101.169	0.318	208746	0.51	100	101.2	90	110	
Cu	63	2	He	100.400	0.348	547226	1.13	100	100.4	90	110	
Zn	66	2	He	104.423	0.379	99786	0.49	100	104.4	90	110	
As	75	2	He	97.995	1.120	67071	0.30	100	98.0	90	110	
Sb	121	2	He	95.756	0.493	401081	1.22	100	95.8	90	110	
Se	78	2	He	96.672	2.112	5061	2.91	100	96.7	90	110	
Ti	47	2	He	95.299	2.639	15967	3.02	100	95.3	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	2227266	2.71	1967073	113.23	70	120	
In	115	1	nogas	2239038	1.52	2008904	111.46	70	120	
Li	6	1	nogas	813089	0.74	749894	108.43	70	120	
Bi	209	1	nogas	1712516	3.97	1623892	105.46	70	120	
Ge	72	2	He	542947	0.82	543801	99.84	70	120	
In	115	2	He	788101	0.04	793603	99.31	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	069_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T15:03:15-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	23.0	230	15.7	1	
B	11	1	nogas	18.645	11.7	70177	7.9	10	CCB Main CR1 Failed
Al	27	1	nogas	1.786	6.3	70981	2.1	5	
P	31	1	nogas	0.734	173.9	42217	3.0	10	
Ca	44	1	nogas	-90.896	-2.5	49466	0.8	100	
Ti	47	1	nogas	0.001	1970.6	283	14.7	2.5	
Cr	52	1	nogas	-1.399	-2.5	23699	1.0	2.5	
Co	59	1	nogas	0.013	35.1	910	7.9	2.5	
Cu	63	1	nogas	-1.490	-3.1	27107	2.0	2	
Zn	66	1	nogas	3.271	3.2	12568	3.1	2.5	CCB Main CR1 Failed
Se	77	1	nogas	-65.687	-6.5	9763	3.9	2.5	
Se	82	1	nogas	0.739	79.9	-154	-62.6	2	
Sr	88	1	nogas	0.051	6.2	3150	3.7	2.5	
Mo	95	1	nogas	0.205	29.9	1170	25.1	2.5	
Ag	107	1	nogas	0.015	30.9	250	20.8	2.5	
Cd	111	1	nogas	0.024	43.9	73	34.3	1	
Sn	118	1	nogas	0.289	19.8	3217	12.9	5	
Sb	121	1	nogas	0.261	3.2	3874	0.6	2.5	
Ba	137	1	nogas	0.151	29.3	757	20.0	2.5	
Tl	205	1	nogas	0.216	53.8	4894	40.8	1	
Pb	208	1	nogas	0.520	3.9	14696	1.0	2.5	
U	238	1	nogas	0.024	36.4	690	31.4	2.5	
Si	28	1	nogas	69.425	187.0	1085940	7.6	5	CCB Main CR1 Failed
Au	197	1	nogas	0.868	37.9	7465	35.5	2.5	
Na	23	2	He	-7.171	-21.2	90770	1.0	100	
Mg	24	2	He	2.317	24.7	2444	12.3	100	
Al	27	2	He	1.518	45.9	1197	14.8	5	
K	39	2	He	2.199	67.2	57184	2.5	100	
Ca	43	2	He	9.554	110.9	60	28.9	100	
Ca	44	2	He	5.035	34.3	993	6.1	100	
V	51	2	He	-0.608	-1.1	3105	2.3	2.5	
Cr	52	2	He	-0.009	-241.5	1190	10.1	2.5	
Mn	55	2	He	0.068	82.9	1503	11.9	2.5	
Fe	56	2	He	7.477	2.3	46405	0.5	100	
Co	59	2	He	0.014	31.2	323	10.9	2.5	
Ni	60	2	He	0.044	112.6	700	13.6	2.5	
Cu	63	2	He	0.190	11.4	3330	2.3	2	
Zn	66	2	He	2.966	5.2	4371	4.5	2.5	CCB Main CR1 Failed
As	75	2	He	-0.014	-133.7	91	14.8	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.305	11.5	1817	9.6	2.5	
Se	78	2	He	-0.007	-2270.6	57	14.3	2	
Ti	47	2	He	0.096	103.0	20	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	2241356	1.65	1967073	113.94	70	120	
In	115	1	nogas	2249078	1.49	2008904	111.96	70	120	
Li	6	1	nogas	872990	0.41	749894	116.42	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	1736602	3.38	1623892	106.94	70	120	
Ge	72	2	He	553669	1.39	543801	101.81	70	120	
In	115	2	He	804050	1.88	793603	101.32	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	081_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T15:50:11-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	85.855	1.091	366073	1.23	100	85.9	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	435.346	0.636	1053167	0.76	500	87.1	90	110	CCV Main CR1-2 Failed
Al	27	1	nogas	99.115	2.334	1453229	1.18	100	99.1	90	110	
P	31	1	nogas	474.726	2.708	408574	0.75	500	94.9	90	110	
Ca	44	1	nogas	9562.377	1.898	4651619	1.99	10000	95.6	90	110	
Ti	47	1	nogas	96.330	1.340	139829	1.54	100	96.3	90	110	
Cr	52	1	nogas	96.016	1.248	1735231	1.85	100	96.0	90	110	
Co	59	1	nogas	95.926	3.981	1780491	1.17	100	95.9	90	110	
Cu	63	1	nogas	86.054	2.600	878427	0.95	100	86.1	90	110	CCV Main CR1-2 Failed
Zn	66	1	nogas	95.730	2.384	243860	0.57	100	95.7	90	110	
Se	77	1	nogas	88.951	7.079	26817	0.63	100	89.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.513	7.657	14866	5.97	100	96.5	90	110	
Sr	88	1	nogas	98.480	1.580	2449190	1.13	100	98.5	90	110	
Mo	95	1	nogas	94.516	2.362	445488	1.51	100	94.5	90	110	
Ag	107	1	nogas	96.919	1.133	1084835	0.87	100	96.9	90	110	
Cd	111	1	nogas	95.534	0.858	211390	1.17	100	95.5	90	110	
Sn	118	1	nogas	96.005	0.463	660760	1.20	100	96.0	90	110	
Sb	121	1	nogas	92.633	2.736	893229	0.33	100	92.6	90	110	
Ba	137	1	nogas	96.960	1.890	330907	1.11	100	97.0	90	110	
Tl	205	1	nogas	98.452	3.640	1742517	0.94	100	98.5	90	110	
Pb	208	1	nogas	95.003	3.538	2217120	0.08	100	95.0	90	110	
U	238	1	nogas	95.264	4.862	2455511	2.17	100	95.3	90	110	
Li	7	1	nogas	87.329	1.436	1241896	1.22	100	87.3	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4939.356	5.088	4706642	1.09	5000	98.8	90	110	
Au	197	1	nogas	87.531	3.617	733065	0.46	100	87.5	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	92.534	3.509	664370	1.30	100	92.5	90	110	
Na	23	2	He	9491.666	1.035	9438258	0.96	10000	94.9	90	110	
Mg	24	2	He	9403.583	0.726	5078085	0.56	10000	94.0	90	110	
Al	27	2	He	95.420	4.220	25104	3.88	100	95.4	90	110	
K	39	2	He	9457.371	1.215	4719339	1.30	10000	94.6	90	110	
Ca	43	2	He	9197.521	2.980	14329	2.79	10000	92.0	90	110	
Ca	44	2	He	9234.555	1.242	238480	1.35	10000	92.3	90	110	
V	51	2	He	95.691	0.885	444939	0.78	100	95.7	90	110	
Cr	52	2	He	95.971	0.670	505472	0.45	100	96.0	90	110	
Mn	55	2	He	94.100	0.530	313561	0.36	100	94.1	90	110	
Fe	56	2	He	9544.130	0.235	44638243	0.13	10000	95.4	90	110	
Co	59	2	He	93.842	0.600	751940	0.39	100	93.8	90	110	
Ni	60	2	He	98.950	0.986	195457	1.20	100	99.0	90	110	
Cu	63	2	He	98.652	0.520	514730	0.46	100	98.7	90	110	
Zn	66	2	He	97.815	1.471	89564	1.29	100	97.8	90	110	
As	75	2	He	95.909	0.463	62842	0.46	100	95.9	90	110	
Sb	121	2	He	96.158	0.425	385533	0.61	100	96.2	90	110	
Se	78	2	He	91.701	2.472	4597	2.30	100	91.7	90	110	
Ti	47	2	He	95.842	4.425	15370	4.26	100	95.8	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	2179385	2.86	1967073	110.79	70	120	
In	115	1	nogas	2203907	0.94	2008904	109.71	70	120	
Li	6	1	nogas	788887	0.14	749894	105.20	70	120	
Bi	209	1	nogas	1688005	3.53	1623892	103.95	70	120	
Ge	72	2	He	519727	0.22	543801	95.57	70	120	
In	115	2	He	762406	0.18	793603	96.07	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	082_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T15:52:34-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	0.035	3.9	235	2.1	1	
B	11	1	nogas	14.389	10.9	57280	6.2	10	CCB Main CR1 Failed
Al	27	1	nogas	1.152	6.7	61011	3.4	5	
P	31	1	nogas	-1.283	-95.0	40133	2.7	10	
Ca	44	1	nogas	-109.585	-1.2	39833	0.1	100	
Ti	47	1	nogas	-0.017	-414.2	253	43.5	2.5	
Cr	52	1	nogas	-0.966	-9.2	31160	3.5	2.5	
Co	59	1	nogas	0.010	72.4	850	17.8	2.5	
Cu	63	1	nogas	-3.205	-1.2	9813	2.8	2	
Zn	66	1	nogas	0.322	60.5	4901	8.6	2.5	
Se	77	1	nogas	-20.055	-23.9	14846	2.1	2.5	
Se	82	1	nogas	1.465	31.7	-37	-205.6	2	
Sr	88	1	nogas	0.020	56.8	2330	11.2	2.5	
Mo	95	1	nogas	0.179	20.9	1030	16.0	2.5	
Ag	107	1	nogas	0.019	15.5	290	12.4	2.5	
Cd	111	1	nogas	0.025	29.3	73	20.8	1	
Sn	118	1	nogas	0.215	16.8	2670	8.0	5	
Sb	121	1	nogas	0.290	1.6	4117	2.3	2.5	
Ba	137	1	nogas	0.098	22.2	567	14.7	2.5	
Tl	205	1	nogas	0.201	50.1	4597	40.0	1	
Pb	208	1	nogas	0.087	20.7	4260	9.0	2.5	
U	238	1	nogas	0.021	25.7	600	23.5	2.5	
Si	28	1	nogas	222.320	8.7	1191032	2.8	5	CCB Main CR1 Failed
Au	197	1	nogas	0.801	35.0	6848	35.7	2.5	
Na	23	2	He	-33.520	-5.1	61887	2.7	100	
Mg	24	2	He	1.594	7.6	1990	3.6	100	
Al	27	2	He	1.166	18.8	1080	4.8	5	
K	39	2	He	6.495	22.9	58257	1.0	100	
Ca	43	2	He	16.540	163.6	70	62.3	100	
Ca	44	2	He	-1.289	-84.9	803	3.8	100	
V	51	2	He	-0.076	-94.3	5591	5.5	2.5	
Cr	52	2	He	-0.058	-34.6	897	12.9	2.5	
Mn	55	2	He	0.256	11.0	2127	4.5	2.5	
Fe	56	2	He	6.461	19.4	40557	15.8	100	
Co	59	2	He	0.012	20.0	303	6.9	2.5	
Ni	60	2	He	0.062	53.9	723	9.2	2.5	
Cu	63	2	He	0.011	264.6	2297	7.0	2	
Zn	66	2	He	0.280	36.1	1757	6.0	2.5	
As	75	2	He	0.011	155.0	107	11.3	2.5	
Sb	121	2	He	0.331	4.5	1887	2.7	2.5	
Se	78	2	He	-0.178	-90.1	47	17.3	2	
Ti	47	2	He	0.060	58.3	13	43.3	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	2215211	1.62	1967073	112.61	70	120	
In	115	1	nogas	2227285	1.47	2008904	110.87	70	120	
Li	6	1	nogas	847813	0.80	749894	113.06	70	120	
Bi	209	1	nogas	1711260	2.18	1623892	105.38	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	542693	0.63	543801	99.80	70	120	
In	115	2	He	782747	2.76	793603	98.63	70	120	

Sample Report

Sample Table

Sample Name	HS20060114-01PDS
Data File Name	092SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:23:23-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW
ISTD Ref FileName	015CALB.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	96.126	96.126	0.68	366018	0.03	2000	
B	11	1	nogas	998.652	998.652	1.53	2135259	0.05	2000	
Al	27	1	nogas	133.167	133.167	3.06	1869572	0.01	2000	
Ca	44	1	nogas	18571.943	18571.943	1.45	8633917	0.22	200000	
Ti	47	1	nogas	226.948	226.948	1.05	317519	0.07	2000	
Cr	52	1	nogas	94.421	94.421	2.50	1647189	0.01	2000	
Co	59	1	nogas	95.864	95.864	1.86	1717651	0.01	2000	
Cu	63	1	nogas	87.146	87.146	1.06	858017	0.01	2000	
Zn	66	1	nogas	139.799	139.799	1.39	341894	0.04	2000	
Se	77	1	nogas	48.308	48.308	5.47	21490	0.22	2000	
Se	82	1	nogas	98.284	98.284	3.90	14624	0.67	2000	
Sr	88	1	nogas	377.838	377.838	2.51	8965502	0.00	2000	
Mo	95	1	nogas	92.985	92.985	2.14	418436	0.02	2000	
Ag	107	1	nogas	88.378	88.378	2.77	944300	0.01	2000	
Cd	111	1	nogas	94.139	94.139	0.96	198880	0.05	2000	
Sn	118	1	nogas	106.604	106.604	2.40	700246	0.02	2000	
Sb	121	1	nogas	93.902	93.902	2.66	873816	0.01	2000	
Ba	137	1	nogas	230.000	230.000	2.43	749101	0.03	2000	
Tl	205	1	nogas	91.963	91.963	2.52	1503497	0.01	2000	
Pb	208	1	nogas	96.132	96.132	1.35	2072141	0.00	2000	
U	238	1	nogas	0.279	0.279	3.51	6678	0.00	2000	
Li	7	1	nogas	108.358	108.358	1.27	1362566	0.01	1000	
Si	28	1	nogas	137921.243	137921.243	2.45	100769698	0.14	2000	>LDR
Au	197	1	nogas	0.020	0.020	36.49	190	0.01	2000	
Tl	203	1	nogas	88.381	88.381	1.16	586089	0.02	2000	
Na	23	2	He	255581.136	255581.136	1.36	259766663	0.10	200000	>LDR
Mg	24	2	He	20756.282	20756.282	0.79	11564601	0.18	200000	
Al	27	2	He	123.106	123.106	2.03	33199	0.37	2000	
K	39	2	He	10418.800	10418.800	1.28	5359261	0.19	200000	
Ca	43	2	He	18055.164	18055.164	3.85	28983	62.30	200000	
Ca	44	2	He	18025.770	18025.770	0.71	479548	3.76	200000	
V	51	2	He	92.991	92.991	0.65	446327	0.02	2000	
Cr	52	2	He	92.227	92.227	0.65	501285	0.02	2000	
Mn	55	2	He	182.982	182.982	0.68	628014	0.03	2000	
Fe	56	2	He	9215.472	9215.472	0.65	44474618	0.02	200000	
Co	59	2	He	90.020	90.020	0.21	744325	0.01	2000	
Ni	60	2	He	96.045	96.045	0.69	195775	0.05	2000	
Cu	63	2	He	93.359	93.359	0.45	502756	0.02	2000	

Sample Report

Zn	66	2	He	140.133	140.133	1.04	131768	0.11	2000	
As	75	2	He	97.750	97.750	1.43	66090	0.15	2000	
Sb	121	2	He	94.749	94.749	0.54	392002	0.02	2000	
Se	78	2	He	92.977	92.977	0.79	4809	1.93	2000	
Ti	47	2	He	215.862	215.862	4.17	35721	0.60	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	2102470	0.86	1967073	106.88	70	120	
In	115	1	nogas	2104495	2.19	2008904	104.76	70	120	
Li	6	1	nogas	704515	0.61	749894	93.95	70	120	
Bi	209	1	nogas	1557968	1.09	1623892	95.94	70	120	
Ge	72	2	He	536295	0.46	543801	98.62	70	120	
In	115	2	He	762116	1.08	793603	96.03	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	093_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:25:46-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	88.124	1.265	365498	0.45	100	88.1	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	475.042	1.469	1116255	1.74	500	95.0	90	110	
Al	27	1	nogas	96.372	3.762	1405312	1.84	100	96.4	90	110	
P	31	1	nogas	479.463	4.947	409566	1.52	500	95.9	90	110	
Ca	44	1	nogas	9677.893	3.837	4675813	0.74	10000	96.8	90	110	
Ti	47	1	nogas	96.976	5.151	139802	2.20	100	97.0	90	110	
Cr	52	1	nogas	95.131	2.366	1708825	0.93	100	95.1	90	110	
Co	59	1	nogas	96.632	1.988	1783369	1.27	100	96.6	90	110	
Cu	63	1	nogas	86.883	2.057	881196	1.49	100	86.9	90	110	CCV Main CR1-2 Failed
Zn	66	1	nogas	96.700	1.945	244812	1.21	100	96.7	90	110	
Se	77	1	nogas	76.916	17.999	25298	3.51	100	76.9	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.412	4.452	14766	2.72	100	96.4	90	110	
Sr	88	1	nogas	97.245	0.855	2409072	0.61	100	97.2	90	110	
Mo	95	1	nogas	93.746	1.302	440156	0.59	100	93.7	90	110	
Ag	107	1	nogas	98.904	2.826	1102531	1.62	100	98.9	90	110	
Cd	111	1	nogas	96.542	2.872	212742	1.87	100	96.5	90	110	
Sn	118	1	nogas	95.186	1.523	652589	2.17	100	95.2	90	110	
Sb	121	1	nogas	93.754	2.617	898550	0.91	100	93.8	90	110	
Ba	137	1	nogas	95.164	1.663	323513	1.01	100	95.2	90	110	
Tl	205	1	nogas	98.719	3.142	1721964	4.01	100	98.7	90	110	
Pb	208	1	nogas	98.984	1.778	2275867	0.93	100	99.0	90	110	
U	238	1	nogas	98.225	3.860	2495054	3.54	100	98.2	90	110	
Li	7	1	nogas	89.148	1.699	1231898	0.45	100	89.1	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4950.542	4.251	4686958	0.92	5000	99.0	90	110	
Au	197	1	nogas	90.469	2.297	746488	1.55	100	90.5	90	110	
Tl	203	1	nogas	93.306	2.085	660058	2.32	100	93.3	90	110	
Na	23	2	He	9619.298	1.994	9755991	1.20	10000	96.2	90	110	
Mg	24	2	He	9480.746	1.284	5222821	0.79	10000	94.8	90	110	
Al	27	2	He	92.501	2.758	24850	2.51	100	92.5	90	110	
K	39	2	He	9509.888	0.550	4841008	1.04	10000	95.1	90	110	
Ca	43	2	He	9167.440	3.696	14569	3.22	10000	91.7	90	110	
Ca	44	2	He	9335.328	0.490	245933	0.68	10000	93.4	90	110	
V	51	2	He	96.073	1.430	455675	0.71	100	96.1	90	110	
Cr	52	2	He	96.724	0.511	519711	0.83	100	96.7	90	110	
Mn	55	2	He	94.217	0.938	320268	0.16	100	94.2	90	110	
Fe	56	2	He	9667.240	0.501	46127313	1.19	10000	96.7	90	110	
Co	59	2	He	93.793	0.272	766712	0.54	100	93.8	90	110	
Ni	60	2	He	100.075	0.717	201652	0.52	100	100.1	90	110	
Cu	63	2	He	98.878	0.651	526305	0.73	100	98.9	90	110	
Zn	66	2	He	98.004	1.483	91540	0.65	100	98.0	90	110	
As	75	2	He	96.547	0.899	64535	1.06	100	96.5	90	110	
Sb	121	2	He	98.688	0.985	403637	0.88	100	98.7	90	110	
Se	78	2	He	95.470	3.121	4880	2.38	100	95.5	90	110	
Ti	47	2	He	93.758	4.307	15336	3.51	100	93.8	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	2166202	3.11	1967073	110.12	70	120	
In	115	1	nogas	2195315	1.30	2008904	109.28	70	120	
Li	6	1	nogas	767457	1.23	749894	102.34	70	120	
Bi	209	1	nogas	1661913	0.91	1623892	102.34	70	120	
Ge	72	2	He	530216	0.81	543801	97.50	70	120	
In	115	2	He	775703	1.47	793603	97.74	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	094_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:28:10-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	015CALB.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	0.060	7.6	345	5.8	1	
B	11	1	nogas	30.234	8.7	96353	7.0	10	CCB Main CR1 Failed
Al	27	1	nogas	0.205	15.9	46597	1.4	5	
P	31	1	nogas	0.024	1624.1	40554	0.3	10	
Ca	44	1	nogas	-116.498	-1.0	35948	2.0	100	
Ti	47	1	nogas	0.016	481.4	297	37.1	2.5	
Cr	52	1	nogas	-1.157	-3.5	27337	2.1	2.5	
Co	59	1	nogas	0.028	54.3	1170	24.2	2.5	
Cu	63	1	nogas	-3.282	-0.9	8926	2.6	2	
Zn	66	1	nogas	0.450	9.0	5154	2.2	2.5	
Se	77	1	nogas	-43.680	-17.6	11981	7.3	2.5	
Se	82	1	nogas	0.983	22.8	-111	-31.3	2	
Sr	88	1	nogas	0.029	17.9	2587	6.2	2.5	
Mo	95	1	nogas	0.256	35.1	1407	29.6	2.5	
Ag	107	1	nogas	0.042	19.3	557	16.6	2.5	
Cd	111	1	nogas	0.023	33.5	70	24.7	1	
Sn	118	1	nogas	0.489	25.2	4601	17.6	5	
Sb	121	1	nogas	1.298	2.4	13779	2.0	2.5	
Ba	137	1	nogas	0.088	32.6	537	18.4	2.5	
Tl	205	1	nogas	0.221	46.3	5088	38.1	1	
Pb	208	1	nogas	2.012	1.9	51015	1.9	2.5	
U	238	1	nogas	0.027	33.4	777	32.3	2.5	
Si	28	1	nogas	14.185	85.8	1016848	0.6	5	CCB Main CR1 Failed
Au	197	1	nogas	0.691	30.9	6065	31.7	2.5	
Na	23	2	He	38.730	5.0	138904	2.5	100	
Mg	24	2	He	3.947	12.9	3380	7.4	100	
Al	27	2	He	0.755	50.2	990	10.3	5	
K	39	2	He	5.937	32.6	59120	0.5	100	
Ca	43	2	He	-2.593	-396.2	40	43.3	100	
Ca	44	2	He	1.735	379.3	903	20.9	100	
V	51	2	He	-0.257	-15.8	4820	3.9	2.5	
Cr	52	2	He	-0.033	-38.3	1050	5.9	2.5	
Mn	55	2	He	0.046	23.6	1427	1.5	2.5	
Fe	56	2	He	5.337	5.6	35748	4.9	100	
Co	59	2	He	0.022	10.6	393	3.9	2.5	
Ni	60	2	He	0.055	33.8	723	6.5	2.5	
Cu	63	2	He	0.088	13.3	2767	3.1	2	
Zn	66	2	He	0.424	32.9	1930	8.1	2.5	
As	75	2	He	0.072	32.4	151	10.2	2.5	
Sb	121	2	He	1.443	0.6	6668	1.8	2.5	
Se	78	2	He	0.093	93.1	62	8.5	2	
Ti	47	2	He	0.077	156.2	17	124.9	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	2182377	0.52	1967073	110.95	70	120	
In	115	1	nogas	2243244	1.13	2008904	111.67	70	120	
Li	6	1	nogas	835679	0.17	749894	111.44	70	120	
Bi	209	1	nogas	1753196	1.49	1623892	107.96	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	553522	1.22	543801	101.79	70	120	
In	115	2	He	803696	0.40	793603	101.27	70	120	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	098CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:41:03-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	122	12.79
B	11	1	nogas	32816	0.00
Al	27	1	nogas	57256	0.00
P	31	1	nogas	43303	0.01
Ca	44	1	nogas	42238	0.00
Ti	47	1	nogas	240	1.74
Cr	52	1	nogas	48824	0.00
Co	59	1	nogas	603	2.08
Cu	63	1	nogas	8375	0.08
Zn	66	1	nogas	4194	0.12
Se	77	1	nogas	21109	0.01
Sr	88	1	nogas	2564	0.19
Mo	95	1	nogas	163	4.33
Ag	107	1	nogas	210	6.80
Cd	111	1	nogas	10	0.00
Sn	118	1	nogas	2160	0.43
Sb	121	1	nogas	9012	0.07
Ba	137	1	nogas	383	7.34
Tl	205	1	nogas	550	2.17
Pb	208	1	nogas	32603	0.00
Li	7	1	nogas	72005	0.00
Si	28	1	nogas	1286380	0.00
Na	23	2	He	71541	0.00
Mg	24	2	He	1297	1.13
Al	27	2	He	1097	0.75
K	39	2	He	61250	0.00
Ca	43	2	He	63	122.98
Ca	44	2	He	1017	1.56
V	51	2	He	11813	0.02
Cr	52	2	He	1170	0.57
Mn	55	2	He	1300	0.93
Fe	56	2	He	17982	0.01
Co	59	2	He	237	4.49
Ni	60	2	He	563	0.18
Cu	63	2	He	2580	0.38
Zn	66	2	He	1650	0.43
As	75	2	He	124	8.70
Sb	121	2	He	4124	0.13

Calibration Blank Report

Se	78	2	He	51	19.61

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	2310932	1.97
In	115	1	nogas	2286220	3.06
Li	6	1	nogas	885256	0.46
Bi	209	1	nogas	1796808	0.44
Ge	72	2	He	562772	0.84
In	115	2	He	808760	1.37

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	099CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:43:29-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	098CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	8233	0.04
B	11	1	nogas	51963	0.00
Al	27	1	nogas	87300	0.00
P	31	1	nogas	50705	0.00
Ca	44	1	nogas	133908	0.00
Ti	47	1	nogas	3300	0.10
Cr	52	1	nogas	82710	0.00
Co	59	1	nogas	37872	0.01
Cu	63	1	nogas	28763	0.00
Zn	66	1	nogas	8689	0.01
Se	77	1	nogas	21203	0.02
Se	82	1	nogas	109	90.08
Sr	88	1	nogas	50250	0.00
Mo	95	1	nogas	9303	0.02
Ag	107	1	nogas	23189	0.01
Cd	111	1	nogas	4477	0.15
Sn	118	1	nogas	15274	0.02
Sb	121	1	nogas	26861	0.00
Ba	137	1	nogas	7092	0.05
Tl	205	1	nogas	32643	0.00
Pb	208	1	nogas	75498	0.00
Si	28	1	nogas	1342071	0.00
Na	23	2	He	273005	0.00
Mg	24	2	He	113633	0.00
Al	27	2	He	1553	1.02
K	39	2	He	160280	0.00
Ca	43	2	He	433	5.06
Ca	44	2	He	5861	0.03
V	51	2	He	21104	0.01
Cr	52	2	He	12371	0.02
Mn	55	2	He	7265	0.07
Fe	56	2	He	965879	0.00
Co	59	2	He	17111	0.00
Ni	60	2	He	4517	0.09
Cu	63	2	He	13592	0.00
Zn	66	2	He	3400	0.38

Calibration Standard Report

As	75	2	He	1522	0.31
Sb	121	2	He	12028	0.01
Se	78	2	He	165	6.31

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	2326879	1.81	2310932	100.69	70	120	
In	115	1	nogas	2304898	1.63	2286220	100.82	70	120	
Li	6	1	nogas	890605	0.61	885256	100.60	70	120	
Bi	209	1	nogas	1771931	0.91	1796808	98.62	70	120	
Ge	72	2	He	566865	0.57	562772	100.73	70	120	
In	115	2	He	814325	1.21	808760	100.69	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	100CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:45:57-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	098CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	20391	0.00
B	11	1	nogas	84375	0.00
Al	27	1	nogas	137076	0.00
P	31	1	nogas	65078	0.00
Ca	44	1	nogas	281431	0.00
Ti	47	1	nogas	7548	0.04
Cr	52	1	nogas	136037	0.00
Co	59	1	nogas	97328	0.00
Cu	63	1	nogas	59472	0.00
Zn	66	1	nogas	16861	0.02
Se	77	1	nogas	22387	0.01
Se	82	1	nogas	709	1.50
Sr	88	1	nogas	122806	0.00
Mo	95	1	nogas	22588	0.00
Ag	107	1	nogas	58523	0.00
Cd	111	1	nogas	11464	0.02
Sn	118	1	nogas	35827	0.00
Sb	121	1	nogas	55638	0.00
Ba	137	1	nogas	17522	0.00
Tl	205	1	nogas	80665	0.00
Pb	208	1	nogas	140812	0.00
Si	28	1	nogas	1484769	0.00
Na	23	2	He	583187	0.00
Mg	24	2	He	281638	0.00
Al	27	2	He	2344	0.29
K	39	2	He	313090	0.00
Ca	43	2	He	747	1.39
Ca	44	2	He	14065	0.01
V	51	2	He	33991	0.00
Cr	52	2	He	29110	0.01
Mn	55	2	He	18409	0.01
Fe	56	2	He	2582328	0.00
Co	59	2	He	41864	0.00
Ni	60	2	He	11574	0.01
Cu	63	2	He	31347	0.01
Zn	66	2	He	6421	0.06

Calibration Standard Report

As	75	2	He	3551	0.06
Sb	121	2	He	24928	0.01
Se	78	2	He	309	2.49

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	2278086	1.96	2310932	98.58	70	120	
In	115	1	nogas	2313014	0.64	2286220	101.17	70	120	
Li	6	1	nogas	891899	0.19	885256	100.75	70	120	
Bi	209	1	nogas	1754328	0.56	1796808	97.64	70	120	
Ge	72	2	He	562534	0.59	562772	99.96	70	120	
In	115	2	He	800473	1.64	808760	98.98	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	101CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:48:24-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	098CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	42415	0.00
B	11	1	nogas	145406	0.00
Al	27	1	nogas	208275	0.00
P	31	1	nogas	88814	0.00
Ca	44	1	nogas	543752	0.00
Ti	47	1	nogas	15737	0.02
Cr	52	1	nogas	226474	0.00
Co	59	1	nogas	192917	0.00
Cu	63	1	nogas	110087	0.00
Zn	66	1	nogas	30783	0.00
Se	77	1	nogas	22341	0.02
Se	82	1	nogas	1420	0.45
Sr	88	1	nogas	252066	0.00
Mo	95	1	nogas	47797	0.00
Ag	107	1	nogas	119588	0.00
Cd	111	1	nogas	22892	0.01
Sn	118	1	nogas	72861	0.00
Sb	121	1	nogas	104332	0.00
Ba	137	1	nogas	35430	0.01
Tl	205	1	nogas	167078	0.00
Pb	208	1	nogas	262786	0.00
Si	28	1	nogas	1679555	0.00
Na	23	2	He	1126989	0.00
Mg	24	2	He	575061	0.00
Al	27	2	He	3887	0.02
K	39	2	He	569020	0.00
Ca	43	2	He	1493	0.37
Ca	44	2	He	27754	0.01
V	51	2	He	56016	0.00
Cr	52	2	He	56443	0.00
Mn	55	2	He	35478	0.00
Fe	56	2	He	5065271	0.00
Co	59	2	He	86076	0.00
Ni	60	2	He	22177	0.01
Cu	63	2	He	61713	0.00
Zn	66	2	He	10913	0.03

Calibration Standard Report

As	75	2	He	7009	0.05
Sb	121	2	He	46181	0.00
Se	78	2	He	588	1.30

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	2323596	0.03	2310932	100.55	70	120	
In	115	1	nogas	2336789	1.43	2286220	102.21	70	120	
Li	6	1	nogas	875607	0.46	885256	98.91	70	120	
Bi	209	1	nogas	1753080	1.34	1796808	97.57	70	120	
Ge	72	2	He	551917	0.30	562772	98.07	70	120	
In	115	2	He	784829	0.60	808760	97.04	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	102CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:50:52-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	098CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	399431	0.00
B	11	1	nogas	1154178	0.00
Al	27	1	nogas	1526000	0.00
P	31	1	nogas	442323	0.00
Ca	44	1	nogas	4874876	0.00
Ti	47	1	nogas	145204	0.00
Cr	52	1	nogas	1828500	0.00
Co	59	1	nogas	1905212	0.00
Cu	63	1	nogas	918010	0.00
Zn	66	1	nogas	253058	0.00
Se	77	1	nogas	25789	0.00
Se	82	1	nogas	15370	0.03
Sr	88	1	nogas	2491484	0.00
Mo	95	1	nogas	452475	0.00
Ag	107	1	nogas	1113139	0.00
Cd	111	1	nogas	213220	0.00
Sn	118	1	nogas	668725	0.00
Sb	121	1	nogas	918752	0.00
Ba	137	1	nogas	333002	0.00
Tl	205	1	nogas	1739924	0.00
Pb	208	1	nogas	2288158	0.00
Si	28	1	nogas	4949248	0.00
Na	23	2	He	10060373	0.00
Mg	24	2	He	5471679	0.00
Al	27	2	He	25467	0.00
K	39	2	He	5011721	0.00
Ca	43	2	He	14793	0.03
Ca	44	2	He	250772	0.00
V	51	2	He	464467	0.00
Cr	52	2	He	525752	0.00
Mn	55	2	He	321613	0.00
Fe	56	2	He	46700529	0.00
Co	59	2	He	787843	0.00
Ni	60	2	He	202862	0.00
Cu	63	2	He	531720	0.00
Zn	66	2	He	92857	0.00

Calibration Standard Report

As	75	2	He	66197	0.00
Sb	121	2	He	395714	0.00
Se	78	2	He	4797	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	2216547	1.43	2310932	95.92	70	120	
In	115	1	nogas	2260512	1.28	2286220	98.88	70	120	
Li	6	1	nogas	811796	0.21	885256	91.70	70	120	
Bi	209	1	nogas	1741740	2.90	1796808	96.94	70	120	
Ge	72	2	He	528185	1.04	562772	93.85	70	120	
In	115	2	He	757112	1.17	808760	93.61	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	103CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:53:16-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	098CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	800318	0.00
B	11	1	nogas	2397804	0.00
Al	27	1	nogas	2925285	0.00
P	31	1	nogas	841337	0.00
Ca	44	1	nogas	9802970	0.00
Ti	47	1	nogas	289247	0.00
Cr	52	1	nogas	3558061	0.00
Co	59	1	nogas	3704844	0.00
Cu	63	1	nogas	1966005	0.00
Zn	66	1	nogas	500137	0.00
Se	77	1	nogas	39095	0.01
Se	82	1	nogas	31151	0.01
Sr	88	1	nogas	5025045	0.00
Mo	95	1	nogas	918183	0.00
Ag	107	1	nogas	2360206	0.00
Cd	111	1	nogas	433628	0.00
Sn	118	1	nogas	1459355	0.00
Sb	121	1	nogas	1965933	0.00
Ba	137	1	nogas	663637	0.00
Tl	205	1	nogas	3530928	0.00
Pb	208	1	nogas	4688297	0.00
Si	28	1	nogas	8778937	0.00
Na	23	2	He	20298009	0.00
Mg	24	2	He	10898339	0.00
Al	27	2	He	49625	0.00
K	39	2	He	9871882	0.00
Ca	43	2	He	30195	0.01
Ca	44	2	He	503145	0.00
V	51	2	He	933721	0.00
Cr	52	2	He	1056226	0.00
Mn	55	2	He	645021	0.00
Fe	56	2	He	94693659	0.00
Co	59	2	He	1656380	0.00
Ni	60	2	He	401814	0.00
Cu	63	2	He	1060839	0.00
Zn	66	2	He	182829	0.00

Calibration Standard Report

As	75	2	He	133989	0.00
Sb	121	2	He	799551	0.00
Se	78	2	He	9732	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	2196070	1.70	2310932	95.03	70	120	
In	115	1	nogas	2162703	0.21	2286220	94.60	70	120	
Li	6	1	nogas	751065	0.66	885256	84.84	70	120	
Bi	209	1	nogas	1664555	1.62	1796808	92.64	70	120	
Ge	72	2	He	512929	0.49	562772	91.14	70	120	
In	115	2	He	732638	0.60	808760	90.59	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	105_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T16:58:03-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	098CALB.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	98.066	0.304	404409	0.21	100	98.1	90	110	
B	11	1	nogas	500.223	1.354	1239043	1.14	500	100.0	90	110	
Al	27	1	nogas	108.645	0.340	1647184	0.95	100	108.6	90	110	
P	31	1	nogas	499.790	0.895	448302	0.30	500	100.0	90	110	
Ca	44	1	nogas	9903.051	1.330	4941208	0.72	10000	99.0	90	110	
Ti	47	1	nogas	100.405	0.676	147703	0.44	100	100.4	90	110	
Cr	52	1	nogas	98.037	1.348	1800376	0.69	100	98.0	90	110	
Co	59	1	nogas	100.862	2.094	1908432	1.77	100	100.9	90	110	
Cu	63	1	nogas	94.821	0.899	937653	0.49	100	94.8	90	110	
Zn	66	1	nogas	101.121	2.299	259010	1.76	100	101.1	90	110	
Se	77	1	nogas	47.382	17.999	24624	3.80	100	47.4	90	110	ICV Main CR1 Failed
Se	82	1	nogas	101.115	1.460	15891	0.79	100	101.1	90	110	
Sr	88	1	nogas	100.415	2.164	2579952	1.26	100	100.4	90	110	
Mo	95	1	nogas	96.693	1.685	453357	0.69	100	96.7	90	110	
Ag	107	1	nogas	91.983	1.114	1099435	0.12	100	92.0	90	110	
Cd	111	1	nogas	99.179	1.660	219511	0.73	100	99.2	90	110	
Sn	118	1	nogas	91.578	2.067	674082	1.23	100	91.6	90	110	
Sb	121	1	nogas	94.465	0.738	934472	0.10	100	94.5	90	110	
Ba	137	1	nogas	99.505	1.261	338505	0.29	100	99.5	90	110	
Tl	205	1	nogas	107.146	1.299	1858366	1.31	100	107.1	90	110	
Pb	208	1	nogas	99.860	0.348	2307461	0.71	100	99.9	90	110	
U	238	1	nogas	101.085	2.081	2517162	2.25	100	101.1	90	110	
Li	7	1	nogas	98.434	3.412	1366415	3.08	100	98.4	90	110	
Si	28	1	nogas	5420.455	1.121	5390407	0.64	5000	108.4	90	110	
Au	197	1	nogas	0.157	18.215	1563	14.39	100	0.2	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	96.160	1.023	697225	1.08	100	96.2	90	110	
Na	23	2	He	10013.908	0.764	10308587	0.27	10000	100.1	90	110	
Mg	24	2	He	10166.805	1.909	5619691	1.88	10000	101.7	90	110	
Al	27	2	He	105.727	0.823	27100	0.16	100	105.7	90	110	
K	39	2	He	10089.433	0.734	5084531	0.39	10000	100.9	90	110	
Ca	43	2	He	10077.706	0.042	15380	0.78	10000	100.8	90	110	
Ca	44	2	He	9845.637	0.752	251270	0.94	10000	98.5	90	110	
V	51	2	He	98.920	0.966	471932	0.32	100	98.9	90	110	
Cr	52	2	He	99.444	0.211	532223	0.79	100	99.4	90	110	
Mn	55	2	He	100.705	0.548	329480	1.04	100	100.7	90	110	
Fe	56	2	He	10012.869	1.186	47925964	0.45	10000	100.1	90	110	
Co	59	2	He	96.737	1.873	804251	1.14	100	96.7	90	110	
Ni	60	2	He	102.247	1.831	208791	1.18	100	102.2	90	110	
Cu	63	2	He	101.998	1.084	549581	0.76	100	102.0	90	110	
Zn	66	2	He	102.454	0.471	95798	0.75	100	102.5	90	110	
As	75	2	He	101.884	1.130	69055	0.75	100	101.9	90	110	
Sn	118	2	He	97.670	0.560	298951	1.85	100	97.7	90	110	
Sb	121	2	He	100.064	0.740	406146	0.30	100	100.1	90	110	
Se	78	2	He	100.762	1.390	4975	0.72	100	100.8	90	110	
Ti	47	2	He	98.596	1.935	15797	1.31	100	98.6	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	2234423	0.80	2310932	96.69	70	120	
In	115	1	nogas	2234306	0.99	2286220	97.73	70	120	
Li	6	1	nogas	786117	0.18	885256	88.80	70	120	
Bi	209	1	nogas	1654486	0.89	1796808	92.08	70	120	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	522892	0.74	562772	92.91	70	120	
In	115	2	He	749241	1.30	808760	92.64	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	108_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T17:05:29-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	098CALB.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	0.012	66.5	172	20.5	1	
B	11	1	nogas	5.077	10.7	45803	3.6	10	
Al	27	1	nogas	0.539	22.8	62744	2.9	5	
P	31	1	nogas	1.363	51.0	42645	2.5	10	
Ca	44	1	nogas	-10.101	-22.6	35551	2.5	100	
Ti	47	1	nogas	-0.009	-544.0	217	34.6	2.5	
Cr	52	1	nogas	-0.848	-8.9	31774	3.0	2.5	
Co	59	1	nogas	0.004	160.0	647	17.0	2.5	
Cu	63	1	nogas	0.449	5.5	12391	2.1	1	
Zn	66	1	nogas	-0.092	-147.1	3794	9.0	2.5	
Se	77	1	nogas	-65.827	-15.1	14446	5.2	2.5	
Se	82	1	nogas	0.546	99.1	-67	-128.0	1	
Sr	88	1	nogas	-0.037	-18.2	1513	11.5	2.5	
Mo	95	1	nogas	0.026	12.8	277	5.5	2.5	
Ag	107	1	nogas	0.007	62.4	273	16.5	2.5	
Cd	111	1	nogas	0.000	4652.1	10	173.2	1	
Sn	118	1	nogas	-0.010	-78.9	2000	3.3	5	
Sb	121	1	nogas	-0.405	-9.4	4704	7.3	2.5	
Ba	137	1	nogas	-0.021	-41.8	297	10.3	2.5	
Tl	205	1	nogas	0.019	78.6	873	30.4	1	
Pb	208	1	nogas	-0.464	-0.3	20509	0.9	2.5	
U	238	1	nogas	0.006	43.6	193	34.4	2.5	
Si	28	1	nogas	-15.306	-252.1	1221938	1.3	5	
Au	197	1	nogas	0.064	30.3	837	20.1	2.5	
Na	23	2	He	-4.465	-12.2	62844	0.4	100	
Mg	24	2	He	0.460	57.6	1480	9.1	100	
Al	27	2	He	0.144	497.8	1070	16.2	5	
K	39	2	He	1.792	84.9	58682	0.2	100	
Ca	43	2	He	-12.867	-50.7	40	25.0	100	
Ca	44	2	He	-15.726	-9.9	553	6.3	100	
V	51	2	He	-1.328	-2.7	4857	3.5	2.5	
Cr	52	2	He	0.002	2275.5	1113	18.2	2.5	
Mn	55	2	He	-0.109	-33.0	867	12.7	2.5	
Fe	56	2	He	-0.372	-44.4	15156	5.2	100	
Co	59	2	He	0.004	229.4	253	26.9	2.5	
Ni	60	2	He	-0.078	-69.6	370	31.2	2.5	

Initial Calibration Blank (ICB) Report

Cu	63	2	He	-0.056	-59.0	2127	7.5	1	
Zn	66	2	He	-0.093	-105.8	1470	6.1	2.5	
As	75	2	He	-0.024	-93.3	101	16.3	2.5	
Sb	121	2	He	-0.374	-19.4	2364	13.0	2.5	
Se	78	2	He	0.339	65.1	65	18.1	1	
Ti	47	2	He	-0.034	-478.9	20	132.3	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	2216287	1.35	2310932	95.90	70	120	
In	115	1	nogas	2189079	0.67	2286220	95.75	70	120	
Li	6	1	nogas	869218	0.41	885256	98.19	70	120	
Bi	209	1	nogas	1746462	0.99	1796808	97.20	70	120	
Ge	72	2	He	530880	1.11	562772	94.33	70	120	
In	115	2	He	762369	0.74	808760	94.26	70	120	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	169CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:06:40-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	97	8.17
B	11	1	nogas	32195	0.01
Al	27	1	nogas	43386	0.00
P	31	1	nogas	38152	0.00
Ca	44	1	nogas	30512	0.00
Ti	47	1	nogas	263	8.69
Cr	52	1	nogas	24573	0.01
Co	59	1	nogas	520	5.18
Cu	63	1	nogas	24610	0.01
Zn	66	1	nogas	4047	0.21
Se	77	1	nogas	12144	0.04
Sr	88	1	nogas	1663	0.28
Mo	95	1	nogas	227	4.50
Ag	107	1	nogas	140	33.46
Cd	111	1	nogas	20	250.00
Sn	118	1	nogas	1347	0.54
Sb	121	1	nogas	2517	0.23
Ba	137	1	nogas	373	1.81
Tl	205	1	nogas	373	5.09
Pb	208	1	nogas	6051	0.05
Li	7	1	nogas	63828	0.00
Si	28	1	nogas	925757	0.00
Na	23	2	He	128223	0.00
Mg	24	2	He	2234	0.47
Al	27	2	He	800	1.09
K	39	2	He	51147	0.00
Ca	43	2	He	47	95.59
Ca	44	2	He	747	0.85
V	51	2	He	2641	0.37
Cr	52	2	He	840	1.37
Mn	55	2	He	2087	0.04
Fe	56	2	He	9863	0.03
Co	59	2	He	143	15.65
Ni	60	2	He	573	1.07
Cu	63	2	He	2150	0.17
Zn	66	2	He	1433	0.51
As	75	2	He	79	44.91
Sb	121	2	He	1103	0.89

Calibration Blank Report

Se	78	2	He	57	28.75

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	2192195	2.22
In	115	1	nogas	2276906	3.00
Li	6	1	nogas	818910	1.19
Bi	209	1	nogas	1750172	2.18
Ge	72	2	He	516667	1.58
In	115	2	He	751046	0.29

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	170CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:09:08-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	169CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	7201	0.03
B	11	1	nogas	49983	0.00
Al	27	1	nogas	77082	0.00
P	31	1	nogas	45966	0.00
Ca	44	1	nogas	115034	0.00
Ti	47	1	nogas	2987	0.31
Cr	52	1	nogas	56489	0.00
Co	59	1	nogas	34970	0.00
Cu	63	1	nogas	42970	0.00
Zn	66	1	nogas	8399	0.06
Se	77	1	nogas	12605	0.01
Se	82	1	nogas	156	14.95
Sr	88	1	nogas	47767	0.00
Mo	95	1	nogas	8779	0.03
Ag	107	1	nogas	21860	0.01
Cd	111	1	nogas	4127	0.15
Sn	118	1	nogas	14489	0.00
Sb	121	1	nogas	20719	0.01
Ba	137	1	nogas	7005	0.08
Tl	205	1	nogas	32556	0.00
Pb	208	1	nogas	50792	0.01
Si	28	1	nogas	1029346	0.00
Na	23	2	He	308106	0.00
Mg	24	2	He	101348	0.00
Al	27	2	He	1280	0.24
K	39	2	He	138032	0.00
Ca	43	2	He	277	2.00
Ca	44	2	He	5137	0.10
V	51	2	He	11220	0.02
Cr	52	2	He	10390	0.03
Mn	55	2	He	7675	0.03
Fe	56	2	He	859570	0.00
Co	59	2	He	15126	0.01
Ni	60	2	He	4427	0.18
Cu	63	2	He	12571	0.03
Zn	66	2	He	3104	0.21

Calibration Standard Report

As	75	2	He	1319	0.46
Sb	121	2	He	8792	0.04
Se	78	2	He	141	7.58

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	2162821	2.87	2192195	98.66	70	120	
In	115	1	nogas	2233868	3.49	2276906	98.11	70	120	
Li	6	1	nogas	825693	0.53	818910	100.83	70	120	
Bi	209	1	nogas	1770528	0.98	1750172	101.16	70	120	
Ge	72	2	He	521572	0.60	516667	100.95	70	120	
In	115	2	He	769504	1.01	751046	102.46	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	171CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:11:37-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	169CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	18444	0.01
B	11	1	nogas	79145	0.00
Al	27	1	nogas	118148	0.00
P	31	1	nogas	57922	0.00
Ca	44	1	nogas	255955	0.00
Ti	47	1	nogas	7168	0.04
Cr	52	1	nogas	106909	0.00
Co	59	1	nogas	87862	0.00
Cu	63	1	nogas	70323	0.00
Zn	66	1	nogas	14593	0.01
Se	77	1	nogas	13362	0.02
Se	82	1	nogas	545	6.31
Sr	88	1	nogas	117803	0.00
Mo	95	1	nogas	22358	0.01
Ag	107	1	nogas	56400	0.00
Cd	111	1	nogas	10760	0.03
Sn	118	1	nogas	33967	0.01
Sb	121	1	nogas	46395	0.00
Ba	137	1	nogas	17039	0.03
Tl	205	1	nogas	81385	0.00
Pb	208	1	nogas	119429	0.00
Si	28	1	nogas	1121777	0.00
Na	23	2	He	581933	0.00
Mg	24	2	He	252646	0.00
Al	27	2	He	2160	0.13
K	39	2	He	272369	0.00
Ca	43	2	He	720	0.51
Ca	44	2	He	11917	0.02
V	51	2	He	24353	0.01
Cr	52	2	He	26402	0.01
Mn	55	2	He	16721	0.01
Fe	56	2	He	2291703	0.00
Co	59	2	He	39609	0.01
Ni	60	2	He	10143	0.02
Cu	63	2	He	28222	0.01
Zn	66	2	He	5491	0.10

Calibration Standard Report

As	75	2	He	3224	0.04
Sb	121	2	He	20349	0.01
Se	78	2	He	264	3.76

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	2184787	0.30	2192195	99.66	70	120	
In	115	1	nogas	2282323	2.28	2276906	100.24	70	120	
Li	6	1	nogas	825863	0.08	818910	100.85	70	120	
Bi	209	1	nogas	1794417	0.39	1750172	102.53	70	120	
Ge	72	2	He	525508	0.62	516667	101.71	70	120	
In	115	2	He	753979	0.96	751046	100.39	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	172CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:14:05-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	169CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	38346	0.00
B	11	1	nogas	136065	0.00
Al	27	1	nogas	194393	0.00
P	31	1	nogas	79041	0.00
Ca	44	1	nogas	507383	0.00
Ti	47	1	nogas	14723	0.01
Cr	52	1	nogas	196427	0.00
Co	59	1	nogas	178736	0.00
Cu	63	1	nogas	119414	0.00
Zn	66	1	nogas	30315	0.00
Se	77	1	nogas	14493	0.02
Se	82	1	nogas	1330	0.14
Sr	88	1	nogas	245869	0.00
Mo	95	1	nogas	46454	0.00
Ag	107	1	nogas	115605	0.00
Cd	111	1	nogas	22081	0.00
Sn	118	1	nogas	71148	0.00
Sb	121	1	nogas	96567	0.00
Ba	137	1	nogas	33780	0.00
Tl	205	1	nogas	171214	0.00
Pb	208	1	nogas	244452	0.00
Si	28	1	nogas	1406243	0.00
Na	23	2	He	1083525	0.00
Mg	24	2	He	524738	0.00
Al	27	2	He	3417	0.20
K	39	2	He	511701	0.00
Ca	43	2	He	1493	1.68
Ca	44	2	He	25077	0.01
V	51	2	He	48355	0.00
Cr	52	2	He	53350	0.00
Mn	55	2	He	33541	0.01
Fe	56	2	He	4737532	0.00
Co	59	2	He	79256	0.00
Ni	60	2	He	21249	0.01
Cu	63	2	He	57306	0.00
Zn	66	2	He	10843	0.03

Calibration Standard Report

As	75	2	He	6549	0.06
Sb	121	2	He	40931	0.01
Se	78	2	He	551	2.02

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	2209784	2.38	2192195	100.80	70	120	
In	115	1	nogas	2244190	2.03	2276906	98.56	70	120	
Li	6	1	nogas	827828	0.27	818910	101.09	70	120	
Bi	209	1	nogas	1747188	3.27	1750172	99.83	70	120	
Ge	72	2	He	520947	1.00	516667	100.83	70	120	
In	115	2	He	764824	1.88	751046	101.83	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	173CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:16:33-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	169CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	371450	0.00
B	11	1	nogas	1065219	0.00
Al	27	1	nogas	1421774	0.00
P	31	1	nogas	406532	0.00
Ca	44	1	nogas	4625278	0.00
Ti	47	1	nogas	137479	0.00
Cr	52	1	nogas	1703801	0.00
Co	59	1	nogas	1790414	0.00
Cu	63	1	nogas	900377	0.00
Zn	66	1	nogas	249076	0.00
Se	77	1	nogas	23565	0.01
Se	82	1	nogas	15282	0.02
Sr	88	1	nogas	2456768	0.00
Mo	95	1	nogas	451149	0.00
Ag	107	1	nogas	1094431	0.00
Cd	111	1	nogas	213799	0.00
Sn	118	1	nogas	660224	0.00
Sb	121	1	nogas	901668	0.00
Ba	137	1	nogas	331834	0.00
Tl	205	1	nogas	1739248	0.00
Pb	208	1	nogas	2325274	0.00
Si	28	1	nogas	4499784	0.00
Na	23	2	He	9346977	0.00
Mg	24	2	He	5013162	0.00
Al	27	2	He	23655	0.01
K	39	2	He	4582439	0.00
Ca	43	2	He	13919	0.02
Ca	44	2	He	233447	0.00
V	51	2	He	435375	0.00
Cr	52	2	He	496971	0.00
Mn	55	2	He	305444	0.00
Fe	56	2	He	43846689	0.00
Co	59	2	He	741547	0.00
Ni	60	2	He	192990	0.00
Cu	63	2	He	507451	0.00
Zn	66	2	He	90207	0.00

Calibration Standard Report

As	75	2	He	62112	0.00
Sb	121	2	He	385149	0.00
Se	78	2	He	4560	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	2147278	0.63	2192195	97.95	70	120	
In	115	1	nogas	2212525	2.88	2276906	97.17	70	120	
Li	6	1	nogas	790398	0.84	818910	96.52	70	120	
Bi	209	1	nogas	1757050	1.00	1750172	100.39	70	120	
Ge	72	2	He	508599	0.62	516667	98.44	70	120	
In	115	2	He	746571	0.68	751046	99.40	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	174CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:18:58-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	169CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	741418	0.00
B	11	1	nogas	2213008	0.00
Al	27	1	nogas	2761072	0.00
P	31	1	nogas	780851	0.00
Ca	44	1	nogas	9383142	0.00
Ti	47	1	nogas	282030	0.00
Cr	52	1	nogas	3405598	0.00
Co	59	1	nogas	3520094	0.00
Cu	63	1	nogas	1865695	0.00
Zn	66	1	nogas	484185	0.00
Se	77	1	nogas	36801	0.01
Se	82	1	nogas	29587	0.01
Sr	88	1	nogas	4810121	0.00
Mo	95	1	nogas	902991	0.00
Ag	107	1	nogas	2334092	0.00
Cd	111	1	nogas	432258	0.00
Sn	118	1	nogas	1435898	0.00
Sb	121	1	nogas	1934323	0.00
Ba	137	1	nogas	658527	0.00
Tl	205	1	nogas	3502157	0.00
Pb	208	1	nogas	4668868	0.00
Si	28	1	nogas	7975602	0.00
Na	23	2	He	18485716	0.00
Mg	24	2	He	9973269	0.00
Al	27	2	He	44719	0.01
K	39	2	He	8960809	0.00
Ca	43	2	He	27470	0.00
Ca	44	2	He	465040	0.00
V	51	2	He	879061	0.00
Cr	52	2	He	999983	0.00
Mn	55	2	He	609905	0.00
Fe	56	2	He	88414435	0.00
Co	59	2	He	1585845	0.00
Ni	60	2	He	383840	0.00
Cu	63	2	He	1011845	0.00
Zn	66	2	He	176745	0.00

Calibration Standard Report

As	75	2	He	124653	0.00
Sb	121	2	He	772882	0.00
Se	78	2	He	9032	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	2110049	2.18	2192195	96.25	70	120	
In	115	1	nogas	2150840	3.40	2276906	94.46	70	120	
Li	6	1	nogas	732952	0.51	818910	89.50	70	120	
Bi	209	1	nogas	1686046	0.22	1750172	96.34	70	120	
Ge	72	2	He	500602	0.34	516667	96.89	70	120	
In	115	2	He	726544	0.86	751046	96.74	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	176_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:23:46-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	96.893	1.022	374488	1.05	100	96.9	90	110	
B	11	1	nogas	484.246	2.428	1121369	2.26	500	96.8	90	110	
Al	27	1	nogas	103.250	4.216	1480039	4.13	100	103.3	90	110	
P	31	1	nogas	495.839	1.130	413582	0.86	500	99.2	90	110	
Ca	44	1	nogas	9640.950	0.590	4615142	0.77	10000	96.4	90	110	
Ti	47	1	nogas	97.794	0.783	140121	0.85	100	97.8	90	110	
Cr	52	1	nogas	98.369	1.385	1719034	0.79	100	98.4	90	110	
Co	59	1	nogas	100.954	2.048	1819008	1.78	100	101.0	90	110	
Cu	63	1	nogas	95.950	0.820	916895	0.72	100	95.9	90	110	
Zn	66	1	nogas	101.426	0.338	253542	0.94	100	101.4	90	110	
Se	77	1	nogas	79.628	2.972	22050	1.81	100	79.6	90	110	ICV Main CR1 Failed
Se	82	1	nogas	103.071	2.673	15637	2.18	100	103.1	90	110	
Sr	88	1	nogas	97.152	0.919	2403706	1.43	100	97.2	90	110	
Mo	95	1	nogas	96.994	1.524	448543	0.49	100	97.0	90	110	
Ag	107	1	nogas	92.296	3.098	1089295	1.86	100	92.3	90	110	
Cd	111	1	nogas	99.102	1.235	218907	0.23	100	99.1	90	110	
Sn	118	1	nogas	91.381	1.827	661916	0.48	100	91.4	90	110	
Sb	121	1	nogas	94.034	0.891	916685	1.44	100	94.0	90	110	
Ba	137	1	nogas	99.304	2.540	335552	1.52	100	99.3	90	110	
Tl	205	1	nogas	103.553	3.429	1796841	1.56	100	103.6	90	110	
Pb	208	1	nogas	98.582	1.743	2284724	1.06	100	98.6	90	110	
U	238	1	nogas	100.597	2.971	2573477	1.59	100	100.6	90	110	
Li	7	1	nogas	97.395	2.183	1256393	1.99	100	97.4	90	110	
Si	28	1	nogas	5367.693	1.420	4806357	1.33	5000	107.4	90	110	
Au	197	1	nogas	8.391	4.949	57915	2.17	100	8.4	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	94.482	5.237	698383	2.61	100	94.5	90	110	
Na	23	2	He	10063.629	1.222	9468693	0.43	10000	100.6	90	110	
Mg	24	2	He	10035.866	0.399	5062908	0.66	10000	100.4	90	110	
Al	27	2	He	107.088	1.862	24760	1.80	100	107.1	90	110	
K	39	2	He	10059.527	1.115	4594178	1.05	10000	100.6	90	110	
Ca	43	2	He	9713.730	0.891	13535	0.39	10000	97.1	90	110	
Ca	44	2	He	9920.310	0.752	233536	0.61	10000	99.2	90	110	
V	51	2	He	99.416	1.327	441712	0.66	100	99.4	90	110	
Cr	52	2	He	99.564	1.590	502746	1.73	100	99.6	90	110	
Mn	55	2	He	100.992	2.272	312047	1.35	100	101.0	90	110	
Fe	56	2	He	9957.184	1.915	44407029	0.91	10000	99.6	90	110	
Co	59	2	He	95.957	2.134	758869	1.13	100	96.0	90	110	
Ni	60	2	He	102.286	1.789	198781	0.79	100	102.3	90	110	
Cu	63	2	He	103.241	0.949	528927	0.90	100	103.2	90	110	
Zn	66	2	He	103.205	2.512	93061	1.99	100	103.2	90	110	
As	75	2	He	102.094	1.106	64278	0.29	100	102.1	90	110	
Sn	118	2	He	95.734	0.220	288815	1.20	100	95.7	90	110	
Sb	121	2	He	100.004	1.478	390618	0.81	100	100.0	90	110	
Se	78	2	He	101.013	2.916	4641	3.03	100	101.0	90	110	
Ti	47	2	He	101.947	2.748	14706	3.61	100	101.9	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	2160193	0.60	2192195	98.54	70	120	
In	115	1	nogas	2214273	1.45	2276906	97.25	70	120	
Li	6	1	nogas	775220	0.17	818910	94.66	70	120	
Bi	209	1	nogas	1687637	2.75	1750172	96.43	70	120	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	507425	1.04	516667	98.21	70	120	
In	115	2	He	745707	1.09	751046	99.29	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	179_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:31:09-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	93.408	1.781	367092	0.82	100	93.4	90	110	
B	11	1	nogas	465.004	0.652	1096338	1.58	500	93.0	90	110	
Al	27	1	nogas	99.196	0.962	1457305	2.37	100	99.2	90	110	
P	31	1	nogas	471.040	4.622	403870	1.70	500	94.2	90	110	
Ca	44	1	nogas	9451.357	0.944	4632359	2.69	10000	94.5	90	110	
Ti	47	1	nogas	94.818	3.363	139014	1.09	100	94.8	90	110	
Cr	52	1	nogas	97.200	5.605	1738194	4.14	100	97.2	90	110	
Co	59	1	nogas	96.425	3.489	1777817	1.77	100	96.4	90	110	
Cu	63	1	nogas	91.660	3.354	897303	0.26	100	91.7	90	110	
Zn	66	1	nogas	97.255	1.479	248999	1.63	100	97.3	90	110	
Se	77	1	nogas	83.429	8.742	23048	1.24	100	83.4	90	110	ICV Main CR1 Failed
Se	82	1	nogas	94.874	4.249	14723	1.23	100	94.9	90	110	
Sr	88	1	nogas	98.976	5.280	2486979	1.88	100	99.0	90	110	
Mo	95	1	nogas	95.027	3.999	446483	0.56	100	95.0	90	110	
Ag	107	1	nogas	92.220	4.303	1105886	0.71	100	92.2	90	110	
Cd	111	1	nogas	95.890	3.728	215212	0.24	100	95.9	90	110	
Sn	118	1	nogas	90.141	3.244	663543	0.42	100	90.1	90	110	
Sb	121	1	nogas	89.843	3.237	896206	0.57	100	89.8	90	110	ICV Main CR1 Failed
Ba	137	1	nogas	96.070	4.344	329844	1.61	100	96.1	90	110	
Tl	205	1	nogas	99.439	2.800	1784355	3.61	100	99.4	90	110	
Pb	208	1	nogas	94.440	3.537	2261823	0.88	100	94.4	90	110	
U	238	1	nogas	98.207	3.637	2596308	1.24	100	98.2	90	110	
Li	7	1	nogas	97.727	2.609	1281629	1.52	100	97.7	90	110	
Si	28	1	nogas	4746.724	6.772	4455041	2.70	5000	94.9	90	110	
Au	197	1	nogas	101.300	2.896	721034	1.36	100	101.3	90	110	
Tl	203	1	nogas	88.587	2.317	677184	0.83	100	88.6	90	110	ICV Main CR1 Failed
Na	23	2	He	9847.645	0.350	9331169	0.39	10000	98.5	90	110	
Mg	24	2	He	9693.650	0.224	4923328	0.34	10000	96.9	90	110	
Al	27	2	He	102.289	0.871	23845	0.87	100	102.3	90	110	
K	39	2	He	9874.565	1.188	4541046	1.00	10000	98.7	90	110	
Ca	43	2	He	9924.713	3.672	13922	3.73	10000	99.2	90	110	
Ca	44	2	He	9730.341	0.188	230626	0.17	10000	97.3	90	110	
V	51	2	He	97.067	0.221	434265	0.18	100	97.1	90	110	
Cr	52	2	He	97.968	0.121	498035	0.31	100	98.0	90	110	
Mn	55	2	He	96.889	0.725	301506	0.75	100	96.9	90	110	
Fe	56	2	He	9773.209	0.186	43885161	0.12	10000	97.7	90	110	
Co	59	2	He	93.707	0.593	746165	0.65	100	93.7	90	110	
Ni	60	2	He	99.039	1.094	193809	1.32	100	99.0	90	110	
Cu	63	2	He	99.652	1.322	514056	1.21	100	99.7	90	110	
Zn	66	2	He	96.388	1.108	87601	1.16	100	96.4	90	110	
As	75	2	He	97.868	0.960	62039	1.00	100	97.9	90	110	
Sn	118	2	He	96.983	0.713	289349	0.08	100	97.0	90	110	
Sb	121	2	He	97.007	0.328	381522	0.38	100	97.0	90	110	
Se	78	2	He	95.282	1.598	4410	1.45	100	95.3	90	110	
Ti	47	2	He	98.729	2.971	14336	2.97	100	98.7	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	2211685	3.10	2192195	100.89	70	120	
In	115	1	nogas	2251575	3.64	2276906	98.89	70	120	
Li	6	1	nogas	788349	0.98	818910	96.27	70	120	
Bi	209	1	nogas	1744448	3.01	1750172	99.67	70	120	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	510834	0.24	516667	98.87	70	120	
In	115	2	He	737512	0.79	751046	98.20	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	180_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T20:33:33-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	0.032	31.9	235	18.2	1	
B	11	1	nogas	17.436	9.7	76228	5.3	10	ICB Main CR1 Failed
Al	27	1	nogas	0.117	593.5	45905	20.1	5	
P	31	1	nogas	-2.048	-83.9	37341	1.9	10	
Ca	44	1	nogas	-6.403	-13.8	28011	0.2	100	
Ti	47	1	nogas	0.020	167.5	300	16.7	2.5	
Cr	52	1	nogas	-0.149	-19.3	22441	0.7	2.5	
Co	59	1	nogas	0.017	16.2	850	7.3	2.5	
Cu	63	1	nogas	-0.088	-88.2	24270	2.6	1	
Zn	66	1	nogas	0.142	53.9	4491	3.1	2.5	
Se	77	1	nogas	-11.365	-77.9	10907	8.9	2.5	
Se	82	1	nogas	-0.245	-150.7	-67	-88.2	1	
Sr	88	1	nogas	0.019	47.9	2117	9.7	2.5	
Mo	95	1	nogas	0.206	25.6	1193	19.2	2.5	
Ag	107	1	nogas	0.013	60.5	297	30.2	2.5	
Cd	111	1	nogas	0.016	96.0	57	62.0	1	
Sn	118	1	nogas	0.228	23.2	3014	11.2	5	
Sb	121	1	nogas	0.156	6.1	4141	1.1	2.5	
Ba	137	1	nogas	1.109	7.3	4181	5.5	2.5	
Tl	205	1	nogas	0.269	50.7	5244	46.8	1	
Pb	208	1	nogas	0.025	121.5	6687	11.1	2.5	
U	238	1	nogas	0.025	41.7	737	38.4	2.5	
Si	28	1	nogas	-76.790	-36.4	887598	0.7	5	
Au	197	1	nogas	0.967	36.3	7128	35.2	2.5	
Na	23	2	He	-39.942	-6.4	91975	1.7	100	
Mg	24	2	He	-0.684	-41.9	1913	6.4	100	
Al	27	2	He	-0.459	-29.7	707	5.9	5	
K	39	2	He	4.968	15.8	54342	0.8	100	
Ca	43	2	He	1.610	417.0	50	20.0	100	
Ca	44	2	He	-8.045	-15.1	563	5.4	100	
V	51	2	He	-0.012	-379.3	2630	7.8	2.5	
Cr	52	2	He	-0.005	-357.4	827	9.9	2.5	
Mn	55	2	He	-0.190	-31.8	1517	12.1	2.5	
Fe	56	2	He	1.676	5.4	17766	0.9	100	
Co	59	2	He	0.009	65.0	217	21.3	2.5	
Ni	60	2	He	-0.047	-152.6	490	30.8	2.5	
Cu	63	2	He	0.059	56.0	2497	8.4	1	
Zn	66	2	He	0.275	2.0	1710	1.8	2.5	

Initial Calibration Blank (ICB) Report

As	75	2	He	0.014	86.5	89	9.4	2.5	
Sb	121	2	He	0.151	17.2	1730	6.7	2.5	
Se	78	2	He	-0.206	-54.5	49	10.3	1	
Ti	47	2	He	-0.046	-82.9	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	2238608	1.66	2192195	102.12	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
In	115	1	nogas	2255520	2.22	2276906	99.06	70	120	
Li	6	1	nogas	847089	0.24	818910	103.44	70	120	
Bi	209	1	nogas	1761010	0.81	1750172	100.62	70	120	
Ge	72	2	He	525331	1.49	516667	101.68	70	120	
In	115	2	He	764106	2.49	751046	101.74	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	208_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T21:47:36-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	98.465	0.502	365562	0.72	100	98.5	90	110	
B	11	1	nogas	475.567	1.328	1058505	2.17	500	95.1	90	110	
Al	27	1	nogas	101.179	1.382	1371589	0.43	100	101.2	90	110	
P	31	1	nogas	496.911	2.690	391616	0.68	500	99.4	90	110	
Ca	44	1	nogas	9688.290	1.954	4383749	2.42	10000	96.9	90	110	
Ti	47	1	nogas	96.500	2.530	130667	0.75	100	96.5	90	110	
Cr	52	1	nogas	98.544	4.263	1627120	2.44	100	98.5	90	110	
Co	59	1	nogas	98.019	0.617	1669460	1.15	100	98.0	90	110	
Cu	63	1	nogas	96.657	2.875	872674	1.02	100	96.7	90	110	
Zn	66	1	nogas	100.184	3.213	236692	1.53	100	100.2	90	110	
Se	77	1	nogas	135.046	1.919	27468	1.04	100	135.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.365	1.705	14106	2.32	100	98.4	90	110	
Sr	88	1	nogas	96.383	2.108	2298351	1.68	100	96.4	90	110	
Mo	95	1	nogas	94.428	0.505	420947	0.83	100	94.4	90	110	
Ag	107	1	nogas	93.287	1.135	1061423	0.79	100	93.3	90	110	
Cd	111	1	nogas	95.922	1.438	204239	1.32	100	95.9	90	110	
Sn	118	1	nogas	90.287	2.181	630413	1.76	100	90.3	90	110	
Sb	121	1	nogas	93.437	3.310	860689	1.63	100	93.4	90	110	
Ba	137	1	nogas	96.282	0.855	313637	0.47	100	96.3	90	110	
Tl	205	1	nogas	100.711	3.336	1691658	2.25	100	100.7	90	110	
Pb	208	1	nogas	96.299	1.275	2160616	1.92	100	96.3	90	110	
U	238	1	nogas	100.408	1.889	2486481	0.54	100	100.4	90	110	
Li	7	1	nogas	97.580	1.636	1208972	0.66	100	97.6	90	110	
Si	28	1	nogas	4950.093	2.671	4255917	0.39	5000	99.0	90	110	
Au	197	1	nogas	105.099	1.516	700628	0.63	100	105.1	90	110	
Tl	203	1	nogas	105.613	1.185	664017	1.14	100	105.6	90	110	
Na	23	2	He	10374.267	2.278	9615323	0.82	10000	103.7	90	110	
Mg	24	2	He	10030.700	2.254	4986638	1.19	10000	100.3	90	110	
Al	27	2	He	105.348	2.223	24015	0.81	100	105.3	90	110	
K	39	2	He	10034.520	1.627	4516524	0.95	10000	100.3	90	110	
Ca	43	2	He	9862.308	1.805	13545	2.62	10000	98.6	90	110	
Ca	44	2	He	9860.839	1.188	228786	0.74	10000	98.6	90	110	
V	51	2	He	96.893	1.888	424327	0.51	100	96.9	90	110	
Cr	52	2	He	97.329	0.487	484396	1.13	100	97.3	90	110	
Mn	55	2	He	98.581	0.393	300295	1.17	100	98.6	90	110	
Fe	56	2	He	9818.454	1.434	43158243	0.54	10000	98.2	90	110	
Co	59	2	He	93.485	2.317	728626	0.91	100	93.5	90	110	
Ni	60	2	He	99.140	2.642	189886	1.28	100	99.1	90	110	
Cu	63	2	He	99.649	2.125	503164	0.69	100	99.6	90	110	
Zn	66	2	He	99.761	0.341	88713	1.09	100	99.8	90	110	
As	75	2	He	99.216	1.932	61563	0.80	100	99.2	90	110	
Sb	121	2	He	97.949	1.418	377091	0.48	100	97.9	90	110	
Se	78	2	He	98.930	1.824	4481	3.05	100	98.9	90	110	
Ti	47	2	He	99.635	1.448	14166	2.82	100	99.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2041986	1.76	2192195	93.15	70	120	
In	115	1	nogas	2134166	0.47	2276906	93.73	70	120	
Li	6	1	nogas	744678	0.90	818910	90.94	70	120	
Bi	209	1	nogas	1633221	1.63	1750172	93.32	70	120	
Ge	72	2	He	500119	1.41	516667	96.80	70	120	
In	115	2	He	741727	0.34	751046	98.76	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	209_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T21:50:01-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	0.026	27.8	197	14.5	1	
B	11	1	nogas	16.337	11.6	68305	6.1	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.272	-24.6	36612	1.3	5	
P	31	1	nogas	2.221	61.2	36896	0.7	10	
Ca	44	1	nogas	-10.393	-19.5	23605	1.9	100	
Ti	47	1	nogas	0.074	79.8	343	21.9	2.5	
Cr	52	1	nogas	0.011	456.0	22941	1.7	2.5	
Co	59	1	nogas	0.006	35.6	580	7.9	2.5	
Cu	63	1	nogas	2.600	8.0	45490	2.5	2	CCB Main CR1 Failed
Zn	66	1	nogas	-0.461	-16.6	2677	5.1	2.5	
Se	77	1	nogas	-1.974	-393.8	11007	7.0	2.5	
Se	82	1	nogas	-1.419	-40.9	-228	-35.6	2	
Sr	88	1	nogas	0.000	-2782.8	1563	9.0	2.5	
Mo	95	1	nogas	0.176	35.4	1000	27.1	2.5	
Ag	107	1	nogas	0.017	41.6	327	23.2	2.5	
Cd	111	1	nogas	0.018	150.9	57	100.3	1	
Sn	118	1	nogas	0.186	31.4	2570	15.2	5	
Sb	121	1	nogas	0.066	24.7	2937	5.8	2.5	
Ba	137	1	nogas	-0.026	-16.3	267	4.3	2.5	
Tl	205	1	nogas	0.230	57.5	4518	53.8	1	
Pb	208	1	nogas	-0.061	-19.4	4567	5.1	2.5	
U	238	1	nogas	0.019	38.0	557	36.0	2.5	
Si	28	1	nogas	-92.435	-12.3	794236	2.0	5	
Au	197	1	nogas	0.887	25.9	6501	26.7	2.5	
Na	23	2	He	287.255	1.8	390606	1.0	100	CCB Main CR1 Failed
Mg	24	2	He	0.134	43.6	2250	1.6	100	
Al	27	2	He	-0.574	-15.5	653	3.2	5	
K	39	2	He	4.631	44.6	52073	2.1	100	
Ca	43	2	He	-21.075	-19.7	17	34.6	100	
Ca	44	2	He	-12.091	-38.3	447	23.9	100	
V	51	2	He	-0.031	-86.9	2444	4.5	2.5	
Cr	52	2	He	-0.021	-38.1	717	5.8	2.5	
Mn	55	2	He	-0.297	-8.8	1133	7.4	2.5	
Fe	56	2	He	0.910	4.8	13679	1.4	100	
Co	59	2	He	0.003	94.7	167	15.1	2.5	
Ni	60	2	He	-0.137	-21.1	297	18.6	2.5	
Cu	63	2	He	0.288	8.4	3560	3.1	2	
Zn	66	2	He	-0.589	-32.7	880	19.0	2.5	
As	75	2	He	0.046	69.2	106	18.5	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.089	30.5	1423	7.1	2.5	
Se	78	2	He	-0.253	-60.3	45	15.7	2	
Ti	47	2	He	0.001	8486.8	10	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	2029584	2.04	2192195	92.58	70	120	
In	115	1	nogas	2141727	1.84	2276906	94.06	70	120	
Li	6	1	nogas	786998	0.23	818910	96.10	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	1743286	2.49	1750172	99.61	70	120	
Ge	72	2	He	504802	0.37	516667	97.70	70	120	
In	115	2	He	742875	1.11	751046	98.91	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	221_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:25:16-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	96.470	0.732	354430	0.48	100	96.5	90	110	
B	11	1	nogas	463.807	0.748	1022283	1.58	500	92.8	90	110	
Al	27	1	nogas	98.601	2.419	1355271	1.46	100	98.6	90	110	
P	31	1	nogas	479.842	1.552	384446	0.46	500	96.0	90	110	
Ca	44	1	nogas	9474.338	1.395	4343792	0.99	10000	94.7	90	110	
Ti	47	1	nogas	94.875	0.660	130200	1.45	100	94.9	90	110	
Cr	52	1	nogas	98.851	2.246	1654180	1.54	100	98.9	90	110	
Co	59	1	nogas	97.562	1.845	1683533	1.60	100	97.6	90	110	
Cu	63	1	nogas	92.883	0.692	850804	1.22	100	92.9	90	110	
Zn	66	1	nogas	97.694	0.460	234022	1.08	100	97.7	90	110	
Se	77	1	nogas	99.349	3.383	23509	2.64	100	99.3	90	110	
Se	82	1	nogas	97.087	2.535	14108	3.48	100	97.1	90	110	
Sr	88	1	nogas	96.277	0.547	2304823	1.61	100	96.3	90	110	
Mo	95	1	nogas	92.476	1.427	413803	1.36	100	92.5	90	110	
Ag	107	1	nogas	91.441	0.937	1044488	1.97	100	91.4	90	110	
Cd	111	1	nogas	95.917	1.085	205031	2.26	100	95.9	90	110	
Sn	118	1	nogas	91.241	0.811	639518	0.96	100	91.2	90	110	
Sb	121	1	nogas	92.576	1.072	864322	1.50	100	92.6	90	110	
Ba	137	1	nogas	95.948	1.951	313706	0.76	100	95.9	90	110	
Tl	205	1	nogas	99.090	1.143	1728206	3.00	100	99.1	90	110	
Pb	208	1	nogas	94.086	2.424	2190866	2.54	100	94.1	90	110	
U	238	1	nogas	96.552	0.372	2481985	1.82	100	96.6	90	110	
Li	7	1	nogas	99.544	0.373	1219436	0.78	100	99.5	90	110	
Si	28	1	nogas	4859.879	0.706	4250347	1.40	5000	97.2	90	110	
Au	197	1	nogas	101.399	2.271	701466	0.25	100	101.4	90	110	
Tl	203	1	nogas	101.900	1.121	664930	1.23	100	101.9	90	110	
Na	23	2	He	10012.312	0.972	9325748	1.75	10000	100.1	90	110	
Mg	24	2	He	9855.055	0.194	4921060	1.18	10000	98.6	90	110	
Al	27	2	He	102.001	1.574	23378	0.87	100	102.0	90	110	
K	39	2	He	9741.288	0.763	4404883	0.53	10000	97.4	90	110	
Ca	43	2	He	9694.984	3.786	13368	2.77	10000	96.9	90	110	
Ca	44	2	He	9610.777	0.969	223952	0.29	10000	96.1	90	110	
V	51	2	He	95.738	0.996	421133	1.10	100	95.7	90	110	
Cr	52	2	He	96.071	1.916	480122	0.94	100	96.1	90	110	
Mn	55	2	He	95.338	1.143	291697	0.23	100	95.3	90	110	
Fe	56	2	He	9691.626	1.230	42782849	0.22	10000	96.9	90	110	
Co	59	2	He	91.582	0.589	716944	0.46	100	91.6	90	110	
Ni	60	2	He	97.531	1.019	187643	1.06	100	97.5	90	110	
Cu	63	2	He	96.697	0.720	490471	0.85	100	96.7	90	110	
Zn	66	2	He	97.598	1.694	87189	1.87	100	97.6	90	110	
As	75	2	He	97.079	0.418	60505	1.46	100	97.1	90	110	
Sb	121	2	He	97.265	0.820	376118	1.85	100	97.3	90	110	
Se	78	2	He	96.723	2.050	4400	1.19	100	96.7	90	110	
Ti	47	2	He	97.116	3.016	13862	2.20	100	97.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag

Continuing Calibration Verification (CCV) Report

Ge	72	1	nogas	2068823	0.97	2192195	94.37	70	120	
In	115	1	nogas	2142340	1.20	2276906	94.09	70	120	
Li	6	1	nogas	736941	0.90	818910	89.99	70	120	
Bi	209	1	nogas	1695135	2.19	1750172	96.86	70	120	
Ge	72	2	He	502235	1.04	516667	97.21	70	120	
In	115	2	He	722714	0.68	751046	96.23	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	222_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:27:39-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	0.030	44.3	212	24.2	1	
B	11	1	nogas	10.617	15.3	55566	6.2	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.191	-34.5	38506	0.9	5	
P	31	1	nogas	1.299	56.5	37053	0.9	10	
Ca	44	1	nogas	-15.657	-8.3	21733	1.9	100	
Ti	47	1	nogas	0.000	-30703.7	250	32.0	2.5	
Cr	52	1	nogas	-0.162	-5.3	20595	2.2	2.5	
Co	59	1	nogas	0.011	120.3	673	30.9	2.5	
Cu	63	1	nogas	0.265	45.1	25642	2.9	2	
Zn	66	1	nogas	-0.568	-11.6	2484	4.9	2.5	
Se	77	1	nogas	-9.299	-19.9	10373	3.6	2.5	
Se	82	1	nogas	-1.380	-16.1	-228	-15.6	2	
Sr	88	1	nogas	-0.010	-37.1	1363	5.0	2.5	
Mo	95	1	nogas	0.206	20.0	1170	15.6	2.5	
Ag	107	1	nogas	0.007	121.9	227	48.6	2.5	
Cd	111	1	nogas	0.012	38.8	47	24.7	1	
Sn	118	1	nogas	0.135	23.4	2287	9.2	5	
Sb	121	1	nogas	0.064	7.7	2977	1.6	2.5	
Ba	137	1	nogas	-0.030	-39.1	263	17.1	2.5	
Tl	205	1	nogas	0.266	50.5	5158	46.6	1	
Pb	208	1	nogas	-0.077	-12.7	4200	6.0	2.5	
U	238	1	nogas	0.020	45.1	580	40.4	2.5	
Si	28	1	nogas	-117.408	-21.4	794337	0.8	5	
Au	197	1	nogas	0.876	34.5	6425	33.4	2.5	
Na	23	2	He	72.773	5.1	190775	1.4	100	
Mg	24	2	He	-1.159	-23.0	1587	8.0	100	
Al	27	2	He	-0.153	-197.2	740	8.1	5	
K	39	2	He	3.052	110.0	50896	2.4	100	
Ca	43	2	He	-23.369	-18.5	13	43.3	100	
Ca	44	2	He	-11.208	-22.5	463	12.6	100	
V	51	2	He	-0.060	-49.7	2296	6.0	2.5	
Cr	52	2	He	0.032	60.8	973	10.0	2.5	
Mn	55	2	He	-0.378	-11.9	877	15.2	2.5	
Fe	56	2	He	0.741	8.9	12811	2.4	100	
Co	59	2	He	0.006	23.6	187	6.2	2.5	
Ni	60	2	He	-0.125	-22.7	317	17.4	2.5	
Cu	63	2	He	0.322	7.6	3700	2.9	2	
Zn	66	2	He	-0.664	-3.2	807	1.4	2.5	
As	75	2	He	0.063	7.0	116	1.7	2.5	
Sb	121	2	He	0.091	13.8	1417	4.1	2.5	
Se	78	2	He	0.112	292.2	61	24.7	2	
Ti	47	2	He	-0.021	-397.1	7	173.2	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	2074652	1.49	2192195	94.64	70	120	
In	115	1	nogas	2214000	2.14	2276906	97.24	70	120	
Li	6	1	nogas	792009	0.56	818910	96.72	70	120	
Bi	209	1	nogas	1749082	0.46	1750172	99.94	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	500292	0.88	516667	96.83	70	120	
In	115	2	He	744942	1.26	751046	99.19	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	225_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:35:03-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	103.218	0.962	385902	0.30	100	103.2	90	110	
B	11	1	nogas	479.374	1.205	1074139	0.05	500	95.9	90	110	
Al	27	1	nogas	104.505	2.238	1474743	2.61	100	104.5	90	110	
P	31	1	nogas	493.242	1.253	405329	0.95	500	98.6	90	110	
Ca	44	1	nogas	9812.410	0.457	4625045	0.88	10000	98.1	90	110	
Ti	47	1	nogas	97.578	2.328	137663	1.51	100	97.6	90	110	
Cr	52	1	nogas	102.081	3.536	1755550	2.69	100	102.1	90	110	
Co	59	1	nogas	105.180	0.801	1866320	1.20	100	105.2	90	110	
Cu	63	1	nogas	97.844	0.408	920285	0.97	100	97.8	90	110	
Zn	66	1	nogas	103.035	0.699	253579	1.51	100	103.0	90	110	
Se	77	1	nogas	97.239	3.046	23909	2.35	100	97.2	90	110	
Se	82	1	nogas	103.320	2.107	15436	1.61	100	103.3	90	110	
Sr	88	1	nogas	101.110	2.729	2493397	0.99	100	101.1	90	110	
Mo	95	1	nogas	98.016	3.029	451823	1.30	100	98.0	90	110	
Ag	107	1	nogas	96.906	2.296	1140299	0.57	100	96.9	90	110	
Cd	111	1	nogas	101.081	2.146	222588	0.79	100	101.1	90	110	
Sn	118	1	nogas	94.072	1.641	679328	0.28	100	94.1	90	110	
Sb	121	1	nogas	96.303	2.228	924293	1.42	100	96.3	90	110	
Ba	137	1	nogas	101.273	2.754	341179	2.08	100	101.3	90	110	
Tl	205	1	nogas	104.687	2.814	1844544	2.84	100	104.7	90	110	
Pb	208	1	nogas	102.048	2.906	2400793	3.06	100	102.0	90	110	
U	238	1	nogas	104.928	2.081	2725324	1.89	100	104.9	90	110	
Li	7	1	nogas	104.466	2.892	1299252	1.99	100	104.5	90	110	
Si	28	1	nogas	4935.029	0.744	4423807	0.25	5000	98.7	90	110	
Au	197	1	nogas	0.020	70.400	310	31.11	100	0.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	107.832	0.909	711030	1.00	100	107.8	90	110	
Na	23	2	He	10278.740	0.723	9629213	0.32	10000	102.8	90	110	
Mg	24	2	He	10271.942	0.921	5160880	1.25	10000	102.7	90	110	
Al	27	2	He	110.391	1.677	25394	1.18	100	110.4	90	110	CCV Main CR1-2 Failed
K	39	2	He	10214.199	1.740	4644844	1.34	10000	102.1	90	110	
Ca	43	2	He	9765.415	2.584	13552	2.65	10000	97.7	90	110	
Ca	44	2	He	9947.475	0.493	233217	0.25	10000	99.5	90	110	
V	51	2	He	102.438	1.020	453211	0.57	100	102.4	90	110	
Cr	52	2	He	102.665	0.662	516248	0.42	100	102.7	90	110	
Mn	55	2	He	103.479	2.138	318403	1.97	100	103.5	90	110	
Fe	56	2	He	10045.194	0.978	44619856	0.54	10000	100.5	90	110	
Co	59	2	He	98.421	0.806	775249	0.42	100	98.4	90	110	
Ni	60	2	He	102.638	0.866	198672	1.23	100	102.6	90	110	
Cu	63	2	He	104.244	0.422	531868	0.67	100	104.2	90	110	
Zn	66	2	He	103.737	0.897	93158	0.84	100	103.7	90	110	
As	75	2	He	102.517	1.319	64281	0.94	100	102.5	90	110	
Sb	121	2	He	101.570	0.989	395115	0.78	100	101.6	90	110	
Se	78	2	He	99.604	0.392	4558	0.83	100	99.6	90	110	
Ti	47	2	He	100.105	1.412	14379	1.44	100	100.1	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	2127242	0.83	2192195	97.04	70	120	
In	115	1	nogas	2207689	1.78	2276906	96.96	70	120	
Li	6	1	nogas	749967	1.20	818910	91.58	70	120	
Bi	209	1	nogas	1712696	0.21	1750172	97.86	70	120	
Ge	72	2	He	505339	0.45	516667	97.81	70	120	
In	115	2	He	730140	0.72	751046	97.22	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	226_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:37:27-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	0.037	66.6	240	40.2	1	
B	11	1	nogas	14.022	10.4	64044	5.2	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.484	-14.6	35674	3.0	5	
P	31	1	nogas	-0.597	-288.4	36769	2.8	10	
Ca	44	1	nogas	-18.267	-9.5	21172	2.7	100	
Ti	47	1	nogas	0.013	107.8	277	7.5	2.5	
Cr	52	1	nogas	-0.199	-24.4	20595	2.9	2.5	
Co	59	1	nogas	0.005	96.7	590	12.8	2.5	
Cu	63	1	nogas	0.133	67.8	25231	3.4	2	
Zn	66	1	nogas	-0.566	-7.5	2567	4.8	2.5	
Se	77	1	nogas	-14.199	-27.7	10073	3.7	2.5	
Se	82	1	nogas	-0.781	-8.2	-145	-7.2	2	
Sr	88	1	nogas	-0.017	-31.1	1170	9.6	2.5	
Mo	95	1	nogas	0.224	23.6	1240	19.8	2.5	
Ag	107	1	nogas	0.004	112.6	180	27.8	2.5	
Cd	111	1	nogas	0.008	144.5	37	68.6	1	
Sn	118	1	nogas	0.208	22.8	2780	12.2	5	
Sb	121	1	nogas	0.061	28.1	3037	4.8	2.5	
Ba	137	1	nogas	-0.027	-71.4	270	23.1	2.5	
Tl	205	1	nogas	0.301	54.2	5801	51.3	1	
Pb	208	1	nogas	-0.092	-14.0	3830	8.7	2.5	
U	238	1	nogas	0.021	37.5	610	34.7	2.5	
Si	28	1	nogas	-172.801	-20.1	779203	3.3	5	
Au	197	1	nogas	0.000	-1169.8	173	16.7	2.5	
Na	23	2	He	38.056	4.4	161303	1.7	100	
Mg	24	2	He	-1.820	-11.0	1277	7.9	100	
Al	27	2	He	-0.303	-221.0	717	20.2	5	
K	39	2	He	1.185	95.7	50789	0.7	100	
Ca	43	2	He	-16.295	-51.5	23	49.5	100	
Ca	44	2	He	-16.747	-15.5	340	17.9	100	
V	51	2	He	-0.078	-29.0	2247	4.5	2.5	
Cr	52	2	He	0.016	166.9	903	14.1	2.5	
Mn	55	2	He	-0.370	-9.4	913	11.1	2.5	
Fe	56	2	He	0.635	18.0	12521	3.5	100	
Co	59	2	He	0.002	521.9	153	42.4	2.5	
Ni	60	2	He	-0.148	-15.3	277	16.3	2.5	
Cu	63	2	He	0.155	19.7	2900	4.7	2	
Zn	66	2	He	-0.546	-10.7	923	6.3	2.5	
As	75	2	He	0.040	134.3	102	32.8	2.5	
Sb	121	2	He	0.061	34.9	1320	6.0	2.5	
Se	78	2	He	-0.009	-2117.7	56	16.4	2	
Ti	47	2	He	-0.022	-359.1	7	173.2	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	2138617	1.24	2192195	97.56	70	120	
In	115	1	nogas	2185765	2.45	2276906	96.00	70	120	
Li	6	1	nogas	799862	0.41	818910	97.67	70	120	
Bi	209	1	nogas	1747651	0.59	1750172	99.86	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	507489	0.70	516667	98.22	70	120	
In	115	2	He	753439	1.07	751046	100.32	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	227_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:39:53-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	103.359	0.258	384622	0.91	100	103.4	90	110	
B	11	1	nogas	493.487	1.279	1099818	2.08	500	98.7	90	110	
Al	27	1	nogas	103.973	2.302	1472137	0.14	100	104.0	90	110	
P	31	1	nogas	488.155	1.912	402883	0.78	500	97.6	90	110	
Ca	44	1	nogas	9764.056	2.475	4617220	0.48	10000	97.6	90	110	
Ti	47	1	nogas	96.226	1.829	136239	1.77	100	96.2	90	110	
Cr	52	1	nogas	101.289	1.641	1748278	0.71	100	101.3	90	110	
Co	59	1	nogas	102.074	1.510	1817294	0.87	100	102.1	90	110	
Cu	63	1	nogas	96.502	2.451	910945	1.04	100	96.5	90	110	
Zn	66	1	nogas	102.167	0.598	252350	1.82	100	102.2	90	110	
Se	77	1	nogas	93.449	8.131	23515	4.07	100	93.4	90	110	
Se	82	1	nogas	101.598	5.492	15229	5.04	100	101.6	90	110	
Sr	88	1	nogas	100.741	1.881	2441467	1.35	100	100.7	90	110	
Mo	95	1	nogas	98.272	1.146	445218	0.90	100	98.3	90	110	
Ag	107	1	nogas	98.452	0.641	1138551	1.18	100	98.5	90	110	
Cd	111	1	nogas	102.631	1.671	222096	1.65	100	102.6	90	110	
Sn	118	1	nogas	94.636	2.152	671514	1.57	100	94.6	90	110	
Sb	121	1	nogas	94.419	1.594	909402	0.75	100	94.4	90	110	
Ba	137	1	nogas	102.723	0.280	340071	0.47	100	102.7	90	110	
Tl	205	1	nogas	106.111	1.081	1851521	0.52	100	106.1	90	110	
Pb	208	1	nogas	104.583	2.606	2436573	2.83	100	104.6	90	110	
U	238	1	nogas	106.044	1.345	2727834	1.42	100	106.0	90	110	
Li	7	1	nogas	103.339	1.444	1279901	0.90	100	103.3	90	110	
Si	28	1	nogas	4929.969	2.391	4434991	0.86	5000	98.6	90	110	
Au	197	1	nogas	0.005	143.646	207	24.83	100	0.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	108.879	2.104	710964	1.70	100	108.9	90	110	
Na	23	2	He	10276.003	1.162	9504992	0.41	10000	102.8	90	110	
Mg	24	2	He	10304.020	0.831	5111437	0.12	10000	103.0	90	110	
Al	27	2	He	106.731	3.792	24266	3.10	100	106.7	90	110	
K	39	2	He	10195.419	1.746	4577719	0.78	10000	102.0	90	110	
Ca	43	2	He	10079.308	3.546	13809	3.34	10000	100.8	90	110	
Ca	44	2	He	10136.103	1.799	234615	1.18	10000	101.4	90	110	
V	51	2	He	103.311	1.096	451277	0.22	100	103.3	90	110	
Cr	52	2	He	102.886	0.756	510836	0.77	100	102.9	90	110	
Mn	55	2	He	102.698	1.656	312013	0.76	100	102.7	90	110	
Fe	56	2	He	9966.869	2.016	43710366	1.13	10000	99.7	90	110	
Co	59	2	He	98.567	2.430	766525	1.51	100	98.6	90	110	
Ni	60	2	He	103.680	1.225	198136	0.33	100	103.7	90	110	
Cu	63	2	He	104.461	1.727	526209	1.07	100	104.5	90	110	
Zn	66	2	He	104.291	0.412	92468	0.71	100	104.3	90	110	
As	75	2	He	103.763	0.474	64242	0.47	100	103.8	90	110	
Sb	121	2	He	102.650	1.558	394245	0.66	100	102.6	90	110	
Se	78	2	He	104.823	0.550	4733	0.87	100	104.8	90	110	
Ti	47	2	He	102.962	4.889	14599	4.13	100	103.0	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	2134891	2.34	2192195	97.39	70	120	
In	115	1	nogas	2169070	0.69	2276906	95.26	70	120	
Li	6	1	nogas	746400	0.84	818910	91.15	70	120	
Bi	209	1	nogas	1696207	0.78	1750172	96.92	70	120	
Ge	72	2	He	498975	0.94	516667	96.58	70	120	
In	115	2	He	730386	1.26	751046	97.25	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	234_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:56:26-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	98.489	0.909	351816	0.47	100	98.5	90	110	
B	11	1	nogas	473.995	0.078	1015131	0.84	500	94.8	90	110	
Al	27	1	nogas	104.141	2.072	1423592	1.99	100	104.1	90	110	
P	31	1	nogas	488.425	0.172	389155	0.69	500	97.7	90	110	
Ca	44	1	nogas	9706.346	1.141	4431885	1.03	10000	97.1	90	110	
Ti	47	1	nogas	97.540	1.968	133309	1.82	100	97.5	90	110	
Cr	52	1	nogas	103.149	0.233	1718407	0.78	100	103.1	90	110	
Co	59	1	nogas	104.993	2.299	1804453	1.76	100	105.0	90	110	
Cu	63	1	nogas	97.753	0.553	890618	0.68	100	97.8	90	110	
Zn	66	1	nogas	108.640	0.834	258782	1.30	100	108.6	90	110	
Se	77	1	nogas	76.497	10.245	20652	4.19	100	76.5	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	105.366	3.447	15250	3.52	100	105.4	90	110	
Sr	88	1	nogas	100.615	0.797	2438567	0.45	100	100.6	90	110	
Mo	95	1	nogas	96.569	0.449	437533	0.77	100	96.6	90	110	
Ag	107	1	nogas	95.271	1.102	1101755	1.11	100	95.3	90	110	
Cd	111	1	nogas	100.294	0.744	217044	0.56	100	100.3	90	110	
Sn	118	1	nogas	92.608	0.870	657264	1.76	100	92.6	90	110	
Sb	121	1	nogas	95.309	0.689	886225	1.26	100	95.3	90	110	
Ba	137	1	nogas	100.647	1.446	333214	1.45	100	100.6	90	110	
Tl	205	1	nogas	107.721	1.472	1792669	1.56	100	107.7	90	110	
Pb	208	1	nogas	105.046	1.153	2333965	1.34	100	105.0	90	110	
U	238	1	nogas	105.533	1.593	2589084	1.92	100	105.5	90	110	
Li	7	1	nogas	98.027	1.498	1168364	0.85	100	98.0	90	110	
Si	28	1	nogas	5153.109	1.310	4436004	0.48	5000	103.1	90	110	
Au	197	1	nogas	-0.006	-57.738	123	18.72	100	0.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	111.132	1.980	692143	2.26	100	111.1	90	110	CCV Main CR1-2 Failed
Na	23	2	He	9955.947	1.750	8816133	1.91	10000	99.6	90	110	
Mg	24	2	He	10024.051	0.794	4758384	1.00	10000	100.2	90	110	
Al	27	2	He	107.688	1.448	23425	1.68	100	107.7	90	110	
K	39	2	He	10110.092	1.941	4344294	1.66	10000	101.1	90	110	
Ca	43	2	He	9952.174	5.576	13048	5.62	10000	99.5	90	110	
Ca	44	2	He	10029.240	1.224	222152	1.15	10000	100.3	90	110	
V	51	2	He	102.975	0.959	430440	0.99	100	103.0	90	110	
Cr	52	2	He	103.066	0.910	489664	0.92	100	103.1	90	110	
Mn	55	2	He	103.553	0.835	301047	0.60	100	103.6	90	110	
Fe	56	2	He	9998.705	0.492	41963064	0.33	10000	100.0	90	110	
Co	59	2	He	98.599	1.265	733790	1.03	100	98.6	90	110	
Ni	60	2	He	104.245	1.003	190630	0.76	100	104.2	90	110	
Cu	63	2	He	105.646	0.736	509251	1.01	100	105.6	90	110	
Zn	66	2	He	110.325	0.857	93523	0.91	100	110.3	90	110	CCV Main CR1-2 Failed
As	75	2	He	104.786	1.027	62077	0.75	100	104.8	90	110	
Sb	121	2	He	103.446	1.146	380188	1.09	100	103.4	90	110	
Se	78	2	He	101.984	4.351	4408	4.26	100	102.0	90	110	
Ti	47	2	He	100.400	1.616	13625	1.36	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	2060560	0.57	2192195	94.00	70	120	
In	115	1	nogas	2169193	1.22	2276906	95.27	70	120	
Li	6	1	nogas	716517	0.77	818910	87.50	70	120	
Bi	209	1	nogas	1617663	0.54	1750172	92.43	70	120	
Ge	72	2	He	477449	0.27	516667	92.41	70	120	
In	115	2	He	710640	2.11	751046	94.62	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	235_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T22:58:49-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	0.078	17.1	387	13.1	1	
B	11	1	nogas	20.466	8.4	75417	4.9	10	CCB Main CR1 Failed
Al	27	1	nogas	1.247	12.2	57263	3.5	5	
P	31	1	nogas	-0.254	-698.0	35621	2.4	10	
Ca	44	1	nogas	-7.725	-16.2	25157	3.6	100	
Ti	47	1	nogas	0.078	83.4	353	24.1	2.5	
Cr	52	1	nogas	-0.229	-12.9	19317	1.4	2.5	
Co	59	1	nogas	0.015	63.8	740	22.7	2.5	
Cu	63	1	nogas	0.586	16.7	28279	2.0	2	
Zn	66	1	nogas	3.797	3.1	12695	2.2	2.5	CCB Main CR1 Failed
Se	77	1	nogas	-22.883	-20.7	8649	6.8	2.5	
Se	82	1	nogas	-1.093	-28.0	-184	-24.1	2	
Sr	88	1	nogas	0.044	30.9	2577	11.4	2.5	
Mo	95	1	nogas	0.242	21.6	1277	19.6	2.5	
Ag	107	1	nogas	0.011	25.6	260	13.9	2.5	
Cd	111	1	nogas	0.024	31.0	70	24.7	1	
Sn	118	1	nogas	0.209	32.0	2694	17.9	5	
Sb	121	1	nogas	0.099	30.4	3274	8.4	2.5	
Ba	137	1	nogas	0.078	21.5	597	11.4	2.5	
Tl	205	1	nogas	0.311	54.9	5738	51.9	1	
Pb	208	1	nogas	1.756	6.1	46243	5.7	2.5	
U	238	1	nogas	0.025	45.2	697	42.0	2.5	
Si	28	1	nogas	8.235	400.1	874594	1.3	5	CCB Main CR1 Failed
Au	197	1	nogas	0.000	-548.1	167	9.2	2.5	
Na	23	2	He	5.285	15.5	126018	0.8	100	
Mg	24	2	He	1.786	10.8	2980	2.7	100	
Al	27	2	He	1.269	39.1	1030	10.8	5	
K	39	2	He	7.219	2.2	51534	0.6	100	
Ca	43	2	He	-18.158	-41.6	20	50.0	100	
Ca	44	2	He	-0.698	-510.4	690	11.5	100	
V	51	2	He	-0.030	-32.1	2370	1.3	2.5	
Cr	52	2	He	0.013	193.4	857	13.9	2.5	
Mn	55	2	He	-0.119	-26.6	1623	6.2	2.5	
Fe	56	2	He	23.248	2.1	109169	1.6	100	
Co	59	2	He	0.011	56.4	217	21.3	2.5	
Ni	60	2	He	-0.096	-62.0	363	30.2	2.5	
Cu	63	2	He	0.265	12.2	3337	4.3	2	
Zn	66	2	He	4.164	0.8	4917	0.3	2.5	CCB Main CR1 Failed
As	75	2	He	0.059	48.4	110	16.0	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.111	15.2	1460	4.2	2.5	
Se	78	2	He	-0.114	-461.6	49	47.0	2	
Ti	47	2	He	-0.020	-208.7	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	2057609	1.40	2192195	93.86	70	120	
In	115	1	nogas	2108768	2.53	2276906	92.62	70	120	
Li	6	1	nogas	763383	0.39	818910	93.22	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	1680284	0.64	1750172	96.01	70	120	
Ge	72	2	He	488682	0.46	516667	94.58	70	120	
In	115	2	He	725849	0.14	751046	96.64	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	239_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T23:08:24-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	99.646	0.536	339344	0.54	100	99.6	90	110	
B	11	1	nogas	472.799	1.630	965295	0.75	500	94.6	90	110	
Al	27	1	nogas	103.374	4.941	1385231	2.78	100	103.4	90	110	
P	31	1	nogas	480.429	2.604	375847	0.77	500	96.1	90	110	
Ca	44	1	nogas	9616.520	2.257	4305082	0.45	10000	96.2	90	110	
Ti	47	1	nogas	96.865	2.952	129781	0.87	100	96.9	90	110	
Cr	52	1	nogas	100.667	3.076	1644582	1.44	100	100.7	90	110	
Co	59	1	nogas	101.191	2.936	1705537	3.25	100	101.2	90	110	
Cu	63	1	nogas	95.685	2.003	855225	1.01	100	95.7	90	110	
Zn	66	1	nogas	107.004	2.719	249919	0.59	100	107.0	90	110	
Se	77	1	nogas	81.226	10.511	20805	3.74	100	81.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	102.684	2.608	14576	4.00	100	102.7	90	110	
Sr	88	1	nogas	101.455	3.084	2357849	1.29	100	101.5	90	110	
Mo	95	1	nogas	99.313	5.218	431263	2.50	100	99.3	90	110	
Ag	107	1	nogas	96.657	3.229	1071777	1.14	100	96.7	90	110	
Cd	111	1	nogas	102.578	3.544	212826	0.11	100	102.6	90	110	
Sn	118	1	nogas	94.529	2.333	643319	1.18	100	94.5	90	110	
Sb	121	1	nogas	95.430	1.629	870001	0.68	100	95.4	90	110	
Ba	137	1	nogas	103.159	3.879	327400	0.44	100	103.2	90	110	
Tl	205	1	nogas	109.525	4.589	1762798	2.26	100	109.5	90	110	
Pb	208	1	nogas	106.445	4.616	2286892	0.96	100	106.4	90	110	
U	238	1	nogas	107.956	2.633	2562517	1.98	100	108.0	90	110	
Li	7	1	nogas	102.325	4.859	1160326	4.44	100	102.3	90	110	
Si	28	1	nogas	5018.257	2.641	4257748	0.38	5000	100.4	90	110	
Au	197	1	nogas	0.006	50.154	193	7.90	100	0.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	111.370	3.729	670868	0.82	100	111.4	90	110	CCV Main CR1-2 Failed
Na	23	2	He	9690.731	1.216	8473174	0.70	10000	96.9	90	110	
Mg	24	2	He	9832.918	2.231	4606878	1.27	10000	98.3	90	110	
Al	27	2	He	109.575	1.076	23515	1.33	100	109.6	90	110	
K	39	2	He	9943.021	0.802	4218264	0.83	10000	99.4	90	110	
Ca	43	2	He	9700.843	1.499	12554	0.63	10000	97.0	90	110	
Ca	44	2	He	9810.260	2.041	214504	1.69	10000	98.1	90	110	
V	51	2	He	101.262	0.607	417855	0.44	100	101.3	90	110	
Cr	52	2	He	102.132	1.419	478947	0.71	100	102.1	90	110	
Mn	55	2	He	103.057	1.139	295739	0.14	100	103.1	90	110	
Fe	56	2	He	10035.701	1.298	41573008	0.60	10000	100.4	90	110	
Co	59	2	He	98.889	1.234	726427	0.36	100	98.9	90	110	
Ni	60	2	He	104.325	0.079	188324	1.07	100	104.3	90	110	
Cu	63	2	He	104.358	1.186	496548	0.35	100	104.4	90	110	
Zn	66	2	He	108.296	0.972	90642	0.97	100	108.3	90	110	
As	75	2	He	103.872	0.642	60746	1.46	100	103.9	90	110	
Sb	121	2	He	103.954	0.828	377112	0.23	100	104.0	90	110	
Se	78	2	He	101.802	1.423	4343	0.98	100	101.8	90	110	
Ti	47	2	He	100.944	1.401	13522	0.70	100	100.9	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	2020817	2.28	2192195	92.18	70	120	
In	115	1	nogas	2081287	3.50	2276906	91.41	70	120	
Li	6	1	nogas	683087	1.01	818910	83.41	70	120	
Bi	209	1	nogas	1566087	3.82	1750172	89.48	70	120	
Ge	72	2	He	471300	1.00	516667	91.22	70	120	
In	115	2	He	702428	1.28	751046	93.53	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	240_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\061
Acq Date Time	2020-06-15T23:10:48-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	169CALB.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	0.051	28.0	273	19.6	1	
B	11	1	nogas	17.743	9.8	66680	5.9	10	CCB Main CR1 Failed
Al	27	1	nogas	0.879	4.5	50918	2.9	5	
P	31	1	nogas	-0.001	-156345.9	34799	1.9	10	
Ca	44	1	nogas	-15.935	-13.5	20815	2.4	100	
Ti	47	1	nogas	0.017	288.1	263	24.7	2.5	
Cr	52	1	nogas	-0.174	-11.2	19657	1.9	2.5	
Co	59	1	nogas	0.014	8.0	713	2.1	2.5	
Cu	63	1	nogas	-0.062	-4.0	21907	2.0	2	
Zn	66	1	nogas	3.596	5.5	11874	2.4	2.5	CCB Main CR1 Failed
Se	77	1	nogas	-18.520	-37.1	8906	7.2	2.5	
Se	82	1	nogas	-0.271	-341.9	-63	-207.6	2	
Sr	88	1	nogas	0.017	40.6	1957	10.8	2.5	
Mo	95	1	nogas	0.235	25.1	1247	21.3	2.5	
Ag	107	1	nogas	0.013	13.3	280	9.4	2.5	
Cd	111	1	nogas	0.013	163.7	47	99.0	1	
Sn	118	1	nogas	0.426	16.2	4191	12.0	5	
Sb	121	1	nogas	0.084	31.4	3050	7.1	2.5	
Ba	137	1	nogas	0.059	11.6	537	2.8	2.5	
Tl	205	1	nogas	0.296	47.8	5324	42.7	1	
Pb	208	1	nogas	1.104	11.3	30548	6.9	2.5	
U	238	1	nogas	0.026	40.6	703	35.8	2.5	
Si	28	1	nogas	-15.992	-116.2	833859	2.6	5	
Au	197	1	nogas	-0.006	-77.5	123	26.1	2.5	
Na	23	2	He	-12.057	-15.3	108123	0.8	100	
Mg	24	2	He	1.101	49.4	2590	9.6	100	
Al	27	2	He	1.029	55.8	957	12.4	5	
K	39	2	He	5.893	36.9	49860	2.0	100	
Ca	43	2	He	-15.351	-75.3	23	65.5	100	
Ca	44	2	He	-7.875	-27.5	517	9.7	100	
V	51	2	He	0.127	2.7	2972	0.4	2.5	
Cr	52	2	He	0.003	372.0	790	6.3	2.5	
Mn	55	2	He	-0.251	-1.9	1207	0.5	2.5	
Fe	56	2	He	13.450	2.4	65646	1.4	100	
Co	59	2	He	0.007	100.3	183	28.0	2.5	
Ni	60	2	He	-0.141	-33.0	273	30.5	2.5	
Cu	63	2	He	0.329	4.2	3574	2.2	2	
Zn	66	2	He	4.008	3.4	4681	1.7	2.5	CCB Main CR1 Failed
As	75	2	He	0.065	33.7	111	12.1	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.105	23.4	1407	6.5	2.5	
Se	78	2	He	0.067	176.6	56	9.4	2	
Ti	47	2	He	0.079	92.2	20	50.0	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	1999575	2.09	2192195	91.21	70	120	
In	115	1	nogas	2111696	2.58	2276906	92.74	70	120	
Li	6	1	nogas	733585	0.40	818910	89.58	70	120	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	1645774	2.44	1750172	94.04	70	120	
Ge	72	2	He	478158	0.74	516667	92.55	70	120	
In	115	2	He	714122	0.31	751046	95.08	70	120	

Tune Report

Batch Folder C:\Agilent\ICPMH\1\DATA\061520A.b
Report Comment
Instrument Name G3281A JP11080910

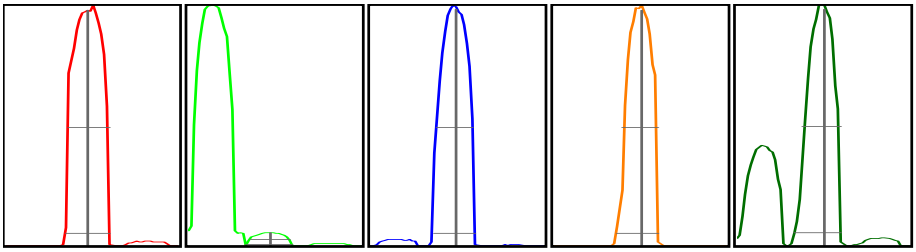
[nogas]

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		17387				NaN	-	
24		57760				NaN	-	
59		70122				NaN	-	
115		94484				NaN	-	
208		52783				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	1.28	5.00				
24	0.90	5.00				
59	0.30	5.00				
115	0.51	5.00				
208	0.77	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	17096	17385	17525	17667	17260
24	57251	57805	58448	58044	57250
59	69953	70194	70392	70207	69865
115	93827	94824	94886	94785	94099
208	52296	53154	53147	52902	52415

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	2723.35	8.95	8.9 - 9.1		0.68	0.763		
24	9291.06	23.95	23.9 - 24.1		0.67	0.788		
59	11795.84	59.00	58.9 - 59.1		0.64	0.741		
115	17216.30	115.05	114.9 - 115.1		0.58	0.718		
208	9227.60	208.05	207.9 - 208.1		0.61	0.792		

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		411				NaN	-	
24		3637				NaN	-	
59		38907				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	4.71	5.00				
24	1.41	5.00				
59	0.40	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	387	394	433	420	421
24	3710	3644	3579	3598	3656
59	38965	38680	38816	39018	39054

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	68.68	9.00	8.9 - 9.1		0.65	0.748		
24	592.82	23.95	23.9 - 24.1		0.66	0.785		
59	6606.51	59.00	58.9 - 59.1		0.63	0.739		

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 %		

HS20060116 WC Raw Data

ALS WO# HS20060116

Standard Table Report

06/30/2020 04:55:36 PM

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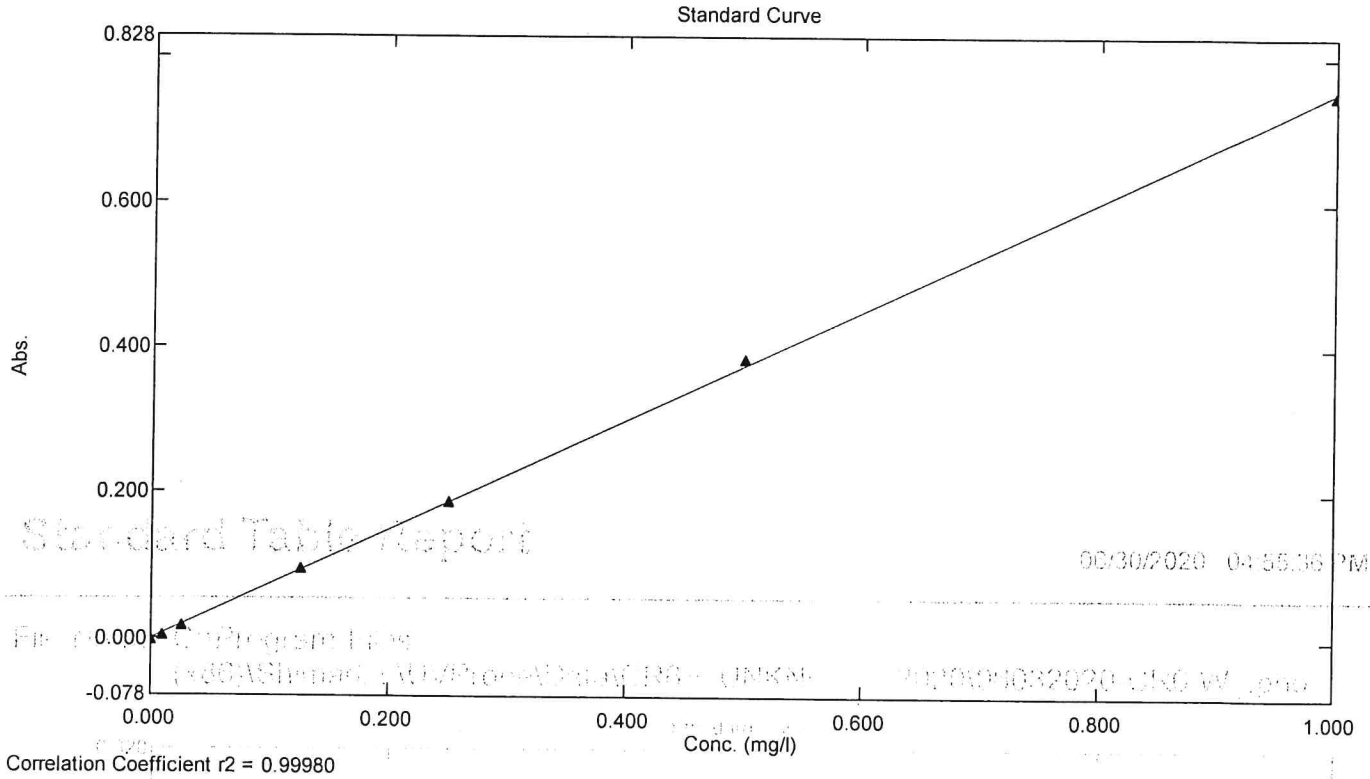

Correlation Coefficient r2 = 0.99980

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	0.004	1.000	
3	STD3	Standard		0.025	0.017	1.000	
4	STD4	Standard		0.125	0.095	1.000	
5	STD5	Standard		0.250	0.187	1.000	
6	STD6	Standard		0.500	0.384	1.000	
7	STD7	Standard		1.000	0.749	1.000	
8							

Sample Table Report

06/30/2020 04:55:40 PM

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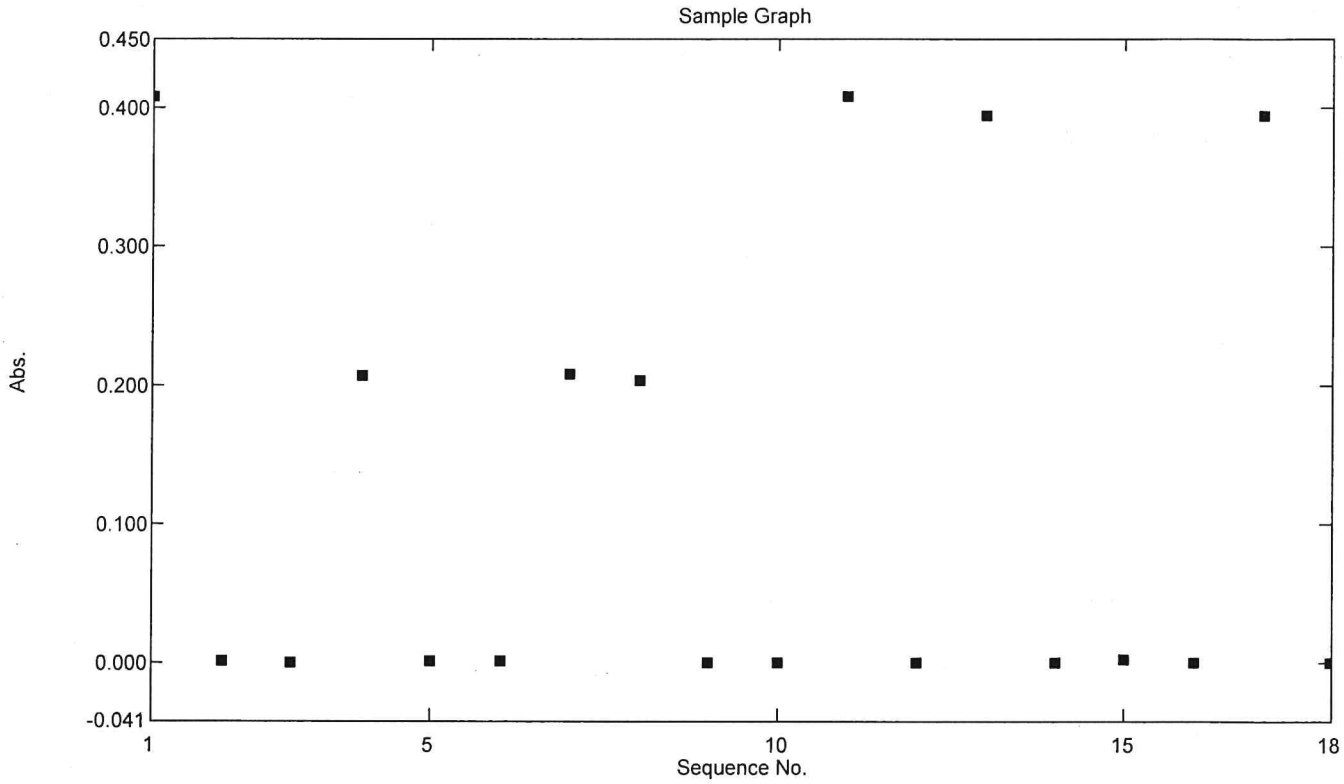

Sample Table

	Sample ID	Type	Ex	Conc	WL540.0	Comments
1	CCV	Unknown		0.544	0.409	313104808 WC-14
2	CCB	Unknown		0.002	0.001	313105502 WC-13
3	MBLK	Unknown		0.001	0.000	313105501 WC-13
4	LCS	Unknown		0.276	0.207	313104807 WC-14
5	20060114.01	Unknown		0.003	0.001	12:55PM SAMP-BKG=TOTAL
6	20060114.01BKG	Unknown		0.003	0.001	12:56PM,0
7	20060114.01MS	Unknown		0.277	0.208	12:57PM
8	20060114.01MSD	Unknown		0.272	0.204	12:57PM
9	20060116.01	Unknown		0.002	0.000	1:02PM,0
10	20060116.01BKG	Unknown		0.002	0.001	1:02PM
11	CCV2	Unknown		0.543	0.409	
12	CCB2	Unknown		0.001	-0.000	
13	CCV3	Unknown		0.525	0.395	
14	CCB3	Unknown		0.001	0.000	
15	HS20060125.01	Unknown		0.004	0.002	4:27PM,0.003
16	HS20060125.01BKG	Unknown		0.001	-0.000	4:27PM
17	CCV4	Unknown		0.525	0.395	
18	CCB4	Unknown		0.001	0.000	
19						

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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www.alsglobal.com

WorkOrder: HS20060840

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

30-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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HS20060840 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS20060840

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

June 30, 2020

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

Work Order: **HS20060840**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Jun 17, 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: DAYNA.FISHER
RJ Modashia
Project Manager

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060840

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20060840-01	LH18/24-SP650_061620	Water		16-Jun-2020 14:00	17-Jun-2020 09:12	☐
HS20060840-02	LH18/24-SP650_061620-BIX	Water		16-Jun-2020 14:00	17-Jun-2020 09:12	☐

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060840

Work Order Comments

• The analysis for Perchlorate was performed to ALS Houston High Resolution Lab. Final report attached.

Work Order Comments

• The analyses for TOC was subcontracted to ALS Environmental in Kelso, WA. Final Report attached.

WetChemistry by Method E350.3

Batch ID: R363665

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

WetChemistry by Method E365.3

Batch ID: R363469

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

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Sample ID: LH18/24-SP650_061620
Collection Date: 16-Jun-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20060840
Lab ID:HS20060840-01
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)	**9.0**	a	**0.20**	**0.10**	**0.20**	**mg/L**	1	22-Jun-2020 10:15
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**1.96**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	17-Jun-2020 16:15
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	29-Jun-2020 09:34

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

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20060840
Sample ID: LH18/24-SP650_061620-BIX
Lab ID:HS20060840-02
Collection Date: 16-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	30-Jun-2020 10:44

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

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060840

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R363469 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20060840-01	LH18/24-SP650_061620	16 Jun 2020 14:00			17 Jun 2020 16:15	10
Batch ID: R363665 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20060840-01	LH18/24-SP650_061620	16 Jun 2020 14:00			22 Jun 2020 10:15	1
Batch ID: R364077 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20060840-01	LH18/24-SP650_061620	16 Jun 2020 14:00			29 Jun 2020 09:34	1
Batch ID: R364186 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20060840-02	LH18/24-SP650_061620-BIX	16 Jun 2020 14:00			30 Jun 2020 10:44	1

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060840

QC BATCH REPORT

Batch ID: R363469 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

MBLK Sample ID: **MBLK-363469** Units: **mg/L** Analysis Date: **17-Jun-2020 16:15**
Client ID: Run ID: **UV-2450_363469** SeqNo: **5624413** 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-363469** Units: **mg/L** Analysis Date: **17-Jun-2020 16:15**
Client ID: Run ID: **UV-2450_363469** SeqNo: **5624414** 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)	0.264	0.0250	0.25	0	106	85 - 115				

MS Sample ID: **HS20060840-01MS** Units: **mg/L** Analysis Date: **17-Jun-2020 16:15**
Client ID: **LH18/24-SP650_061620** Run ID: **UV-2450_363469** SeqNo: **5624416** 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)	4.53	0.250	2.5	1.96	103	80 - 120				

MSD Sample ID: **HS20060840-01MSD** Units: **mg/L** Analysis Date: **17-Jun-2020 16:15**
Client ID: **LH18/24-SP650_061620** Run ID: **UV-2450_363469** SeqNo: **5624421** 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)	4.52	0.250	2.5	1.96	102	80 - 120	4.53	0.221	20	

The following samples were analyzed in this batch: HS20060840-01

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060840

QC BATCH REPORT

Batch ID: R363665 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-R363665** Units: **mg/L** Analysis Date: **22-Jun-2020 10:15**
Client ID: Run ID: **WetChem_HS_363665** SeqNo: **5629374** 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-R363665** Units: **mg/L** Analysis Date: **22-Jun-2020 10:15**
Client ID: Run ID: **WetChem_HS_363665** SeqNo: **5629373** 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)	9.846	0.20	10	0	98.5	80 - 120				

MS Sample ID: **HS20060750-01MS** Units: **mg/L** Analysis Date: **22-Jun-2020 10:15**
Client ID: Run ID: **WetChem_HS_363665** SeqNo: **5629401** 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)	10.29	0.20	10	0.294	99.9	80 - 120				

MSD Sample ID: **HS20060750-01MSD** Units: **mg/L** Analysis Date: **22-Jun-2020 10:15**
Client ID: Run ID: **WetChem_HS_363665** SeqNo: **5629402** 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)	10.69	0.20	10	0.294	104	80 - 120	10.29	3.86	20	

The following samples were analyzed in this batch: HS20060840-01

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20060840**

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
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-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: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060840

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20060840-01	LH18/24-SP650_061620	Login	6/17/2020 3:50:46 PM	PMG	WET108
HS20060840-01	LH18/24-SP650_061620	Login	6/17/2020 3:50:46 PM	PMG	WET108
HS20060840-01	LH18/24-SP650_061620	Login	6/17/2020 3:50:46 PM	PMG	Sub
HS20060840-02	LH18/24-SP650_061620-BIX	Login	6/17/2020 3:50:46 PM	PMG	Sub

ALS Houston, US Date: 30-Jun-20

Sample Receipt Checklist

Work Order ID: HS20060840 **Date/Time Received:** 17-Jun-2020 09:12

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By:	/S/ Paresh M. Giga	17-Jun-2020 15:53	**Reviewed by:**	/S/ RJ Modashia	17-Jun-2020 22:21
	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):	1.6C U/C	IR25		
Cooler(s)/Kit(s):	42774			
Date/Time sample(s) sent to storage:	6/17/2020 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:

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

HS20060840
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

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_061620	Water	06/16/20 / 14:00		3	X	X								H2SO4	
LH18/24-SP650_061620	Water	06/16/20 / 14:00		1			X							NONE	
LH18/24--SP650_061620_BIX	Water	06/16/20 / 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 (signature)	06/16/20	14:30	(signature)	6/17/2020	09:12						

For Lab Use Only

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

Remarks:

JIC
42774 1.6
#25
5/17/20

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

ALS

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

42774

CUSTODY SEAL

Date: 6/16/20 Time: 1430
Name: SCOTT BEESINGER
Company: BHATI

Seal Broken By:
Date: 06/17/20

42774 JUN 17 2020

Must Deliver Next Business Day
Time and Tempature Sensitive!

42774

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTIM ENVIROMENTAL & INFRASTRUCTURE
1203-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 17DEC19
ACTWGT: 1.00 LB MAN
CAD: 3001130/CAFE3211
DIMS: 14x11x10 IN

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

FedEx Express

FedEx
TRK# 0221 1251 0293 0102

WED - 17 JUN 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID 162785 16JUMP@ GGGA 56AC1/C700/05A2

June 30, 2020 Service Request No:E2000564

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

Laboratory Results for: HS20060840

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 19, 2020
For your reference, these analyses have been assigned our service request number **E2000564.**

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.:**	E2000564
Project:	HS20060840	**Date Received:**	06/19/20
Sample Matrix:	Water		

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 06/19/20.

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:

EQ2000251: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS & LCSD recoveries are within QC limits; 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:**E2000564
Project: HS20060840

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000564-001	LH18/24-SP650_061620_BIX	6/16/2020	1400

Service Request Summary

Folder #: **E2000564**
Client Name: ALS Environmental - US
Project Name: HS20060840
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: 06/19/20
Internal Due Date: 7/1/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060840
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
E2000564-001	LH18/24-SP650_061620_BIX	Ground Water	06/16/20 1400	IV

Service Request Summary

Folder #: **E2000564**
Client Name: ALS Environmental - US
Project Name: HS20060840
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: 06/19/20
Internal Due Date: 7/1/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060840
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 7/8,level II 7/1

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
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 Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
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 York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
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

ALS

Chain of Custody

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E2000564
ALS Laboratory Group
HS20060840
5

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense**

COC ID: **14142**

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:	HS20060840
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060840-02**	**LH18/24-SP650_061620-BIX**	**Water**	**16 Jun 2020 14:00**
	SUB_Perch-6850			01 Jul 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: 6/18/2020 1042

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS-H

Thermometer ID 1811

Date/Time Received: 6/19/20 Initials: CH

Date/Time Logged in: 6/19/20 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?
-		6/19/20	1000	CH	1.7	☐
						☐
						☐
						☐

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: E2000564 5

ALS Laboratory Group HS20060840

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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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Preparation Information Benchsheet

Prep Run#: 360389 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 6/19/20 15:44

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000562-001	17WW08_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000562-002	18CPTMW10DW_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000562-003	18CPTMW10DW_061520_a	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000562-004	18CPTMW10SW_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000562-005	18WW06_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000562-006	18WW02_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000562-007	AWD4_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000562-008	18WW18_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000562-009	18WW17_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000562-010	125_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000562-011	18WW16_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2000563-001	MW19_061620	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2000563-002	18CPTMW15_061620	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2000563-003	18CPTMW16_061720	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2000564-001	LH18/24-SP650_061620_BIX	.01	6850/ClO4 DOD			Ground Water	10mL	
16	EQ2000251-01	MB		6850/ClO4 DOD			Liquid	10mL	
17	EQ2000251-02	LCS		6850/ClO4 DOD			Liquid	10mL	
18	EQ2000251-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
19	EQ2000251-04	17WW08_061520 MS	.01	6850/ClO4 DOD			Liquid	10mL	
20	EQ2000251-05	17WW08_061520 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

E2000562-001	100.00µL	E2000562-002	100.00µL	E2000562-003	100.00µL	E2000562-004	100.00µL	E2000562-005	100.00µL	E2000562-006	100.00µL
E2000562-007	100.00µL	E2000562-008	100.00µL	E2000562-009	100.00µL	E2000562-010	100.00µL	E2000562-011	100.00µL	E2000563-001	100.00µL
E2000563-002	100.00µL	E2000563-003	100.00µL	E2000564-001	100.00µL	EQ2000251-01	100.00µL	EQ2000251-02	100.00µL	EQ2000251-03	100.00µL
EQ2000251-04	100.00µL	EQ2000251-05	100.00µL								

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

EQ2000251-02	1.00µL	EQ2000251-03	1.00µL	EQ2000251-04	1.00µL	EQ2000251-05	1.00µL

Preparation Information Benchsheet

Prep Run#: 360389
Team: Semivoa GCMS/GRIVERA
Prep WorkFlow: GenExt28Day
Prep Method: Method
Status: Prepped
Prep Date/Time: 6/19/20 15:44

Preparation Steps

Step: Preparation
Started: 6/19/20 15:44
Finished: 6/19/20 17:00
By: GRIVERA
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000564
Project:	HS20060840	**Date Collected:**	6/16/20 1400
Sample Matrix:	Ground Water	**Date Received:**	6/19/20
Sample Name:	LH18/24-SP650_061620_BIX	**Units:**	µg/L
Lab Code:	E2000564-001	**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	6/19/20	6/27/20 17:13	360389	685428	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000564
Project:	HS20060840	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000251-01	**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	6/19/20	6/27/20 14:27	360389	685428	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000564
Project:	HS20060840	**Date Analyzed:**	6/29/20
Sample Matrix:	Ground Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	360389

	Lab Control Sample EQ2000251-02			Duplicate Lab Control Sample EQ2000251-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.108	0.100	108	0.0932	0.100	93	84 - 119	15	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:**	E2000564
Project:	HS20060840	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000251-02	**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	**0.108**		0.100	0.0500	0.0250	1	6/19/20	6/29/20 10:44	360389	685428	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000564
Project:	HS20060840	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000251-03	**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	**0.0932**	J	0.100	0.0500	0.0250	1	6/19/20	6/29/20 10:52	360389	685428	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000564
Project:	HS20060840	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
		Date Analyzed:	6/27/20

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:	E2000562-001	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		Batch QCMS **Matrix Spike** EQ2000251-04				Batch QCDMS **Duplicate Matrix Spike** EQ2000251-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0450	0.159	0.100	114	0.157	0.100	112	84 - 119	1	15

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

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000564
Project:	HS20060840	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000251-04	**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	**0.159**		0.100	0.0500	0.0250	1	6/19/20	6/27/20 14:51	360389	685428	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000564
Project:	HS20060840	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000251-05	**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	**0.157**		0.100	0.0500	0.0250	1	6/19/20	6/27/20 14:59	360389	685428	

Initial Calibration

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20200625

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/25/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000009**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments			Date/Time
	null		20200625_001	Perchlorate6850b.lcm	1x	☒				6/25/2020 16:46
	null		20200625_002	Perchlorate6850b.lcm	1x	☒				6/25/2020 16:51
	IB		20200625_003	Perchlorate6850b.lcm	1x	☒				6/25/2020 16:56
	IB		20200625_004	Perchlorate6850b.lcm	1x	☒				6/25/2020 17:06
	IB		20200625_005	Perchlorate6850b.lcm	1x	☒				6/25/2020 17:13
	PERCHLORATE1		20200625_006	Perchlorate6850b.lcm	1x	☒	3100806-05			6/25/2020 17:21
	PERCHLORATE2		20200625_007	Perchlorate6850b.lcm	1x	☒	3100806-06			6/25/2020 17:29
	PERCHLORATE3		20200625_008	Perchlorate6850b.lcm	1x	☒	3100806-07			6/25/2020 17:37
	PERCHLORATE4		20200625_009	Perchlorate6850b.lcm	1x	☒	3100807-01			6/25/2020 17:45
	PERCHLORATE5		20200625_011	Perchlorate6850b.lcm	1x	☒	3100807-03			6/25/2020 18:01
	PERCHLORATE6		20200625_012	Perchlorate6850b.lcm	1x	☒	3100807-04			6/25/2020 18:09
	PERCHLORATE7		20200625_013	Perchlorate6850b.lcm	1x	☒	3100807-05			6/25/2020 18:17
	PERCHLORATE8		20200625_014	Perchlorate6850b.lcm	1x	☒	3100807-06			6/25/2020 18:25
	PERCHLORATE9		20200625_015	Perchlorate6850b.lcm	1x	☒	3100807-07			6/25/2020 18:33
	PERCHLORATEICV		20200625_016	Perchlorate6850b.lcm	1x	☒	3100807-08			6/25/2020 18:40
	IB		20200625_017	Perchlorate6850b.lcm	1x	☒				6/25/2020 18:48
	IB		20200625_018	Perchlorate6850b.lcm	1x	☒				6/25/2020 18:56
	LODV		20200625_019	Perchlorate6850b.lcm	1x	☒				6/25/2020 19:04
	ICS		20200625_020	Perchlorate6850b.lcm	1x	☒				6/25/2020 19:12
	PERCHLORATE7		20200625_021	Perchlorate6850b.lcm	1x	☒	3100807-05			6/25/2020 19:20
	EQ2000244-01		20200625_022	Perchlorate6850b.lcm	1x	☒				6/25/2020 19:28
	EQ2000244-02		20200625_023	Perchlorate6850b.lcm	1x	☒				6/25/2020 19:36
	EQ2000244-03		20200625_024	Perchlorate6850b.lcm	1x	☒				6/25/2020 19:44
	EQ2000244-04		20200625_025	Perchlorate6850b.lcm	1x	☒				6/25/2020 19:52
	EQ2000244-05		20200625_026	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:00
	E2000537-001		20200625_027	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:08
	E2000537-002		20200625_028	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:15
	E2000537-003		20200625_029	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:23
	E2000537-004		20200625_030	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:31
	E2000537-005		20200625_031	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:39
	PERCHLORATE7		20200625_032	Perchlorate6850b.lcm	1x	☒	3100807-05			6/25/2020 20:47
	E2000537-006		20200625_033	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:55
	E2000537-007		20200625_034	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:03
	E2000537-008		20200625_035	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:11
	E2000537-009		20200625_036	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:19
	E2000540-001		20200625_037	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:27
	E2000540-002		20200625_038	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:34
	E2000540-003		20200625_039	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:42
	E2000540-004		20200625_040	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:50
	E2000537-001		20200625_041	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:58
	E2000537-002		20200625_042	Perchlorate6850b.lcm	1x	☒				6/25/2020 22:06
	PERCHLORATE7		20200625_043	Perchlorate6850b.lcm	1x	☒	3100807-05			6/25/2020 22:14
	EQ2000243-01		20200625_044	Perchlorate6850b.lcm	1x	☒				6/25/2020 22:22
	EQ2000243-02		20200625_045	Perchlorate6850b.lcm	1x	☒				6/25/2020 22:30
	EQ2000243-03		20200625_046	Perchlorate6850b.lcm	1x	☒				6/25/2020 22:38
	EQ2000243-04		20200625_047	Perchlorate6850b.lcm	1x	☒				6/25/2020 22:45
	EQ2000243-05		20200625_048	Perchlorate6850b.lcm	1x	☒				6/25/2020 22:53
	E2000541-001		20200625_049	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:01
	E2000541-002		20200625_050	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:09
	E2000541-003		20200625_051	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:17
	E2000541-004		20200625_052	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:25
	E2000541-005		20200625_053	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:33
	PERCHLORATE7		20200625_054	Perchlorate6850b.lcm	1x	☒	3100807-05			6/25/2020 23:41
	E2000541-006		20200625_055	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:49
	E2000541-007		20200625_056	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:57
	E2000541-008		20200625_057	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:05
	E2000541-009		20200625_058	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:12
	E2000541-010		20200625_059	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:20
	E2000541-011		20200625_060	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:28
	E2000541-012		20200625_061	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:36
	E2000541-013		20200625_062	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:44
	E2000541-014		20200625_063	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:52
	E2000541-015		20200625_064	Perchlorate6850b.lcm	1x	☒				6/26/2020 1:00
	PERCHLORATE7		20200625_065	Perchlorate6850b.lcm	1x	☒	3100807-05			6/26/2020 1:08

Initial Calibration - Detailed Report

Calibration ID: EC2000009 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000009-01	PERCHLORATE1	20200625_006	06/25/2020 17:21
02	EC2000009-02	PERCHLORATE2	20200625_007	06/25/2020 17:29
03	EC2000009-03	PERCHLORATE3	20200625_008	06/25/2020 17:37
04	EC2000009-04	PERCHLORATE4	20200625_009	06/25/2020 17:45
05	EC2000009-05	PERCHLORATE5	20200625_011	06/25/2020 18:01
06	EC2000009-06	PERCHLORATE6	20200625_012	06/25/2020 18:09
07	EC2000009-07	PERCHLORATE7	20200625_013	06/25/2020 18:17
08	EC2000009-08	PERCHLORATE8	20200625_014	06/25/2020 18:25
09	EC2000009-09	PERCHLORATE9	20200625_015	06/25/2020 18:33

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

Perchlorate **Average RF** **RSD = 12.17** **Average RF = 0.1345**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.173	02	0.5000	0.1369	03	0.7000	0.1363	04	1.0000	0.1365
05	5.0000	0.1253	06	10.0000	0.1383	07	20.0000	0.126	08	30.0000	0.1197
09	50.0000	0.1184									

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.129	28.6	02	0.5000	0.509	1.8	03	0.7000	0.709	1.3
04	1.0000	1.02	1.5	05	5.0000	4.66	-6.8	06	10.0000	10.3	2.9
07	20.0000	18.7	-6.3	08	30.0000	26.7	-11.0	09	50.0000	44.0	-12.0

Initial Calibration Verification Summary Report

Calibration ID:	EC2000009	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200625_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000009-10	T	Average RF	10	10.115	ng/mL	1.2	<= 15

ALS Group Houston

PERCHLORATE1

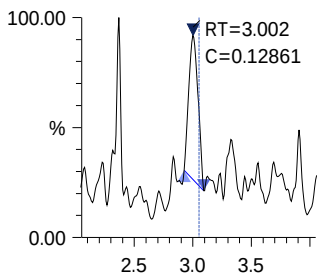
Date acquired: 6/25/2020 5:21:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_006.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	6/25/2020 5:21:49 PM	6704	0.12861	20200625_006	3.002	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/25/2020 5:21:49 PM	387624	1.00000	20200625_006	3.002	25.0000	1.0000	5

Perchlorate

Conc 0.12861
Area 6704

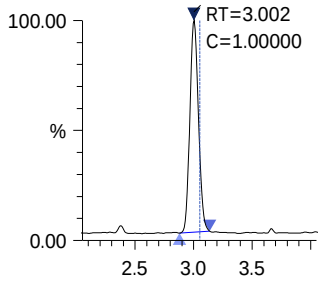
Q 99.00>83.00 (-) 1.79e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 387624

ISTD 107.00>89.00 (-) 7.66e4



ALS Group Houston

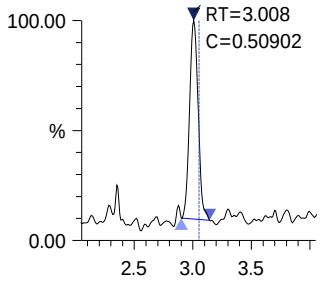
PERCHLORATE2

Date acquired: 6/25/2020 5:29:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_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	PERCHLORATE2	6/25/2020 5:29:41 PM	26486	0.50902	20200625_007	3.008	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/25/2020 5:29:41 PM	386905	1.00000	20200625_007	3.003	25.0000	1.0000	6

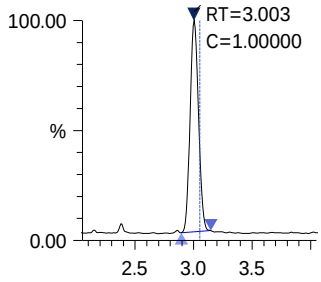
Perchlorate

Conc 0.50902
Area 26486
Q 99.00>83.00 (-) 5.58e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 386905
ISTD 107.00>89.00 (-) 7.79e4



ALS Group Houston

PERCHLORATE3

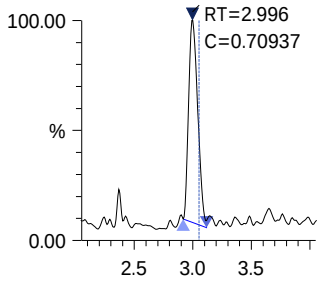
Date acquired: 6/25/2020 5:37:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_008.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	6/25/2020 5:37:36 PM	36977	0.70937	20200625_008	2.996	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/25/2020 5:37:36 PM	387606	1.00000	20200625_008	2.998	25.0000	1.0000	7

Perchlorate

Conc 0.70937
Area 36977

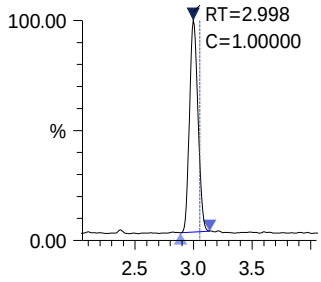
Q 99.00>83.00 (-) 7.15e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 387606

ISTD 107.00>89.00 (-) 7.76e4



ALS Group Houston

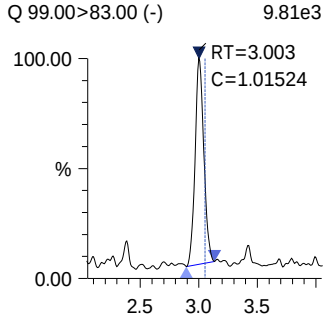
PERCHLORATE4

Date acquired: 6/25/2020 5:45:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_009.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	6/25/2020 5:45:31 PM	49004	1.01524	20200625_009	3.003	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/25/2020 5:45:31 PM	358914	1.00000	20200625_009	3.001	25.0000	1.0000	8

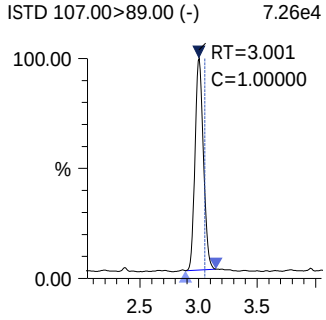
Perchlorate

Conc 1.01524
Area 49004



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 358914



ALS Group Houston

PERCHLORATE5

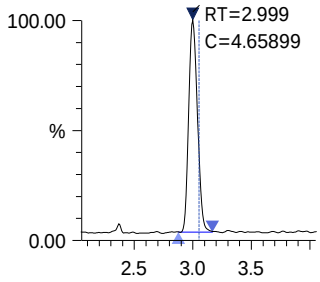
Date acquired: 6/25/2020 6:01:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_011.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	6/25/2020 6:01:22 PM	232008	4.65899	20200625_011	2.999	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/25/2020 6:01:22 PM	370291	1.00000	20200625_011	2.996	25.0000	1.0000	10

Perchlorate

Conc 4.65899
Area 232008

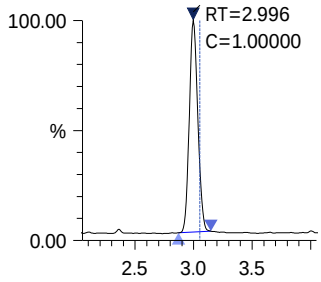
Q 99.00>83.00 (-) 4.49e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 370291

ISTD 107.00>89.00 (-) 7.40e4



ALS Group Houston

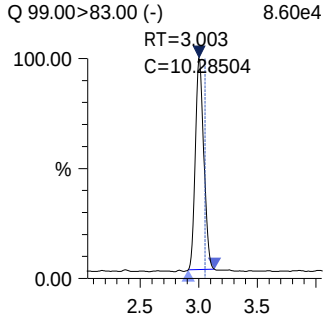
PERCHLORATE6

Date acquired: 6/25/2020 6:09:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_012.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	6/25/2020 6:09:15 PM	427451	10.28504	20200625_012	3.003	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/25/2020 6:09:15 PM	309038	1.00000	20200625_012	3.001	25.0000	1.0000	4

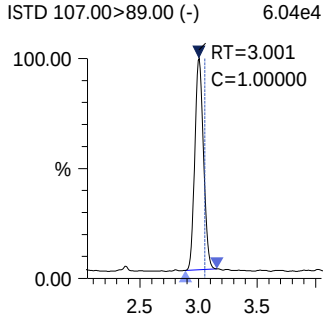
Perchlorate

Conc 10.28504
Area 427451



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 309038



ALS Group Houston

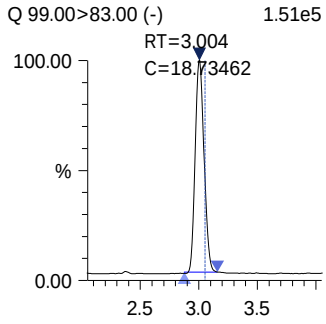
PERCHLORATE7

Date acquired: 6/25/2020 6:17:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_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	PERCHLORATE7	6/25/2020 6:17:10 PM	786893	18.73462	20200625_013	3.004	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/25/2020 6:17:10 PM	312322	1.00000	20200625_013	3.002	25.0000	1.0000	11

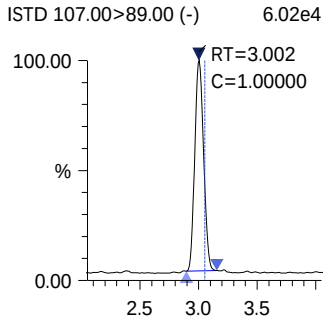
Perchlorate

Conc 18.73462
Area 786893



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 312322



ALS Group Houston

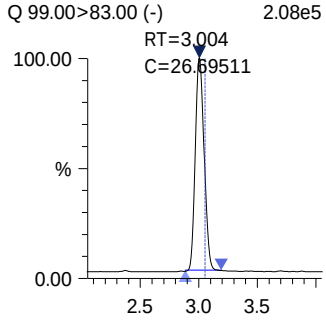
PERCHLORATE8

Date acquired: 6/25/2020 6:25:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_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	PERCHLORATE8	6/25/2020 6:25:06 PM	1075993	26.69511	20200625_014	3.004	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/25/2020 6:25:06 PM	299716	1.00000	20200625_014	3.004	25.0000	1.0000	12

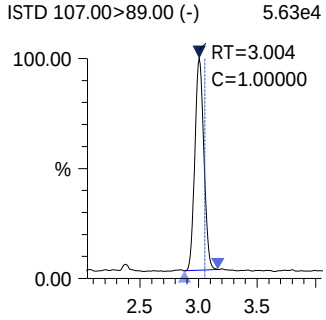
Perchlorate

Conc 26.69511
Area 1075993



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 299716



ALS Group Houston

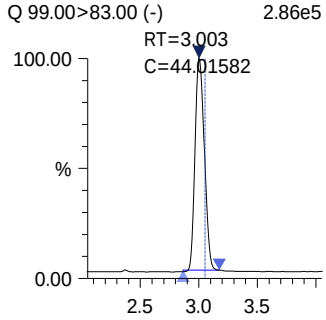
PERCHLORATE9

Date acquired: 6/25/2020 6:33:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_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	PERCHLORATE9	6/25/2020 6:33:01 PM	1567374	44.01582	20200625_015	3.003	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/25/2020 6:33:01 PM	264786	1.00000	20200625_015	3.002	25.0000	1.0000	13

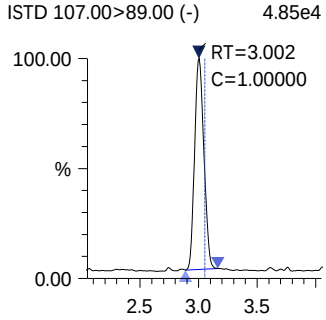
Perchlorate

Conc 44.01582
Area 1567374



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 264786



ALS Group Houston

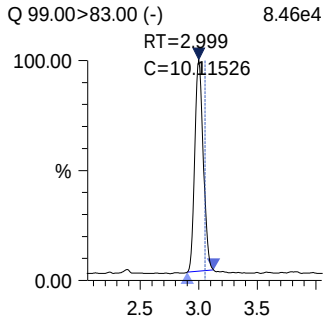
PERCHLORATEICV

Date acquired: 6/25/2020 6:40:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_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	6/25/2020 6:40:55 PM	420958	10.11526	20200625_016	2.999	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/25/2020 6:40:55 PM	309452	1.00000	20200625_016	2.996	25.0000	1.0000	14

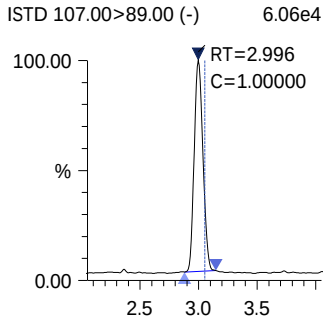
Perchlorate

Conc 10.11526
Area 420958



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 309452



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

20200627

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/25/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000009**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	IB		20200627_001	Perchlorate6850b.lcm	1x	☒		6/27/2020 10:30
2	IB		20200627_002	Perchlorate6850b.lcm	1x	☒		6/27/2020 10:38
3	IB		20200627_003	Perchlorate6850b.lcm	1x	☒		6/27/2020 10:46
4	LODV		20200627_004	Perchlorate6850b.lcm	1x	☒		6/27/2020 10:54
5	ICS		20200627_005	Perchlorate6850b.lcm	1x	☒		6/27/2020 11:02
6	PERCHLORATE7		20200627_006	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 11:09
7	E2000539-007X50		20200627_007	Perchlorate6850b.lcm	50x	☒		6/27/2020 11:17
8	E2000536-004X100		20200627_008	Perchlorate6850b.lcm	100x	☒	do not use	6/27/2020 11:25
9	E2000541-005		20200627_009	Perchlorate6850b.lcm	1x	☒		6/27/2020 11:33
10	E2000541-010		20200627_010	Perchlorate6850b.lcm	1x	☒		6/27/2020 11:41
11	E2000536-004X200		20200627_011	Perchlorate6850b.lcm	200x	☒		6/27/2020 11:50
12	E2000541-011		20200627_012	Perchlorate6850b.lcm	1x	☒		6/27/2020 11:58
13	E2000541-013		20200627_013	Perchlorate6850b.lcm	1x	☒		6/27/2020 12:05
14	E2000541-014		20200627_014	Perchlorate6850b.lcm	1x	☒		6/27/2020 12:13
15	PERCHLORATE7		20200627_015	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 12:21
16	EQ2000245-01		20200627_016	Perchlorate6850b.lcm	1x	☒		6/27/2020 12:30
17	EQ2000245-02		20200627_017	Perchlorate6850b.lcm	1x	☒		6/27/2020 12:37
18	EQ2000245-03		20200627_018	Perchlorate6850b.lcm	1x	☒		6/27/2020 12:45
19	E2000542-001		20200627_019	Perchlorate6850b.lcm	1x	☒		6/27/2020 12:53
20	E2000542-002		20200627_020	Perchlorate6850b.lcm	1x	☒		6/27/2020 13:01
21	E2000542-003		20200627_021	Perchlorate6850b.lcm	1x	☒		6/27/2020 13:09
22	E2000542-004		20200627_022	Perchlorate6850b.lcm	1x	☒		6/27/2020 13:17
23	E2000542-005		20200627_023	Perchlorate6850b.lcm	1x	☒		6/27/2020 13:25
24	E2000542-006		20200627_024	Perchlorate6850b.lcm	1x	☒		6/27/2020 13:33
25	E2000542-007		20200627_025	Perchlorate6850b.lcm	1x	☒		6/27/2020 13:41
26	PERCHLORATE7		20200627_026	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 13:49
27	E2000542-008		20200627_027	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:04
28	E2000542-009		20200627_028	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:12
29	E2000542-010		20200627_029	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:19
30	EQ2000251-01		20200627_030	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:27
31	EQ2000251-02		20200627_031	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:35
32	EQ2000251-03		20200627_032	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:43
33	EQ2000251-04		20200627_033	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:51
34	EQ2000251-05		20200627_034	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:59
35	E2000562-001		20200627_035	Perchlorate6850b.lcm	1x	☒		6/27/2020 15:07
36	E2000562-002		20200627_036	Perchlorate6850b.lcm	1x	☒		6/27/2020 15:15
37	PERCHLORATE7		20200627_037	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 15:23
38	E2000562-003		20200627_038	Perchlorate6850b.lcm	1x	☒		6/27/2020 15:31
39	E2000562-004		20200627_039	Perchlorate6850b.lcm	1x	☒		6/27/2020 15:38
40	E2000562-005		20200627_040	Perchlorate6850b.lcm	1x	☒		6/27/2020 15:46
41	E2000562-006		20200627_041	Perchlorate6850b.lcm	1x	☒		6/27/2020 15:54
42	E2000562-007		20200627_042	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:02
43	E2000562-008		20200627_043	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:10
44	E2000562-009		20200627_044	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:18
45	E2000562-010		20200627_045	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:26
46	E2000562-011		20200627_046	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:34
47	E2000563-001		20200627_047	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:41
48	PERCHLORATE7		20200627_048	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 16:49
49	E2000563-002		20200627_049	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:57
50	E2000563-003		20200627_050	Perchlorate6850b.lcm	1x	☒		6/27/2020 17:05
51	E2000564-001		20200627_051	Perchlorate6850b.lcm	1x	☒		6/27/2020 17:13
52	E2000541-017X1000		20200627_052	Perchlorate6850b.lcm	1000x	☒		6/27/2020 17:21
54	E2000541-018X1000		20200627_053	Perchlorate6850b.lcm	1000x	☒		6/27/2020 17:29
55	E2000541-019X1000		20200627_054	Perchlorate6850b.lcm	1000x	☒		6/27/2020 17:37

20200627

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/25/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000009**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
56	E2000539-004X50000		20200627_055	Perchlorate6850b.lcm	50000x	☒		6/27/2020 17:45
57	E2000539-005X100000		20200627_056	Perchlorate6850b.lcm	100000x	☒		6/27/2020 17:53
58	PERCHLORATE7		20200627_057	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 18:01
59	EQ2000245-01		20200627_058	Perchlorate6850b.lcm	1x	☒		6/27/2020 18:08
60	EQ2000245-02		20200627_059	Perchlorate6850b.lcm	1x	☒		6/27/2020 18:16
61	EQ2000245-03		20200627_060	Perchlorate6850b.lcm	1x	☒		6/27/2020 18:24
62	E2000542-006		20200627_061	Perchlorate6850b.lcm	1x	☒		6/27/2020 18:32
63	E2000542-007		20200627_062	Perchlorate6850b.lcm	1x	☒		6/27/2020 18:40
64	PERCHLORATE7		20200627_065	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 18:48

20200629

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/25/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000009**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20200629_001	Perchlorate6850b.lcm	1x	☒		6/29/2020 8:43
2	null		20200629_002	Perchlorate6850b.lcm	1x	☒		6/29/2020 8:48
3	IB		20200629_003	Perchlorate6850b.lcm	1x	☒		6/29/2020 8:54
4	IB		20200629_004	Perchlorate6850b.lcm	1x	☒		6/29/2020 9:01
5	LODV		20200629_005	Perchlorate6850b.lcm	1x	☒		6/29/2020 9:09
6	ICS		20200629_006	Perchlorate6850b.lcm	1x	☒		6/29/2020 9:17
7	PERCHLORATE7		20200629_007	Perchlorate6850b.lcm	1x	☒	3100807-04	6/29/2020 10:05
8	EQ2000245-01		20200629_008	Perchlorate6850b.lcm	1x	☒		6/29/2020 10:13
9	EQ2000245-02		20200629_009	Perchlorate6850b.lcm	1x	☒		6/29/2020 10:21
10	EQ2000245-03		20200629_010	Perchlorate6850b.lcm	1x	☒		6/29/2020 10:29
11	EQ2000251-01		20200629_011	Perchlorate6850b.lcm	1x	☒		6/29/2020 10:37
12	EQ2000251-02		20200629_012	Perchlorate6850b.lcm	1x	☒		6/29/2020 10:44
13	EQ2000251-03		20200629_013	Perchlorate6850b.lcm	1x	☒		6/29/2020 10:52
14	E2000562-009		20200629_014	Perchlorate6850b.lcm	1x	☒		6/29/2020 11:00
15	E2000562-010X10		20200629_015	Perchlorate6850b.lcm	10x	☒		6/29/2020 11:08
16	EQ2000245-02		20200629_016	Perchlorate6850b.lcm	1x	☒		6/29/2020 11:17
17	EQ2000245-03		20200629_017	Perchlorate6850b.lcm	1x	☒		6/29/2020 11:25
18	PERCHLORATE7		20200629_018	Perchlorate6850b.lcm	1x	☒	3100807-04	6/29/2020 11:33
19	E2000563-002X10		20200629_019	Perchlorate6850b.lcm	10x	☒		6/29/2020 11:41
20	E2000563-003		20200629_020	Perchlorate6850b.lcm	1x	☒		6/29/2020 11:48
21	E2000562-009		20200629_021	Perchlorate6850b.lcm	1x	☒		6/29/2020 13:10
22	E2000542-004X100		20200629_022	Perchlorate6850b.lcm	100x	☒		6/29/2020 13:18
23	E2000542-005X100		20200629_023	Perchlorate6850b.lcm	100x	☒		6/29/2020 13:26
24	E2000562-009X10000		20200629_024	Perchlorate6850b.lcm	10000x	☒		6/29/2020 13:53
25	E2000562-009X20000		20200629_025	Perchlorate6850b.lcm	20000x	☒		6/29/2020 14:07
26	IB		20200629_026	Perchlorate6850b.lcm	1x	☒		6/29/2020 14:15
27	E2000512-011confirmation		20200629_027	Perchlorate6850b.lcm	1x	☒	confirmation only	6/29/2020 14:24
28	PERCHLORATE7		20200629_028	Perchlorate6850b.lcm	1x	☒	3100807-04	6/29/2020 14:32
29	EQ2000245-02		20200629_029	Perchlorate6850b.lcm	1x	☒		6/29/2020 14:40
30	EQ2000245-03		20200629_030	Perchlorate6850b.lcm	1x	☒		6/29/2020 14:48
31	PERCHLORATE7		20200629_031	Perchlorate6850b.lcm	1x	☒	3100807-04	6/29/2020 14:56

ALS Group Houston

PERCHLORATE7

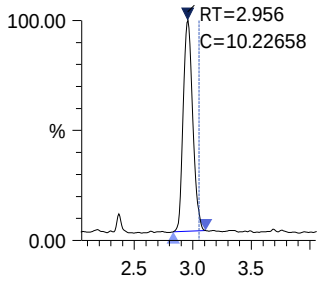
Date acquired: 6/27/2020 1:49:07 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200627\20200627_026.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/27/2020 1:49:07 PM	337362	10.22658	20200627_026	2.956	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/27/2020 1:49:07 PM	242980	1.00000	20200627_026	2.954	25.0000	1.0000	4

Perchlorate

Conc 10.22658
Area 337362

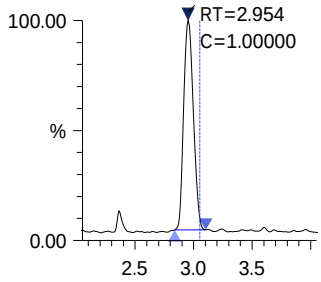
Q 99.00>83.00 (-) 5.95e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 242980

ISTD 107.00>89.00 (-) 4.36e4



ALS Group Houston

EQ2000251-01

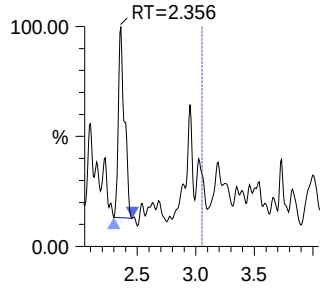
Date acquired: 6/27/2020 2:27:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200627\20200627_030.lcd
Vial: 32 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000251-01	6/27/2020 2:27:55 PM	----	----	20200627_030	----	25.0000	1.0000	32
Sodium Perchlorate-18O4_IS	EQ2000251-01	6/27/2020 2:27:55 PM	272600	1.00000	20200627_030	2.946	25.0000	1.0000	32

Perchlorate

Conc ----
Area ----

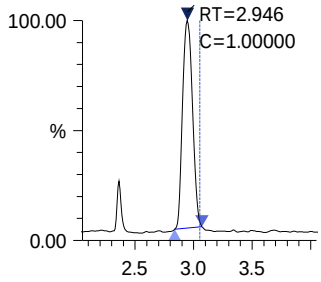
Q 99.00>83.00 (-) 2.82e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 272600

ISTD 107.00>89.00 (-) 4.78e4



ALS Group Houston

Method File: I:\LCMS01\DATA\20200629\20200625.lcm

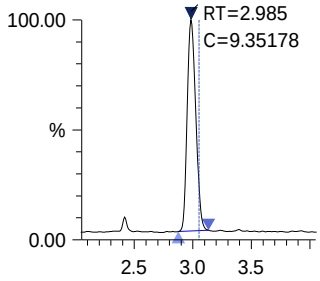
PERCHLORATE7

Date acquired: 6/29/2020 10:05:23 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200629\20200629_007.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	6/29/2020 10:05:23 AM	368916	9.35178	20200629_007	2.985	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/29/2020 10:05:23 AM	290562	1.00000	20200629_007	2.984	25.0000	1.0000	4

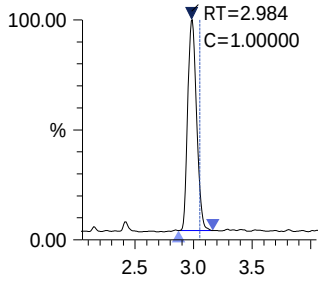
Perchlorate

Conc 9.35178
Area 368916
Q 99.00>83.00 (-) 7.26e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 290562
ISTD 107.00>89.00 (-) 5.62e4



ALS Group Houston

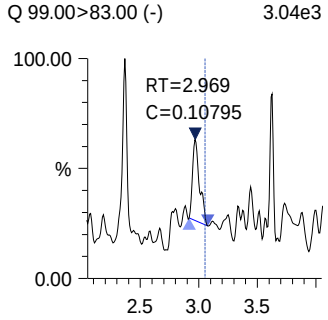
EQ2000251-02

Date acquired: 6/29/2020 10:44:56 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200629\20200629_012.lcd
Vial: 53 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000251-02	6/29/2020 10:44:56 AM	4814	0.10795	20200629_012	2.969	25.0000	1.0000	53
Sodium Perchlorate-18O4_IS	EQ2000251-02	6/29/2020 10:44:56 AM	331603	1.00000	20200629_012	2.964	25.0000	1.0000	53

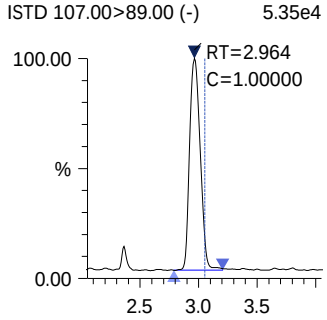
Perchlorate

Conc 0.10795
Area 4814



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 331603



ALS Group Houston

EQ2000251-03

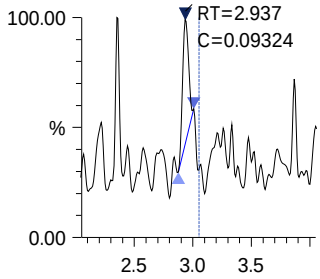
Date acquired: 6/29/2020 10:52:51 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200629\20200629_013.lcd
Vial: 54 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000251-03	6/29/2020 10:52:51 AM	3988	0.09324	20200629_013	2.937	25.0000	1.0000	54
Sodium Perchlorate-18O4_IS	EQ2000251-03	6/29/2020 10:52:51 AM	318006	1.00000	20200629_013	2.948	25.0000	1.0000	54

Perchlorate

Conc 0.09324
Area 3988

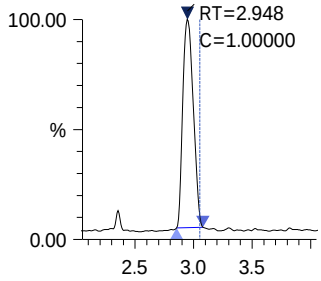
Q 99.00>83.00 (-) 1.93e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 318006

ISTD 107.00>89.00 (-) 5.25e4



ALS Group Houston

Method File: I:\LCMS01\DATA\20200629\20200625.lcm

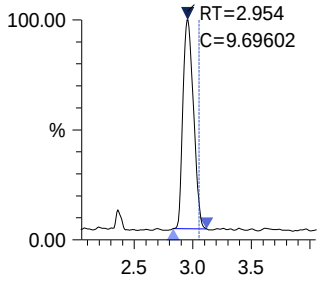
PERCHLORATE7

Date acquired: 6/29/2020 11:33:08 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200629\20200629_018.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	6/29/2020 11:33:08 AM	366974	9.69602	20200629_018	2.954	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/29/2020 11:33:08 AM	278770	1.00000	20200629_018	2.953	25.0000	1.0000	4

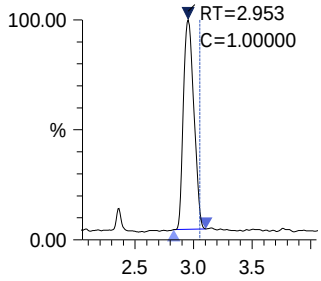
Perchlorate

Conc 9.69602
Area 366974
Q 99.00>83.00 (-) 5.89e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 278770
ISTD 107.00>89.00 (-) 4.60e4



ALS Group Houston

EQ2000251-04

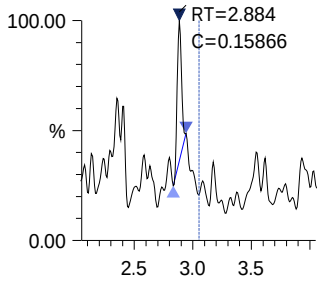
Date acquired: 6/27/2020 2:51:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200627\20200627_033.lcd
Vial: 35 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000251-04	6/27/2020 2:51:33 PM	4142	0.15866	20200627_033	2.884	25.0000	1.0000	35
Sodium Perchlorate-18O4_IS	EQ2000251-04	6/27/2020 2:51:33 PM	192307	1.00000	20200627_033	2.905	25.0000	1.0000	35

Perchlorate

Conc 0.15866
Area 4142

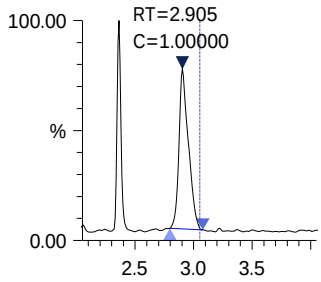
Q 99.00>83.00 (-) 2.57e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 192307

ISTD 107.00>89.00 (-) 4.58e4



ALS Group Houston

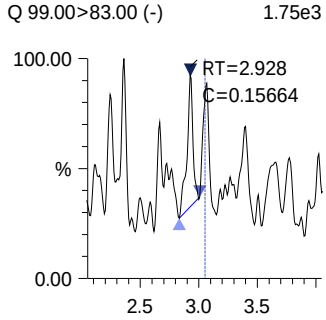
EQ2000251-05

Date acquired: 6/27/2020 2:59:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200627\20200627_034.lcd
Vial: 36 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000251-05	6/27/2020 2:59:24 PM	3816	0.15664	20200627_034	2.928	25.0000	1.0000	36
Sodium Perchlorate-18O4_IS	EQ2000251-05	6/27/2020 2:59:24 PM	179413	1.00000	20200627_034	2.903	25.0000	1.0000	36

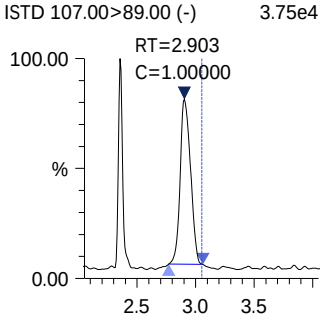
Perchlorate

Conc 0.15664
Area 3816



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 179413



ALS Group Houston

PERCHLORATE7

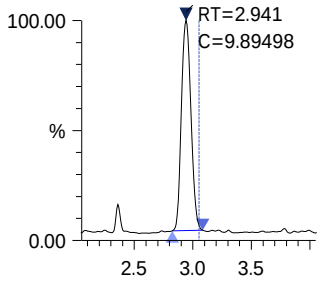
Date acquired: 6/27/2020 3:23:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200627\20200627_037.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/27/2020 3:23:09 PM	324365	9.89498	20200627_037	2.941	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/27/2020 3:23:09 PM	241448	1.00000	20200627_037	2.938	25.0000	1.0000	4

Perchlorate

Conc 9.89498
Area 324365

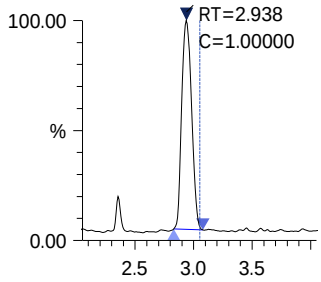
Q 99.00>83.00 (-) 5.74e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 241448

ISTD 107.00>89.00 (-) 4.23e4



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June 26, 2020

Analytical Report for Service Request No: K2005155

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

RE: HS20060840

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 19, 2020
For your reference, these analyses have been assigned our service request number **K2005155.**

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

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Table of Contents

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: HS20060840
Sample Matrix: Water

Service Request: K2005155
Date Received: 06/19/2020

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 06/19/2020. 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 06/26/2020

Chain of Custody

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K20025155

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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14143**

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:	HS20060840
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060840-01**	**LH18/24-SP650_061620**	**Water**	**16 Jun 2020 14:00**
	TOC Analysis for DOD Level IV			01 Jul 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: 6/18/2020

Received By: KMoreno ALS Kelso Date/Time: 6/19/20 0930

Cooler ID(s): _____ Temperature(s): _____

PC KL

Cooler Receipt and Preservation Form

Client ALS- Houston Service Request K2005155

Received: 6/19/20 Opened: 6/19/20 By: K Unloaded: 6/19/20 By: K

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
1.2	—	—	—	—	IR01	1443	1891 8877 7421	

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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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2005155
Project:	HS20060840	**Date Collected:**	06/16/20
Sample Matrix:	Water	**Date Received:**	06/19/20
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_061620	K2005155-001	**1.82**	0.50	0.20	0.07	1	06/25/20 15:24	
Method Blank	K2005155-MB1	ND U	0.50	0.20	0.07	1	06/24/20 15:24	
Method Blank	K2005155-MB2	ND U	0.50	0.20	0.07	1	06/25/20 15:24	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2005155
Project	HS20060840	**Date Collected:**	06/16/20
Sample Matrix:	Water	**Date Received:**	06/19/20
		Date Analyzed:	06/25/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	LH18/24-SP650_061620	**Units:**	mg/L
Lab Code:	K2005155-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2005155-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	1.82	1.80	1.81	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:**	K2005155
Project:	HS20060840	**Date Collected:**	06/16/20
Sample Matrix:	Water	**Date Received:**	06/19/20
		Date Analyzed:	06/25/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	LH18/24-SP650_061620	**Units:**	mg/L
Lab Code:	K2005155-001	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2005155-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.82	28.1	25.0	105	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:**	K2005155
Project:	HS20060840	**Date Analyzed:**	06/24/20
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:	685090

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2005155-LCS1	21.3	25.0	85	83-117
Lab Control Sample	K2005155-LCS2	21.2	25.0	85	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2005155
Project: HS20060840

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	685090	KQ2008586-01	06/24/20 15:24	25.0	25.2	101	90-110
CCV2	685090	KQ2008586-02	06/24/20 15:24	25.0	25.5	102	90-110
CCV3	685090	KQ2008586-03	06/24/20 15:24	25.0	25.3	101	90-110
CCV4	685090	KQ2008586-04	06/25/20 15:24	25.0	25.1	100	90-110
CCV5	685090	KQ2008586-05	06/25/20 15:24	25.0	25.1	100	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2005155
Project: HS20060840

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	685090	KQ2008586-06	06/24/20 15:24	0.50	0.20	0.07	ND	U
CCB2	685090	KQ2008586-07	06/24/20 15:24	0.50	0.20	0.07	ND	U
CCB3	685090	KQ2008586-08	06/24/20 15:24	0.50	0.20	0.07	ND	U
CCB4	685090	KQ2008586-09	06/25/20 15:24	0.50	0.20	0.07	ND	U
CCB5	685090	KQ2008586-10	06/25/20 15:24	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # Original (5033) 5155 4931

Tier: II II IV

Date Analyzed: 6/24/20

Analyst: MK Run # 685090

Analysis: TOC

DATA QUALITY REPORT
INORGANICS

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

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

COMMENTS:

Final Approved by: _____ Date: 6/25/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** MKANALY **Analysis Lot:** 685090 **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
K2004931-001	Carbon, Total Organic	N/A		Water	19.88 mg/L	10 mL	19.9 mg/L	1	0.07	0.50			6/25/20 15:24:00	N	IV
K2004931-002	Carbon, Total Organic	N/A		Water	3.00 mg/L	10 mL	30.0 mg/L	10	0.7	5.0			6/25/20 15:24:00	N	IV
K2004931-003	Carbon, Total Organic	N/A		Water	1.17 mg/L	10 mL	5.8 mg/L	5	0.4	2.5			6/25/20 15:24:00	N	IV
K2005033-001	Carbon, Dissolved Organic (DOC)	N/A		Water	3.66 mg/L	10 mL	3.66 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-002	Carbon, Dissolved Organic (DOC)	N/A		Water	1.95 mg/L	10 mL	1.95 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-003	Carbon, Dissolved Organic (DOC)	N/A		Water	0.11 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-004	Carbon, Dissolved Organic (DOC)	N/A		Water	2.68 mg/L	10 mL	2.68 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-005	Carbon, Dissolved Organic (DOC)	N/A		Water	1.70 mg/L	10 mL	1.70 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-006	Carbon, Dissolved Organic (DOC)	N/A		Water	2.20 mg/L	10 mL	2.20 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-007	Carbon, Dissolved Organic (DOC)	N/A		Water	0.26 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-008	Carbon, Dissolved Organic (DOC)	N/A		Water	1.59 mg/L	10 mL	1.59 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-009	Carbon, Dissolved Organic (DOC)	N/A		Water	0.19 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-010	Carbon, Dissolved Organic (DOC)	N/A		Water	2.14 mg/L	10 mL	2.14 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-011	Carbon, Dissolved Organic (DOC)	N/A		Water	2.93 mg/L	10 mL	2.93 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-012	Carbon, Dissolved Organic (DOC)	N/A		Water	2.40 mg/L	10 mL	2.40 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-013	Carbon, Dissolved Organic (DOC)	N/A		Water	2.70 mg/L	10 mL	2.70 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-014	Carbon, Dissolved Organic (DOC)	N/A		Water	1.87 mg/L	10 mL	1.87 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-015	Carbon, Dissolved Organic (DOC)	N/A		Water	1.07 mg/L	10 mL	1.07 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-016	Carbon, Dissolved Organic (DOC)	N/A		Water	0.63 mg/L	10 mL	0.63 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005155-001	Carbon, Total Organic	N/A		Water	1.82 mg/L	10 mL	1.82 mg/L	1	0.07	0.50			6/25/20 15:24:00	N	IV
KQ2008586-01	Carbon, Dissolved Organic (DOC)	CCV		Water	25.19 mg/L	10 mL	25.2 mg/L	1					6/24/20 15:24:00	N	II
KQ2008586-01	Carbon, Total Organic	CCV		Water	25.19 mg/L	10 mL	25.2 mg/L	1					6/24/20 15:24:00	N	II
KQ2008586-02	Carbon, Dissolved Organic (DOC)	CCV		Water	25.49 mg/L	10 mL	25.5 mg/L	1					6/24/20 15:24:00	N	II
KQ2008586-02	Carbon, Total Organic	CCV		Water	25.49 mg/L	10 mL	25.5 mg/L	1					6/24/20 15:24:00	N	II
KQ2008586-03	Carbon, Dissolved Organic (DOC)	CCV		Water	25.26 mg/L	10 mL	25.3 mg/L	1					6/24/20 15:24:00	N	II
KQ2008586-03	Carbon, Total Organic	CCV		Water	25.26 mg/L	10 mL	25.3 mg/L	1					6/24/20 15:24:00	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:** MKANALY **Analysis Lot:** 685090 **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
KQ2008586-04	Carbon, Dissolved Organic (DOC)	CCV		Water	25.09 mg/L	10 mL	25.1 mg/L	1					6/25/20 15:24:00	N	II
KQ2008586-04	Carbon, Total Organic	CCV		Water	25.09 mg/L	10 mL	25.1 mg/L	1					6/25/20 15:24:00	N	II
KQ2008586-05	Carbon, Dissolved Organic (DOC)	CCV		Water	25.10 mg/L	10 mL	25.1 mg/L	1					6/25/20 15:24:00	N	II
KQ2008586-05	Carbon, Total Organic	CCV		Water	25.10 mg/L	10 mL	25.1 mg/L	1					6/25/20 15:24:00	N	II
KQ2008586-06	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-07	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-07	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-08	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-09	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 15:24:00	N	II
KQ2008586-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 15:24:00	N	II
KQ2008586-10	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/5/20 15:24:00	N	II
KQ2008586-10	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 15:24:00	N	II
KQ2008586-11	Carbon, Dissolved Organic (DOC)	DUP	K2005033-001	Water	3.46 mg/L	10 mL	3.46 mg/L	1	0.07	0.50		6	6/24/20 15:24:00	N	II
KQ2008586-12	Carbon, Dissolved Organic (DOC)	MS	K2005033-001	Water	29.95 mg/L	10 mL	30.0 mg/L	1	0.07	0.50	105		6/24/20 15:24:00	N	II
KQ2008586-13	Carbon, Total Organic	DUP	K2005155-001	Water	1.80 mg/L	10 mL	1.80 mg/L	1	0.07	0.50		1	6/25/20 15:24:00	N	IV
KQ2008586-14	Carbon, Total Organic	MS	K2005155-001	Water	28.10 mg/L	10 mL	28.1 mg/L	1	0.07	0.50	105		6/25/20 15:24:00	N	IV
KQ2008586-15	Carbon, Dissolved Organic (DOC)	LCS		Water	21.27 mg/L	10 mL	21.3 mg/L	1	0.07	0.50	85		6/24/20 15:24:00	N	II
KQ2008586-15	Carbon, Total Organic	LCS		Water	21.27 mg/L	10 mL	21.3 mg/L	1	0.07	0.50	85		6/24/20 15:24:00	N	II
KQ2008586-16	Carbon, Dissolved Organic (DOC)	LCS		Water	21.23 mg/L	10 mL	21.2 mg/L	1	0.07	0.50	85		6/25/20 15:24:00	N	II
KQ2008586-16	Carbon, Total Organic	LCS		Water	21.23 mg/L	10 mL	21.2 mg/L	1	0.07	0.50	85		6/25/20 15:24:00	N	II
KQ2008586-17	Carbon, Dissolved Organic (DOC)	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-17	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-18	Carbon, Dissolved Organic (DOC)	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 15:24:00	N	II
KQ2008586-18	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 15:24:00	N	II

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

685090

Schedule: 062420

Version: 3
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/06/24 12:57 - Wednesday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [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	K2005033-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2005033-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2005033-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2005033-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2005033-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2005033-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2005033-005	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	K2005033-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2005033-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2005033-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2005033-009	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2005033-010	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2005033-011	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2005033-012	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2005033-013	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2005033-014	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2005033-015	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	K2005033-016	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2005055-001 5155-1	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2005055-001D 1D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2005055-001MS 1MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2004931-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2004931-002 10X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2004931-003 5X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	RB	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	IPR1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
30	Sample	IPR2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
31	Sample	IPR3	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
32	Sample	IPR4	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 062420
Wednesday, June 24, 2020 01:08 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/06/25 08:33 - Thursday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	062420	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) (v3)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/24 13:08

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.14	21.43	8.29	49.74	07:58
2	TC Clean	16.86	20.40	3.54	49.56	07:15
3	TC Clean	4.24	7.92	3.68	49.69	07:01
4	TC Clean	3.14	6.85	3.71	49.56	07:03

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/24 13:43

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.76	5.30	3.53	49.70	07:58
2	TC Clean	6.48	10.27	3.79	49.74	07:17
3	TC Clean	2.78	6.27	3.49	49.61	06:58
4	TC Clean	2.62	6.15	3.53	49.68	07:00

Sample Type: Clean

From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/24 14:17

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.29	4.78	3.49	50.02	07:59
2	TC Clean	6.02	9.41	3.39	49.90	07:15
3	TC Clean	2.82	6.39	3.57	49.92	06:59
4	TC Clean	2.34	5.96	3.62	49.99	07:02

Sample Type: Blank (Creating v1399)

From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/06/24 14:51

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.08	4.53	3.45	49.62	05:09
2	TC Clean	5.16	8.69	3.53	50.04	04:08
3	TC Clean	2.27	5.80	3.53	49.99	03:44
4	TC Clean	2.06	5.56	3.50	49.99	03:43
5	Reagent Blank	4.00	7.57	3.58	50.06	05:05
6	Acid Blank	1.35	4.87	3.52	49.56	05:25

Sample Type: Sample

From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/24 15:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.28	12.12	3.84	50.26	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.1875 ppm (PASS)	0.0000 ppm	0%	2020/06/24 15:39

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.1875	251.8750	186.58	190.40	3.82	50.36	10:32

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

Sample Type: Check Standard --> CCB

From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/06/24 15:54

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.15	10.87	3.72	50.42	10:32

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

Sample Type: Sample

From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/24 16:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.34	10.03	3.69	50.54	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS

From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	21.2699 ppm (PASS)	0.0000 ppm	0%	2020/06/24 16:23

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

	Type									
C	TOC	25.0 ppm	1	21.2699	212.6994	159.10	162.58	3.48	50.61	10:30

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

Sample Type: Sample — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	2	TOC	ICS	0.0946 ppm	0.0000 ppm	0.0000%	2020/06/24 16:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0946	0.9459	9.83	13.28	3.45	50.53	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	3	TOC	K2005033-001	3.6621 ppm	0.0124 ppm	0.3400%	2020/06/24 16:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.6709	36.7088	34.92	38.46	3.54	50.51	10:27
2	TOC	3.6533	36.5334	34.80	38.39	3.59	50.53	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	4	TOC	K2005033-001D	3.4551 ppm	0.0144 ppm	0.4200%	2020/06/24 17:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4449	34.4493	33.34	36.90	3.56	50.48	10:28
2	TOC	3.4653	34.6531	33.48	37.04	3.57	50.46	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	5	TOC	K2005033-001MS	29.9525 ppm	0.0990 ppm	0.3300%	2020/06/24 17:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	29.8825	298.8250	218.79	222.32	3.53	50.42	10:28
2	TOC	30.0225	300.2249	219.77	223.35	3.58	50.41	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC)	CAS_salt_010711	CAS_salt_010711

(v1399) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K2005033-002	1.9501 ppm	0.0177 ppm	0.9100%	2020/06/24 18:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9626	19.6264	22.94	26.51	3.57	50.41	10:31
2	TOC	1.9375	19.3755	22.76	26.30	3.54	50.41	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2005033-003	0.1059 ppm	0.0328 ppm	30.9300%	2020/06/24 18:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1291	1.2909	10.07	13.57	3.49	50.32	10:28
2	TOC	0.0828	0.8276	9.75	13.35	3.60	50.27	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2005033-004	2.6768 ppm	0.0133 ppm	0.5000%	2020/06/24 19:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6862	26.8625	28.01	31.42	3.41	50.19	10:27
2	TOC	2.6674	26.6743	27.88	31.45	3.57	50.11	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	9	TOC	K2005033-005	1.6968 ppm	0.0392 ppm	2.3100%	2020/06/24 19:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7246	17.2457	21.27	24.54	3.27	50.02	10:27
2	TOC	1.6691	16.6911	20.88	24.30	3.42	50.00	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time

◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.4913 ppm (PASS)	0.0000 ppm	0%	2020/06/24 20:09

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.4913	254.9129	188.71	192.19	3.48	49.91	10:33

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

Sample Type: Check Standard --> CCB

From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/06/24 20:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.96	10.50	3.55	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 (v38)	0 ppmC

Sample Type: Sample

From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2005033-006	2.2030 ppm	0.0417 ppm	1.8900%	2020/06/24 20:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2325	22.3249	24.83	28.49	3.66	49.81	10:26
2	TOC	2.1735	21.7348	24.42	27.93	3.51	49.89	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2005033-007	0.2617 ppm	0.0152 ppm	5.8200%	2020/06/24 21:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2725	2.7250	11.08	14.69	3.60	49.89	10:28
2	TOC	0.2510	2.5098	10.93	14.50	3.57	49.86	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2005033-008	1.5918 ppm	0.0075 ppm	0.4700%	2020/06/24 21:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5866	15.8658	20.30	23.83	3.53	49.84	10:27
2	TOC	1.5971	15.9712	20.37	23.89	3.51	49.83	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2005033-009	0.1906 ppm	0.0124 ppm	6.5000%	2020/06/24 22:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1994	1.9937	10.57	14.19	3.63	49.82	10:32
2	TOC	0.1818	1.8184	10.44	14.01	3.57	49.82	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2005033-010	2.1362 ppm	0.0231 ppm	1.0800%	2020/06/24 22:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1525	21.5252	24.27	27.90	3.63	49.80	10:30
2	TOC	2.1199	21.1987	24.04	27.65	3.61	49.78	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2005033-011	2.9340 ppm	0.0000 ppm	0.0000%	2020/06/24 22:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.9340	29.3401	29.75	33.15	3.40	49.80	10:28
2	TOC	2.9340	29.3401	29.75	33.36	3.61	49.81	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2005033-012	2.4029 ppm	0.0467 ppm	1.9400%	2020/06/24 23:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4359	24.3592	26.26	29.83	3.57	49.80	10:28

2	TOC	2.3699	23.6992	25.79	29.40	3.61	49.81	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	K2005033-013	2.7039 ppm	0.0345 ppm	1.2700%	2020/06/24 23:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7283	27.2830	28.31	31.91	3.60	49.80	10:27
2	TOC	2.6795	26.7955	27.97	31.56	3.60	49.83	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K2005033-014	1.8721 ppm	0.0032 ppm	0.1700%	2020/06/25 00:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8698	18.6983	22.29	25.96	3.67	49.84	10:32
2	TOC	1.8744	18.7439	22.32	26.06	3.74	49.84	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	19	TOC	K2005033-015	1.0671 ppm	0.0226 ppm	2.1200%	2020/06/25 00:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0831	10.8307	16.77	20.33	3.56	49.86	10:29
2	TOC	1.0511	10.5114	16.54	20.02	3.47	49.86	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.2625 ppm (PASS)	0.0000 ppm	0%	2020/06/25 01:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.2625	252.6248	187.10	190.70	3.60	49.87	10:31

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

Sample Type: Check Standard --> CCB From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/06/25 01:34

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.19	9.80	3.61	49.89	10:33

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

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/25 01:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.78	9.36	3.58	49.89	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	21.2267 ppm (PASS)	0.0000 ppm	0%	2020/06/25 02:04

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	21.2267	212.2675	158.79	162.22	3.42	49.90	10:32

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

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2005033-016	0.6296 ppm	0.0460 ppm	7.3000%	2020/06/25 02:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6621	6.6210	13.81	17.30	3.48	49.92	10:30
2	TOC	0.5971	5.9710	13.36	16.89	3.53	49.92	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	22	TOC	SISS K2005055-001 MC 6/26/20	1.8225 ppm	0.0325 ppm	1.7800%	2020/06/25 02:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8455	18.4546	22.12	25.55	3.44	49.93	10:26
2	TOC	1.7996	17.9955	21.79	25.35	3.56	49.94	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	23	TOC	K2005055-001D SISS MC 6/26/20	1.8038 ppm	0.0456 ppm	2.5300%	2020/06/25 03:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8360	18.3605	22.05	25.52	3.47	49.94	10:30
2	TOC	1.7716	17.7161	21.60	25.20	3.61	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	MC 6/26/20 K2005055-001MS SISS	28.0975 ppm	0.0078 ppm	0.0300%	2020/06/25 03:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.0920	280.9201	206.23	209.94	3.71	49.95	10:28
2	TOC	28.1030	281.0298	206.31	209.88	3.57	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2004931-001	19.8779 ppm	0.4176 ppm	2.1000%	2020/06/25 04:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	19.5826	195.8260	146.54	150.22	3.68	49.95	10:28

2	TOC	20.1732	201.7321	150.68	154.38	3.70	49.96	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2004931-002 10X	2.9962 ppm	0.0651 ppm	2.1700%	2020/06/25 04:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0422	30.4221	30.51	34.24	3.73	49.95	10:26
2	TOC	2.9501	29.5012	29.86	33.58	3.71	49.94	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2004931-003 5X	1.1662 ppm	0.0292 ppm	2.5100%	2020/06/25 05:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1869	11.8685	17.50	21.02	3.53	49.93	10:26
2	TOC	1.1455	11.4551	17.20	20.81	3.61	49.94	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/25 05:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.14	11.80	3.66	49.92	10:28
2	TOC	0.0000	0.0000	7.95	11.65	3.70	49.93	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0883 ppm (PASS)	0.0000 ppm	0%	2020/06/25 06:03

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0883	250.8828	185.88	189.40	3.52	49.94	10:34

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

Sample Type: Check Standard --> CCB From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/06/25 06:17

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.55	11.06	3.51	49.93	10:30

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

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	IPR1	26.2288 ppm	0.0000 ppm	0.0000%	2020/06/25 06:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.2288	262.2881	193.16	196.69	3.53	49.93	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	IPR2	26.3111 ppm	0.0000 ppm	0.0000%	2020/06/25 06:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.3111	263.1106	193.74	197.32	3.58	49.94	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	IPR3	26.2508 ppm	0.0000 ppm	0.0000%	2020/06/25 07:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.2508	262.5076	193.31	196.87	3.55	49.92	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC)	CAS_salt_010711	CAS_salt_010711

(v1399) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	IPR4	26.2325 ppm	0.0000 ppm	0.0000%	2020/06/25 07:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.2325	262.3252	193.19	196.74	3.56	49.92	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0998 ppm (PASS)	0.0000 ppm	0%	2020/06/25 07:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0998	250.9983	185.96	189.54	3.57	49.90	10:30

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

Sample Type: Check Standard --> CCB From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/06/25 07:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.01	10.66	3.65	49.89	10:33

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

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1398	1.1570	1.0000	0.0000	0.0000	0.0000	2020/06/17 19:22	Fusion1 (Fusion1)
v1399	1.3330	1.3500	0.0000	0.0000	0.0000	2020/06/24 15:24	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38

Ver Creation: 2020/06/13 16:40

Comment:

Operator: Fusion1 (Fusion1)

Basic Analysis Type: TOC

Calibration curve formula: TOC: y = 7.015x + 9.892

r^2 value: TOC: r^2 = 0.99974

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4

Ver Creation: 2019/02/21 17:57

Comment:

Operator: Fusion1 (Fusion1)

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
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	2020/06/25 08:00

ALS Environmental

StarLIMS Run: 685090

Analysis: DOC/TOC

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

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-17-B 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

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-08-22-D

21 % H3PO4: 19-GEN-08-22-C

Equipment ID: K-TOC-03

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

FILTER ID: 16967789

Analyzed By: mk	Date Analyzed: 6/24/2020
Reviewed By:	Date Reviewed: 6/26/20

HS20060840 WC Raw Data

ALS WO# HS20060840

NIT-AMN- W-ISE/ 350.3

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Logbook **31220**

Ion Selective Electrode Logbook

Analyst: MD	Date: 6122120 10:15AM
Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F	

Probe Calibration Date:	Cal Std ID:	Probe ID:
6122120	3131069(08-70)-01	X01- 11806

Std Level		mV	Conc., mg/L:
STD 1 (mg/L):	0.2	134.4	0.201
STD 2 (mg/L):	1	95.7	1.002
STD 3 (mg/L):	5	54.3	5.004

Sodium Thiosulfate ID: 3100601618

Std Level	mV	Conc., mg/L:
STD 4 (mg/L): 10	36.2	10.014
STD 5 (mg/L): 50	-3.5	50048

LSC / MS Spike ID:	3100601709
ICV Cal STD ID:	3100601908 MD 6122120
DPD Reagent ID:	3100601821

ICAL Date & Slope: 94.14.1 -55.5mV

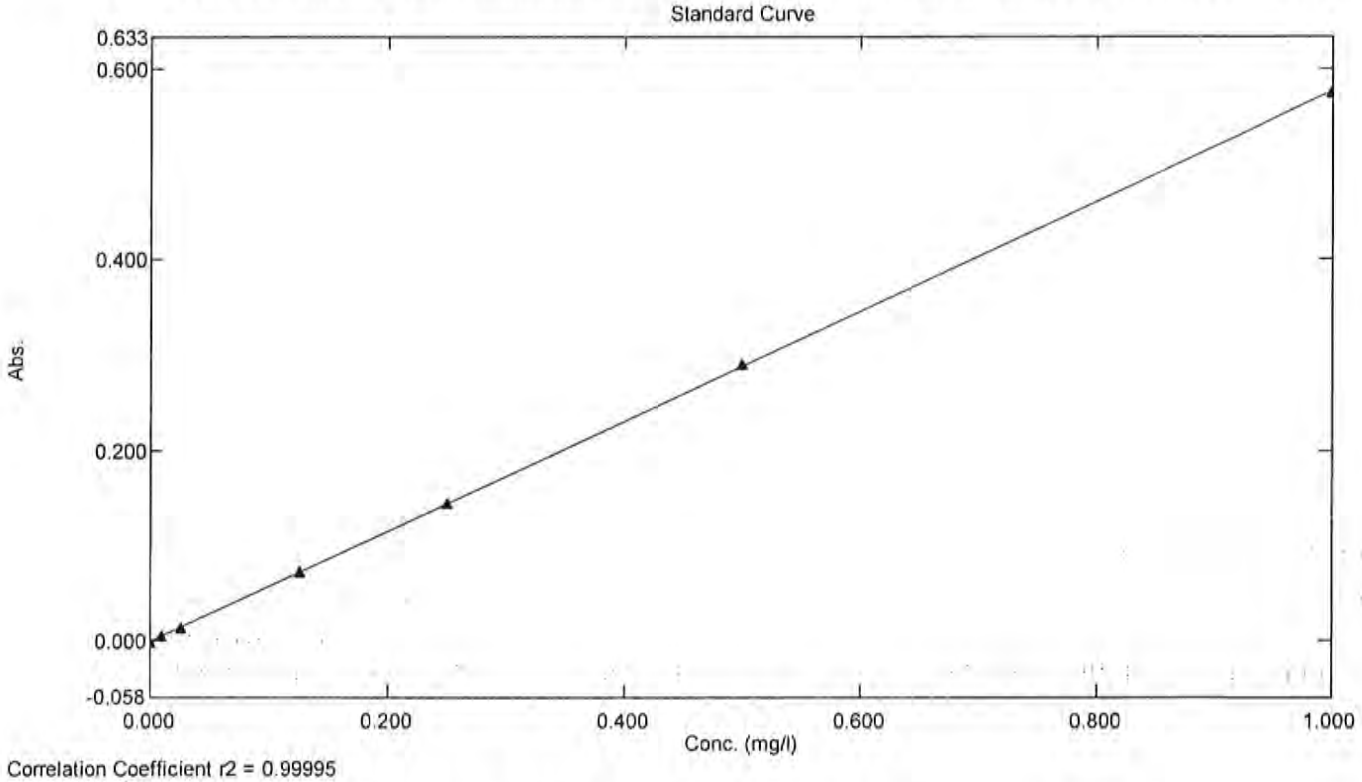
WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Chlorine Check (+/-)	Comments
ICV		50ml	50ml		9.590			
CCB		↓	↓		0.007			
MBLK		50ml	50ml		0.008			
LCS					9.846			
MS20060750-01					0.294		-ve	
761-01					0.123		+ve	Rechecked
750-01MS					10.288			
750-01MSD					10.693			
840-01					9.040		-ve	
866-01					0.140		-ve	
958-01					0.556		+ve	Rechecked
CCV		50ml	50ml		9.598			
CCB		↓	↓		0.012			

Batch ID:	Reported By	Reviewed By:
363664 / 363665	MD	KL

Standard Table Report

06/30/2020 04:23:08 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\061720_P_ORTHO.pho..p



Correlation Coefficient r2 = 0.99995

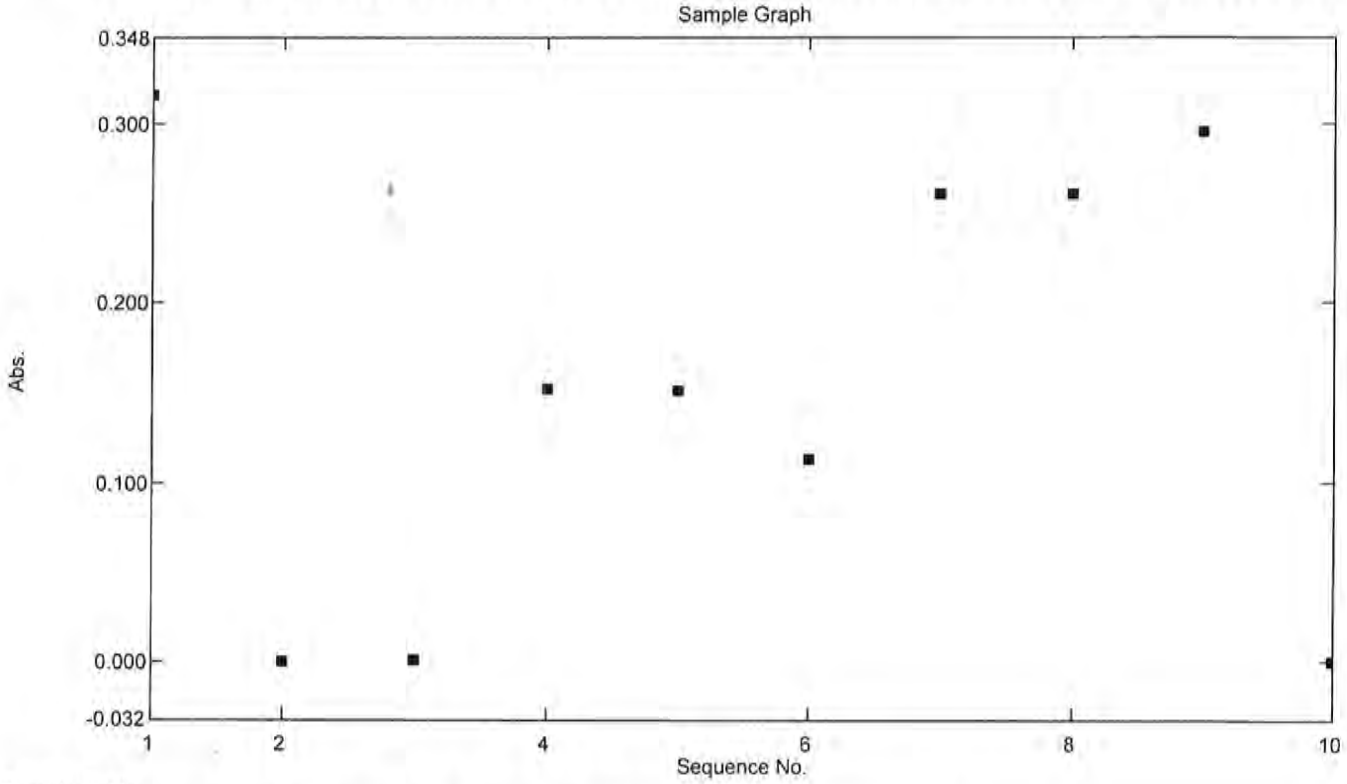
Standard Table

	Sample ID	Type	Ex	Conc	WL880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	-0.001	1.000	
2	STD2	Standard		0.010	0.005	1.000	
3	STD3	Standard		0.025	0.013	1.000	
4	STD4	Standard		0.125	0.073	1.000	
5	STD5	Standard		0.250	0.145	1.000	
6	STD6	Standard		0.500	0.290	1.000	
7	STD7	Standard		1.000	0.575	1.000	
8							

Sample Table Report

06/30/2020 04:23:12 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\061720_P_ORTHO.pho..p



Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.549	0.316	313107109 WC-14
2	CCB	Unknown		-0.001	-0.000	
3	MBLK	Unknown		0.000	0.000	
4	LCS	Unknown		0.264	0.152	313107108 WC-14
5	LCSD	Unknown		0.262	0.151	
6	HS20060840.01	Unknown		0.196	0.113	PF:10X
7	HS20060840.01M	Unknown		0.453	0.261	PF:10X
8	HS20060840.01M	Unknown		0.452	0.261	PF:10X
9	CCV2	Unknown		0.513	0.295	C-313107109 UV-11
10	CCB2	Unknown		-0.001	-0.001	
11						

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

WorkOrder: HS20061177

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

16-Jul-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

Table of Contents

HS20061177 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS20061177

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

July 09, 2020

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

Work Order: **HS20061177**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Jun 24, 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: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20061177

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20061177-01	LH18/24-SP650_062320	Water		23-Jun-2020 14:00	24-Jun-2020 09:30	☐
HS20061177-02	LH18/24-SP650_062320-BIX	Water		23-Jun-2020 14:00	24-Jun-2020 09:30	☐

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20061177

Work Order Comments

• The analysis for TOC was subcontracted to ALS Environmental in Kelso, WA. Final Report attached.

Work Order Comments

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

WetChemistry by Method E350.3

Batch ID: R364216

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

WetChemistry by Method E365.3

Batch ID: R363866

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

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Sample ID: LH18/24-SP650_062320
Collection Date: 23-Jun-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20061177
Lab ID:HS20061177-01
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)	**14**	a	**0.20**	**0.10**	**0.20**	**mg/L**	1	30-Jun-2020 12:15
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: KVL
Phosphorus, Total Orthophosphate (As P)	**1.83**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	24-Jun-2020 17:50
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	01-Jul-2020 10:12

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

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20061177
Sample ID: LH18/24-SP650_062320-BIX
Lab ID:HS20061177-02
Collection Date: 23-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	09-Jul-2020 15:43

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

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20061177

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R363866 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20061177-01	LH18/24-SP650_062320	23 Jun 2020 14:00			24 Jun 2020 17:50	10
Batch ID: R364216 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20061177-01	LH18/24-SP650_062320	23 Jun 2020 14:00			30 Jun 2020 12:15	1
Batch ID: R364297 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20061177-01	LH18/24-SP650_062320	23 Jun 2020 14:00			01 Jul 2020 10:12	1
Batch ID: R364809 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20061177-02	LH18/24-SP650_062320-BIX	23 Jun 2020 14:00			09 Jul 2020 15:43	1

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20061177

QC BATCH REPORT

Batch ID: R363866 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

MBLK Sample ID: **MBLK-R363866** Units: **mg/L** Analysis Date: **24-Jun-2020 17:50**
Client ID: Run ID: **UV-2450_363866** SeqNo: **5634406** 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-R363866** Units: **mg/L** Analysis Date: **24-Jun-2020 17:50**
Client ID: Run ID: **UV-2450_363866** SeqNo: **5634405** 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)	0.28	0.0250	0.25	0	112	85 - 115				

MS Sample ID: **HS20061177-01MS** Units: **mg/L** Analysis Date: **24-Jun-2020 17:50**
Client ID: **LH18/24-SP650_062320** Run ID: **UV-2450_363866** SeqNo: **5634408** 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)	4.63	0.250	2.5	1.83	112	80 - 120				

MSD Sample ID: **HS20061177-01MSD** Units: **mg/L** Analysis Date: **24-Jun-2020 17:50**
Client ID: **LH18/24-SP650_062320** Run ID: **UV-2450_363866** SeqNo: **5634407** 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)	4.58	0.250	2.5	1.83	110	80 - 120	4.63	1.09	20	

The following samples were analyzed in this batch: HS20061177-01

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20061177

QC BATCH REPORT

Batch ID: R364216 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-364216** Units: **mg/L** Analysis Date: **30-Jun-2020 12:15**
Client ID: Run ID: **WetChem_HS_364216** SeqNo: **5643984** 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-364216** Units: **mg/L** Analysis Date: **30-Jun-2020 12:15**
Client ID: Run ID: **WetChem_HS_364216** SeqNo: **5643985** 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)	10.39	0.20	10	0	104	80 - 120				

MS Sample ID: **HS20061119-01MS** Units: **mg/L** Analysis Date: **30-Jun-2020 12:15**
Client ID: Run ID: **WetChem_HS_364216** SeqNo: **5643988** 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)	11.34	0.20	10	0.809	105	80 - 120				

MSD Sample ID: **HS20061119-01MSD** Units: **mg/L** Analysis Date: **30-Jun-2020 12:15**
Client ID: Run ID: **WetChem_HS_364216** SeqNo: **5643989** 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)	11.1	0.20	10	0.809	103	80 - 120	11.34	2.22	20	

The following samples were analyzed in this batch: HS20061177-01

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20061177**

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
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-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: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20061177

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20061177-01	LH18/24-SP650_062320	Login	6/24/2020 3:54:23 PM	PMG	WET158
HS20061177-01	LH18/24-SP650_062320	Login	6/24/2020 3:54:23 PM	PMG	WET158
HS20061177-01	LH18/24-SP650_062320	Login	6/24/2020 3:54:23 PM	PMG	Sub
HS20061177-02	LH18/24-SP650_062320-BIX	Login	6/24/2020 3:54:23 PM	PMG	Sub

ALS Houston, US Date: 09-Jul-20

Sample Receipt Checklist

Work Order ID: HS20061177 **Date/Time Received:** 24-Jun-2020 09:30

Client Name: Bhate Environmental **Received by:** Nilesh D. Ranchod

Completed By:	/S/ Paresh M. Giga	24-Jun-2020 15:55	**Reviewed by:**	/S/ RJ Modashia	24-Jun-2020 22:08
	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):	2.2C U/c	IR25
Cooler(s)/Kit(s):	43078	
Date/Time sample(s) sent to storage:	6/24/2020 16:05	

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 (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. NWO1312.0150.016.0001

Job:
GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number:

HS20061177
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

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_062320	Water	06/23/20 / 14:00		3	X	X								H2SO4	
LH18/24-SP650_-062320	Water	06/23/20 / 14:00		1			X							NONE	
LH18/24–SP650_062320_BIX	Water	06/23/20 / 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	06/23/20	14:30	AL	6/24/20	09:30						

For Lab Use Only

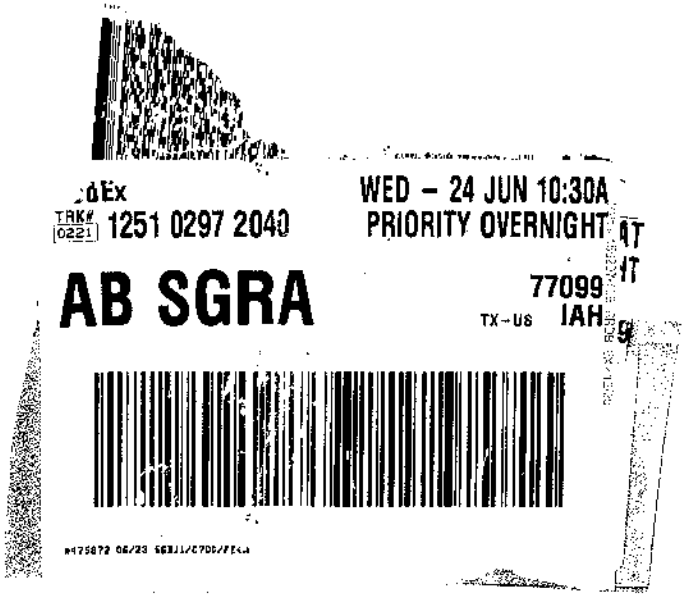
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

43073 Temp UIC 2.2
IR#25 4100

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

ALS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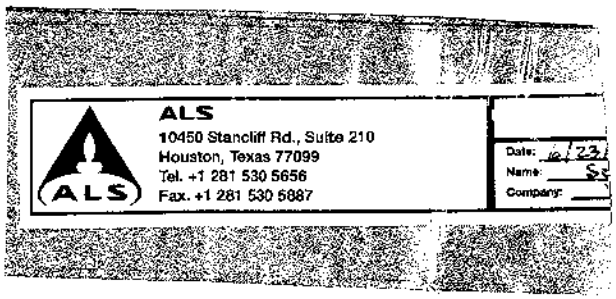
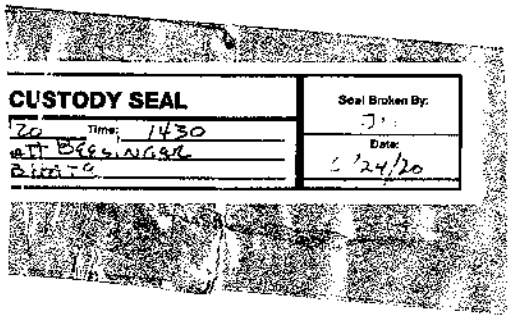
WED – 24 JUN 10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US IAH


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: 1430
Seal Broken By:
Date:
6/24/20

July 09, 2020 Service Request No:E2000588

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

Laboratory Results for: HS20061177

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 25, 2020
For your reference, these analyses have been assigned our service request number **E2000588.**

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.:**	E2000588
Project:	HS20061177	**Date Received:**	06/25/20
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 06/25/20.

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:

EQ2000288: 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 & 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:**E2000588
Project: HS20061177

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000588-001	LH18/24-SP650_062320-BIX	6/23/2020	1400

Service Request Summary

Folder #: **E2000588**
Client Name: ALS Environmental - US
Project Name: HS20061177
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: 06/25/20
Internal Due Date: 7/9/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20061177
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 8A
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000588-001	LH18/24-SP650_062320-BIX	Water	06/23/20 1400	**IV**

Service Request Summary

Folder #: **E2000588**
Client Name: ALS Environmental - US
Project Name: HS20061177
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: 06/25/20
Internal Due Date: 7/9/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20061177
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 8A
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	Level IV due 7/9,level II 7/16

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

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
Department of Defense	A2LA 2897.01	11/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352	7/31/2020
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
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 York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
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

ALS

Chain of Custody

ALS Environmental - Houston HRMS
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www.alsglobal.com

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T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14185**

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:	HS20061177
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20061177-02**	**LH18/24-SP650_062320-BIX**	**Water**	**23 Jun 2020 14:00**
	SUB_Perch-6850			09 Jul 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. Mathews Date/Time: 6/25/20 09:30

Received By: Date/Time: 6/25/20 09:30

Cooler ID(s): Temperature(s):

Cooler Receipt Form

ALS Environmental

Project Chemist CG

Client/Project ALS-H Thermometer ID IR1

Date/Time Received: 6/25/20 Initials: CG Date/Time Logged in: 6/25/20 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

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

3. Were custody seals on coolers? ○ Yes ✓ No If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

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

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

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		6/25/20	0430	CG	2.1	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

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Houston, TX 77099
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F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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

Preparation Information Benchsheet

Prep Run#: 361280 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 7/8/20 14:51

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000588-001	LH18/24-SP650_062320-BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000606-001	LH18/24-SP650_063020-BIX	.01	6850/ClO4 DOD			Water	10mL	
3	EQ2000288-01	MB		6850/ClO4 DOD			Liquid	10mL	
4	EQ2000288-02	LCS		6850/ClO4 DOD			Liquid	10mL	
5	EQ2000288-03	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

E2000588-001 100.00µL E2000606-001 100.00µL EQ2000288-01 100.00µL EQ2000288-02 100.00µL EQ2000288-03 100.00µL

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

EQ2000288-02 1.00µL EQ2000288-03 1.00µL

Preparation Steps

Step: Preparation
Started: 7/8/20 14:51
Finished: 7/8/20 16:00
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 7/9/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000588
Project:	HS20061177	**Date Collected:**	6/23/20 1400
Sample Matrix:	Water	**Date Received:**	6/25/20
Sample Name:	LH18/24-SP650_062320-BIX	**Units:**	µg/L
Lab Code:	E2000588-001	**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	7/ 8/20	7/8/20 18:29	361280	686082	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000588
Project:	HS20061177	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000288-01	**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	7/ 8/20	7/8/20 18:05	361280	686082	

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: HS20061177
Sample Matrix: Water

Service Request: E2000588
Date Analyzed: 7/ 8/20

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: 361280

	Lab Control Sample EQ2000288-02			Duplicate Lab Control Sample EQ2000288-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.102	0.100	102	0.107	0.100	107	84 - 119	6	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:**	E2000588
Project:	HS20061177	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000288-02	**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	**0.102**		0.100	0.0500	0.0250	1	7/ 8/20	7/8/20 18:13	361280	686082	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000588
Project:	HS20061177	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000288-03	**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	7/ 8/20	7/8/20 18:21	361280	686082	

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June 30, 2020

Analytical Report for Service Request No: K2005296

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

RE: HS20061177

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 25, 2020
For your reference, these analyses have been assigned our service request number **K2005296.**

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

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
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www.alsglobal.com

Table of Contents

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

ALS Environmental

Client: ALS Environmental - US
Project: HS20061177
Sample Matrix: Water

Service Request: K2005296
Date Received: 06/25/2020

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 06/25/2020. 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 06/30/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
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K2005296

10450 Stancliff Rd, Ste 210
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:** **14186**

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:	

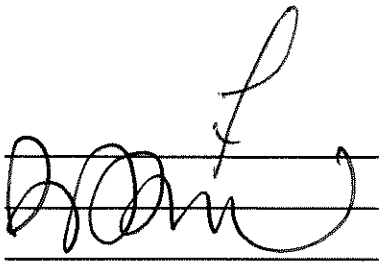
INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20061177
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20061177-01**	**LH18/24-SP650_062320**	**Water**	**23 Jun 2020 14:00**
	TOC Analysis for DOD Level IV			09 Jul 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: 6/24/2020 1800.

Received By:

Date/Time: 6/25/20 0935

Cooler ID(s):

Temperature(s):

PC KL

Cooler Receipt and Preservation Form

Client AIR - HOUSTON Service Request K2005296

Received: 6/25/20 Opened: 6/25/20 By: BR Unloaded: 6/25/20 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 6	Tracking Number NA	Filed
1.3	—	—	—	—	12.02		189188778603	

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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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2005296
Project:	HS20061177	**Date Collected:**	06/23/20
Sample Matrix:	Water	**Date Received:**	06/25/20
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_062320	K2005296-001	**2.10**	0.50	0.20	0.07	1	06/26/20 16:56	
Method Blank	K2005296-MB1	ND U	0.50	0.20	0.07	1	06/25/20 16:56	
Method Blank	K2005296-MB2	ND U	0.50	0.20	0.07	1	06/26/20 16:56	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2005296
Project:	HS20061177	**Date Analyzed:**	06/25/20
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:	685091

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2005296-LCS1	21.2	25.0	85	83-117
Lab Control Sample	K2005296-LCS2	21.1	25.0	84	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2005296
Project: HS20061177

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	685091	KQ2008648-01	06/25/20 16:56	25.0	25.3	101	90-110
CCV2	685091	KQ2008648-02	06/25/20 16:56	25.0	25.1	101	90-110
CCV3	685091	KQ2008648-03	06/25/20 16:56	25.0	25.7	103	90-110
CCV4	685091	KQ2008648-04	06/26/20 16:56	25.0	24.7	99	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2005296
Project: HS20061177

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	685091	KQ2008648-05	06/25/20 16:56	0.50	0.20	0.07	ND	U
CCB2	685091	KQ2008648-06	06/25/20 16:56	0.50	0.20	0.07	ND	U
CCB3	685091	KQ2008648-07	06/25/20 16:56	0.50	0.20	0.07	ND	U
CCB4	685091	KQ2008648-08	06/26/20 16:56	0.50	0.20	0.07	ND	U

Raw Data

ALS Environmental—Kelso Laboratory
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General Chemistry

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Work Request # Original (4984) 5020 5185 5260 5295 5296 5111 5174

Tier: II II I II N N II II

Date Analyzed: 6/25/20

Analyst: MK/GB

Run # 1085091 1085092

Analysis: TOC/DOC

DATA QUALITY REPORT
INORGANICS

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

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

COMMENTS:

Rerun 5174 DOC DIL
Rerun 5295-2,3 DIL
Rerun 5020-2,4 DOC Due to carryover

Final Approved by: _____ Date: 6/30/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** MKANALY **Analysis Lot:** 685091 **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
K2004984-001	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-002	Carbon, Total Organic	N/A		Water	0.48 mg/L	10 mL	0.48 mg/L J	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-003	Carbon, Total Organic	N/A		Water	0.50 mg/L	10 mL	0.50 mg/L J	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-004	Carbon, Total Organic	N/A		Water	0.40 mg/L	10 mL	0.40 mg/L J	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-005	Carbon, Total Organic	N/A		Water	0.50 mg/L	10 mL	0.50 mg/L	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-006	Carbon, Total Organic	N/A		Water	0.19 mg/L	10 mL	0.19 mg/L J	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-007	Carbon, Total Organic	N/A		Water	0.96 mg/L	10 mL	0.96 mg/L	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-008	Carbon, Total Organic	N/A		Water	0.41 mg/L	10 mL	0.41 mg/L J	1	0.07	0.50			6/25/20 16:56:00	N	II
K2005020-001	Carbon, Total Organic	N/A		Water	3.97 mg/L	10 mL	3.97 mg/L	1	0.07	0.50			6/25/20 16:56:00	N	II
K2005020-003	Carbon, Total Organic	N/A		Water	2.87 mg/L	10 mL	2.87 mg/L	1	0.07	0.50			6/25/20 16:56:00	N	II
K2005185-002	Carbon, Total Organic	N/A		Drinking Water	0.45 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 16:56:00	N	I
K2005260-001	Carbon, Total Organic	N/A		Water	2.10 mg/L	10 mL	2.10 mg/L	1	0.07	0.50			6/26/20 16:56:00	N	II
K2005295-001	Carbon, Total Organic	N/A		Ground Water	3.17 mg/L	10 mL	3.17 mg/L	1	0.07	0.50			6/26/20 16:56:00	N	IV
K2005295-002.R01	Carbon, Total Organic	N/A		Ground Water	50.22 mg/L	10 mL	50.2 mg/L	1	0.07	0.50			6/26/20 16:56:00	N	IV
K2005295-003.R01	Carbon, Total Organic	N/A		Ground Water	57.82 mg/L	10 mL	57.8 mg/L	1	0.07	0.50			6/26/20 16:56:00	N	IV
K2005295-004	Carbon, Total Organic	N/A		Ground Water	7.28 mg/L	10 mL	7.28 mg/L	1	0.07	0.50			6/26/20 16:56:00	N	IV
K2005296-001	Carbon, Total Organic	N/A		Water	2.10 mg/L	10 mL	2.10 mg/L	1	0.07	0.50			6/26/20 16:56:00	N	IV
KQ2008648-01	Carbon, Total Organic	CCV		Water	25.34 mg/L	10 mL	25.3 mg/L	1					6/25/20 16:56:00	N	II
KQ2008648-02	Carbon, Total Organic	CCV		Water	25.13 mg/L	10 mL	25.1 mg/L	1					6/25/20 16:56:00	N	II
KQ2008648-03	Carbon, Total Organic	CCV		Water	25.73 mg/L	10 mL	25.7 mg/L	1					6/25/20 16:56:00	N	II
KQ2008648-04	Carbon, Total Organic	CCV		Water	24.66 mg/L	10 mL	24.7 mg/L	1					6/26/20 16:56:00	N	II
KQ2008648-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 16:56:00	N	II
KQ2008648-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 16:56:00	N	II
KQ2008648-07	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 16:56:00	N	II
KQ2008648-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 16:56:00	N	II
KQ2008648-09	Carbon, Total Organic	LCS		Water	21.24 mg/L	10 mL	21.2 mg/L	1	0.07	0.50	85		6/25/20 16:56:00	N	II
KQ2008648-10	Carbon, Total Organic	LCS		Water	21.07 mg/L	10 mL	21.1 mg/L	1	0.07	0.50	84		6/26/20 16:56:00	N	II
KQ2008648-11	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 16:56:00	N	II
KQ2008648-12	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 16:56:00	N	II
KQ2008648-13	Carbon, Total Organic	DUP	K2004984-001	Water	0.47 mg/L	10 mL	0.47 mg/L J	1	0.07	0.50		NC	6/25/20 16:56:00	N	II
KQ2008648-14	Carbon, Total Organic	MS	K2004984-001	Water	27.49 mg/L	10 mL	27.5 mg/L	1	0.07	0.50	110		6/25/20 16:56:00	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:** MKANALY **Analysis Lot:** 685092 **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
K2005020-002.R01	Carbon, Dissolved Organic (DOC)	N/A		Water	14.51 mg/L	10 mL	14.5 mg/L	1	0.07	0.50			6/26/20 2 :27:00	N	II
K2005020-004.R01	Carbon, Dissolved Organic (DOC)	N/A		Water	4.42 mg/L	10 mL	4.42 mg/L	1	0.07	0.50			6/26/20 2 :27:00	N	II
K2005111-001	Carbon, Dissolved Organic (DOC)	N/A		Water	5.11 mg/L	10 mL	5.11 mg/L	1	0.07	0.50			6/26/20 2 :27:00	N	II
K2005111-002	Carbon, Dissolved Organic (DOC)	N/A		Water	2.15 mg/L	10 mL	2.15 mg/L	1	0.07	0.50			6/26/20 2 :27:00	N	II
K2005174-001.R01	Carbon, Dissolved Organic (DOC)	N/A		Water	61.16 mg/L	10 mL	61.2 mg/L	1	0.07	0.50			6/26/20 2 :27:00	N	II
KQ2008788-01	Carbon, Dissolved Organic (DOC)	CCV		Water	25.73 mg/L	10 mL	25.7 mg/L	1					6/26/20 2 :27:00	N	II
KQ2008788-02	Carbon, Dissolved Organic (DOC)	CCV		Water	24.66 mg/L	10 mL	24.7 mg/L	1					6/26/20 2 :27:00	N	II
KQ2008788-03	Carbon, Dissolved Organic (DOC)	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					6/26/20 2 :27:00	N	II
KQ2008788-04	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 2 :27:00	N	II
KQ2008788-05	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 2 :27:00	N	II
KQ2008788-06	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 2 :27:00	N	II
KQ2008788-07	Carbon, Dissolved Organic (DOC)	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 2 :27:00	N	II
KQ2008788-08	Carbon, Dissolved Organic (DOC)	LCS		Water	21.07 mg/L	10 mL	21.1 mg/L	1	0.07	0.50	84		6/26/20 2 :27:00	N	II
KQ2008788-09	Carbon, Dissolved Organic (DOC)	DUP	K2005111-002	Water	2.27 mg/L	10 mL	2.27 mg/L	1	0.07	0.50		5	6/26/20 2 :27:00	N	II
KQ2008788-10	Carbon, Dissolved Organic (DOC)	MS	K2005111-002	Water	28.50 mg/L	10 mL	28.5 mg/L	1	0.07	0.50	105		6/26/20 2 :27:00	N	II

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

685091
685092

Schedule: 062520

Version: 2
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/06/25 15:21 - Thursday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [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	K2004984-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2004984-00DD	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2004984-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2004984-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2004984-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2004984-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2004984-005	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	K2004984-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2004984-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2004984-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2005020-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2005020-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2005185-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2005296-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2005260-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2005295-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2005295-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
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	IB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
22	Sample	K2005295-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2005295-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2005174-001 DOC	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2005020-002 DOC	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2005020-004 DOC	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2005111-002 DOC	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2005111-002D 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
29	Sample	K2005111-002MS DOC	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
30	Sample	K2005211-001 10X DOC	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
31	Sample	FILTER BLANK	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
32	Sample	IB	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		CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 062520
Thursday, June 25, 2020 03:24 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/06/26 10:19 - Friday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	062520	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v3)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/25 15:24

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	14.94	19.26	4.32	49.76	05:21
2	TC Clean	8.82	12.52	3.70	50.02	04:04
3	TC Clean	2.22	6.13	3.90	50.04	03:47
4	TC Clean	1.89	5.61	3.72	50.02	03:56

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/25 15:46

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.76	4.31	3.55	49.48	05:20
2	TC Clean	4.53	7.90	3.37	49.87	04:00
3	TC Clean	1.94	5.54	3.60	49.99	03:52
4	TC Clean	1.69	5.47	3.78	49.91	03:54

Sample Type: Blank (Creating v1400) From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/06/25 16:08

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.91	4.46	3.55	49.55	05:20
2	TC Clean	4.31	7.97	3.66	50.02	04:01
3	TC Clean	2.02	5.68	3.67	49.96	03:45
4	TC Clean	1.71	5.49	3.78	49.97	03:44
5	Reagent Blank	2.82	6.71	3.90	50.00	05:06
6	Acid Blank	0.73	4.31	3.58	49.69	05:29

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.0055 ppm	0.0000 ppm	0.0000%	2020/06/25 16:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0055	0.0547	9.13	12.70	3.58	49.98	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

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)	25.3442 ppm (PASS)	0.0000 ppm	0%	2020/06/25 16:56

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.3442	253.4417	187.68	191.37	3.70	50.02	10:33

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

Sample Type: Check Standard --> CCB From Schedule Version 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%	2020/06/25 17:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.17	10.77	3.60	49.94	10:30

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

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/25 17:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.44	10.00	3.56	49.95	10:35

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

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

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	21.2411 ppm (PASS)	0.0000 ppm	0%	2020/06/25 17:41

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	21.2411	212.4114	158.89	162.69	3.79	50.01	10:30

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

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	2	TOC	ICS	0.0926 ppm	0.0000 ppm	0.0000%	2020/06/25 17:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	0.0926	0.9257	9.74	13.21	3.47	49.99	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	3	TOC	K2004984-001	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/25 18:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.50	9.96	3.46	50.00	10:27
2	TOC	0.0000	0.0000	5.98	9.59	3.62	50.06	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample

From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	4	TOC	K2004984-00DD	0.4748 ppm	0.0104 ppm	2.1900%	2020/06/25 18:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4675	4.6749	12.37	15.79	3.42	49.98	10:28
2	TOC	0.4822	4.8217	12.47	15.95	3.48	50.09	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	5	TOC	K2004984-001MS	27.4888 ppm	0.1546 ppm	0.5600%	2020/06/25 19:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.3795	273.7949	201.15	204.74	3.59	50.08	10:31
2	TOC	27.5982	275.9817	202.69	206.30	3.61	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	6	TOC	K2004984-002	0.4829 ppm	0.0931 ppm	19.2900%	2020/06/25 19:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5487	5.4875	12.94	16.57	3.63	50.08	10:26
2	TOC	0.4170	4.1702	12.02	15.65	3.64	49.98	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC)	CAS_salt_010711	CAS_salt_010711

(v1400) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2004984-003	0.4982 ppm	0.0350 ppm	7.0200%	2020/06/25 20:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5229	5.2294	12.76	16.42	3.66	49.98	10:25
2	TOC	0.4735	4.7348	12.41	16.10	3.69	49.95	10:22

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2004984-004	0.3952 ppm	0.0381 ppm	9.6400%	2020/06/25 20:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4222	4.2216	12.05	15.77	3.72	49.95	10:26
2	TOC	0.3683	3.6827	11.67	15.34	3.67	49.88	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2004984-005	0.5046 ppm	0.0254 ppm	5.0300%	2020/06/25 20:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5225	5.2251	12.76	16.12	3.36	49.92	10:25
2	TOC	0.4866	4.8659	12.50	15.94	3.44	49.85	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.1288 ppm (PASS)	0.0000 ppm	0%	2020/06/25 21:27

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.1288	251.2877	186.17	189.68	3.51	49.93	10:28

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

Sample Type: Check Standard --> CCB From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/06/25 21:41

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.67	10.19	3.52	49.85	10:32

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

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	10	TOC	K2004984-006	0.1907 ppm	0.0027 ppm	1.4300%	2020/06/25 21:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1926	1.9264	10.44	13.96	3.51	49.79	10:26
2	TOC	0.1888	1.8879	10.42	13.98	3.57	49.94	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2004984-007	0.9631 ppm	0.0021 ppm	0.2200%	2020/06/25 22:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9616	9.6158	15.84	19.48	3.65	49.87	10:28
2	TOC	0.9646	9.6458	15.86	19.55	3.70	49.84	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2004984-008	0.4122 ppm	0.0103 ppm	2.4900%	2020/06/25 22:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4194	4.1945	12.03	15.85	3.82	49.79	10:28
2	TOC	0.4049	4.0491	11.93	15.64	3.71	49.78	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2005020-001	3.9743 ppm	0.0053 ppm	0.1300%	2020/06/25 23:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.9781	39.7805	37.00	40.60	3.60	49.78	10:30
2	TOC	3.9705	39.7050	36.94	40.62	3.67	49.77	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2005020-003	2.8653 ppm	0.0288 ppm	1.0100%	2020/06/25 23:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8857	28.8565	29.33	32.82	3.49	49.79	10:26
2	TOC	2.8449	28.4488	29.05	32.63	3.58	49.79	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2005185-002	0.4475 ppm	0.0095 ppm	2.1200%	2020/06/26 00:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4542	4.5423	12.28	15.97	3.70	49.79	10:29
2	TOC	0.4408	4.4083	12.18	15.68	3.50	49.81	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2005296-001	2.0951 ppm	0.0493 ppm	2.3500%	2020/06/26 00:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1300	21.2997	24.03	27.63	3.60	49.83	10:26
2	TOC	2.0603	20.6026	23.54	27.20	3.66	49.83	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2005260-001	2.2722 ppm	0.0678 ppm	2.9900%	2020/06/26 01:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3201	23.2014	25.37	29.04	3.67	49.85	10:29

2	TOC	2.2242	22.2420	24.69	28.35	3.66	49.87	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2005295-001	3.1720 ppm	0.1152 ppm	3.6300%	2020/06/26 01:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.2534	32.5344	31.91	35.57	3.65	49.87	10:26
2	TOC	3.0905	30.9050	30.77	34.40	3.63	49.89	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2005295-002	50.2197 ppm	0.3945 ppm	0.7900%	2020/06/26 02:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	50.4987	504.9866	363.33	366.83	3.50	49.91	10:29
2	TOC	49.9407	499.4070	359.42	363.12	3.71	49.91	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.7335 ppm (PASS)	0.0000 ppm	0%	2020/06/26 02:37

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.7335	257.3349	190.41	194.00	3.60	49.92	10:33

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

Sample Type: Check Standard --> CCB — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/06/26 02:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.30	12.00	3.70	49.93	10:31

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

Sample Type: Sample — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/26 03:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.33	11.06	3.74	49.94	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	21.0675 ppm (PASS)	0.0000 ppm	0%	2020/06/26 03:21

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	21.0675	210.6751	157.68	161.41	3.74	49.94	10:31

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

Sample Type: Sample — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	IB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/26 03:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.71	10.50	3.79	49.96	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

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

◆	22	TOC	K2005295-003	67.8166 ppm	1.4457 ppm	2.1300%	2020/06/26 03:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	68.8388	688.3882	491.98	495.74	3.76	49.98	10:28
2	TOC	66.7943	667.9429	477.64	481.82	4.18	49.97	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2005295-004	7.2813 ppm	1.5161 ppm	20.8200%	2020/06/26 04:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.3534	83.5336	67.69	71.69	4.00	50.00	10:29
2	TOC	6.2093	62.0933	52.65	56.38	3.73	50.00	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2005174-001 DOC	61.1599 ppm	1.2078 ppm	1.9700%	2020/06/26 04:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	60.3059	603.0589	432.13	435.72	3.59	50.00	10:27
2	TOC	62.0140	620.1399	444.11	448.93	4.82	50.02	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2005020-002 DOC	14.5105 ppm	7.9724 ppm	54.9400%	2020/06/26 05:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	20.1478	201.4780	150.42	154.82	4.39	50.00	10:29
2	TOC	8.8731	88.7311	71.33	75.08	3.75	50.02	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2005020-004 DOC	4.4208 ppm	0.8373 ppm	18.9400%	2020/06/26 05:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.0129	50.1286	44.26	47.98	3.72	50.01	10:30
2	TOC	3.8288	38.2880	35.95	39.70	3.75	50.01	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	27	TOC	K2005111-002 DOC	2.1483 ppm	0.2378 ppm	11.0700%	2020/06/26 06:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3164	23.1643	25.34	28.97	3.63	50.03	10:31
2	TOC	1.9801	19.8014	22.98	26.61	3.63	50.02	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	28	TOC	K2005111-002D DOC	2.2685 ppm	0.1670 ppm	7.3600%	2020/06/26 06:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1504	21.5035	24.17	27.84	3.66	50.00	10:27
2	TOC	2.3866	23.8657	25.83	29.51	3.67	49.98	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.6638 ppm (PASS)	0.0000 ppm	0%	2020/06/26 07:07

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.6638	246.6375	182.90	186.48	3.58	49.99	10:31

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

Sample Type: Check Standard --> CCB — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/06/26 07:21

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

	Type									
D	TOC	0 ppm	1	0.0000	0.0000	8.34	12.02	3.69	49.98	10:30

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

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	29	TOC	K2005111-002MS DOC	28.4988 ppm	0.2181 ppm	0.7700%	2020/06/26 07:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.3446	283.4459	207.92	211.83	3.91	49.99	10:29
2	TOC	28.6531	286.5308	210.09	213.86	3.78	49.96	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	30	TOC	K2005211-001 10X DOC	5.1054 ppm	0.2121 ppm	4.1500%	2020/06/26 08:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.2553	52.5535	45.96	49.55	3.59	49.95	10:27
2	TOC	4.9554	49.5541	43.85	47.49	3.64	49.94	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	FILTER BLANK	0.0985 ppm	0.1392 ppm	141.4200%	2020/06/26 08:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.96	12.59	3.63	49.96	10:28
2	TOC	0.1969	1.9692	10.47	13.90	3.43	49.95	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	IB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/26 09:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.18	10.77	3.59	49.93	10:29
2	TOC	0.0000	0.0000	6.76	10.33	3.57	49.90	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◉	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0070 ppm (PASS)	0.0000 ppm	0%	2020/06/26 09:29

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0070	250.0703	185.31	188.55	3.24	49.86	10:30

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

Sample Type: Check Standard --> CCB — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◉	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/06/26 09:43

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.25	10.86	3.61	49.81	10:30

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

Sample Type: Sample — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	1	TOC		0.0000 ppm	0.0000 ppm	0.0000%	2020/06/26 09:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.33	10.70	3.37	49.76	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1399	1.3330	1.3500	0.0000	0.0000	0.0000	2020/06/24 15:24	Fusion1 (Fusion1)
v1400	0.9390	0.7310	0.0000	0.0000	0.0000	2020/06/25 16:42	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38

Ver Creation: 2020/06/13 16:40

Comment:

Operator: Fusion1 (Fusion1)

Basic Analysis Type: TOC

Calibration curve formula: TOC: y = 7.015x + 9.892

r^2 value: TOC: r^2 = 0.99974

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4

Ver Creation: 2019/02/21 17:57

Comment:

Operator: Fusion1 (Fusion1)

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	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

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	2020/06/26 10:13

HS20061177 Wet Chem Raw Data (NIT_AMN_ISE)

ALS WO# HS20061177

NIT-AMN-W-ISE/3593

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Logbook **31220**

Ion Selective Electrode Logbook

Analyst: MD

Date: 6/30/20 12:15 pm

Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F

Probe Calibration Date: 6/30/20

Cal Std ID: 3140603(04-09)

Probe ID: X01-11806

Std Level		mV	Conc., mg/L:
STD 1 (mg/L):	0.2	136.2	0.200
STD 2 (mg/L):	1	95.1	0.999
STD 3 (mg/L):	5	54.0	5.011

Sodium Thiosulfate ID: 3100601618

Std Level	mV	Conc., mg/L:
STD 4 (mg/L): 10	36.8	10.018
STD 5 (mg/L): 50	-4.0	50.047

LSC / MS Spike ID: 3100601709

ICV Cal STD ID: 3140603(04

DPD Reagent ID: 3100601821

ICAL Date & Slope: 98.7% / -58.2mV

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		10.118			
CCB					0.014			
MBLK					0.015			
LCS					10.387			
MS20061098-01					0.181		+ve	Rechecked
1177-01					14.389		-ve	
1119-01					0.809		-ve	
1119-01MS					11.344			
1119-01MSD					11.095			
1342-01					0.177		-ve	
CCV					9.933			
CCB					0.016			

Batch ID: 364214 | 364216

Reported By: MD

Reviewed By: KL

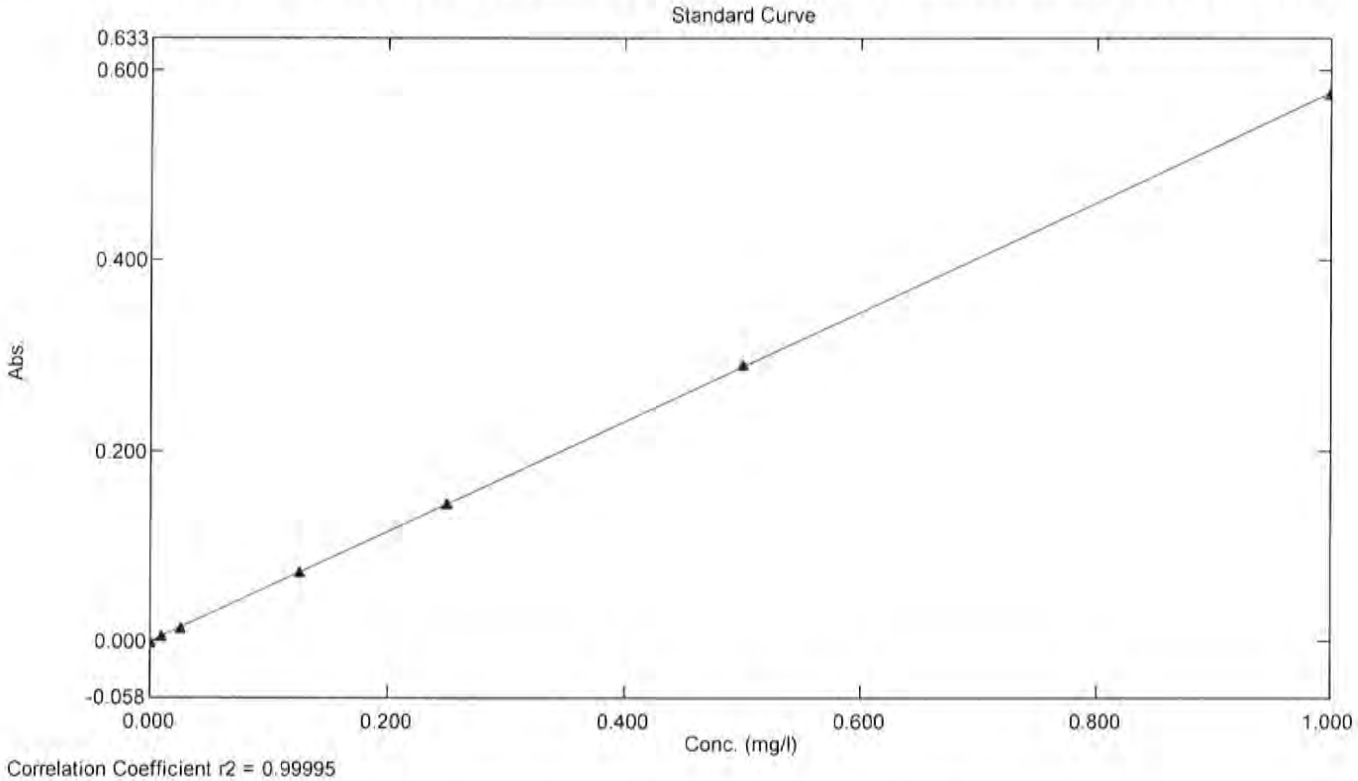
HS20061177 Wet Chem Raw Data (P-ORTHO)

ALS WO# HS20061177

Standard Table Report

07/15/2020 03:44:30 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\062420_P_ORTHO.pho..p



Correlation Coefficient r2 = 0.99995

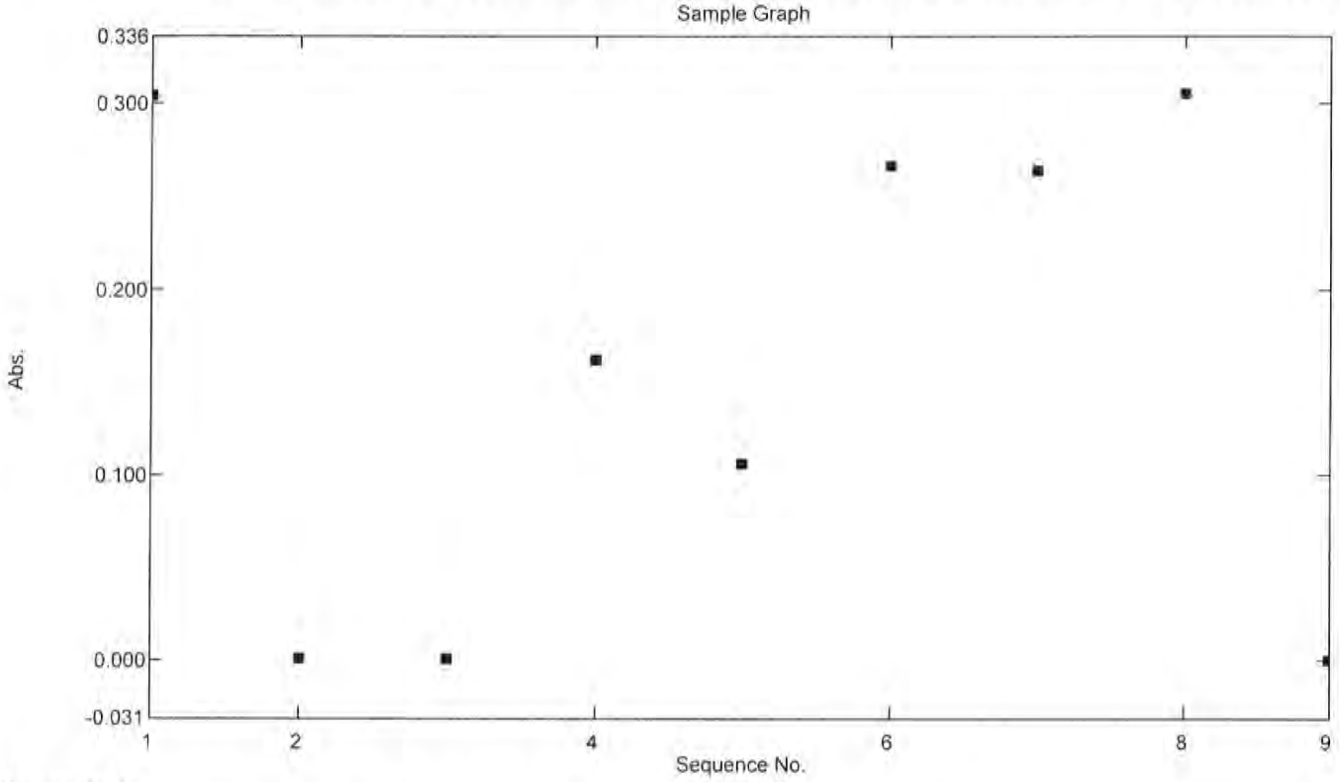
Standard Table

	Sample ID	Type	Ex	Conc	WL880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	-0.001	1.000	
2	STD2	Standard		0.010	0.005	1.000	
3	STD3	Standard		0.025	0.013	1.000	
4	STD4	Standard		0.125	0.073	1.000	
5	STD5	Standard		0.250	0.145	1.000	
6	STD6	Standard		0.500	0.290	1.000	
7	STD7	Standard		1.000	0.575	1.000	
8							

Sample Table Report

07/15/2020 03:44:40 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\062420_P_ORTHO.pho..p



Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.528	0.304	313107109 WC-14
2	CCB	Unknown		0.001	0.000	313107503 UV-11
3	MBLK	Unknown		0.000	0.000	
4	LCS	Unknown		0.280	0.162	313107108 WC-14
5	HS20061177.01	Unknown		0.183	0.106	5:56PM,PF-10X
6	HS20061177.01M	Unknown		0.463	0.267	5:57PM,PF-10X
7	HS20061177.01M	Unknown		0.458	0.264	5:58PM,PF-10X
8	CCV2	Unknown		0.531	0.306	
9	CCB2	Unknown		-0.001	-0.000	
10						

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WorkOrder: HS20061179

Longhorn GW Treatment Plant Bi Weekly Samples

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21-Jul-2020

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HS20061179 Longhorn GW Treatment Plant Bi Weekly Samples. Final

ALS WO# HS20061179

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July 08, 2020

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445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS20061179**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Jun 24, 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-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20061179

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20061179-01	LH18/24-SP650_062320	Water		23-Jun-2020 14:00	24-Jun-2020 09:30	☐
HS20061179-02	Trip Blank	Water		23-Jun-2020 14:00	24-Jun-2020 09:30	☐

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20061179

GCMS Volatiles by Method SW8260

Batch ID: R364080

Sample ID: VLCSW-200626

- 1,2,4-Trichlorobenzene, 1,2,3-Trichlorobenzene, Hexachlorobutadiene and Naphthalene exceeded QC limits for LCS. Samples are ND for these compounds.

Sample ID: HS20061206-02MS

- MS and MSD are for an unrelated sample

WetChemistry by Method SW9056

Batch ID: R364738

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

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20061179
Sample ID: LH18/24-SP650_062320 Lab ID:HS20061179-01
Collection Date: 23-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	26-Jun-2020 19:55
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,2-Dichloroethane	**0.84**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Jun-2020 19:55
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	26-Jun-2020 19:55
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	26-Jun-2020 19:55
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	26-Jun-2020 19:55
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	26-Jun-2020 19:55
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	26-Jun-2020 19:55
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55

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

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Sample ID: LH18/24-SP650_062320
Collection Date: 23-Jun-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20061179
Lab ID:HS20061179-01
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	26-Jun-2020 19:55
cis-1,2-Dichloroethene	**20**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Jun-2020 19:55
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	26-Jun-2020 19:55
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Jun-2020 19:55
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Trichloroethene	**3.8**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Jun-2020 19:55
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Surr: 1,2-Dichloroethane-d4	*99.8*			**0**	*81-118*	*%REC*	*1*	*26-Jun-2020 19:55*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*26-Jun-2020 19:55*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*26-Jun-2020 19:55*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*26-Jun-2020 19:55*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**354**		**2.00**	**5.00**	**5.00**	**mg/L**	10	08-Jul-2020 05:55
Sulfate	**31.5**		**0.200**	**0.500**	**0.500**	**mg/L**	1	08-Jul-2020 05:36

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

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder:HS20061179
Sample ID: Trip Blank
Lab ID:HS20061179-02
Collection Date: 23-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	26-Jun-2020 19:07
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	26-Jun-2020 19:07
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	26-Jun-2020 19:07
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	26-Jun-2020 19:07
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	26-Jun-2020 19:07
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	26-Jun-2020 19:07
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07

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

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20061179
Sample ID: Trip Blank Lab ID:HS20061179-02
Collection Date: 23-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	26-Jun-2020 19:07
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	26-Jun-2020 19:07
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Jun-2020 19:07
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Surr: 1,2-Dichloroethane-d4	*98.3*			**0**	*81-118*	*%REC*	*1*	*26-Jun-2020 19:07*
Surr: 4-Bromofluorobenzene	*99.3*			**0**	*85-114*	*%REC*	*1*	*26-Jun-2020 19:07*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*26-Jun-2020 19:07*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*26-Jun-2020 19:07*

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

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R364080 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20061179-01	LH18/24-SP650_062320	23 Jun 2020 14:00			26 Jun 2020 19:55	1
HS20061179-02	Trip Blank	23 Jun 2020 14:00			26 Jun 2020 19:07	1
Batch ID: R364738 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS20061179-01	LH18/24-SP650_062320	23 Jun 2020 14:00			08 Jul 2020 05:55	10
HS20061179-01	LH18/24-SP650_062320	23 Jun 2020 14:00			08 Jul 2020 05:36	1

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200626** Units: **UG/L** Analysis Date: **26-Jun-2020 13:57**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640386** 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-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200626** Units: **UG/L** Analysis Date: **26-Jun-2020 13:57**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640386** 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	*45.16*	*1.0*	*50*	*0*	*90.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.9*	*1.0*	*50*	*0*	*95.8*	*85 - 114*				
Surr: Dibromofluoromethane	*46.98*	*1.0*	*50*	*0*	*94.0*	*80 - 119*				
Surr: Toluene-d8	*50.93*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200626** Units: **UG/L** Analysis Date: **26-Jun-2020 13:09**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640385** 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	20.62	1.0	20	0	103	78 - 124				
1,1,1-Trichloroethane	20.51	1.0	20	0	103	74 - 131				
1,1,2,2-Tetrachloroethane	21.5	1.0	20	0	107	71 - 121				
1,1,2-Trichloroethane	20.94	1.0	20	0	105	80 - 119				
1,1-Dichloroethane	19.96	1.0	20	0	99.8	77 - 125				
1,1-Dichloroethene	20.16	1.0	20	0	101	71 - 131				
1,1-Dichloropropene	19.74	1.0	20	0	98.7	78 - 125				
1,2,3-Trichlorobenzene	28.29	1.0	20	0	141	69 - 129				S
1,2,3-Trichloropropane	20.77	1.0	20	0	104	73 - 122				
1,2,4-Trichlorobenzene	27.16	1.0	20	0	136	69 - 130				S
1,2,4-Trimethylbenzene	20.02	1.0	20	0	100	76 - 124				
1,2-Dibromo-3-chloropropane	22.91	1.0	20	0	115	62 - 128				
1,2-Dibromoethane	21.07	1.0	20	0	105	77 - 121				
1,2-Dichlorobenzene	21.17	1.0	20	0	106	80 - 119				
1,2-Dichloroethane	20.76	1.0	20	0	104	73 - 128				
1,2-Dichloropropane	21.32	1.0	20	0	107	78 - 122				
1,3,5-Trimethylbenzene	20.06	1.0	20	0	100	75 - 124				
1,3-Dichlorobenzene	20.4	1.0	20	0	102	80 - 119				
1,3-Dichloropropane	20.91	1.0	20	0	105	80 - 119				
1,4-Dichlorobenzene	20.62	1.0	20	0	103	79 - 118				
2,2-Dichloropropane	20.85	1.0	20	0	104	60 - 139				
2-Butanone	39.78	2.0	40	0	99.4	56 - 143				
2-Chlorotoluene	19.91	1.0	20	0	99.6	79 - 122				
2-Hexanone	43.6	2.0	40	0	109	57 - 139				
4-Chlorotoluene	20.03	1.0	20	0	100	78 - 122				
4-Isopropyltoluene	19.43	1.0	20	0	97.1	77 - 127				
4-Methyl-2-pentanone	43.56	2.0	40	0	109	67 - 130				
Acetone	48.89	2.0	40	0	122	39 - 160				
Benzene	20.8	1.0	20	0	104	79 - 120				
Bromobenzene	20.36	1.0	20	0	102	80 - 120				
Bromochloromethane	20.02	1.0	20	0	100	78 - 123				
Bromodichloromethane	21.09	1.0	20	0	105	79 - 125				
Bromoform	21.31	1.0	20	0	107	66 - 130				
Bromomethane	20.25	1.0	20	0	101	53 - 141				

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200626** Units: **UG/L** Analysis Date: **26-Jun-2020 13:09**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640385** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	40.74	2.0	40	0	102	64 - 133				
Carbon tetrachloride	19.47	1.0	20	0	97.4	72 - 136				
Chlorobenzene	20.65	1.0	20	0	103	82 - 118				
Chloroethane	20.94	1.0	20	0	105	60 - 138				
Chloroform	20.36	1.0	20	0	102	79 - 124				
Chloromethane	19.95	1.0	20	0	99.8	50 - 139				
cis-1,2-Dichloroethene	20.49	1.0	20	0	102	78 - 123				
cis-1,3-Dichloropropene	21.03	1.0	20	0	105	75 - 124				
Dibromochloromethane	20.94	1.0	20	0	105	74 - 126				
Dibromomethane	21.13	1.0	20	0	106	79 - 123				
Dichlorodifluoromethane	18.76	1.0	20	0	93.8	32 - 152				
Ethylbenzene	20.3	1.0	20	0	101	79 - 121				
Hexachlorobutadiene	26.97	1.0	20	0	135	66 - 134				S
Isopropylbenzene	20.14	1.0	20	0	101	72 - 131				
m,p-Xylene	41.63	2.0	40	0	104	80 - 121				
Methylene chloride	19.93	2.0	20	0	99.7	74 - 124				
Naphthalene	25.75	1.0	20	0	129	61 - 128				S
n-Butylbenzene	19.68	1.0	20	0	98.4	75 - 128				
n-Propylbenzene	19.92	1.0	20	0	99.6	76 - 126				
o-Xylene	20.52	1.0	20	0	103	78 - 122				
sec-Butylbenzene	19.52	1.0	20	0	97.6	77 - 126				
Styrene	21.25	1.0	20	0	106	78 - 123				
tert-Butylbenzene	19.39	1.0	20	0	96.9	78 - 124				
Tetrachloroethene	20.21	1.0	20	0	101	74 - 129				
Toluene	20.59	1.0	20	0	103	80 - 121				
trans-1,2-Dichloroethene	21.3	1.0	20	0	106	75 - 124				
trans-1,3-Dichloropropene	21.37	1.0	20	0	107	73 - 127				
Trichloroethene	21.06	1.0	20	0	105	79 - 123				
Trichlorofluoromethane	21.27	1.0	20	0	106	65 - 141				
Vinyl chloride	18.9	1.0	20	0	94.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.11*	*1.0*	*50*	*0*	*96.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.89*	*1.0*	*50*	*0*	*93.8*	*85 - 114*				
Surr: Dibromofluoromethane	*49.3*	*1.0*	*50*	*0*	*98.6*	*80 - 119*				
Surr: Toluene-d8	*48.51*	*1.0*	*50*	*0*	*97.0*	*89 - 112*				

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20061206-02MS** Units: **UG/L** Analysis Date: **26-Jun-2020 17:56**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640396** 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	21.36	1.0	20	0	107	78 - 124				
1,1,1-Trichloroethane	21.44	1.0	20	0	107	74 - 131				
1,1,2,2-Tetrachloroethane	22.21	1.0	20	0	111	71 - 121				
1,1,2-Trichloroethane	21.56	1.0	20	0	108	80 - 119				
1,1-Dichloroethane	20.02	1.0	20	0	100	77 - 125				
1,1-Dichloroethene	20.48	1.0	20	0	102	71 - 131				
1,1-Dichloropropene	20.34	1.0	20	0	102	78 - 125				
1,2,3-Trichlorobenzene	17.55	1.0	20	0	87.7	69 - 129				
1,2,3-Trichloropropane	21.02	1.0	20	0	105	73 - 122				
1,2,4-Trichlorobenzene	18.32	1.0	20	0	91.6	69 - 130				
1,2,4-Trimethylbenzene	21.35	1.0	20	0	107	76 - 124				
1,2-Dibromo-3-chloropropane	22.35	1.0	20	0	112	62 - 128				
1,2-Dibromoethane	21.8	1.0	20	0	109	77 - 121				
1,2-Dichlorobenzene	21.56	1.0	20	0	108	80 - 119				
1,2-Dichloroethane	20.52	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	20.74	1.0	20	0	104	78 - 122				
1,3,5-Trimethylbenzene	21.87	1.0	20	0	109	75 - 124				
1,3-Dichlorobenzene	21.31	1.0	20	0	107	80 - 119				
1,3-Dichloropropane	20.94	1.0	20	0	105	80 - 119				
1,4-Dichlorobenzene	21.08	1.0	20	0	105	79 - 118				
2,2-Dichloropropane	19.81	1.0	20	0	99.1	60 - 139				
2-Butanone	93.02	2.0	40	68.16	62.2	56 - 143				
2-Chlorotoluene	21.28	1.0	20	0	106	79 - 122				
2-Hexanone	44.02	2.0	40	0	110	57 - 139				
4-Chlorotoluene	21.22	1.0	20	0	106	78 - 122				
4-Isopropyltoluene	21.75	1.0	20	0	109	77 - 127				
4-Methyl-2-pentanone	44.14	2.0	40	0	110	67 - 130				
Acetone	45.03	2.0	40	6.281	96.9	39 - 160				
Benzene	20.73	1.0	20	0	104	79 - 120				
Bromobenzene	20.9	1.0	20	0	105	80 - 120				
Bromochloromethane	19.04	1.0	20	0	95.2	78 - 123				
Bromodichloromethane	20.9	1.0	20	0	105	79 - 125				
Bromoform	21.37	1.0	20	0	107	66 - 130				
Bromomethane	18.34	1.0	20	0	91.7	53 - 141				

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20061206-02MS** Units: **UG/L** Analysis Date: **26-Jun-2020 17:56**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640396** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	40.19	2.0	40	0	100	64 - 133				
Carbon tetrachloride	20.25	1.0	20	0	101	72 - 136				
Chlorobenzene	20.87	1.0	20	0	104	82 - 118				
Chloroethane	19.41	1.0	20	0	97.1	60 - 138				
Chloroform	20.75	1.0	20	0	104	79 - 124				
Chloromethane	16.41	1.0	20	0	82.0	50 - 139				
cis-1,2-Dichloroethene	21.22	1.0	20	0	106	78 - 123				
cis-1,3-Dichloropropene	20.71	1.0	20	0	104	75 - 124				
Dibromochloromethane	21.47	1.0	20	0	107	74 - 126				
Dibromomethane	20.3	1.0	20	0	101	79 - 123				
Dichlorodifluoromethane	13.65	1.0	20	0	68.2	32 - 152				
Ethylbenzene	21.46	1.0	20	0	107	79 - 121				
Hexachlorobutadiene	19.91	1.0	20	0	99.5	66 - 134				
Isopropylbenzene	22.03	1.0	20	0	110	72 - 131				
m,p-Xylene	43.76	2.0	40	0	109	80 - 121				
Methylene chloride	19.24	2.0	20	0	96.2	74 - 124				
Naphthalene	19.92	1.0	20	0	99.6	61 - 128				
n-Butylbenzene	21.52	1.0	20	0	108	75 - 128				
n-Propylbenzene	21.72	1.0	20	0	109	76 - 126				
o-Xylene	21.19	1.0	20	0	106	78 - 122				
sec-Butylbenzene	21.91	1.0	20	0	110	77 - 126				
Styrene	21.67	1.0	20	0	108	78 - 123				
tert-Butylbenzene	22.07	1.0	20	0	110	78 - 124				
Tetrachloroethene	22.52	1.0	20	0	113	74 - 129				
Toluene	21.88	1.0	20	0	109	80 - 121				
trans-1,2-Dichloroethene	21.24	1.0	20	0	106	75 - 124				
trans-1,3-Dichloropropene	20.05	1.0	20	0	100	73 - 127				
Trichloroethene	23.11	1.0	20	1.465	108	79 - 123				
Trichlorofluoromethane	20.59	1.0	20	0	103	65 - 141				
Vinyl chloride	18.79	1.0	20	0	93.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*54.5*	*1.0*	*50*	*0*	*109*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*53.82*	*1.0*	*50*	*0*	*108*	*85 - 114*				
Surr: Dibromofluoromethane	*54.3*	*1.0*	*50*	*0*	*109*	*80 - 119*				
Surr: Toluene-d8	*56.24*	*1.0*	*50*	*0*	*112*	*89 - 112*				S

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20061206-02MDS** Units: **UG/L** Analysis Date: **26-Jun-2020 18:19**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640397** 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	21.46	1.0	20	0	107	78 - 124	21.36	0.483	20	
1,1,1-Trichloroethane	21.19	1.0	20	0	106	74 - 131	21.44	1.16	20	
1,1,2,2-Tetrachloroethane	21.93	1.0	20	0	110	71 - 121	22.21	1.31	20	
1,1,2-Trichloroethane	21.3	1.0	20	0	107	80 - 119	21.56	1.22	20	
1,1-Dichloroethane	19.39	1.0	20	0	97.0	77 - 125	20.02	3.2	20	
1,1-Dichloroethene	20.9	1.0	20	0	105	71 - 131	20.48	2.03	20	
1,1-Dichloropropene	20.85	1.0	20	0	104	78 - 125	20.34	2.46	20	
1,2,3-Trichlorobenzene	23.49	1.0	20	0	117	69 - 129	17.55	29	20	R
1,2,3-Trichloropropane	20.22	1.0	20	0	101	73 - 122	21.02	3.89	20	
1,2,4-Trichlorobenzene	21.45	1.0	20	0	107	69 - 130	18.32	15.7	20	
1,2,4-Trimethylbenzene	21.84	1.0	20	0	109	76 - 124	21.35	2.24	20	
1,2-Dibromo-3-chloropropane	21.26	1.0	20	0	106	62 - 128	22.35	5.01	20	
1,2-Dibromoethane	21.08	1.0	20	0	105	77 - 121	21.8	3.32	20	
1,2-Dichlorobenzene	21.36	1.0	20	0	107	80 - 119	21.56	0.941	20	
1,2-Dichloroethane	20.06	1.0	20	0	100	73 - 128	20.52	2.24	20	
1,2-Dichloropropane	20.96	1.0	20	0	105	78 - 122	20.74	1.04	20	
1,3,5-Trimethylbenzene	22.51	1.0	20	0	113	75 - 124	21.87	2.87	20	
1,3-Dichlorobenzene	21.43	1.0	20	0	107	80 - 119	21.31	0.526	20	
1,3-Dichloropropane	20.78	1.0	20	0	104	80 - 119	20.94	0.793	20	
1,4-Dichlorobenzene	21.25	1.0	20	0	106	79 - 118	21.08	0.819	20	
2,2-Dichloropropane	19.1	1.0	20	0	95.5	60 - 139	19.81	3.65	20	
2-Butanone	84.04	2.0	40	68.16	39.7	56 - 143	93.02	10.1	20	S
2-Chlorotoluene	21.26	1.0	20	0	106	79 - 122	21.28	0.102	20	
2-Hexanone	43.18	2.0	40	0	108	57 - 139	44.02	1.93	20	
4-Chlorotoluene	21.19	1.0	20	0	106	78 - 122	21.22	0.104	20	
4-Isopropyltoluene	22.72	1.0	20	0	114	77 - 127	21.75	4.39	20	
4-Methyl-2-pentanone	42.64	2.0	40	0	107	67 - 130	44.14	3.45	20	
Acetone	42.11	2.0	40	6.281	89.6	39 - 160	45.03	6.71	20	
Benzene	20.71	1.0	20	0	104	79 - 120	20.73	0.0882	20	
Bromobenzene	20.98	1.0	20	0	105	80 - 120	20.9	0.345	20	
Bromochloromethane	19.2	1.0	20	0	96.0	78 - 123	19.04	0.794	20	
Bromodichloromethane	20.73	1.0	20	0	104	79 - 125	20.9	0.842	20	
Bromoform	21.13	1.0	20	0	106	66 - 130	21.37	1.12	20	
Bromomethane	18.29	1.0	20	0	91.4	53 - 141	18.34	0.318	20	

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20061206-02MDS** Units: **UG/L** Analysis Date: **26-Jun-2020 18:19**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640397** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	39.84	2.0	40	0	99.6	64 - 133	40.19	0.873	20	
Carbon tetrachloride	21.26	1.0	20	0	106	72 - 136	20.25	4.87	20	
Chlorobenzene	21.17	1.0	20	0	106	82 - 118	20.87	1.43	20	
Chloroethane	19.28	1.0	20	0	96.4	60 - 138	19.41	0.711	20	
Chloroform	19.92	1.0	20	0	99.6	79 - 124	20.75	4.11	20	
Chloromethane	16.2	1.0	20	0	81.0	50 - 139	16.41	1.25	20	
cis-1,2-Dichloroethene	20.34	1.0	20	0	102	78 - 123	21.22	4.25	20	
cis-1,3-Dichloropropene	19.98	1.0	20	0	99.9	75 - 124	20.71	3.6	20	
Dibromochloromethane	20.94	1.0	20	0	105	74 - 126	21.47	2.5	20	
Dibromomethane	20.12	1.0	20	0	101	79 - 123	20.3	0.869	20	
Dichlorodifluoromethane	14.23	1.0	20	0	71.1	32 - 152	13.65	4.15	20	
Ethylbenzene	22.06	1.0	20	0	110	79 - 121	21.46	2.77	20	
Hexachlorobutadiene	21.99	1.0	20	0	110	66 - 134	19.91	9.92	20	
Isopropylbenzene	23.08	1.0	20	0	115	72 - 131	22.03	4.67	20	
m,p-Xylene	44.4	2.0	40	0	111	80 - 121	43.76	1.45	20	
Methylene chloride	18.47	2.0	20	0	92.3	74 - 124	19.24	4.09	20	
Naphthalene	24.21	1.0	20	0	121	61 - 128	19.92	19.5	20	
n-Butylbenzene	23.06	1.0	20	0	115	75 - 128	21.52	6.92	20	
n-Propylbenzene	22.81	1.0	20	0	114	76 - 126	21.72	4.9	20	
o-Xylene	21.29	1.0	20	0	106	78 - 122	21.19	0.473	20	
sec-Butylbenzene	23.55	1.0	20	0	118	77 - 126	21.91	7.23	20	
Styrene	21.75	1.0	20	0	109	78 - 123	21.67	0.387	20	
tert-Butylbenzene	23.13	1.0	20	0	116	78 - 124	22.07	4.7	20	
Tetrachloroethene	23.12	1.0	20	0	116	74 - 129	22.52	2.64	20	
Toluene	22.06	1.0	20	0	110	80 - 121	21.88	0.824	20	
trans-1,2-Dichloroethene	20.51	1.0	20	0	103	75 - 124	21.24	3.47	20	
trans-1,3-Dichloropropene	19.52	1.0	20	0	97.6	73 - 127	20.05	2.67	20	
Trichloroethene	23.51	1.0	20	1.465	110	79 - 123	23.11	1.72	20	
Trichlorofluoromethane	20.61	1.0	20	0	103	65 - 141	20.59	0.111	20	
Vinyl chloride	17.67	1.0	20	0	88.3	58 - 137	18.79	6.13	20	
Surr: 1,2-Dichloroethane-d4	*49.58*	*1.0*	*50*	*0*	*99.2*	*81 - 118*	*54.5*	*9.44*	*20*	
Surr: 4-Bromofluorobenzene	*53.37*	*1.0*	*50*	*0*	*107*	*85 - 114*	*53.82*	*0.839*	*20*	
Surr: Dibromofluoromethane	*51.38*	*1.0*	*50*	*0*	*103*	*80 - 119*	*54.3*	*5.52*	*20*	
Surr: Toluene-d8	*55.93*	*1.0*	*50*	*0*	*112*	*89 - 112*	*56.24*	*0.55*	*20*	

ALS Houston, US Date: 08-Jul-20

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder:	HS20061179

QC BATCH REPORT

Batch ID:	**R364080 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20061179-01 HS20061179-02

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364738 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-070820** Units: **mg/L** Analysis Date: **08-Jul-2020 00:29**
Client ID: Run ID: **ICS-Integrion_364738** SeqNo: **5655203** 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	0.225	0.500								J

LCS Sample ID: **LCS-070820** Units: **mg/L** Analysis Date: **08-Jul-2020 01:23**
Client ID: Run ID: **ICS-Integrion_364738** SeqNo: **5655206** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.83	0.500	20	0	99.2	80 - 120				
Sulfate	19.61	0.500	20	0	98.0	80 - 120				

MS Sample ID: **HS20061283-02MS** Units: **mg/L** Analysis Date: **08-Jul-2020 07:25**
Client ID: Run ID: **ICS-Integrion_364738** SeqNo: **5655221** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	49.3	0.500	10	39.16	101	80 - 120				
Sulfate	33.07	0.500	10	23.77	93.0	80 - 120				

MSD Sample ID: **HS20061283-02MSD** Units: **mg/L** Analysis Date: **08-Jul-2020 07:43**
Client ID: Run ID: **ICS-Integrion_364738** SeqNo: **5655222** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	48.93	0.500	10	39.16	97.7	80 - 120	49.3	0.753	20	
Sulfate	32.91	0.500	10	23.77	91.5	80 - 120	33.07	0.475	20	

The following samples were analyzed in this batch: HS20061179-01

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: **HS20061179**

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
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-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-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20061179

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20061179-01	LH18/24-SP650_062320	Login	6/24/2020 4:55:07 PM	PMG	WET108
HS20061179-01	LH18/24-SP650_062320	Login	6/24/2020 4:55:07 PM	PMG	VOA136
HS20061179-02	Trip Blank	Login	6/24/2020 4:55:07 PM	PMG	VOA136

ALS Houston, US Date: 08-Jul-20

Sample Receipt Checklist

Work Order ID: HS20061179 **Date/Time Received:** 24-Jun-2020 09:30

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

Completed By:	/S/ Paresh M. Giga	24-Jun-2020 16:57	**Reviewed by:**	/S/ RJ Modashia	24-Jun-2020 22:10
	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):	2.2C U/C	IR25	
Cooler(s)/Kit(s):	43078		
Date/Time sample(s) sent to storage:	6/24/2020 17:00		
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 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 BI-WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O Number

HS20061179
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Bi Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC	CHLORIDE, SULFATE							Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_062320	Water	06/23/20 / 14:00		3	3								HCL	
LH18/24-SP650_062320	Water	06/23/20 / 14:00		1		1							NONE	
Trip Blank	Water	06/23/20		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 (signature)	06/23/20	14:30	NA	6/24/20	09:30						

9For Lab Use Only

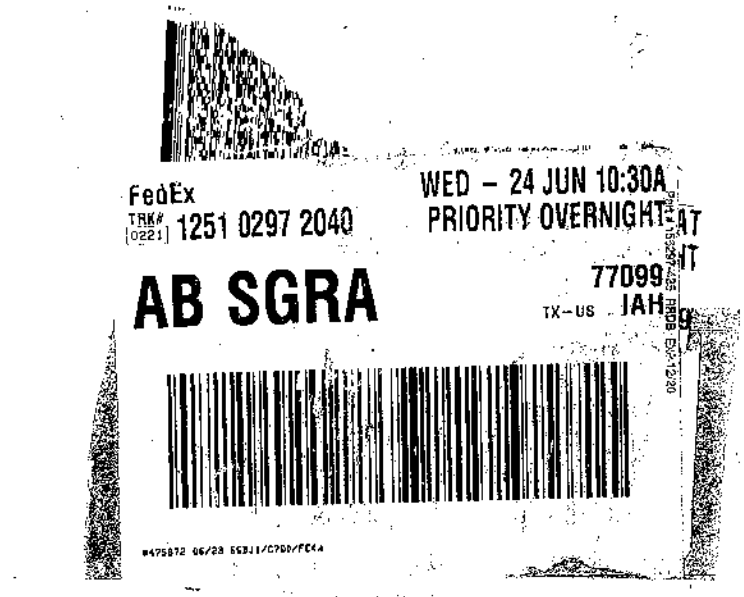
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks

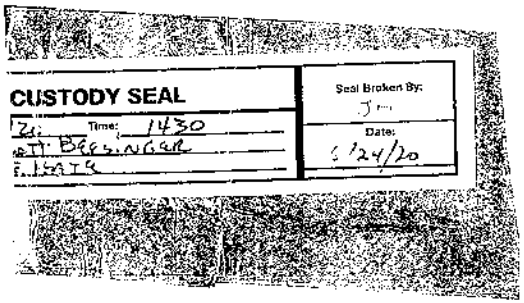
43078 Temp 4.1C 2.2
CHAR 35 CLRO

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

ALS


FedEx
TRK# [0221] 1251 0297 2040
WED – 24 JUN 10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH


ALS
10450 Stanclift Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
ALS
Date: 6/23
Name:
Company:


CUSTODY SEAL
Time: 1430
Seal Broken By:
Date:
6/24/20

HS20061179 8260 Raw Data

ALS WO# HS20061179

MSVOA06 -Logbook

Batch: 40919 **Analyst:** Devak Giga

Date: 06-19-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	06-19-2020 11:06 am	1.00	0.00 mL	0.00 mL	X061901.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	06-19-2020 11:30 am	1.00	5.00 mL	0.00 mL	X061902.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	06-19-2020 12:18 pm	1.00	5.00 mL	0.00 mL	X061903.D	Liquid	Y	NA
4	VSTD001	ICAL3	06-19-2020 12:42 pm	1.00	5.00 mL	0.00 mL	X061904.D	Liquid	Y	NA
5	VSTD002	ICAL4	06-19-2020 01:06 pm	1.00	5.00 mL	0.00 mL	X061905.D	Liquid	Y	NA
6	VSTD005	ICAL5	06-19-2020 01:29 pm	1.00	5.00 mL	0.00 mL	X061906.D	Liquid	Y	NA
7	VSTD020	ICAL6	06-19-2020 01:53 pm	1.00	5.00 mL	0.00 mL	X061907.D	Liquid	Y	NA
8	VSTD050	ICAL7	06-19-2020 02:17 pm	1.00	5.00 mL	0.00 mL	X061908.D	Liquid	Y	NA
9	VSTD100	ICAL8	06-19-2020 02:41 pm	1.00	5.00 mL	0.00 mL	X061909.D	Liquid	Y	NA
10	VSTD150	ICAL9	06-19-2020 03:05 pm	1.00	5.00 mL	0.00 mL	X061910.D	Liquid	Y	NA
11	VSTD200	ICAL	06-19-2020 03:29 pm	1.00	5.00 mL	0.00 mL	X061911.D	Liquid	Y	NA
12	BLANK	SAMP	06-19-2020 03:53 pm	1.00	5.00 mL	0.00 mL	X061912.D	Liquid	Y	NA
13	ICV	ICV	06-19-2020 04:41 pm	1.00	5.00 mL	0.00 mL	X061913.D	Liquid	Y	NA
14	BFB	TUNE	06-19-2020 05:15 pm	1.00	0.00 mL	0.00 mL	Y061901.D	Liquid	Y	NA
15	CCV	CCV	06-19-2020 05:39 pm	1.00	5.00 mL	0.00 mL	Y061902a.D	Liquid	Y	NA
16	CCV	CCV	06-19-2020 06:03 pm	1.00	5.00 mL	0.00 mL	Y061903.D	Liquid	Y	NA
17	CCB	SAMP	06-19-2020 06:27 pm	1.00	5.00 mL	0.00 mL	Y061904.D	Liquid	Y	NA
18	VLCSW-200619	LCS	06-19-2020 06:51 pm	1.00	5.00 mL	0.00 mL	Y061905.D	Liquid	Y	NA
19	BLANK	SAMP	06-19-2020 07:15 pm	1.00	5.00 mL	0.00 mL	Y061906.D	Liquid	Y	NA
20	BLANK	SAMP	06-19-2020 07:39 pm	1.00	5.00 mL	0.00 mL	Y061907.D	Liquid	Y	NA
21	VBLKW-200619	MBLK	06-19-2020 08:03 pm	1.00	5.00 mL	0.00 mL	Y061908.D	Liquid	Y	NA
22	HS20060545-07	SAMP	06-19-2020 08:27 pm	1.00	5.00 mL	0.00 mL	Y061909.D	Liquid	Y	NA
23	HS20060545-03	SAMP	06-19-2020 08:51 pm	1.00	5.00 mL	0.00 mL	Y061910.D	Liquid	Y	NA
24	HS20060545-06	SAMP	06-19-2020 09:15 pm	1.00	5.00 mL	0.00 mL	Y061911.D	Liquid	Y	NA
25	HS20060547-08	SAMP	06-19-2020 09:39 pm	1.00	5.00 mL	0.00 mL	Y061912.D	Liquid	Y	NA
26	HS20060545-01	SAMP	06-19-2020 10:03 pm	20.00	5.00 mL	0.00 mL	Y061913.D	Liquid	Y	NA
27	HS20060545-02	SAMP	06-19-2020 10:26 pm	20.00	5.00 mL	0.00 mL	Y061914.D	Liquid	Y	NA
28	HS20060547-08MS	MS	06-19-2020 10:50 pm	1.00	5.00 mL	0.00 mL	Y061915.D	Liquid	Y	NA
29	HS20060547-08MSD	MSD	06-19-2020 11:14 pm	1.00	5.00 mL	0.00 mL	Y061916.D	Liquid	Y	NA
30	HS20060545-01n/r	SAMP	06-19-2020 11:38 pm	200.0(	5.00 mL	0.00 mL	Y061917.D	Liquid	Y	NA
31	HS20060545-02n/r	SAMP	06-20-2020 12:02 am	200.0(	5.00 mL	0.00 mL	Y061918.D	Liquid	Y	NA
32	HS20060545-04c/o	SAMP	06-20-2020 12:26 am	5.00	5.00 mL	0.00 mL	Y061919.D	Liquid	Y	NA
33	HS20060547-01	SAMP	06-20-2020 12:50 am	1.00	5.00 mL	0.00 mL	Y061920.D	Liquid	Y	NA
34	HS20060547-06	SAMP	06-20-2020 01:14 am	1.00	5.00 mL	0.00 mL	Y061921.D	Liquid	Y	NA
35	HS20060545-05	SAMP	06-20-2020 01:38 am	1.00	5.00 mL	0.00 mL	Y061922.D	Liquid	Y	NA
36	HS20060545-05	SAMP	06-20-2020 02:02 am	5.00	5.00 mL	0.00 mL	Y061923.D	Liquid	Y	NA
37	HS20060547-02	SAMP	06-20-2020 02:26 am	1.00	5.00 mL	0.00 mL	Y061924.D	Liquid	Y	NA
38	HS20060547-03	SAMP	06-20-2020 02:50 am	1.00	5.00 mL	0.00 mL	Y061925.D	Liquid	Y	NA
39	HS20060547-04	SAMP	06-20-2020 03:14 am	1.00	5.00 mL	0.00 mL	Y061926.D	Liquid	Y	NA
40	HS20060547-05	SAMP	06-20-2020 03:38 am	1.00	5.00 mL	0.00 mL	Y061927.D	Liquid	Y	NA
41	CCV-END	CCV	06-20-2020 04:01 am	1.00	5.00 mL	0.00 mL	Y061928.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS20060965-01	SAMP	06-20-2020 04:25 am	1.00	5.00 mL	0.00 mL	Y061929.D	Liquid	Y	NA
43	HS20060965-02	SAMP	06-20-2020 04:50 am	1.00	5.00 mL	0.00 mL	Y061930.D	Liquid	Y	NA
44	HS20060965-03	SAMP	06-20-2020 05:14 am	1.00	5.00 mL	0.00 mL	Y061931.D	Liquid	Y	NA
45	BLANK	SAMP	06-20-2020 05:38 am	1.00	5.00 mL	0.00 mL	Y061932.D	Liquid	Y	NA

Chemical	Value
CAL STD ID	31106-33-01/02
IS ID	31106-30-06
SURR SPK ID	31106-30-06
BFB ID	31106-30-06
pH Paper	634-64-11

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20061179

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
cis-1,3-Dichloropropene	50.00	51.09	102	80-120
trans-1,3-Dichloroprope	50.00	50.76	102	80-120
1,3-Dichlorobenzene	50.00	50.93	102	80-120
2,2-Dichloropropane	50.00	49.36	99	80-120
1,1-Dichloropropene	50.00	47.50	95	80-120
Dibromomethane	50.00	50.18	100	80-120
1,2-Dibromoethane	50.00	50.37	101	80-120
trans-1,2-Dichloroethen	50.00	49.64	99	80-120
1,1,1,2-Tetrachloroetha	50.00	50.93	102	80-120
1,1,1-Trichloroethane	50.00	48.48	97	80-120
1,1,2,2-Tetrachloroetha	50.00	50.76	102	80-120
1,1,2-Trichloroethane	50.00	49.88	100	80-120
1,1-Dichloroethane	50.00	47.71	95	80-120
1,1-Dichloroethene	50.00	49.10	98	80-120
Trichloroethene	50.00	50.35	101	80-120
1,2,3-Trichlorobenzene	50.00	56.65	113	80-120
Trichlorofluoromethane	50.00	49.95	100	80-120
1,2,4-Trichlorobenzene	50.00	47.34	95	80-120
1,2,4-Trimethylbenzene	50.00	50.19	100	80-120
Tetrachloroethene	50.00	49.52	99	80-120
1,2-Dichlorobenzene	50.00	50.59	101	80-120
1,2-Dichloroethane	50.00	50.82	102	80-120
1,2-Dichloropropane	50.00	51.92	104	80-120
1,3,5-Trimethylbenzene	50.00	51.10	102	80-120
1,3-Dichloropropane	50.00	49.31	99	80-120
1,4-Dichlorobenzene	50.00	50.06	100	80-120
Toluene	50.00	50.29	100	80-120
2-Butanone	100.00	98.13	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 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20061179

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
2-Chlorotoluene	50.00	49.45	99	80-120
2-Hexanone	100.00	103.29	103	80-120
4-Chlorotoluene	50.00	50.09	100	80-120
tert-Butylbenzene	50.00	49.35	99	80-120
4-Methyl-2-Pentanone	100.00	101.74	102	80-120
Acetone	100.00	104.88	105	80-120
Benzene	50.00	50.62	101	80-120
Bromobenzene	50.00	49.70	99	80-120
Bromochloromethane	50.00	46.68	93	80-120
Bromodichloromethane	50.00	51.91	104	80-120
Bromoform	50.00	52.14	104	80-120
Bromomethane	50.00	48.28	96	80-120
Carbon Disulfide	100.00	99.73	100	80-120
Carbon Tetrachloride	50.00	47.72	95	80-120
Chlorobenzene	50.00	49.63	99	80-120
Chloroethane	50.00	47.35	95	80-120
Chloroform	50.00	48.20	96	80-120
Chloromethane	50.00	49.64	99	80-120
cis-1,2-Dichloroethene	50.00	49.56	99	80-120
Dibromochloromethane	50.00	50.91	102	80-120
Dichlorodifluoromethane	50.00	44.85	90	80-120
Ethylbenzene	50.00	49.01	98	80-120
Hexachlorobutadiene	50.00	48.46	97	80-120
Isopropylbenzene	50.00	50.52	101	80-120
m,p-Xylenes	100.00	102.01	102	80-120
Methylene Chloride	50.00	48.90	98	80-120
n-Butylbenzene	50.00	49.94	100	80-120
n-Propylbenzene	50.00	50.23	100	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20061179

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Naphthalene	50.00	54.77	110	80-120
o-Xylene	50.00	50.84	102	80-120
sec-Butylbenzene	50.00	49.55	99	80-120
Styrene	50.00	50.93	102	80-120
Vinyl Chloride	50.00	47.50	95	80-120
1,2,3-Trichloropropane	50.00	49.09	98	80-120
p-Isopropyltoluene	50.00	50.27	100	80-120
1,2-Dibromo-3-Chloropro	50.00	49.18	98	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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20061179

Lab File ID: X061901 BFB Injection Date: 06/19/20

Instrument ID: VOA6 BFB Injection Time: 1106

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	30.7
75	30.0 - 60.0% of mass 95	49.8
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	0.7 (1.0)1
174	Greater than 50.0% of mass 95	66.5
175	5.0 - 9.0% of mass 174	5.1 (7.6)1
176	95.0 - 101.0% of mass 174	66.7 (100.3)1
177	5.0 - 9.0% of mass 176	4.6 (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	VSTD000.25	VSTD000.25	X061902	06/19/20	1130
02	VSTD000.5	VSTD000.5	X061903	06/19/20	1218
03	VSTD001	VSTD001	X061904	06/19/20	1242
04	VSTD002	VSTD002	X061905	06/19/20	1306
05	VSTD005	VSTD005	X061906	06/19/20	1329
06	VSTD020	VSTD020	X061907	06/19/20	1353
07	VSTD050	VSTD050	X061908	06/19/20	1417
08	VSTD100	VSTD100	X061909	06/19/20	1441
09	VSTD150	VSTD150	X061910	06/19/20	1505
10	VSTD200	VSTD200	X061911	06/19/20	1529
11	ICV	ICV	X061913	06/19/20	1641
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.: HS20061179

Instrument ID: VOA6 Calibration Date(s): 06/19/20 06/19/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1130 1529

LAB FILE ID: RF0.25: X061902 RF0.5: X061903 RF1: X061904
RF2: X061905 RF5: X061906 RF20: X061907

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
cis-1,3-Dichloropropene		0.441	0.578	0.603	0.659	0.637
trans-1,3-Dichloropropene		0.416	0.562	0.574	0.605	0.588
1,3-Dichlorobenzene		1.322	1.408	1.515	1.558	1.554
2,2-Dichloropropane		0.967	0.989	1.071	1.008	0.980
1,1-Dichloropropene		0.389	0.532	0.450	0.452	0.448
Dibromomethane		0.196	0.283	0.271	0.280	0.268
1,2-Dibromoethane		0.254	0.410	0.427	0.441	0.415
trans-1,2-Dichloroethene		0.404	0.561	0.568	0.593	0.610
1,1,1,2-Tetrachloroethane		0.278	0.341	0.372	0.399	0.375
1,1,1-Trichloroethane		0.676	0.887	0.917	0.994	0.991
1,1,2,2-Tetrachloroethane		0.743	1.011	1.060	1.088	1.029
1,1,2-Trichloroethane		0.244	0.339	0.332	0.341	0.348
1,1-Dichloroethane		1.332	1.756	1.544	1.614	1.576
1,1-Dichloroethene		0.410	0.432	0.533	0.488	0.505
Trichloroethene		0.245	0.328	0.340	0.338	0.340
1,2,3-Trichlorobenzene			396	1037	2744	9328
Trichlorofluoromethane		0.615	0.839	0.887	0.884	0.948
1,2,4-Trichlorobenzene		380	924	1872	4935	20427
1,2,4-Trimethylbenzene		2.304	2.689	2.689	2.868	2.843
Tetrachloroethene		0.219	0.258	0.274	0.264	0.265
1,2-Dichlorobenzene		1.059	1.314	1.439	1.475	1.433
1,2-Dichloroethane		0.471	0.660	0.694	0.725	0.699
1,2-Dichloropropane		0.375	0.457	0.435	0.500	0.504
1,3,5-Trimethylbenzene		2.088	2.435	2.588	2.662	2.670
1,3-Dichloropropane		0.586	0.690	0.685	0.728	0.708
1,4-Dichlorobenzene		1.388	1.489	1.566	1.566	1.557
Toluene		1.139	1.544	1.543	1.594	1.558
2-Butanone		1071	3155	8300	24314	105606
2-Chlorotoluene		1.944	2.406	2.611	2.485	2.414
2-Hexanone		0.358	0.510	0.510	0.542	0.557
4-Chlorotoluene		2.124	2.890	2.765	3.043	2.814
tert-Butylbenzene		1.605	2.032	2.120	2.019	2.108
4-Methyl-2-Pentanone		0.555	0.746	0.742	0.816	0.800
Acetone		3329	6211	9014	19913	73115
Benzene		1.142	1.463	1.382	1.441	1.454
Bromobenzene		0.767	0.976	0.991	0.970	0.964
Bromochloromethane		0.353	0.418	0.423	0.392	0.392
Bromodichloromethane		0.359	0.476	0.509	0.542	0.546
Bromoform		0.214	0.245	0.254	0.269	0.285
Bromomethane		0.440	0.524	0.519	0.500	0.455
Carbon Disulfide		1.259	1.554	1.687	1.587	1.656
Carbon Tetrachloride		0.373	0.470	0.466	0.435	0.423
Chlorobenzene		0.830	0.984	1.025	1.016	0.984
Chloroethane		0.524	0.534	0.508	0.531	0.548

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006117

Instrument ID: VOA6 Calibration Date(s): 06/19/20 06/19/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1130 1529

LAB FILE ID: RF0.25: X061902 RF0.5: X061903 RF1: X061904
RF2: X061905 RF5: X061906 RF20: X061907

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Chloroform		0.978	1.245	1.284	1.299	1.282
Chloromethane		1.070	1.338	1.342	1.217	1.206
cis-1,2-Dichloroethene		0.583	0.732	0.736	0.752	0.755
Dibromochloromethane		0.336	0.370	0.402	0.433	0.413
Dichlorodifluoromethane		1002	2447	5236	14314	55369
Ethylbenzene		0.452	0.487	0.501	0.520	0.505
Hexachlorobutadiene		599	715	1548	3265	14133
Isopropylbenzene		1.073	1.389	1.415	1.420	1.464
m,p-Xylenes		0.464	0.544	0.610	0.609	0.601
Methylene Chloride		4889	7032	9989	20893	70514
n-Butylbenzene		2.062	1.988	2.211	2.136	2.340
n-Propylbenzene		2.862	3.624	3.744	3.678	3.882
Naphthalene		836	1790	3269	8543	31109
o-Xylene		0.471	0.598	0.602	0.630	0.609
sec-Butylbenzene		2.308	2.687	2.938	2.824	3.024
Styrene		0.792	0.991	1.075	1.142	1.094
Vinyl Chloride		0.989	0.815	1.053	0.983	0.972
1,2,3-Trichloropropane		0.810	1.055	0.976	0.951	0.942
p-Isopropyltoluene		2.177	2.281	2.369	2.464	2.580
1,2-Dibromo-3-Chloropropane		85	254	659	1368	5621
1,2-Dichloroethane-d4		2528	5023	9197	23826	85524
Dibromofluoromethane		0.406	0.708	0.687	0.720	0.674
Toluene-d8		0.947	1.371	1.299	1.393	1.253
4-Bromofluorobenzene		0.421	0.601	0.557	0.557	0.496

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006117

Instrument ID: VOA6 Calibration Date(s): 06/19/20 06/19/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1130 1529

LAB FILE ID: RF50: X061908 RF100: X061909 RF150: X061910
RF200: X061911

COMPOUND	RF50	RF100	RF150	RF200
cis-1,3-Dichloropropene	0.612	0.655	0.656	0.628
trans-1,3-Dichloropropene	0.551	0.593	0.597	0.585
1,3-Dichlorobenzene	1.445	1.545	1.560	1.500
2,2-Dichloropropane	0.920	0.965	0.944	0.890
1,1-Dichloropropene	0.417	0.460	0.461	0.443
Dibromomethane	0.258	0.272	0.269	0.260
1,2-Dibromoethane	0.396	0.409	0.406	0.391
trans-1,2-Dichloroethene	0.600	0.605	0.605	0.567
1,1,1,2-Tetrachloroethane	0.368	0.388	0.386	0.369
1,1,1-Trichloroethane	0.934	1.005	1.006	0.950
1,1,2,2-Tetrachloroethane	0.984	1.006	1.020	1.002
1,1,2-Trichloroethane	0.319	0.331	0.326	0.311
1,1-Dichloroethane	1.531	1.573	1.567	1.482
1,1-Dichloroethene	0.490	0.518	0.522	0.496
Trichloroethene	0.334	0.354	0.354	0.339
1,2,3-Trichlorobenzene	21693	37141	55004	76925
Trichlorofluoromethane	0.905	0.989	1.007	0.943
1,2,4-Trichlorobenzene	47111	74244	111992	153582
1,2,4-Trimethylbenzene	2.682	2.857	2.846	2.762
Tetrachloroethene	0.251	0.273	0.270	0.256
1,2-Dichlorobenzene	1.348	1.394	1.383	1.350
1,2-Dichloroethane	0.665	0.670	0.668	0.644
1,2-Dichloropropane	0.486	0.505	0.500	0.477
1,3,5-Trimethylbenzene	2.526	2.765	2.740	2.665
1,3-Dichloropropane	0.660	0.688	0.668	0.643
1,4-Dichlorobenzene	1.471	1.556	1.560	1.499
Toluene	1.483	1.552	1.529	1.450
2-Butanone	252176	497494	710305	913703
2-Chlorotoluene	2.301	2.431	2.435	2.346
2-Hexanone	0.533	0.556	0.545	0.536
4-Chlorotoluene	2.658	2.858	2.847	2.771
tert-Butylbenzene	1.924	2.156	2.150	2.059
4-Methyl-2-Pentanone	0.762	0.807	0.786	0.767
Acetone	181029	338254	483263	631240
Benzene	1.385	1.455	1.453	1.398
Bromobenzene	0.919	0.957	0.966	0.934
Bromochloromethane	0.368	0.378	0.377	0.347
Bromodichloromethane	0.520	0.551	0.547	0.529
Bromoform	0.274	0.289	0.287	0.280
Bromomethane	0.430	0.468	0.462	0.415
Carbon Disulfide	1.618	1.723	1.730	1.638
Carbon Tetrachloride	0.404	0.449	0.459	0.441
Chlorobenzene	0.946	0.998	0.988	0.942
Chloroethane	0.524	0.553	0.546	0.514

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006117

Instrument ID: VOA6 Calibration Date(s): 06/19/20 06/19/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1130 1529

LAB FILE ID: RF50: X061908 RF100: X061909 RF150: X061910
RF200: X061911

COMPOUND	RF50	RF100	RF150	RF200
Chloroform	1.229	1.264	1.247	1.191
Chloromethane	1.138	1.261	1.349	1.322
cis-1,2-Dichloroethene	0.727	0.741	0.745	0.702
Dibromochloromethane	0.395	0.423	0.423	0.406
Dichlorodifluoromethane	136419	288320	435763	549993
Ethylbenzene	0.471	0.513	0.509	0.485
Hexachlorobutadiene	31540	51077	73978	101440
Isopropylbenzene	1.369	1.506	1.498	1.411
m,p-Xylenes	0.566	0.620	0.612	0.582
Methylene Chloride	157708	305432	442721	557175
n-Butylbenzene	2.161	2.393	2.380	2.266
n-Propylbenzene	3.586	3.958	3.981	3.828
Naphthalene	72724	130246	197970	268406
o-Xylene	0.583	0.620	0.608	0.584
sec-Butylbenzene	2.767	3.108	3.112	2.974
Styrene	1.054	1.100	1.087	1.048
Vinyl Chloride	0.963	1.023	1.077	1.023
1,2,3-Trichloropropane	0.882	0.923	0.901	0.874
p-Isopropyltoluene	2.388	2.651	2.651	2.555
1,2-Dibromo-3-Chloropropane	13384	25675	37264	49492
1,2-Dichloroethane-d4	200469	391220	571773	739559
Dibromofluoromethane	0.643	0.649	0.652	0.632
Toluene-d8	1.225	1.247	1.247	1.212
4-Bromofluorobenzene	0.481	0.496	0.494	0.481

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006117

Instrument ID: VOA6 Calibration Date(s): 06/19/20 06/19/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1130 1529

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
cis-1,3-Dichloropropene	AVRG		0.60756766		11.228	15.000
trans-1,3-Dichloropropene	AVRG		0.56337888		10.303	15.000
1,3-Dichlorobenzene	AVRG		1.48973595		5.536	15.000
2,2-Dichloropropane	AVRG		0.97044237		5.382	15.000
1,1-Dichloropropene	AVRG		0.45010852		8.510	15.000
Dibromomethane	AVRG		0.26190050		9.880	15.000
1,2-Dibromoethane	AVRG		0.39438785		13.878	15.000
trans-1,2-Dichloroethene	AVRG		0.56824126		11.289	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.36409028		9.968	15.000
1,1,1-Trichloroethane	AVRG		0.92890975		11.174	15.000
1,1,2,2-Tetrachloroethane	AVRG		0.99371693		9.983	15.000
1,1,2-Trichloroethane	AVRG		0.32112664		9.718	15.000
1,1-Dichloroethane	AVRG		1.55274351		7.220	15.000
1,1-Dichloroethene	AVRG		0.48819257		8.469	15.000
Trichloroethene	AVRG		0.33037316		10.018	15.000
1,2,3-Trichlorobenzene	2ORDR	-4.97e-002	9.53679840	-2.1206979	0.9982825	0.9900000
Trichlorofluoromethane	AVRG		0.89086065		13.049	15.000
1,2,4-Trichlorobenzene	LINR	-2.44e-002	4.27878456		0.9968032	0.9900000
1,2,4-Trimethylbenzene	AVRG		2.72674592		6.480	15.000
Tetrachloroethene	AVRG		0.25875930		6.482	15.000
1,2-Dichlorobenzene	AVRG		1.35505464		9.002	15.000
1,2-Dichloroethane	AVRG		0.65519420		11.160	15.000
1,2-Dichloropropane	AVRG		0.47118851		9.178	15.000
1,3,5-Trimethylbenzene	AVRG		2.57096184		8.104	15.000
1,3-Dichloropropane	AVRG		0.67301965		6.109	15.000
1,4-Dichlorobenzene	AVRG		1.51687810		4.027	15.000
Toluene	AVRG		1.48816393		9.249	15.000
2-Butanone	LINR	-1.57e-002	1.74003610		0.9990460	0.9900000
2-Chlorotoluene	AVRG		2.37494788		7.725	15.000
2-Hexanone	AVRG		0.51625507		12.004	15.000
4-Chlorotoluene	AVRG		2.75228867		9.364	15.000
tert-Butylbenzene	AVRG		2.01929629		8.512	15.000
4-Methyl-2-Pentanone	AVRG		0.75356284		10.459	15.000
Acetone	LINR	-5.11e-002	2.54862207		0.9995136	0.9900000
Benzene	AVRG		1.39692996		7.214	15.000
Bromobenzene	AVRG		0.93817117		7.216	15.000
Bromochloromethane	AVRG		0.38317081		6.774	15.000
Bromodichloromethane	AVRG		0.50877057		11.966	15.000
Bromoform	AVRG		0.26641048		9.275	15.000
Bromomethane	AVRG		0.46807997		8.288	15.000
Carbon Disulfide	AVRG		1.60582106		8.890	15.000
Carbon Tetrachloride	AVRG		0.43564891		7.240	15.000
Chlorobenzene	AVRG		0.96807774		6.042	15.000
Chloroethane	AVRG		0.53142326		2.907	15.000

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006117

Instrument ID: VOA6 Calibration Date(s): 06/19/20 06/19/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1130 1529

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Chloroform	AVRG		1.22439995		8.005	15.000
Chloromethane	AVRG		1.24922751		7.978	15.000
cis-1,2-Dichloroethene	AVRG		0.71911714		7.420	15.000
Dibromochloromethane	AVRG		0.40014299		7.593	15.000
Dichlorodifluoromethane	LINR	1.803e-002	1.43674232		0.9984887	0.9900000
Ethylbenzene	AVRG		0.49367686		4.418	15.000
Hexachlorobutadiene	LINR	-4.04e-002	6.47658536		0.9972664	0.9900000
Isopropylbenzene	AVRG		1.39403780		9.264	15.000
m,p-Xylenes	AVRG		0.57872055		8.608	15.000
Methylene Chloride	LINR	-4.06e-002	1.42946167		0.9985605	0.9900000
n-Butylbenzene	AVRG		2.21531450		6.402	15.000
n-Propylbenzene	AVRG		3.68266590		9.189	15.000
Naphthalene	2ORDR	-2.49e-002	2.65325213	-0.1433690	0.9994325	0.9900000
o-Xylene	AVRG		0.58938914		7.935	15.000
sec-Butylbenzene	AVRG		2.86035781		8.879	15.000
Styrene	AVRG		1.04251135		9.855	15.000
Vinyl Chloride	AVRG		0.98875456		7.619	15.000
1,2,3-Trichloropropane	AVRG		0.92384795		7.533	15.000
p-Isopropyltoluene	AVRG		2.45721360		6.776	15.000
1,2-Dibromo-3-Chloropropane	LINR	-2.79e-003	13.0321288		0.9998956	0.9900000
1,2-Dichloroethane-d4	LINR	-1.25e-002	1.08358472		0.9995852	0.9900000
Dibromofluoromethane	AVRG		0.64119782		14.538	15.000
Toluene-d8	AVRG		1.24382653		10.295	15.000
4-Bromofluorobenzene	AVRG		0.50935765		10.522	15.000

FORM VI VOA

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061901.D

Date : 19-JUN-2020 11:06

Client ID: BFB

Instrument: voa6.i

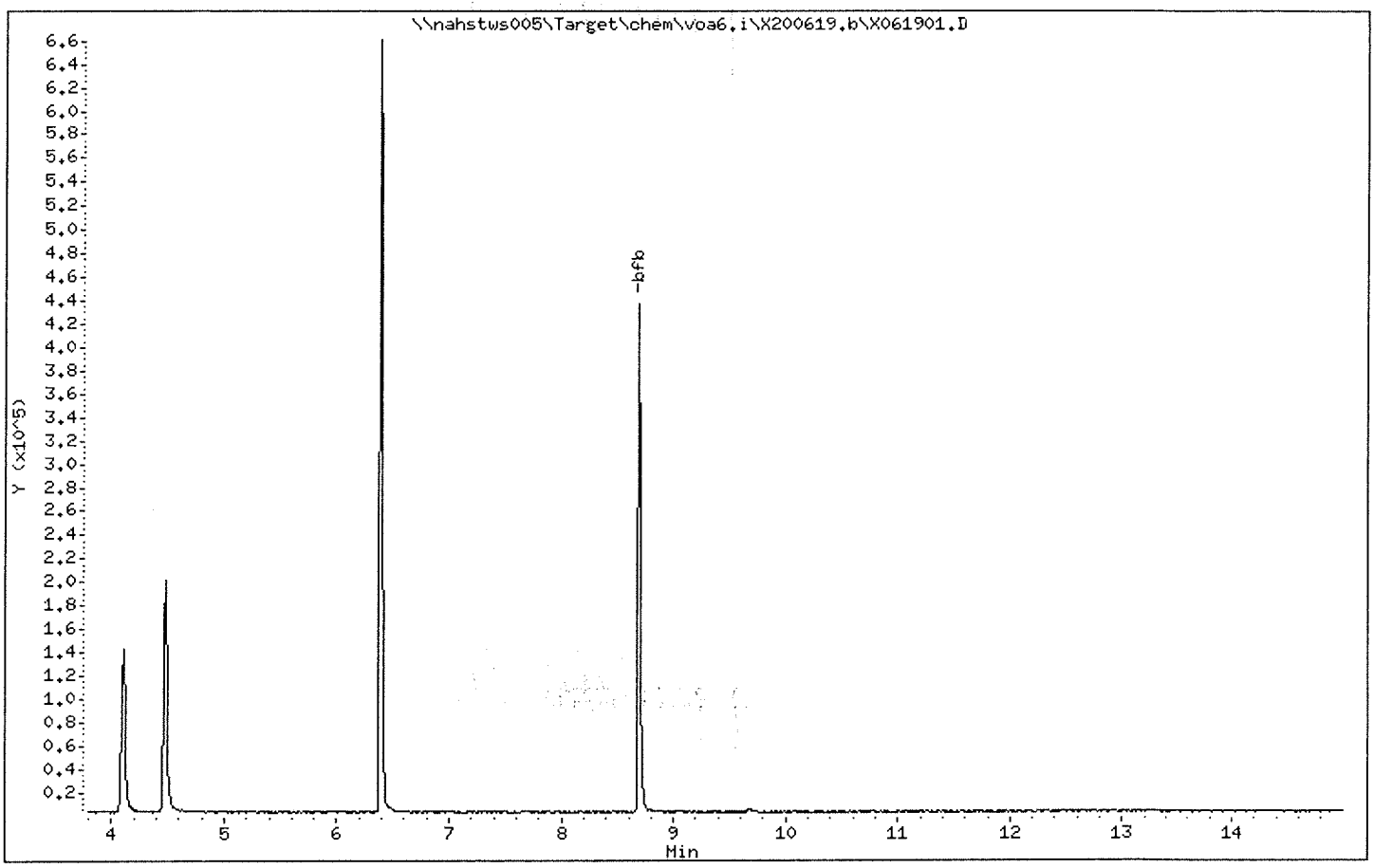
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061901.D Page 2

Date : 19-JUN-2020 11:06

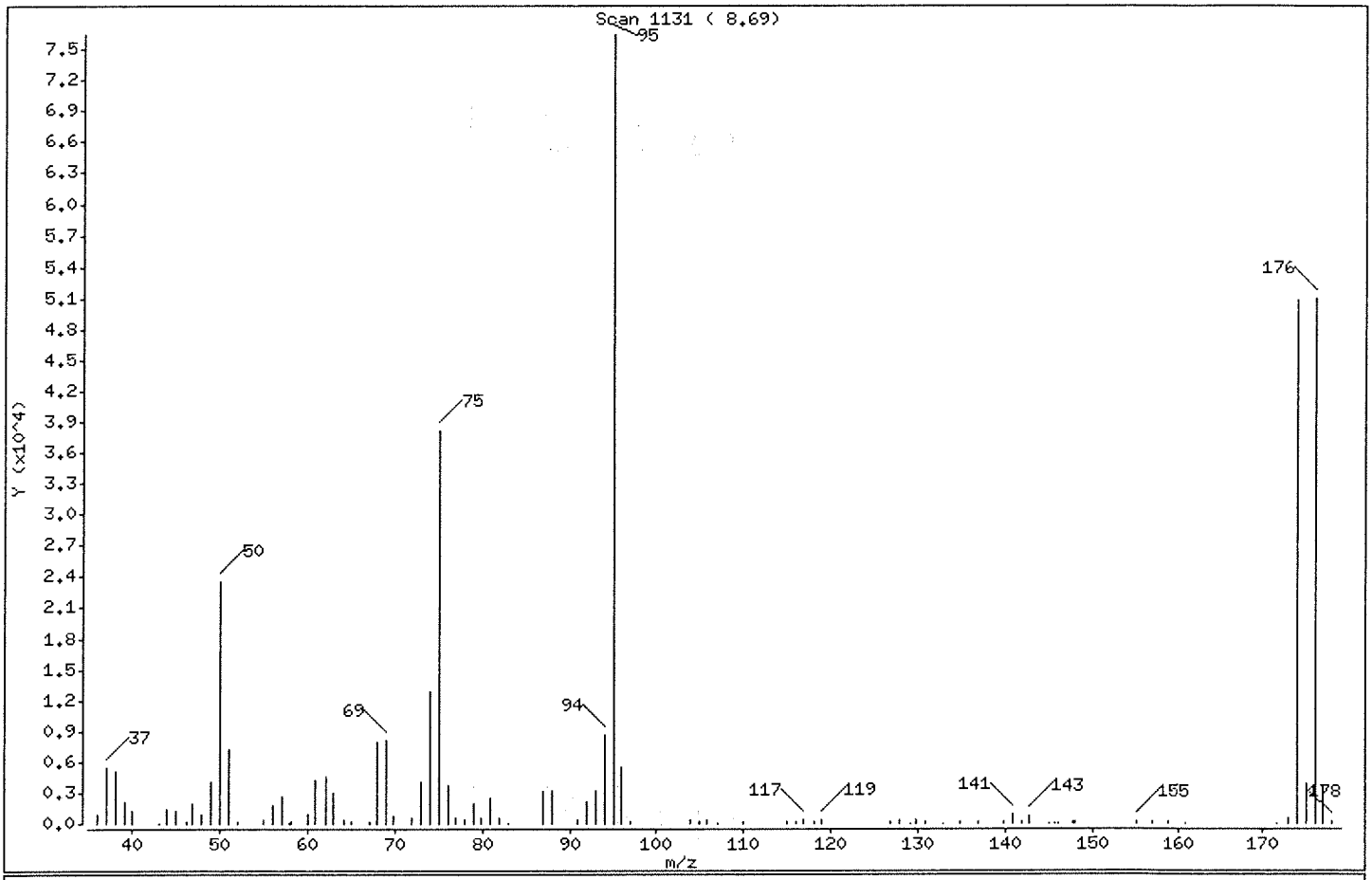
Client ID: BFB Instrument: voa6.i

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	30.74
75	30.00 - 60.00% of mass 95	49.81
96	5.00 - 9.00% of mass 95	7.20
173	Less than 2.00% of mass 174	0.68 (1.03)
174	Greater than 50.00% of mass 95	66.54
175	5.00 - 9.00% of mass 174	5.07 (7.61)
176	95.00 - 101.00% of mass 174	66.75 (100.31)
177	5.00 - 9.00% of mass 176	4.56 (6.84)

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061901.D

Date : 19-JUN-2020 11:06

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: X061901.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 89

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	934	62.90	3017	93.00	3228	139.90	91
37.00	5521	64.10	337	94.00	8571	140.90	888
38.00	5042	64.90	120	95.00	76432	141.90	153
39.00	2154	67.00	196	96.00	5501	142.80	714
39.90	1193	68.00	7929	97.00	228	145.00	60
43.00	73	69.00	8137	103.90	271	145.60	77
43.90	1491	69.90	739	104.90	106	146.10	74
45.00	1155	71.90	549	105.80	317	147.70	123
46.20	105	73.00	3972	107.00	70	148.00	108
46.90	1944	74.00	12787	109.90	93	155.00	141
47.90	843	75.00	38072	115.00	128	157.00	107
49.00	4041	76.00	3671	115.90	232	158.80	100
50.00	23496	77.00	520	116.80	396	161.00	54
51.00	7126	77.90	280	118.00	259	171.50	85
52.00	239	78.90	1976	118.90	379	172.90	522
55.00	352	79.90	547	126.90	107	173.90	50856
56.00	1731	80.90	2398	127.80	329	174.90	3872
57.00	2697	81.90	606	129.10	83	175.90	51016
57.80	87	82.90	53	129.80	325	176.90	3488
58.20	123	86.90	3136	130.90	92	177.90	98
59.90	854	87.90	3208	133.00	55		
60.90	4227	90.90	325	134.70	143		
62.00	4550	91.90	2191	136.80	130		

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200619.b\X061902.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 19-JUN-2020 11:30
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\X200619.b\8260W.m
Meth Date : 09-Jul-2020 09:58 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 11:30 Cal File: X061902.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

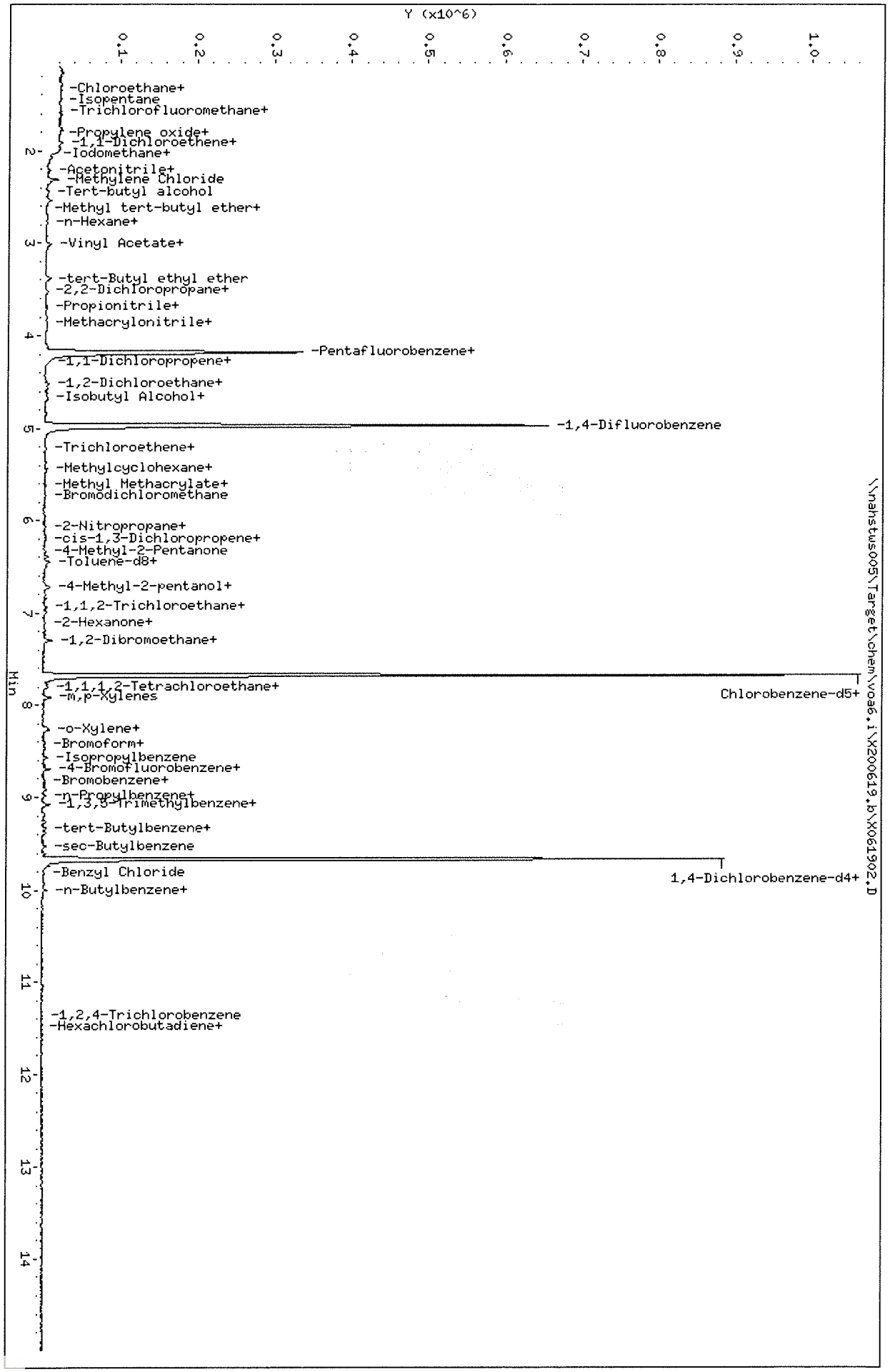
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	253104	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	478031	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	438879	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	193205	50.0000	
$ 30 Dibromofluoromethane	113	4.118	4.103	(0.983)	1078	0.25000	0.33(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.070)	1525	0.25000	(TaM)
$ 48 Toluene-d8	98	6.396	6.388	(0.834)	4101	0.25000	0.37(Ta)
$ 69 4-Bromofluorobenzene	95	8.702	8.695	(1.134)	3337	0.25000	0.74(a)
60 1,1,1,2-Tetrachloroethane	131	7.785	7.778	(1.015)	722	0.25000	0.22(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	1091	0.25000	0.23(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1213	0.25000	0.31(aM)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	746	0.25000	0.26(a)
22 1,1-Dichloroethane	63	2.929	2.921	(0.699)	2275	0.25000	0.28(TaM)
11 1,1-Dichloroethene	96	1.919	1.911	(0.458)	692	0.25000	0.28(aM)
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	1192	0.25000	0.27(a)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	751	0.25000	0.21(aM)
90 1,2,4-Trichlorobenzene	180	11.367	11.338	(1.176)	204	0.25000	(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	2757	0.25000	0.26(a)
57 1,2-Dibromoethane	107	7.270	7.262	(0.948)	1002	0.25000	0.28(a)
88 1,2-Dichlorobenzene	146	10.006	9.999	(1.035)	1350	0.25000	0.25(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	1840	0.25000	0.29(a)
42 1,2-Dichloropropane	63	5.450	5.443	(1.097)	1267	0.25000	0.28(aM)
75 1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	2602	0.25000	0.26(a)

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061902.D Page 2
Report Date: 09-Jul-2020 09:59

	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	9.612	9.612	(0.994)	1524	0.25000	0.26 (a)
54	1,3-Dichloropropane	76	6.990	6.983	(0.911)	1821	0.25000	0.30 (a)
84	1,4-Dichlorobenzene	146	9.691	9.683	(1.002)	1836	0.25000	0.31 (a)
26	2,2-Dichloropropane	77	3.509	3.516	(0.838)	1488	0.25000	0.30 (aM)
24	2-Butanone	43	3.638	3.580	(0.868)	1436	0.50000	(aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	2497	0.25000	0.27 (a)
52	2-Hexanone	43	7.105	7.090	(0.926)	2209	0.50000	0.48 (a)
77	4-Chlorotoluene	91	9.082	9.075	(0.939)	3173	0.25000	0.29 (a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	2355	0.25000	0.24 (a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	3607	0.50000	0.54 (a)
10	Acetone	43	1.976	1.976	(0.472)	3214	0.50000	(aM)
37	Benzene	78	4.519	4.519	(0.909)	3680	0.25000	0.27 (aM)
74	Bromobenzene	156	8.810	8.809	(0.911)	915	0.25000	0.25 (a)
29	Bromochloromethane	128	3.810	3.795	(0.909)	458	0.25000	0.23 (aM)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	1085	0.25000	0.22 (aM)
66	Bromoform	173	8.416	8.416	(1.097)	553	0.25000	0.23 (aM)
6	Bromomethane	94	1.339	1.331	(0.320)	932	0.25000	0.39 (aM)
19	Carbon Disulfide	76	2.069	2.069	(0.494)	4764	0.50000	0.58 (a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	833	0.25000	0.20 (aM)
59	Chlorobenzene	112	7.699	7.699	(1.004)	2352	0.25000	0.27 (a)
7	Chloroethane	64	1.403	1.396	(0.335)	671	0.25000	0.24 (a)
28	Chloroform	83	3.917	3.910	(0.935)	1632	0.25000	0.26 (a)
3	Chloromethane	50	1.081	1.081	(0.258)	1853	0.25000	0.29 (aM)
27	cis-1,2-Dichloroethene	96	3.538	3.530	(0.844)	941	0.25000	0.25 (aM)
46	cis-1,3-Dichloropropene	75	6.174	6.159	(1.242)	1611	0.25000	0.27 (a)
55	Dibromochloromethane	129	7.184	7.183	(0.937)	945	0.25000	0.26 (a)
44	Dibromomethane	93	5.565	5.557	(1.120)	666	0.25000	0.26 (aM)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	762	0.25000	1.11 (aM)
61	Ethylbenzene	106	7.807	7.807	(1.018)	1073	0.25000	0.24 (a)
91	Hexachlorobutadiene	225	11.489	11.481	(1.188)	113	0.25000	(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	3257	0.25000	0.26 (a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	2440	0.50000	0.48 (a)
17	Methylene Chloride	84	2.313	2.305	(0.552)	4165	0.25000	(aM)
87	n-Butylbenzene	91	10.006	9.999	(1.035)	2416	0.25000	0.28 (a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	3688	0.25000	0.25 (a)
92	Naphthalene	128	11.582	11.546	(1.198)	469	0.25000	(aM)
63	o-Xylene	106	8.251	8.244	(1.076)	1371	0.25000	0.26 (a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	2767	0.25000	0.25 (a)
64	Styrene	104	8.272	8.265	(1.078)	2041	0.25000	0.22 (a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	1914	0.25000	0.24 (a)
56	Tetrachloroethene	164	6.940	6.933	(0.905)	648	0.25000	0.28 (a)
50	Toluene	91	6.453	6.453	(0.841)	3765	0.25000	0.28 (a)
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.605)	722	0.25000	0.25 (Ta)
51	trans-1,3-Dichloropropene	75	6.696	6.682	(1.347)	1511	0.25000	0.28 (aM)
38	Trichloroethene	130	5.214	5.206	(1.049)	781	0.25000	0.24 (aM)
8	Trichlorofluoromethane	101	1.568	1.560	(0.374)	1273	0.25000	0.28 (a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	1437	0.25000	0.28 (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\X200619.b\X061902.D
Date : 19-JUN-2020 11:30
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\X200619.b\X061903.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 19-JUN-2020 12:18
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\X200619.b\8260W.m
Meth Date : 09-Jul-2020 09:58 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 12:18 Cal File: X061903.D
Als bottle: 4 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	4.189	4.189	(1.000)	232838	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	439833	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	407331	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	183423	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	945	0.50000	0.31(a)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	2528	0.50000	(TaM)
$ 48 Toluene-d8	98	6.395	6.388	(0.834)	3857	0.50000	0.38(Ta)
$ 69 4-Bromofluorobenzene	95	8.702	8.695	(1.134)	1716	0.50000	0.41(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1131	0.50000	0.38(a)
31 1,1,1-Trichloroethane	97	4.096	4.089	(0.978)	1574	0.50000	0.36(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1363	0.50000	0.37(aM)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	992	0.50000	0.37(a)
22 1,1-Dichloroethane	63	2.929	2.921	(0.699)	3101	0.50000	0.42(Ta)
11 1,1-Dichloroethene	96	1.919	1.911	(0.458)	954	0.50000	0.41(a)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	1712	0.50000	0.43(a)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	1486	0.50000	0.43(aM)
90 1,2,4-Trichlorobenzene	180	11.367	11.338	(1.176)	380	0.50000	(aM)
79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	4226	0.50000	0.42(a)
89 1,2-Dibromo-3-Chloropropane	155	10.672	10.658	(1.104)	85	0.50000	0.16(aM)
57 1,2-Dibromoethane	107	7.277	7.262	(0.949)	1035	0.50000	0.32(a)
88 1,2-Dichlorobenzene	146	9.998	9.999	(1.034)	1943	0.50000	0.39(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	2073	0.50000	0.35(a)
42 1,2-Dichloropropane	63	5.450	5.443	(1.097)	1649	0.50000	0.39(aM)

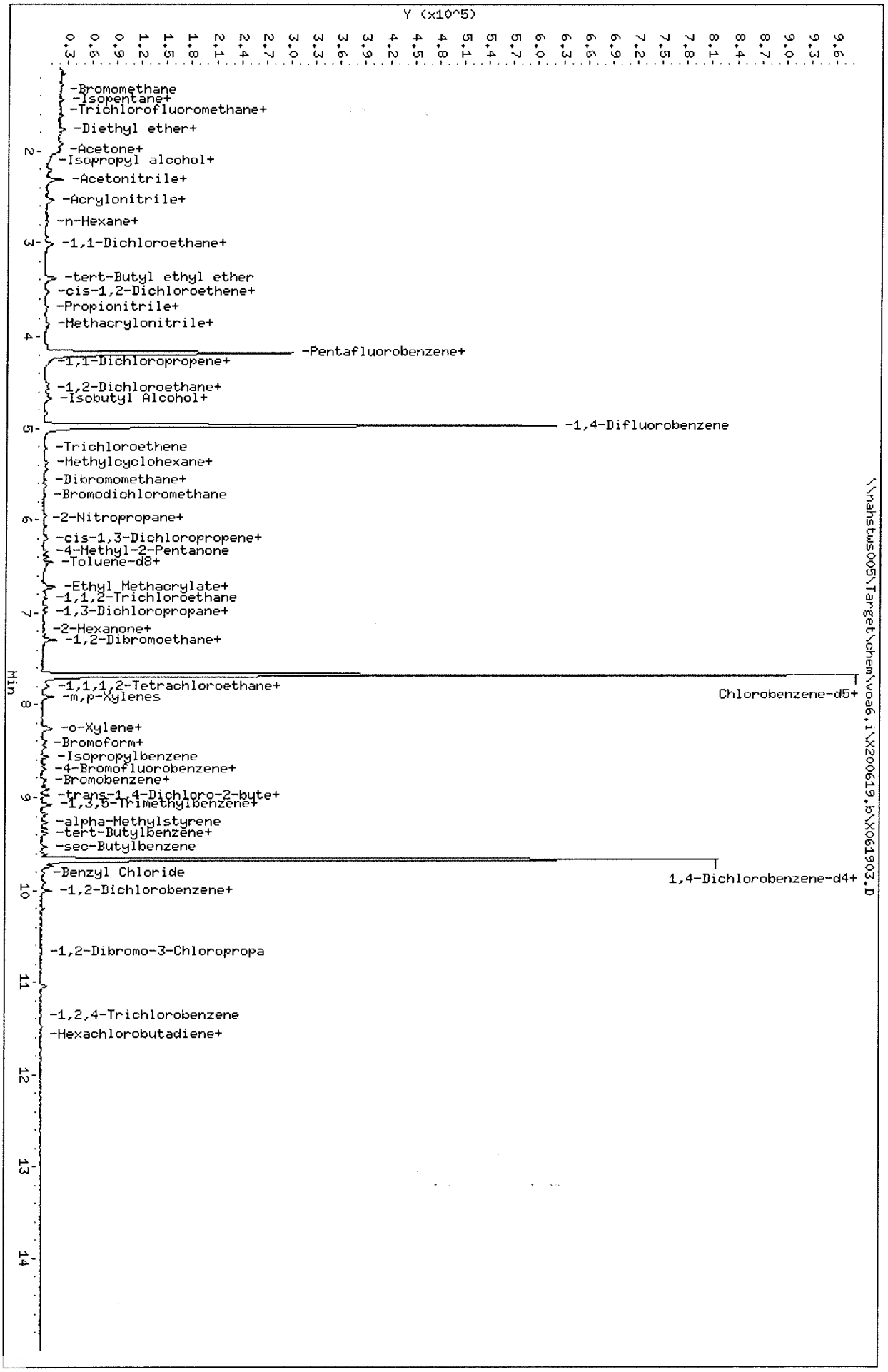
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
75	1,3,5-Trimethylbenzene	105	9.074	9.075	(0.939)	3830	0.50000	0.40(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	2424	0.50000	0.44(a)
54	1,3-Dichloropropane	76	6.990	6.983	(0.911)	2387	0.50000	0.43(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	2545	0.50000	0.45(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	2251	0.50000	0.49(aM)
24	2-Butanone	43	3.623	3.580	(0.865)	1071	1.00000	(aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	3566	0.50000	0.40(a)
52	2-Hexanone	43	7.105	7.090	(0.926)	2913	1.00000	0.69(a)
77	4-Chlorotoluene	91	9.082	9.075	(0.939)	3896	0.50000	0.38(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	3994	0.50000	0.44(a)
45	4-Methyl-2-Pentanone	43	6.338	6.331	(0.826)	4525	1.00000	0.73(a)
10	Acetone	43	1.983	1.976	(0.473)	3329	1.00000	(a)
37	Benzene	78	4.519	4.519	(0.909)	5024	0.50000	0.40(a)
74	Bromobenzene	156	8.817	8.809	(0.912)	1407	0.50000	0.40(a)
29	Bromochloromethane	128	3.802	3.795	(0.908)	823	0.50000	0.46(a)
39	Bromodichloromethane	83	5.736	5.729	(1.154)	1581	0.50000	0.35(aM)
66	Bromoform	173	8.415	8.416	(1.097)	872	0.50000	0.40(aM)
6	Bromomethane	94	1.338	1.331	(0.320)	1024	0.50000	0.46(a)
19	Carbon Disulfide	76	2.076	2.069	(0.496)	5861	1.00000	0.78(aM)
34	Carbon Tetrachloride	117	4.275	4.268	(0.860)	1641	0.50000	0.42(aH)
59	Chlorobenzene	112	7.699	7.699	(1.004)	3383	0.50000	0.42(a)
7	Chloroethane	64	1.403	1.396	(0.335)	1221	0.50000	0.49(aM)
28	Chloroform	83	3.917	3.910	(0.935)	2277	0.50000	0.39(a)
3	Chloromethane	50	1.080	1.081	(0.258)	2491	0.50000	0.42(a)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	1358	0.50000	0.40(a)
46	cis-1,3-Dichloropropene	75	6.166	6.159	(1.241)	1939	0.50000	0.36(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	1368	0.50000	0.41(a)
44	Dibromomethane	93	5.565	5.557	(1.120)	864	0.50000	0.37(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	1002	0.50000	1.21(aM)
61	Ethylbenzene	106	7.799	7.807	(1.017)	1843	0.50000	0.45(a)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	599	0.50000	(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	4371	0.50000	0.38(a)
62	m,p-Xylenes	106	7.914	7.907	(1.032)	3776	1.00000	0.80(a)
17	Methylene Chloride	84	2.305	2.305	(0.550)	4889	0.50000	(aM)
87	n-Butylbenzene	91	9.998	9.999	(1.034)	3783	0.50000	0.46(aM)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	5249	0.50000	0.38(a)
92	Naphthalene	128	11.574	11.546	(1.197)	836	0.50000	(aM)
63	o-Xylene	106	8.244	8.244	(1.075)	1920	0.50000	0.39(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	4233	0.50000	0.40(a)
64	Styrene	104	8.272	8.265	(1.078)	3225	0.50000	0.37(a)
78	tert-Butylbenzene	119	9.339	9.340	(0.966)	2944	0.50000	0.39(a)
56	Tetrachloroethene	164	6.926	6.933	(0.903)	893	0.50000	0.42(a)
50	Toluene	91	6.453	6.453	(0.841)	4639	0.50000	0.38(a)
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.605)	942	0.50000	0.35(a)
51	trans-1,3-Dichloropropene	75	6.696	6.682	(1.347)	1828	0.50000	0.36(a)
38	Trichloroethene	130	5.214	5.206	(1.049)	1078	0.50000	0.37(a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	1432	0.50000	0.34(a)
5	Vinyl Chloride	62	1.145	1.138	(0.273)	2302	0.50000	0.49(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.
H - Operator selected an alternate compound hit.

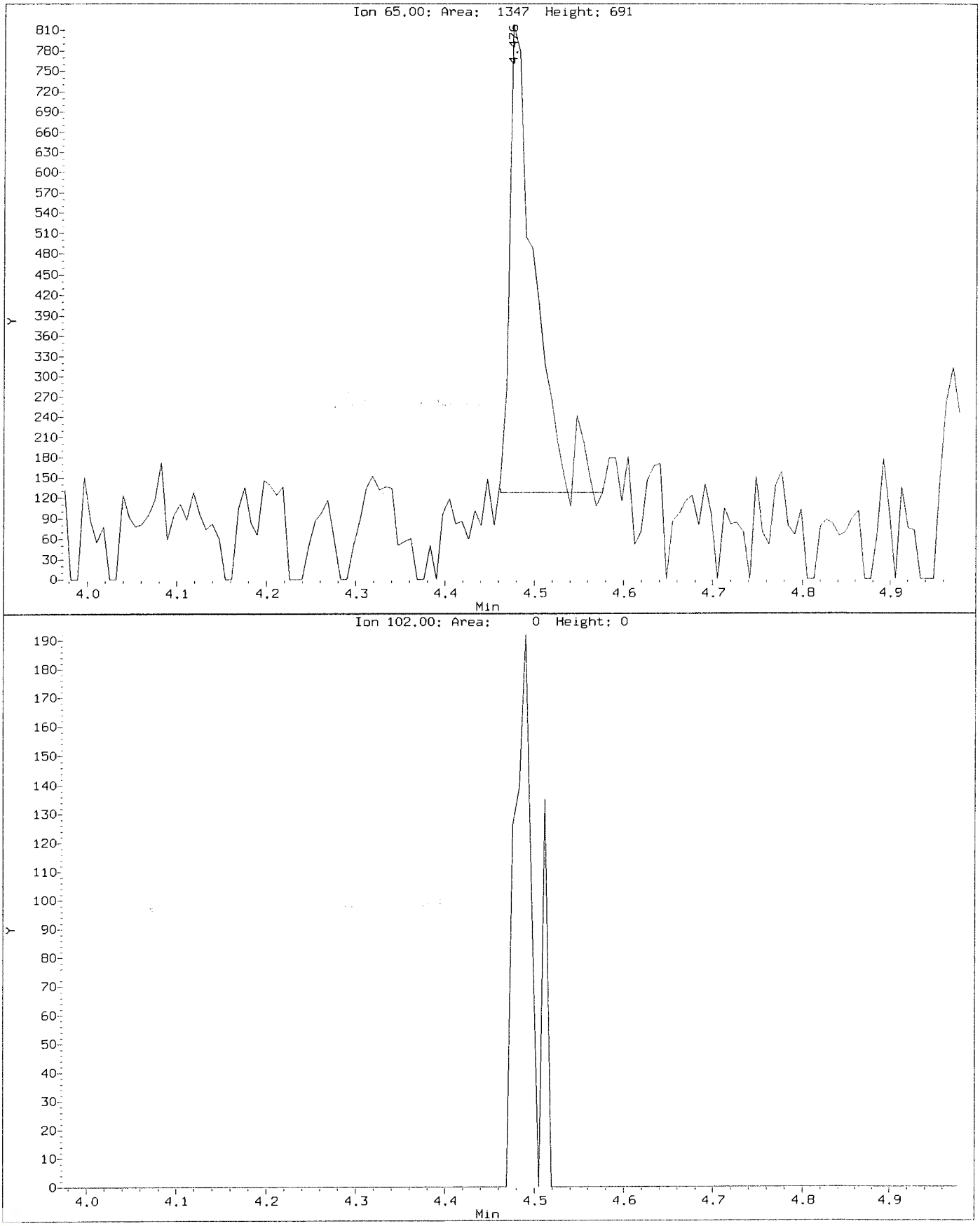


Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061903.D
Date : 19-JUN-2020 12:18
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061903.D
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0



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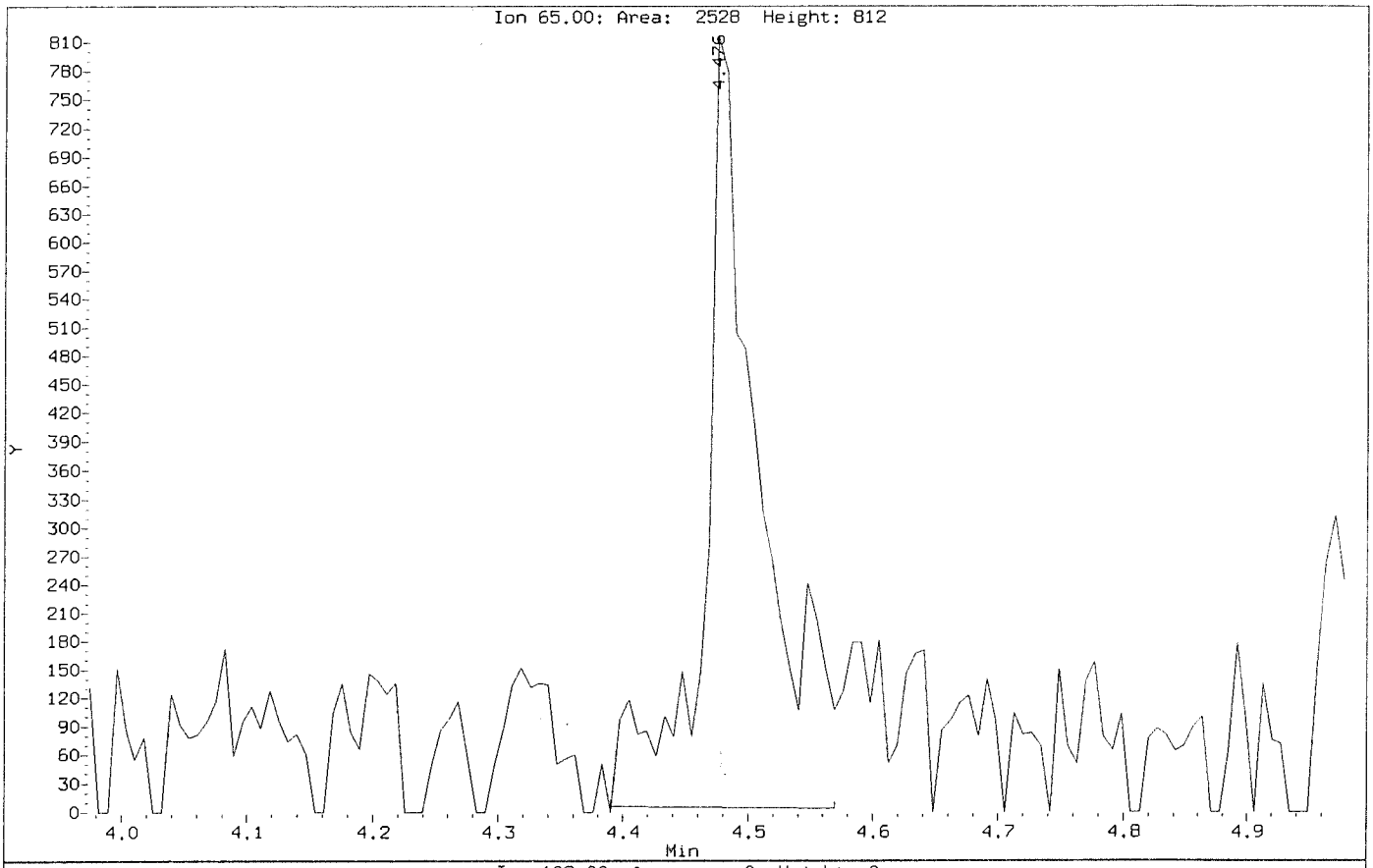
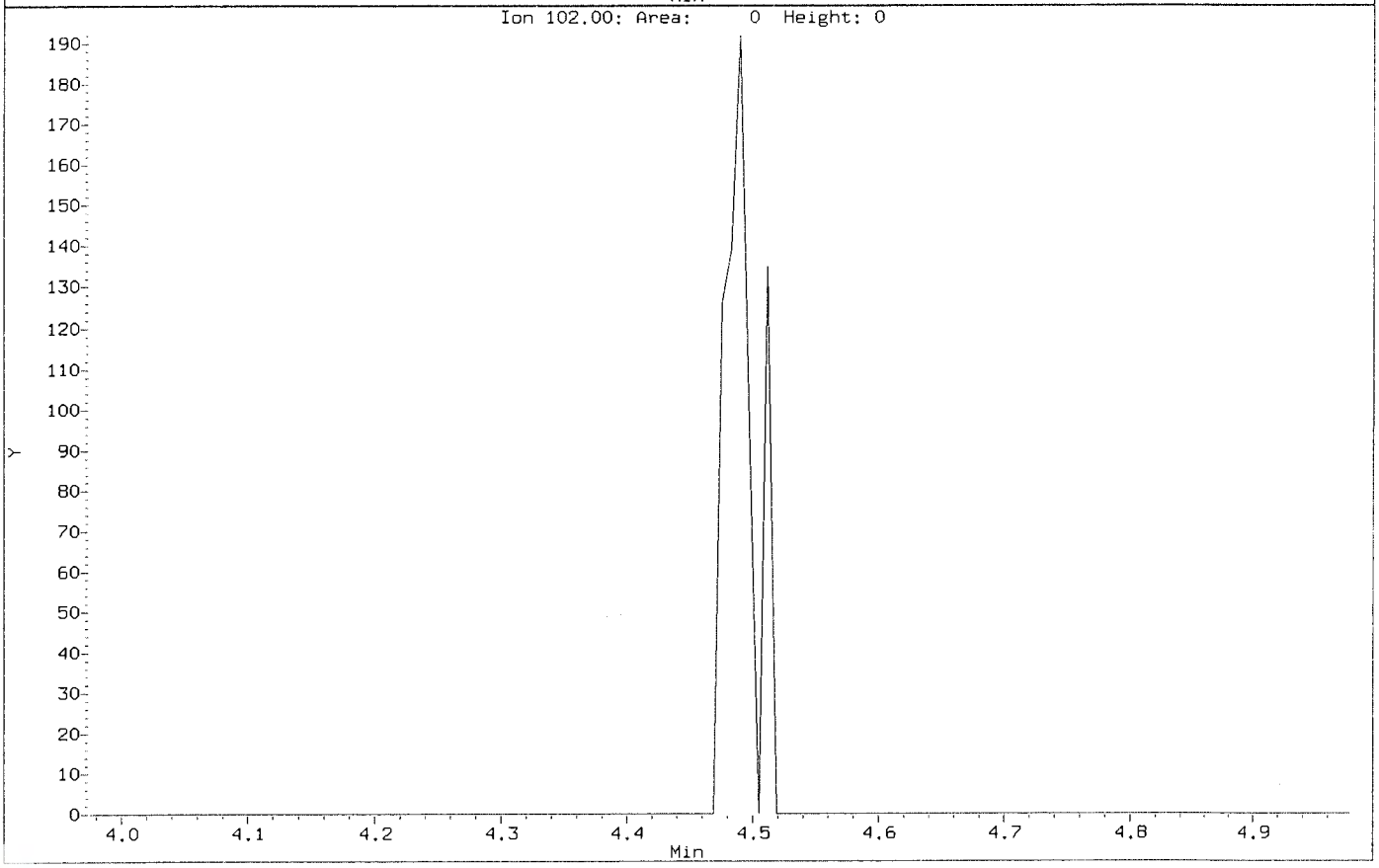
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

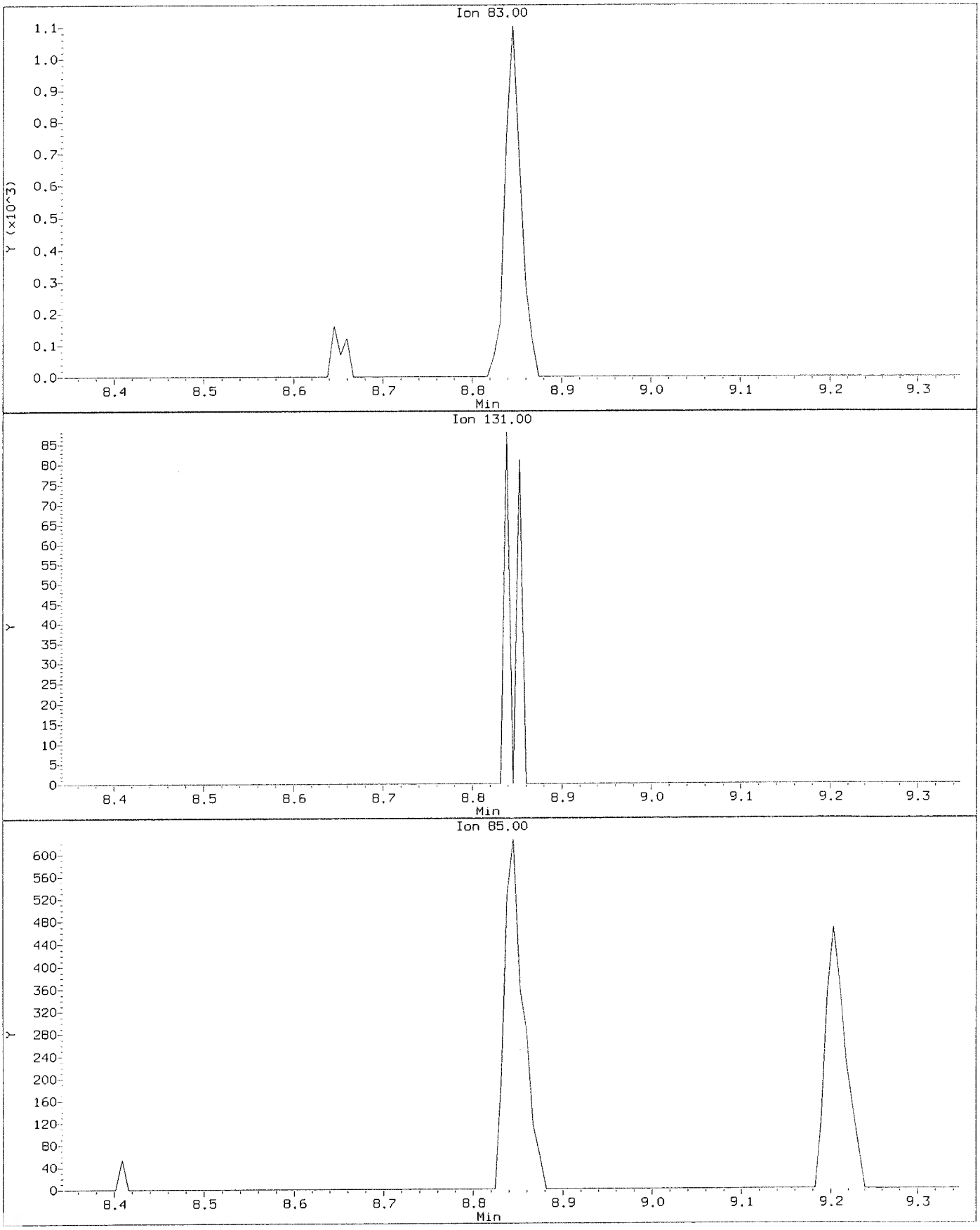
Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0





Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061903.D
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



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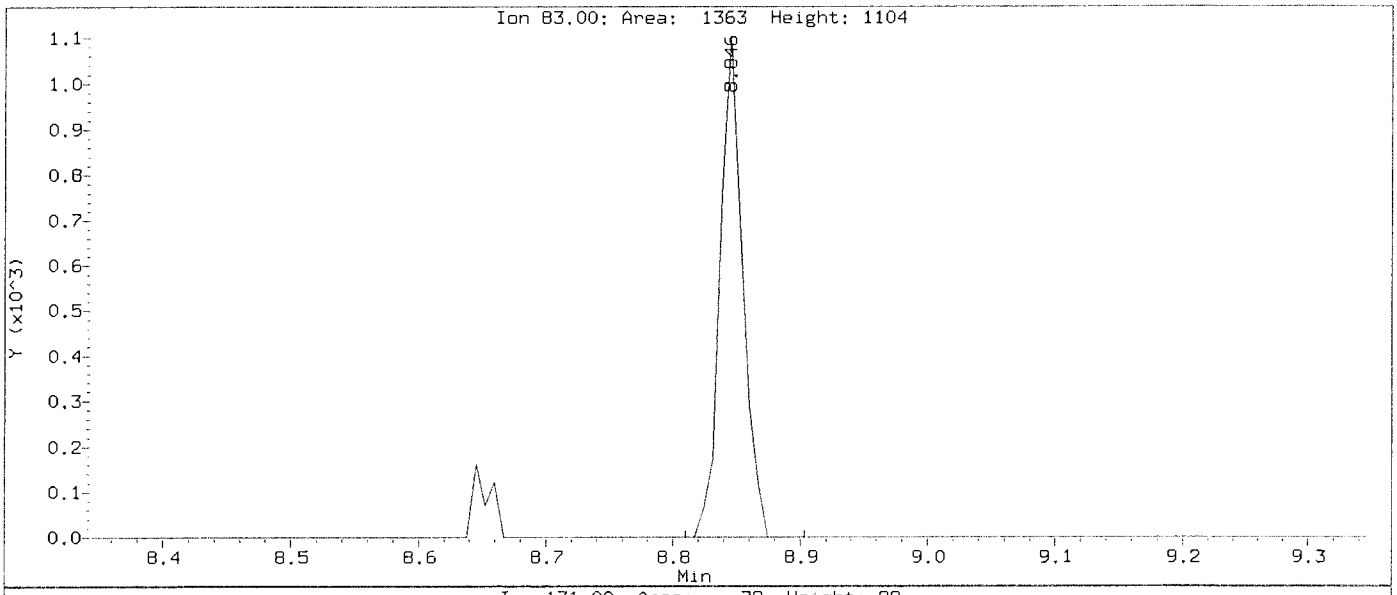
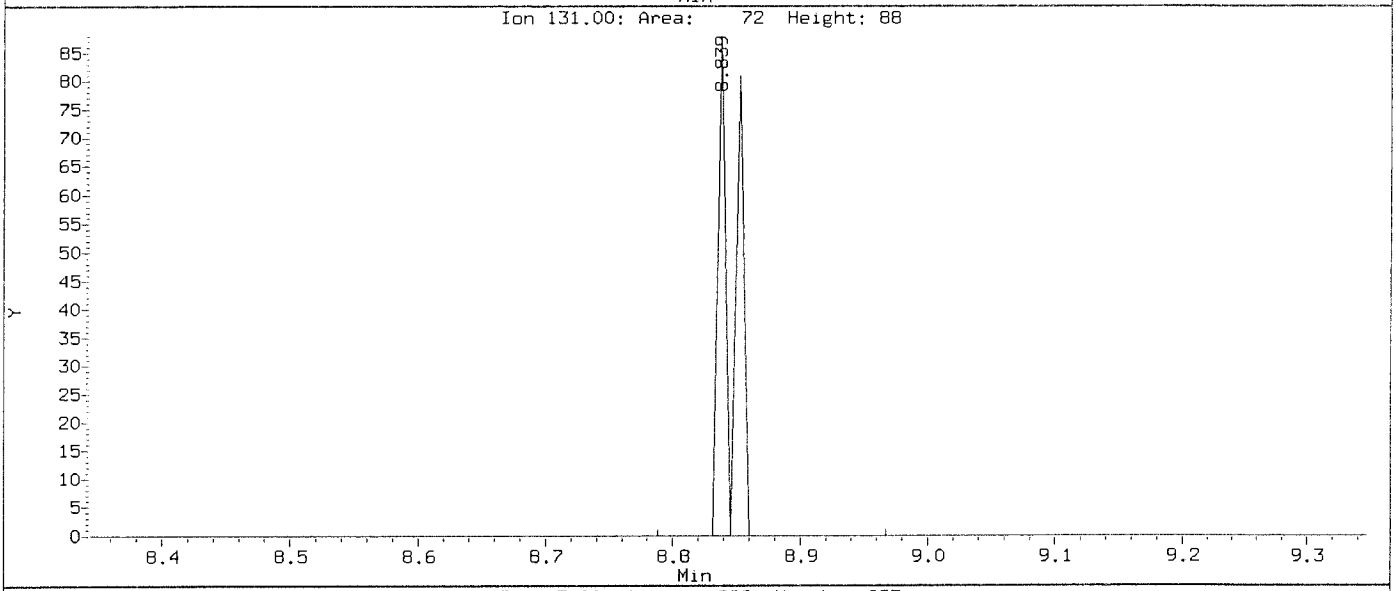
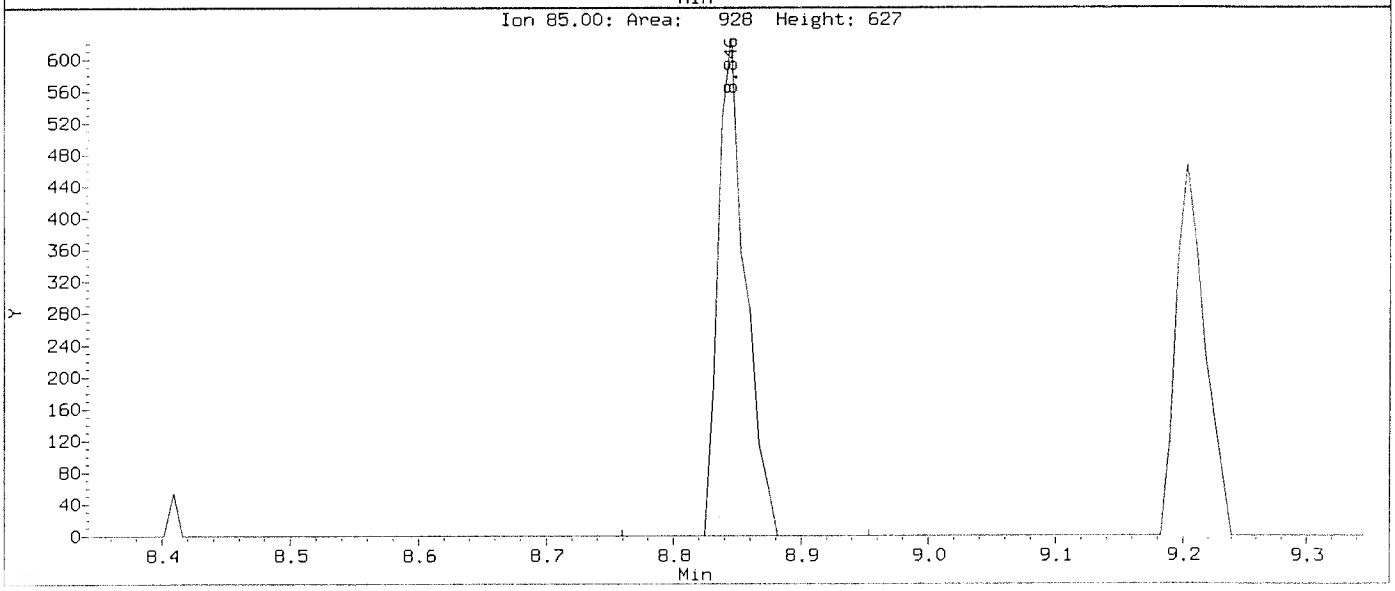
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5







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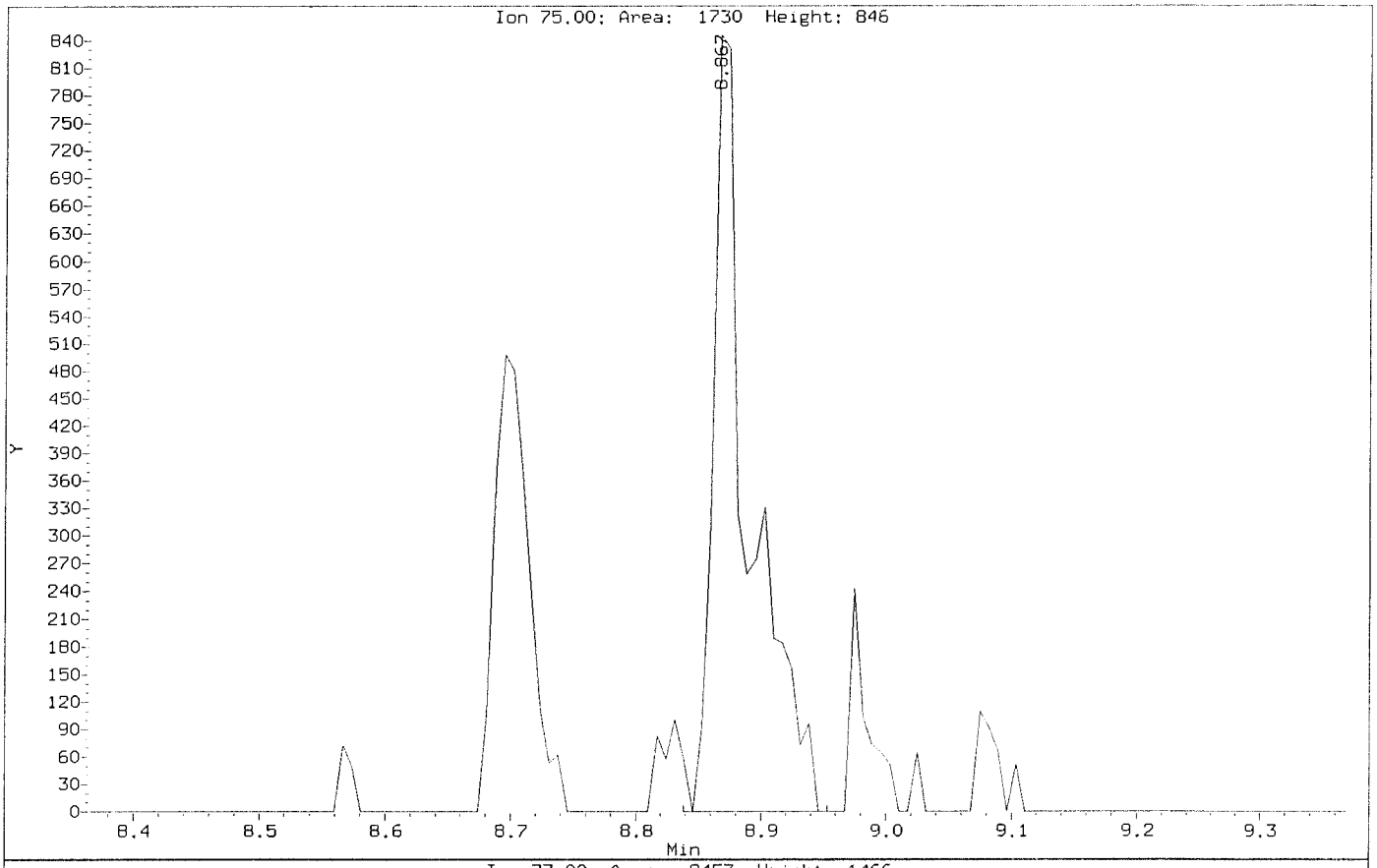
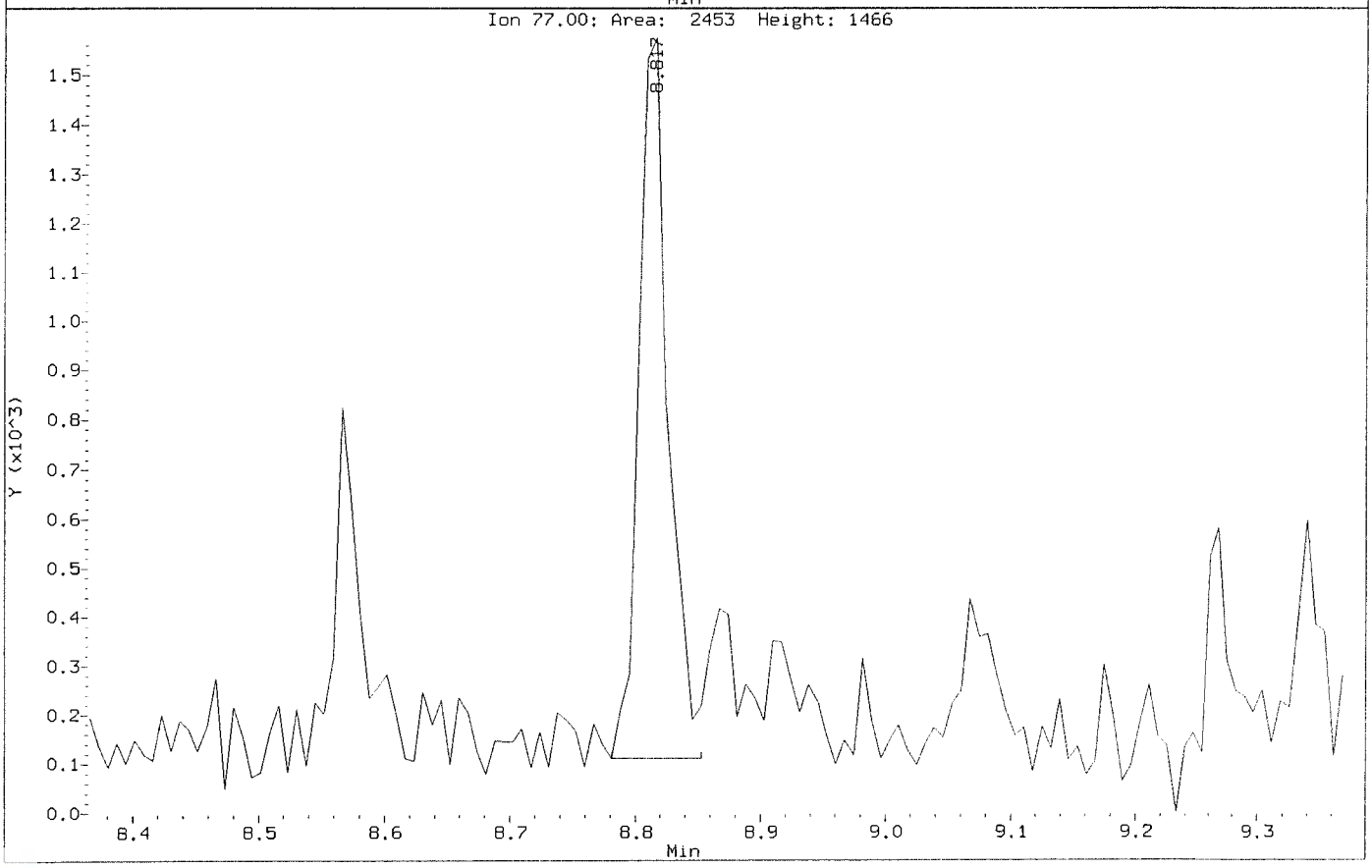
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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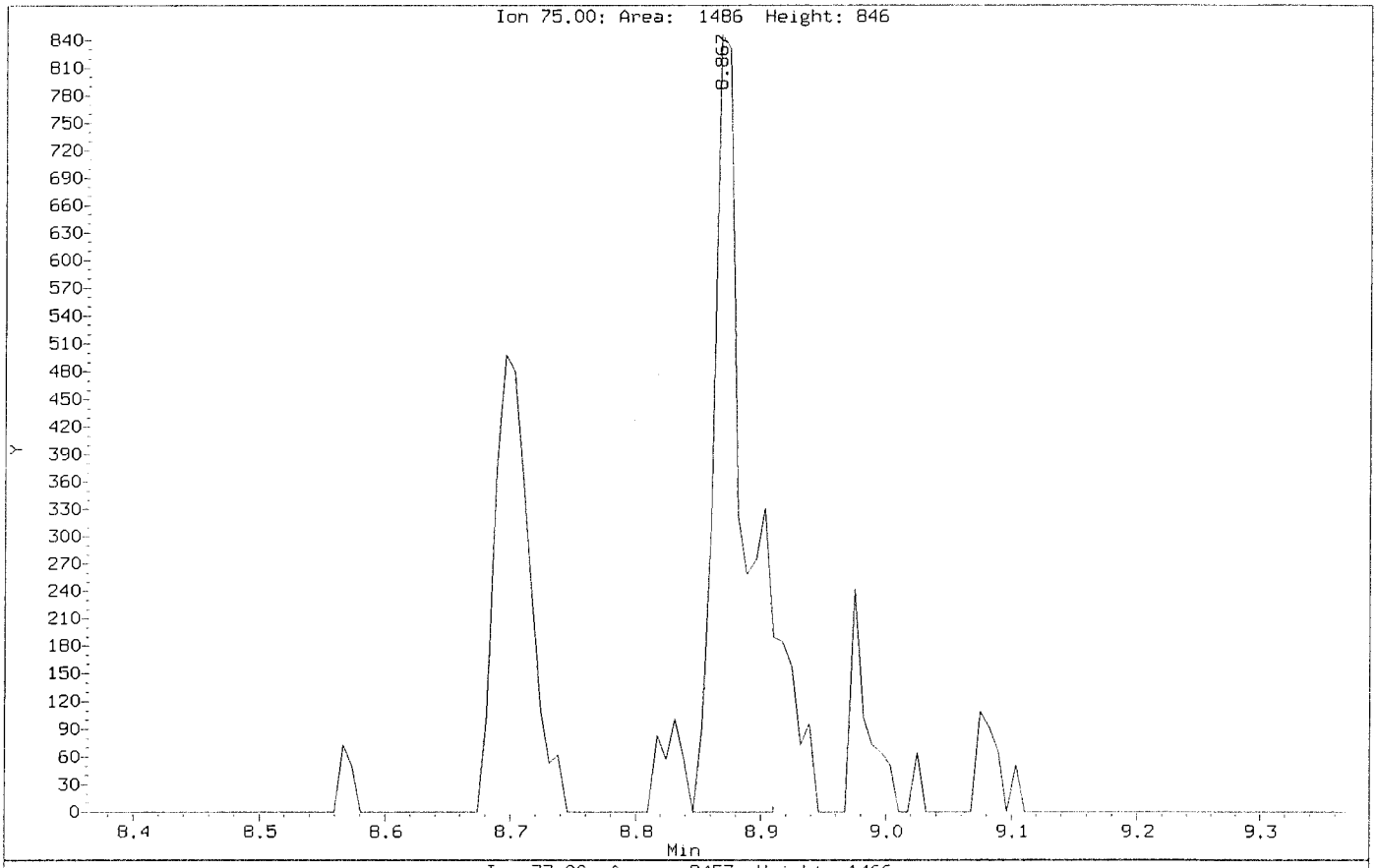
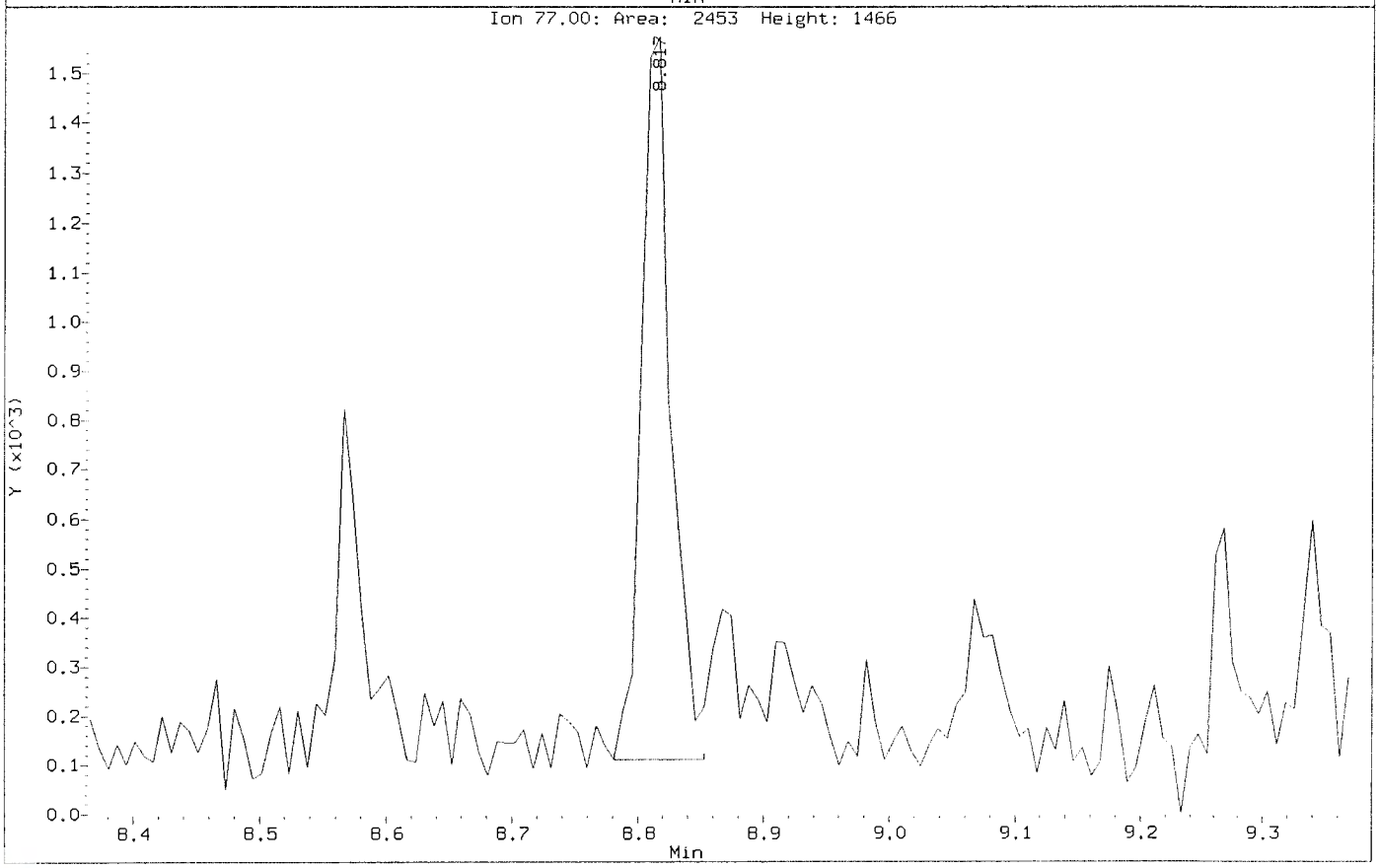
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

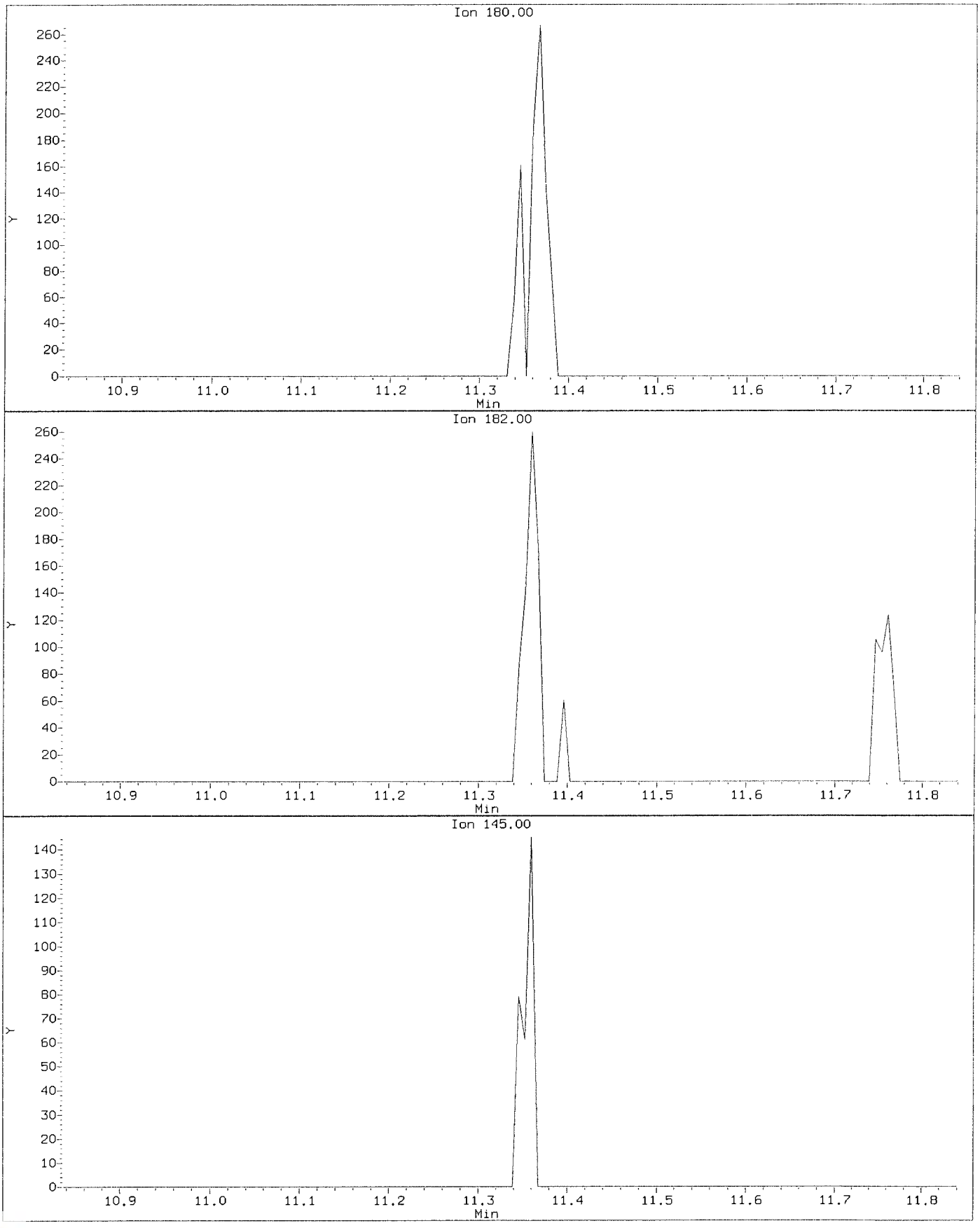
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061903.D
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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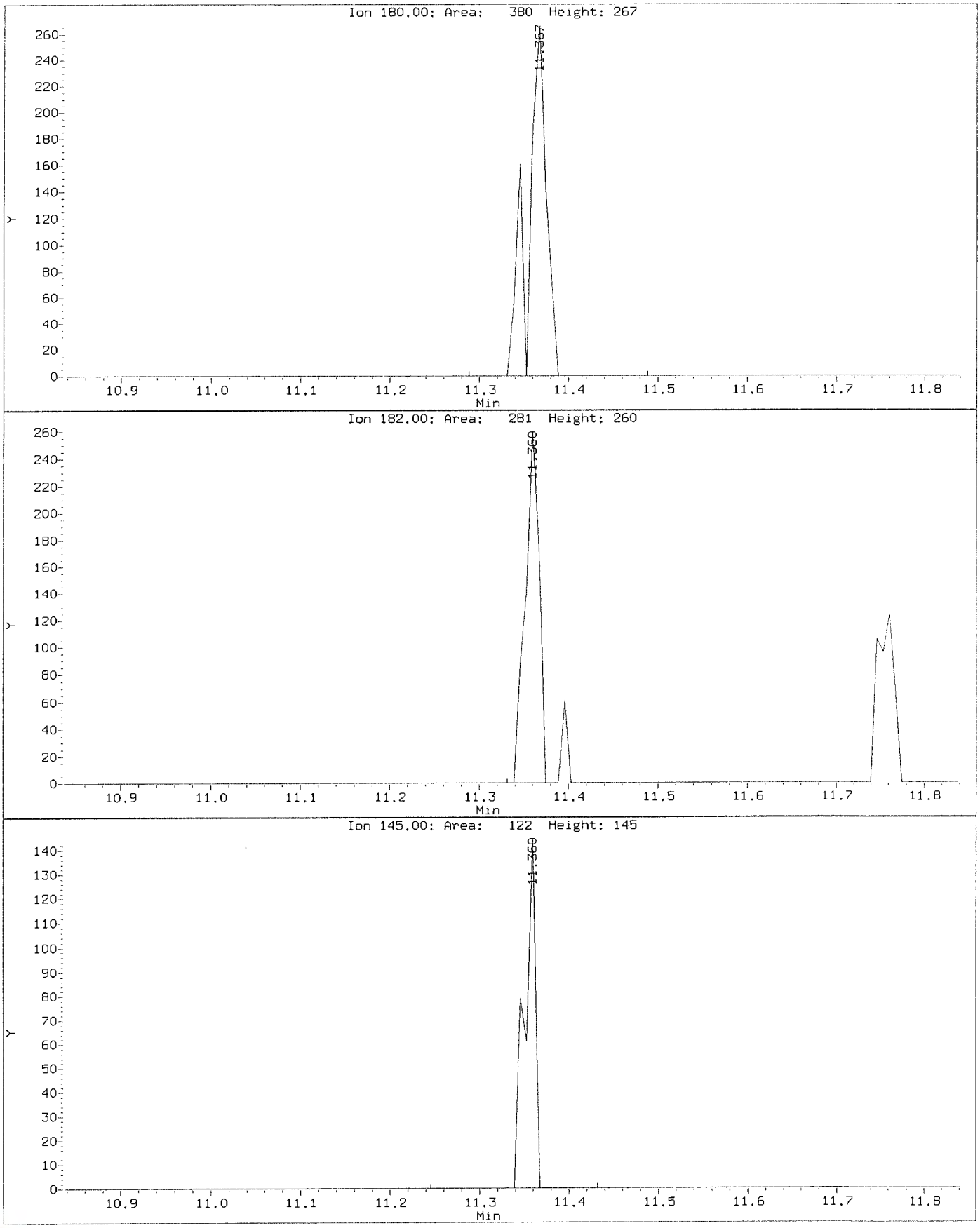
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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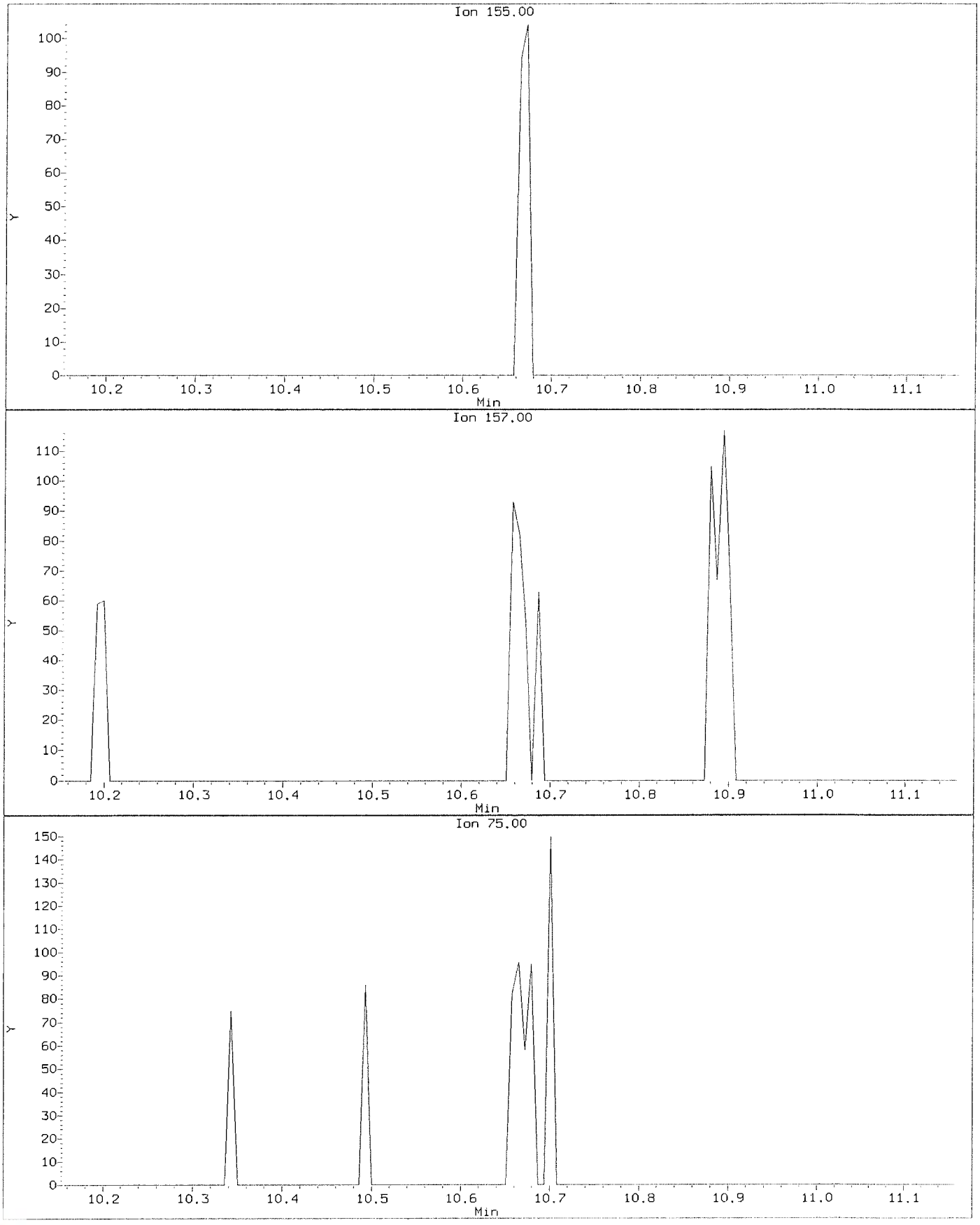
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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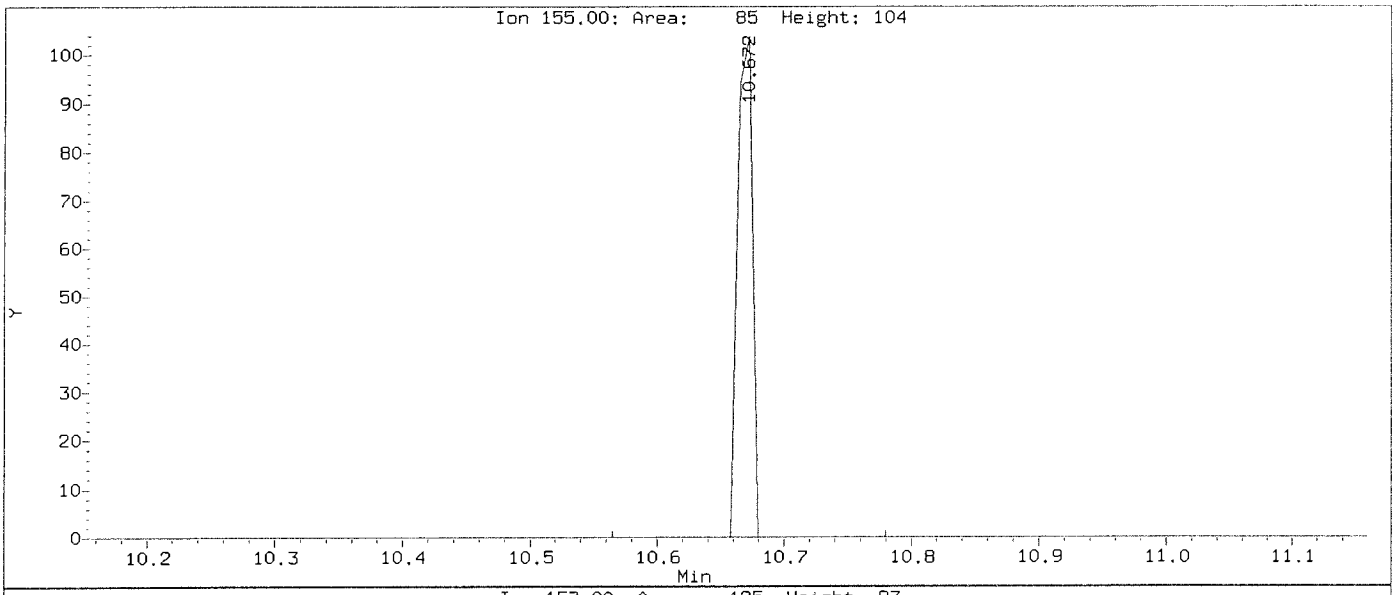
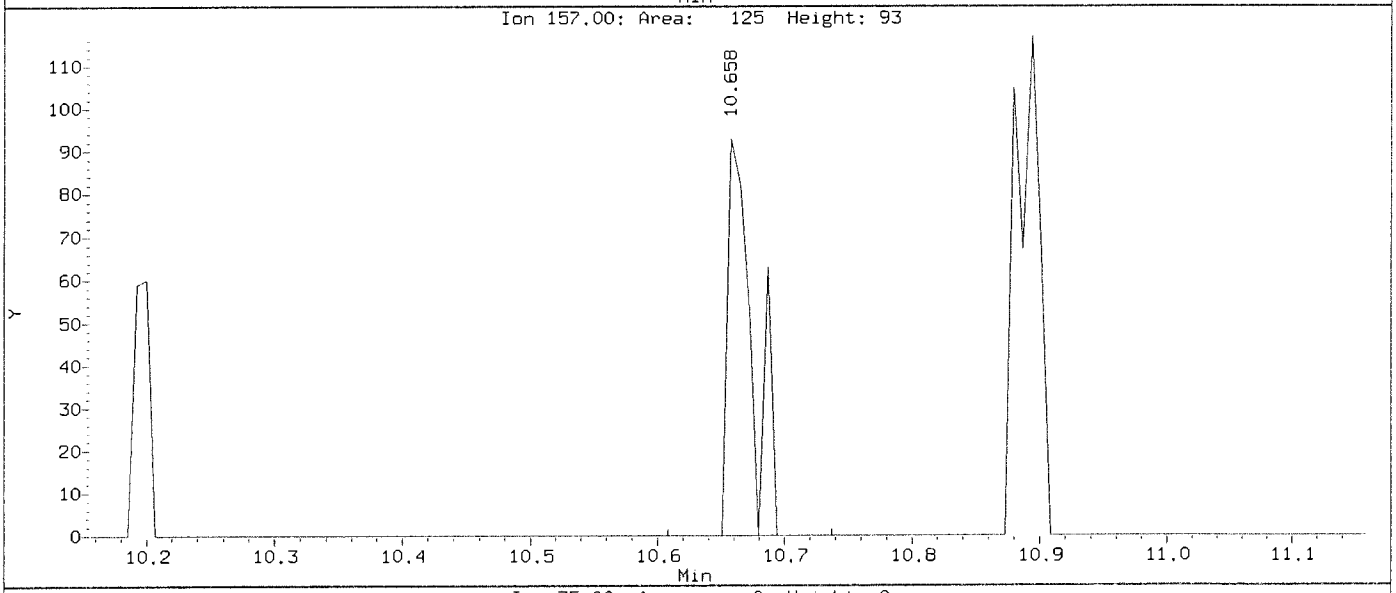
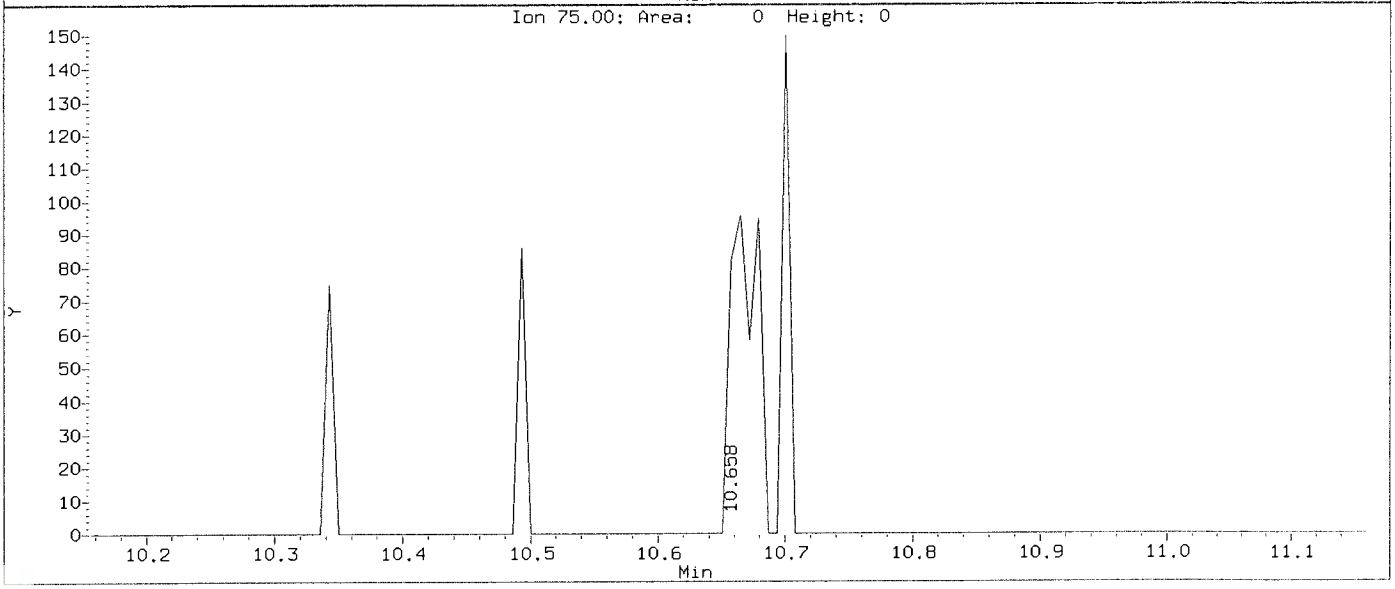
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

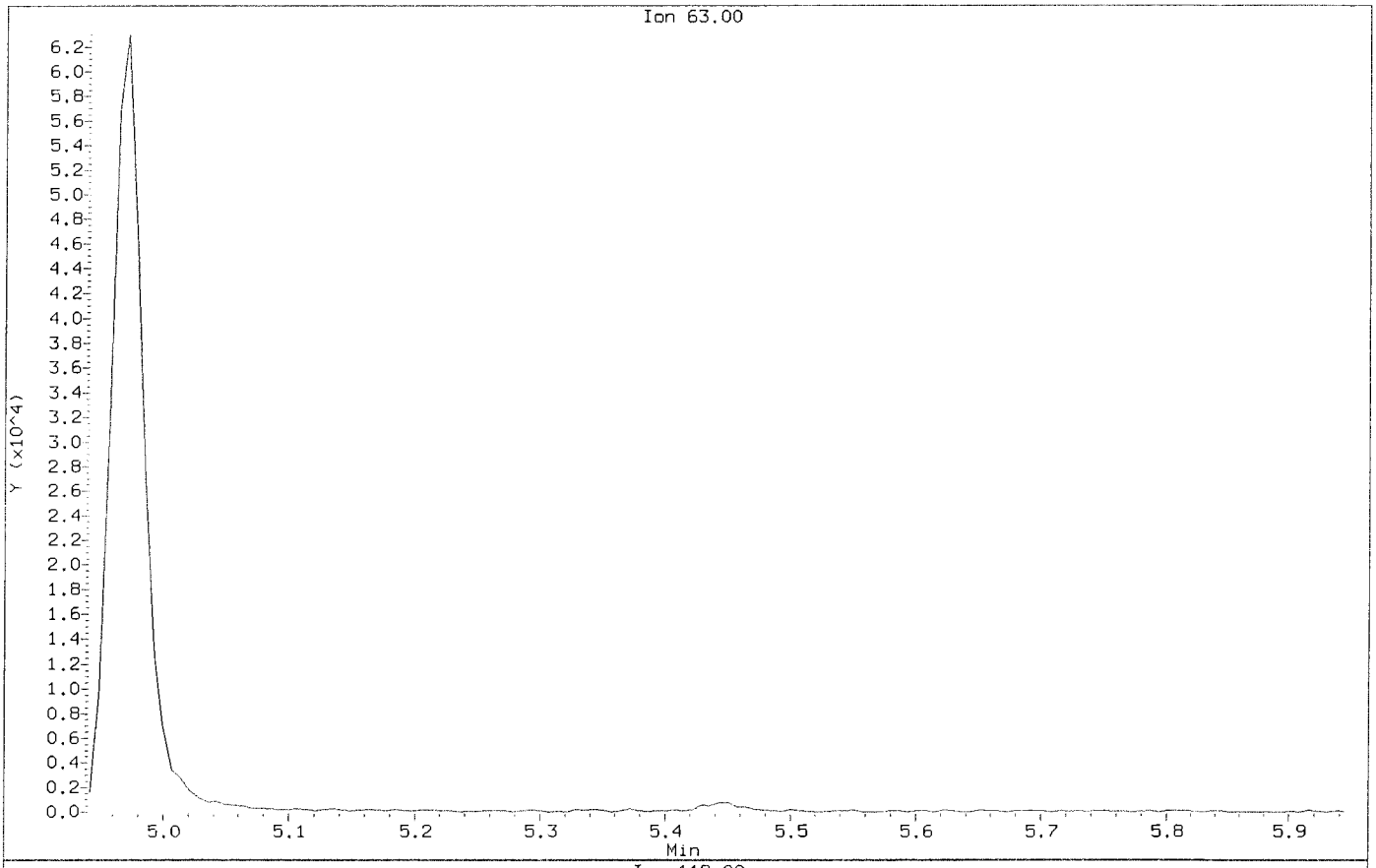


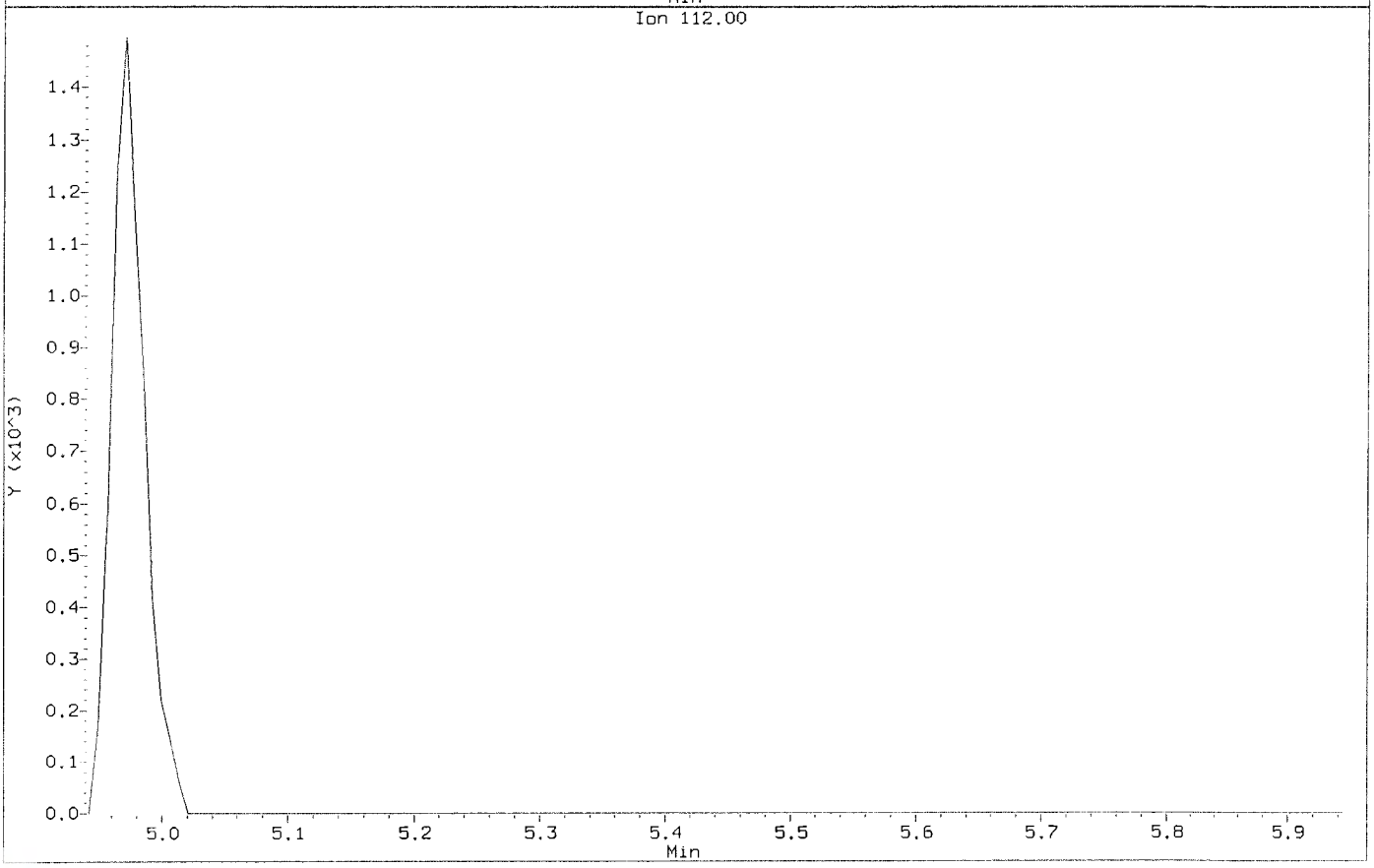




Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061903.D
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

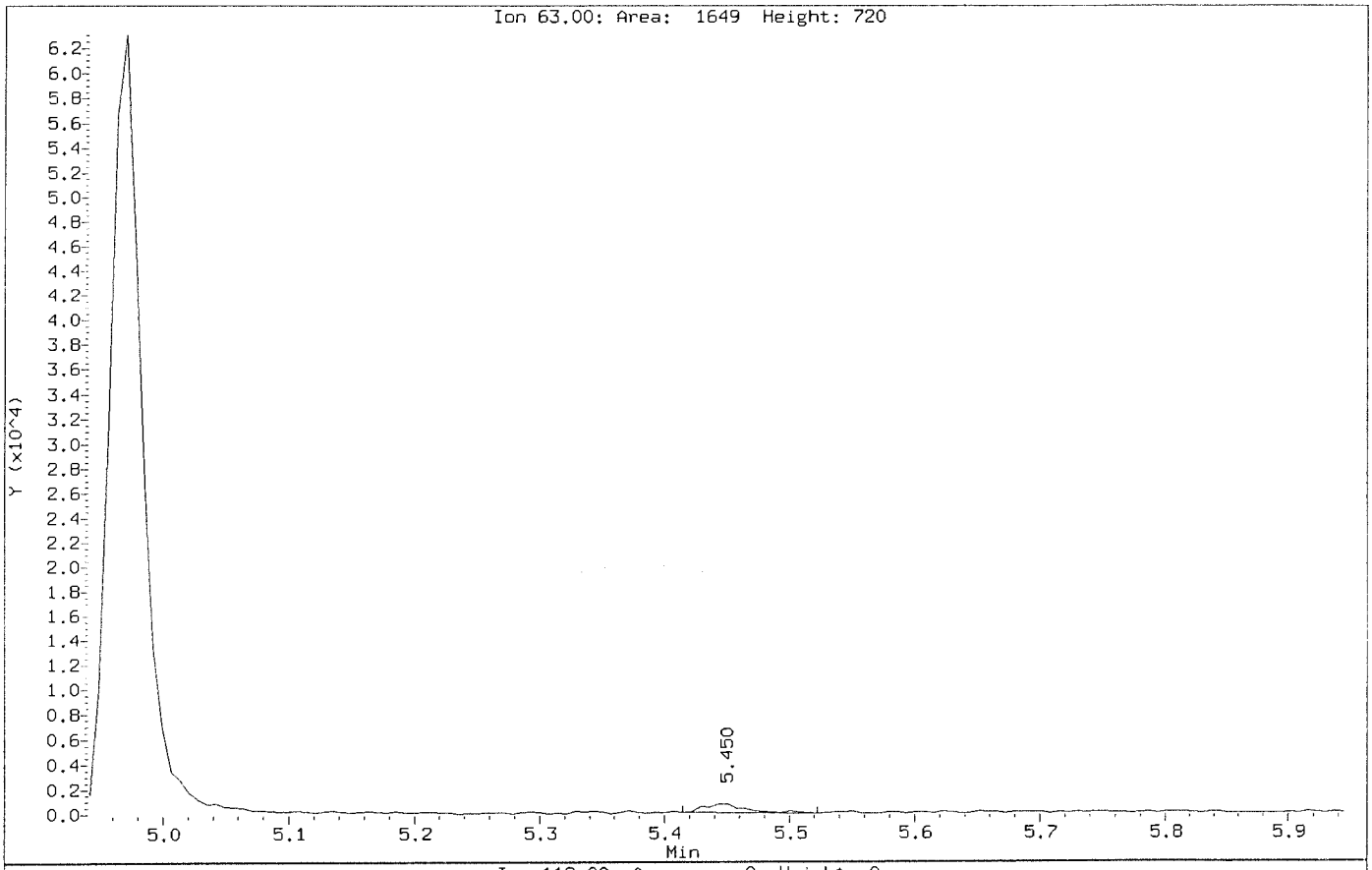
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

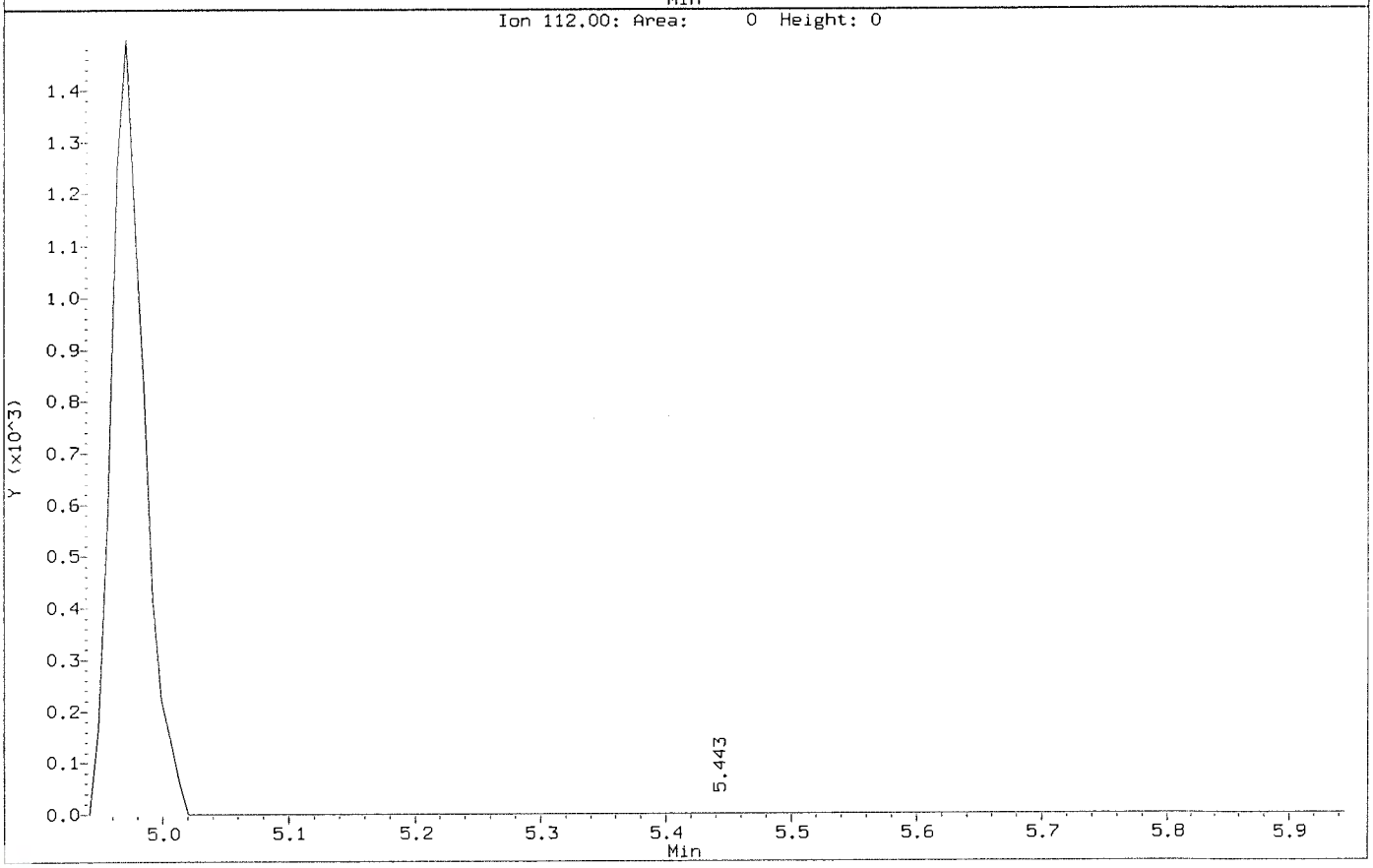




Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061903.D
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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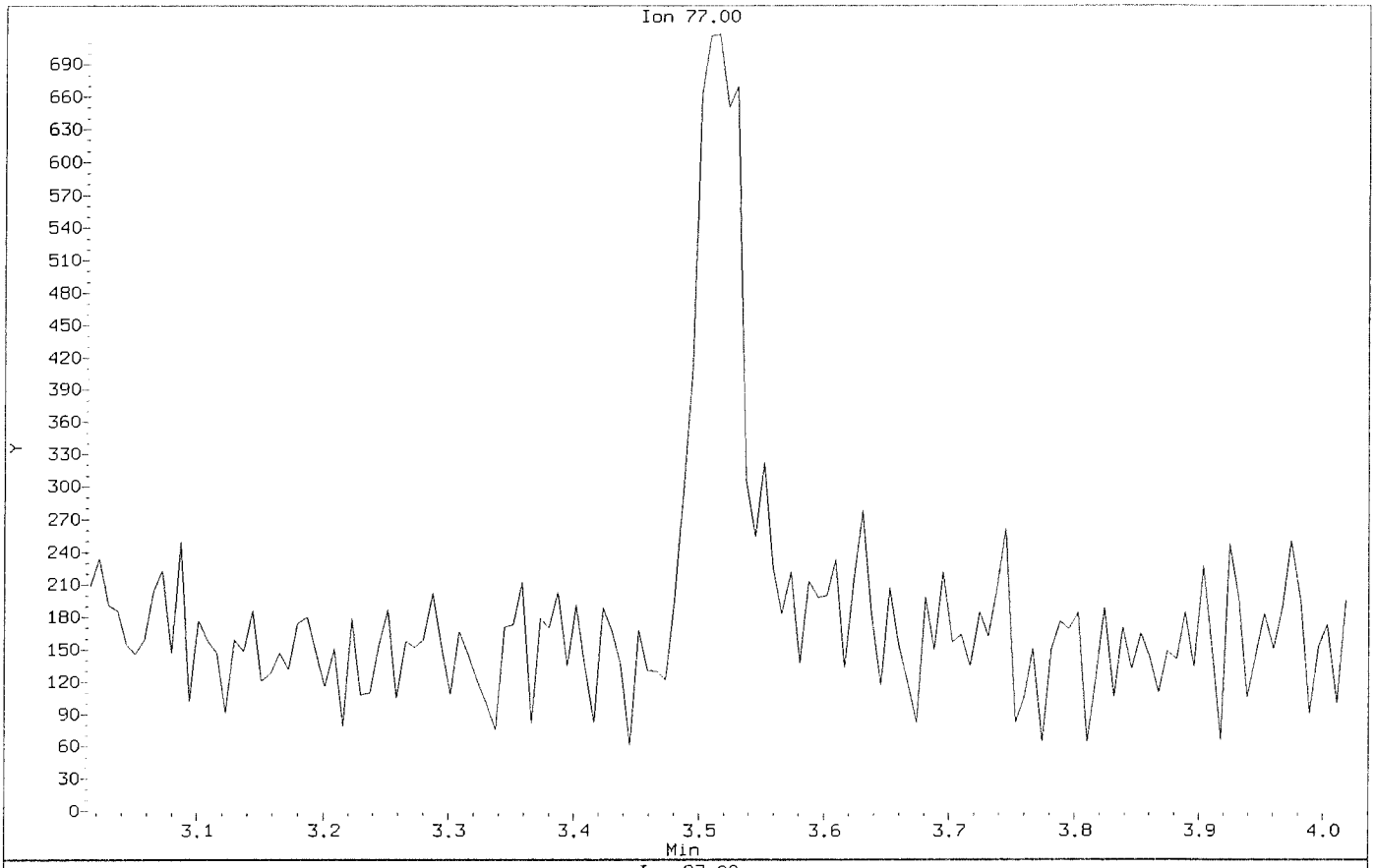
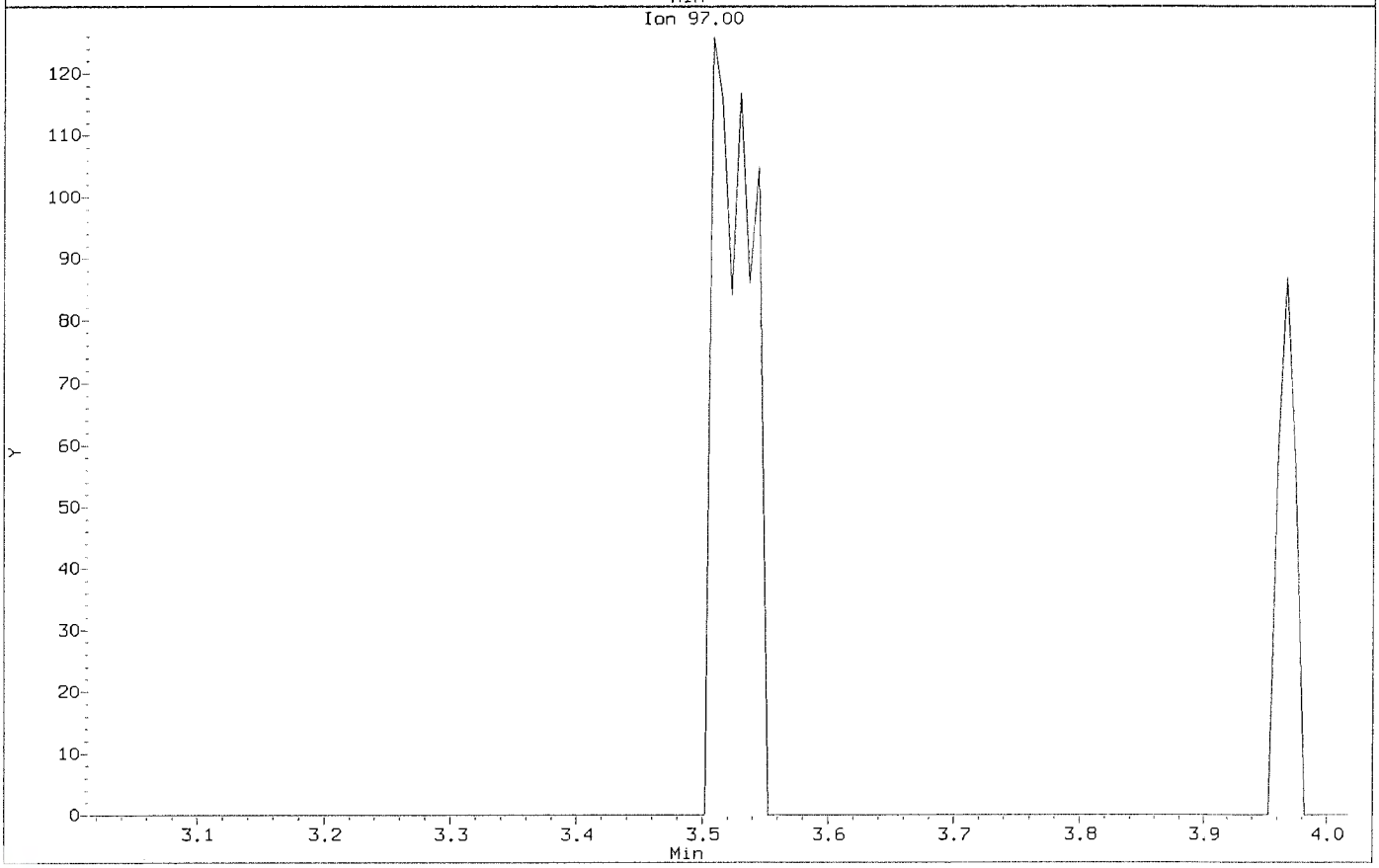
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

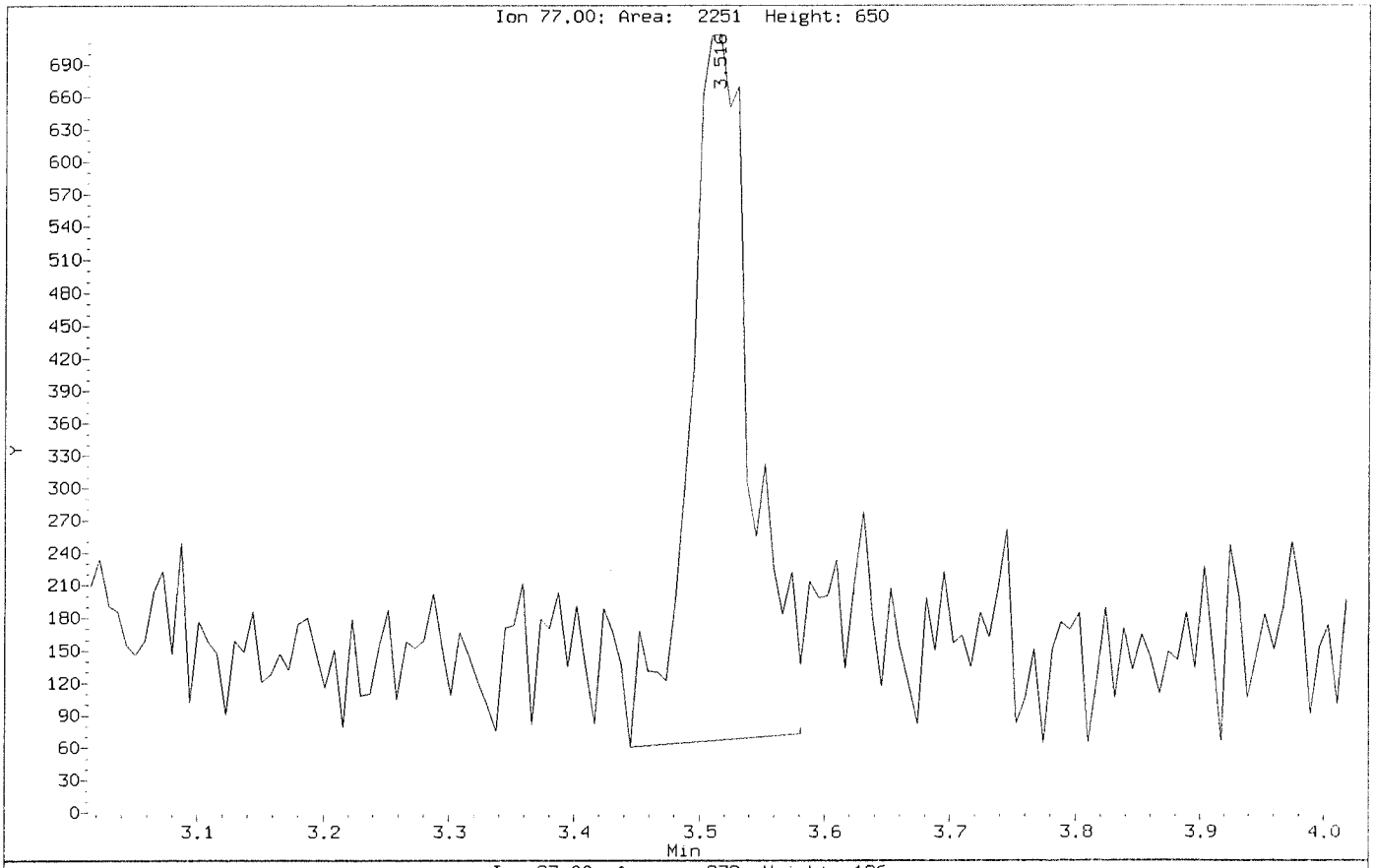
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

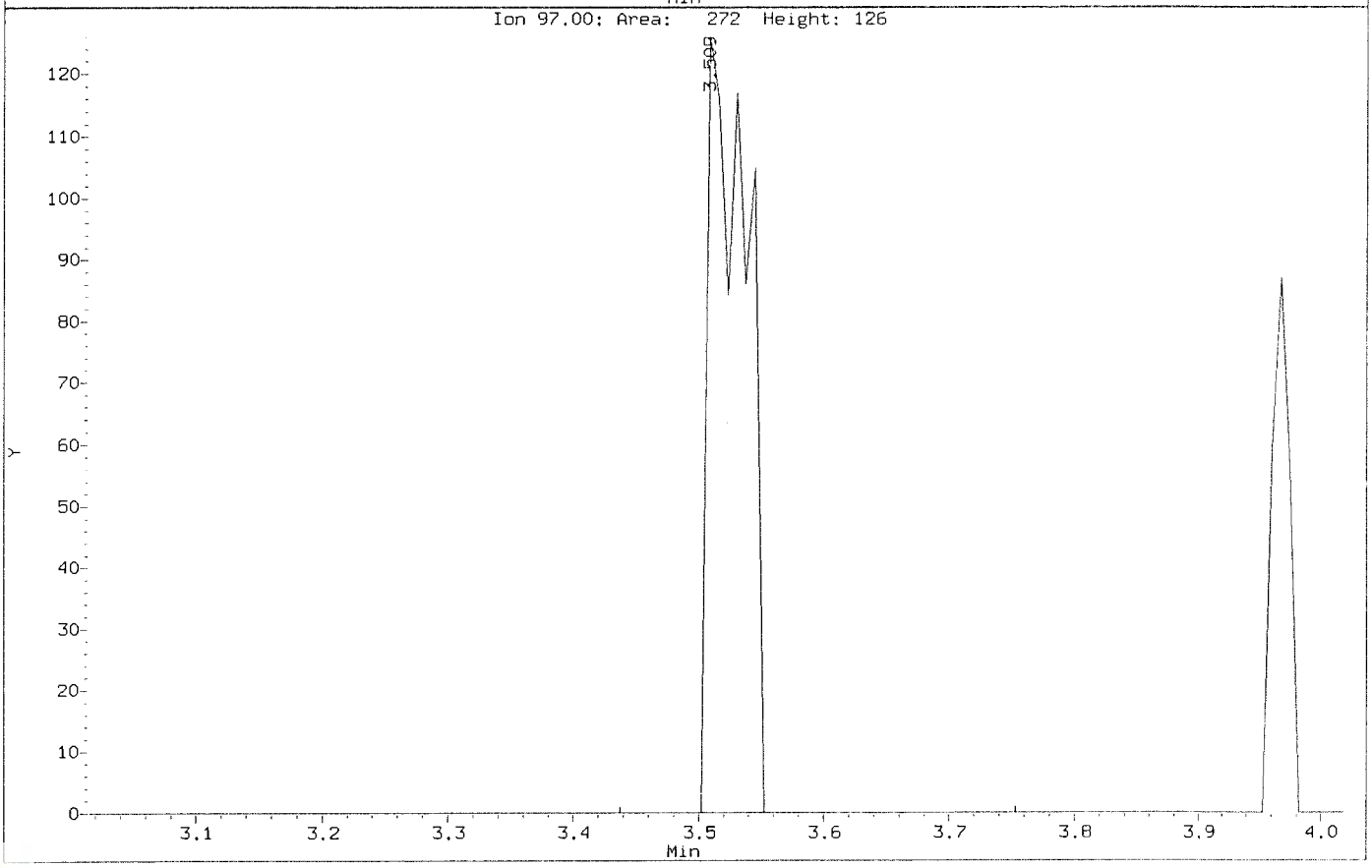




Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061903.D
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 2,2-Dichloropropane
CAS Number: 594-20-7





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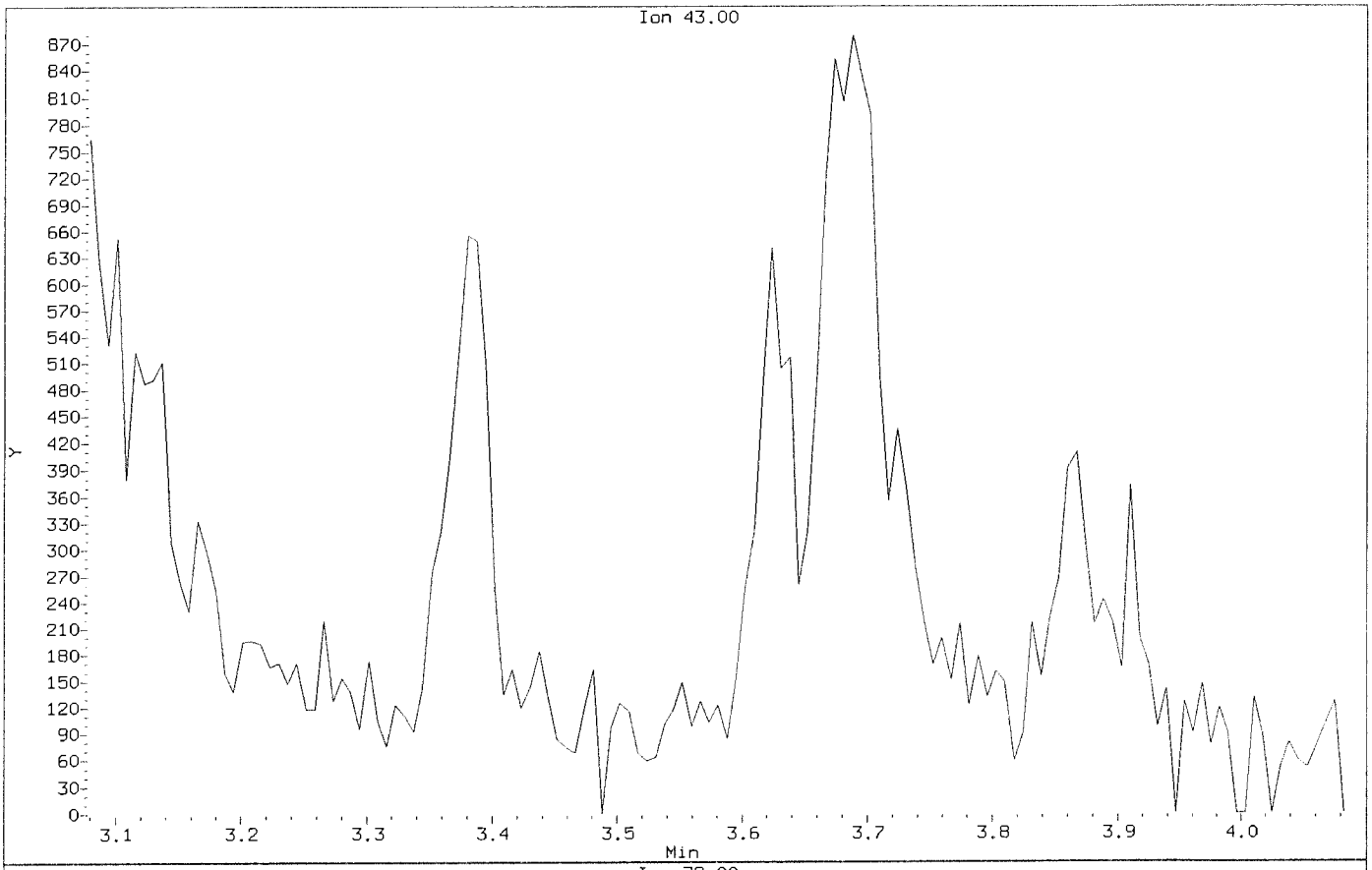
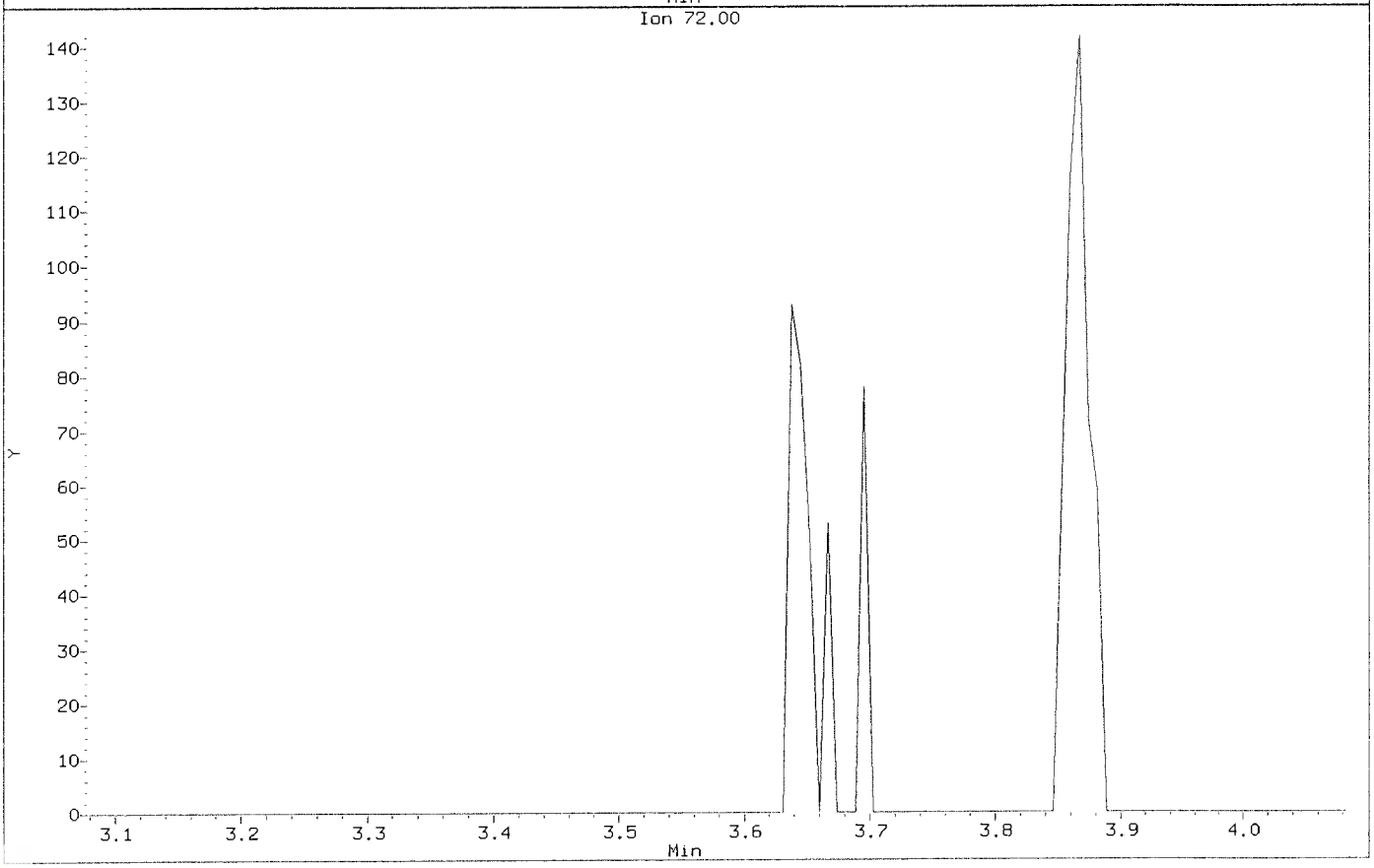
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 2-Butanone
CAS Number: 78-93-3





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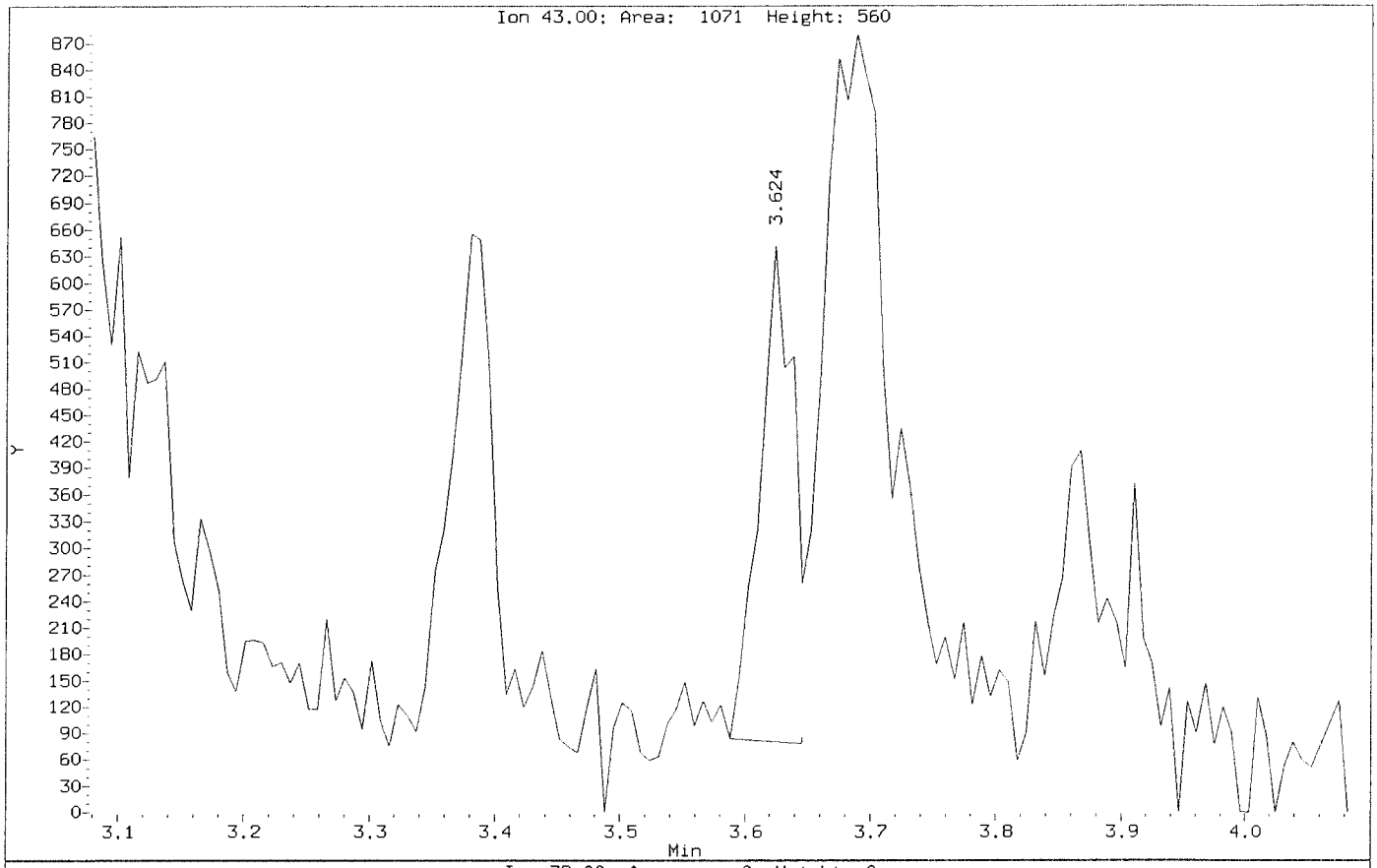
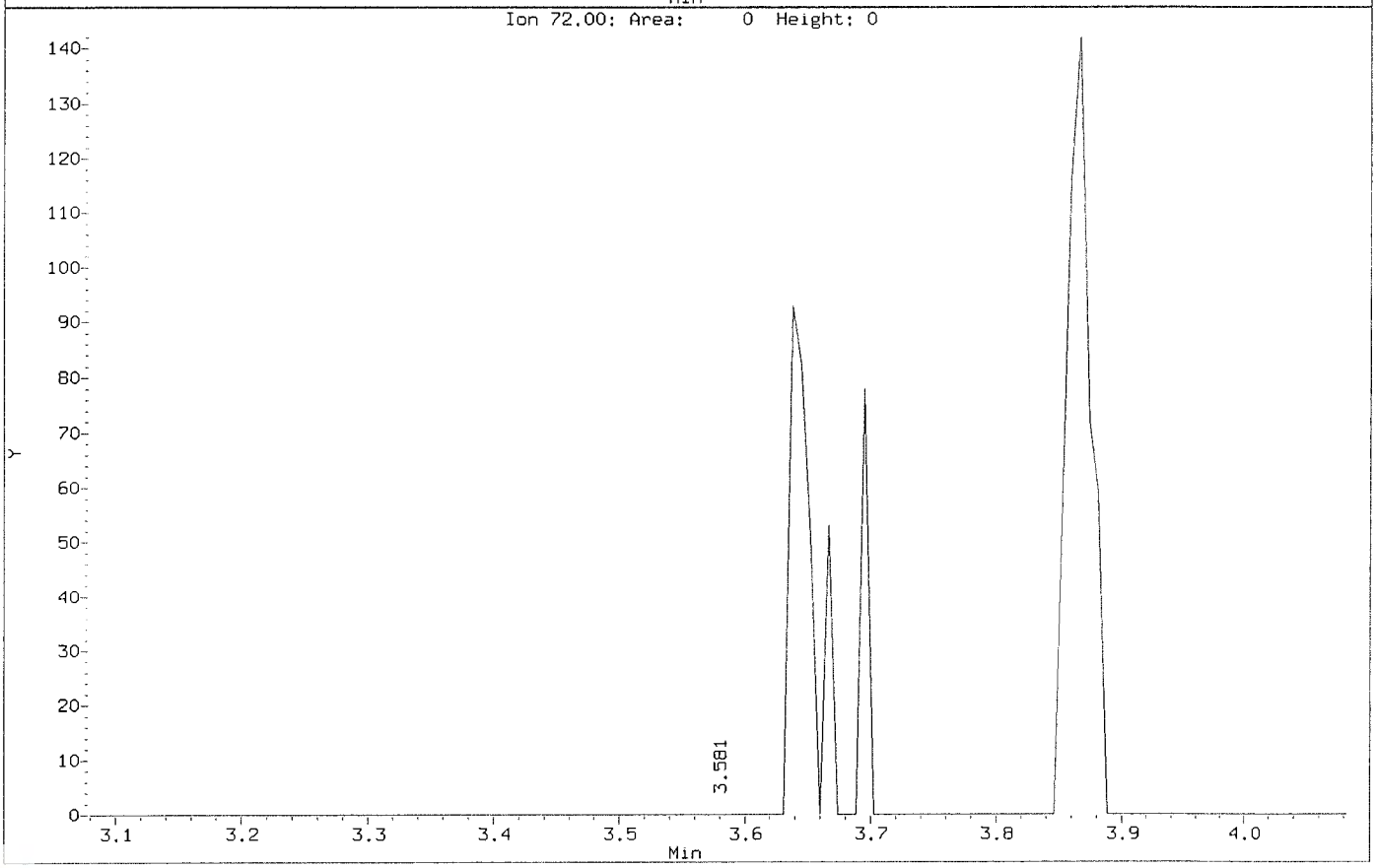
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

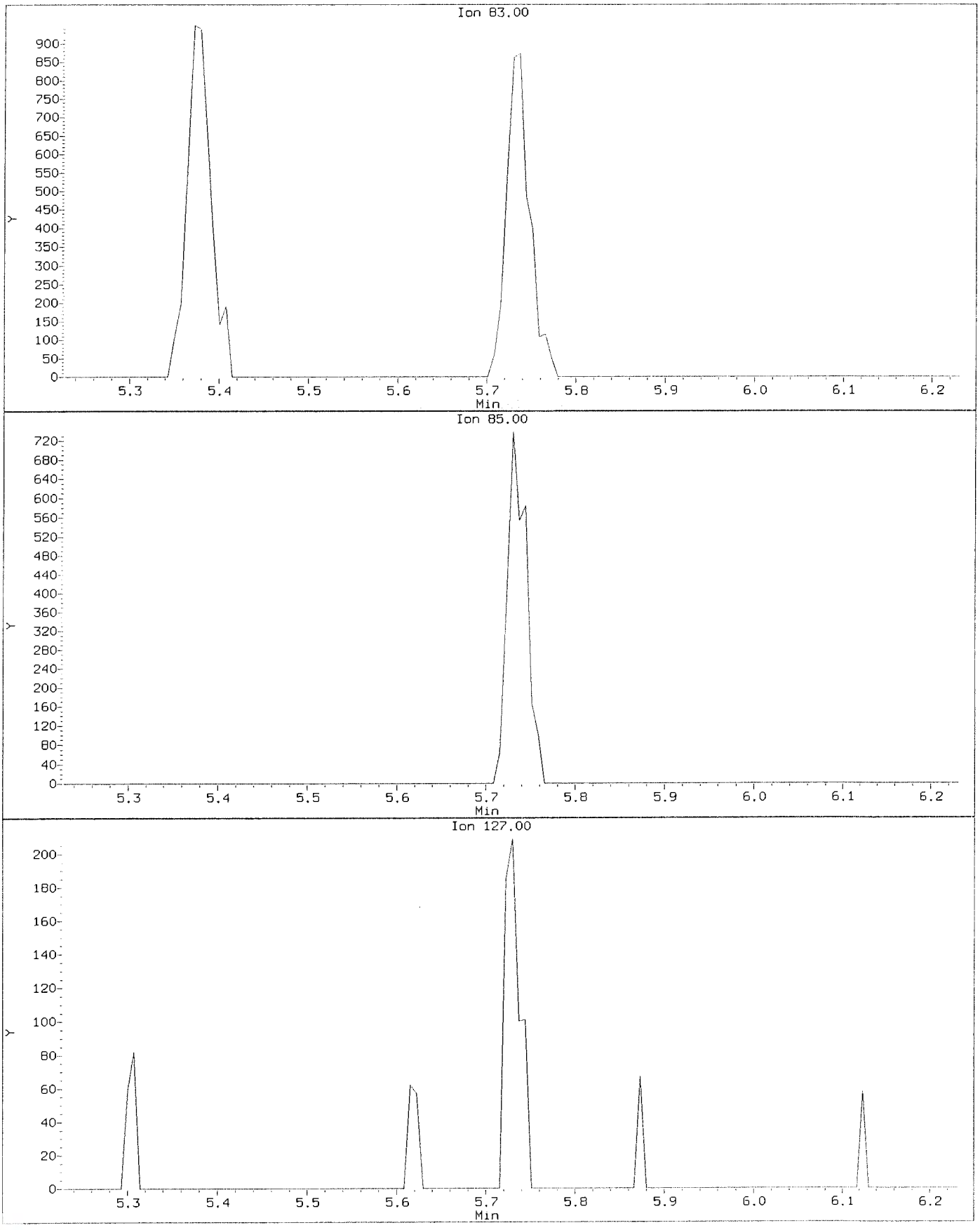
Compound: 2-Butanone
CAS Number: 78-93-3





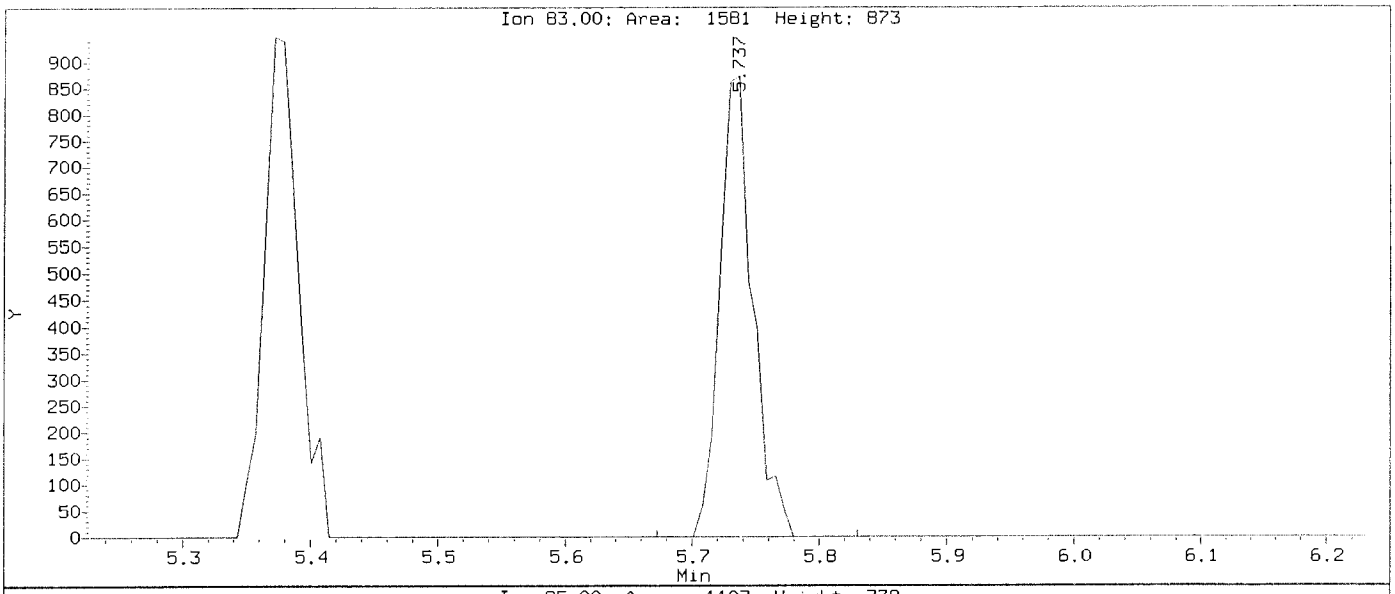
Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061903.D
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

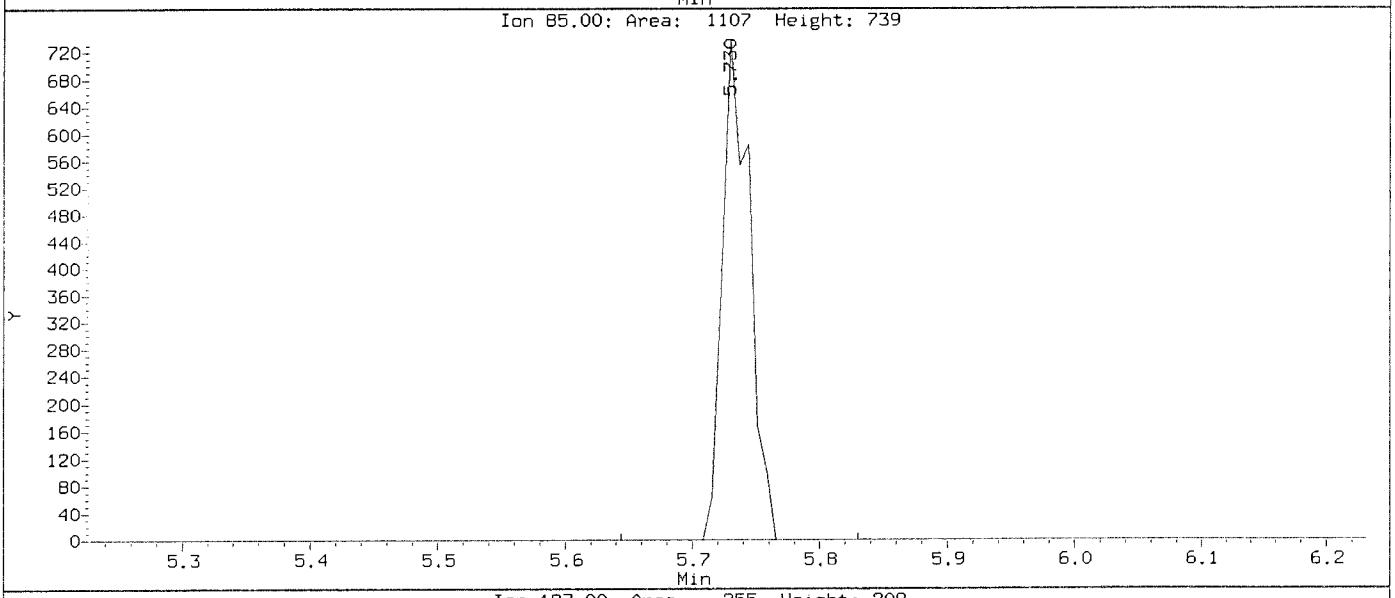
Compound: Bromodichloromethane
CAS Number: 75-27-4

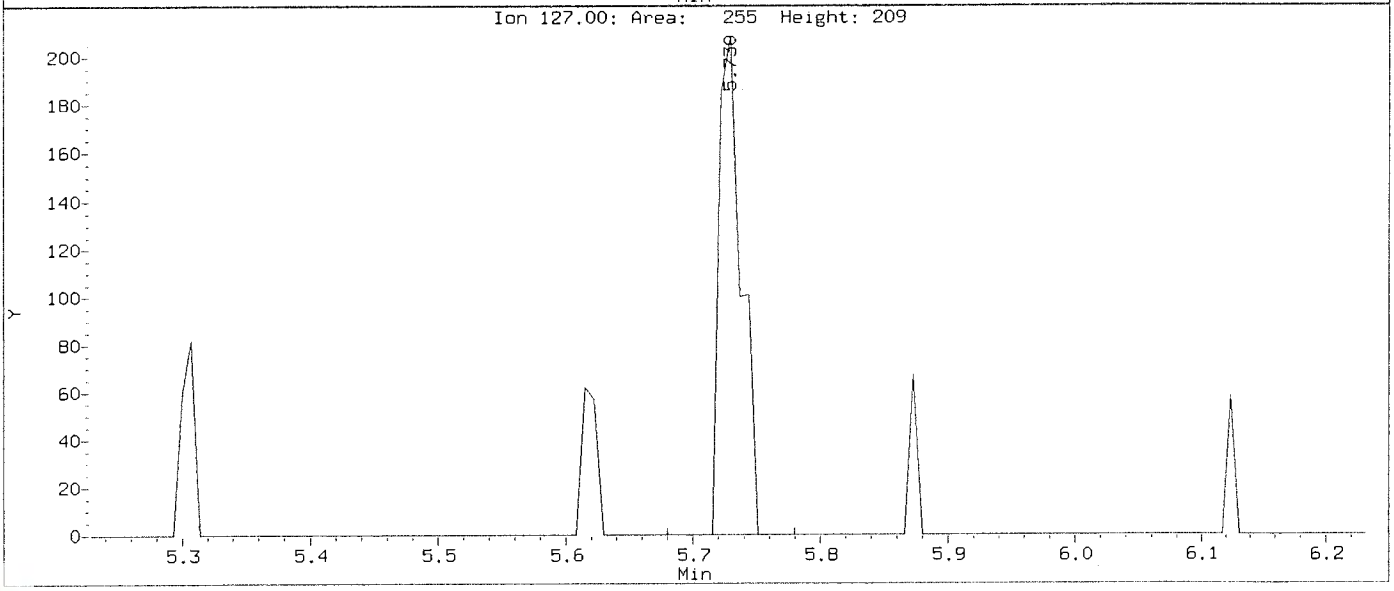


Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061903.D
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4

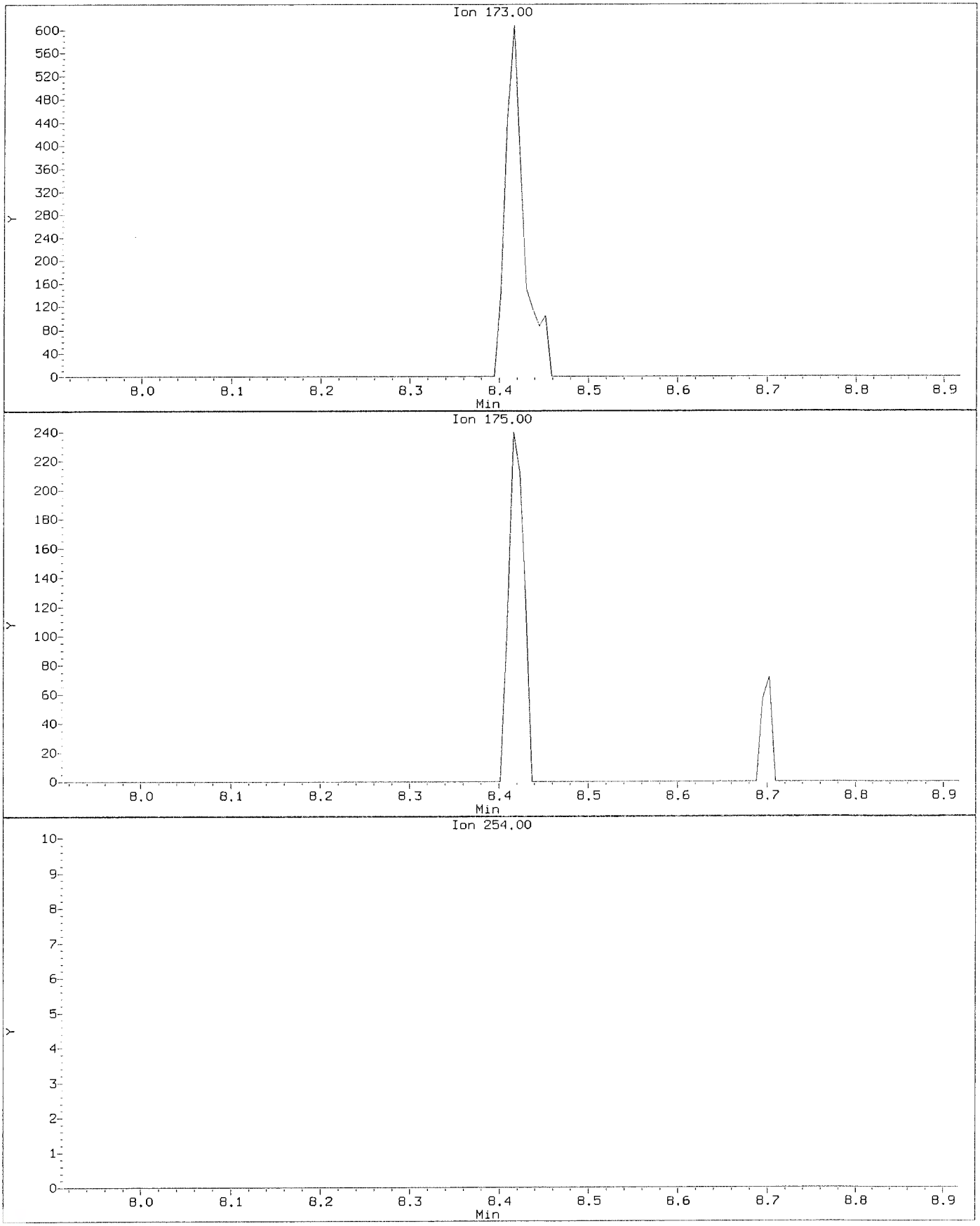






Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061903.D
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



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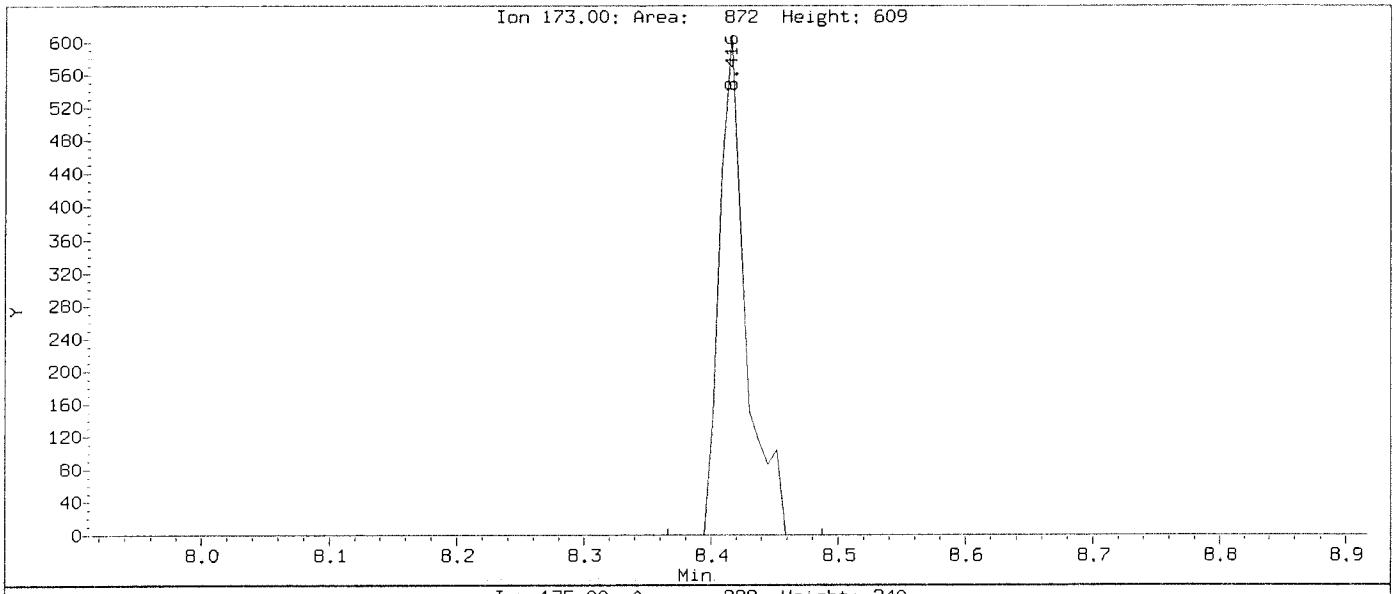
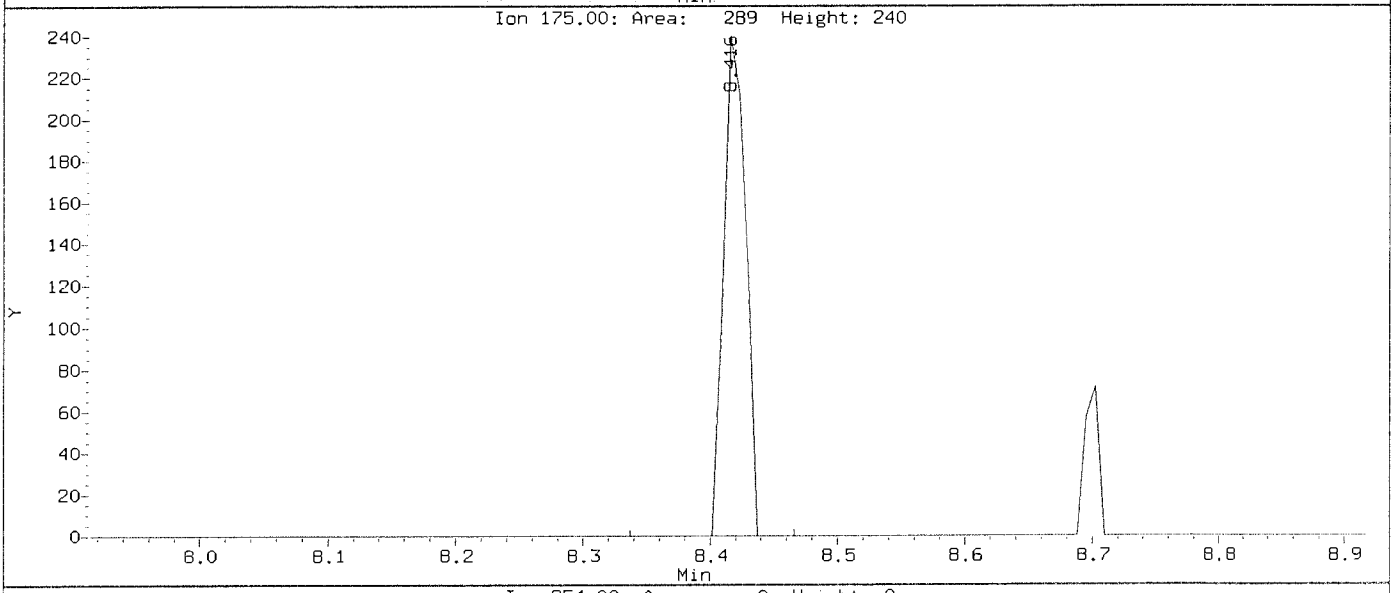
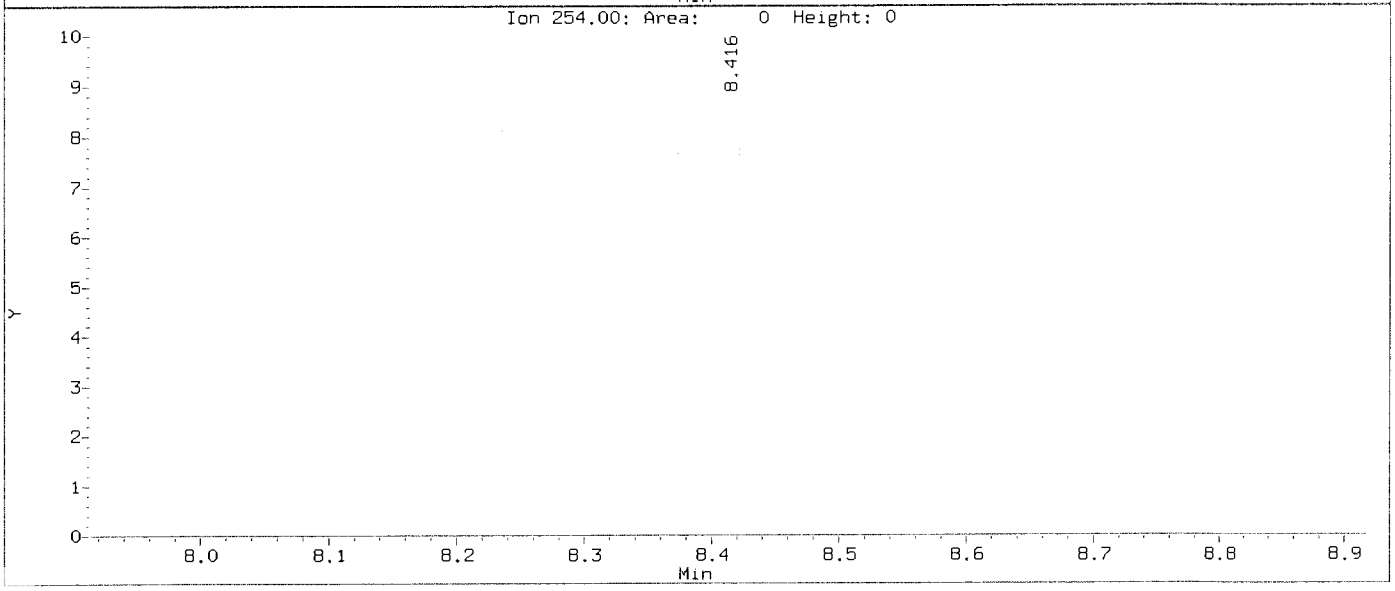
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2

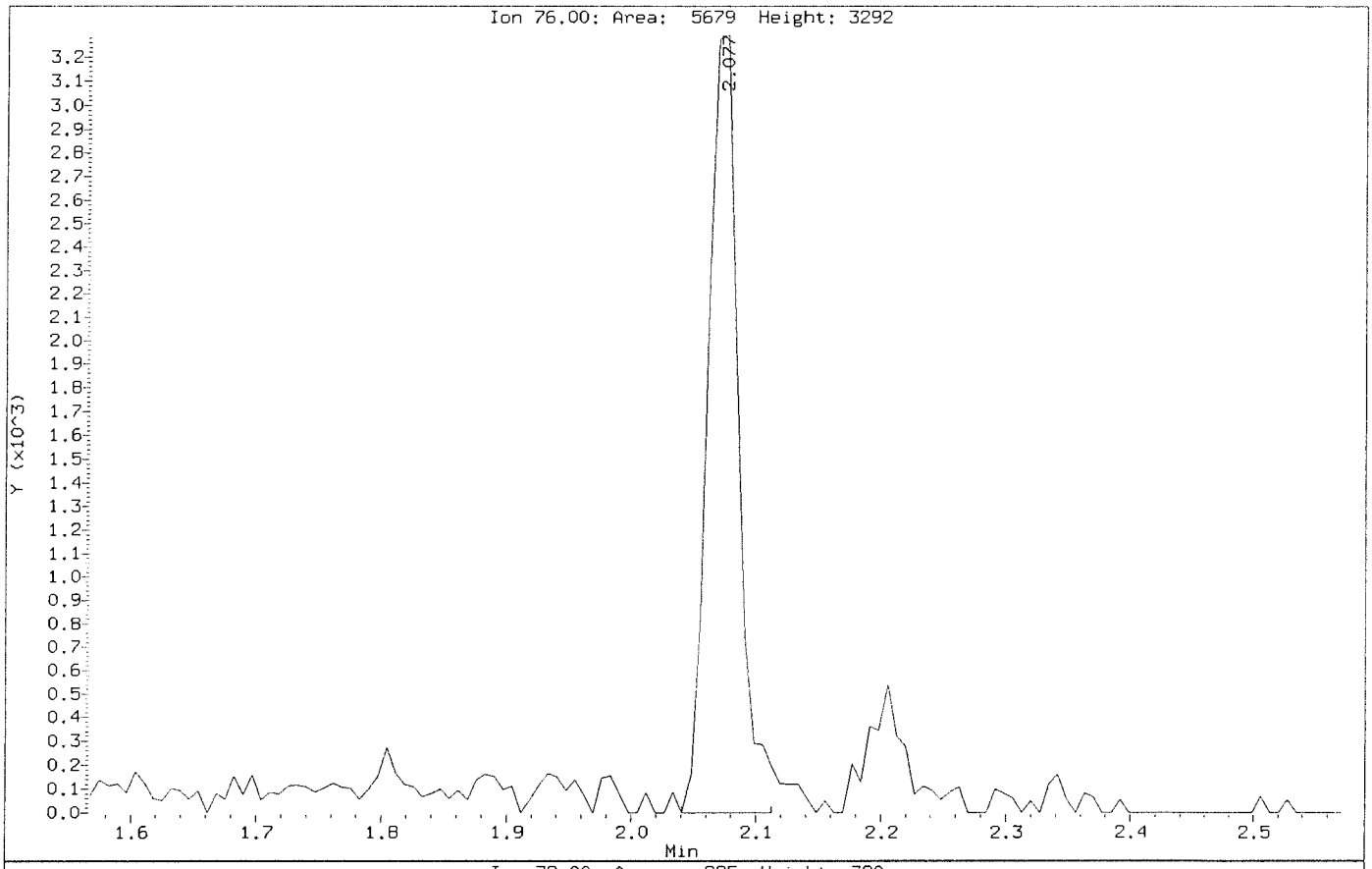


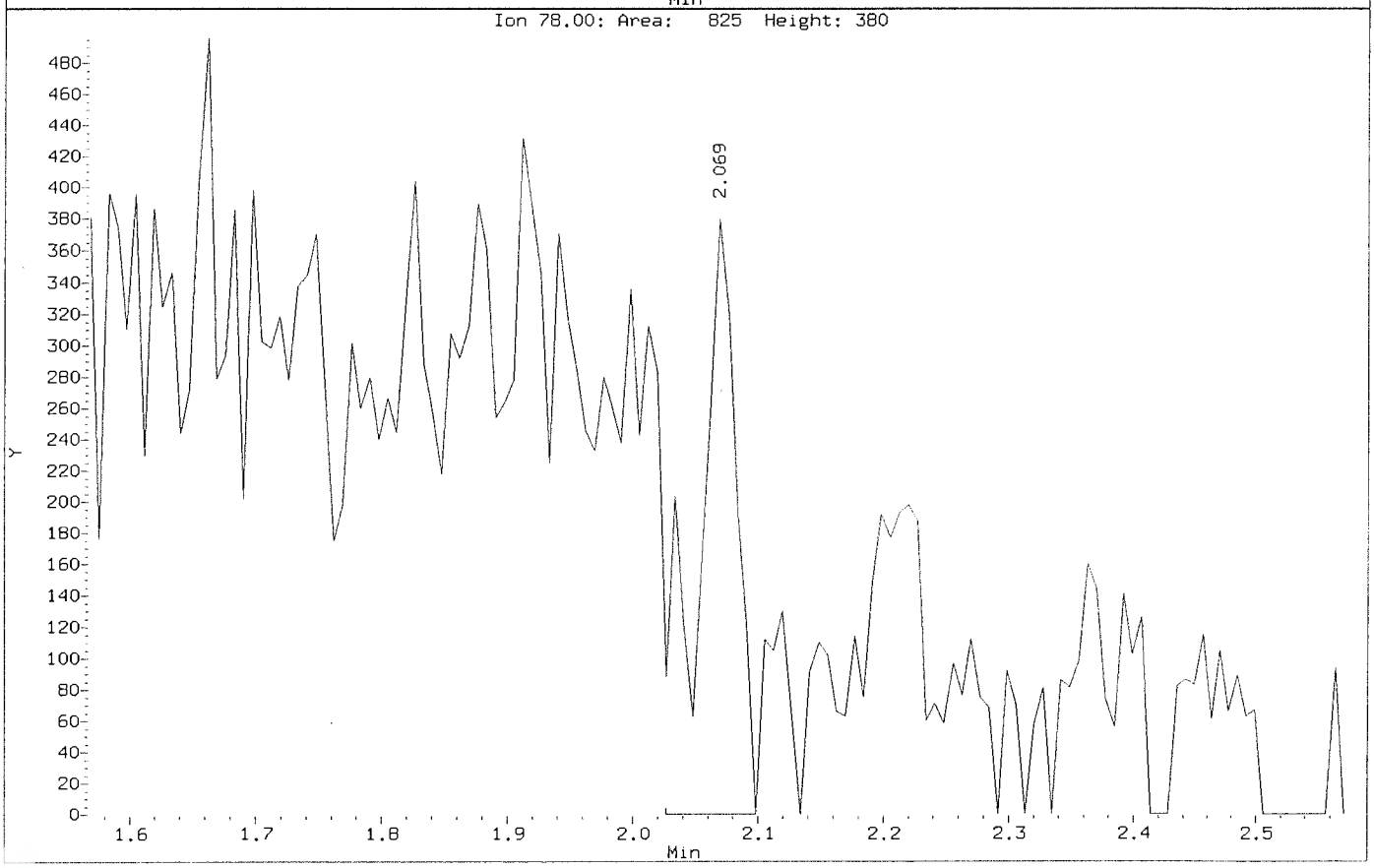




Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061903.D
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

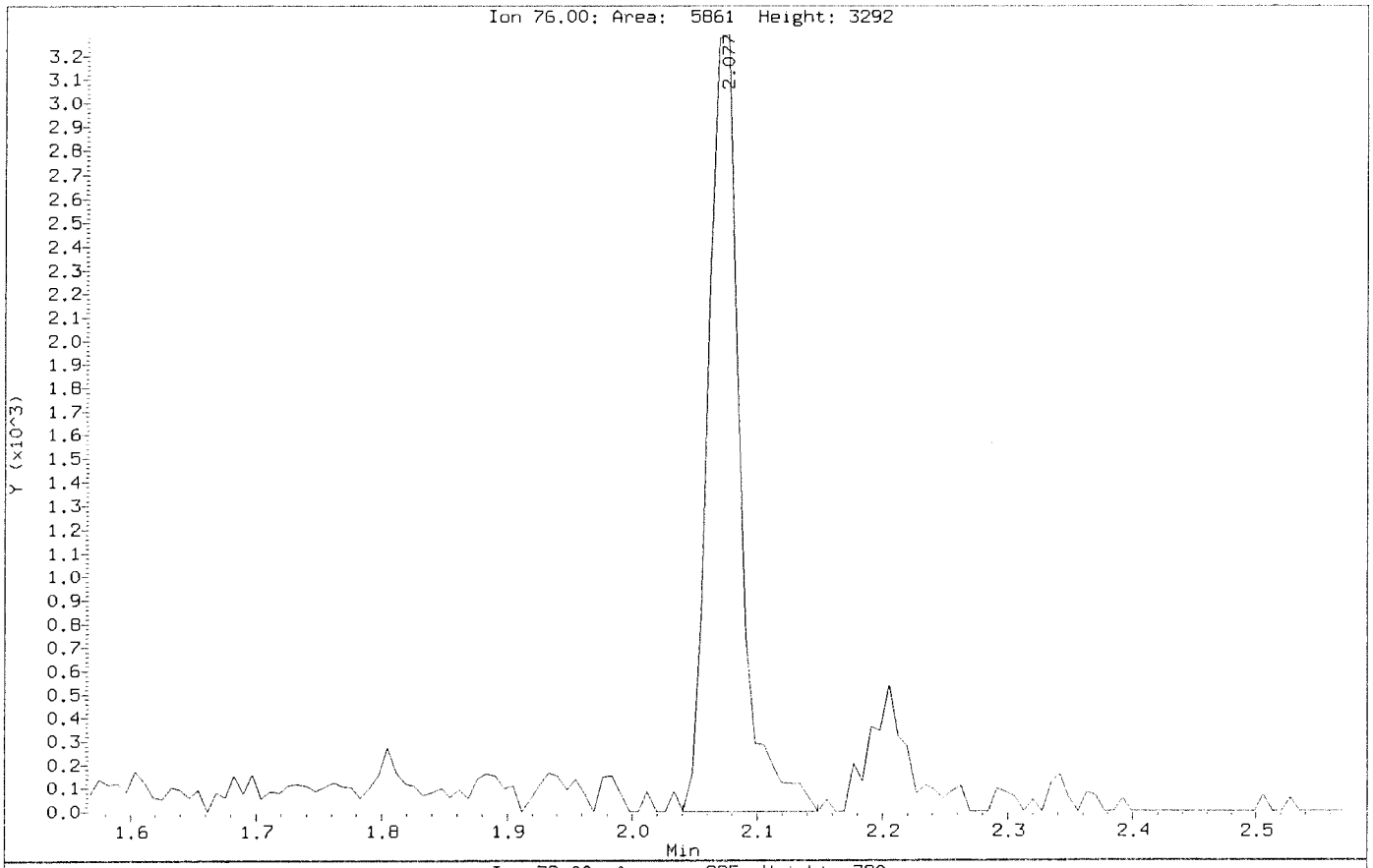
Compound: Carbon Disulfide
CAS Number: 75-15-0

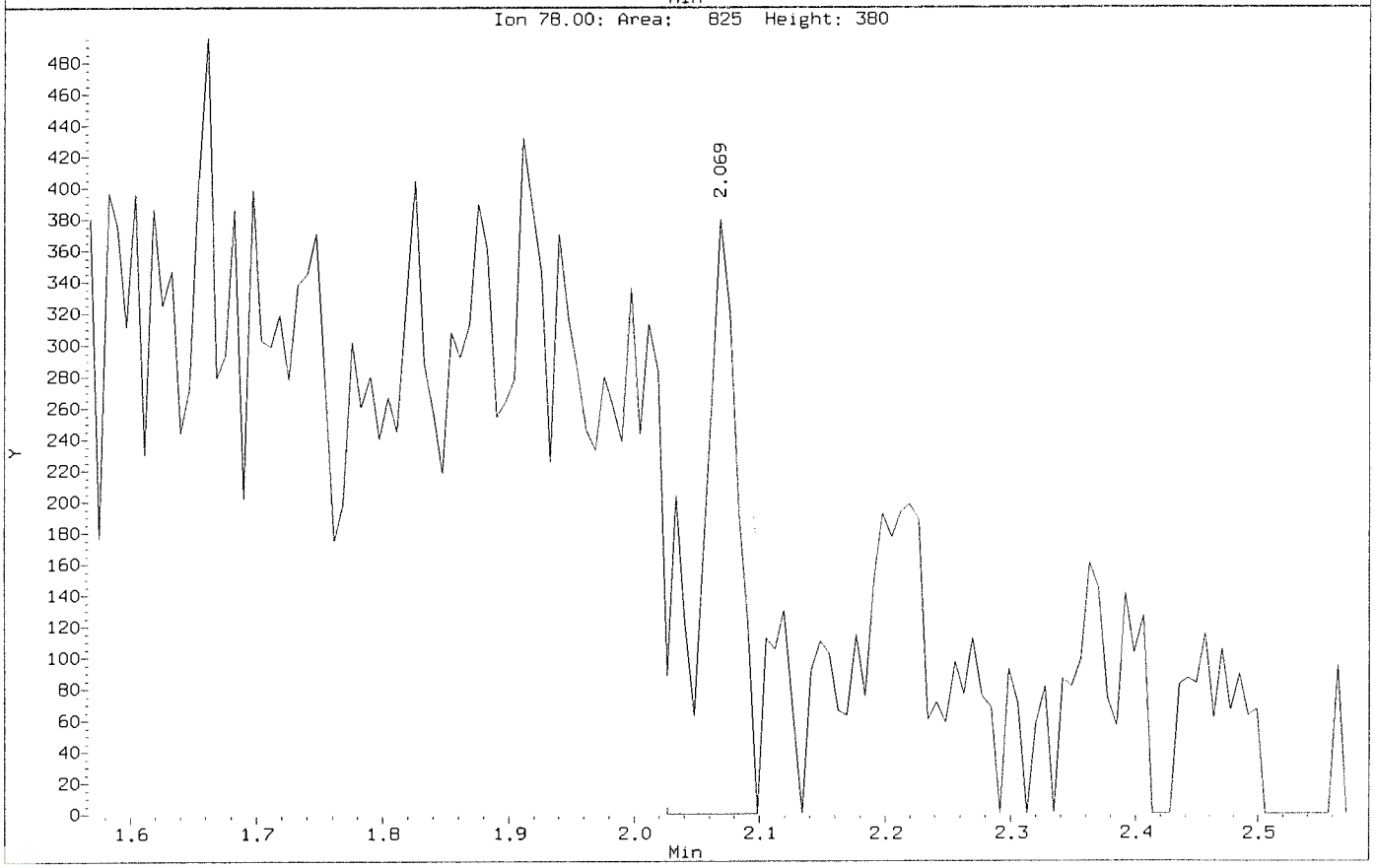




Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061903.D
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

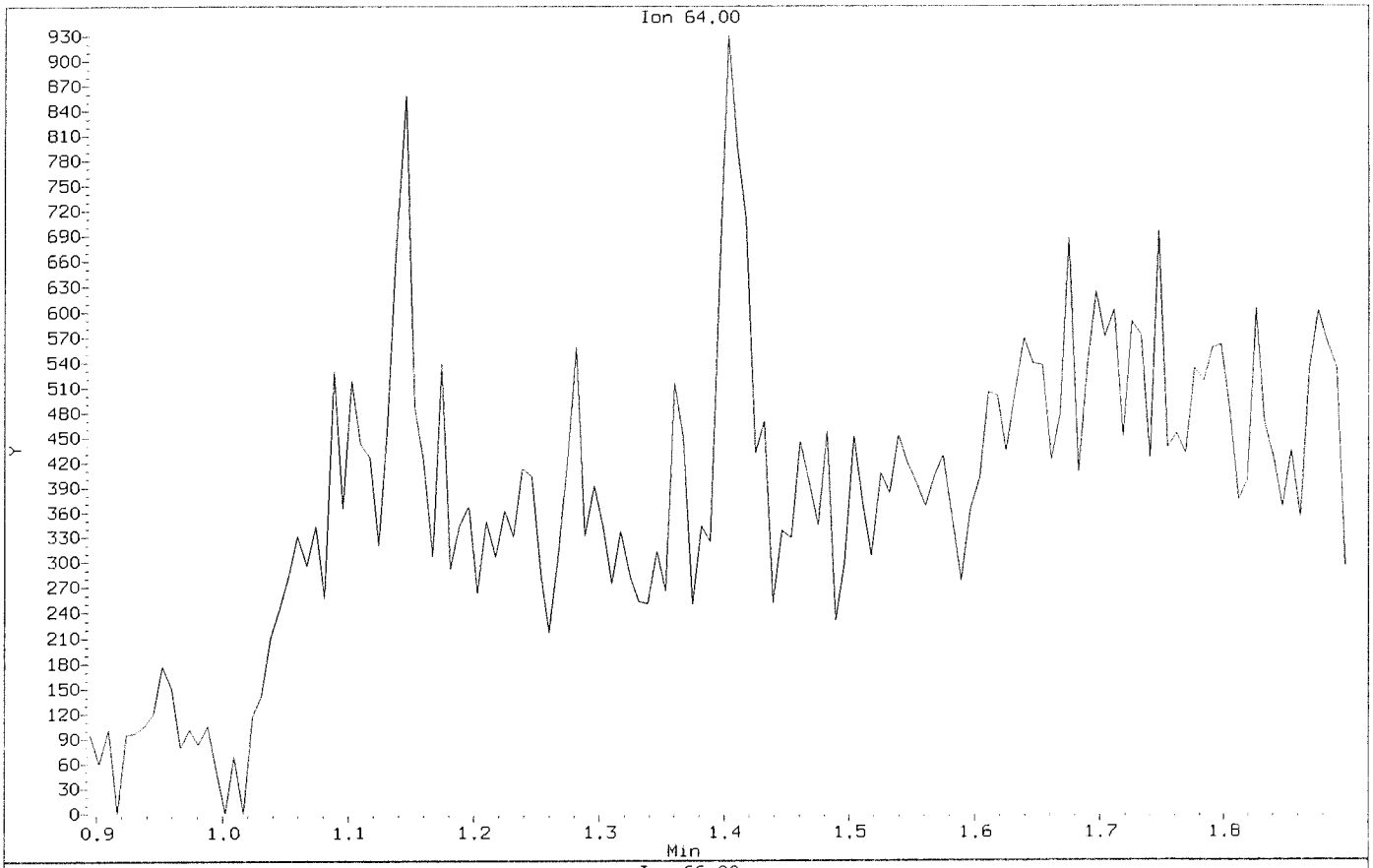
Compound: Carbon Disulfide
CAS Number: 75-15-0

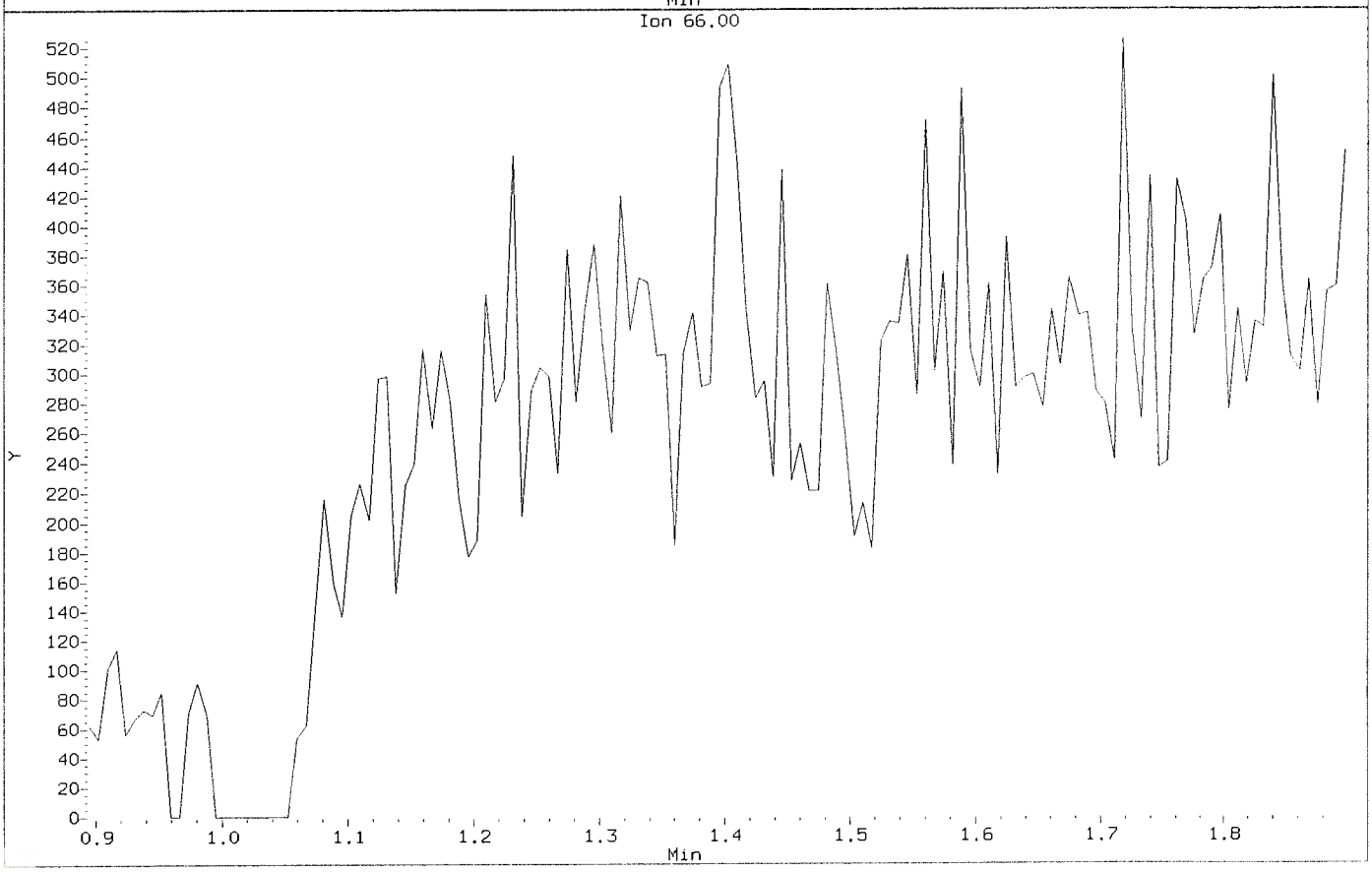




Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061903.D
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Chloroethane
CAS Number: 75-00-3





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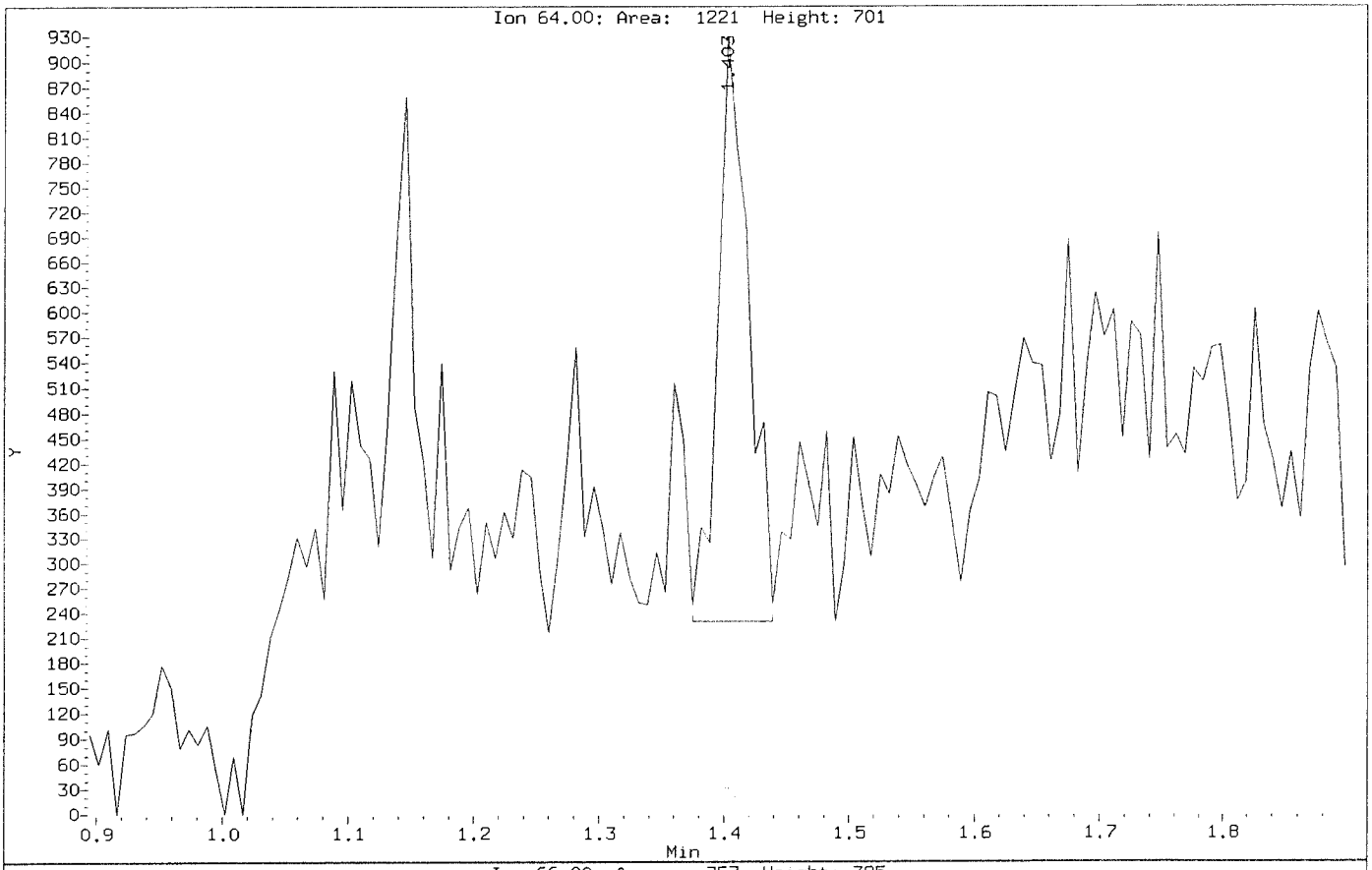
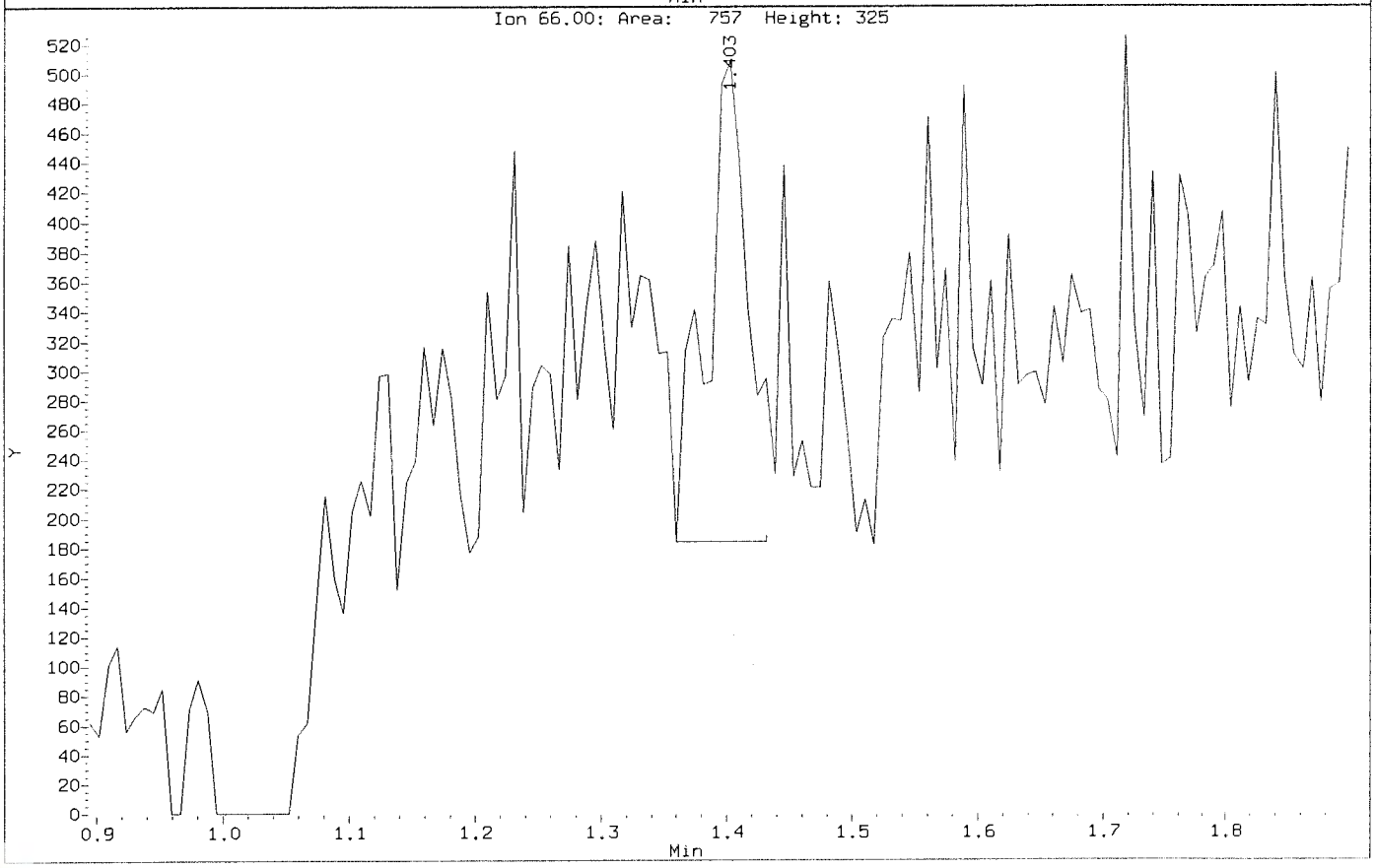
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Chloroethane
CAS Number: 75-00-3





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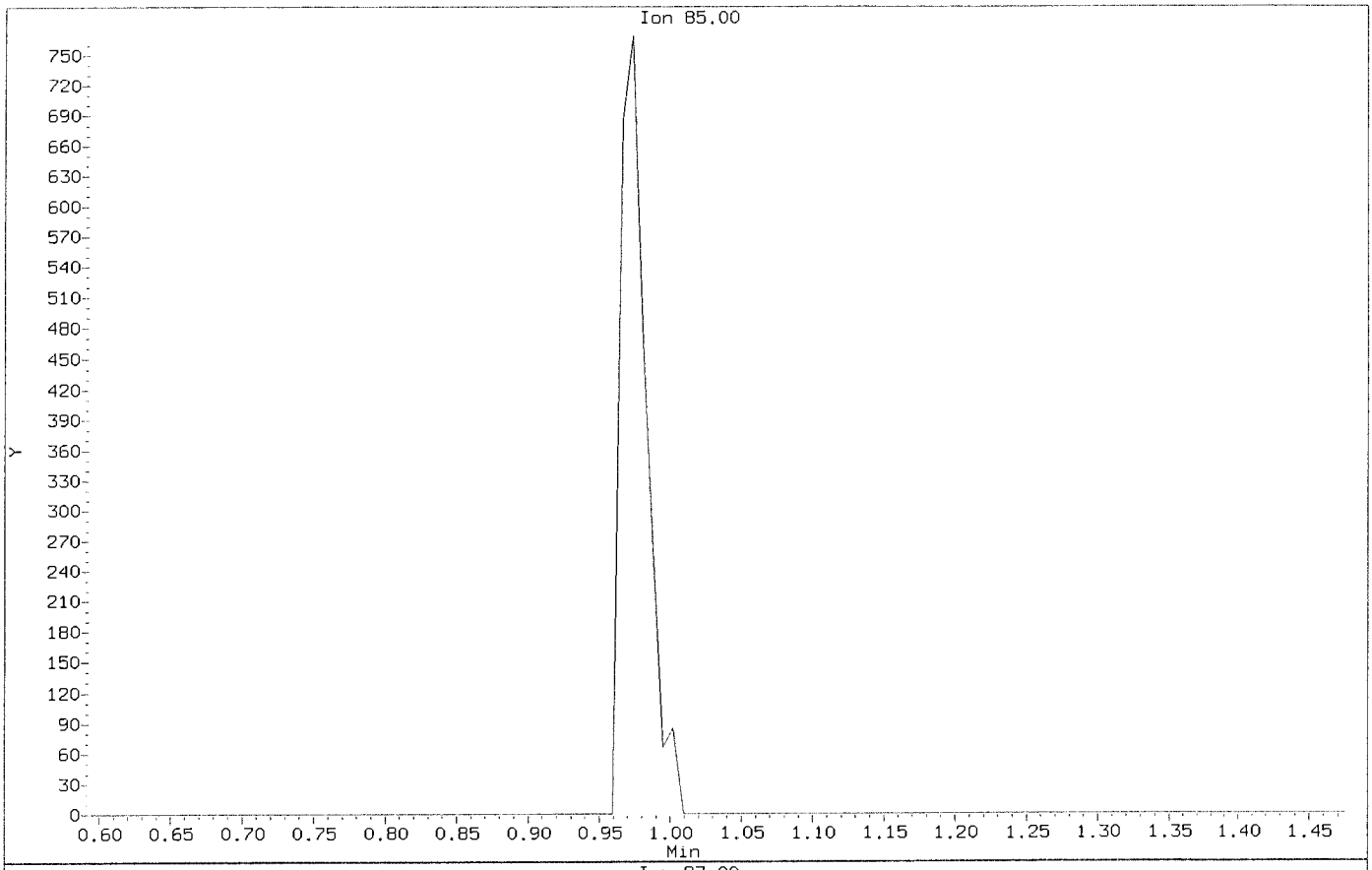
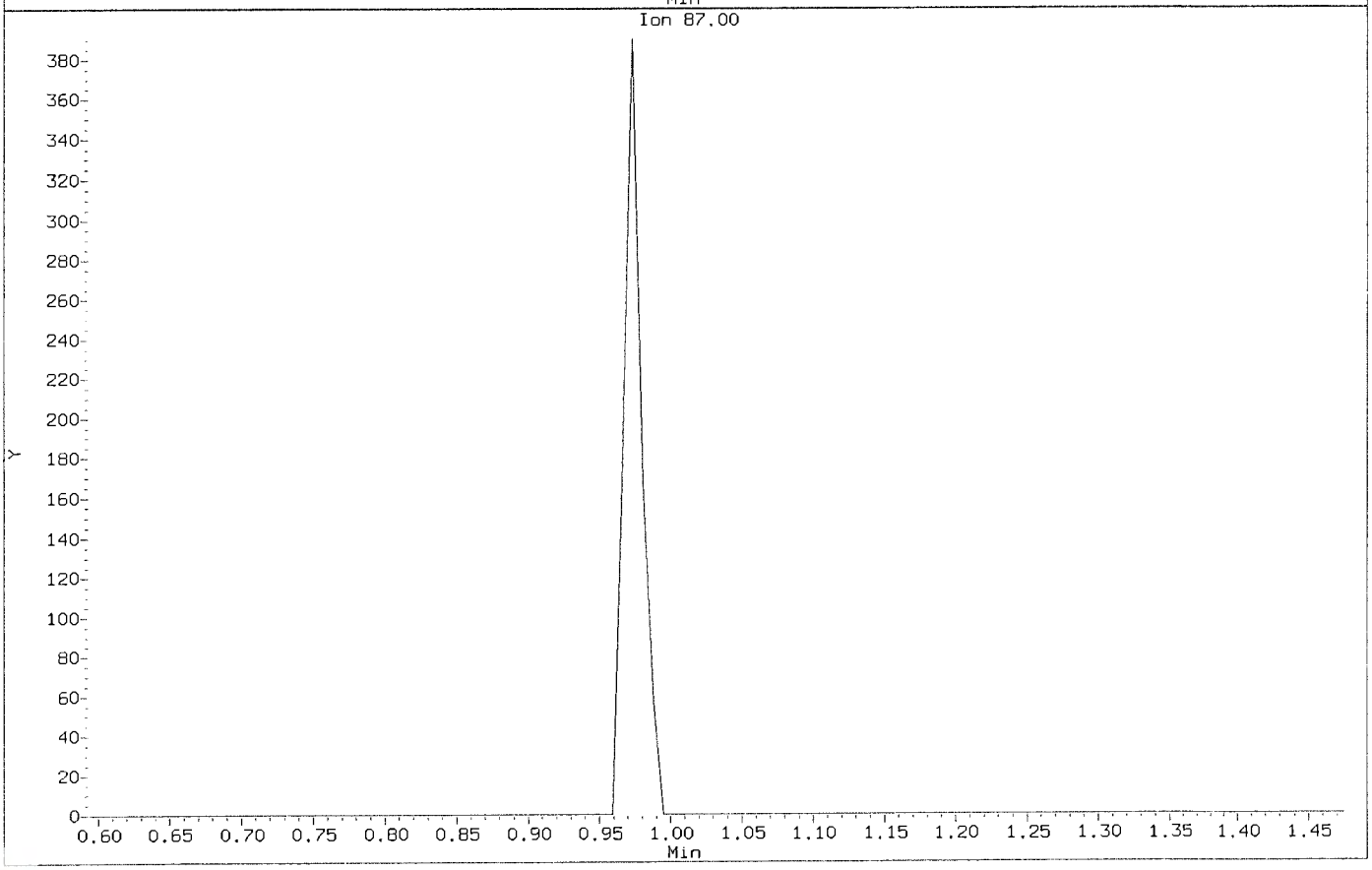
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





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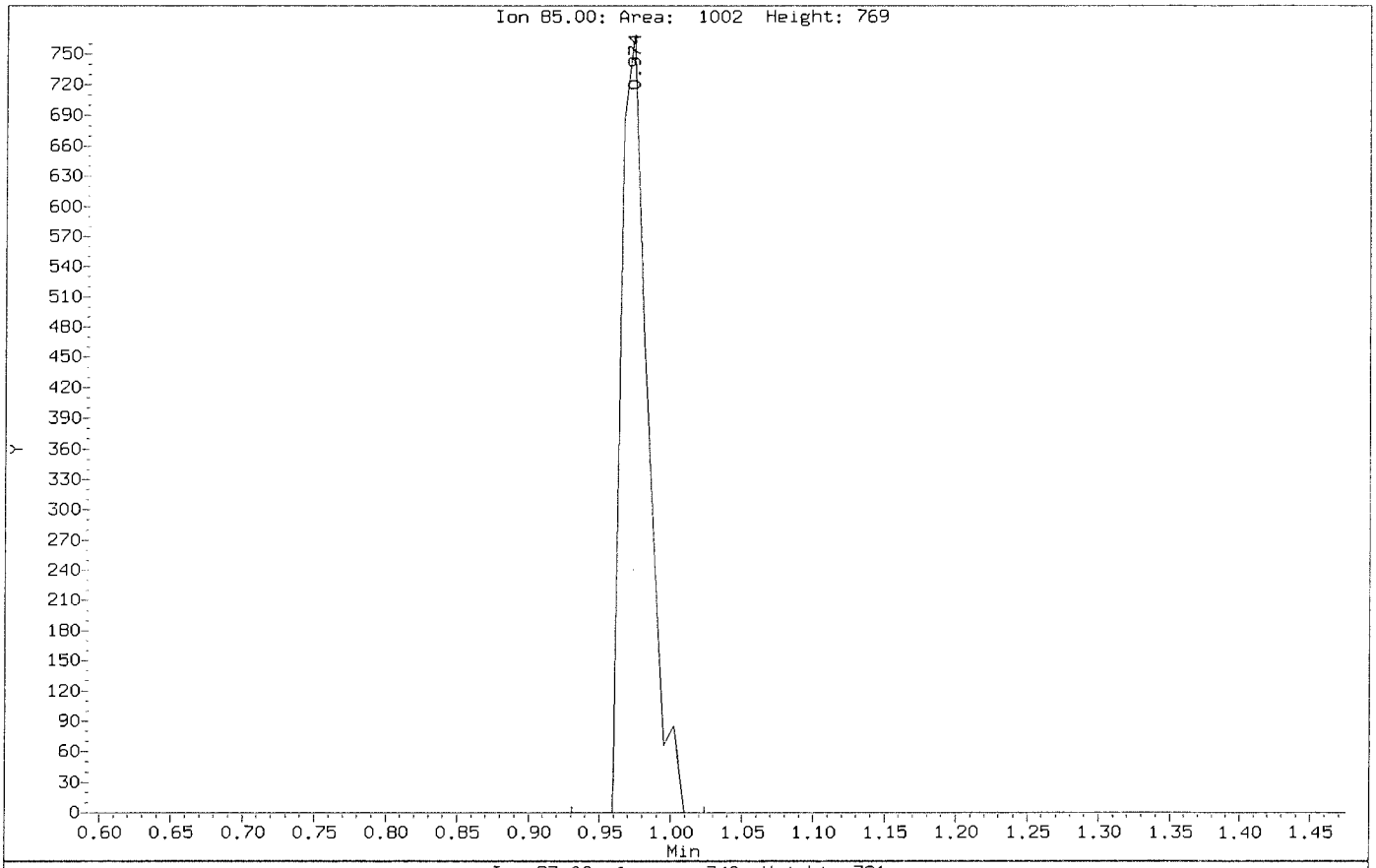
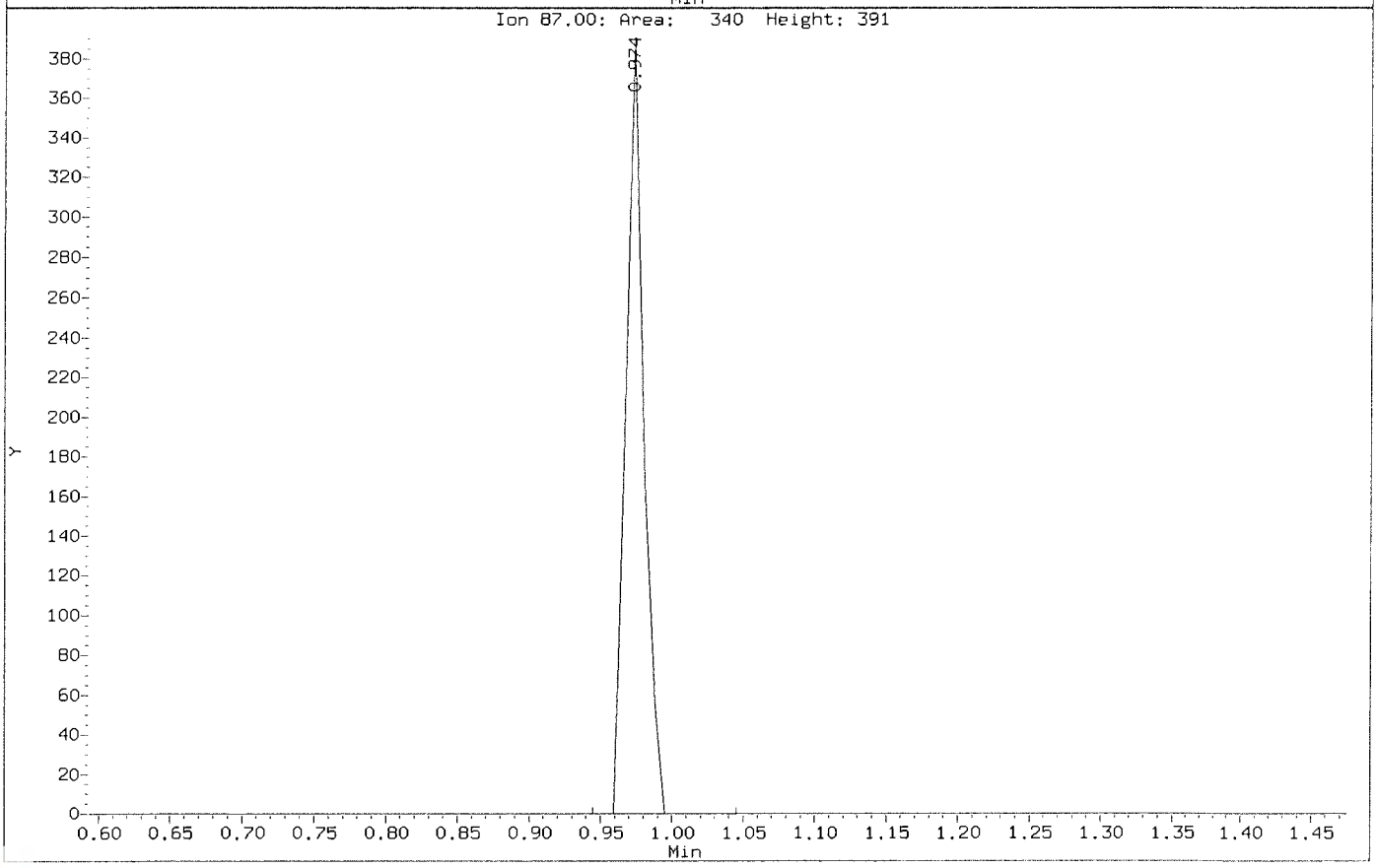
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





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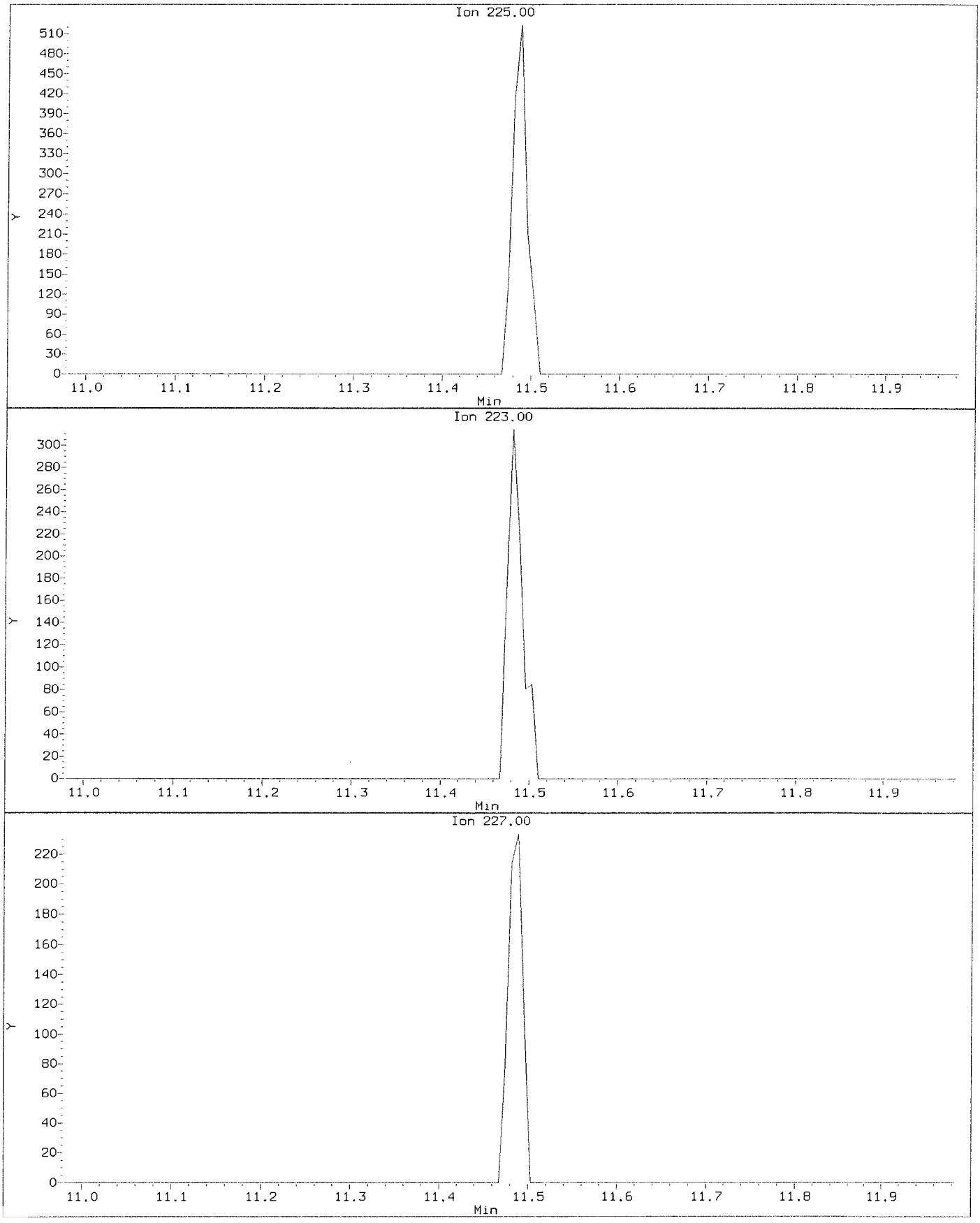
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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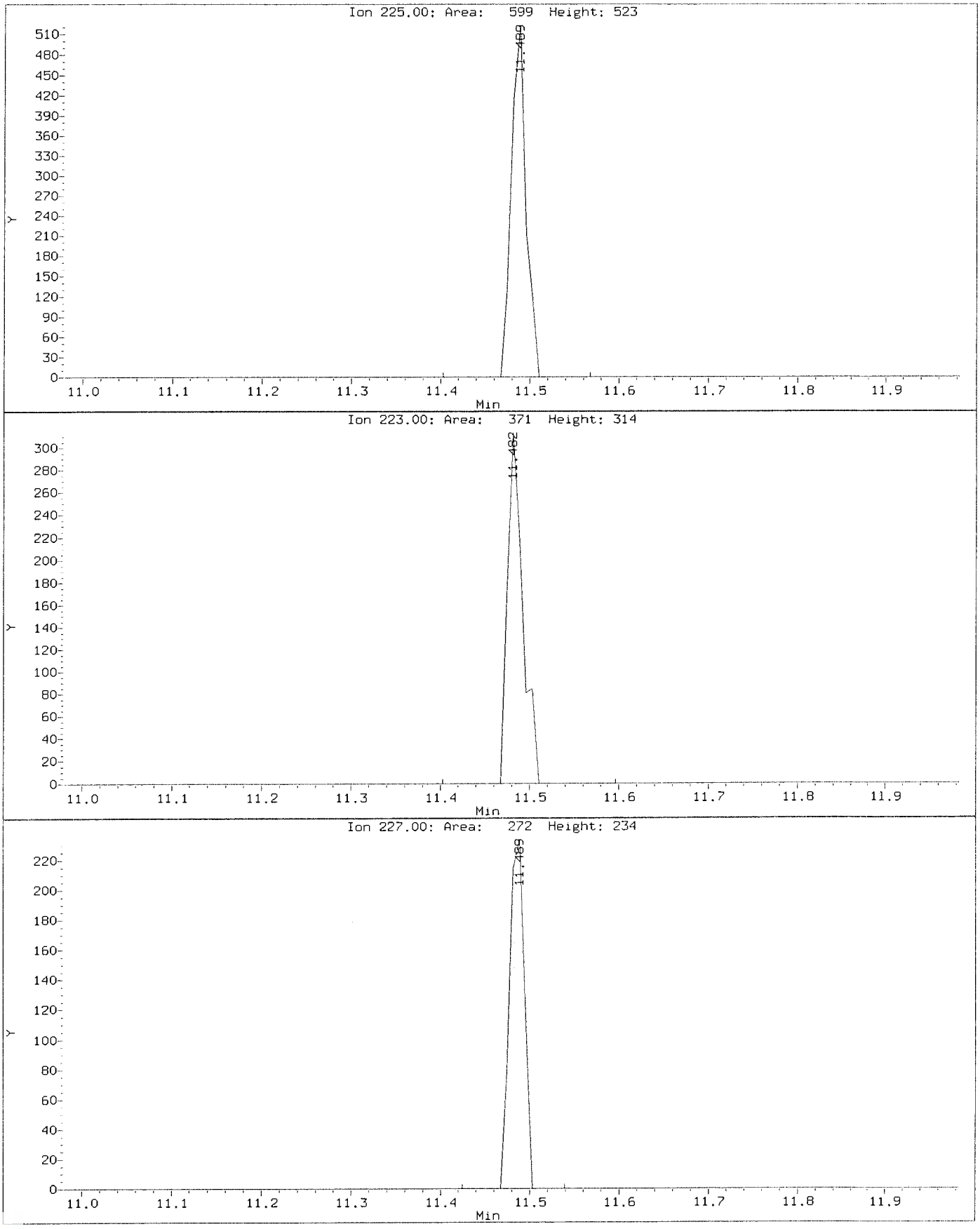
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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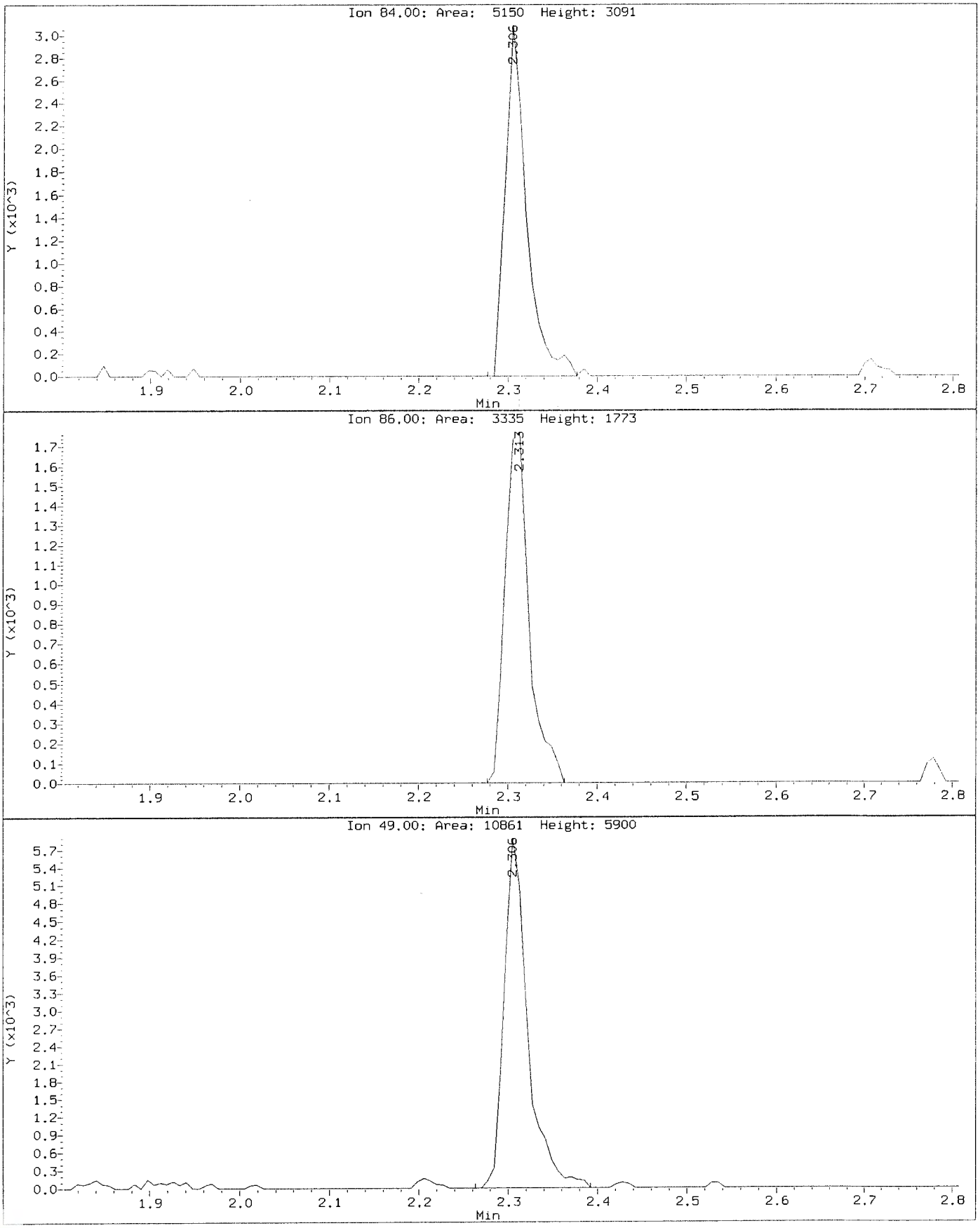
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2



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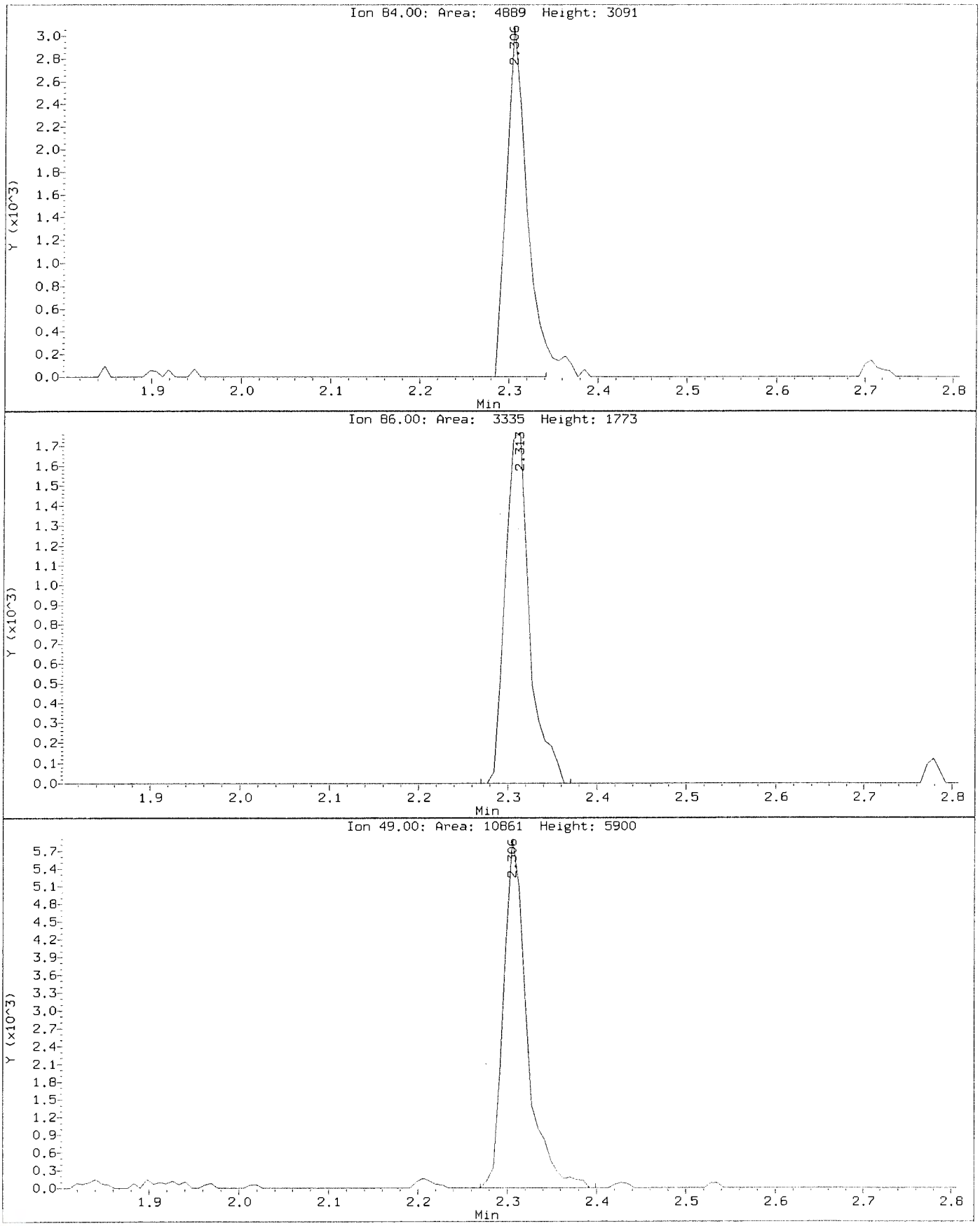
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2



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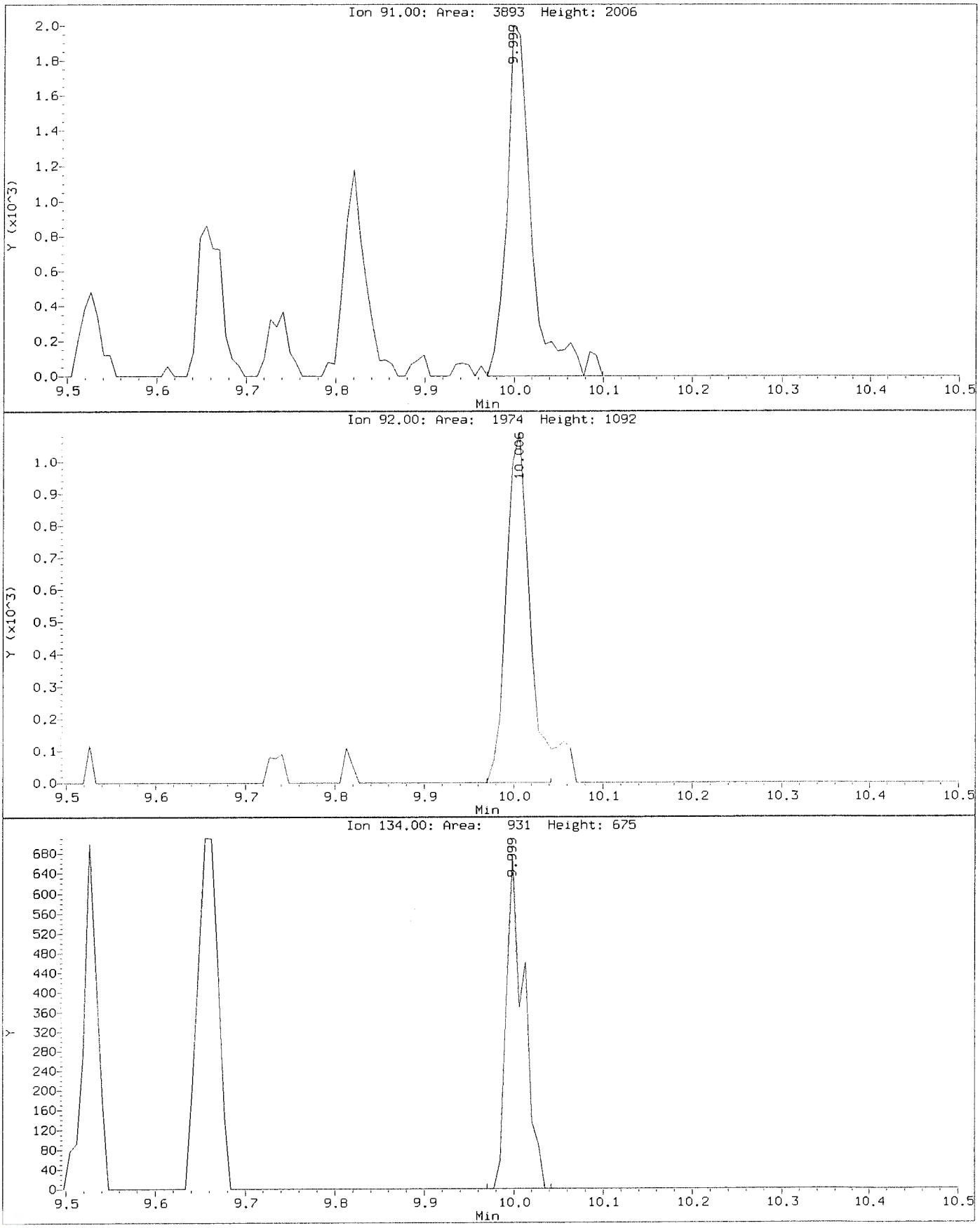
Compound: n-Butylbenzene
CAS Number: 104-51-8



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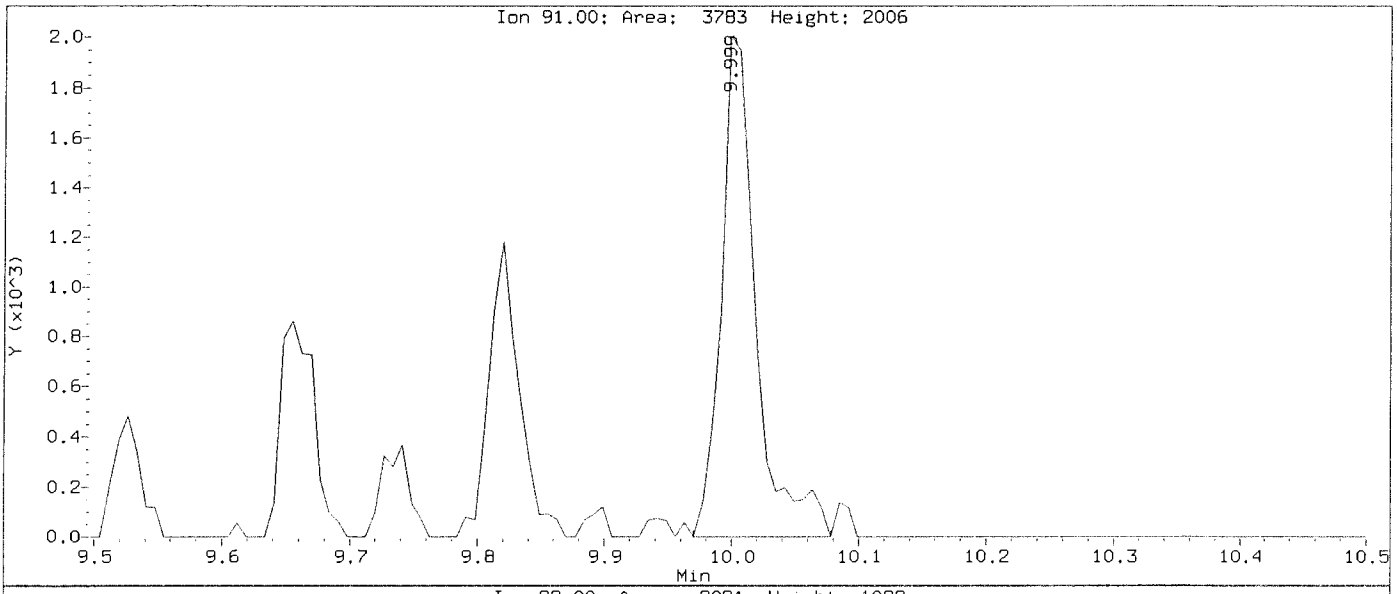
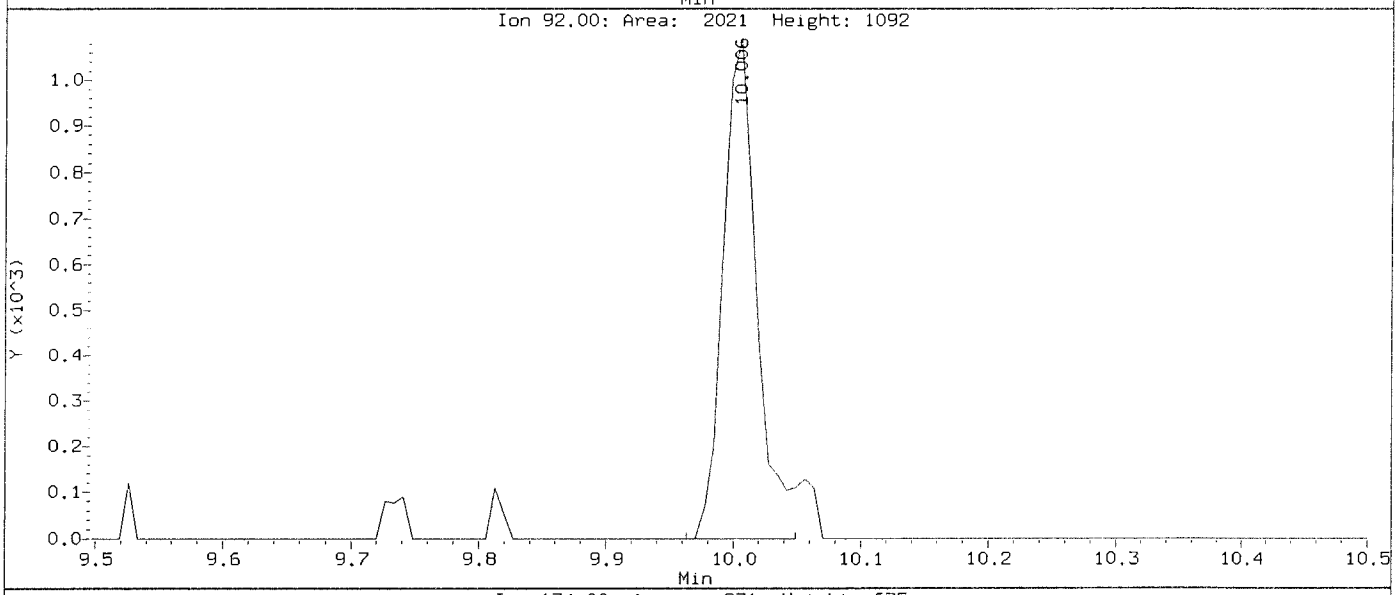
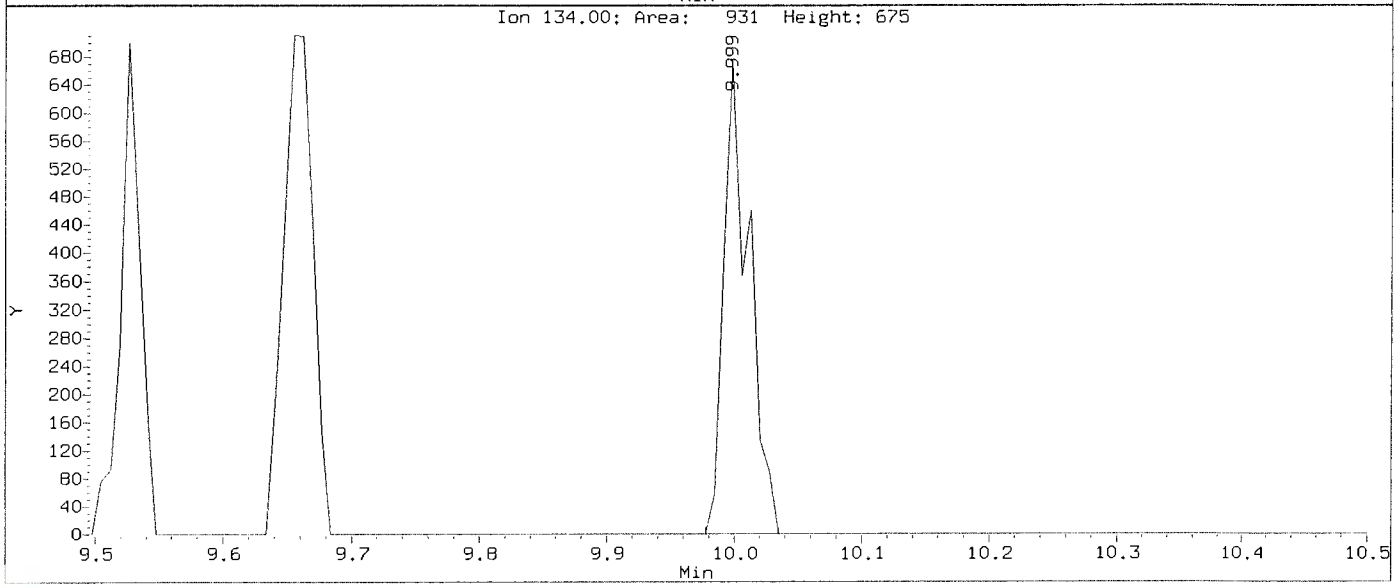
Client Sample ID: VSTD000.5

Compound: n-Butylbenzene
CAS Number: 104-51-8







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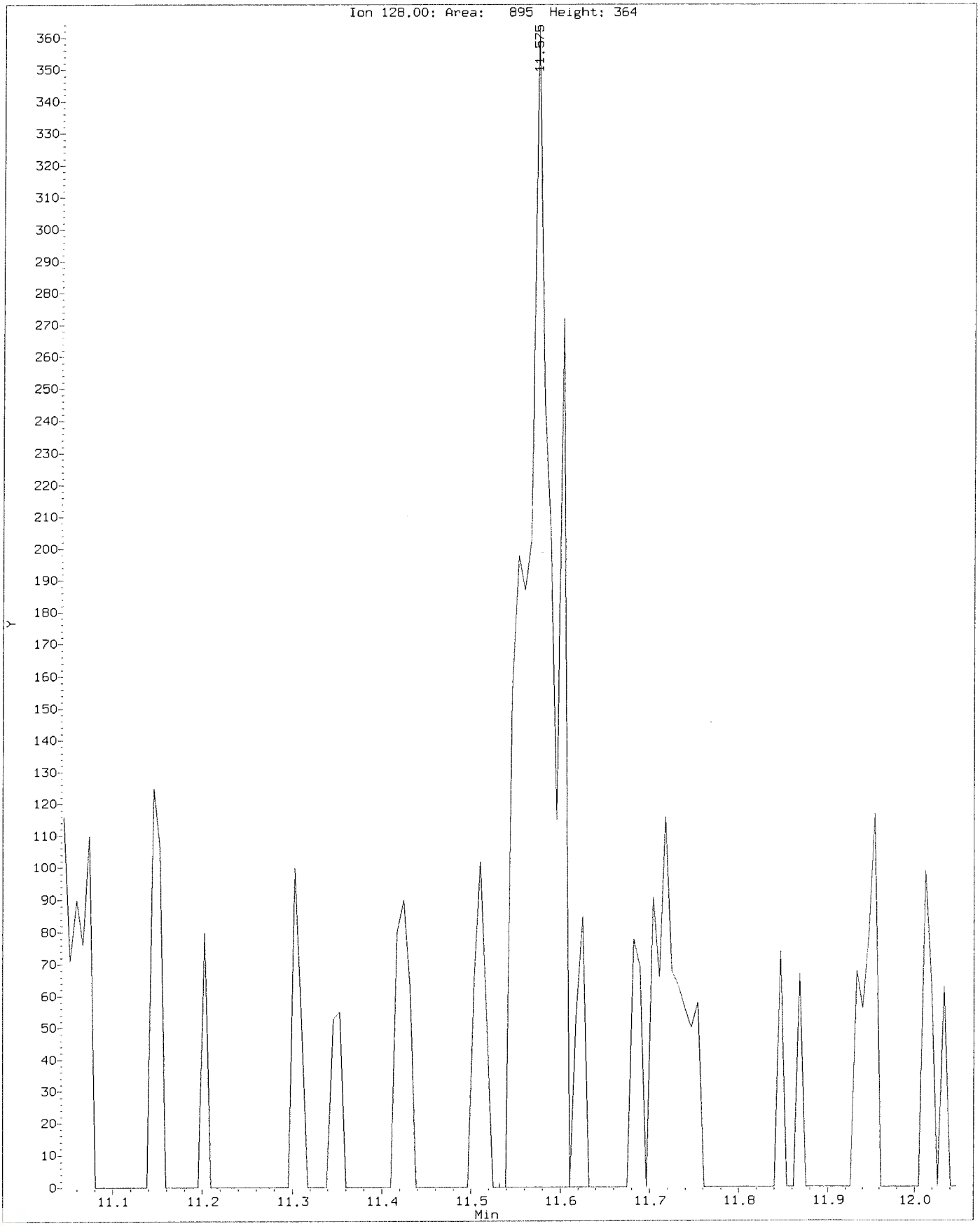
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Naphthalene
CAS Number: 91-20-3



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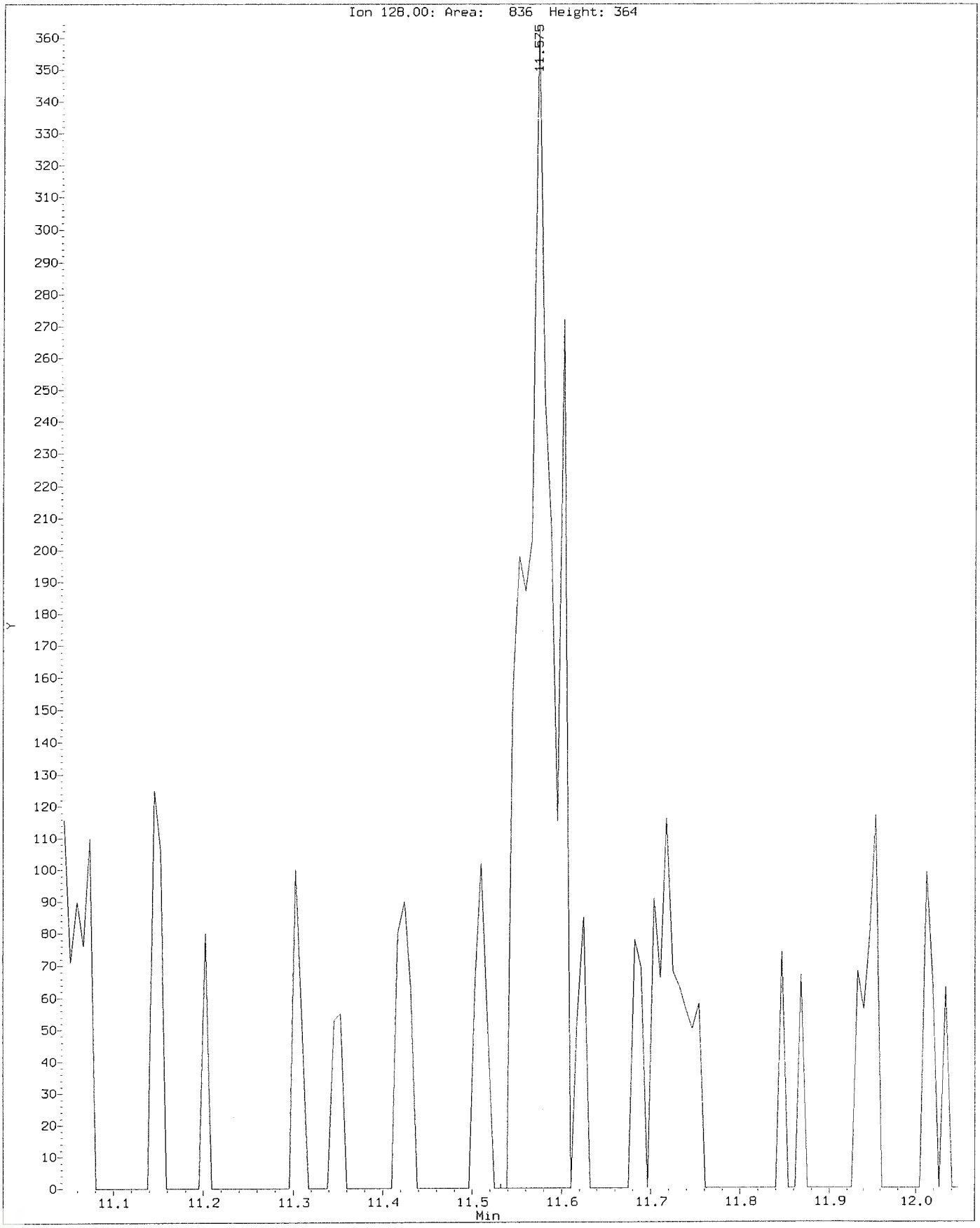
Injection Date: 19-JUN-2020 12:18
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Naphthalene
CAS Number: 91-20-3



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200619.b\X061904.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 19-JUN-2020 12:42
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\X200619.b\8260W.m
Meth Date : 09-Jul-2020 09:58 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 12:42 Cal File: X061904.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	4.189	(1.000)	231955	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	435541	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	400914	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	179647	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	3287	1.00000	1.10(a)
$	35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.072)	5023	1.00000	0.54(a)
$	48 Toluene-d8	98	6.396	6.388	(0.834)	10991	1.00000	1.10(a)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4821	1.00000	1.18(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	2733	1.00000	0.93(a)
	31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	4115	1.00000	0.95(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	3633	1.00000	1.01(aM)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	2717	1.00000	1.05(a)
	22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	8145	1.00000	1.13(a)
	11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	2005	1.00000	0.88(a)
	32 1,1-Dichloropropene	75	4.290	4.282	(0.863)	4633	1.00000	1.18(a)
	93 1,2,3-Trichlorobenzene	180	11.754	11.746	(1.216)	396	1.00000	(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	3791	1.00000	1.14(aM)
	90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	924	1.00000	(aM)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	9662	1.00000	0.98(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	254	1.00000	0.78(aM)
	57 1,2-Dibromoethane	107	7.270	7.262	(0.948)	3287	1.00000	1.03(a)
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	4722	1.00000	0.96(a)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	5751	1.00000	1.00(a)

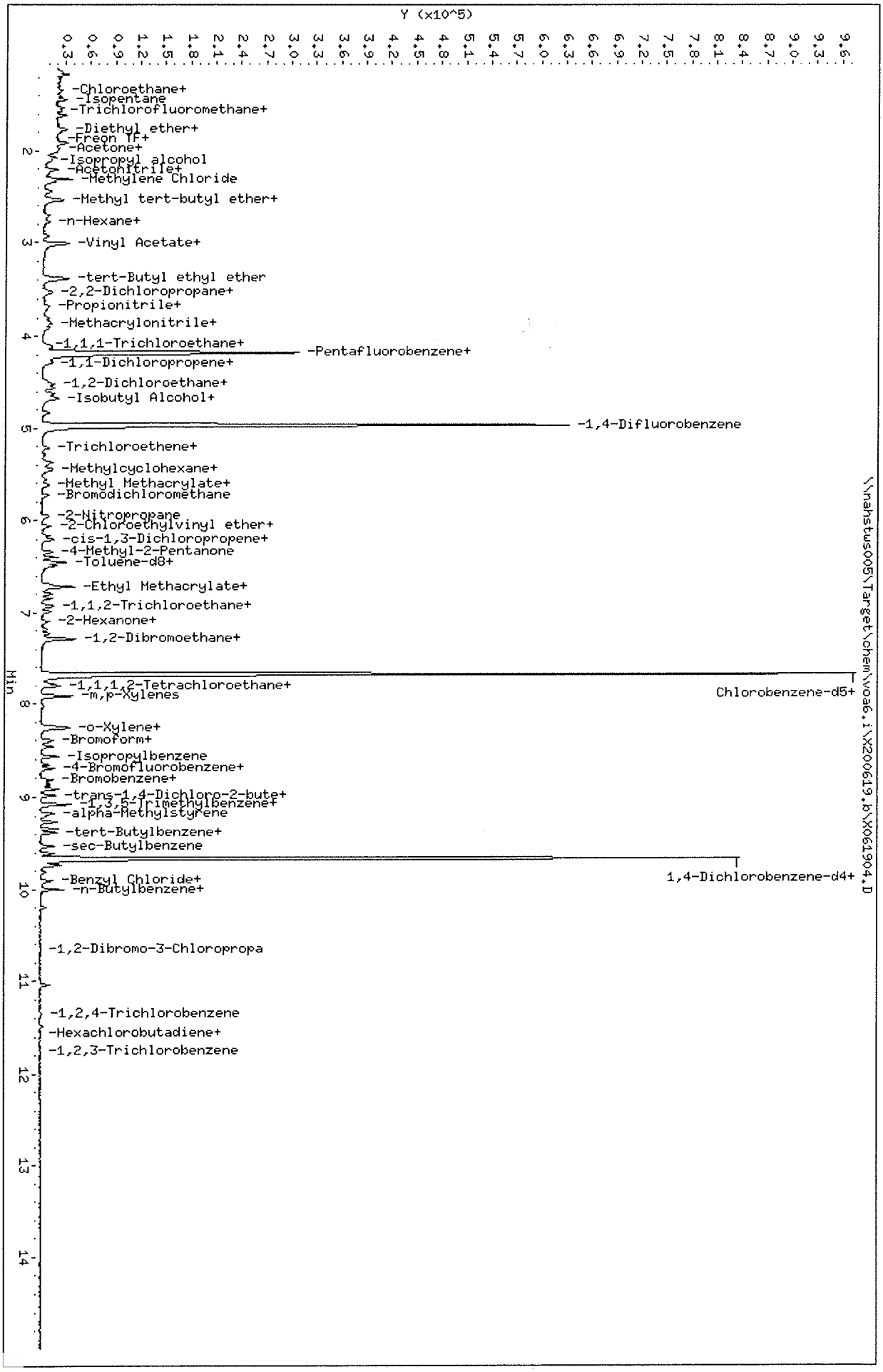
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	3985	1.00000	0.97(aM)
75 1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	8748	1.00000	0.94(a)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	5061	1.00000	0.94(a)
54 1,3-Dichloropropane	76	6.990	6.983	(0.911)	5536	1.00000	1.02(a)
84 1,4-Dichlorobenzene	146	9.684	9.683	(1.001)	5349	1.00000	0.98(a)
26 2,2-Dichloropropane	77	3.523	3.516	(0.842)	4588	1.00000	1.01(a)
24 2-Butanone	43	3.609	3.580	(0.863)	3155	2.00000	0.39(a)
76 2-Chlorotoluene	91	8.982	8.981	(0.929)	8644	1.00000	1.01(a)
52 2-Hexanone	43	7.098	7.090	(0.925)	8171	2.00000	1.97(a)
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	10382	1.00000	1.04(a)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	8195	1.00000	0.92(a)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	11960	2.00000	1.97(a)
10 Acetone	43	1.976	1.976	(0.473)	6211	2.00000	0.85(a)
37 Benzene	78	4.519	4.519	(0.909)	12741	1.00000	1.04(a)
74 Bromobenzene	156	8.810	8.809	(0.911)	3505	1.00000	1.03(a)
29 Bromochloromethane	128	3.803	3.795	(0.909)	1937	1.00000	1.08(a)
39 Bromodichloromethane	83	5.730	5.729	(1.153)	4142	1.00000	0.93(aM)
66 Bromoform	173	8.416	8.416	(1.097)	1965	1.00000	0.91(Ta)
6 Bromomethane	94	1.339	1.331	(0.320)	2431	1.00000	1.11(aM)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	14420	2.00000	1.93(a)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	4091	1.00000	1.07(aH)
59 Chlorobenzene	112	7.699	7.699	(1.004)	7889	1.00000	1.01(a)
7 Chloroethane	64	1.403	1.396	(0.336)	2480	1.00000	1.00(a)
28 Chloroform	83	3.917	3.910	(0.937)	5775	1.00000	1.01(a)
3 Chloromethane	50	1.081	1.081	(0.258)	6208	1.00000	1.07(a)
27 cis-1,2-Dichloroethene	96	3.538	3.530	(0.846)	3394	1.00000	1.01(a)
46 cis-1,3-Dichloropropene	75	6.166	6.159	(1.241)	5032	1.00000	0.95(a)
55 Dibromochloromethane	129	7.184	7.183	(0.937)	2968	1.00000	0.92(a)
44 Dibromomethane	93	5.565	5.557	(1.120)	2467	1.00000	1.08(a)
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	2447	1.00000	1.65(a)
61 Ethylbenzene	106	7.807	7.807	(1.018)	3902	1.00000	0.98(a)
91 Hexachlorobutadiene	225	11.489	11.481	(1.188)	715	1.00000	(aM)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	11136	1.00000	0.99(a)
62 m,p-Xylenes	106	7.914	7.907	(1.032)	8720	2.00000	1.87(a)
17 Methylene Chloride	84	2.306	2.305	(0.551)	7032	1.00000	0.13(a)
87 n-Butylbenzene	91	9.999	9.999	(1.034)	7144	1.00000	0.89(a)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	13022	1.00000	0.98(a)
92 Naphthalene	128	11.560	11.546	(1.196)	1790	1.00000	0.07(aM)
63 o-Xylene	106	8.244	8.244	(1.075)	4795	1.00000	1.01(a)
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	9655	1.00000	0.93(a)
64 Styrene	104	8.265	8.265	(1.078)	7950	1.00000	0.95(a)
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	7301	1.00000	1.00(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	2071	1.00000	0.99(a)
50 Toluene	91	6.453	6.453	(0.841)	12385	1.00000	1.03(a)
20 trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	2601	1.00000	0.98(a)
51 trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	4893	1.00000	0.99(a)
38 Trichloroethene	130	5.214	5.206	(1.049)	2855	1.00000	0.99(a)
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	3894	1.00000	0.94(a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	3781	1.00000	0.82(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.
H - Operator selected an alternate compound hit.



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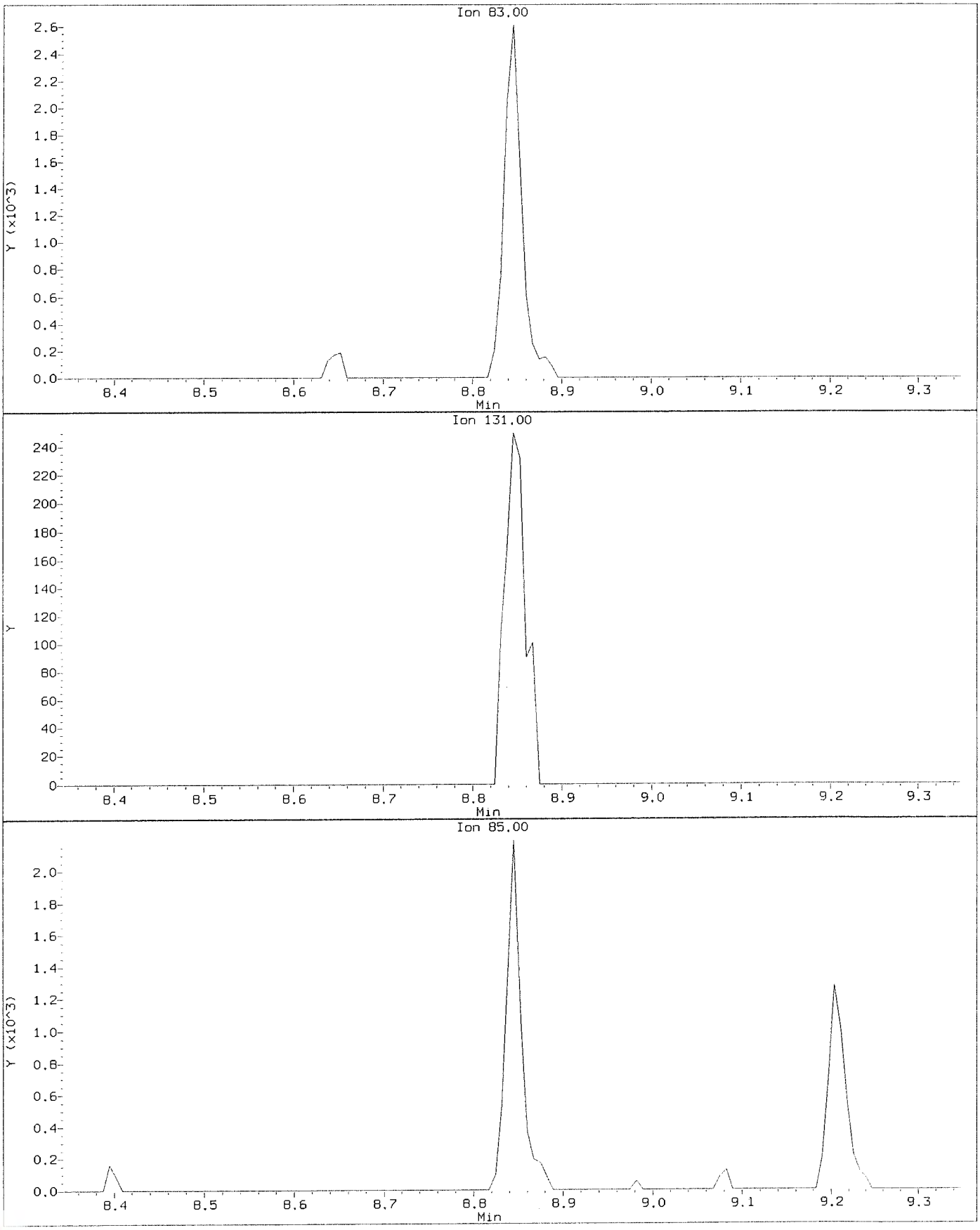
Date : 19-JUN-2020 12:42
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061904.D
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



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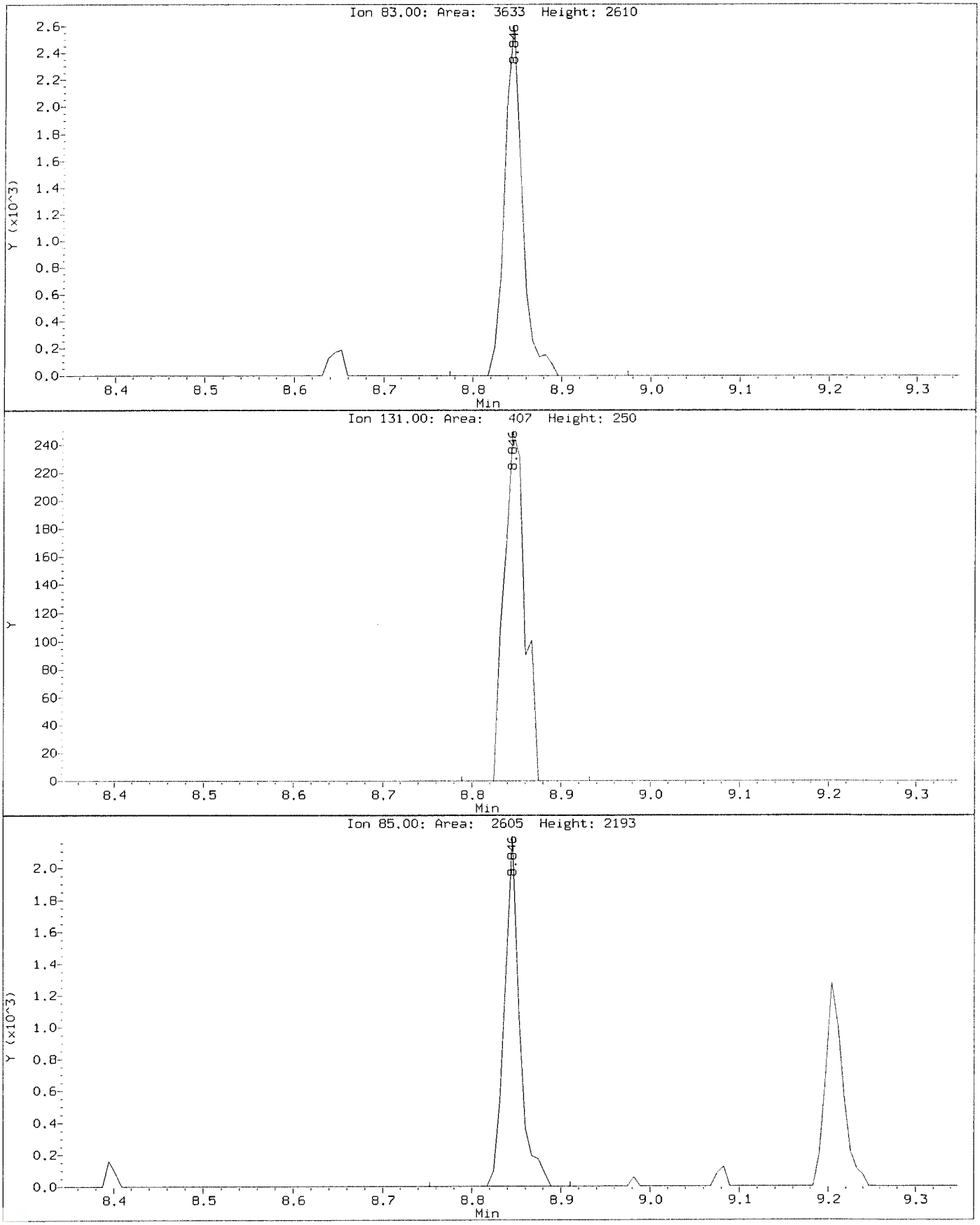
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



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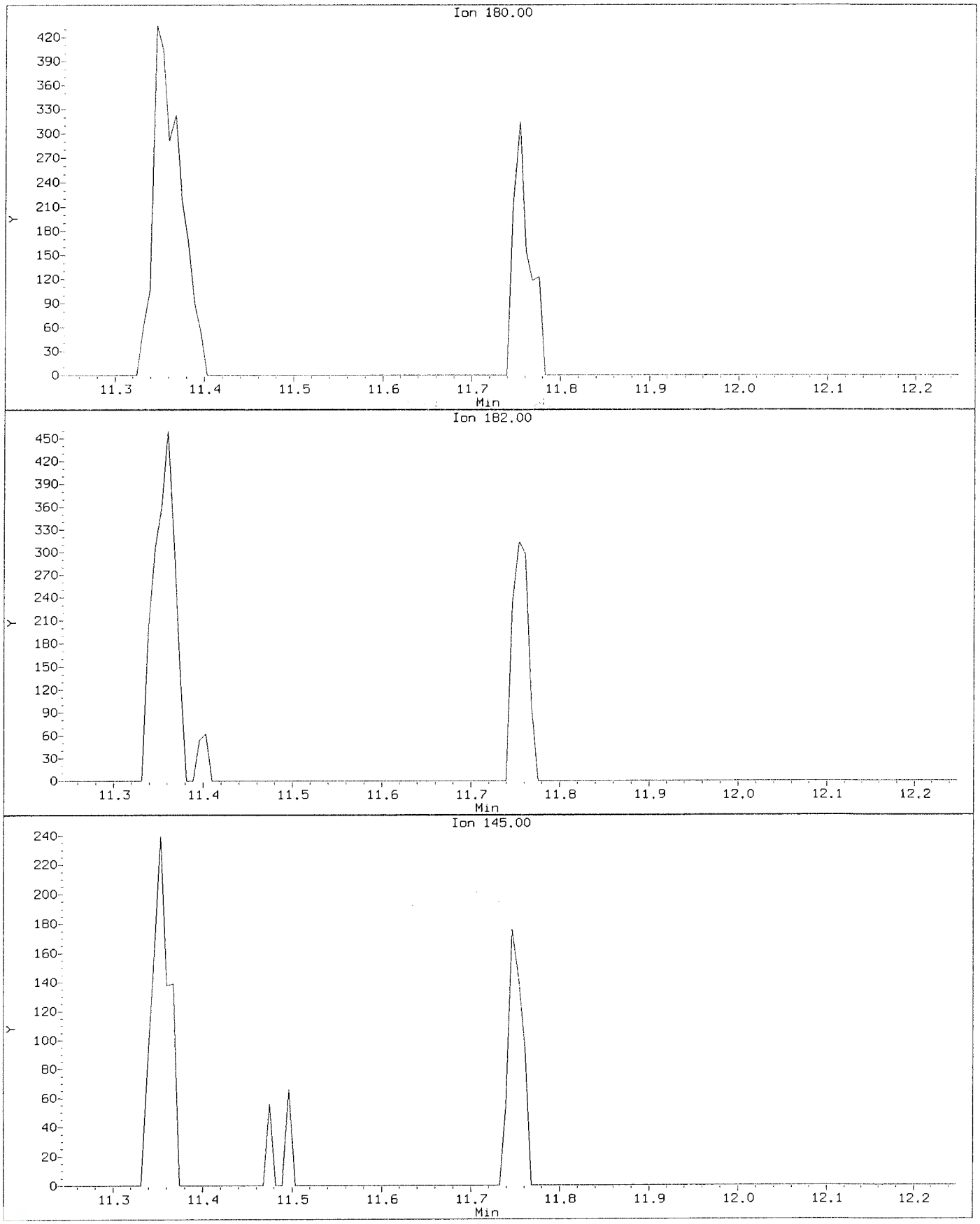
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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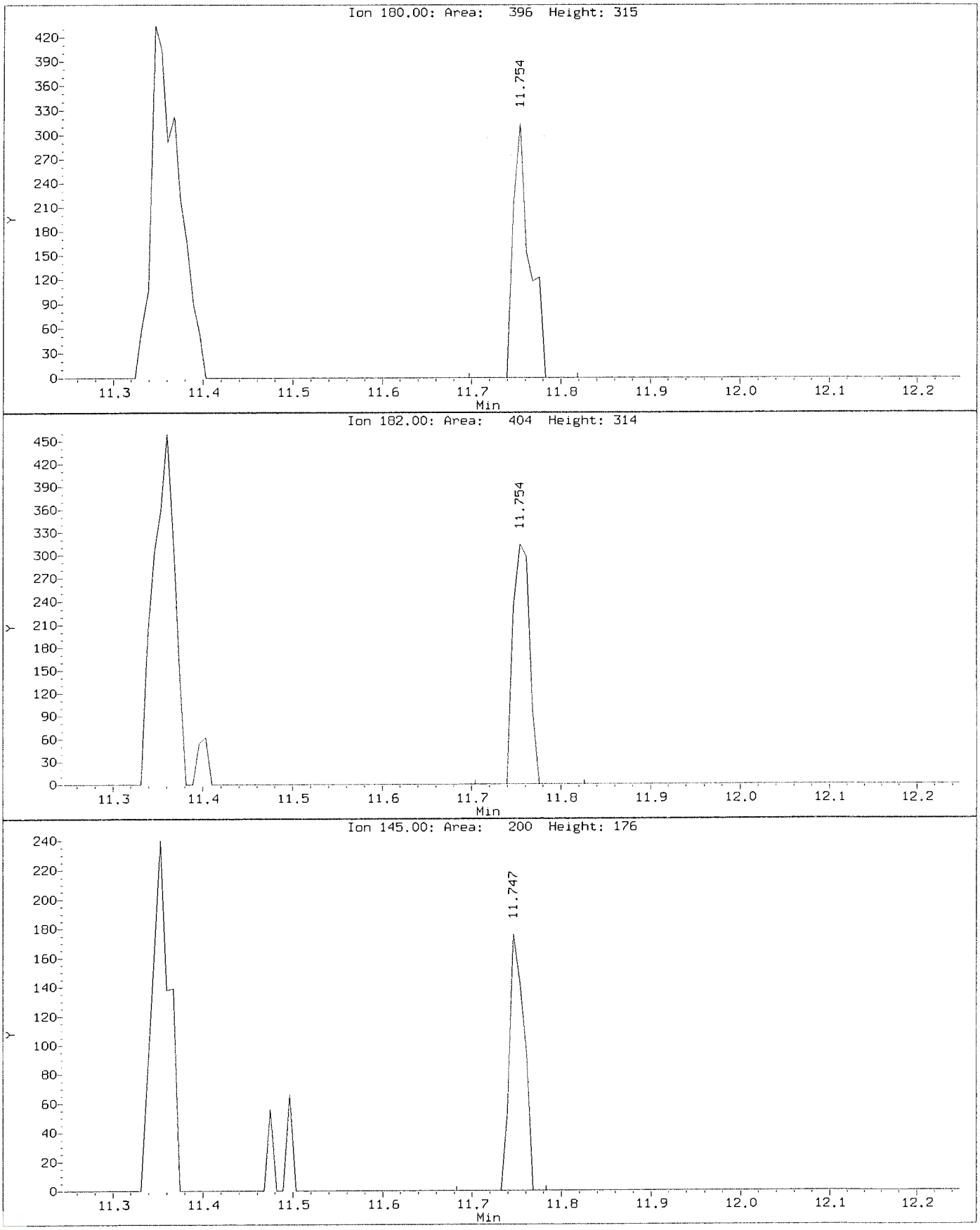
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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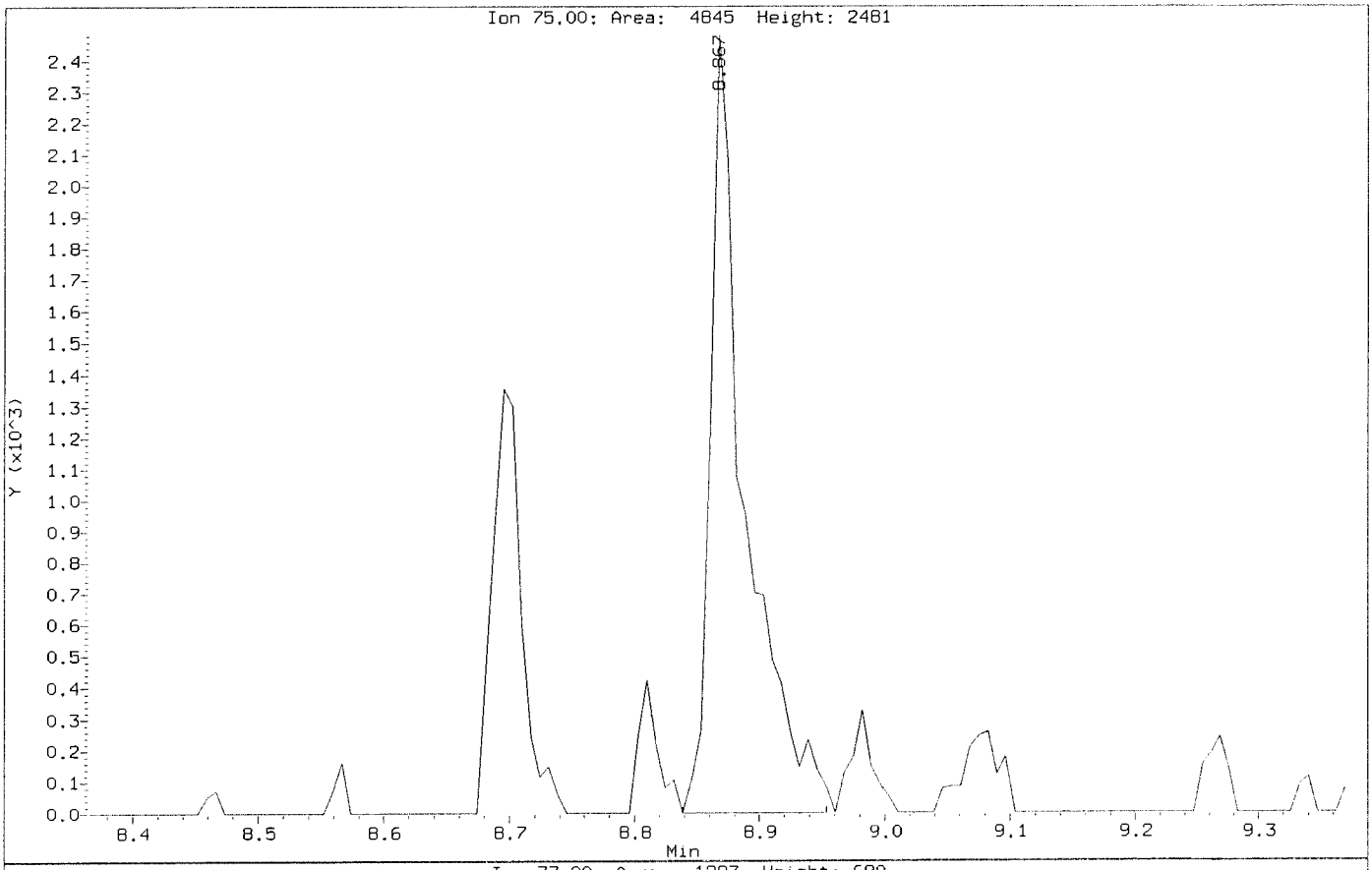
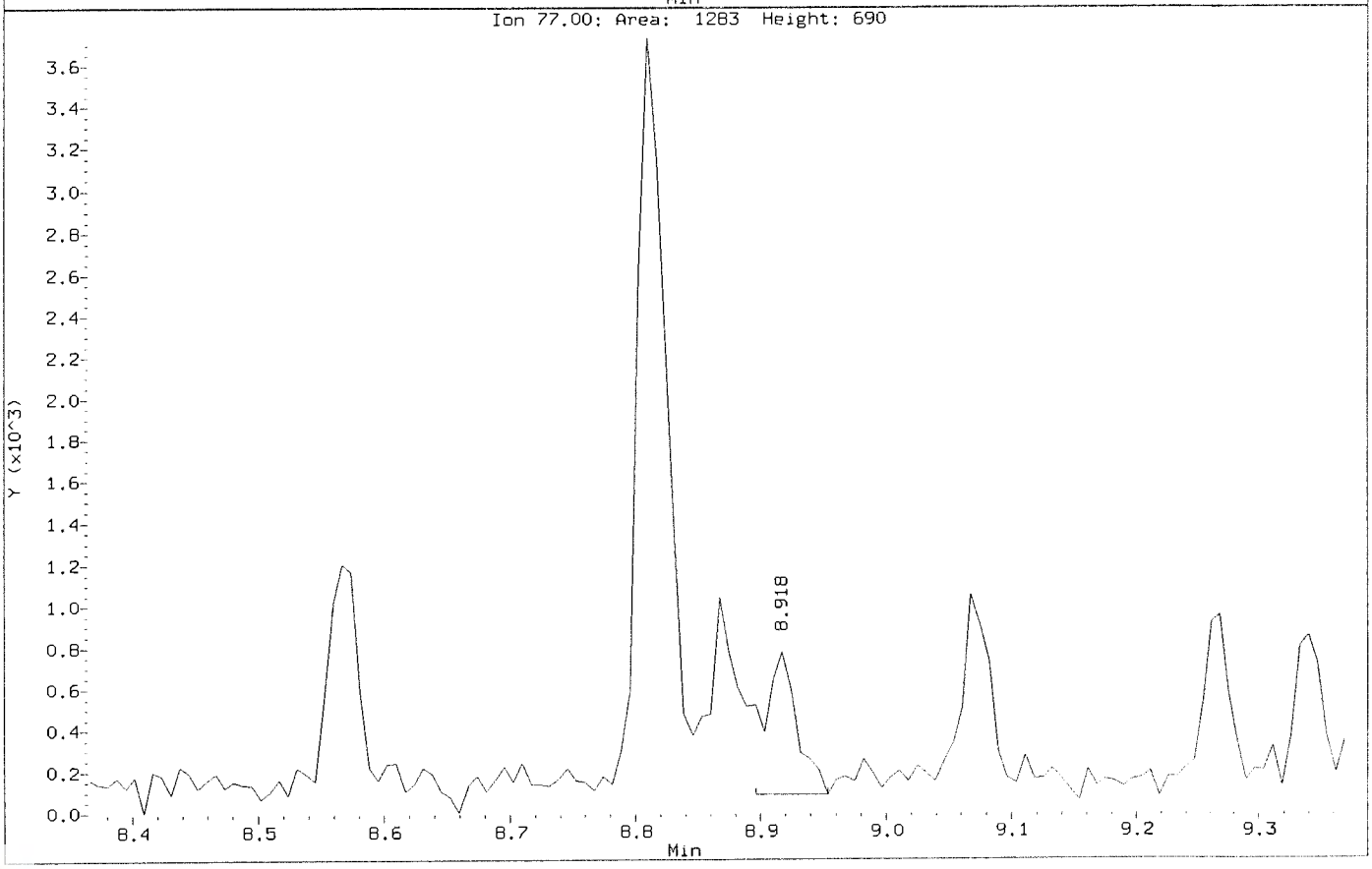
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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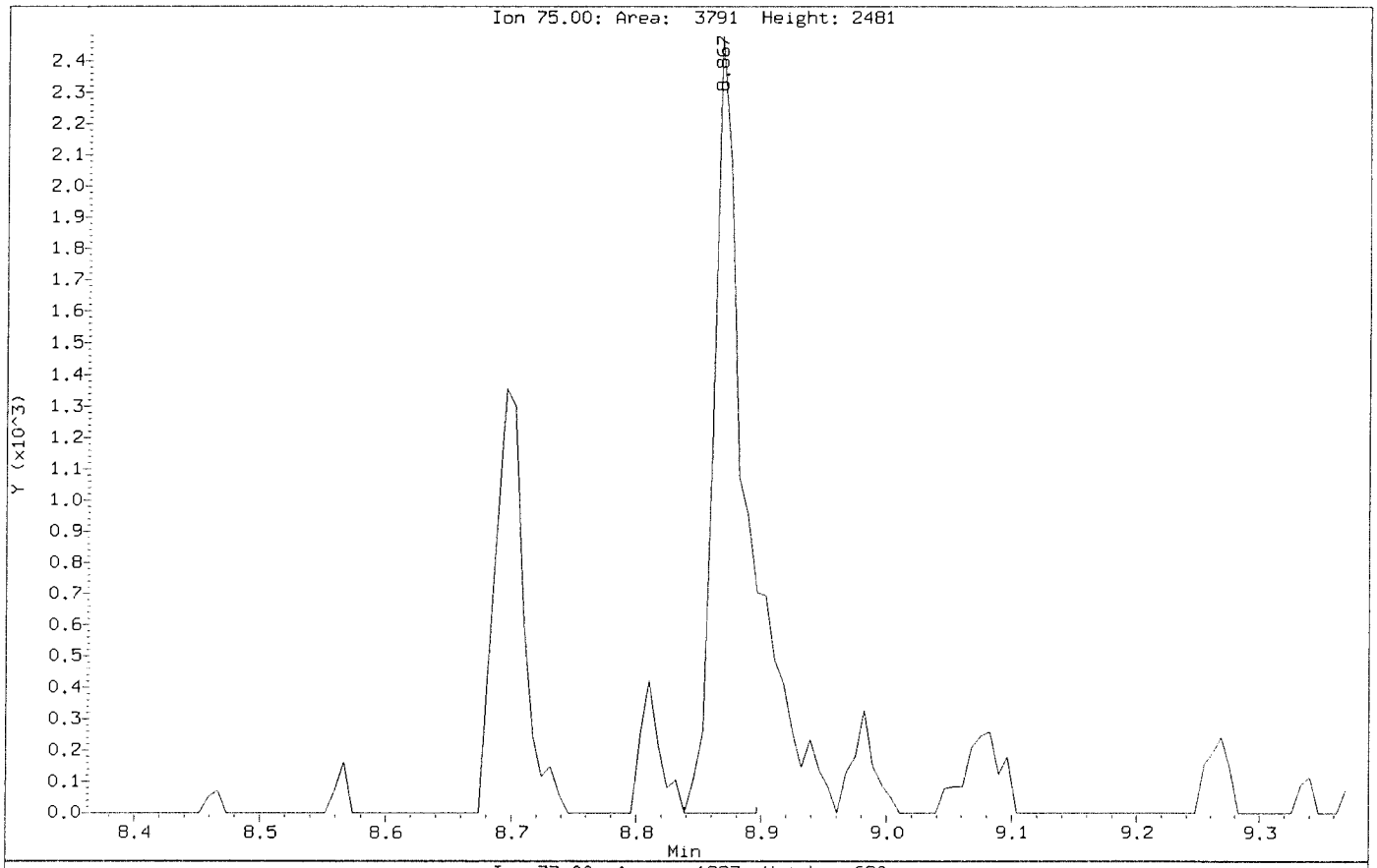
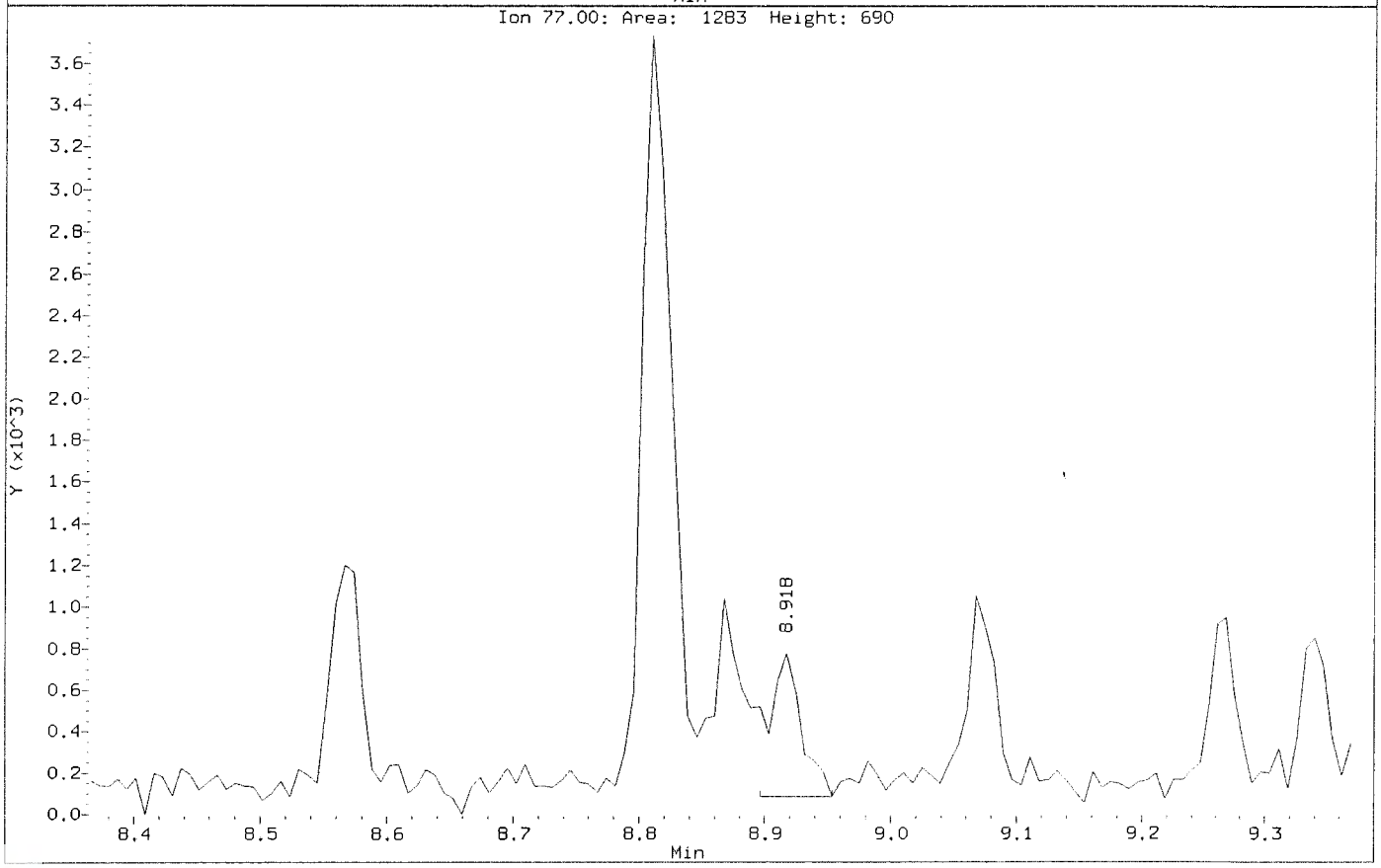
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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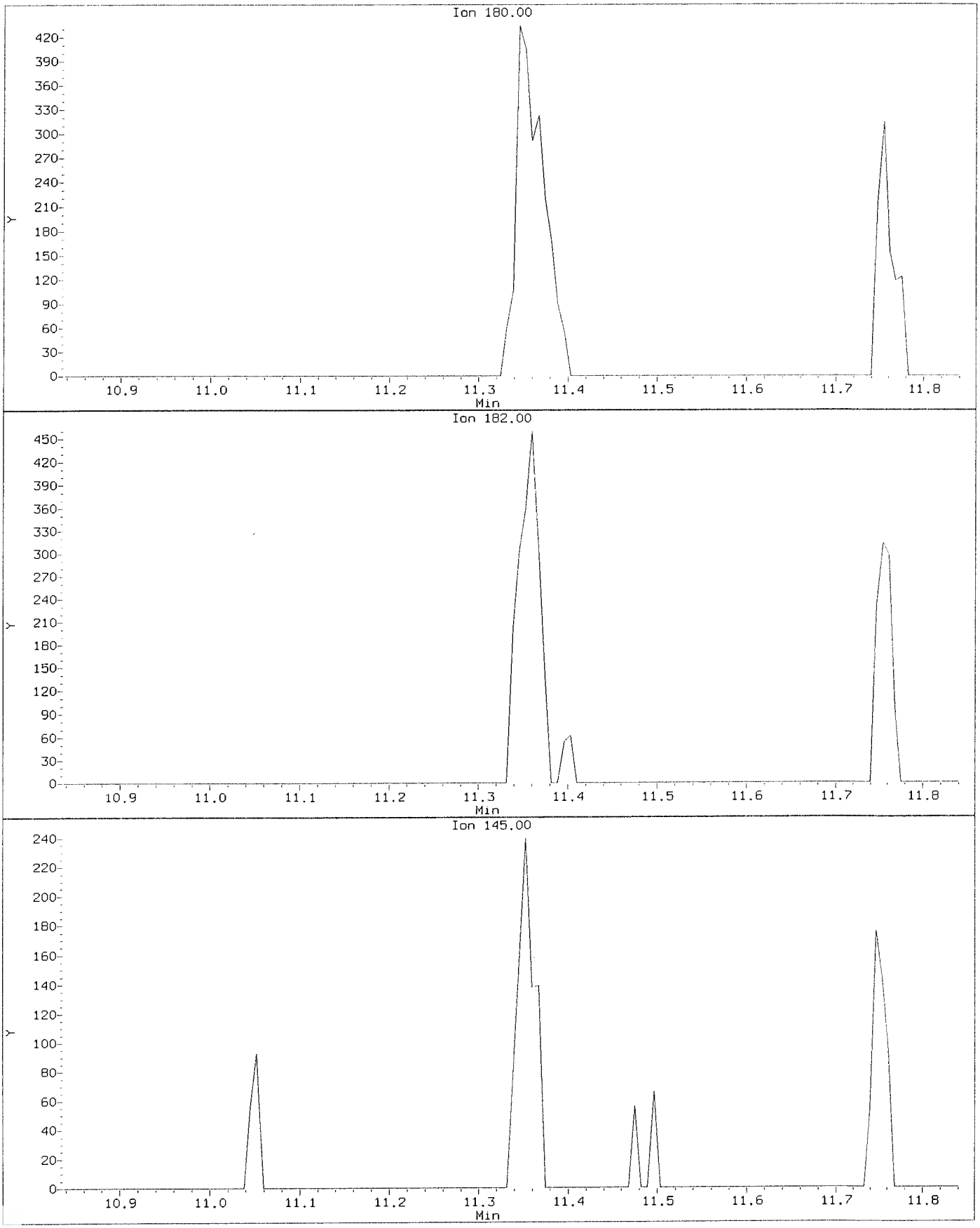
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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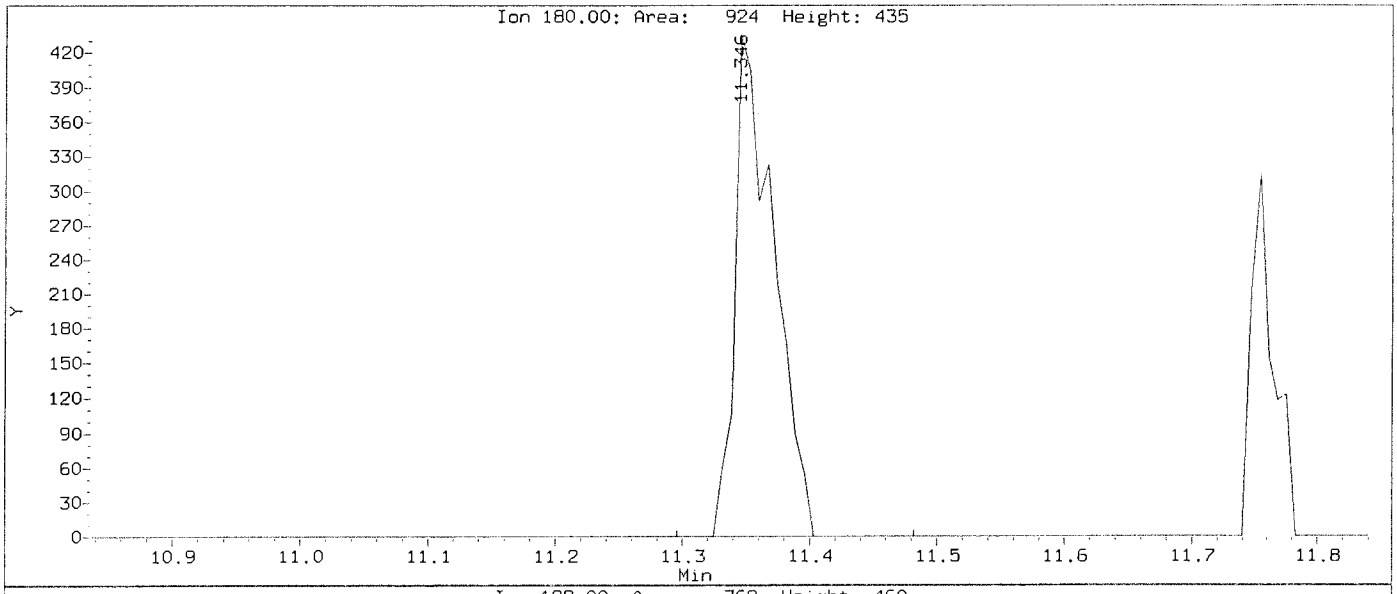
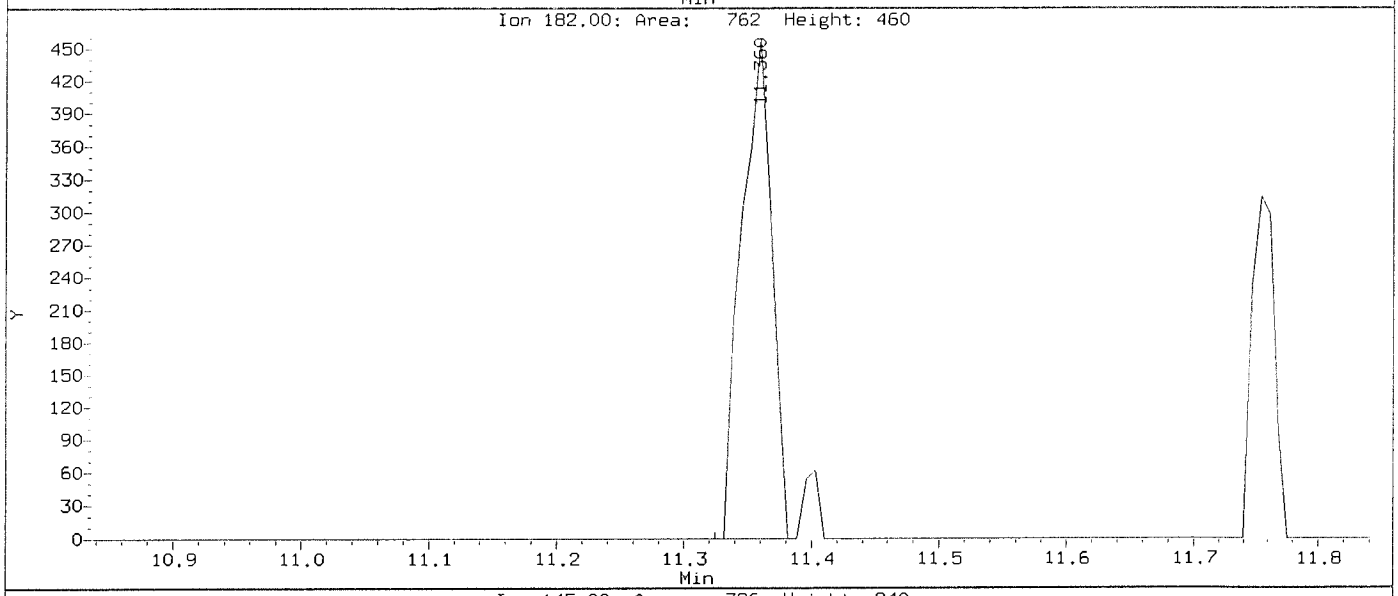
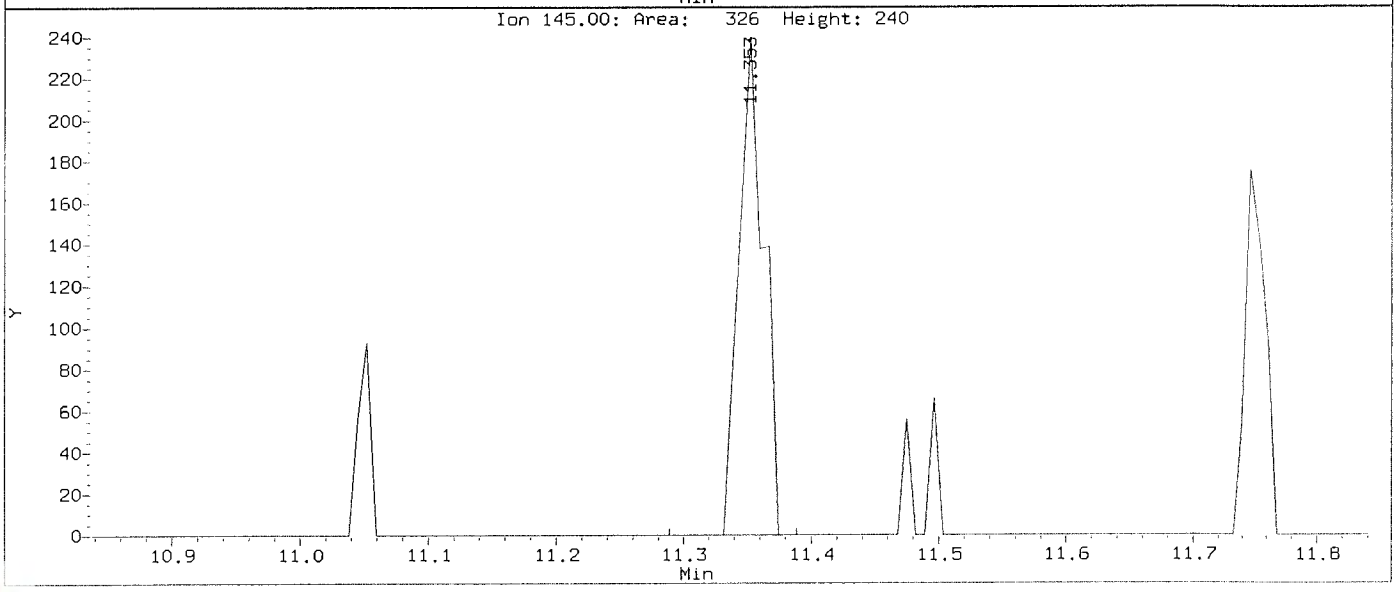
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1







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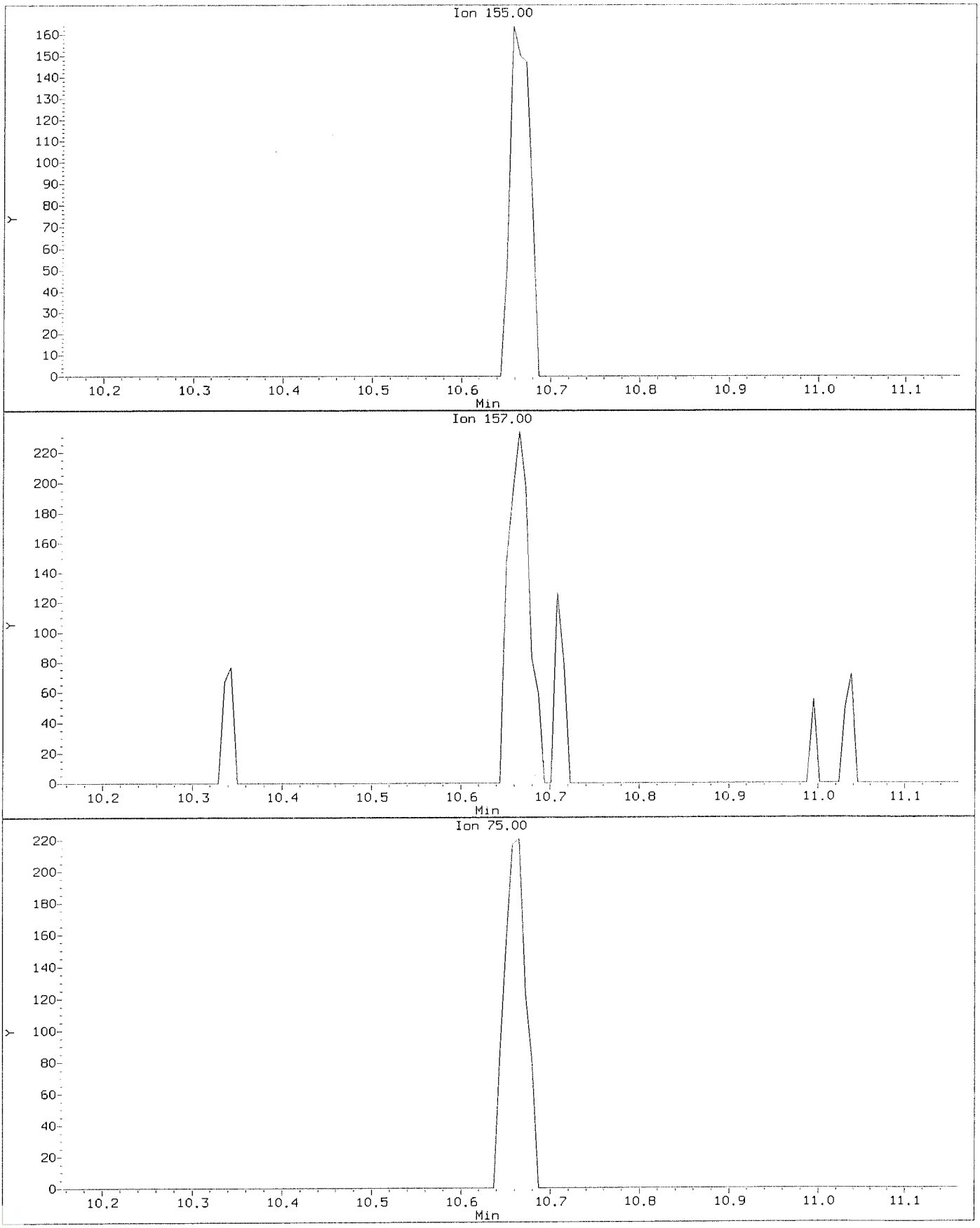
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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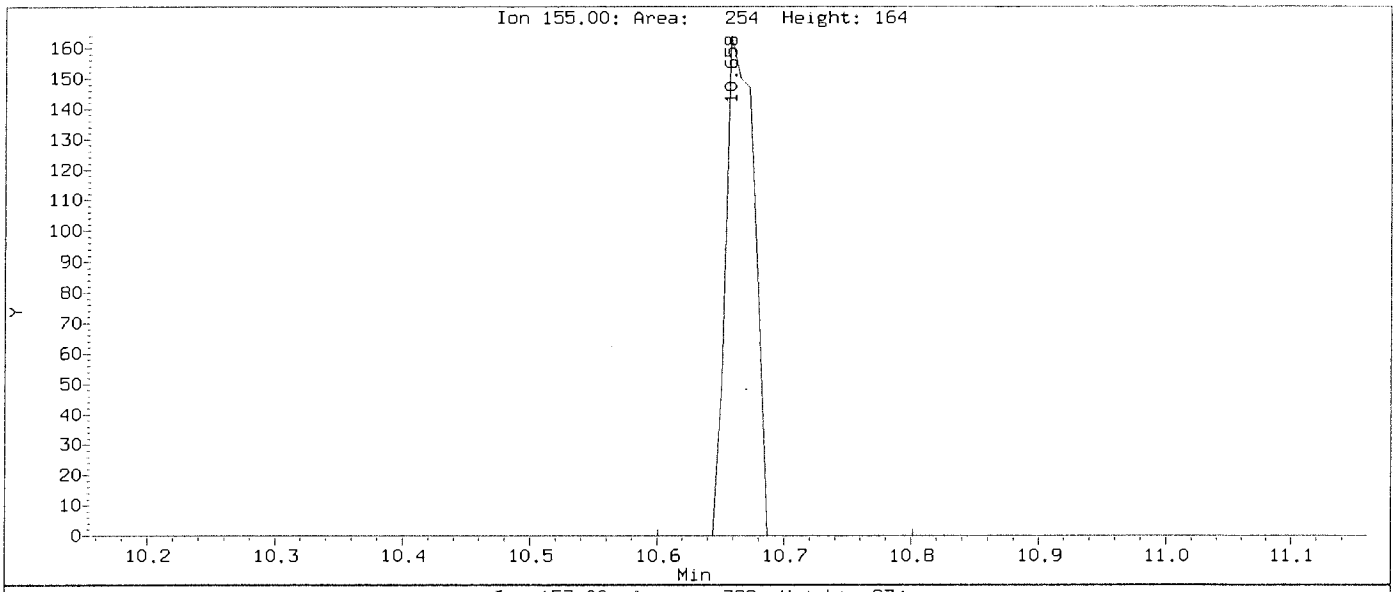
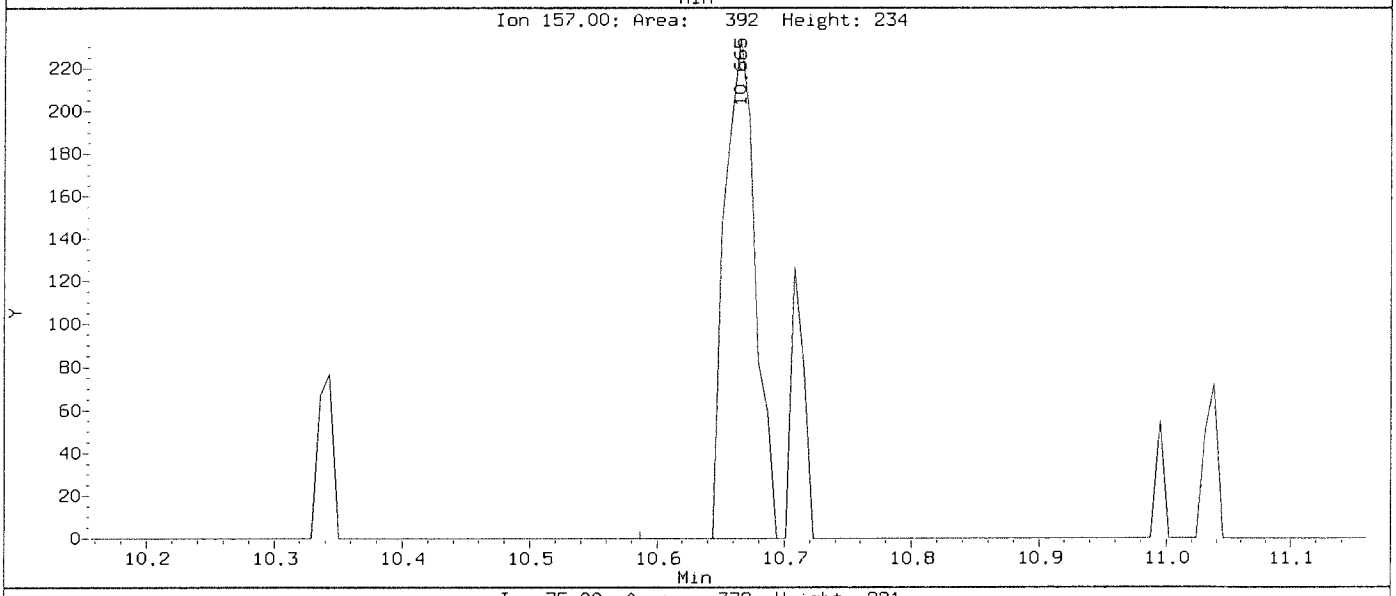
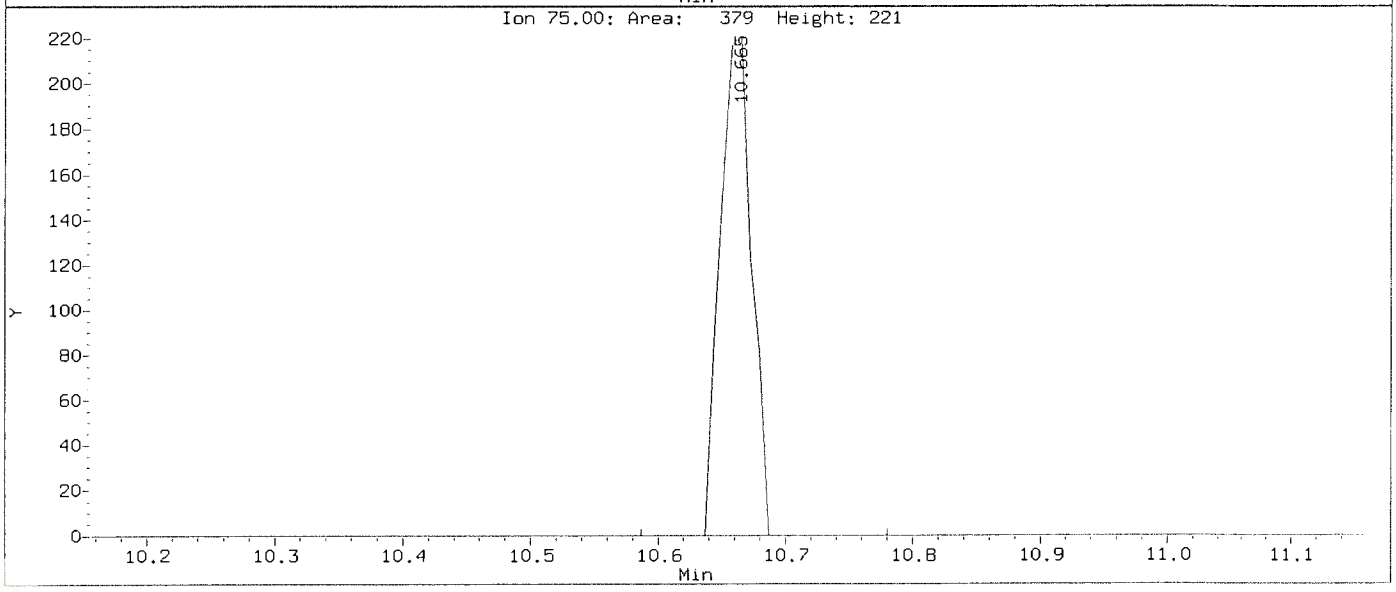
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8







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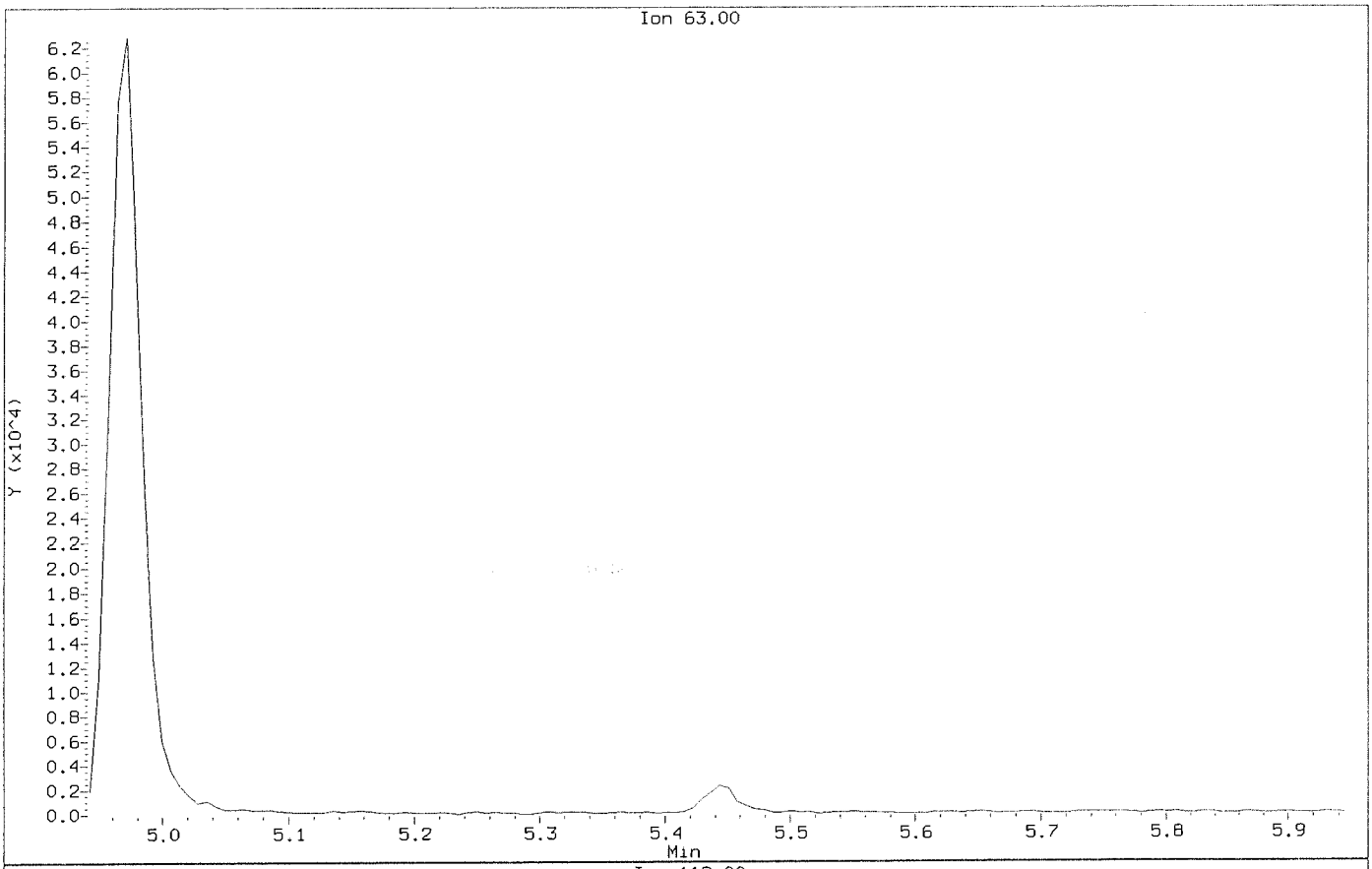
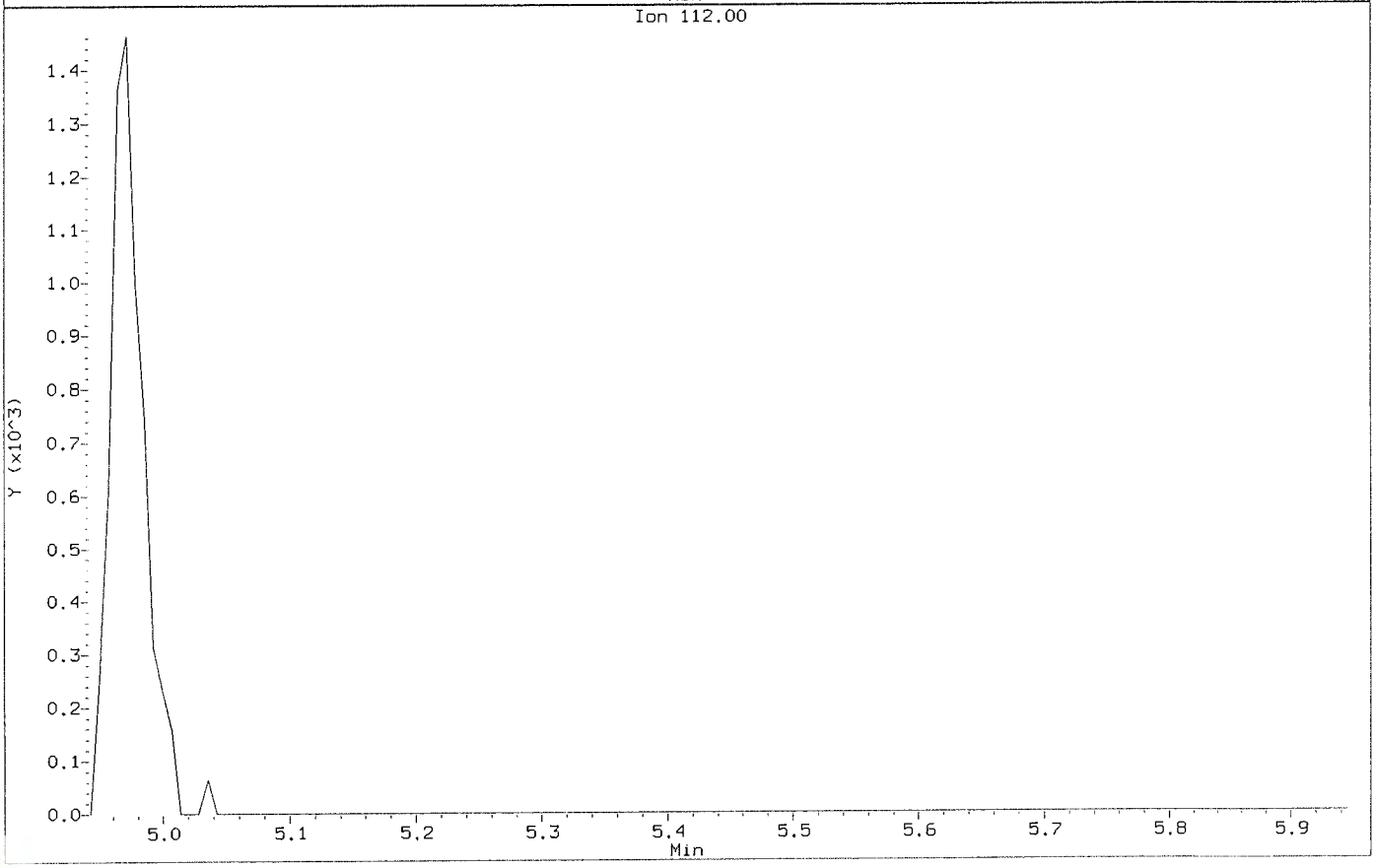
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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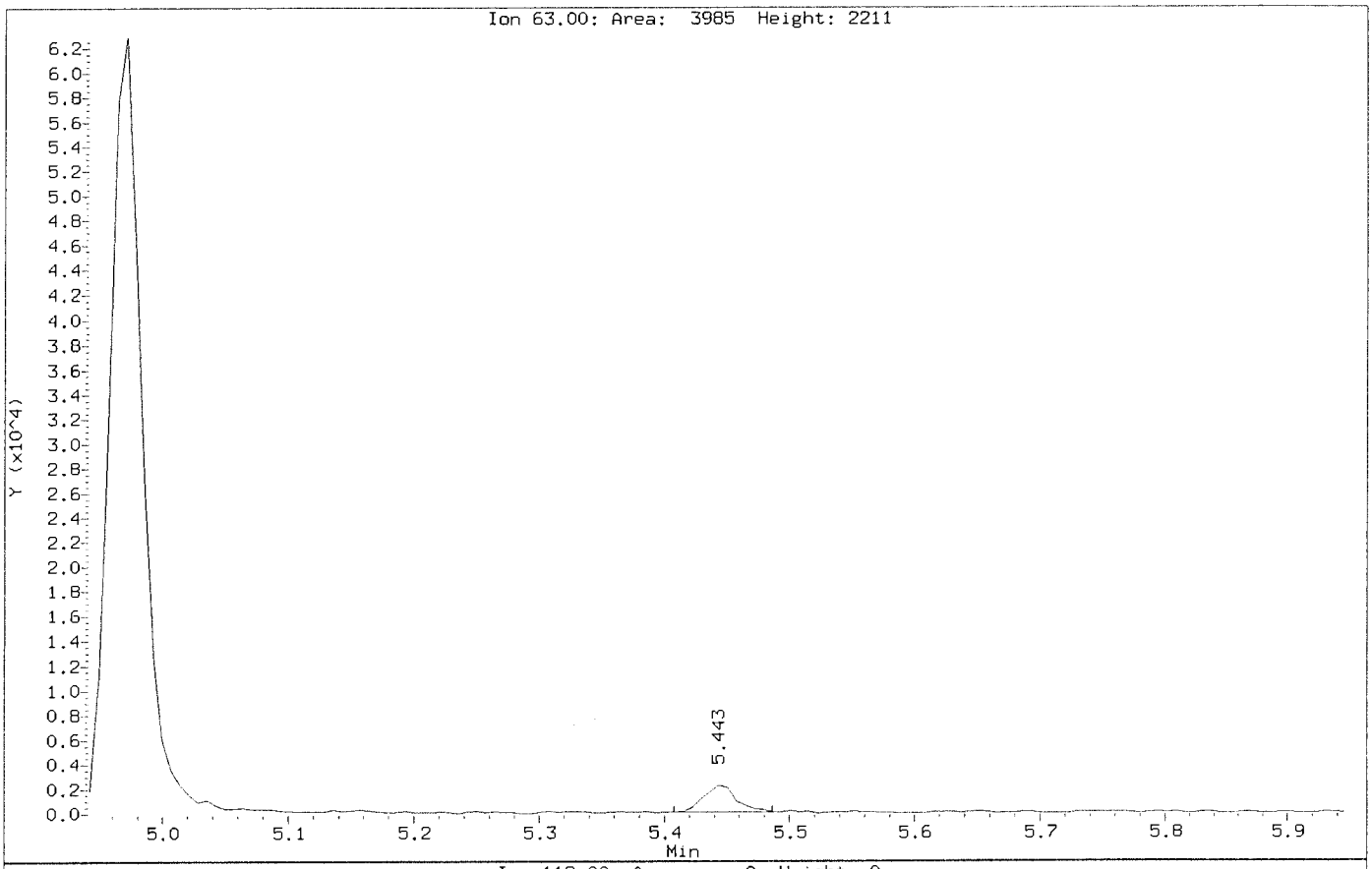
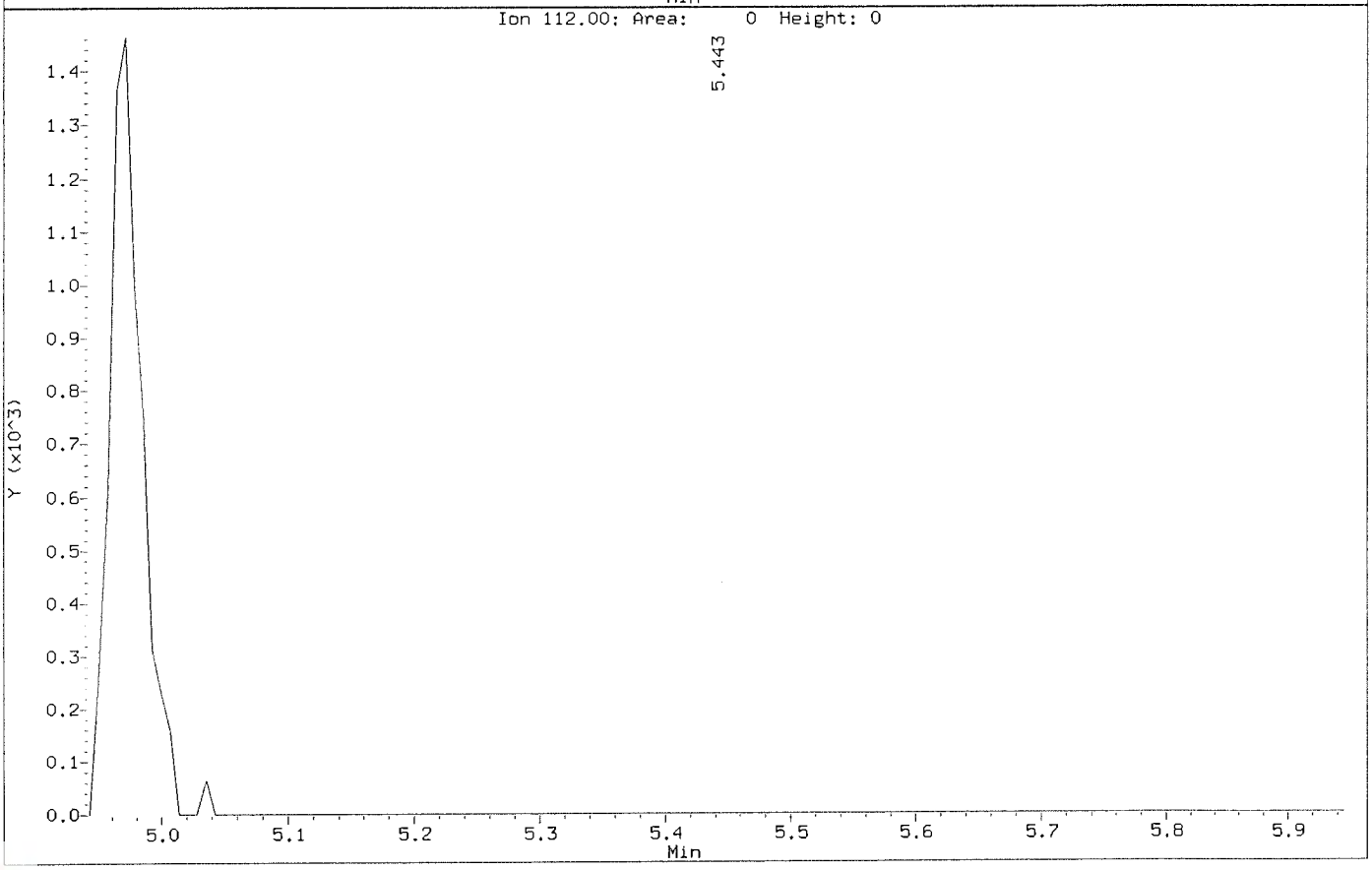
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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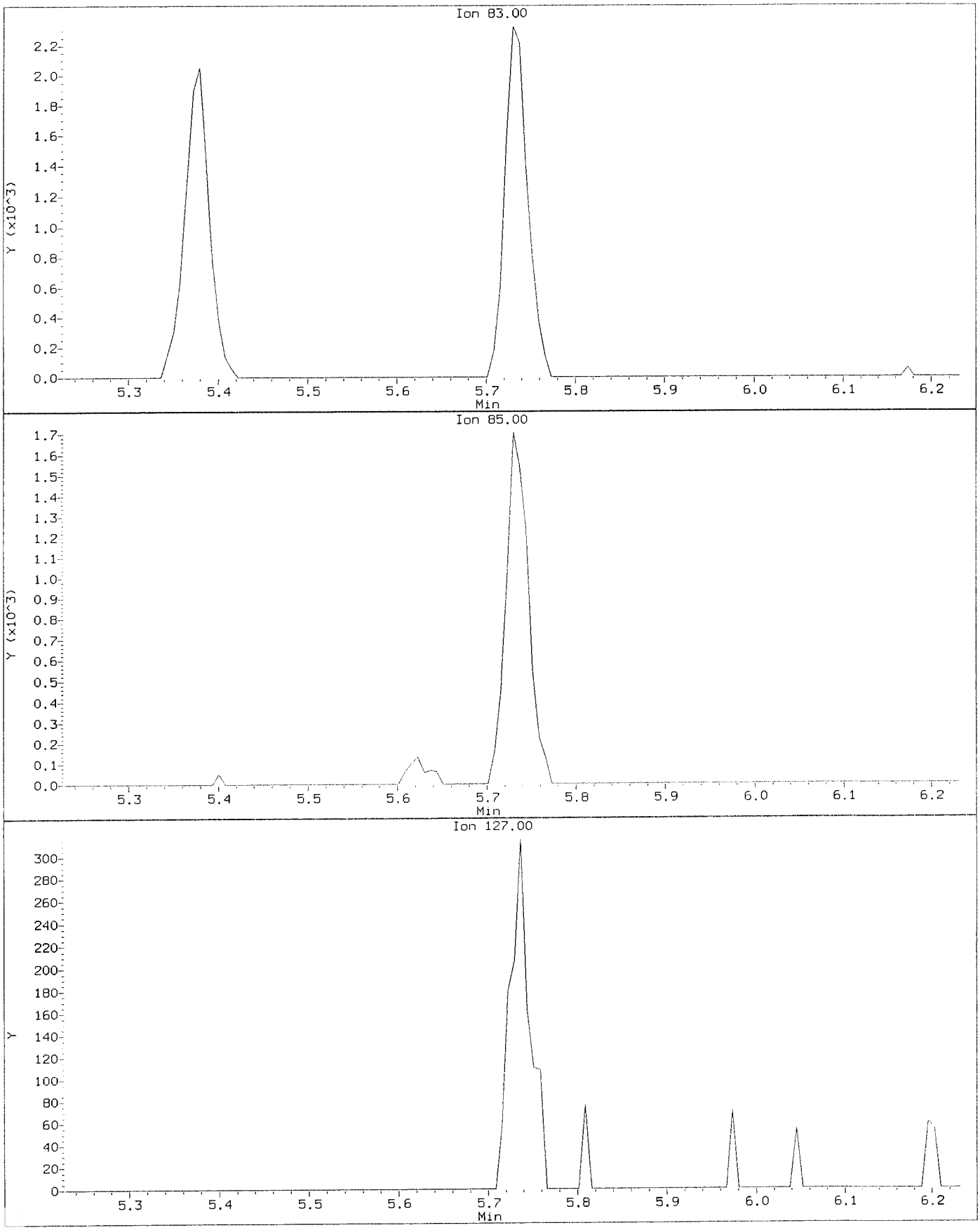
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4



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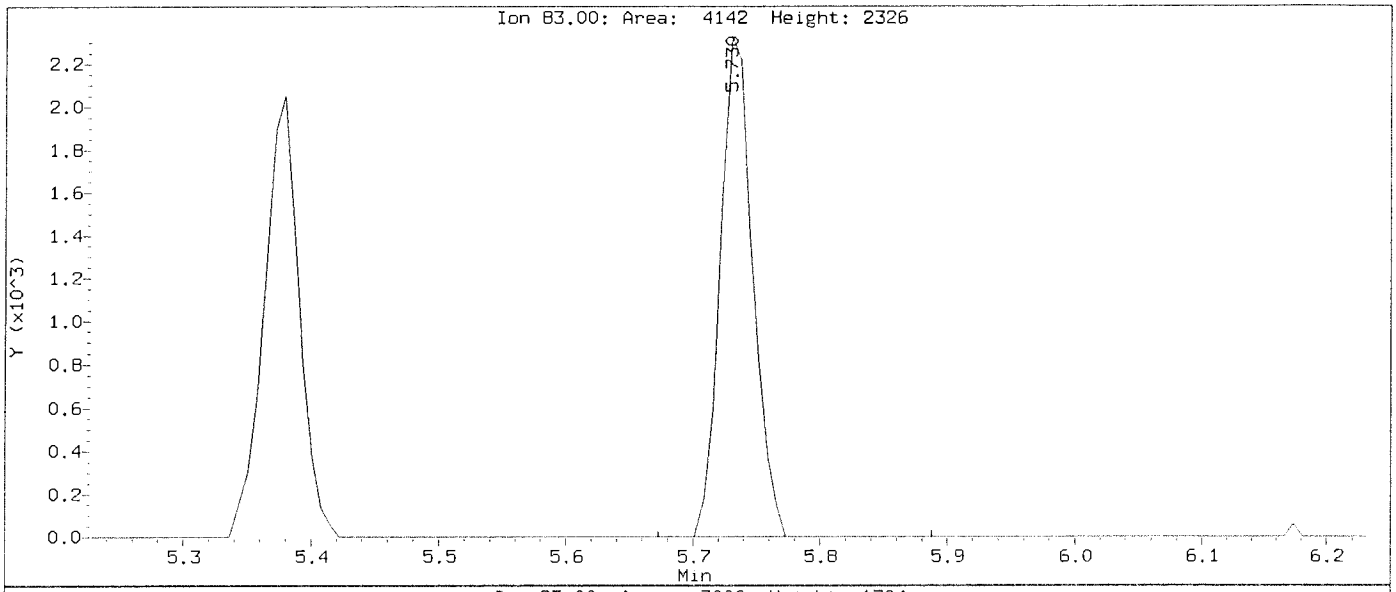
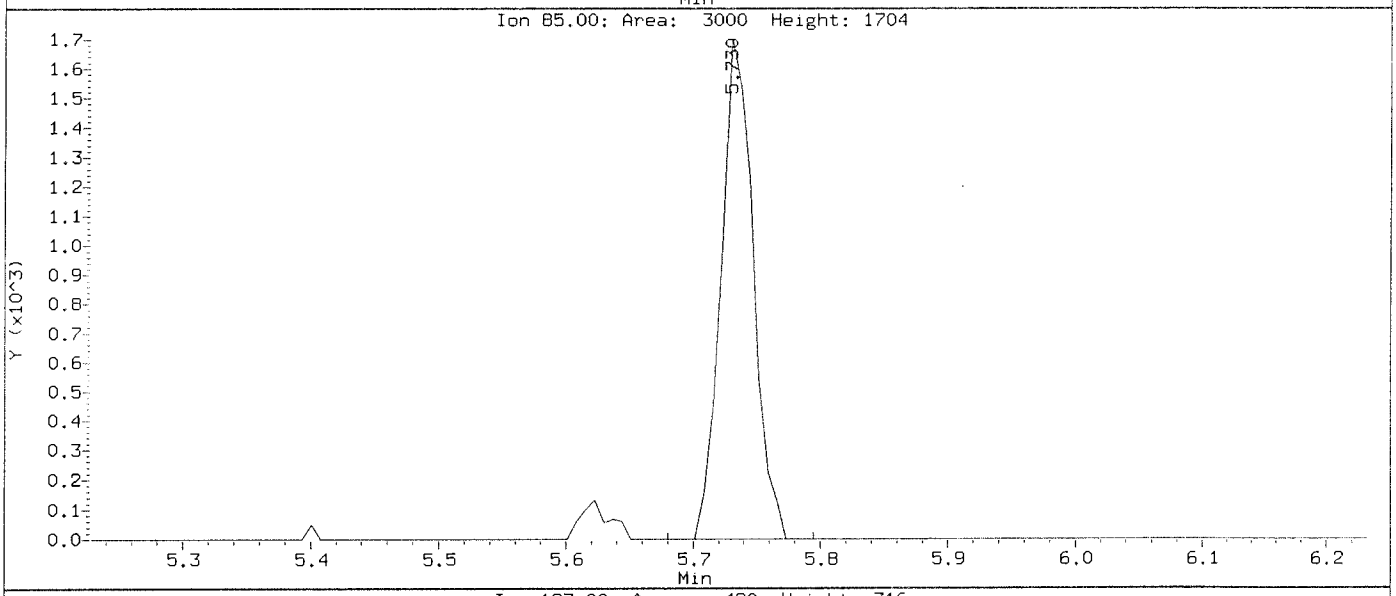
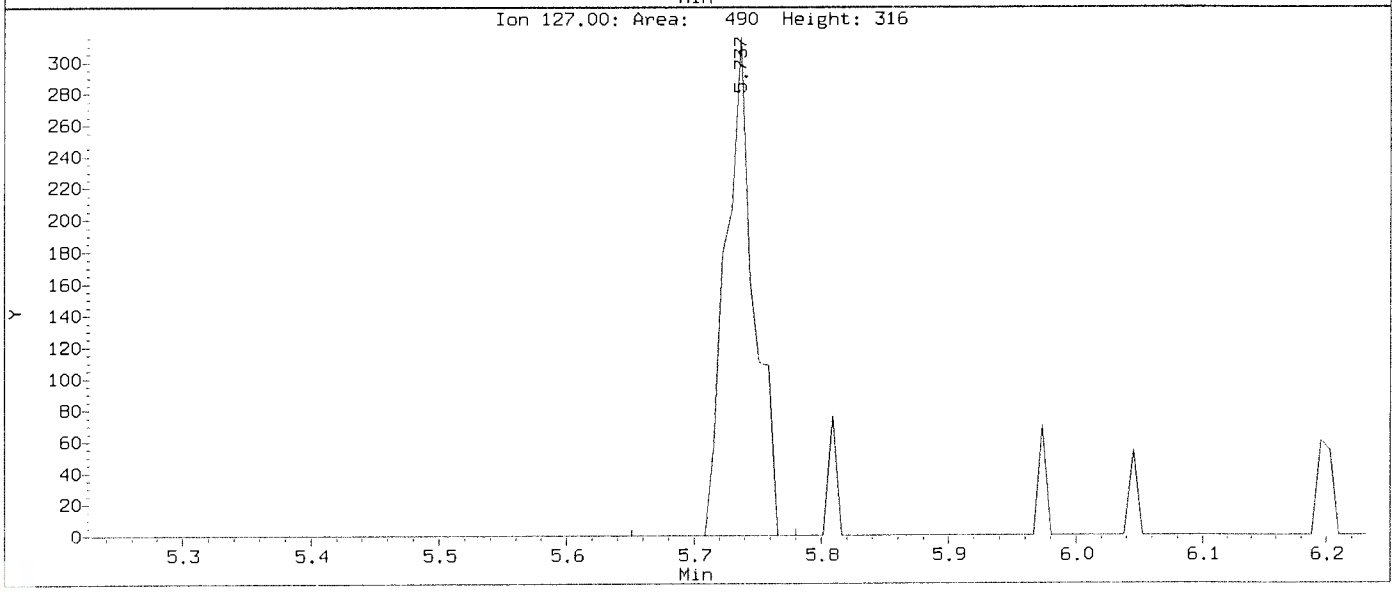
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4







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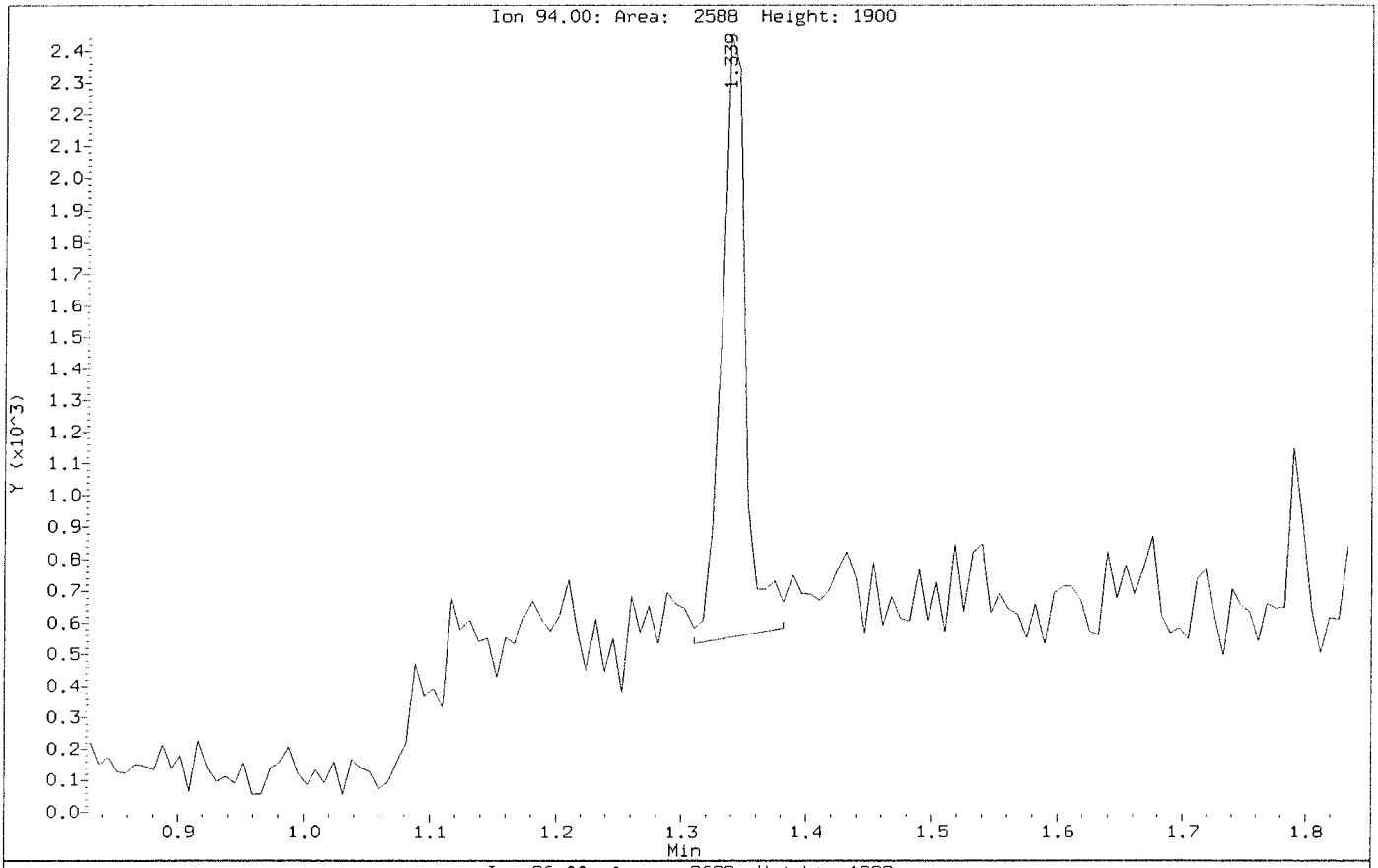
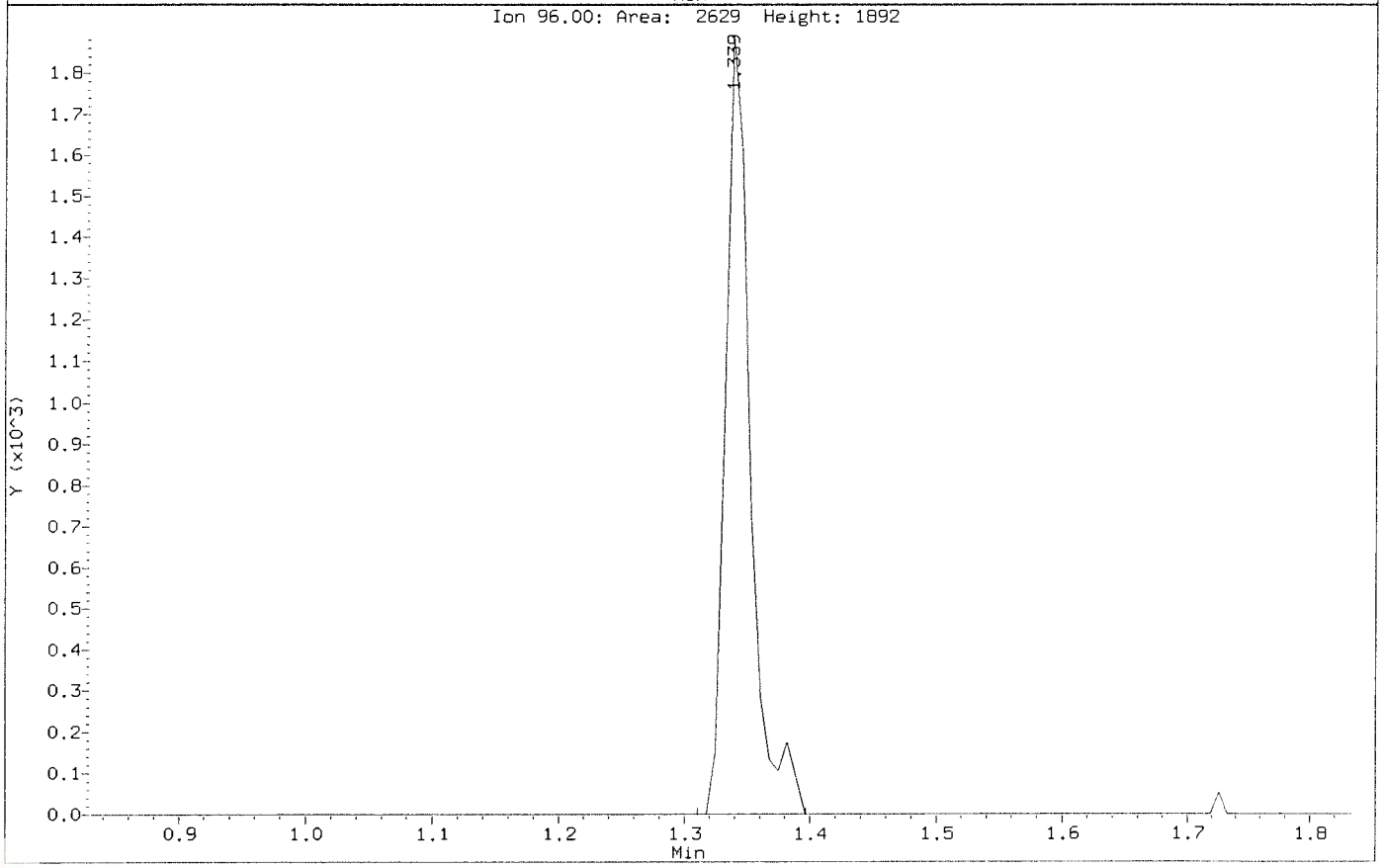
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromomethane
CAS Number: 74-83-9





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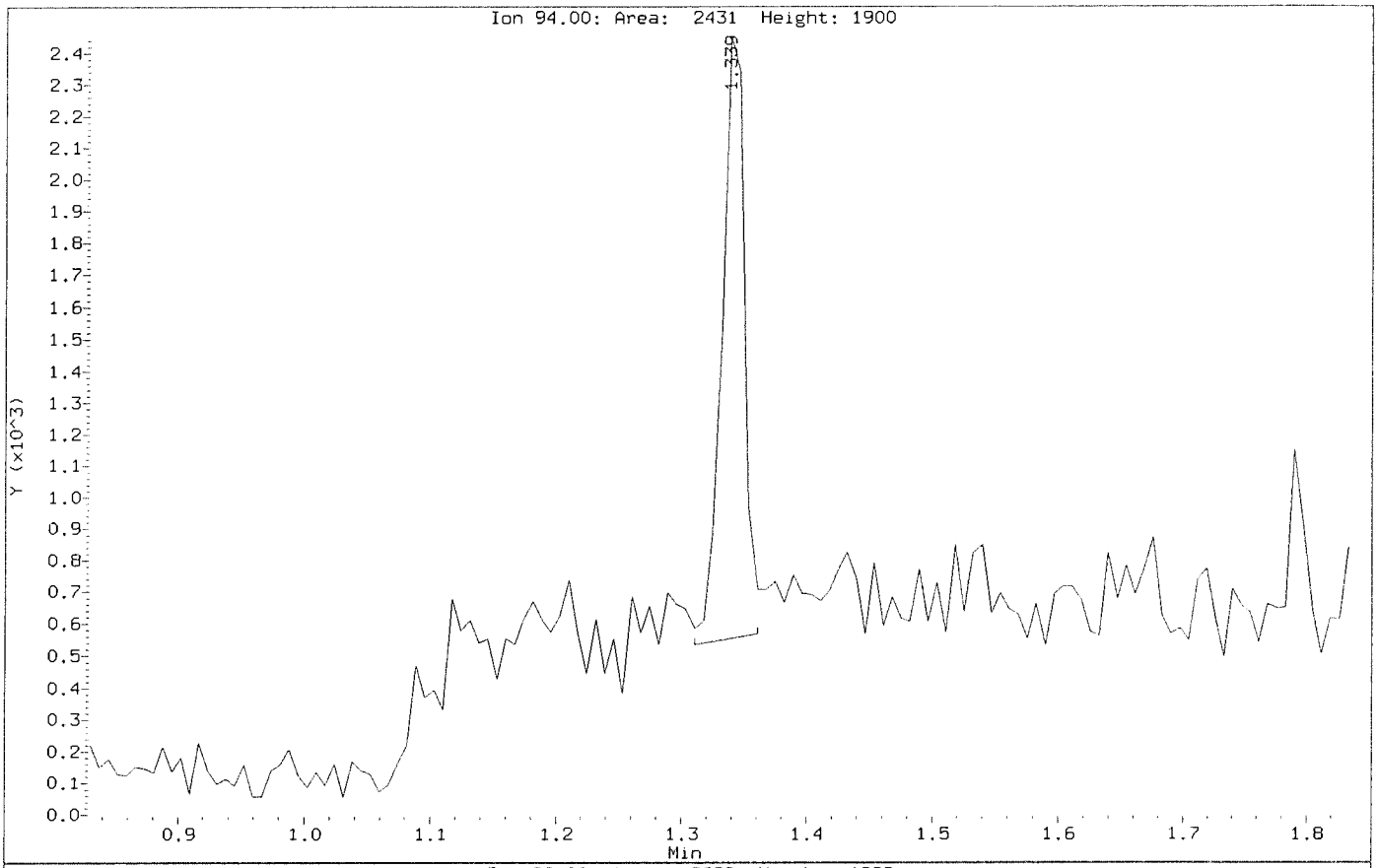
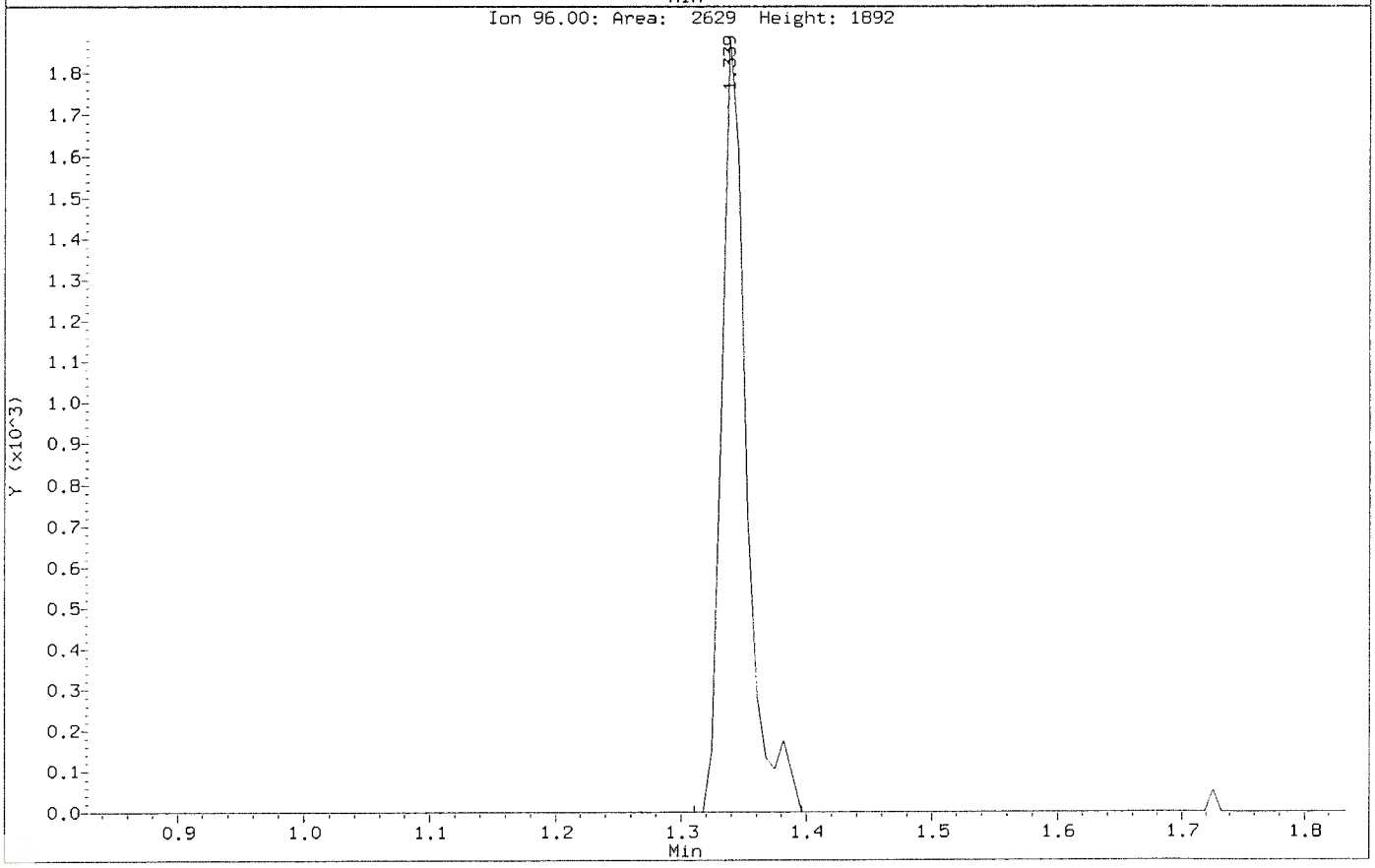
Client Sample ID: VSTD001

Compound: Bromomethane
CAS Number: 74-83-9





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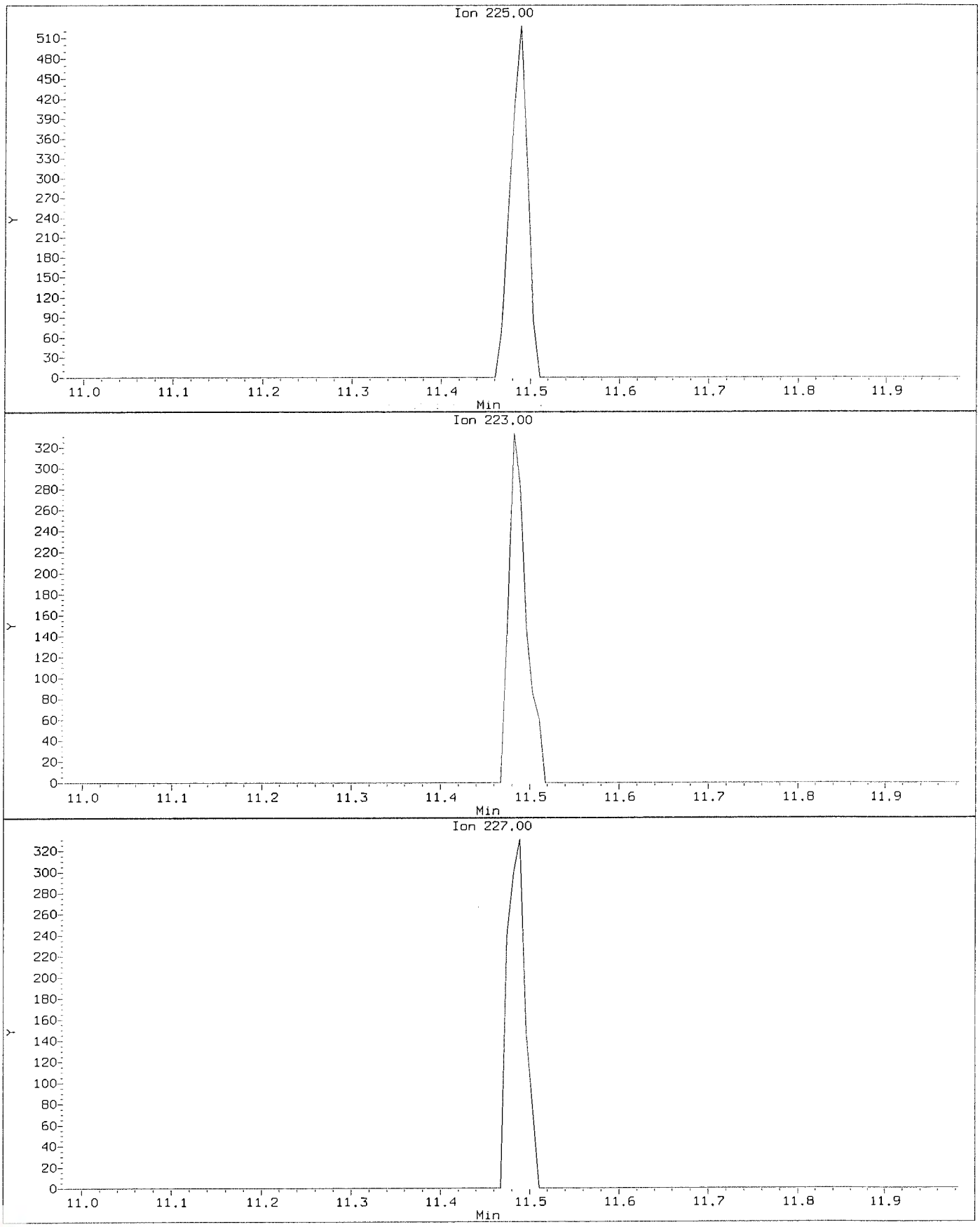
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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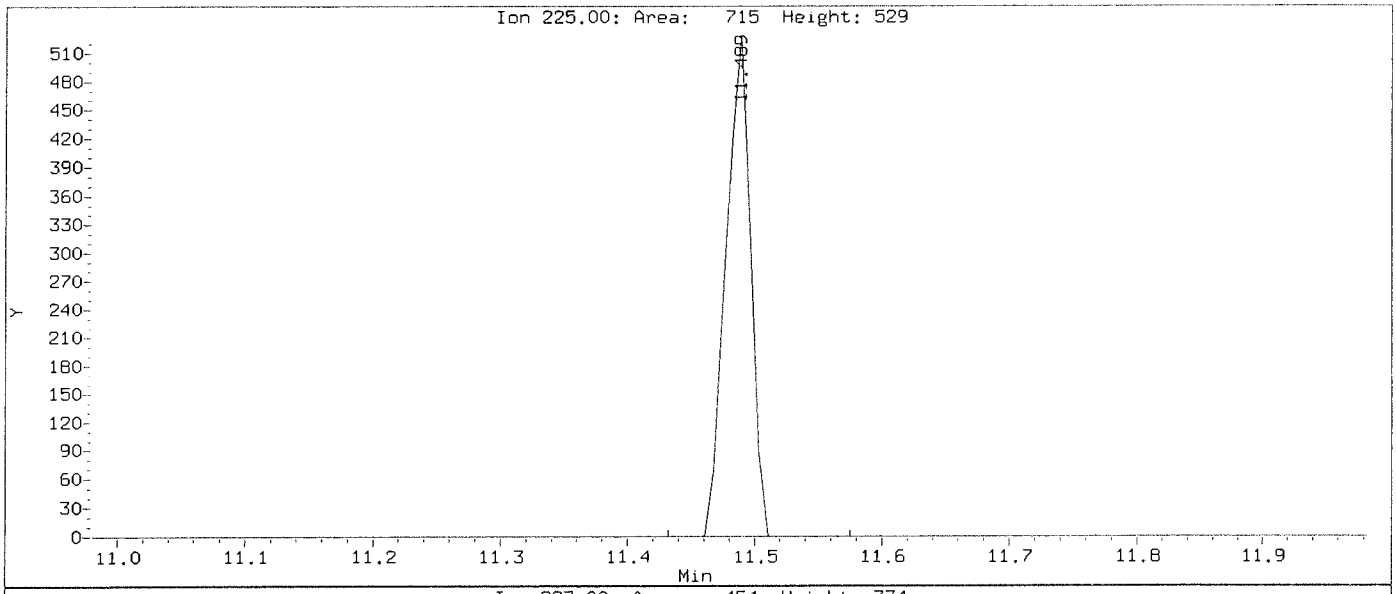
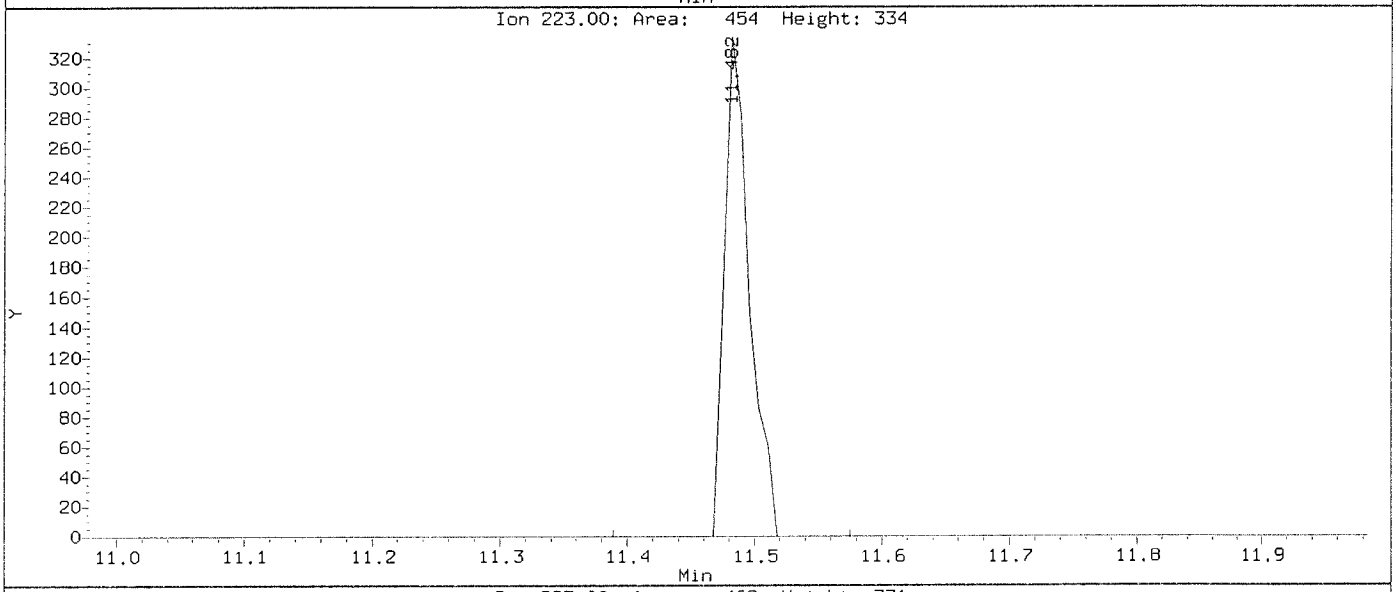
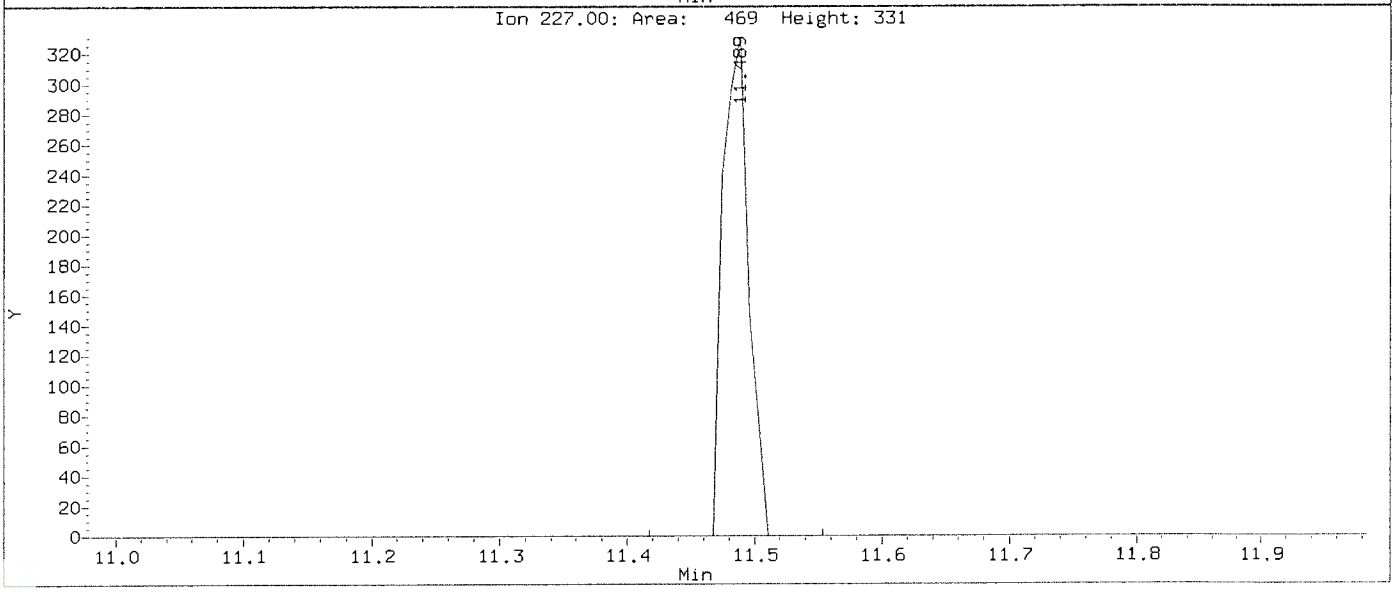
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Hexachlorobutadiene
CAS Number: 87-68-3







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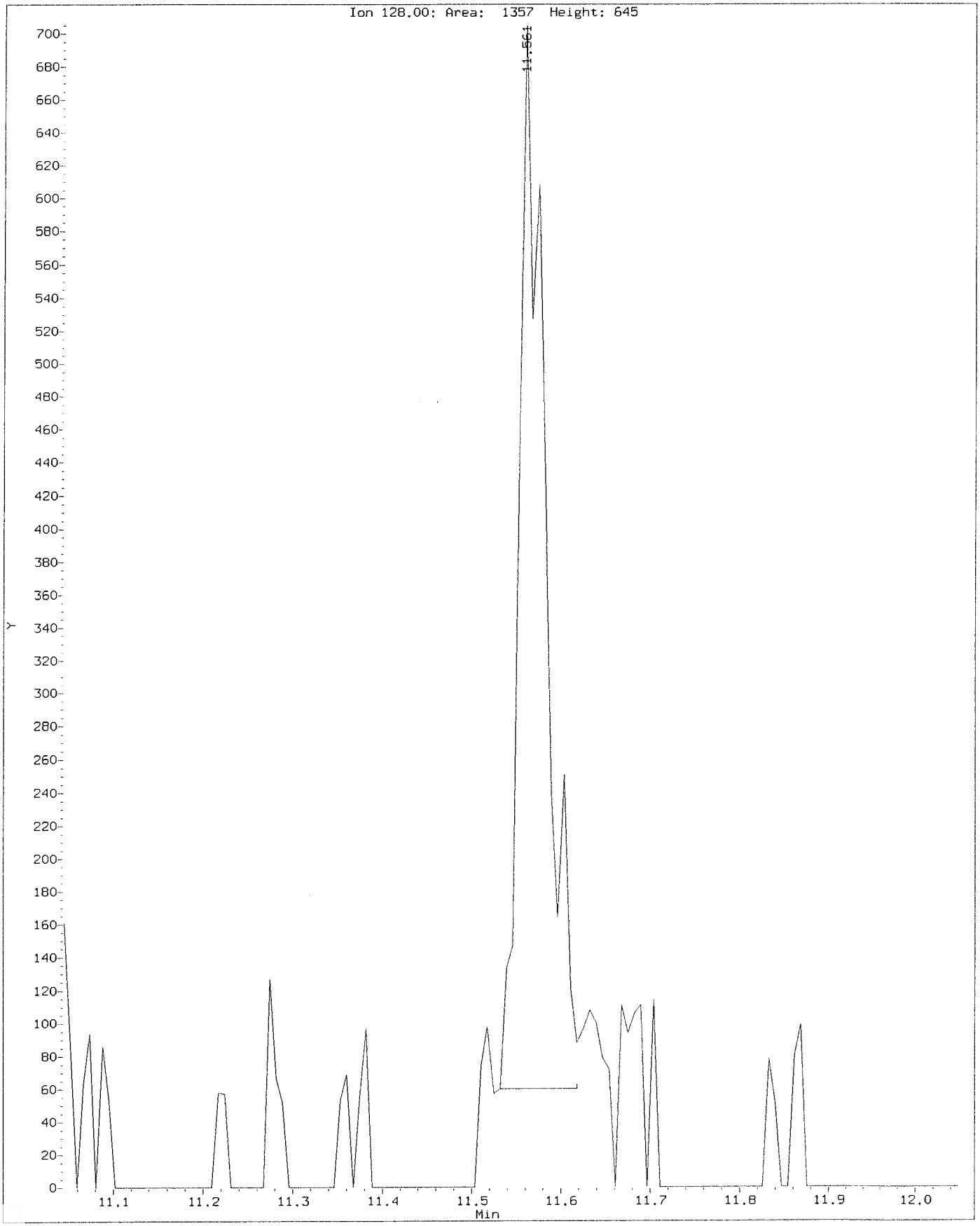
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Naphthalene
CAS Number: 91-20-3



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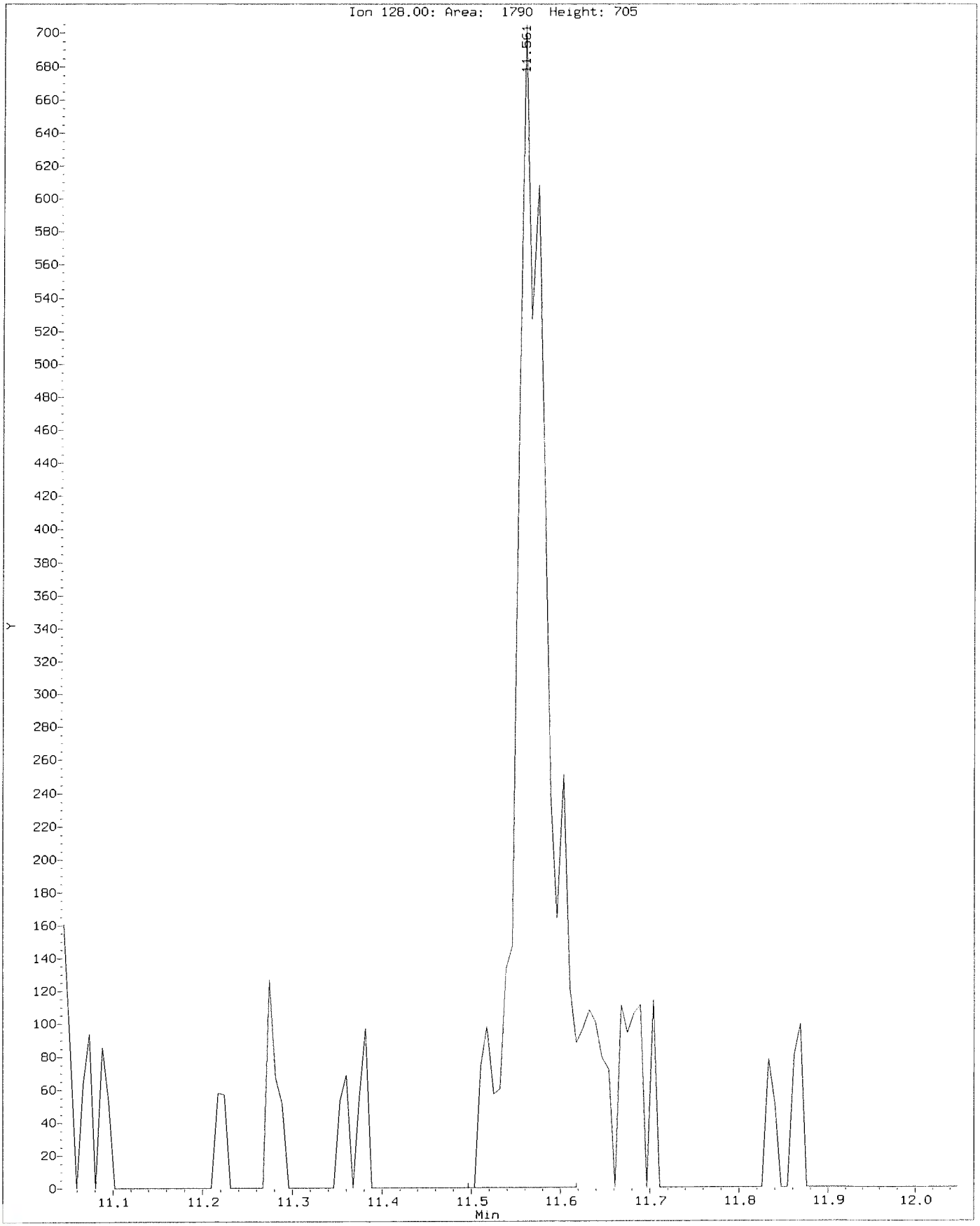
Injection Date: 19-JUN-2020 12:42
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Naphthalene
CAS Number: 91-20-3



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200619.b\X061905.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 19-JUN-2020 13:06
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200619.b\8260W.m
Meth Date : 09-Jul-2020 09:58 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 13:06 Cal File: X061905.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	4.189	(1.000)	223525	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	430493	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	397296	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	177042	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	6139	2.00000	2.14(a)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	9197	2.00000	1.60(a)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	20643	2.00000	2.08(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	8849	2.00000	2.18(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	5915	2.00000	2.04(a)
31 1,1,1-Trichloroethane	97	4.082	4.089	(0.974)	8196	2.00000	1.97(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	7509	2.00000	2.13(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	5285	2.00000	2.07(a)
22 1,1-Dichloroethane	63	2.929	2.921	(0.699)	13801	2.00000	1.98(a)
11 1,1-Dichloroethene	96	1.919	1.911	(0.458)	4769	2.00000	2.18(a)
32 1,1-Dichloropropene	75	4.290	4.282	(0.863)	7742	2.00000	1.99(a)
93 1,2,3-Trichlorobenzene	180	11.753	11.746	(1.216)	1037	2.00000	0.30(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	6910	2.00000	2.11(aM)
90 1,2,4-Trichlorobenzene	180	11.352	11.338	(1.174)	1872	2.00000	1.04(aM)
79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	19042	2.00000	1.97(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	659	2.00000	2.28(a)
57 1,2-Dibromoethane	107	7.269	7.262	(0.948)	6790	2.00000	2.16(a)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	10189	2.00000	2.12(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	11954	2.00000	2.11(a)

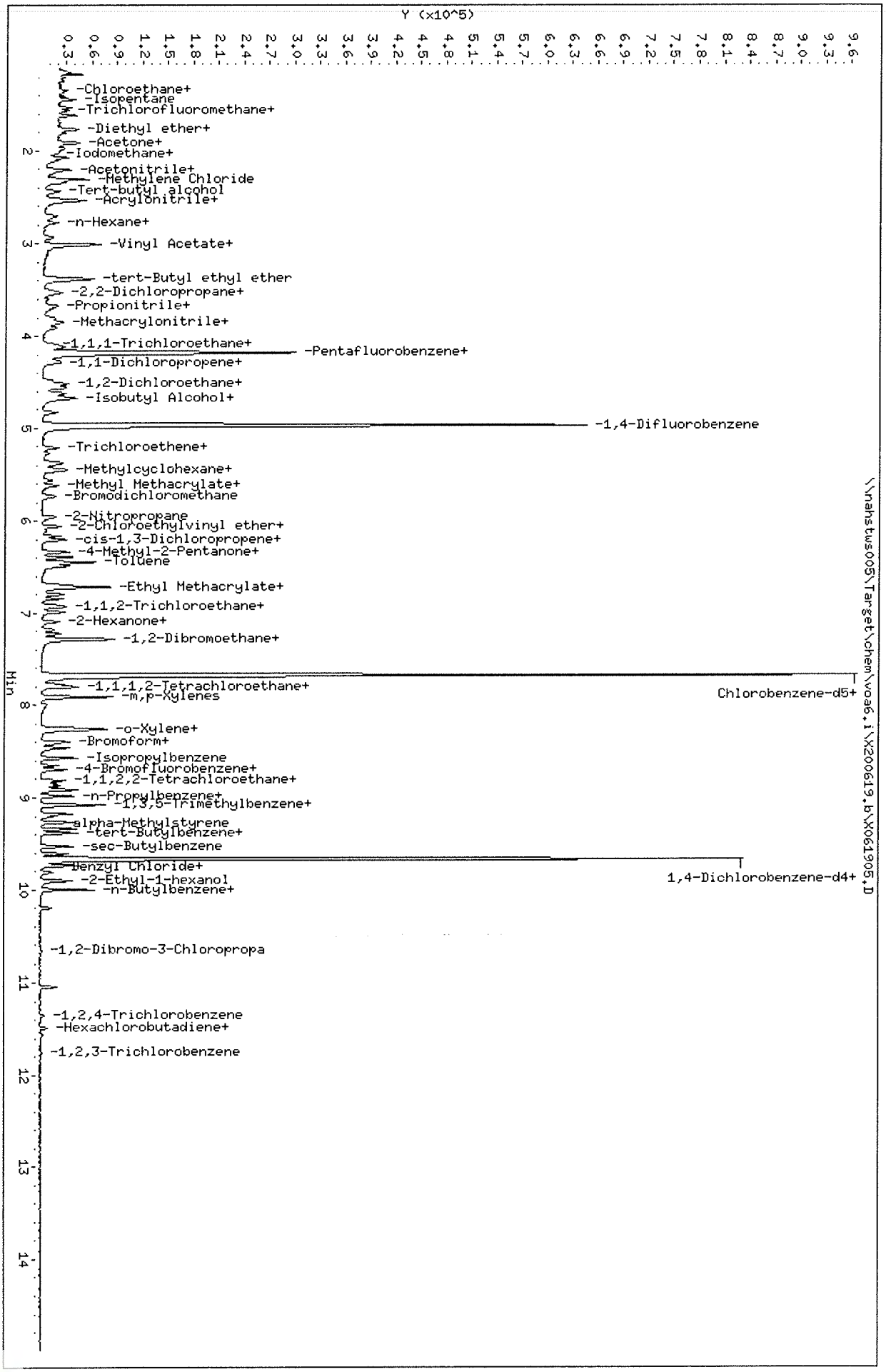
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42 1,2-Dichloropropane	63	5.436	5.443	(1.094)	7496	2.00000	1.84(aM)
75 1,3,5-Trimethylbenzene	105	9.074	9.075	(0.939)	18329	2.00000	2.01(a)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	10726	2.00000	2.03(a)
54 1,3-Dichloropropane	76	6.990	6.983	(0.911)	10892	2.00000	2.03(a)
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	11094	2.00000	2.06(a)
26 2,2-Dichloropropane	77	3.516	3.516	(0.839)	9579	2.00000	2.20(a)
24 2-Butanone	43	3.602	3.580	(0.860)	8300	4.00000	2.44(a)
76 2-Chlorotoluene	91	8.981	8.981	(0.929)	18492	2.00000	2.19(a)
52 2-Hexanone	43	7.097	7.090	(0.925)	16198	4.00000	3.94(a)
77 4-Chlorotoluene	91	9.074	9.075	(0.939)	19584	2.00000	2.00(a)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	16774	2.00000	1.92(a)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	23589	4.00000	3.93(a)
10 Acetone	43	1.976	1.976	(0.472)	9014	4.00000	2.58(a)
37 Benzene	78	4.519	4.519	(0.909)	23799	2.00000	1.97(a)
74 Bromobenzene	156	8.809	8.809	(0.911)	7018	2.00000	2.11(a)
29 Bromochloromethane	128	3.802	3.795	(0.908)	3782	2.00000	2.20(a)
39 Bromodichloromethane	83	5.729	5.729	(1.153)	8770	2.00000	2.00(a)
66 Bromoform	173	8.415	8.416	(1.097)	4039	2.00000	1.90(Ta)
6 Bromomethane	94	1.338	1.331	(0.320)	4643	2.00000	2.21(aM)
19 Carbon Disulfide	76	2.069	2.069	(0.494)	30171	4.00000	4.20(a)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	8033	2.00000	2.14(aH)
59 Chlorobenzene	112	7.699	7.699	(1.004)	16287	2.00000	2.11(a)
7 Chloroethane	64	1.403	1.396	(0.335)	4545	2.00000	1.91(a)
28 Chloroform	83	3.917	3.910	(0.935)	11482	2.00000	2.09(a)
3 Chloromethane	50	1.081	1.081	(0.258)	12004	2.00000	2.14(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	6582	2.00000	2.04(a)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	10377	2.00000	1.98(a)
55 Dibromochloromethane	129	7.183	7.183	(0.937)	6386	2.00000	2.00(a)
44 Dibromomethane	93	5.557	5.557	(1.118)	4661	2.00000	2.06(a)
2 Dichlorodifluoromethane	85	0.973	0.973	(0.232)	5236	2.00000	2.58(a)
61 Ethylbenzene	106	7.807	7.807	(1.018)	7960	2.00000	2.02(a)
91 Hexachlorobutadiene	225	11.488	11.481	(1.188)	1548	2.00000	0.80(a)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	22491	2.00000	2.03(a)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	19374	4.00000	4.21(a)
17 Methylene Chloride	84	2.305	2.305	(0.550)	9989	2.00000	1.16(a)
87 n-Butylbenzene	91	9.999	9.999	(1.034)	15661	2.00000	1.99(a)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	26513	2.00000	2.03(a)
92 Naphthalene	128	11.553	11.546	(1.195)	3269	2.00000	1.20(aM)
63 o-Xylene	106	8.244	8.244	(1.075)	9559	2.00000	2.04(a)
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	20810	2.00000	2.05(a)
64 Styrene	104	8.265	8.265	(1.078)	17087	2.00000	2.06(a)
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	15013	2.00000	2.09(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	4352	2.00000	2.11(a)
50 Toluene	91	6.453	6.453	(0.841)	24528	2.00000	2.07(a)
20 trans-1,2-Dichloroethene	96	2.535	2.527	(0.605)	5083	2.00000	2.00(a)
51 trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	9892	2.00000	2.03(a)
38 Trichloroethene	130	5.214	5.206	(1.049)	5856	2.00000	2.05(a)
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	7935	2.00000	1.99(a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	9412	2.00000	2.12(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.
H - Operator selected an alternate compound hit.

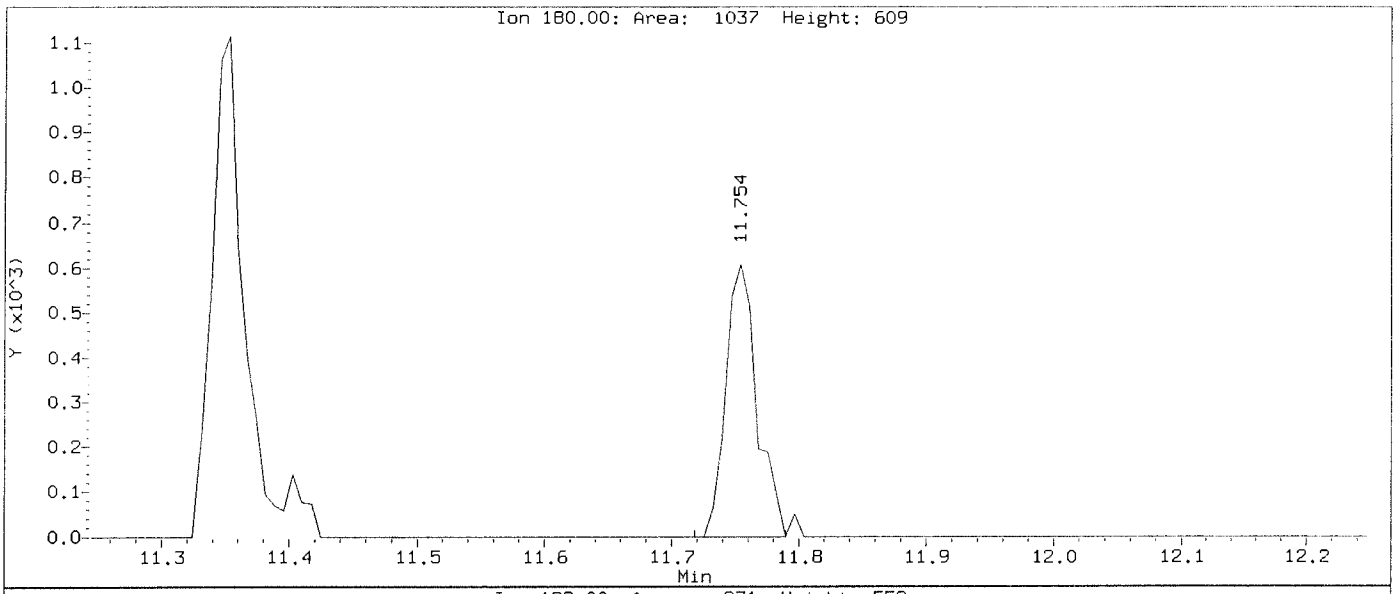


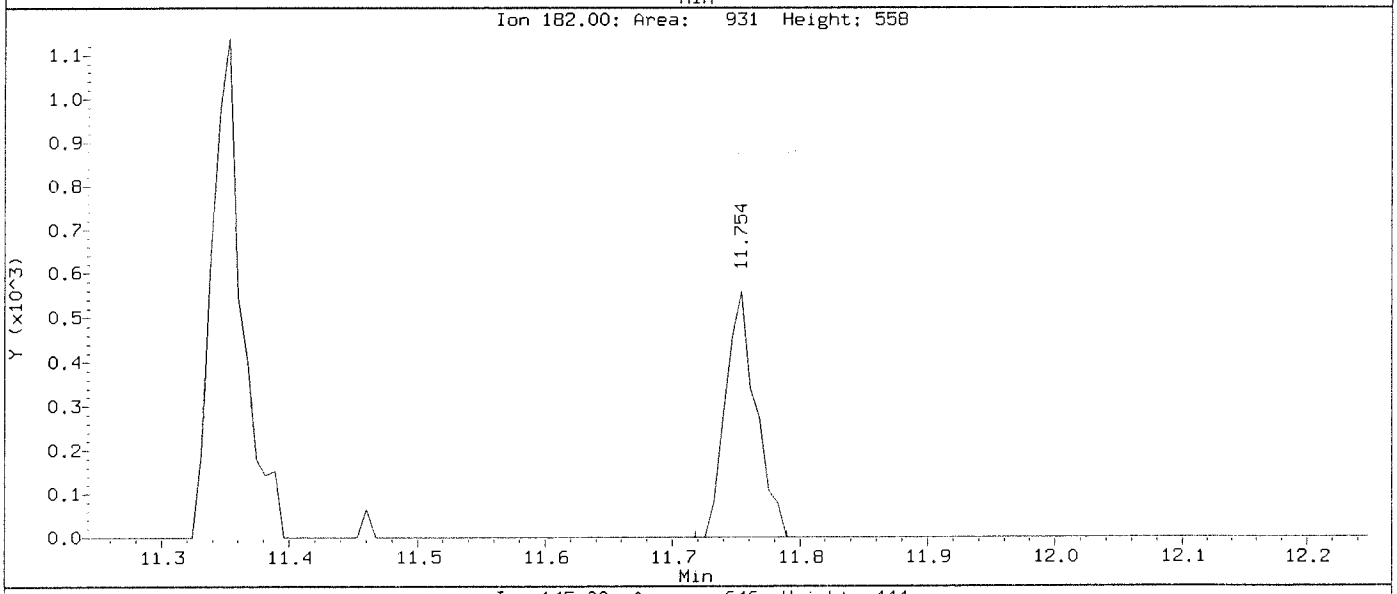
Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061905.D
Date : 19-JUN-2020 13:06
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

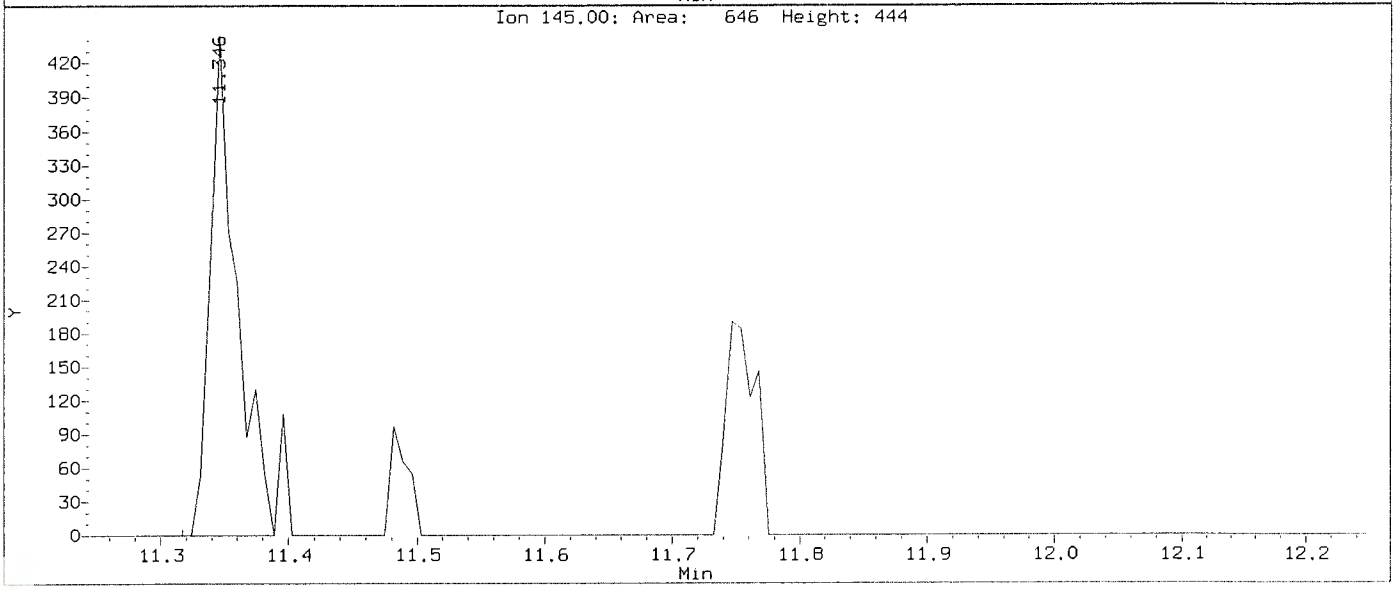
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061905.D
Injection Date: 19-JUN-2020 13:06
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6







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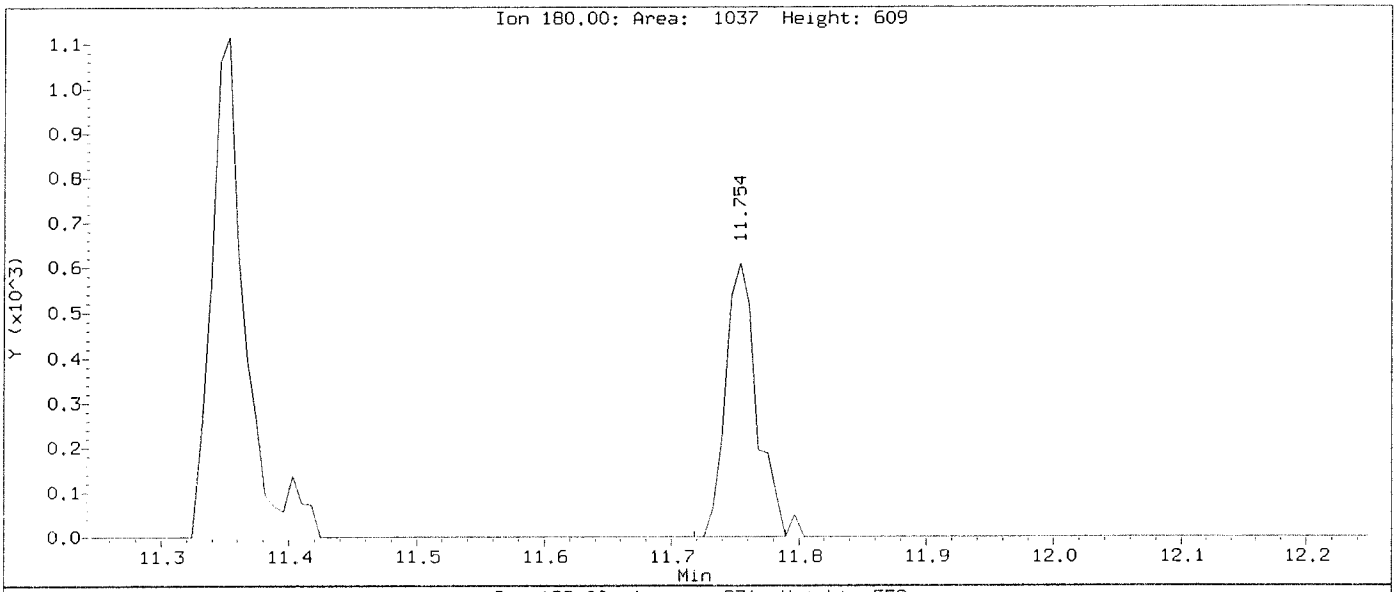
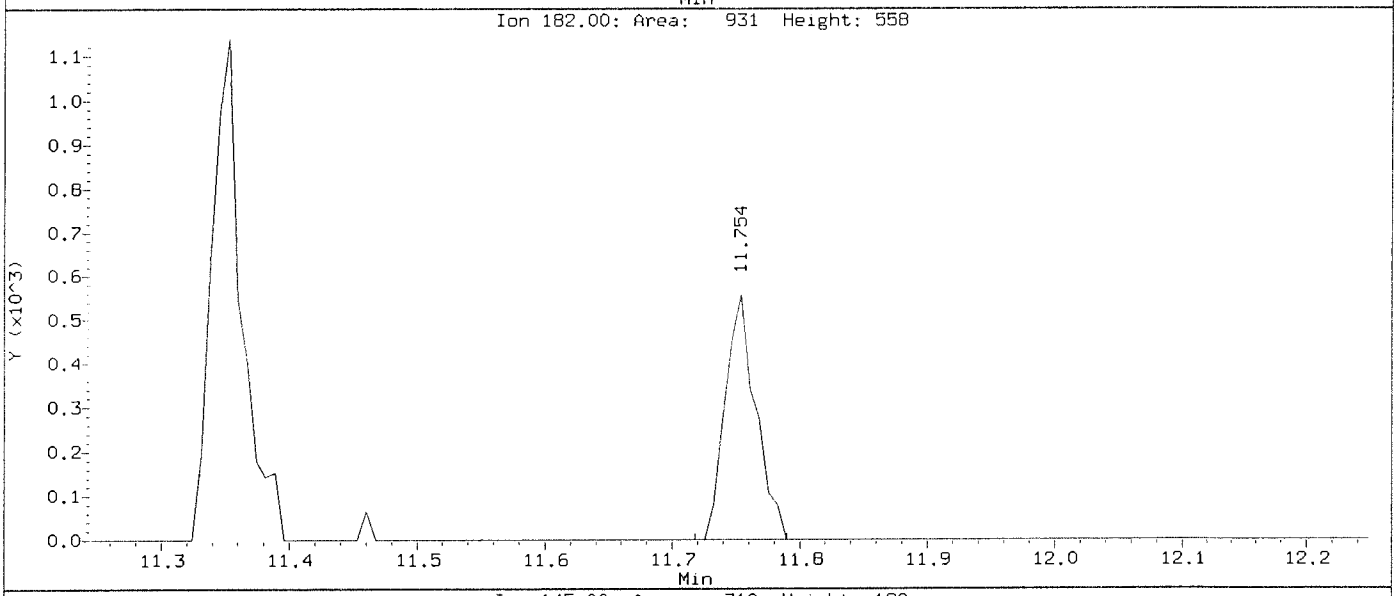
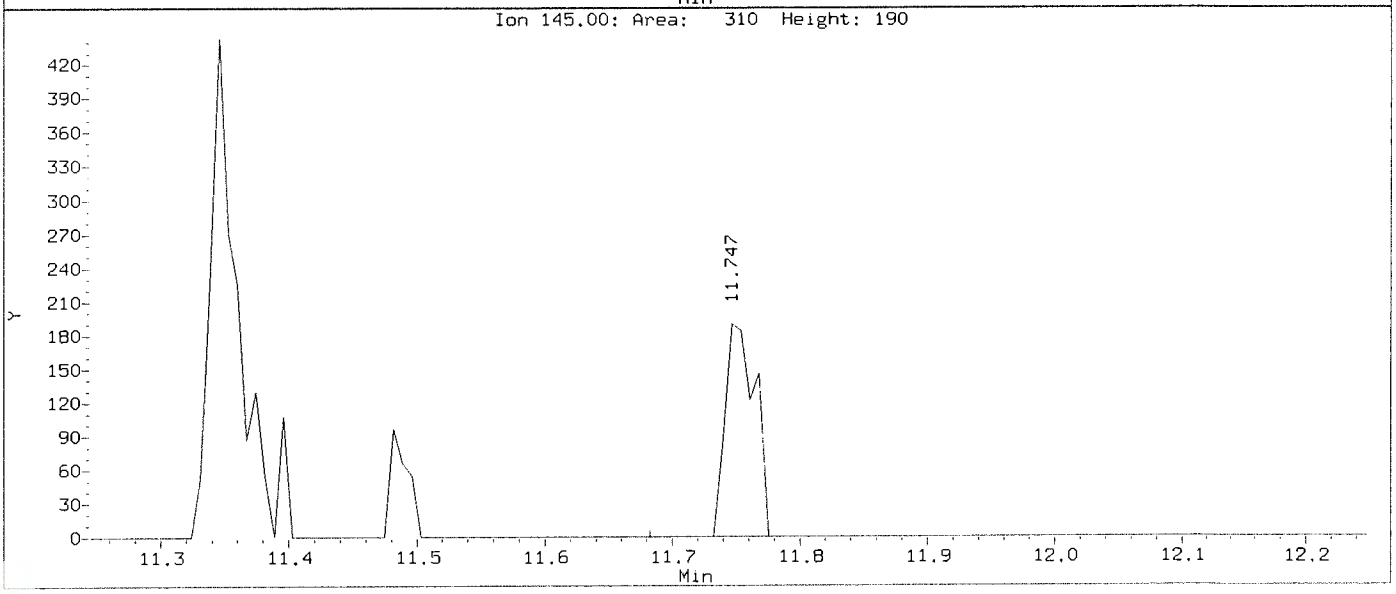
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6







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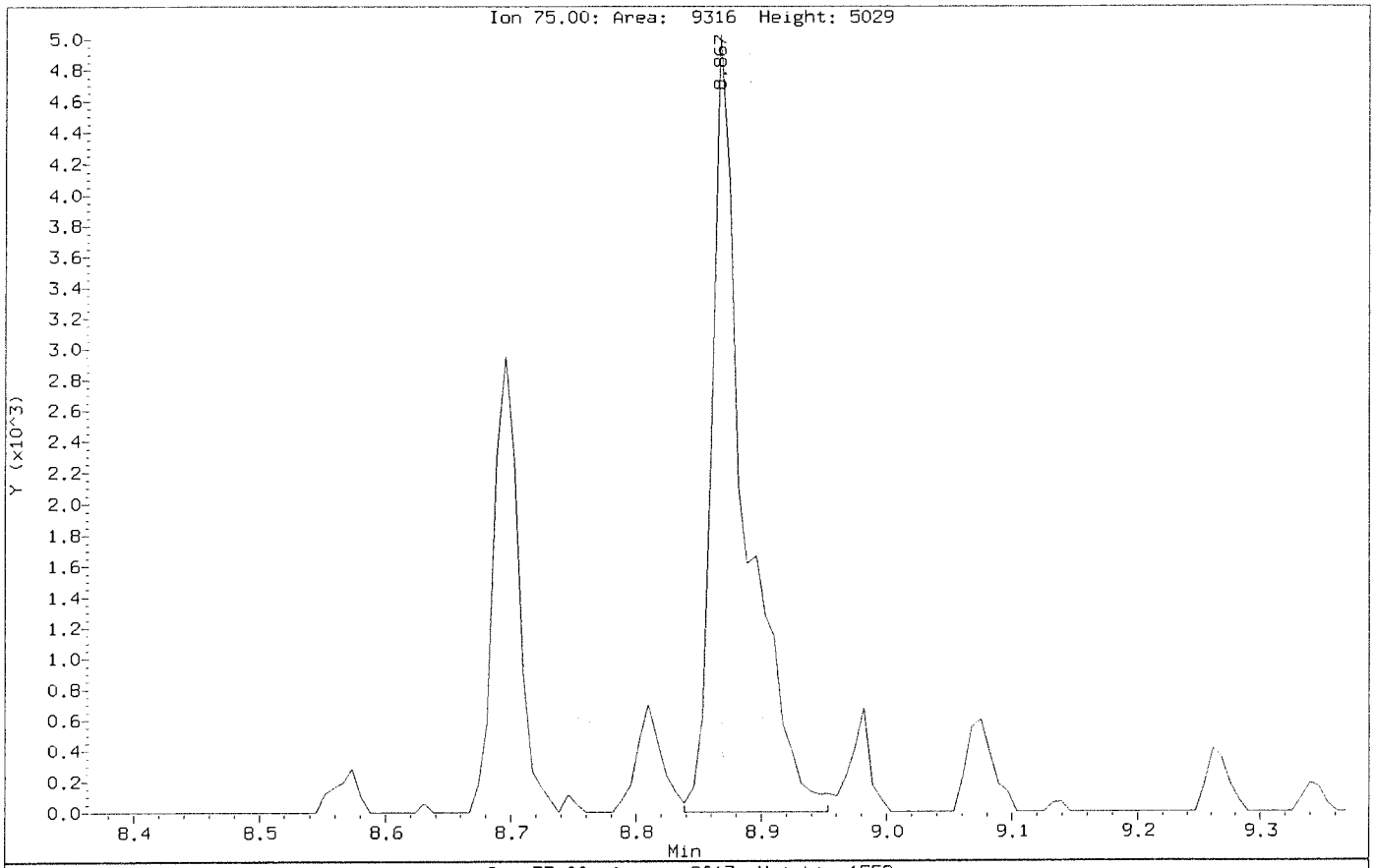
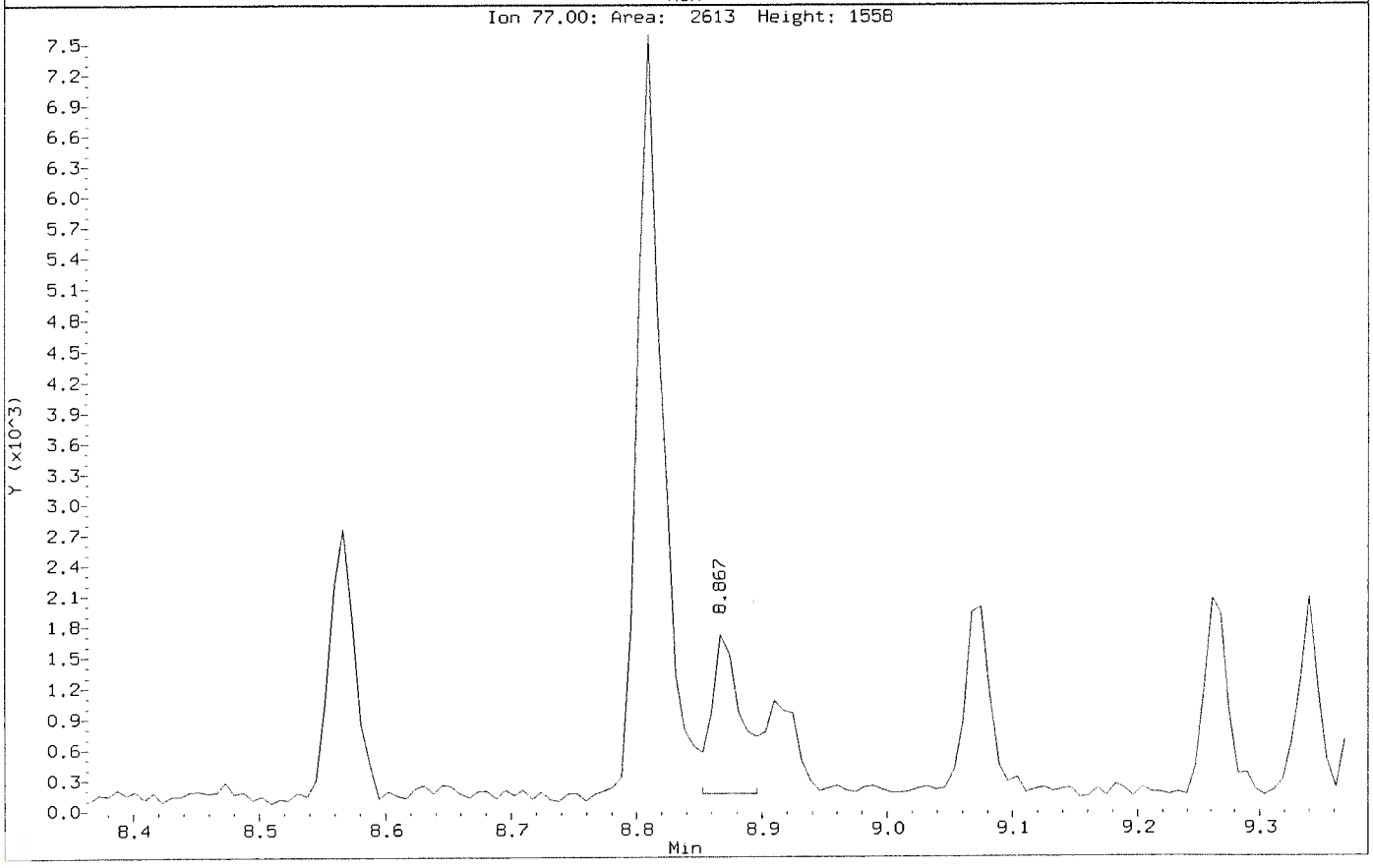
Injection Date: 19-JUN-2020 13:06
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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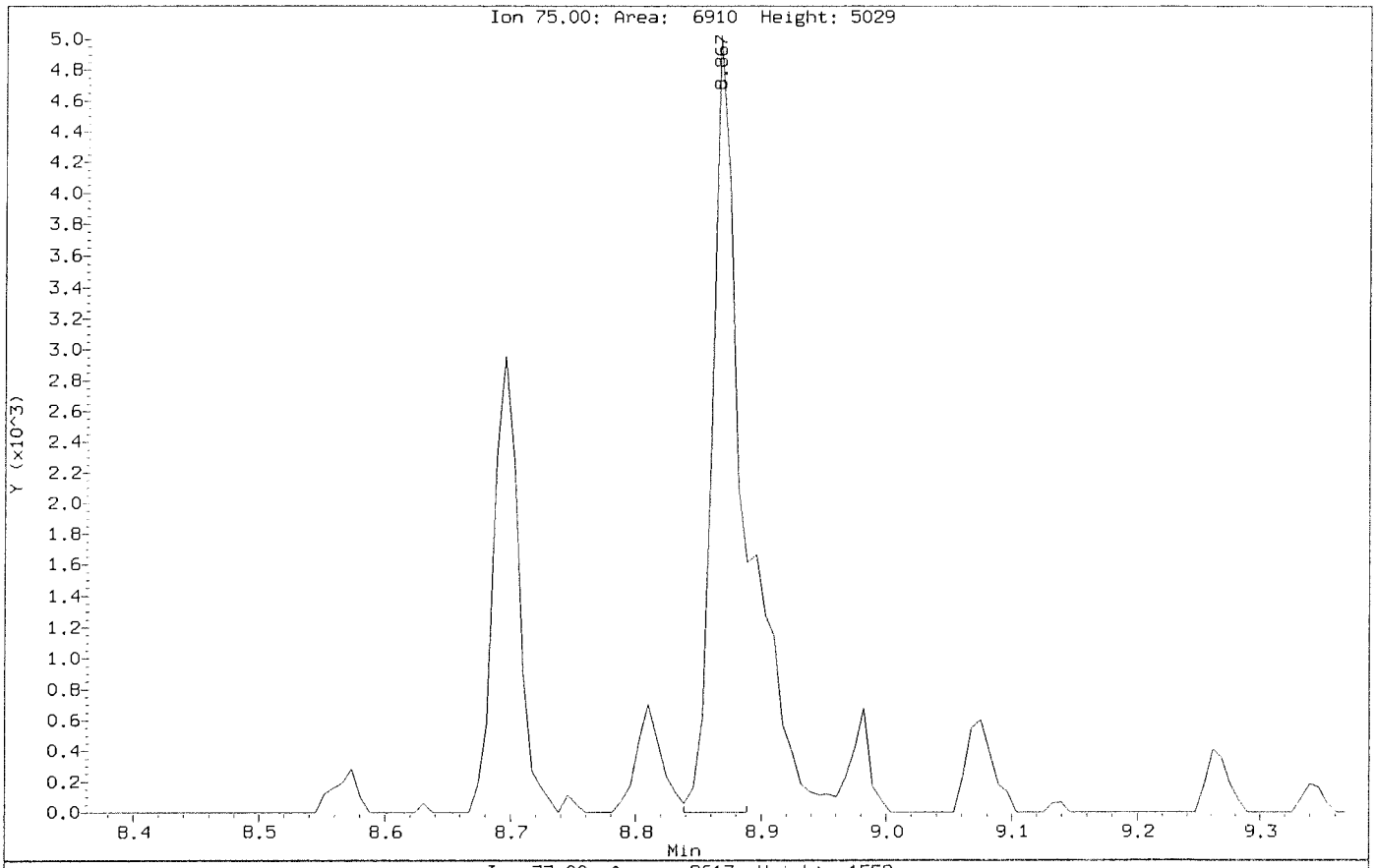
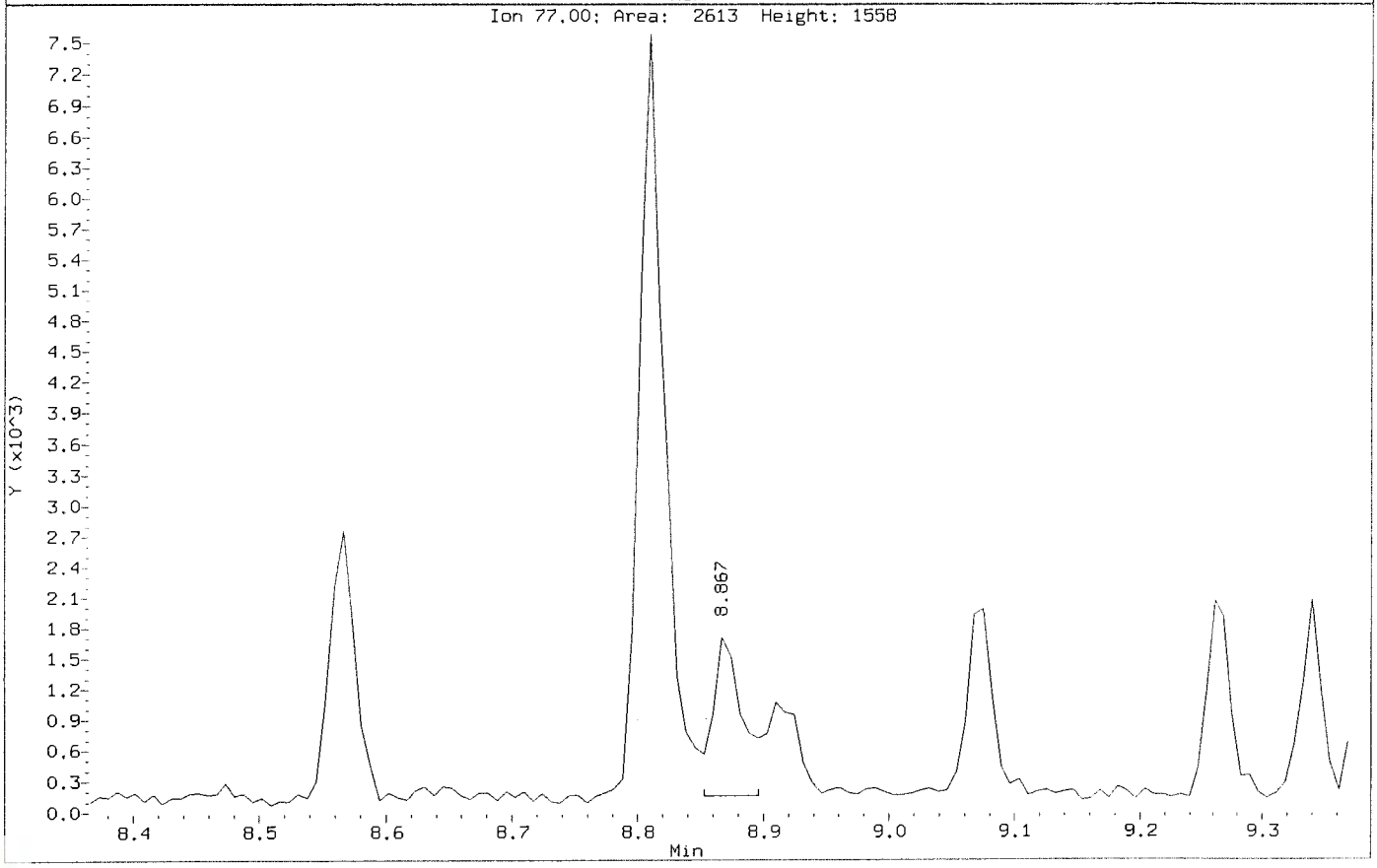
Injection Date: 19-JUN-2020 13:06
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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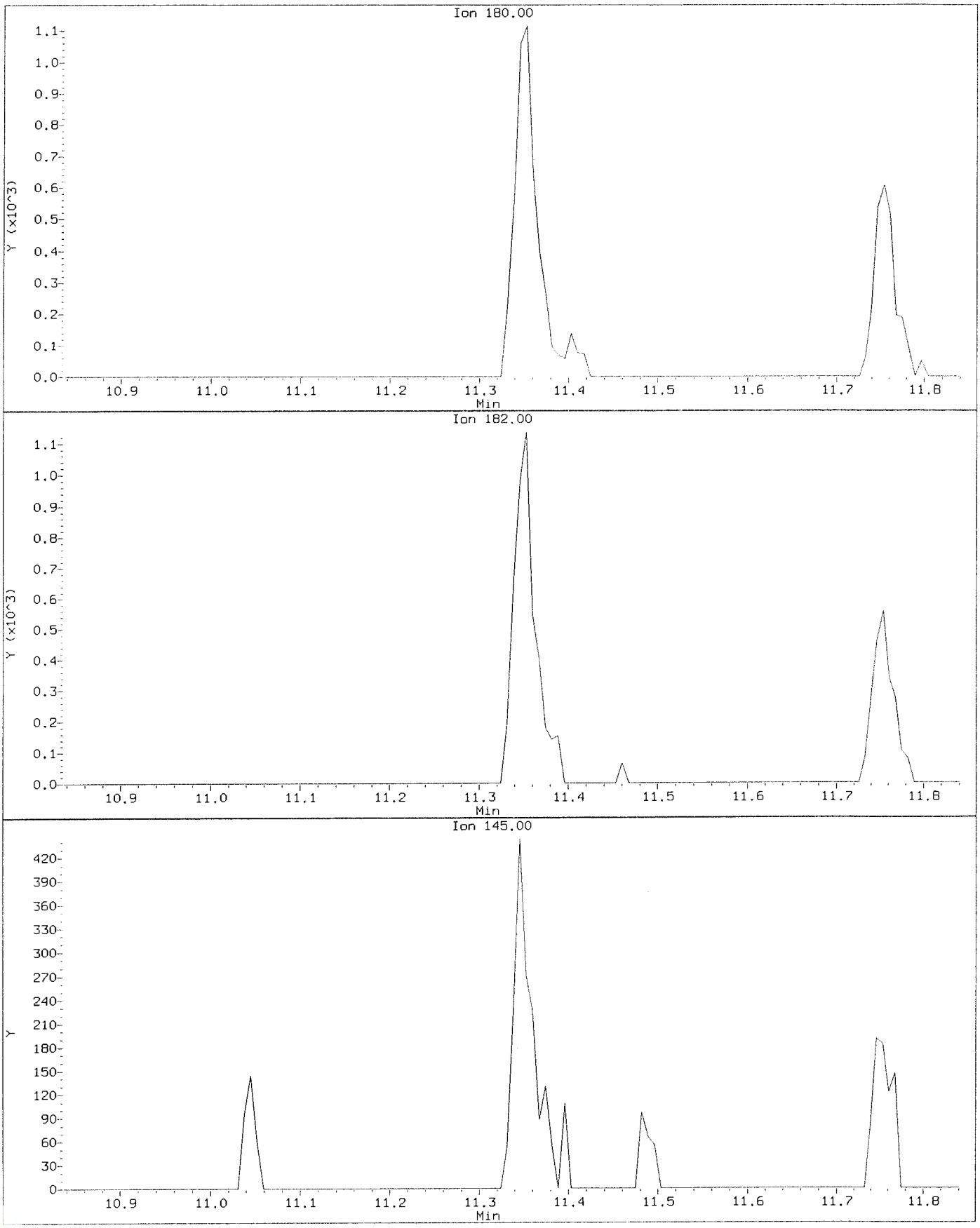
Injection Date: 19-JUN-2020 13:06
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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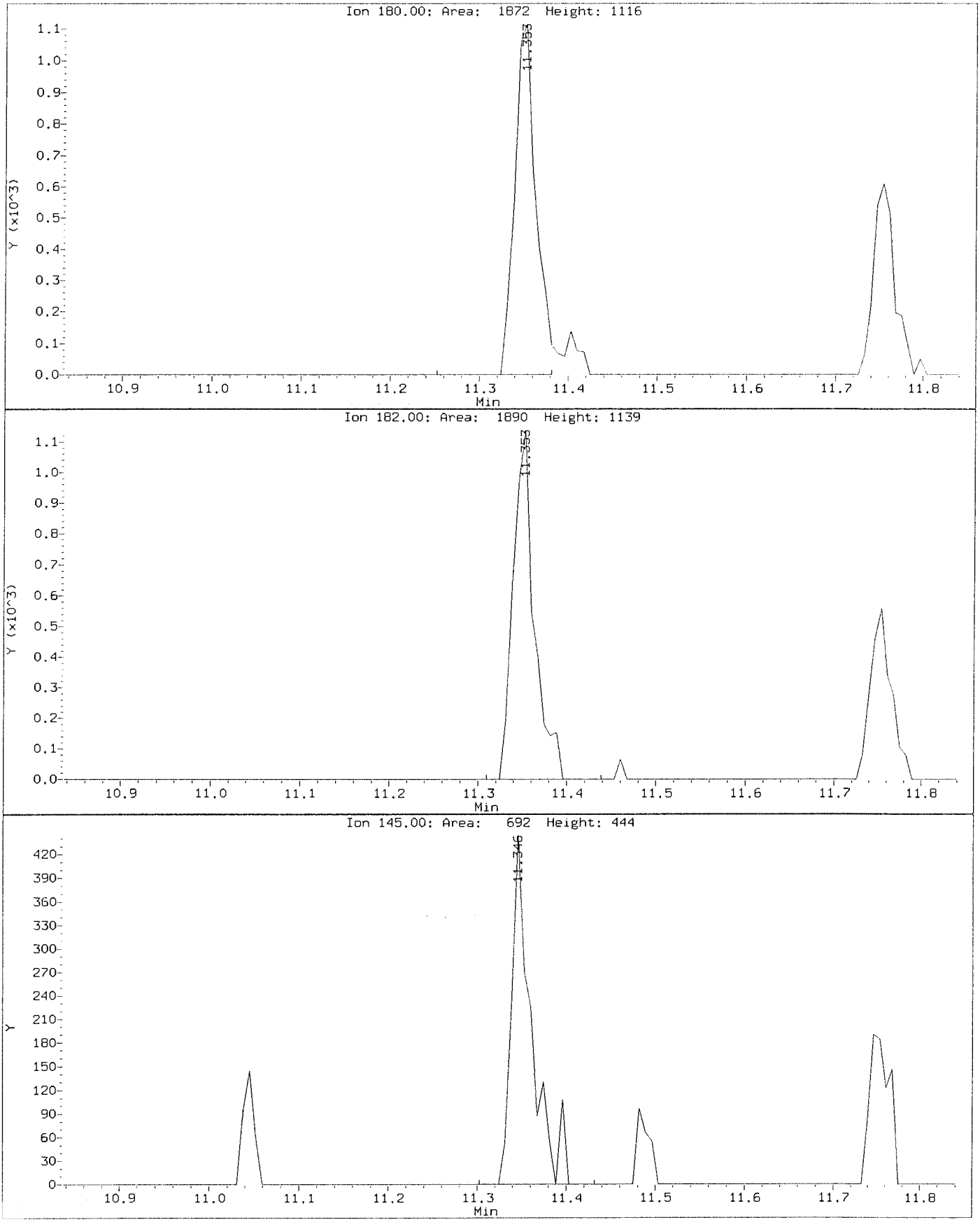
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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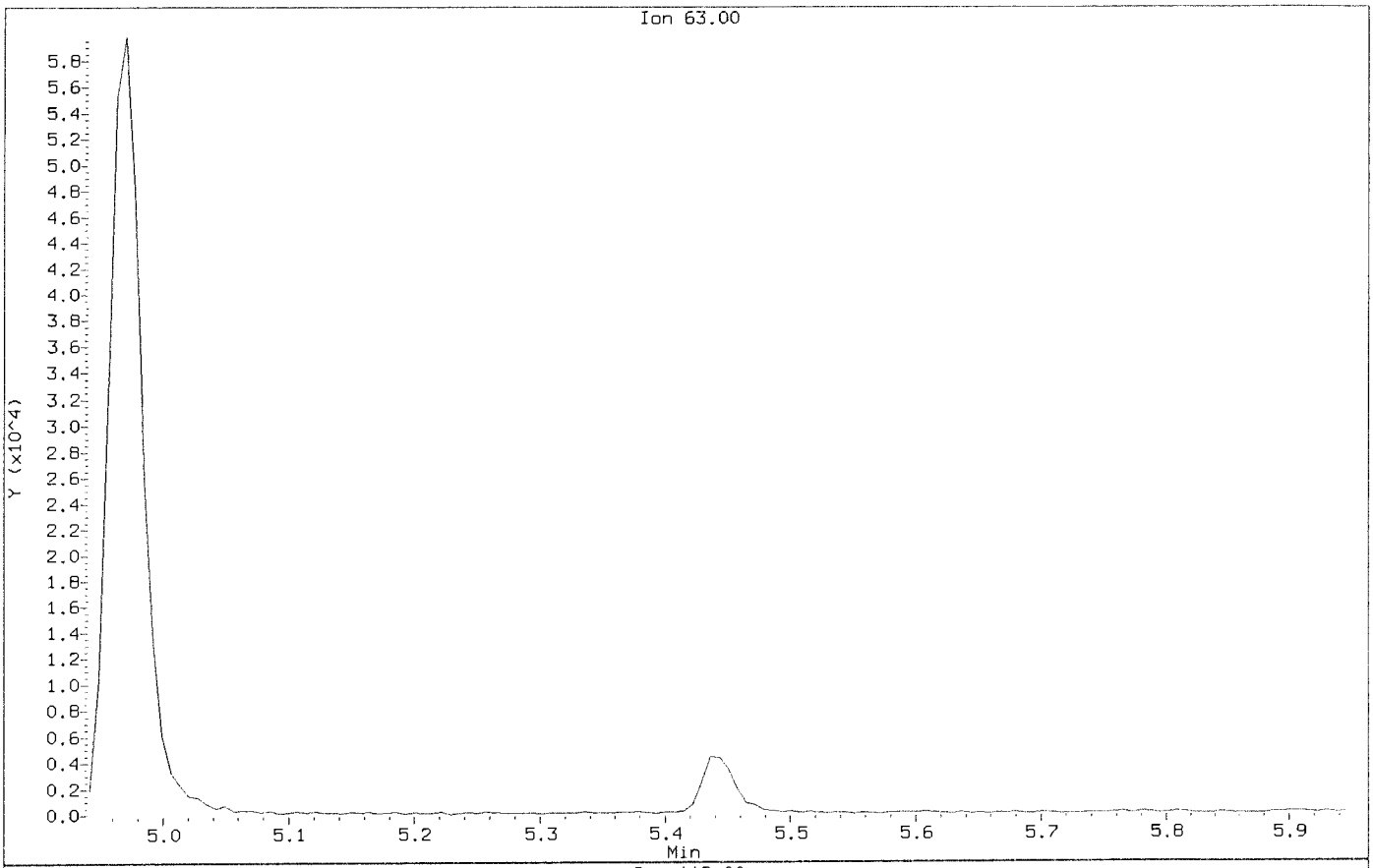
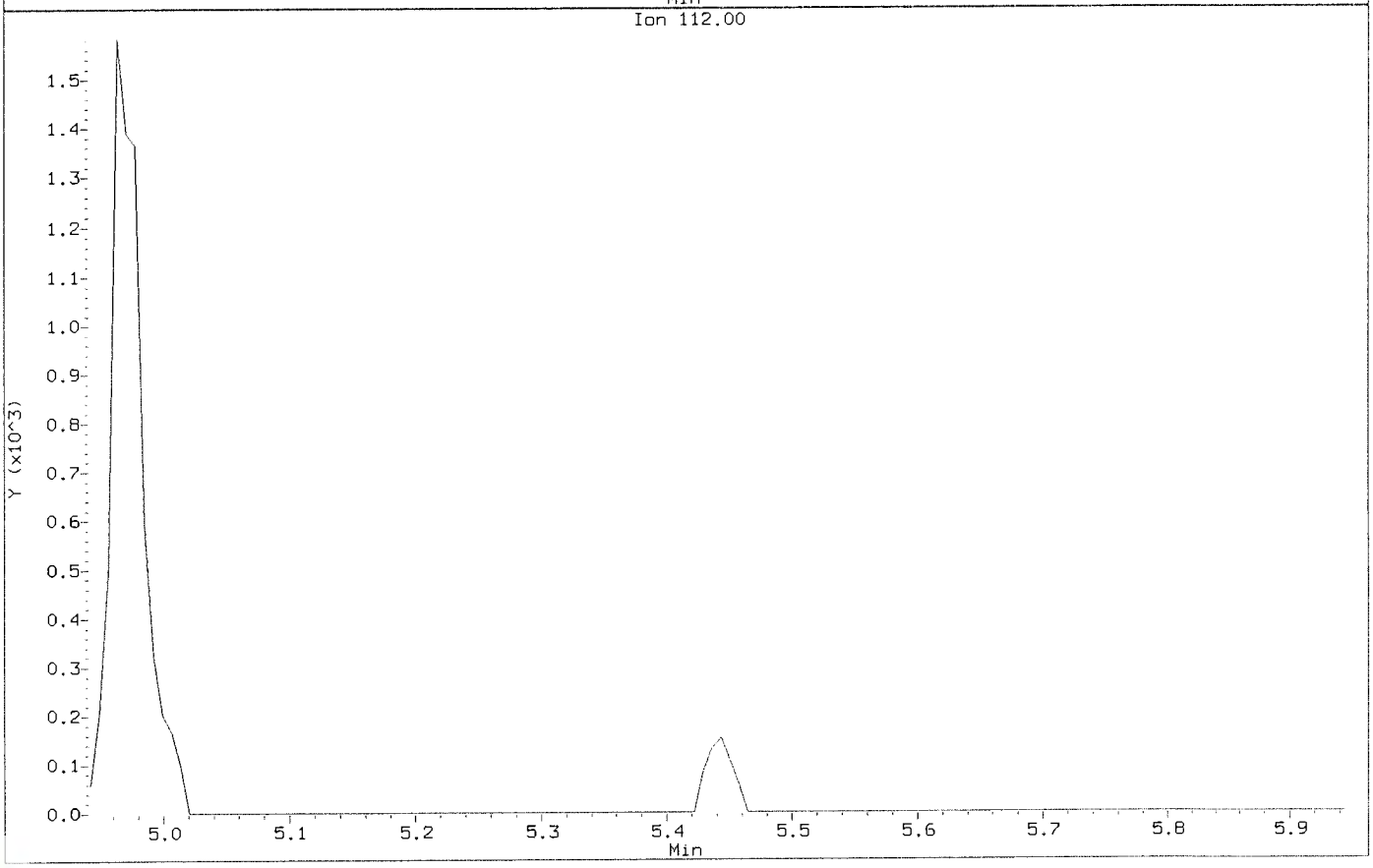
Injection Date: 19-JUN-2020 13:06
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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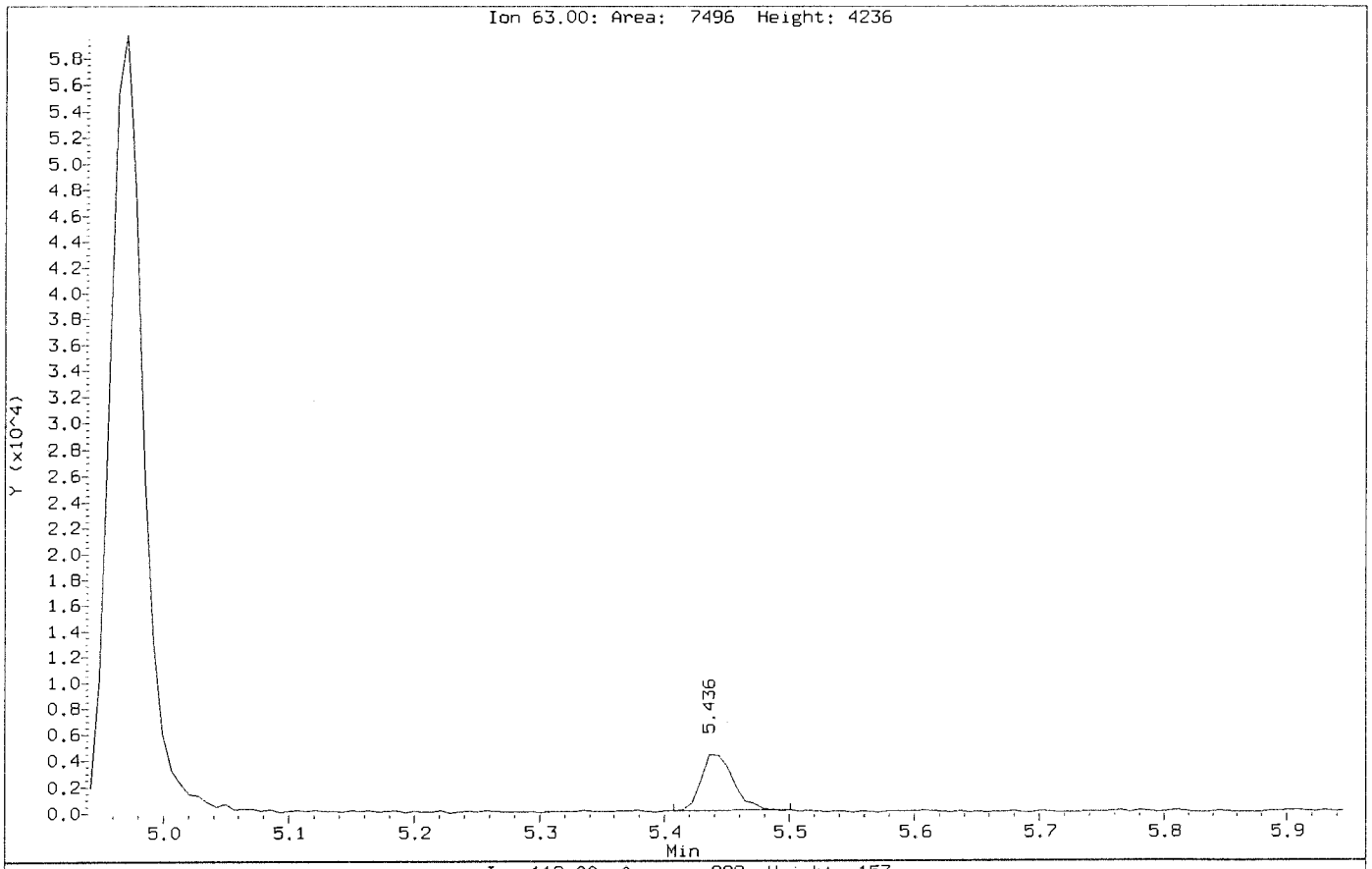
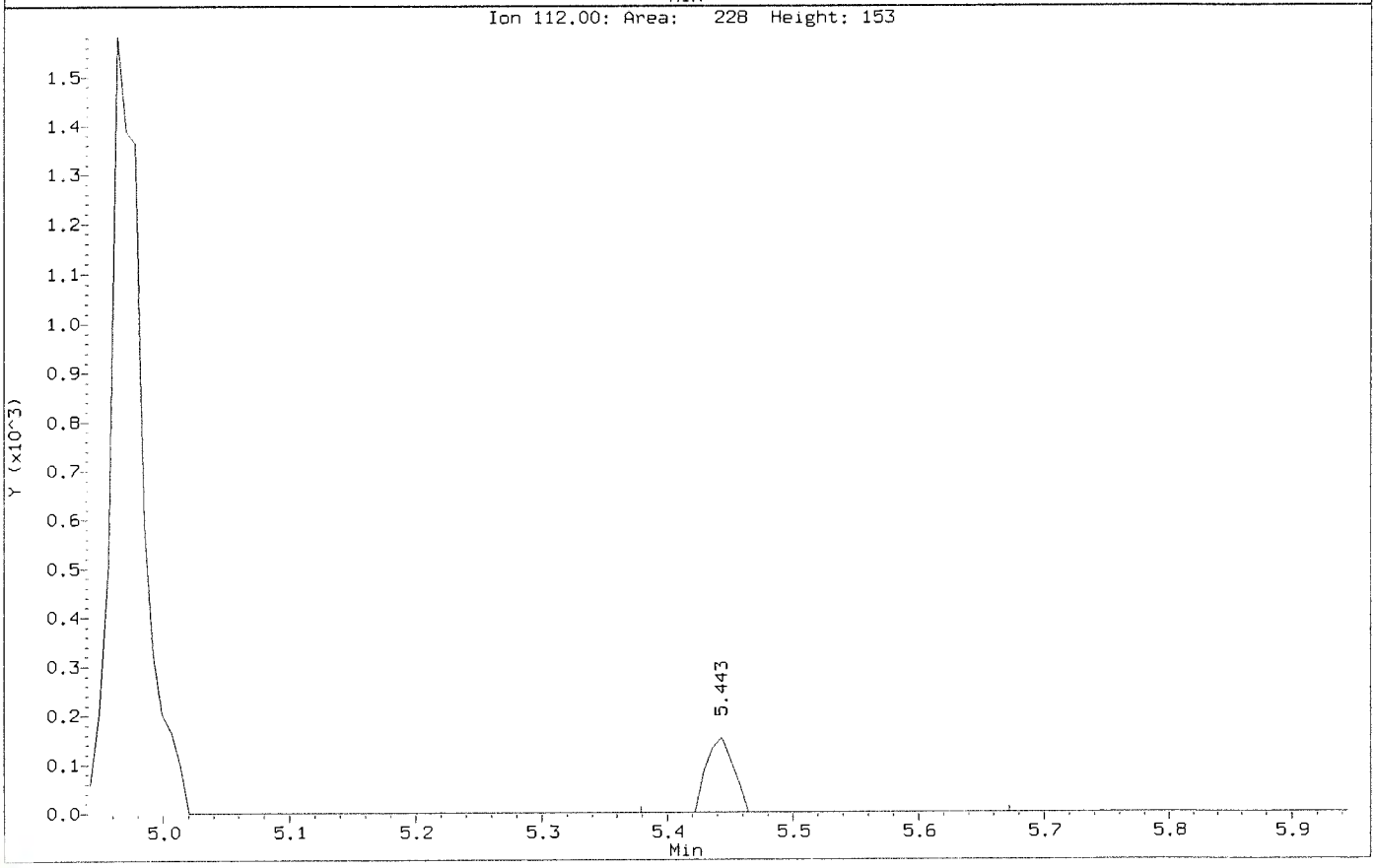
Client Sample ID: VSTD002

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





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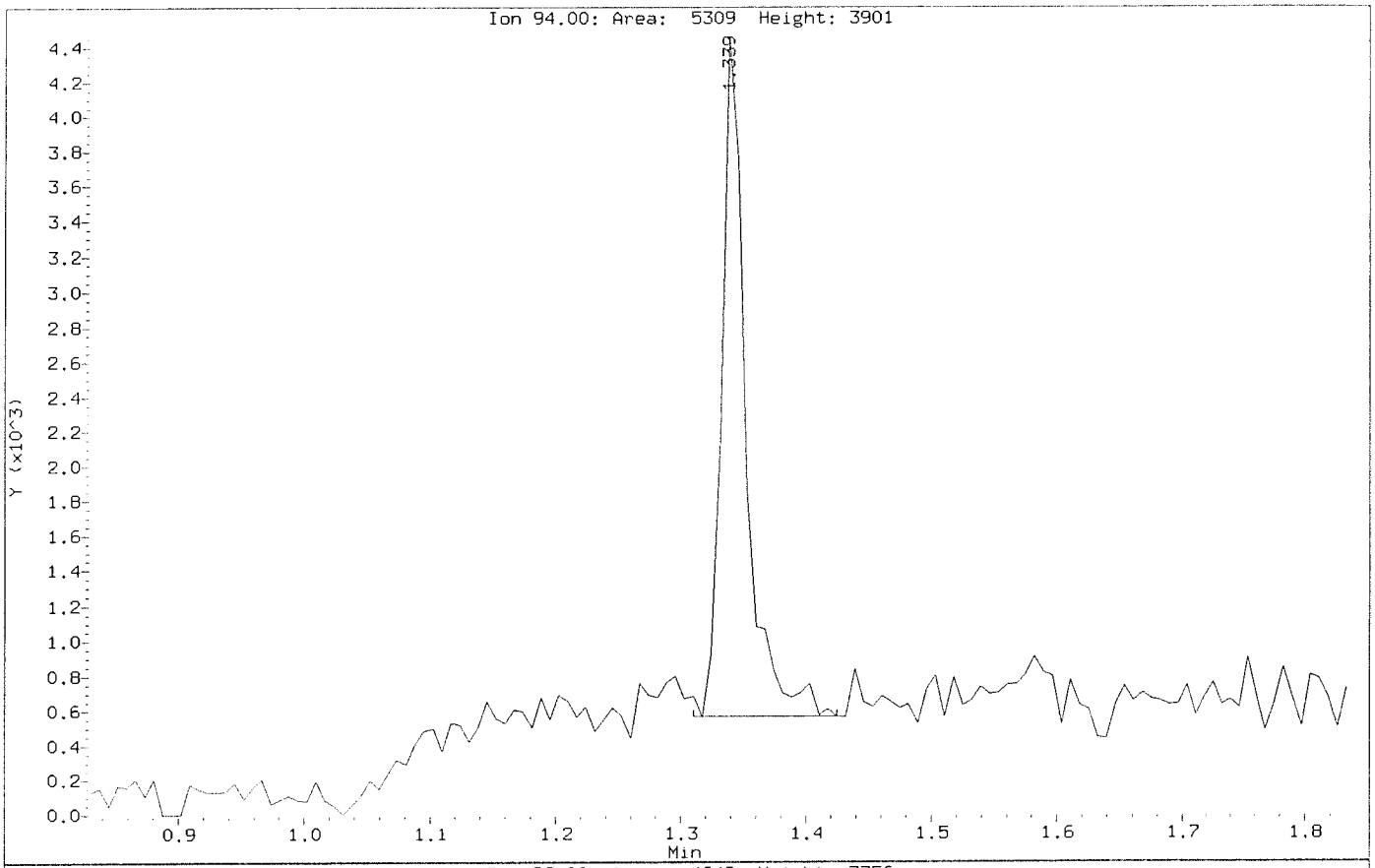
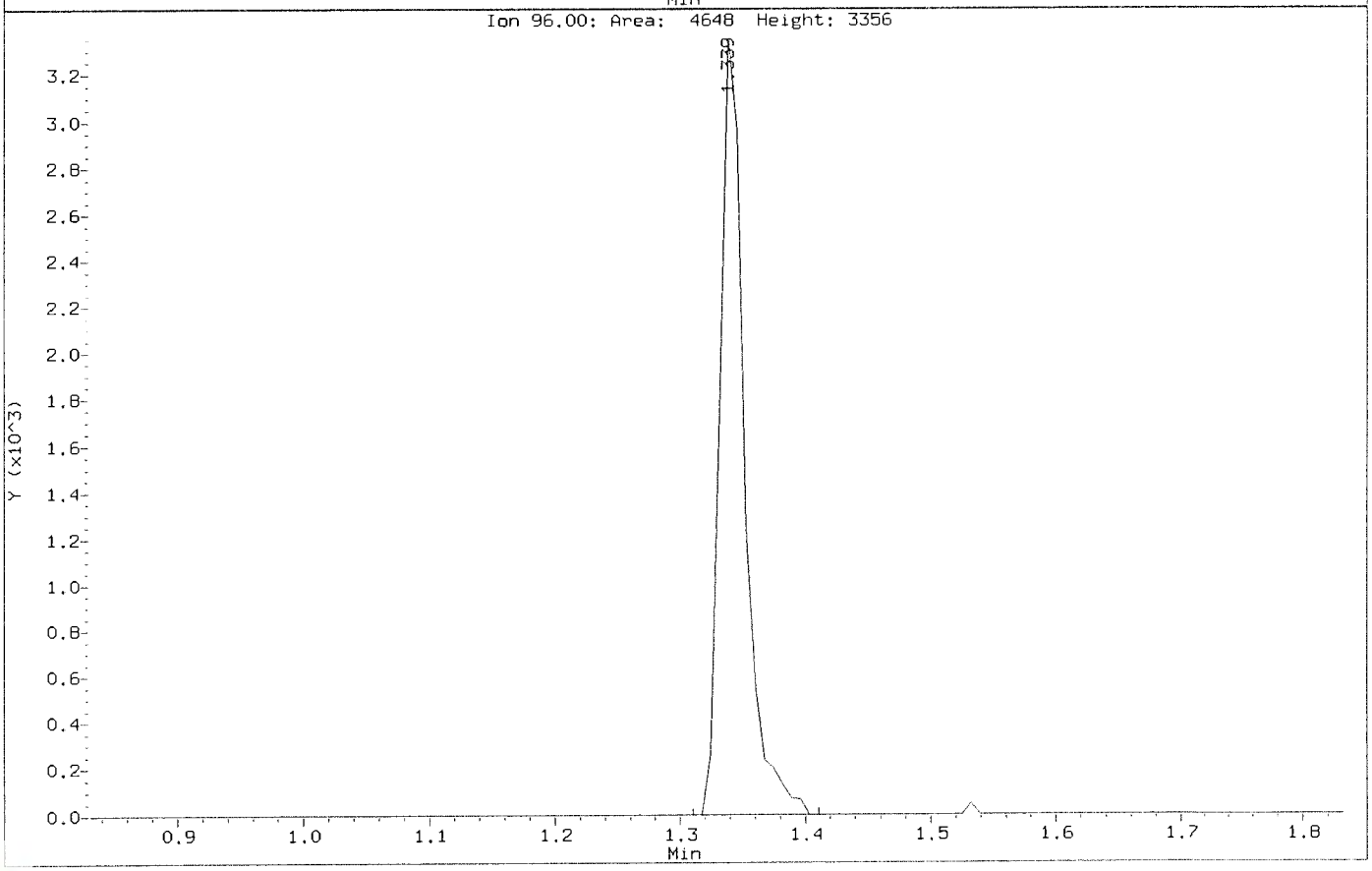
Injection Date: 19-JUN-2020 13:06
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Bromomethane
CAS Number: 74-83-9





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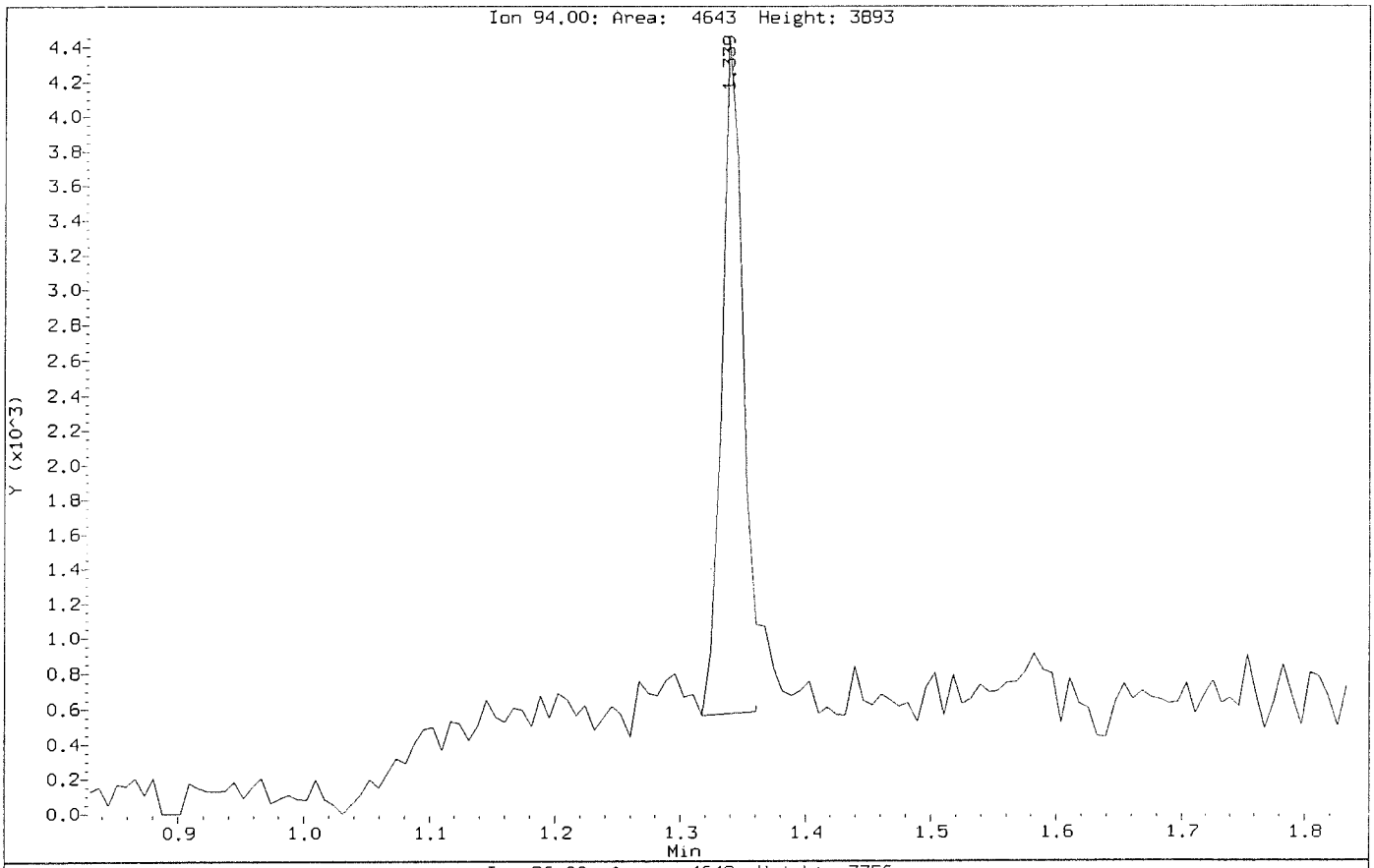
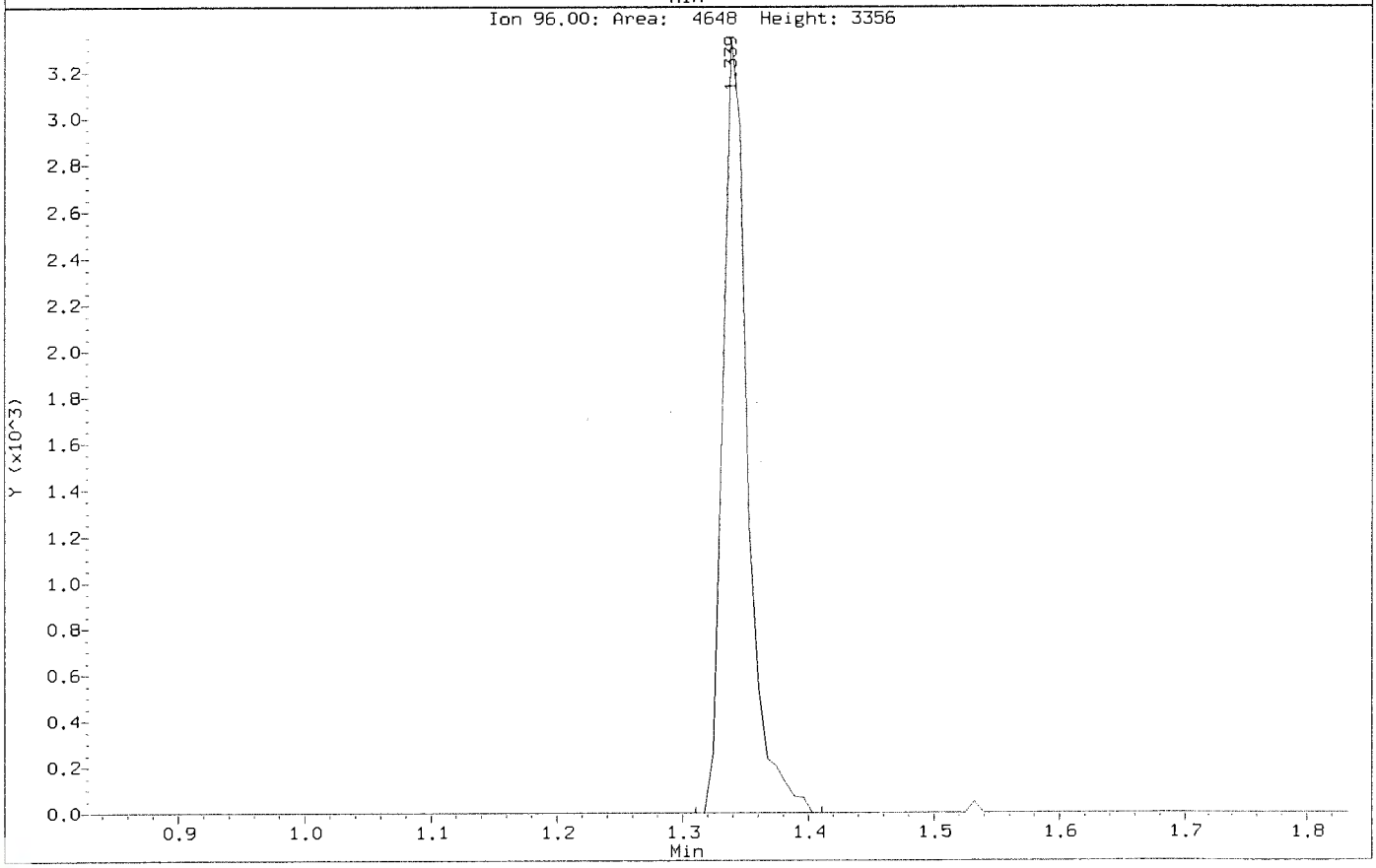
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Bromomethane
CAS Number: 74-83-9





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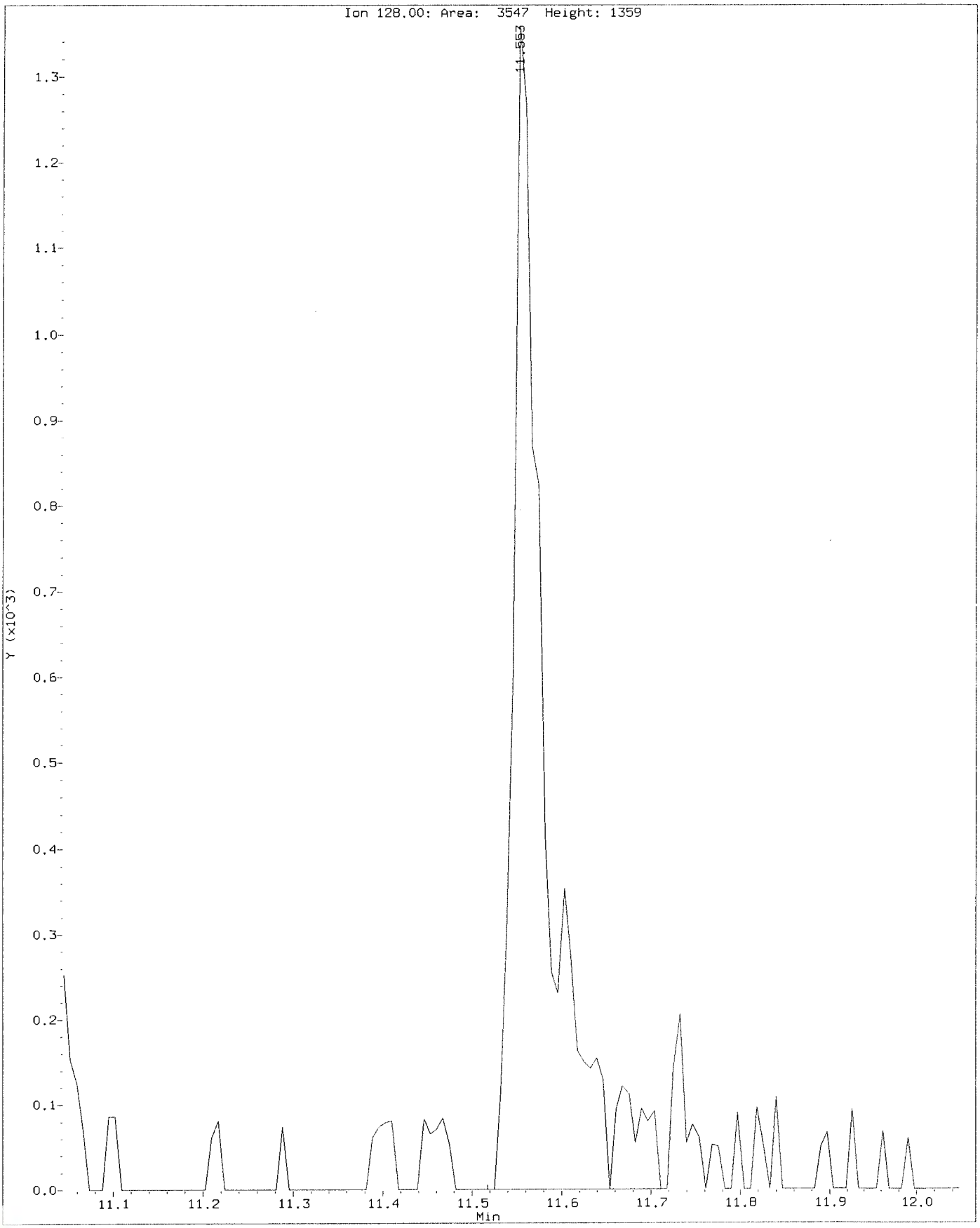
Injection Date: 19-JUN-2020 13:06
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Naphthalene
CAS Number: 91-20-3



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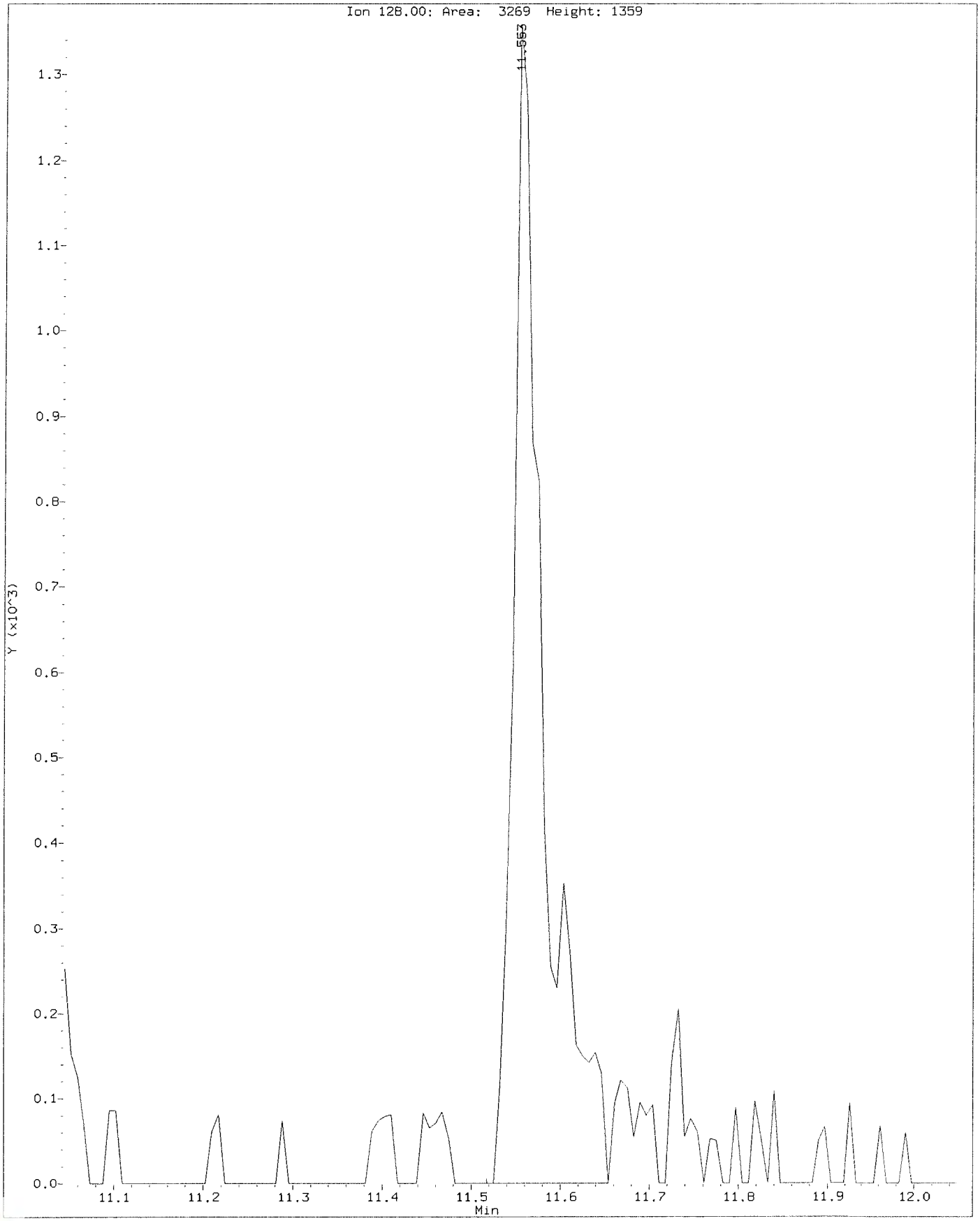
Injection Date: 19-JUN-2020 13:06
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Naphthalene
CAS Number: 91-20-3



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200619.b\X061906.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 19-JUN-2020 13:29
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\X200619.b\8260W.m
Meth Date : 09-Jul-2020 09:58 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 13:29 Cal File: X061906.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	4.189	(1.000)	232139	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	435154	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	403441	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	182222	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.103	(0.983)	16708	5.00000	5.61
$ 35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.072)	23826	5.00000	4.93(aM)
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	56214	5.00000	5.60
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	22486	5.00000	5.47
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	16110	5.00000	5.48
31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	23080	5.00000	5.35
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	19832	5.00000	5.47
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	13752	5.00000	5.30
22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	37479	5.00000	5.19
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	11331	5.00000	4.99(a)
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	19654	5.00000	5.01
93 1,2,3-Trichlorobenzene	180	11.754	11.746	(1.216)	2744	5.00000	4.66(a)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	17335	5.00000	5.14(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.174)	4935	5.00000	4.57(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	52272	5.00000	5.26
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.104)	1368	5.00000	4.75(a)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	17784	5.00000	5.58
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	26878	5.00000	5.44
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	31544	5.00000	5.53

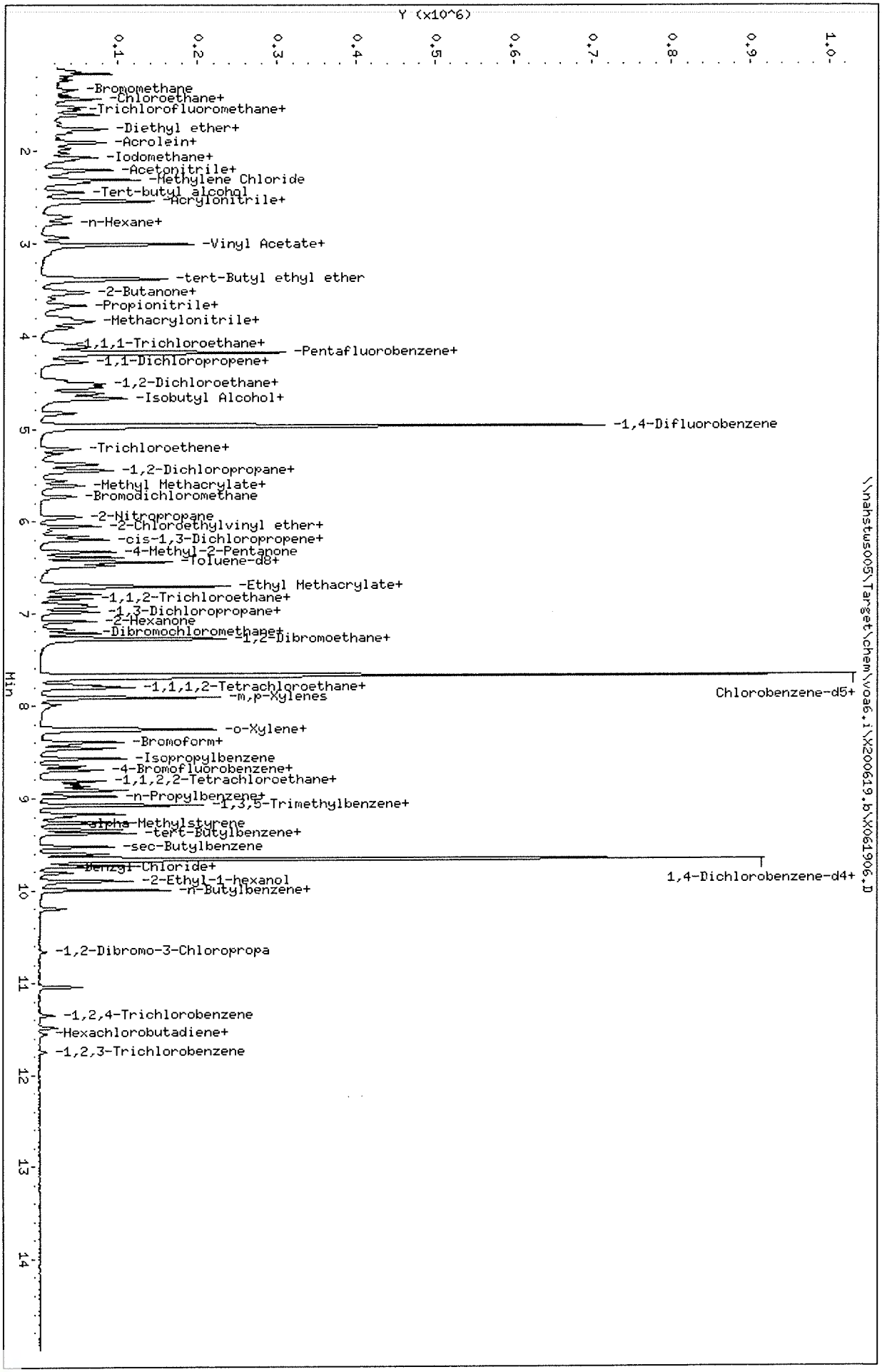
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	21779	5.00000	5.31
75 1,3,5-Trimethylbenzene	105	9.068	9.075	(0.938)	48501	5.00000	5.17
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	28398	5.00000	5.23
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	29366	5.00000	5.40
84 1,4-Dichlorobenzene	146	9.684	9.683	(1.002)	28544	5.00000	5.16
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	23392	5.00000	5.19
24 2-Butanone	43	3.588	3.580	(0.858)	24314	10.0000	8.32
76 2-Chlorotoluene	91	8.974	8.981	(0.929)	45287	5.00000	5.23
52 2-Hexanone	43	7.091	7.090	(0.924)	43780	10.0000	10.50
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	55452	5.00000	5.52
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	44893	5.00000	5.01
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	65858	10.0000	10.83
10 Acetone	43	1.976	1.976	(0.473)	19913	10.0000	8.37
37 Benzene	78	4.519	4.519	(0.909)	62696	5.00000	5.15
74 Bromobenzene	156	8.810	8.809	(0.912)	17680	5.00000	5.17
29 Bromochloromethane	128	3.803	3.795	(0.909)	9107	5.00000	5.11
39 Bromodichloromethane	83	5.730	5.729	(1.153)	23592	5.00000	5.32
66 Bromoform	173	8.416	8.416	(1.097)	10854	5.00000	5.04
6 Bromomethane	94	1.339	1.331	(0.320)	11610	5.00000	5.34
19 Carbon Disulfide	76	2.069	2.069	(0.495)	73696	10.0000	9.88
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	18948	5.00000	4.99(aH)
59 Chlorobenzene	112	7.699	7.699	(1.004)	40971	5.00000	5.24
7 Chloroethane	64	1.403	1.396	(0.336)	12334	5.00000	4.99(a)
28 Chloroform	83	3.910	3.910	(0.935)	30151	5.00000	5.30
3 Chloromethane	50	1.081	1.081	(0.258)	28247	5.00000	4.87(a)
27 cis-1,2-Dichloroethene	96	3.531	3.530	(0.844)	17456	5.00000	5.22
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	28688	5.00000	5.42
55 Dibromochloromethane	129	7.184	7.183	(0.937)	17481	5.00000	5.41
44 Dibromomethane	93	5.558	5.557	(1.118)	12167	5.00000	5.33
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	14314	5.00000	5.33
61 Ethylbenzene	106	7.800	7.807	(1.017)	20970	5.00000	5.26
91 Hexachlorobutadiene	225	11.482	11.481	(1.188)	3265	5.00000	3.78(a)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	57298	5.00000	5.09
62 m,p-Xylenes	106	7.907	7.907	(1.031)	49146	10.0000	10.52
17 Methylene Chloride	84	2.306	2.305	(0.551)	20893	5.00000	4.40(a)
87 n-Butylbenzene	91	9.999	9.999	(1.035)	38916	5.00000	4.82(a)
73 n-Propylbenzene	91	8.917	8.917	(0.923)	67027	5.00000	4.99(a)
92 Naphthalene	128	11.553	11.546	(1.196)	8543	5.00000	4.95(a)
63 o-Xylene	106	8.244	8.244	(1.075)	25419	5.00000	5.34
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	51466	5.00000	4.93(a)
64 Styrene	104	8.265	8.265	(1.078)	46059	5.00000	5.47
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	36787	5.00000	4.99(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	10643	5.00000	5.09
50 Toluene	91	6.453	6.453	(0.841)	64321	5.00000	5.35
20 trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	13762	5.00000	5.21
51 trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	26342	5.00000	5.37
38 Trichloroethene	130	5.214	5.206	(1.049)	14733	5.00000	5.12
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	20527	5.00000	4.96(a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	22820	5.00000	4.97(a)

QC Flag Legend

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

QC Flag Legend

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



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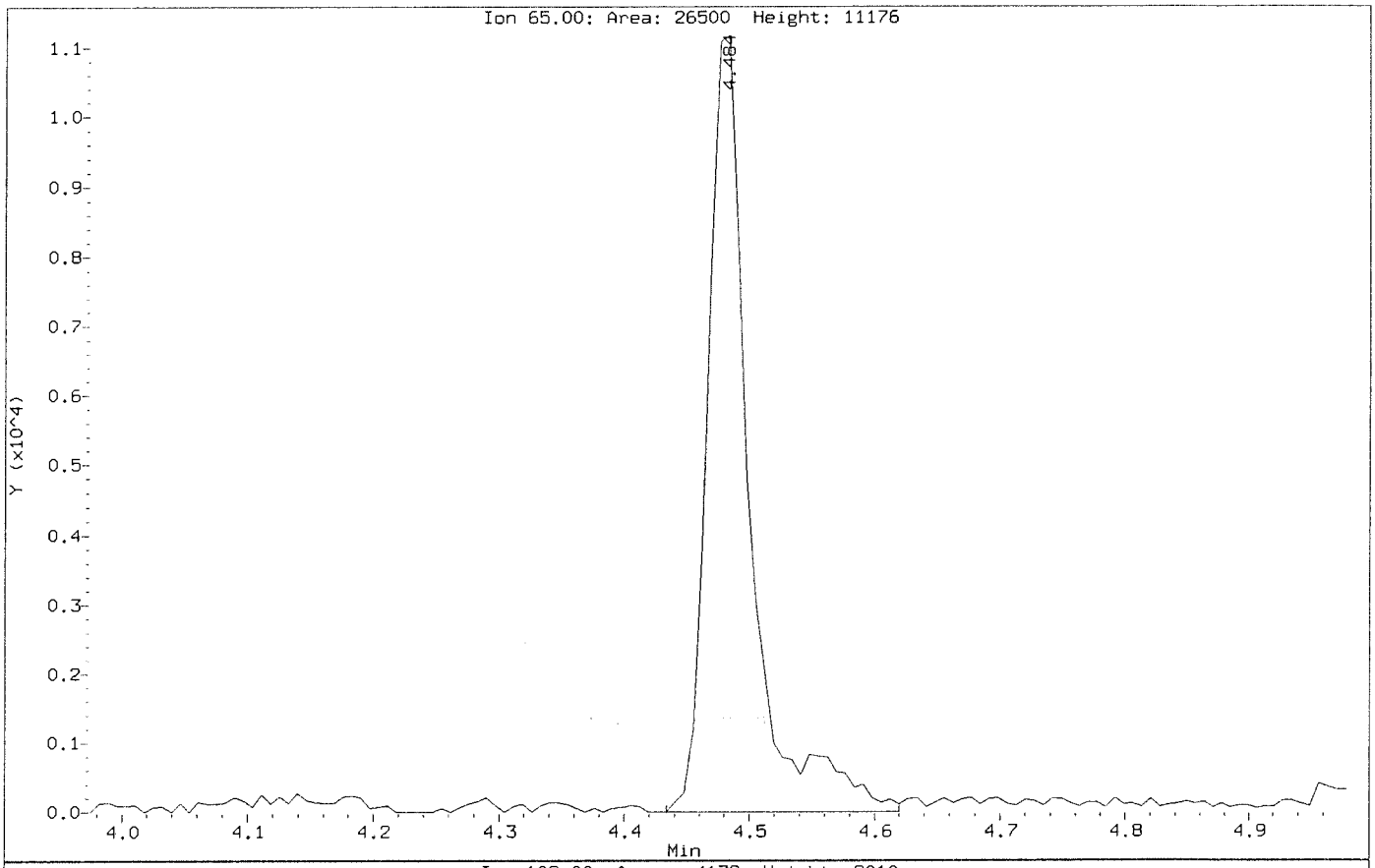
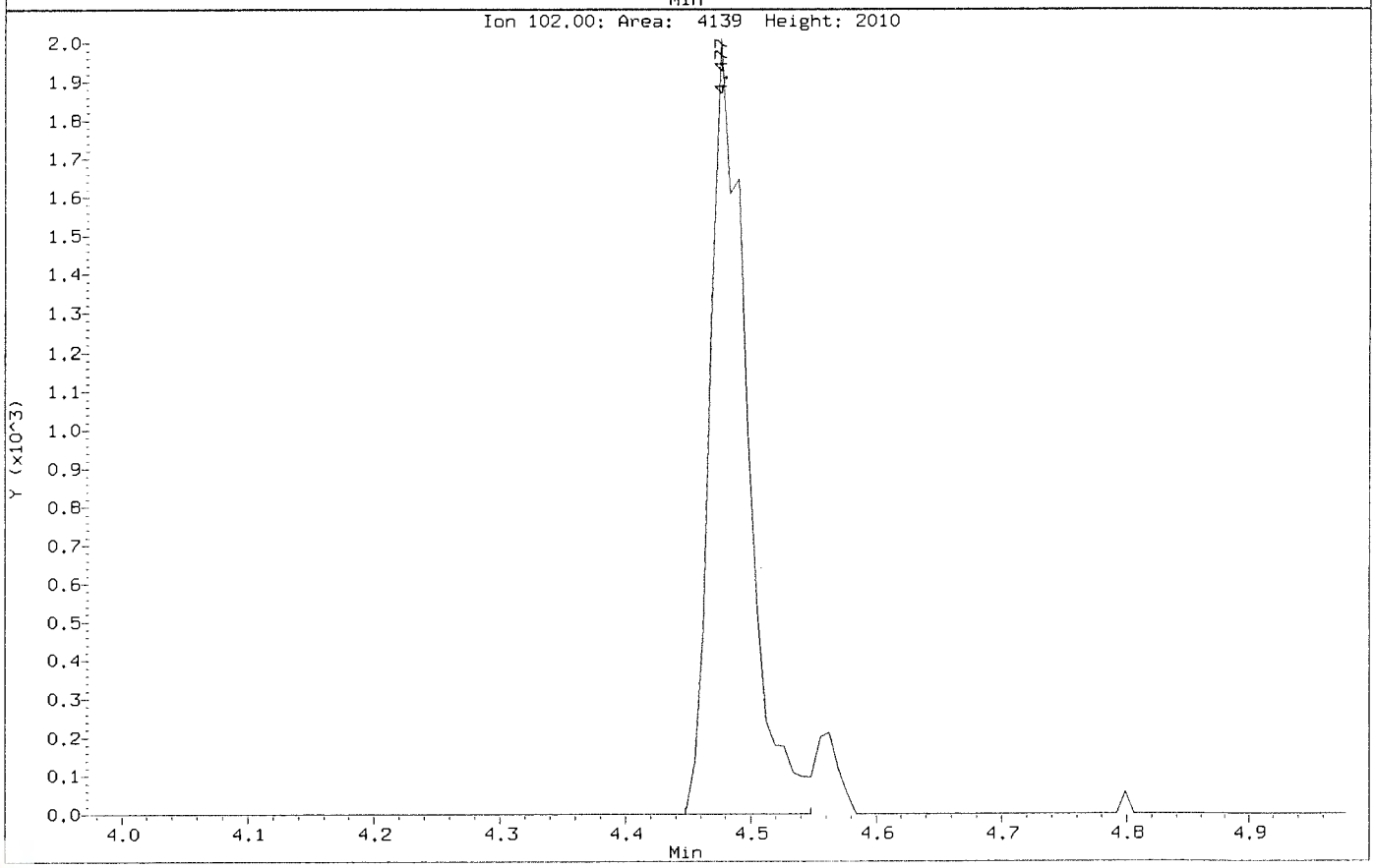
Date : 19-JUN-2020 13:29
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061906.D
Injection Date: 19-JUN-2020 13:29
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0





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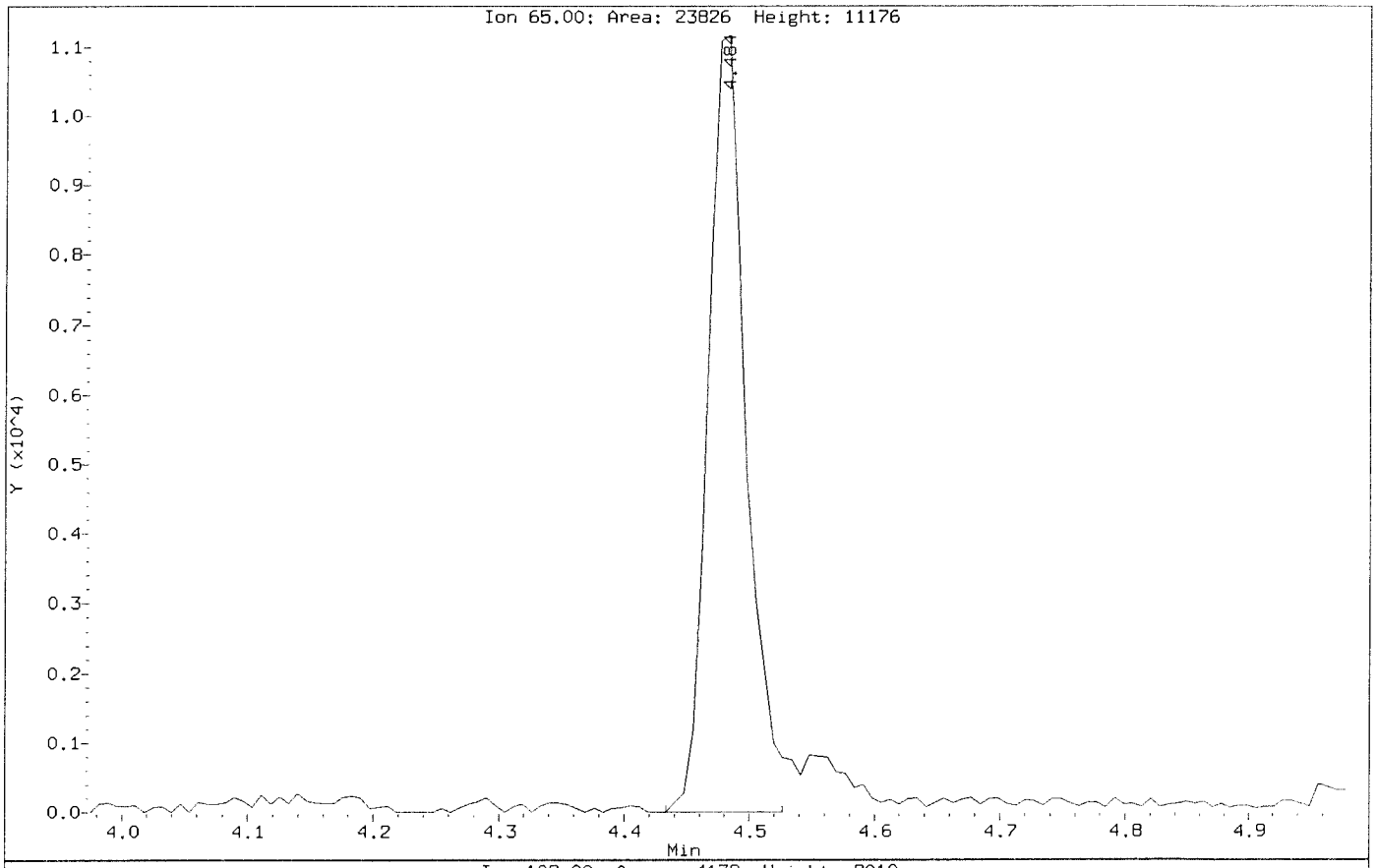
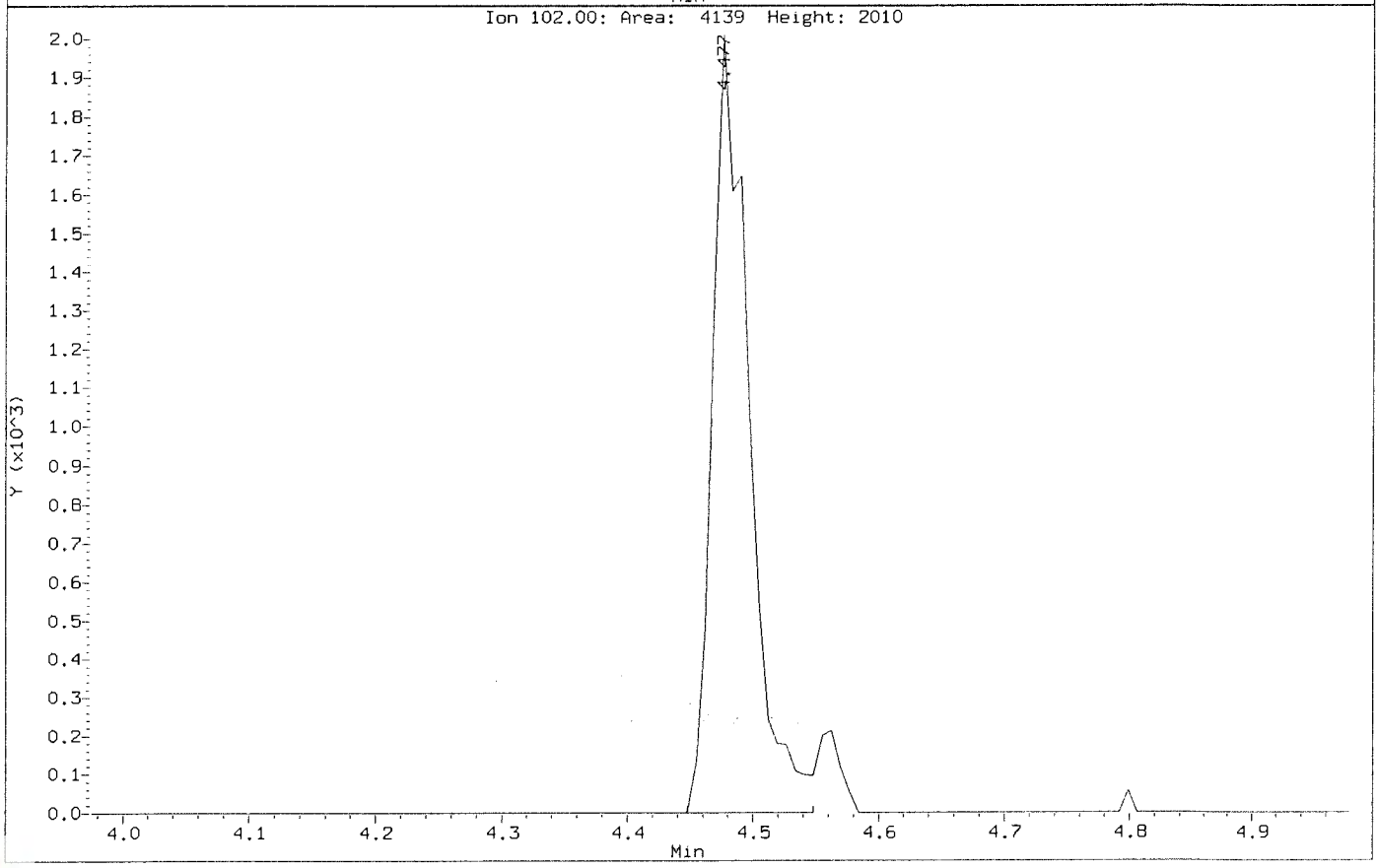
Injection Date: 19-JUN-2020 13:29
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0





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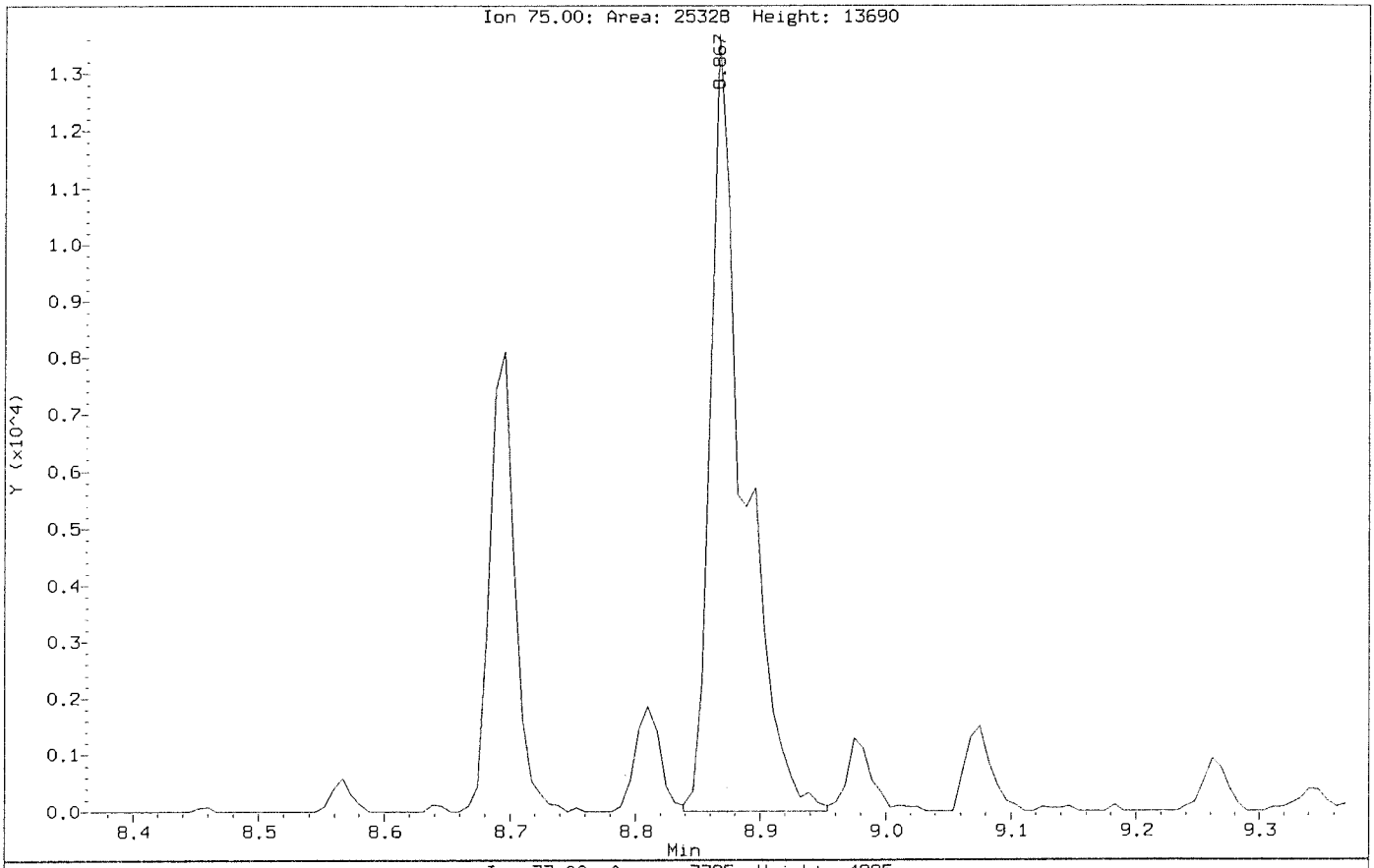
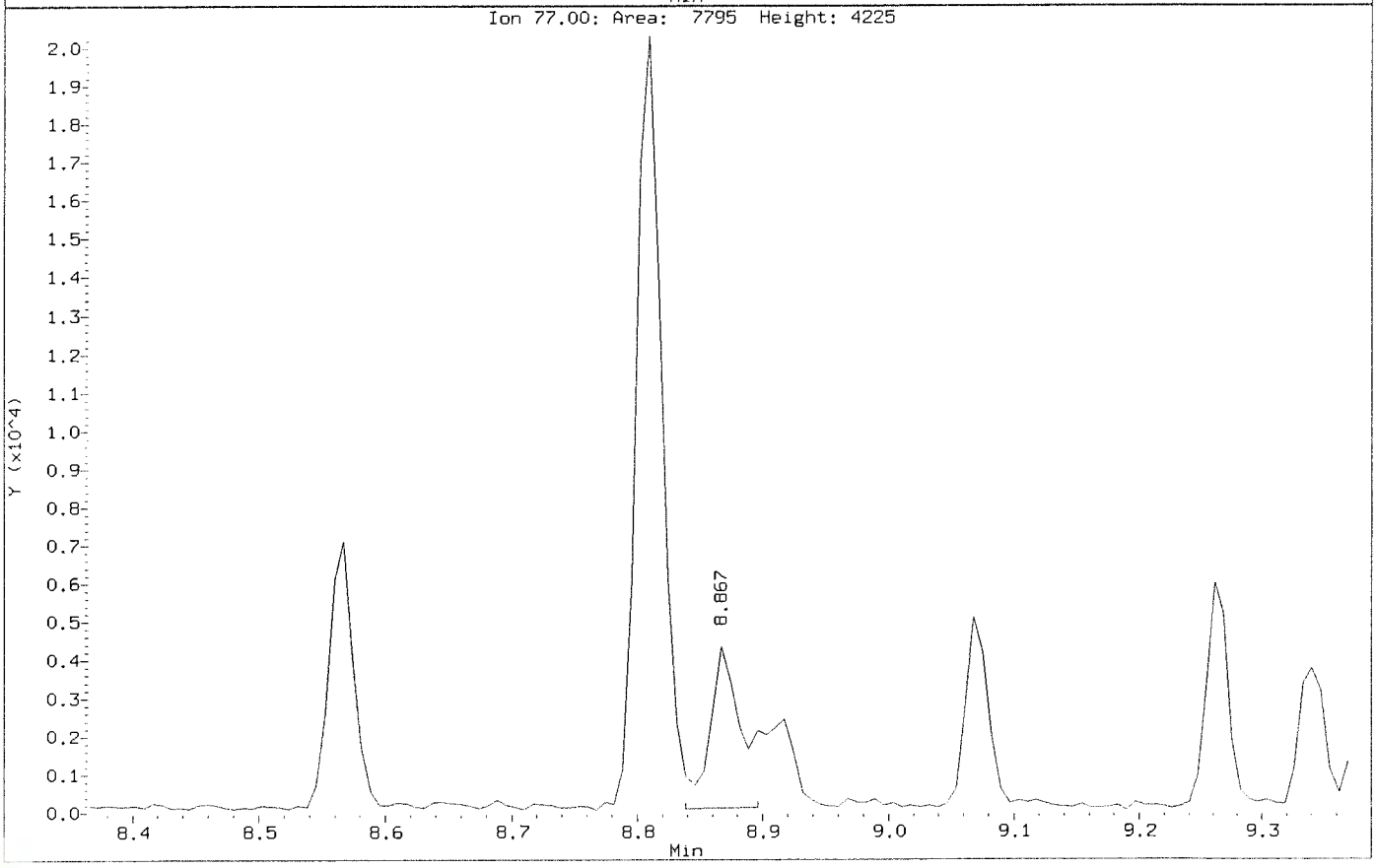
Injection Date: 19-JUN-2020 13:29
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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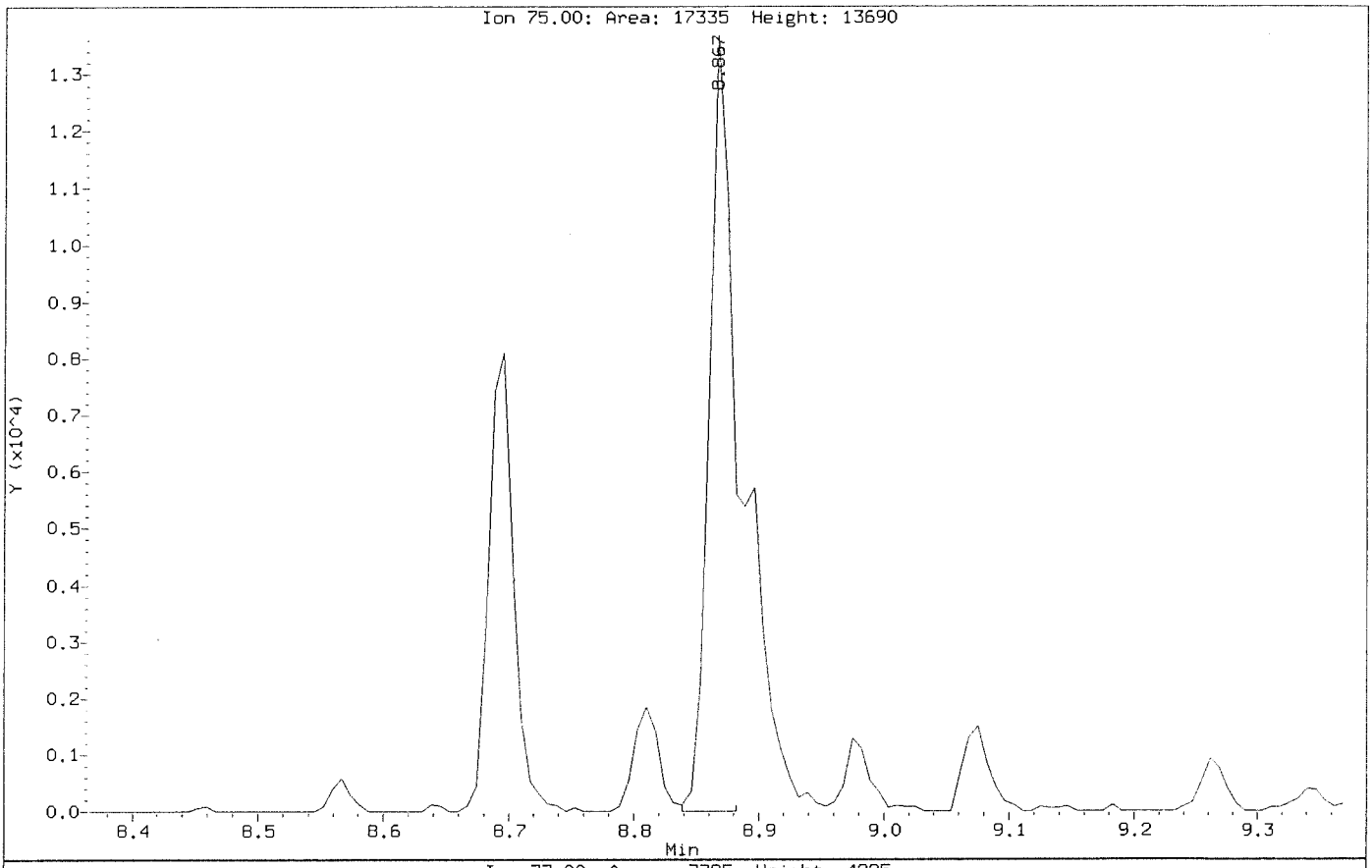
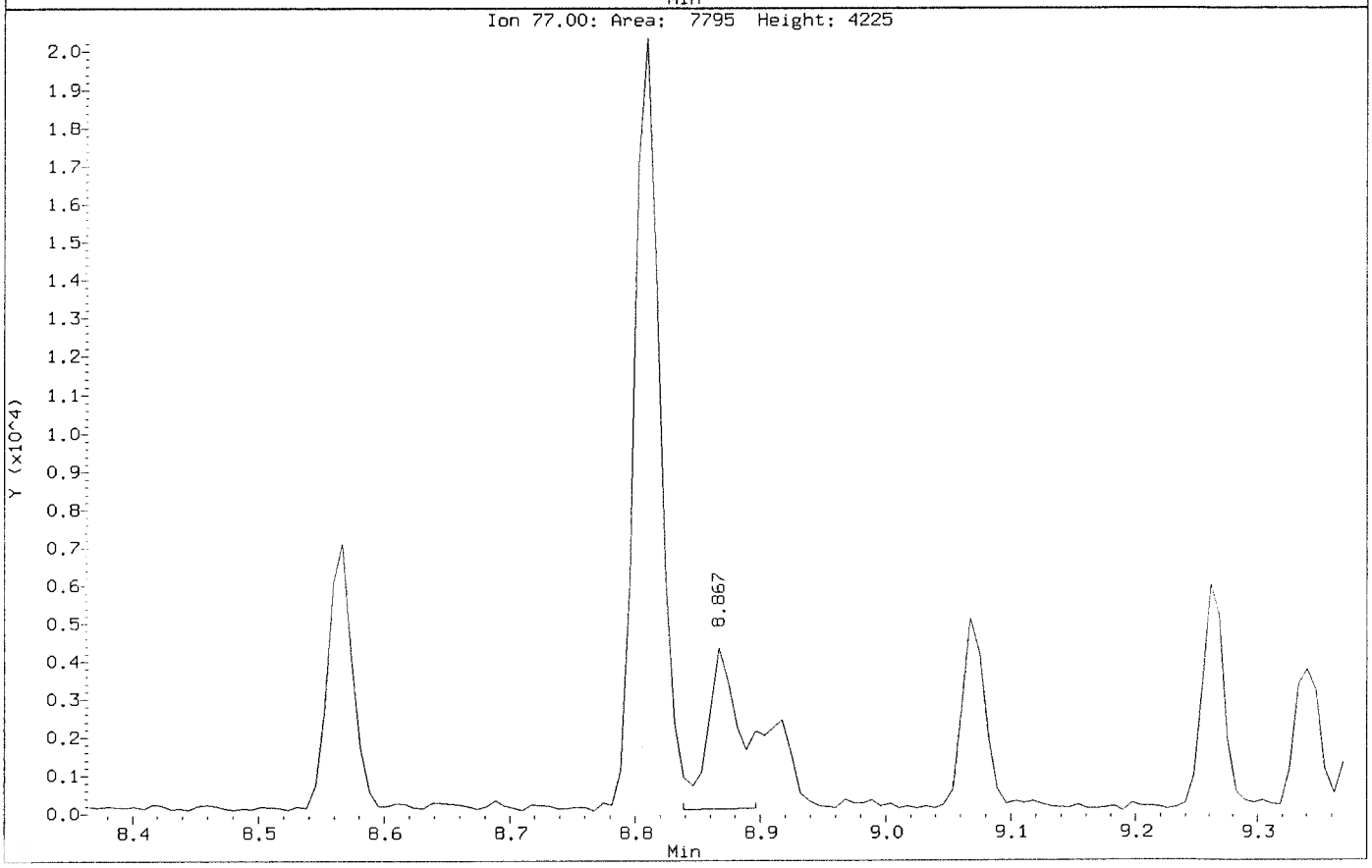
Injection Date: 19-JUN-2020 13:29
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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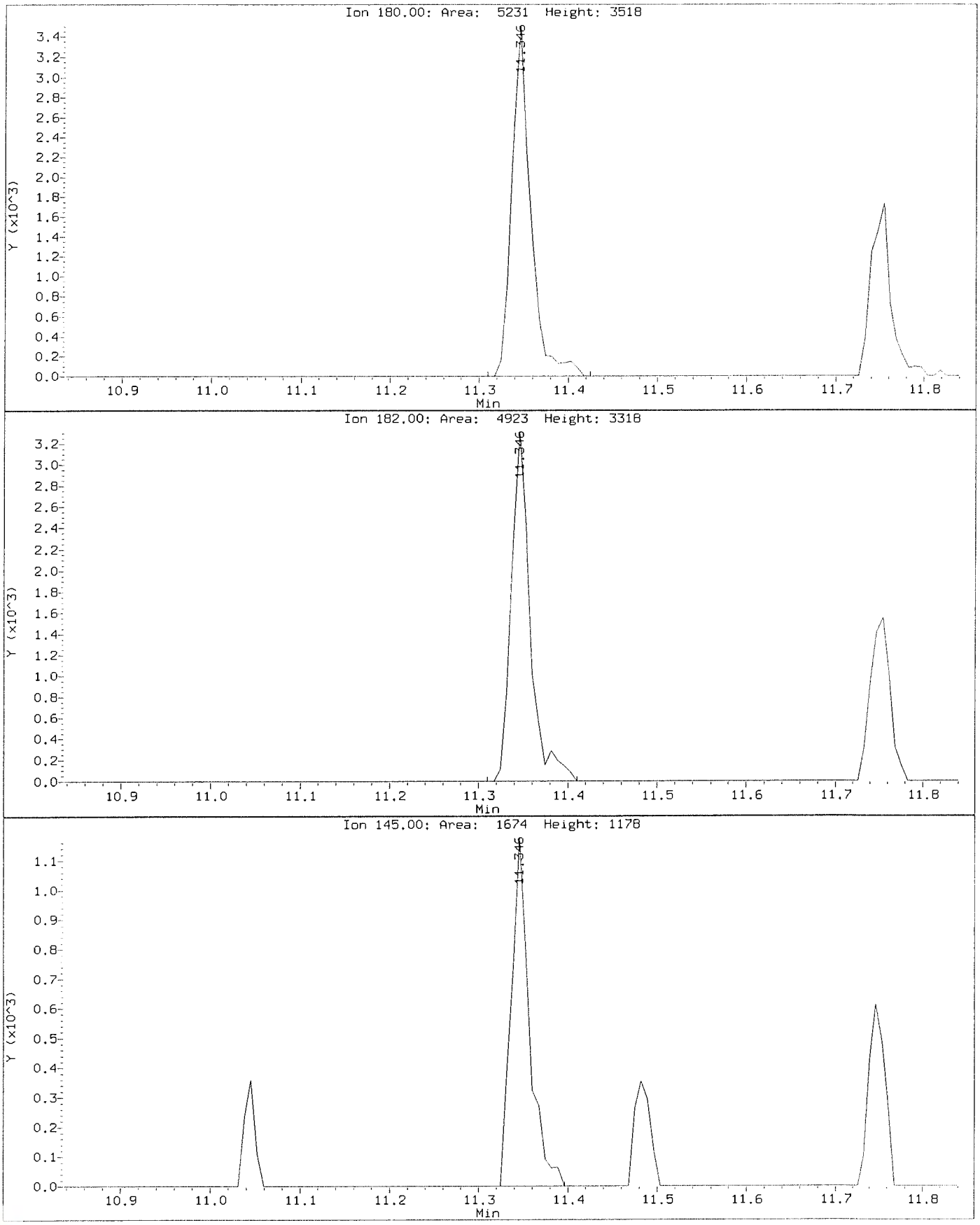
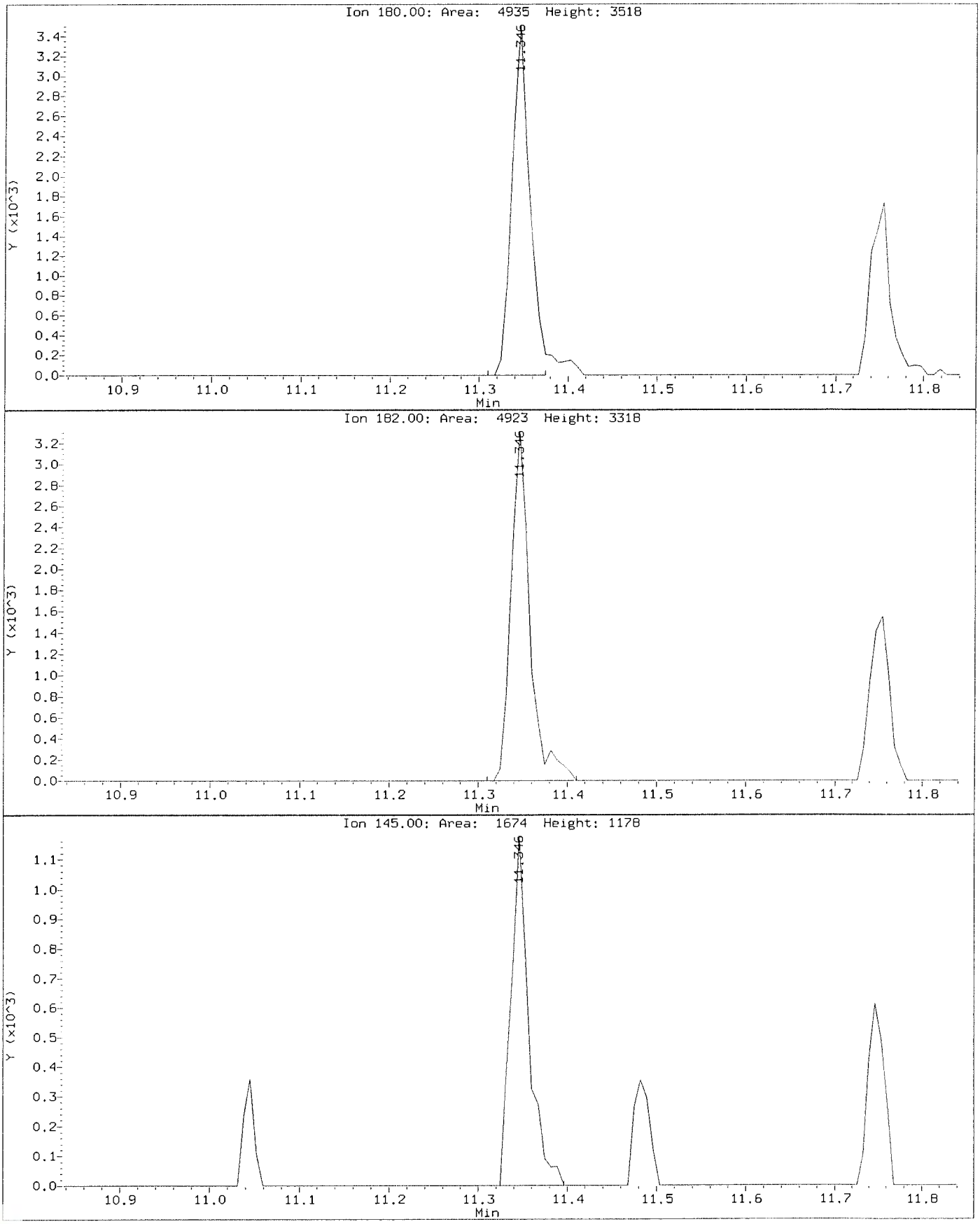
Injection Date: 19-JUN-2020 13:29
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061906.D
Injection Date: 19-JUN-2020 13:29
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



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Data file : \\nahstws005\Target\chem\voa6.i\X200619.b\X061907.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 19-JUN-2020 13:53
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\X200619.b\8260W.m
Meth Date : 09-Jul-2020 09:58 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 13:53 Cal File: X061907.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

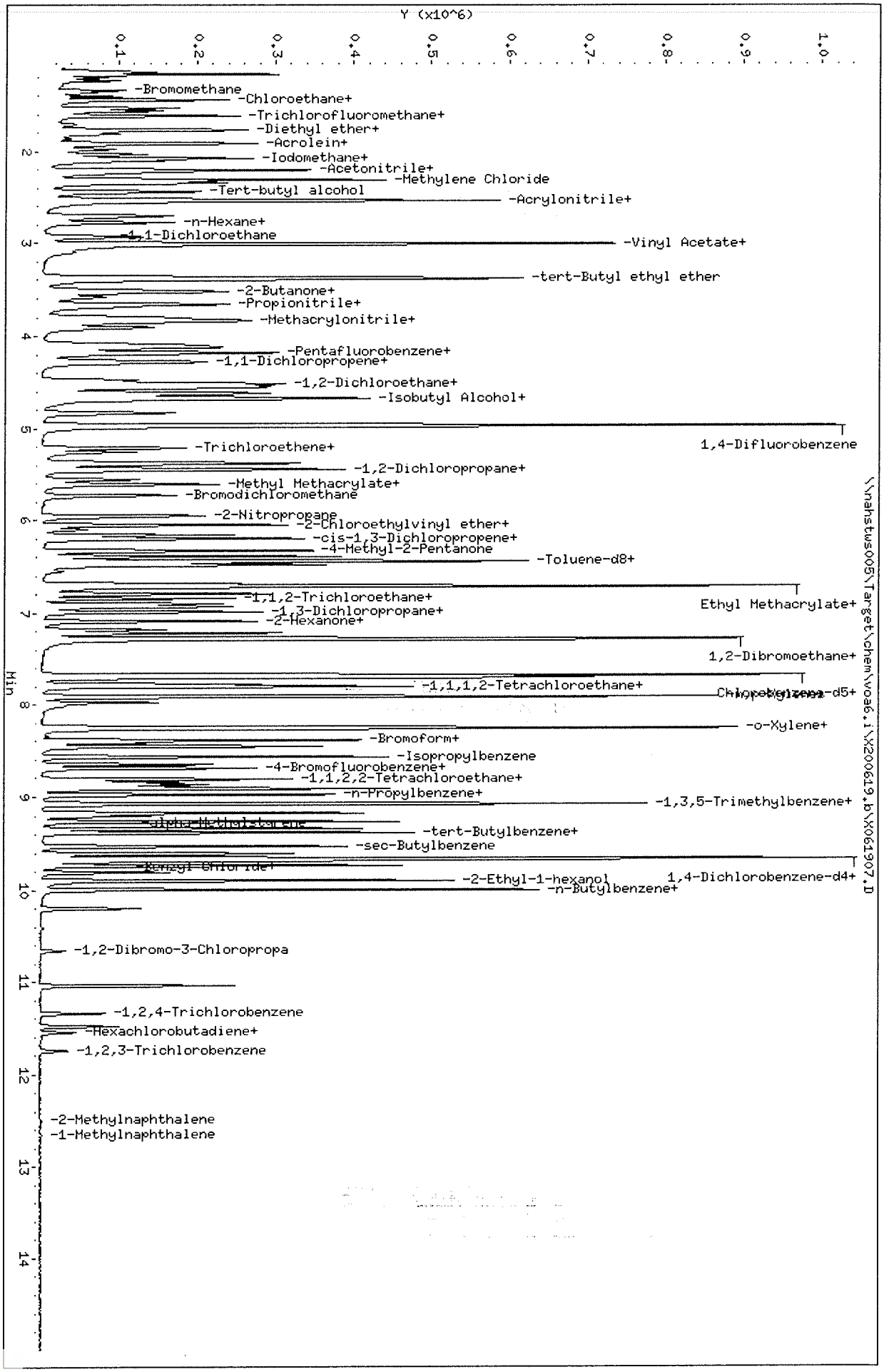
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	219092	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	408687	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	381406	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	172819	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	59094	20.0000	21.03
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	85524	20.0000	20.52
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	191219	20.0000	20.15
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	75623	20.0000	19.46
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	57221	20.0000	20.60
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	86875	20.0000	21.34
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	71126	20.0000	20.70
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	53058	20.0000	21.65
22 1,1-Dichloroethane	63	2.929	2.921	(0.699)	138147	20.0000	20.30
11 1,1-Dichloroethene	96	1.912	1.911	(0.456)	44280	20.0000	20.69
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	73179	20.0000	19.89
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	9328	20.0000	22.94
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	65154	20.0000	20.40(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	20427	20.0000	24.06
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	196549	20.0000	20.85
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	5621	20.0000	21.05
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	63355	20.0000	21.05
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	99093	20.0000	21.15
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	114326	20.0000	21.34

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)	82487	20.0000	21.41
75 1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	184546	20.0000	20.76
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	107441	20.0000	20.86
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	107964	20.0000	21.02
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	107642	20.0000	20.53
26 2,2-Dichloropropane	77	3.516	3.516	(0.839)	85915	20.0000	20.20
24 2-Butanone	43	3.581	3.580	(0.855)	105606	40.0000	41.15
76 2-Chlorotoluene	91	8.974	8.981	(0.928)	166898	20.0000	20.33
52 2-Hexanone	43	7.090	7.090	(0.924)	169963	40.0000	43.15
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	194510	20.0000	20.44
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	178353	20.0000	20.99
45 4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	244091	40.0000	42.46
10 Acetone	43	1.976	1.976	(0.472)	73115	40.0000	39.97
37 Benzene	78	4.519	4.519	(0.909)	237693	20.0000	20.81
74 Bromobenzene	156	8.810	8.809	(0.911)	66643	20.0000	20.55
29 Bromochloromethane	128	3.803	3.795	(0.908)	34327	20.0000	20.44
39 Bromodichloromethane	83	5.729	5.729	(1.153)	89199	20.0000	21.44
66 Bromoform	173	8.416	8.416	(1.097)	43483	20.0000	21.39
6 Bromomethane	94	1.339	1.331	(0.320)	39876	20.0000	19.44
19 Carbon Disulfide	76	2.069	2.069	(0.494)	290228	40.0000	41.24
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	69197	20.0000	19.43(H)
59 Chlorobenzene	112	7.699	7.699	(1.004)	150141	20.0000	20.33
7 Chloroethane	64	1.403	1.396	(0.335)	47984	20.0000	20.60
28 Chloroform	83	3.910	3.910	(0.933)	112365	20.0000	20.94
3 Chloromethane	50	1.081	1.081	(0.258)	105695	20.0000	19.30
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	66161	20.0000	20.99
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	104107	20.0000	20.96
55 Dibromochloromethane	129	7.176	7.183	(0.936)	63043	20.0000	20.65
44 Dibromomethane	93	5.558	5.557	(1.118)	43900	20.0000	20.50
2 Dichlorodifluoromethane	85	0.973	0.973	(0.232)	55369	20.0000	19.05
61 Ethylbenzene	106	7.800	7.807	(1.017)	77010	20.0000	20.44
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	14133	20.0000	24.46
67 Isopropylbenzene	105	8.566	8.566	(1.117)	223337	20.0000	21.00
62 m,p-Xylenes	106	7.907	7.907	(1.031)	183514	40.0000	41.57
17 Methylene Chloride	84	2.306	2.305	(0.550)	70514	20.0000	20.97
87 n-Butylbenzene	91	9.999	9.999	(1.034)	161786	20.0000	21.12
73 n-Propylbenzene	91	8.917	8.917	(0.922)	268386	20.0000	21.08
92 Naphthalene	128	11.546	11.546	(1.194)	31109	20.0000	22.40
63 o-Xylene	106	8.244	8.244	(1.075)	92857	20.0000	20.65
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	209056	20.0000	21.14
64 Styrene	104	8.265	8.265	(1.078)	166828	20.0000	20.97
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	145705	20.0000	20.87
56 Tetrachloroethene	164	6.933	6.933	(0.904)	40380	20.0000	20.45
50 Toluene	91	6.446	6.453	(0.840)	237760	20.0000	20.94
20 trans-1,2-Dichloroethene	96	2.535	2.527	(0.605)	53483	20.0000	21.47
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	96064	20.0000	20.86
38 Trichloroethene	130	5.214	5.206	(1.049)	55553	20.0000	20.57
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	83059	20.0000	21.27
5 Vinyl Chloride	62	1.138	1.138	(0.272)	85214	20.0000	19.66

QC Flag Legend

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



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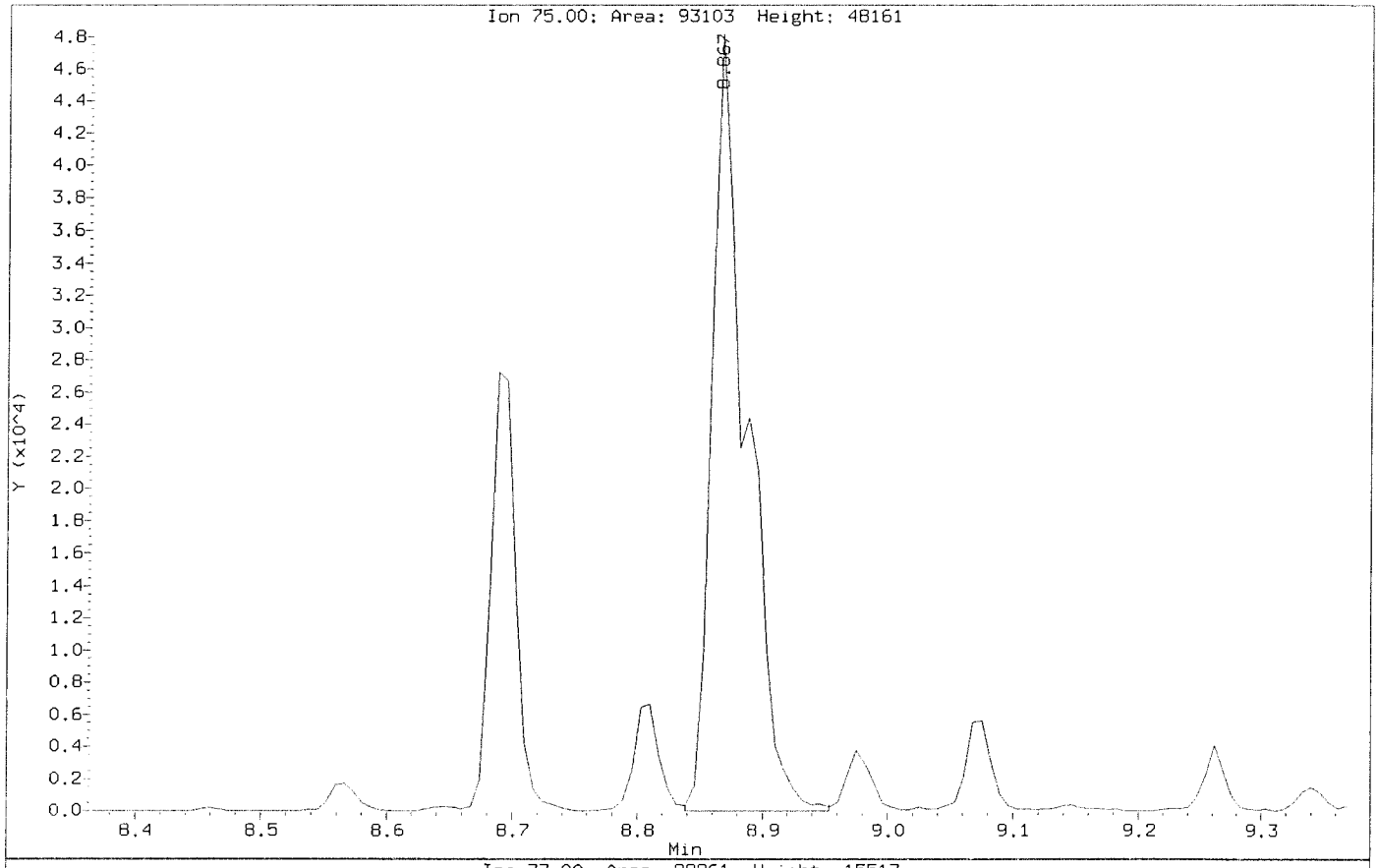
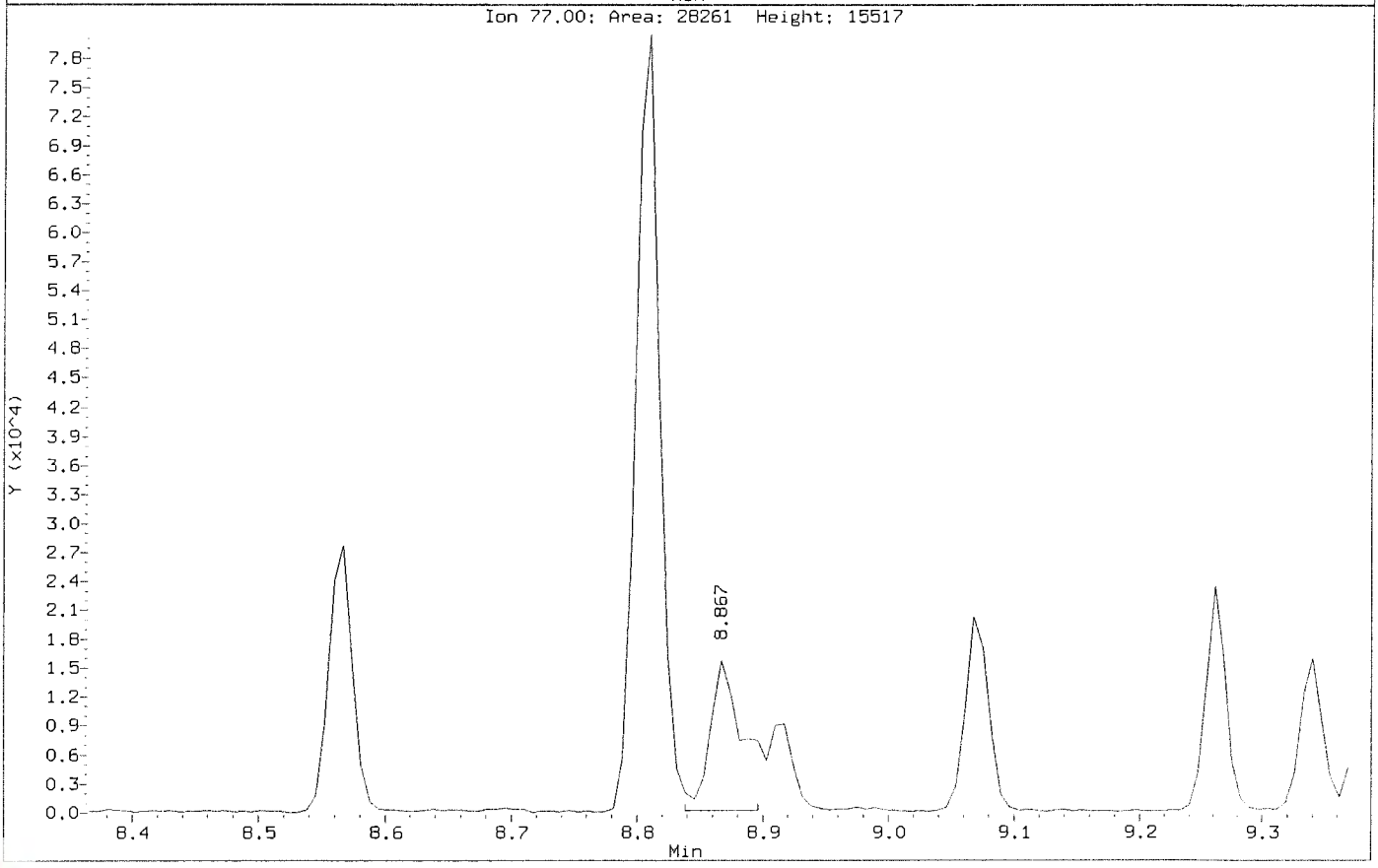
Date : 19-JUN-2020 13:53
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061907.D
Injection Date: 19-JUN-2020 13:53
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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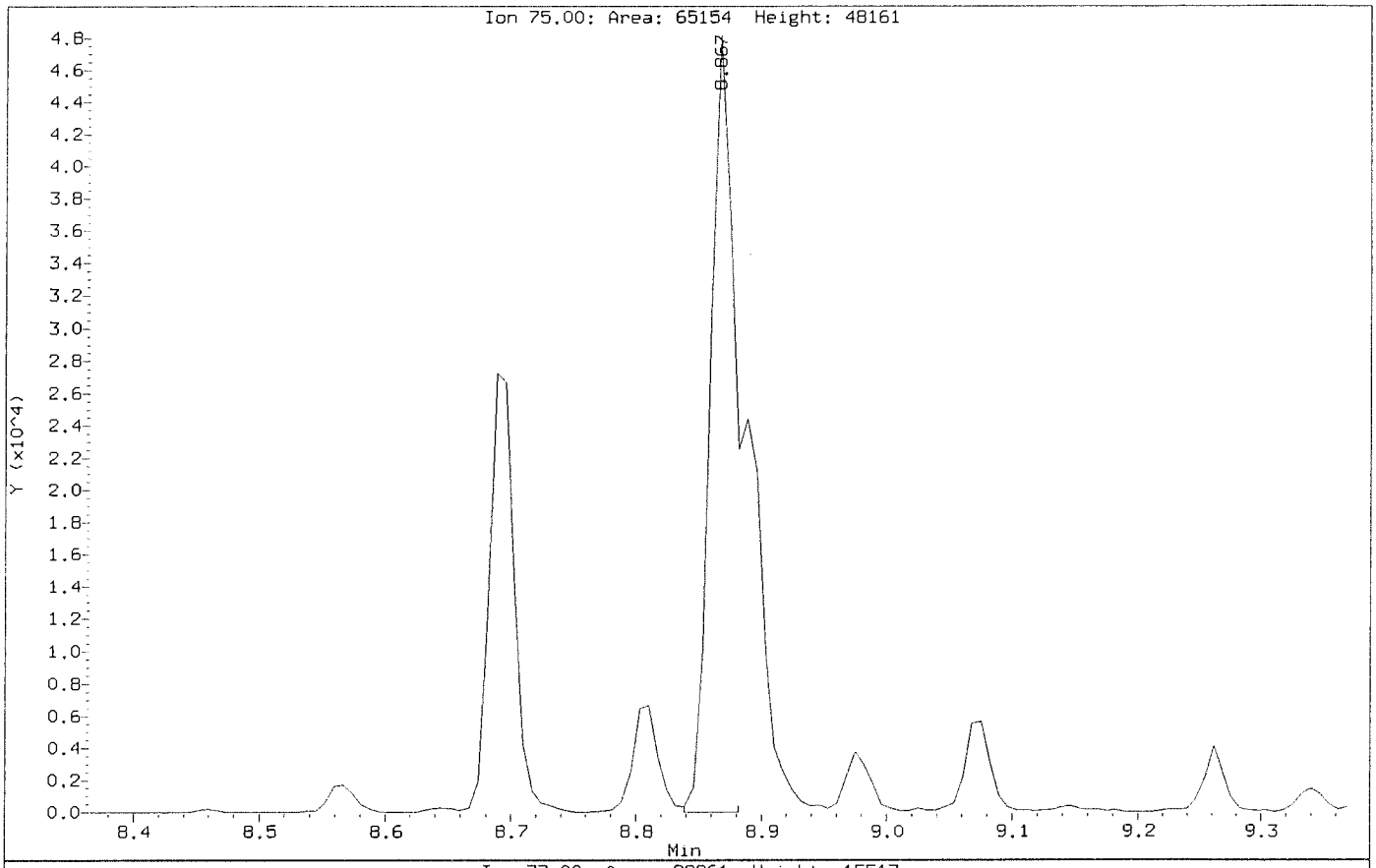
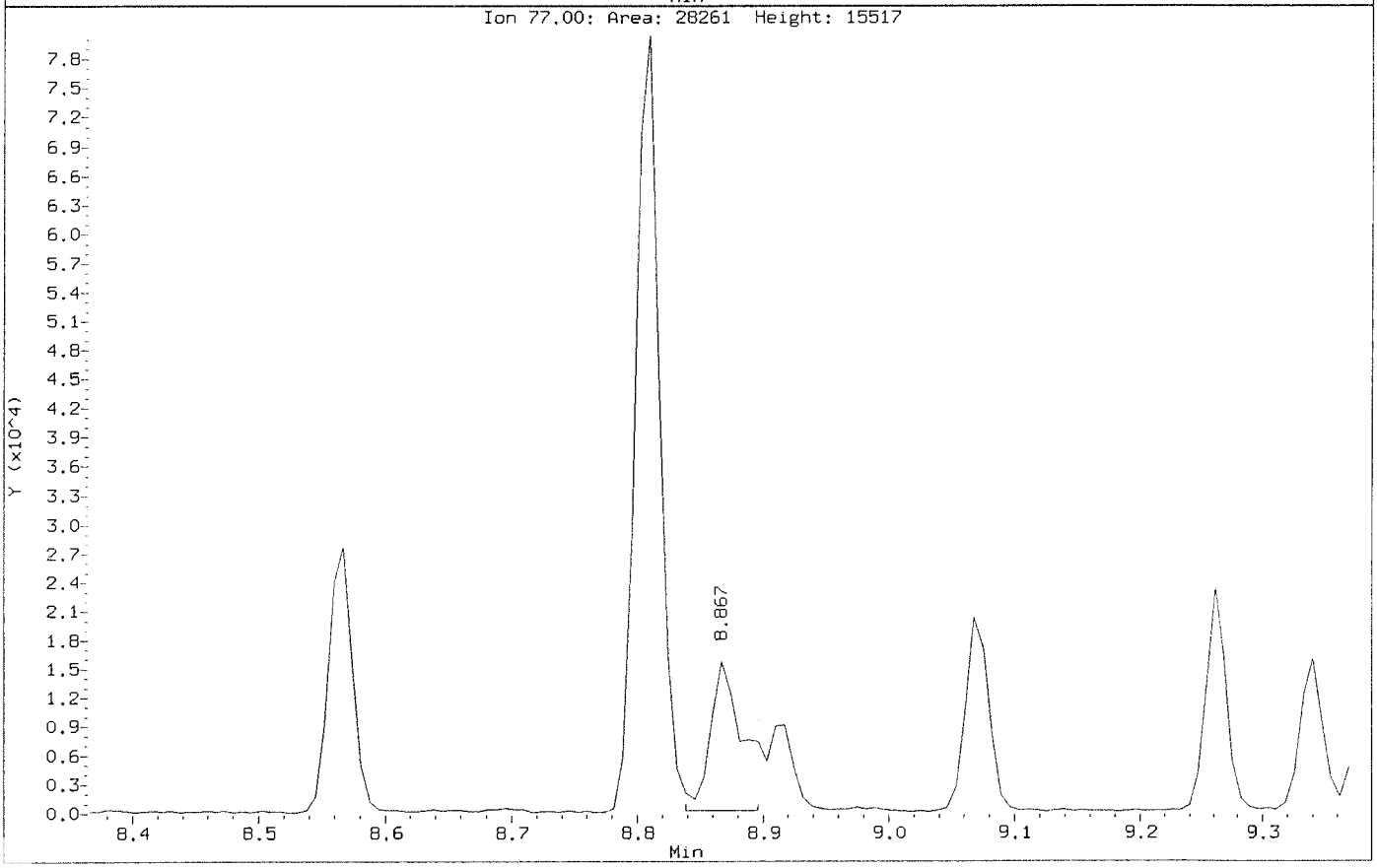
Injection Date: 19-JUN-2020 13:53
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200619.b\X061908.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 19-JUN-2020 14:17
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\X200619.b\8260W.m
Meth Date : 09-Jul-2020 09:58 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 14:17 Cal File: X061908.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

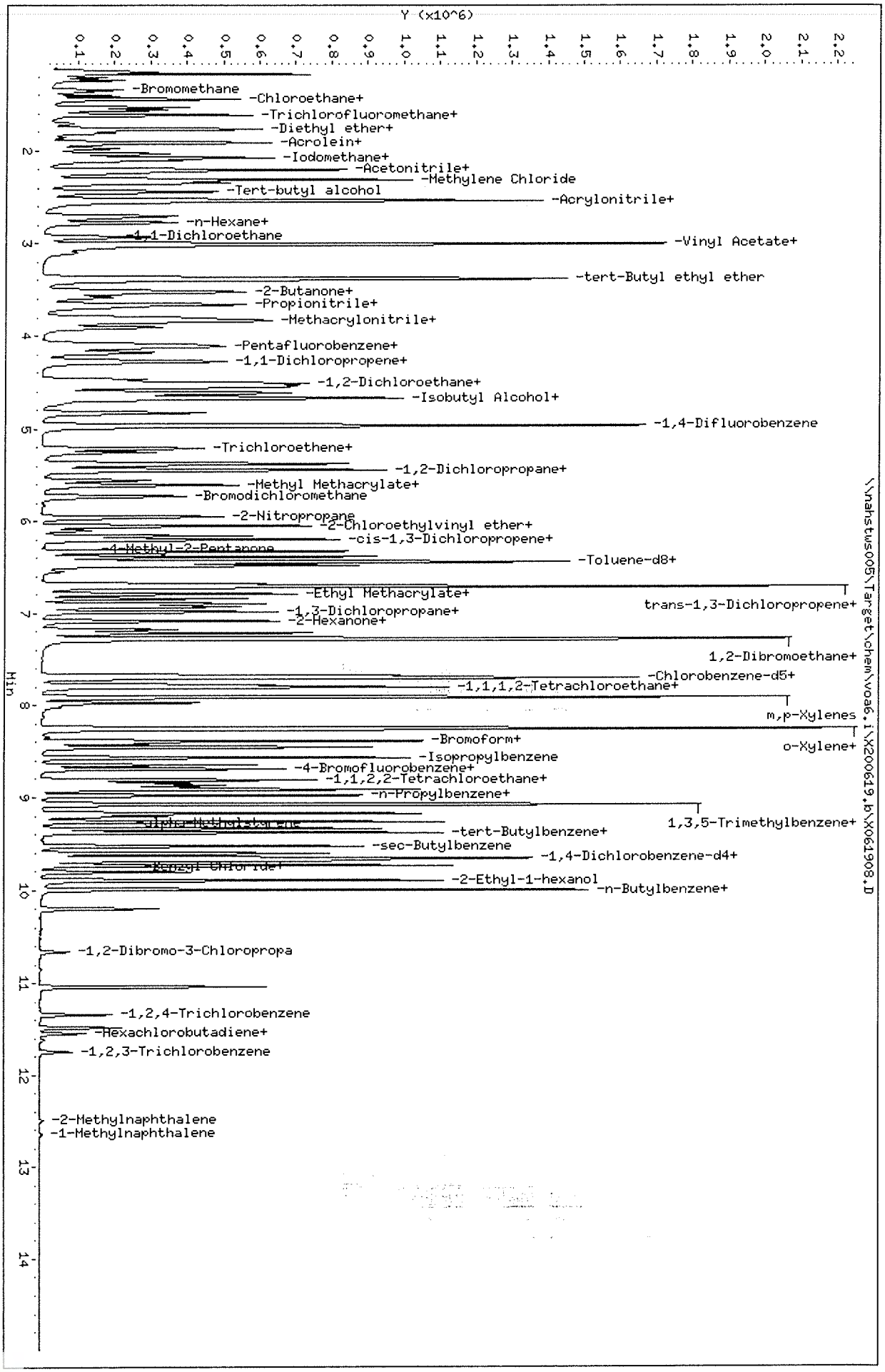
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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	4.189	(1.000)	217032	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	404243	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	377860	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	173644	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	139554	50.0000	50.14
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	200469	50.0000	49.41
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	462779	50.0000	49.23
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	181727	50.0000	47.21
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	139216	50.0000	50.59
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	202713	50.0000	50.27
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.914)	170866	50.0000	49.51
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	120471	50.0000	49.64
22 1,1-Dichloroethane	63	2.921	2.921	(0.697)	332209	50.0000	49.28
11 1,1-Dichloroethene	96	1.911	1.911	(0.456)	106312	50.0000	50.16
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	168723	50.0000	46.36
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	21693	50.0000	55.42
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	153198	50.0000	47.74 (M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	47111	50.0000	56.82
79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	465662	50.0000	49.17
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.658	(1.102)	13384	50.0000	50.08
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	149730	50.0000	50.23
88 1,2-Dichlorobenzene	146	9.998	9.999	(1.034)	234108	50.0000	49.74
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	268864	50.0000	50.75

	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)	196424	50.0000	51.56
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	438555	50.0000	49.11
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	250973	50.0000	48.50
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	249577	50.0000	49.06
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	255457	50.0000	48.49
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	199632	50.0000	47.39
24	2-Butanone	43	3.580	3.580	(0.855)	252176	100.000	100.30
76	2-Chlorotoluene	91	8.974	8.981	(0.928)	399548	50.0000	48.44
52	2-Hexanone	43	7.090	7.090	(0.924)	402559	100.000	103.18
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	461628	50.0000	48.29
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	414592	50.0000	48.58
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	576050	100.000	101.15
10	Acetone	43	1.976	1.976	(0.472)	181029	100.000	103.73
37	Benzene	78	4.519	4.519	(0.909)	559895	50.0000	49.57
74	Bromobenzene	156	8.809	8.809	(0.911)	159521	50.0000	48.96
29	Bromochloromethane	128	3.795	3.795	(0.906)	79902	50.0000	48.04
39	Bromodichloromethane	83	5.729	5.729	(1.153)	210222	50.0000	51.10
66	Bromoform	173	8.415	8.416	(1.097)	103619	50.0000	51.46
6	Bromomethane	94	1.338	1.331	(0.320)	93224	50.0000	45.88
19	Carbon Disulfide	76	2.069	2.069	(0.494)	702232	100.000	100.74
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	163161	50.0000	46.32(H)
59	Chlorobenzene	112	7.699	7.699	(1.004)	357442	50.0000	48.85
7	Chloroethane	64	1.403	1.396	(0.335)	113731	50.0000	49.30
28	Chloroform	83	3.910	3.910	(0.933)	266770	50.0000	50.19
3	Chloromethane	50	1.080	1.081	(0.258)	246924	50.0000	45.53
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	157722	50.0000	50.52
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	247638	50.0000	50.41
55	Dibromochloromethane	129	7.176	7.183	(0.936)	149385	50.0000	49.40
44	Dibromomethane	93	5.557	5.557	(1.118)	104098	50.0000	49.16
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	136419	50.0000	46.05
61	Ethylbenzene	106	7.799	7.807	(1.017)	177956	50.0000	47.69
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	31540	50.0000	56.79
67	Isopropylbenzene	105	8.566	8.566	(1.117)	517379	50.0000	49.11
62	m,p-Xylenes	106	7.907	7.907	(1.031)	428174	100.000	97.90
17	Methylene Chloride	84	2.305	2.305	(0.550)	157708	50.0000	49.90
87	n-Butylbenzene	91	9.998	9.999	(1.034)	375250	50.0000	48.77
73	n-Propylbenzene	91	8.917	8.917	(0.922)	622769	50.0000	48.69
92	Naphthalene	128	11.546	11.546	(1.194)	72724	50.0000	53.05
63	o-Xylene	106	8.244	8.244	(1.075)	220442	50.0000	49.49
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	480420	50.0000	48.36
64	Styrene	104	8.258	8.265	(1.077)	398324	50.0000	50.55
78	tert-Butylbenzene	119	9.339	9.340	(0.966)	334095	50.0000	47.64
56	Tetrachloroethene	164	6.933	6.933	(0.904)	94700	50.0000	48.42
50	Toluene	91	6.446	6.453	(0.840)	560410	50.0000	49.83
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.605)	130246	50.0000	52.80
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	222592	50.0000	48.86
38	Trichloroethene	130	5.206	5.206	(1.048)	135132	50.0000	50.59
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	196349	50.0000	50.77
5	Vinyl Chloride	62	1.145	1.138	(0.273)	209102	50.0000	48.72

QC Flag Legend

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

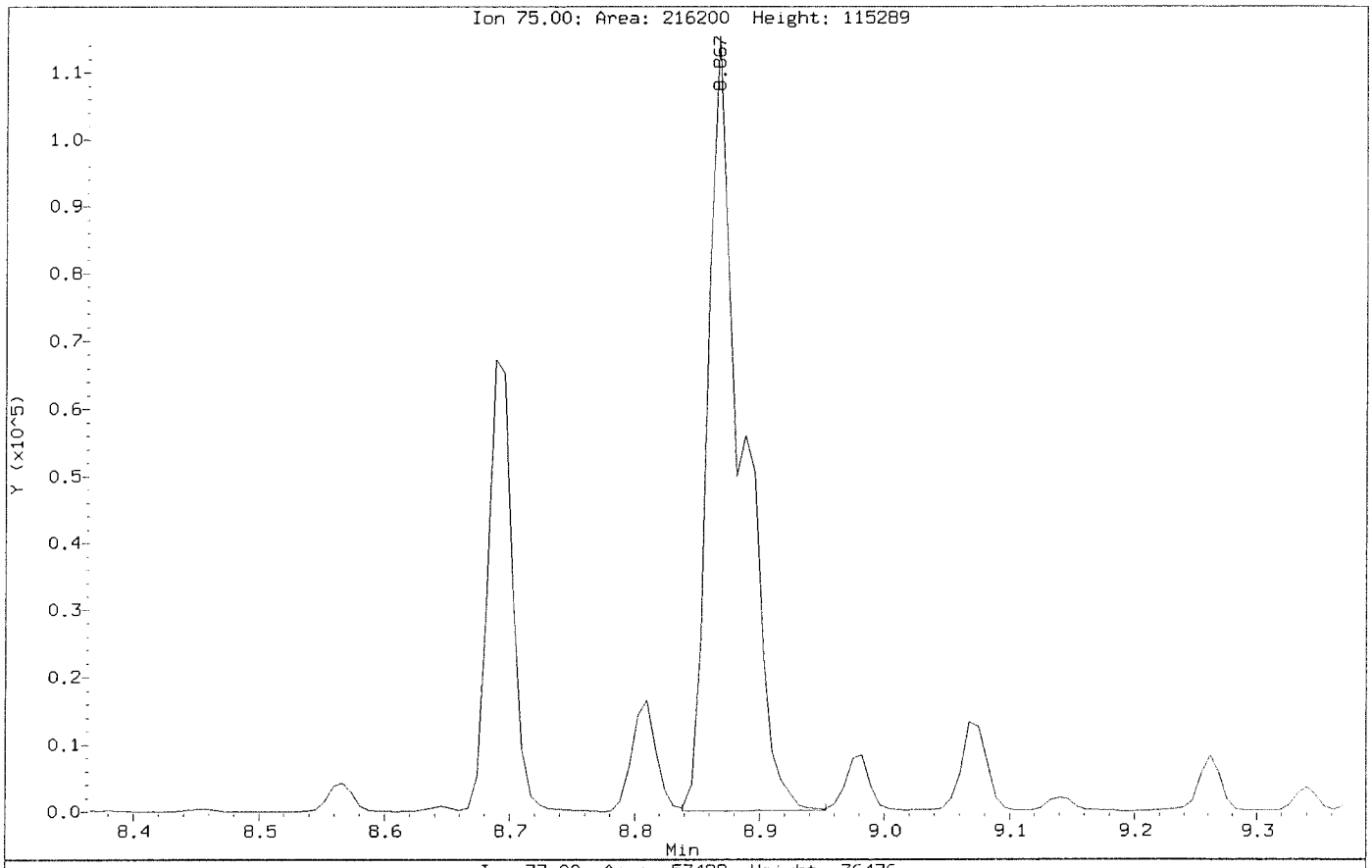


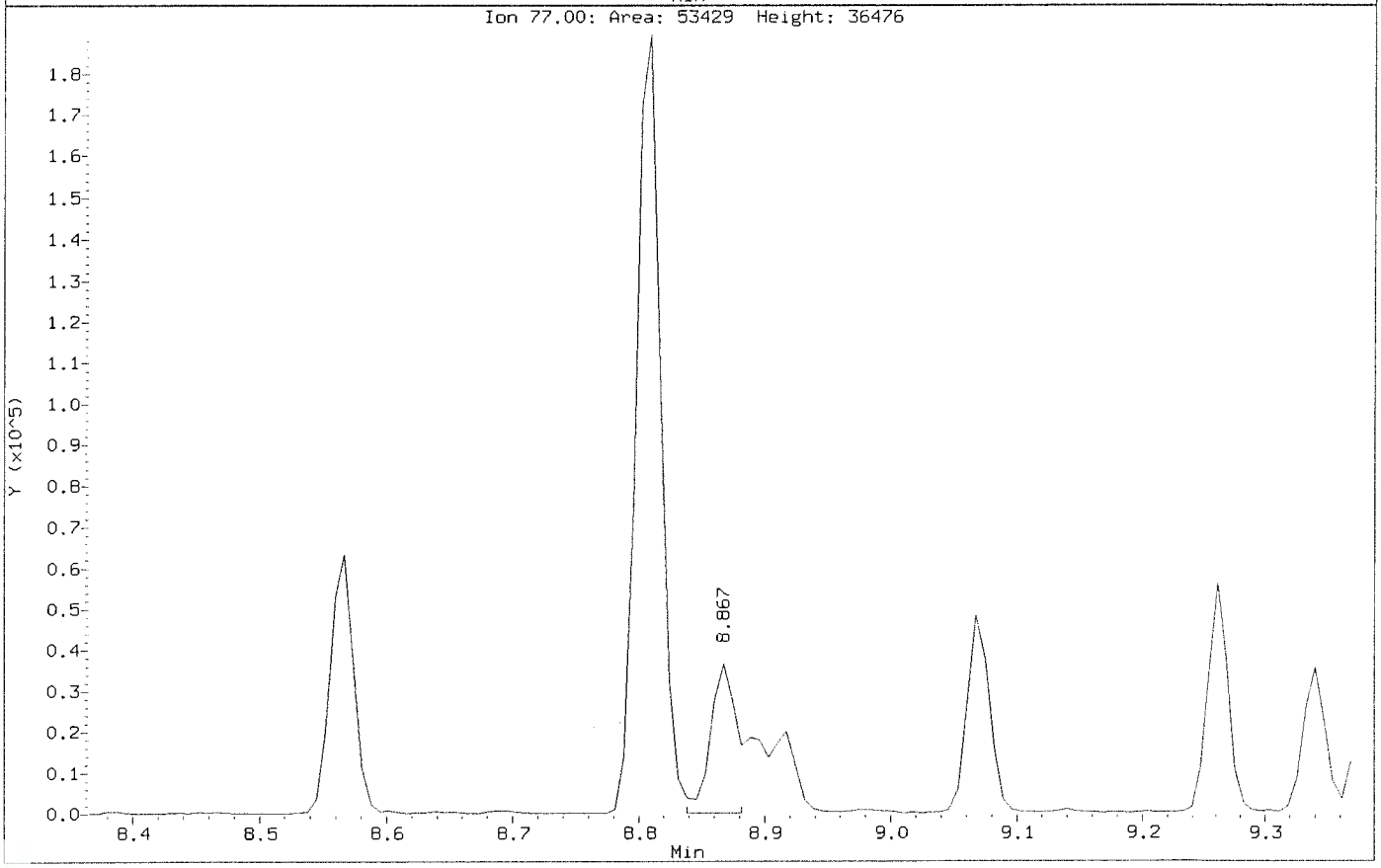
Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061908.D
Date : 19-JUN-2020 14:17
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061908.D
Injection Date: 19-JUN-2020 14:17
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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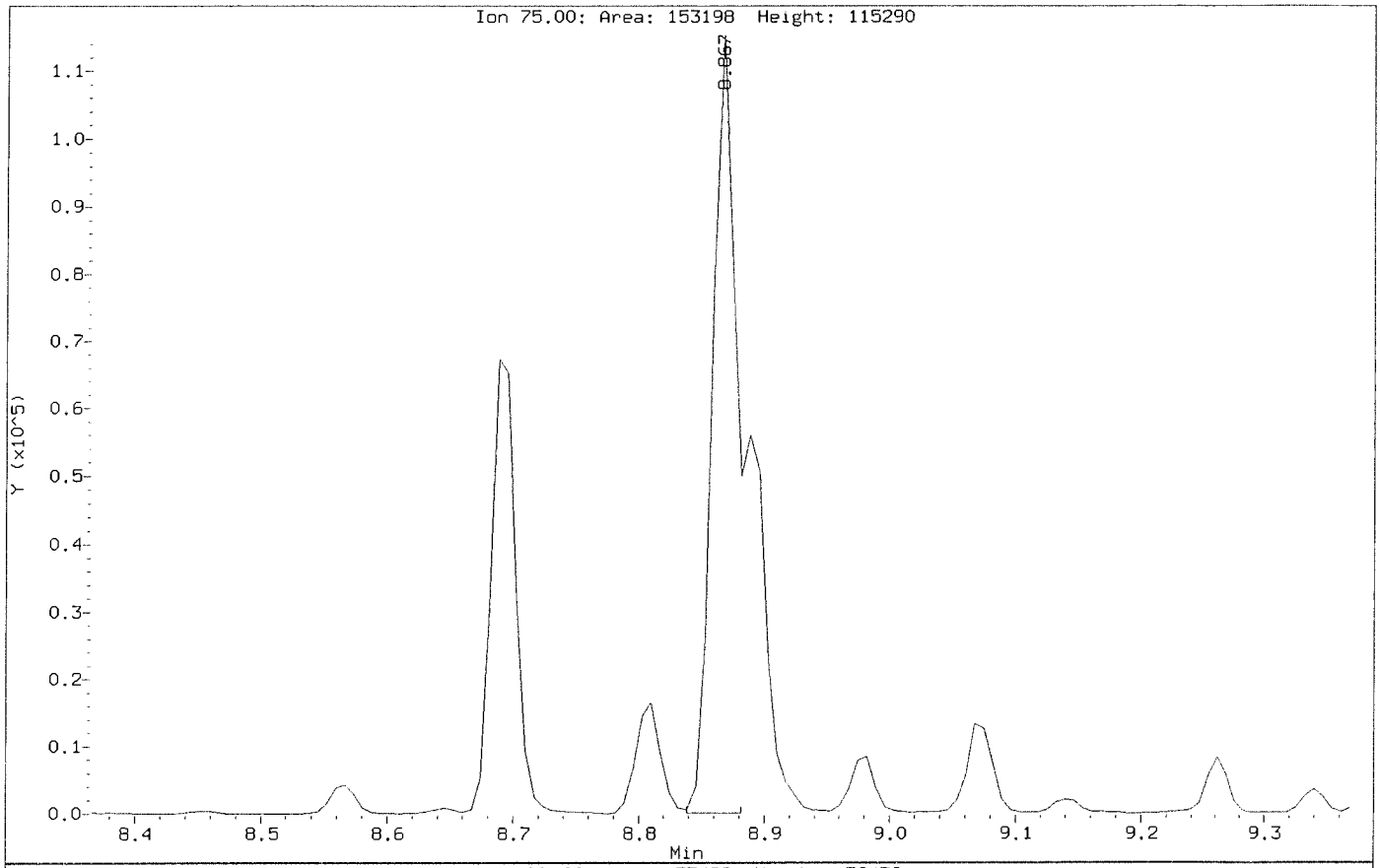
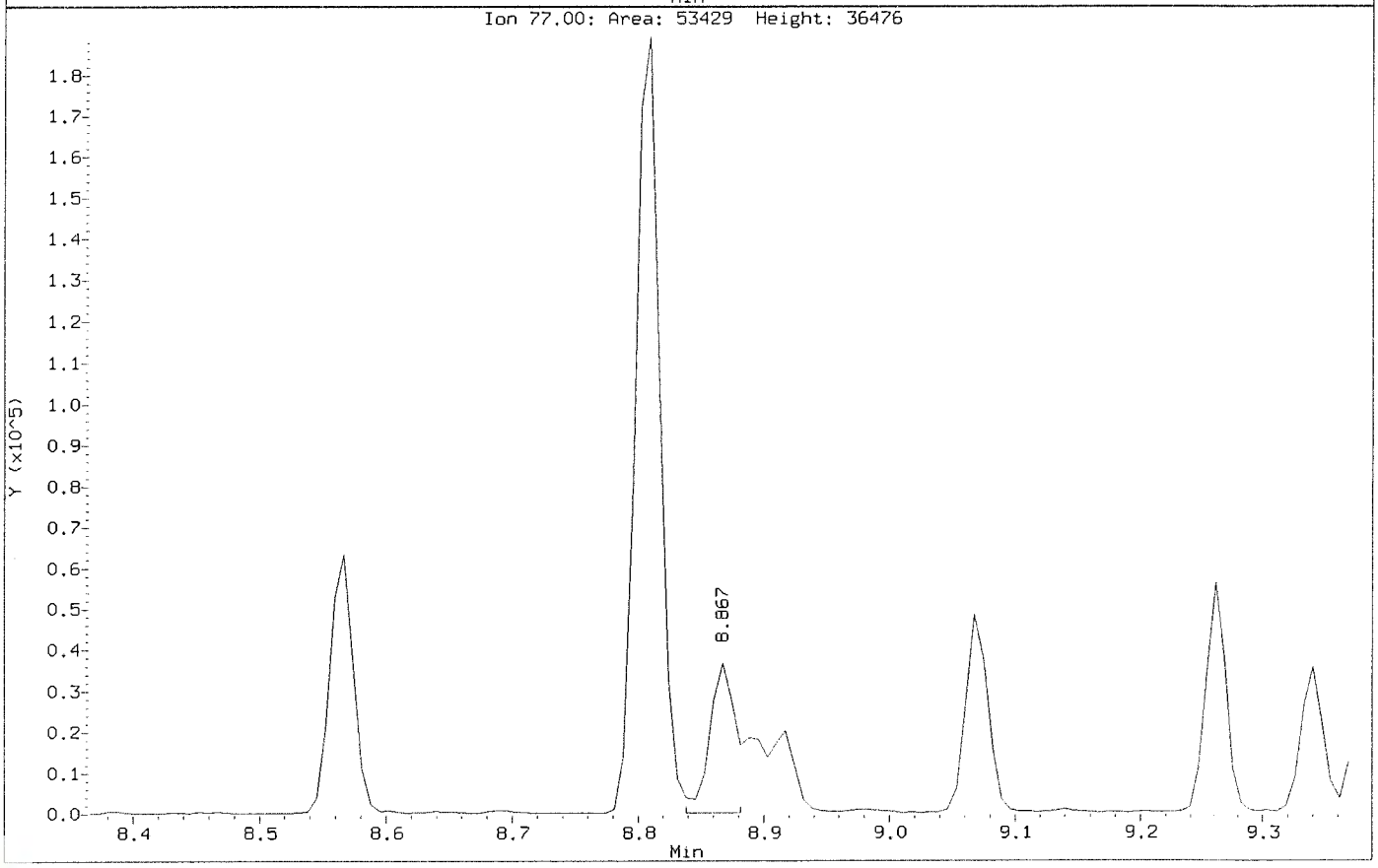
Injection Date: 19-JUN-2020 14:17
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200619.b\X061909.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 19-JUN-2020 14:41
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\X200619.b\8260W.m
Meth Date : 09-Jul-2020 09:58 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 14:41 Cal File: X061909.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)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.189	(1.000)	207107	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	380261	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	359910	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	167459	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	268669	100.000	101.15
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	391220	100.000	101.71
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	897632	100.000	100.25
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	357049	100.000	97.38
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	279590	100.000	106.68
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	416318	100.000	108.19
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	337077	100.000	101.28
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	238253	100.000	103.07
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	651535	100.000	101.30
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	214361	100.000	106.00
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	349531	100.000	102.10
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	37141	100.000	98.05
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	309185	100.000	99.92(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	74244	100.000	93.62
79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	956837	100.000	104.77
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.658	(1.102)	25675	100.000	99.76
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	294384	100.000	103.69
88 1,2-Dichlorobenzene	146	9.991	9.999	(1.033)	466908	100.000	102.88
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	509750	100.000	102.29

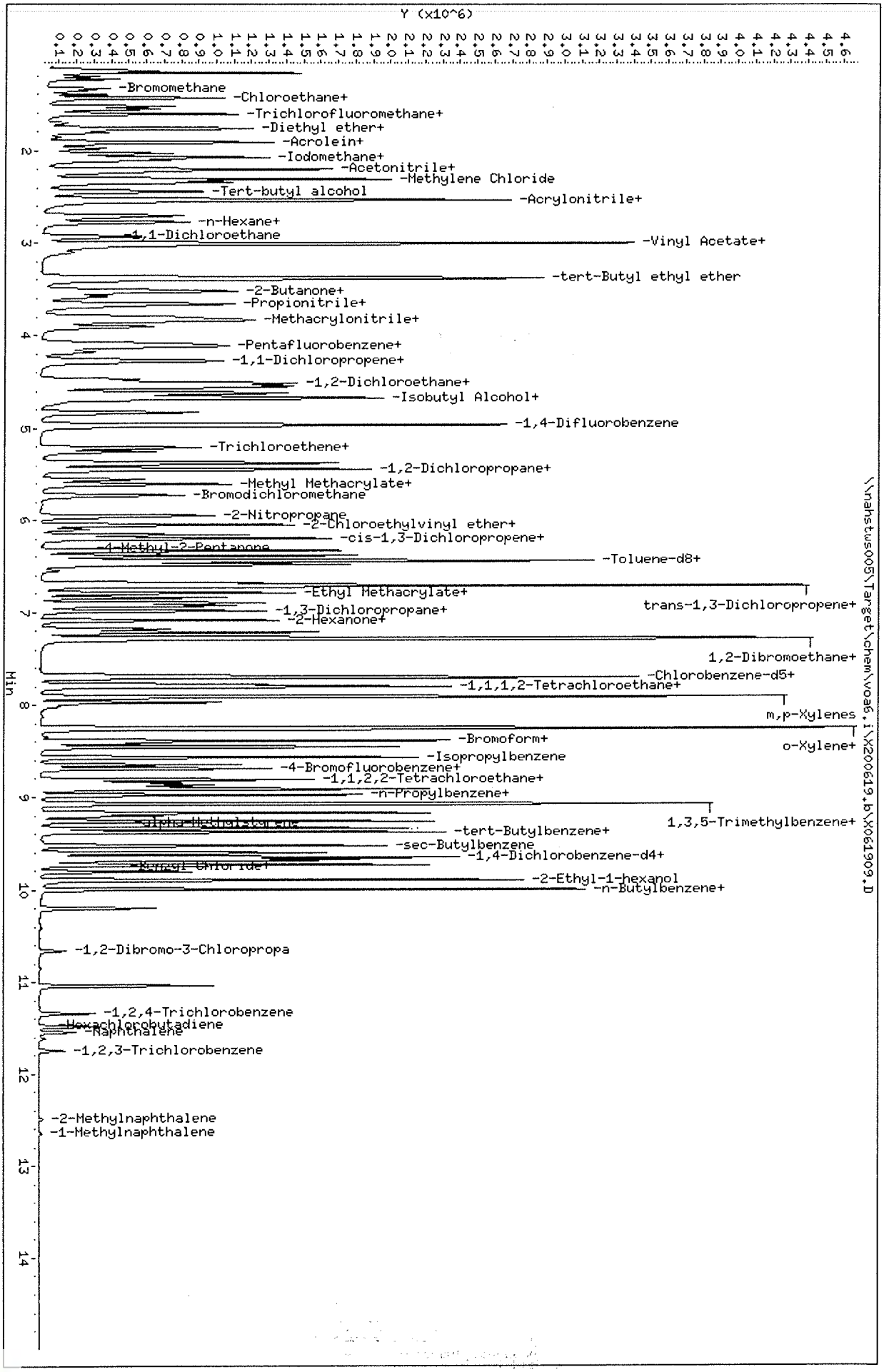
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	384174	100.000	107.20
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	926080	100.000	107.55
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	517382	100.000	103.69
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	495057	100.000	102.18
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	520981	100.000	102.54
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	399811	100.000	99.46
24	2-Butanone	43	3.580	3.580	(0.856)	497494	200.000	208.20(A)
76	2-Chlorotoluene	91	8.974	8.981	(0.928)	814329	100.000	102.37
52	2-Hexanone	43	7.090	7.090	(0.924)	801051	200.000	215.56(A)
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	957320	100.000	103.85
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	887855	100.000	107.88
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	1162046	200.000	214.22(A)
10	Acetone	43	1.976	1.976	(0.473)	338254	200.000	205.57(A)
37	Benzene	78	4.519	4.519	(0.909)	1106574	100.000	104.15
74	Bromobenzene	156	8.809	8.809	(0.911)	320495	100.000	102.00
29	Bromochloromethane	128	3.795	3.795	(0.908)	156658	100.000	98.70
39	Bromodichloromethane	83	5.729	5.729	(1.153)	418766	100.000	108.22
66	Bromoform	173	8.415	8.416	(1.097)	208317	100.000	108.62
6	Bromomethane	94	1.338	1.331	(0.320)	193653	100.000	99.88
19	Carbon Disulfide	76	2.069	2.069	(0.495)	1427464	200.000	214.60(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	341231	100.000	102.99(H)
59	Chlorobenzene	112	7.699	7.699	(1.004)	718616	100.000	103.12
7	Chloroethane	64	1.403	1.396	(0.336)	229245	100.000	104.14
28	Chloroform	83	3.910	3.910	(0.935)	523676	100.000	103.25
3	Chloromethane	50	1.081	1.081	(0.258)	522443	100.000	100.96
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	306975	100.000	103.05
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	498016	100.000	107.77
55	Dibromochloromethane	129	7.176	7.183	(0.936)	304242	100.000	105.62
44	Dibromomethane	93	5.557	5.557	(1.118)	207265	100.000	104.05
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	288320	100.000	100.90
61	Ethylbenzene	106	7.799	7.807	(1.017)	369349	100.000	103.93
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	51077	100.000	96.74
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1084132	100.000	108.03
62	m,p-Xylenes	106	7.907	7.907	(1.031)	892171	200.000	214.16(A)
17	Methylene Chloride	84	2.305	2.305	(0.551)	305432	100.000	103.37
87	n-Butylbenzene	91	9.998	9.999	(1.034)	801382	100.000	108.01
73	n-Propylbenzene	91	8.917	8.917	(0.922)	1325497	100.000	107.46
92	Naphthalene	128	11.546	11.546	(1.194)	130246	100.000	97.59
63	o-Xylene	106	8.244	8.244	(1.075)	446070	100.000	105.14
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	1040993	100.000	108.66
64	Styrene	104	8.258	8.265	(1.077)	791949	100.000	105.53
78	tert-Butylbenzene	119	9.339	9.340	(0.966)	722187	100.000	106.78
56	Tetrachloroethene	164	6.933	6.933	(0.904)	196445	100.000	105.46
50	Toluene	91	6.446	6.453	(0.840)	1116826	100.000	104.25
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	250651	100.000	106.49
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	450760	100.000	105.20
38	Trichloroethene	130	5.206	5.206	(1.048)	269624	100.000	107.31
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	409693	100.000	111.02
5	Vinyl Chloride	62	1.138	1.138	(0.272)	423795	100.000	103.47

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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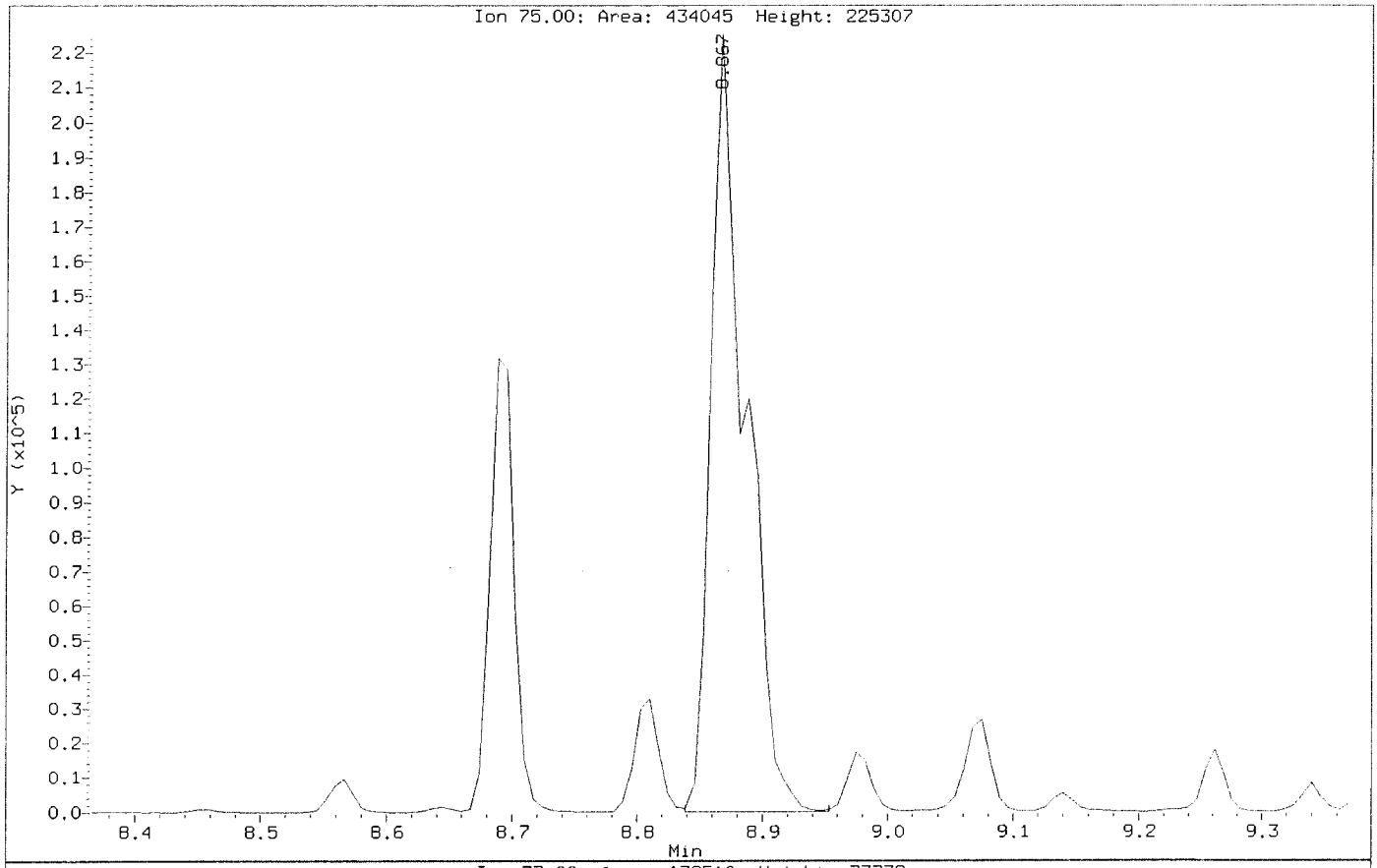
Date : 19-JUN-2020 14:41
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

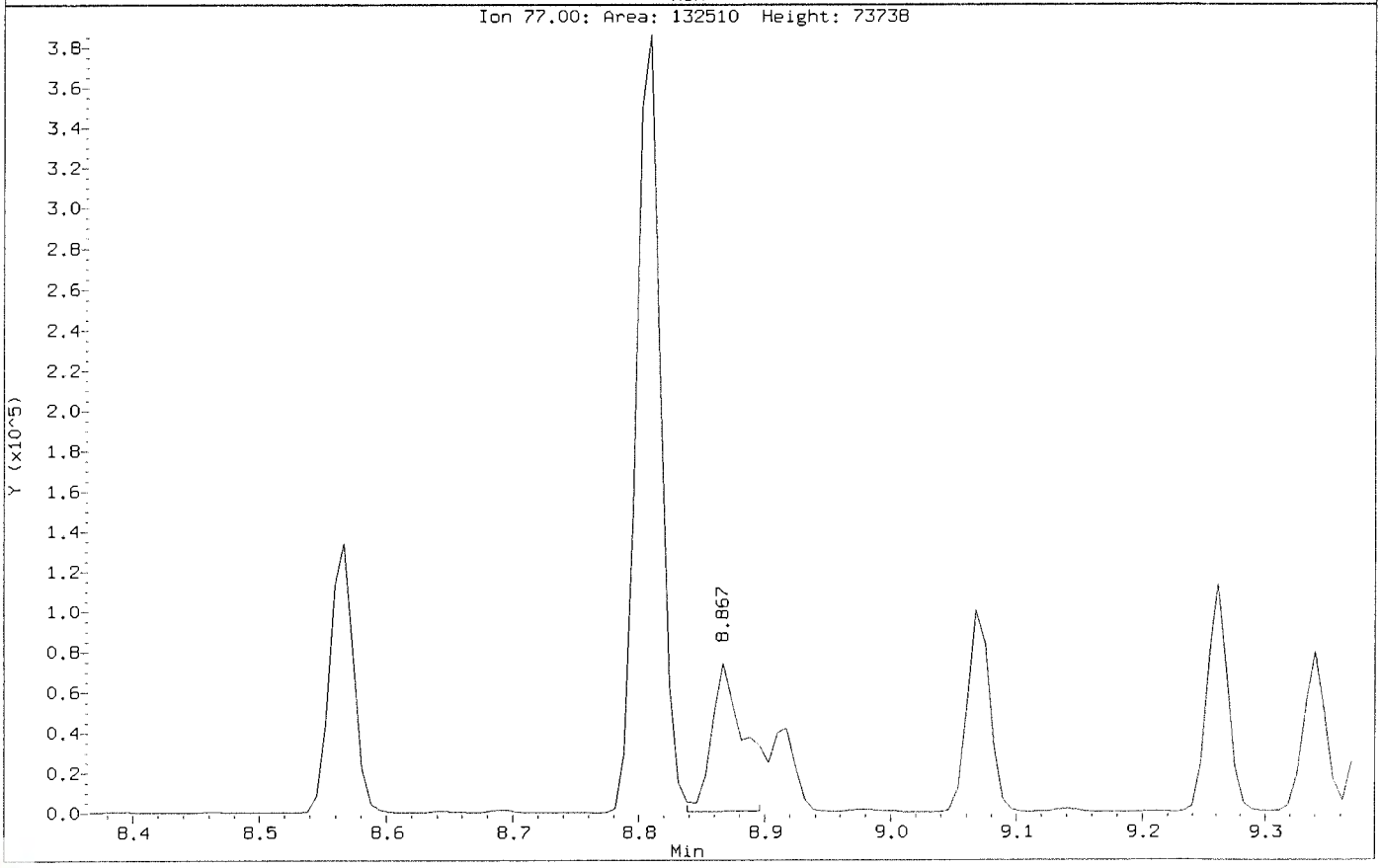
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

\\nahstws005\Target\chem\voa6.i\X200619.b\X061909.D

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061909.D
Injection Date: 19-JUN-2020 14:41
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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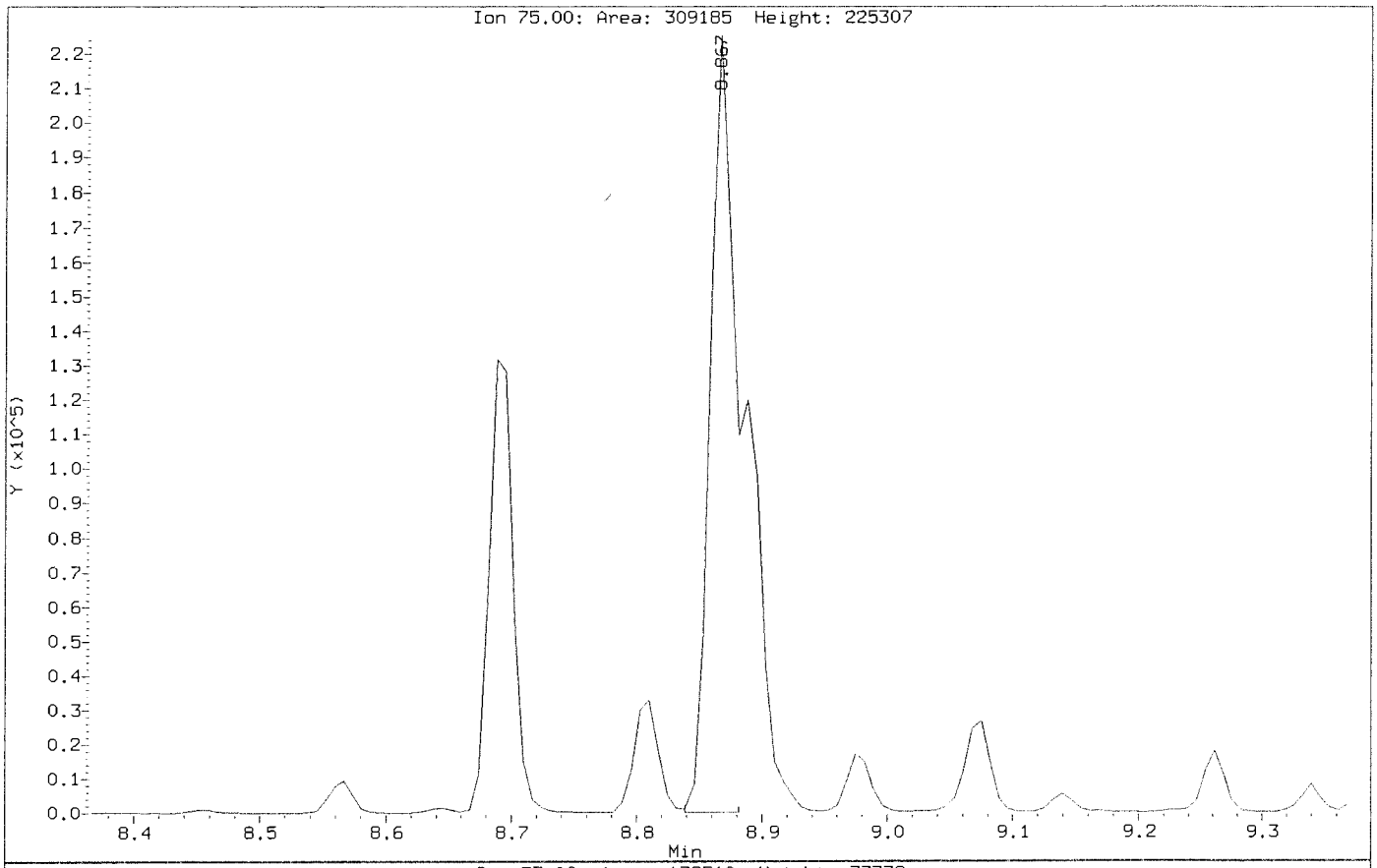
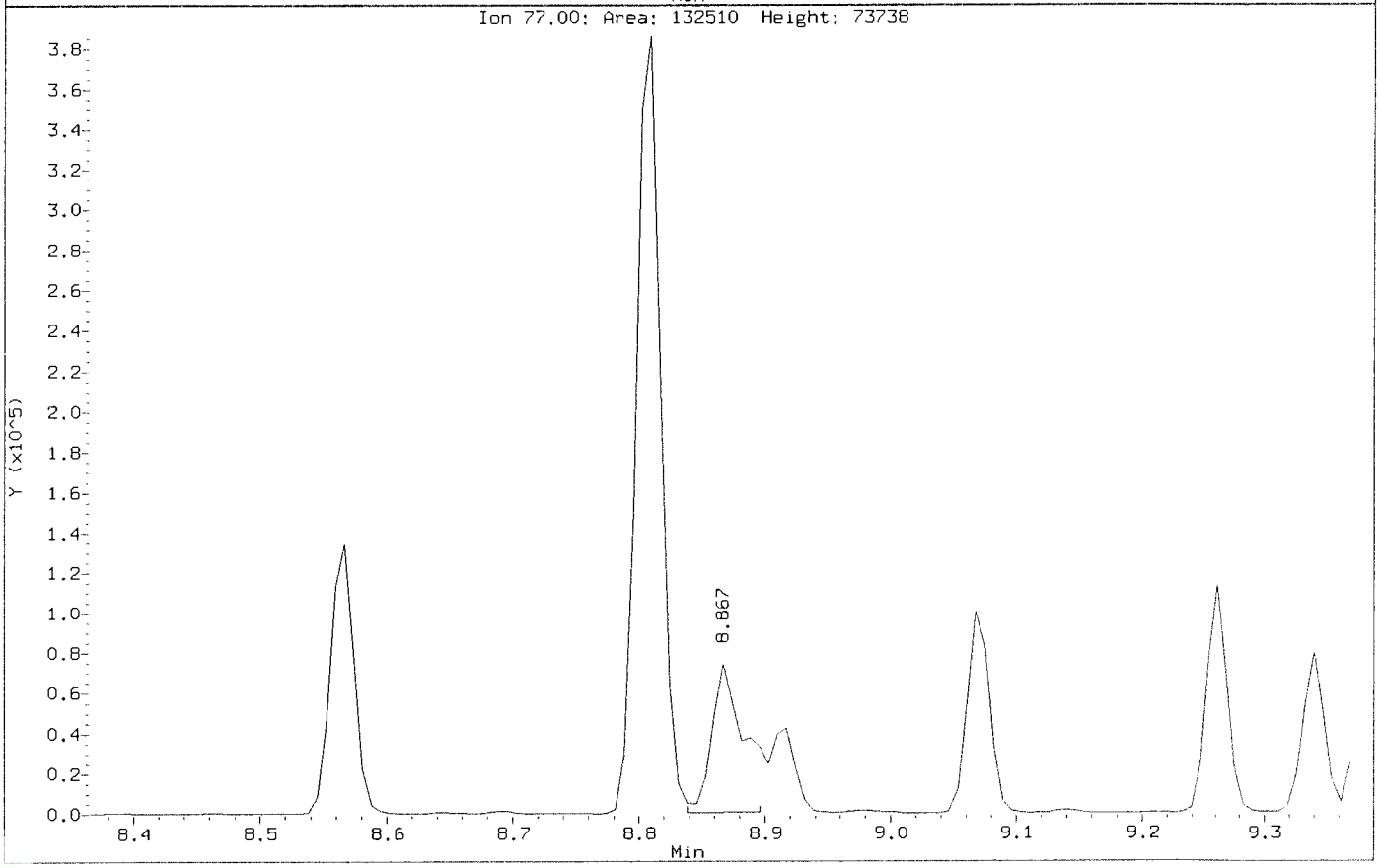
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200619.b\X061910.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 19-JUN-2020 15:05
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\X200619.b\8260W.m
Meth Date : 09-Jul-2020 09:58 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 15:05 Cal File: X061910.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	4.189	4.189	(1.000)	202230	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	373068	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	356112	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	163286	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	395758	150.000	152.60
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	571773	150.000	152.55
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1332723	150.000	150.44
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	527693	150.000	145.45
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	411945	150.000	158.85
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	610074	150.000	162.38
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	499427	150.000	153.89
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	347972	150.000	152.14
22 1,1-Dichloroethane	63	2.922	2.921	(0.697)	950646	150.000	151.37
11 1,1-Dichloroethene	96	1.912	1.911	(0.456)	316563	150.000	160.32
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	516270	150.000	153.72
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	55004	150.000	146.10
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	441241	150.000	146.25 (M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	111992	150.000	145.51
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1394095	150.000	156.55
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	37264	150.000	148.56
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	433930	150.000	154.48
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	677286	150.000	153.05
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	747213	150.000	152.84

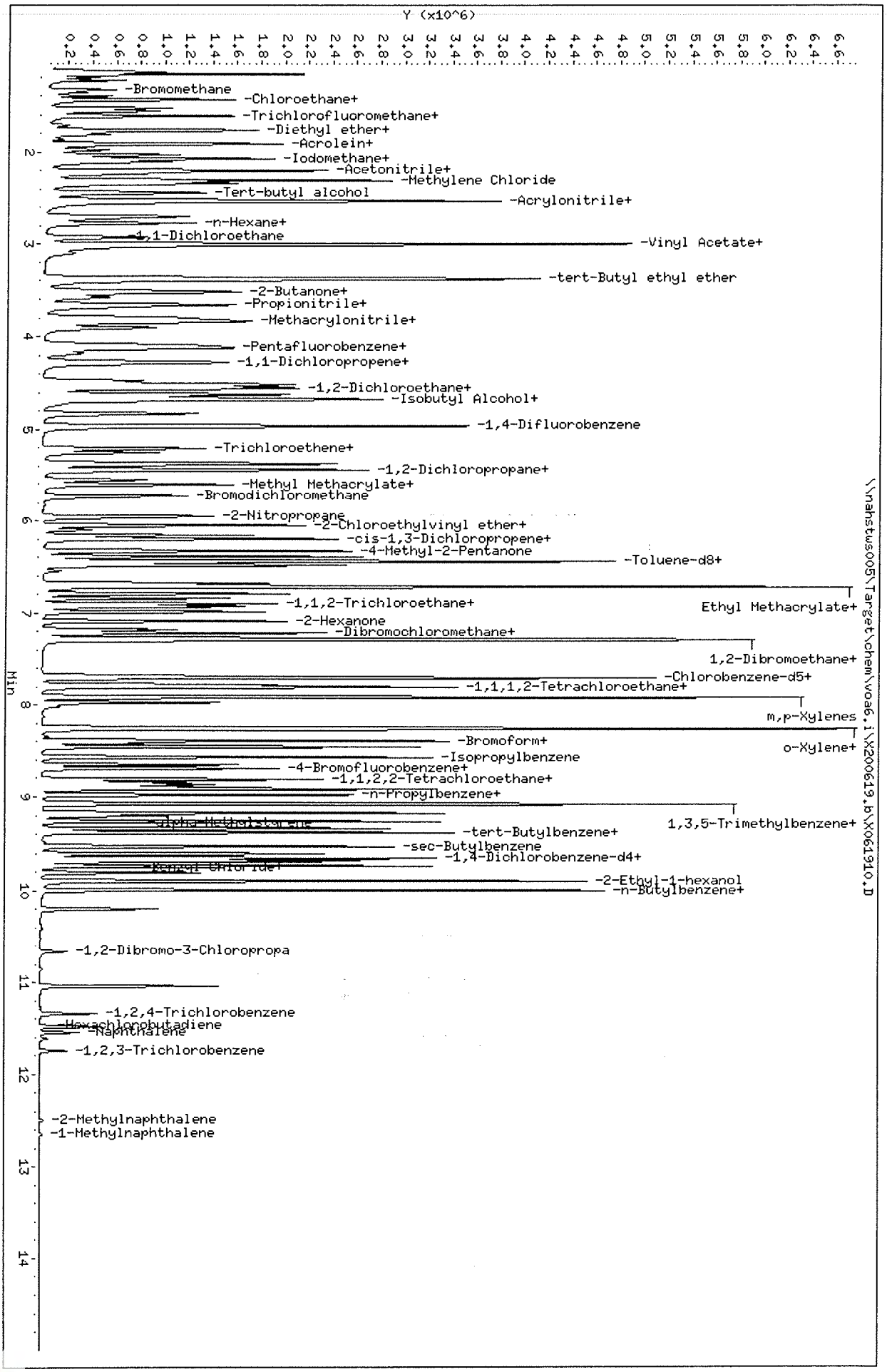
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	559872	150.000	159.24
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	1342272	150.000	159.86
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	764168	150.000	157.07
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	714020	150.000	148.95
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	764161	150.000	154.26
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	572730	150.000	145.91
24	2-Butanone	43	3.581	3.580	(0.855)	710305	300.000	304.79(A)
76	2-Chlorotoluene	91	8.974	8.981	(0.928)	1193024	150.000	153.82
52	2-Hexanone	43	7.090	7.090	(0.924)	1164749	300.000	316.77(A)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	1394583	150.000	155.15
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1298626	150.000	161.83
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	1678794	300.000	312.79(A)
10	Acetone	43	1.976	1.976	(0.472)	483263	300.000	301.96(A)
37	Benzene	78	4.519	4.519	(0.909)	1626209	150.000	156.02
74	Bromobenzene	156	8.810	8.809	(0.911)	473068	150.000	154.40
29	Bromochloromethane	128	3.795	3.795	(0.906)	228714	150.000	147.57
39	Bromodichloromethane	83	5.729	5.729	(1.153)	612641	150.000	161.38
66	Bromoform	173	8.416	8.416	(1.097)	306306	150.000	161.43
6	Bromomethane	94	1.331	1.331	(0.318)	280237	150.000	148.02
19	Carbon Disulfide	76	2.069	2.069	(0.494)	2098944	300.000	323.16(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	513987	150.000	158.12(H)
59	Chlorobenzene	112	7.699	7.699	(1.004)	1055002	150.000	153.01
7	Chloroethane	64	1.396	1.396	(0.333)	330987	150.000	153.99
28	Chloroform	83	3.910	3.910	(0.933)	756598	150.000	152.77
3	Chloromethane	50	1.081	1.081	(0.258)	818258	150.000	161.94
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	451807	150.000	155.33
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	733988	150.000	161.91
55	Dibromochloromethane	129	7.176	7.183	(0.936)	451676	150.000	158.48
44	Dibromomethane	93	5.558	5.557	(1.118)	300741	150.000	153.89
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	435763	150.000	155.69
61	Ethylbenzene	106	7.800	7.807	(1.017)	543875	150.000	154.68
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	73978	150.000	144.69
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1600797	150.000	161.22
62	m,p-Xylenes	106	7.907	7.907	(1.031)	1308193	300.000	317.38(A)
17	Methylene Chloride	84	2.306	2.305	(0.550)	442721	150.000	154.44
87	n-Butylbenzene	91	9.999	9.999	(1.034)	1165725	150.000	161.13
73	n-Propylbenzene	91	8.917	8.917	(0.922)	1949966	150.000	162.13
92	Naphthalene	128	11.546	11.546	(1.194)	197970	150.000	149.05
63	o-Xylene	106	8.244	8.244	(1.075)	649359	150.000	154.69
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	1524362	150.000	163.18
64	Styrene	104	8.265	8.265	(1.078)	1161143	150.000	156.38
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	1053367	150.000	159.73
56	Tetrachloroethene	164	6.933	6.933	(0.904)	288302	150.000	156.43
50	Toluene	91	6.453	6.453	(0.841)	1633150	150.000	154.08
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.603)	366859	150.000	159.62
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	668669	150.000	159.07
38	Trichloroethene	130	5.207	5.206	(1.048)	396102	150.000	160.68
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	611090	150.000	169.59
5	Vinyl Chloride	62	1.138	1.138	(0.272)	653551	150.000	163.42

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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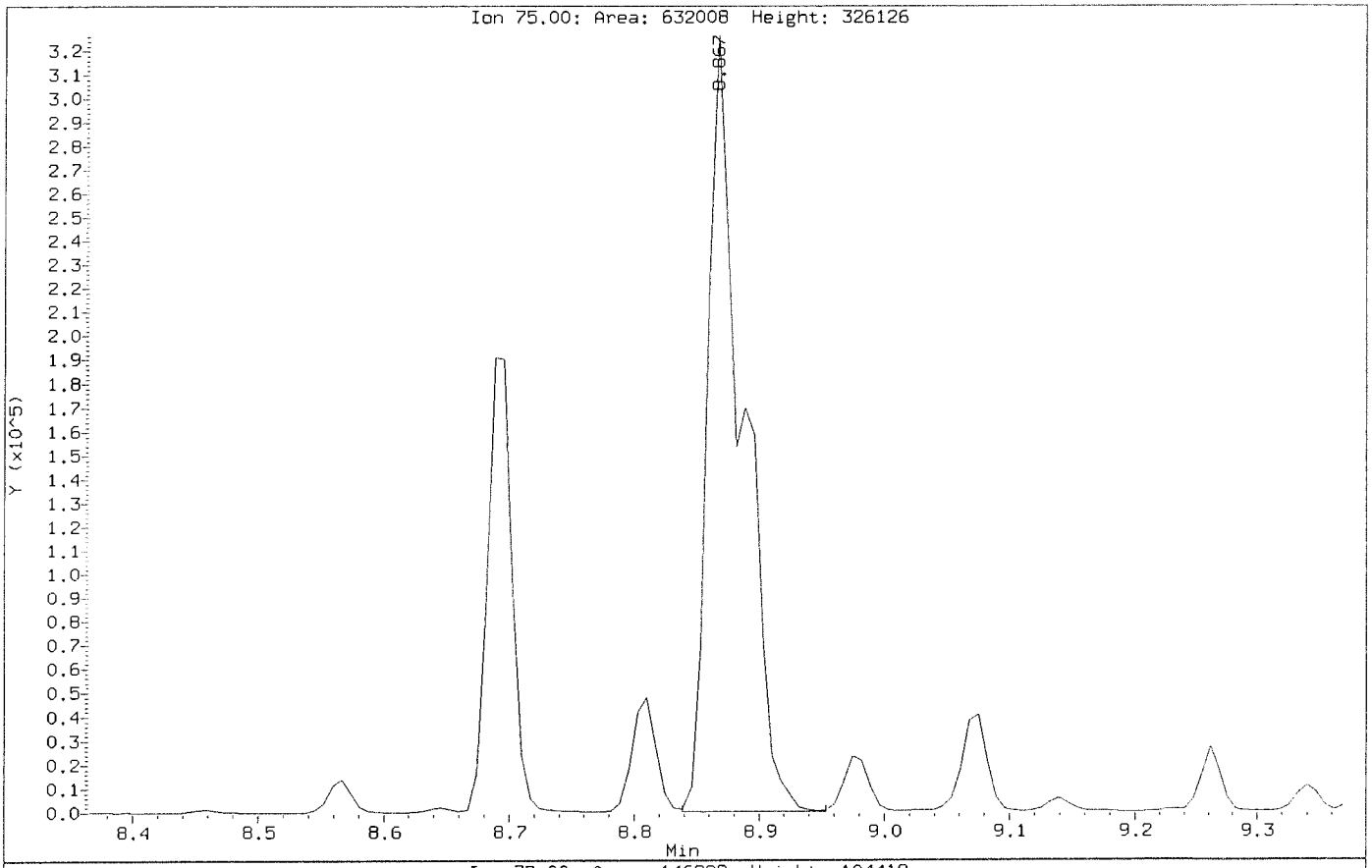
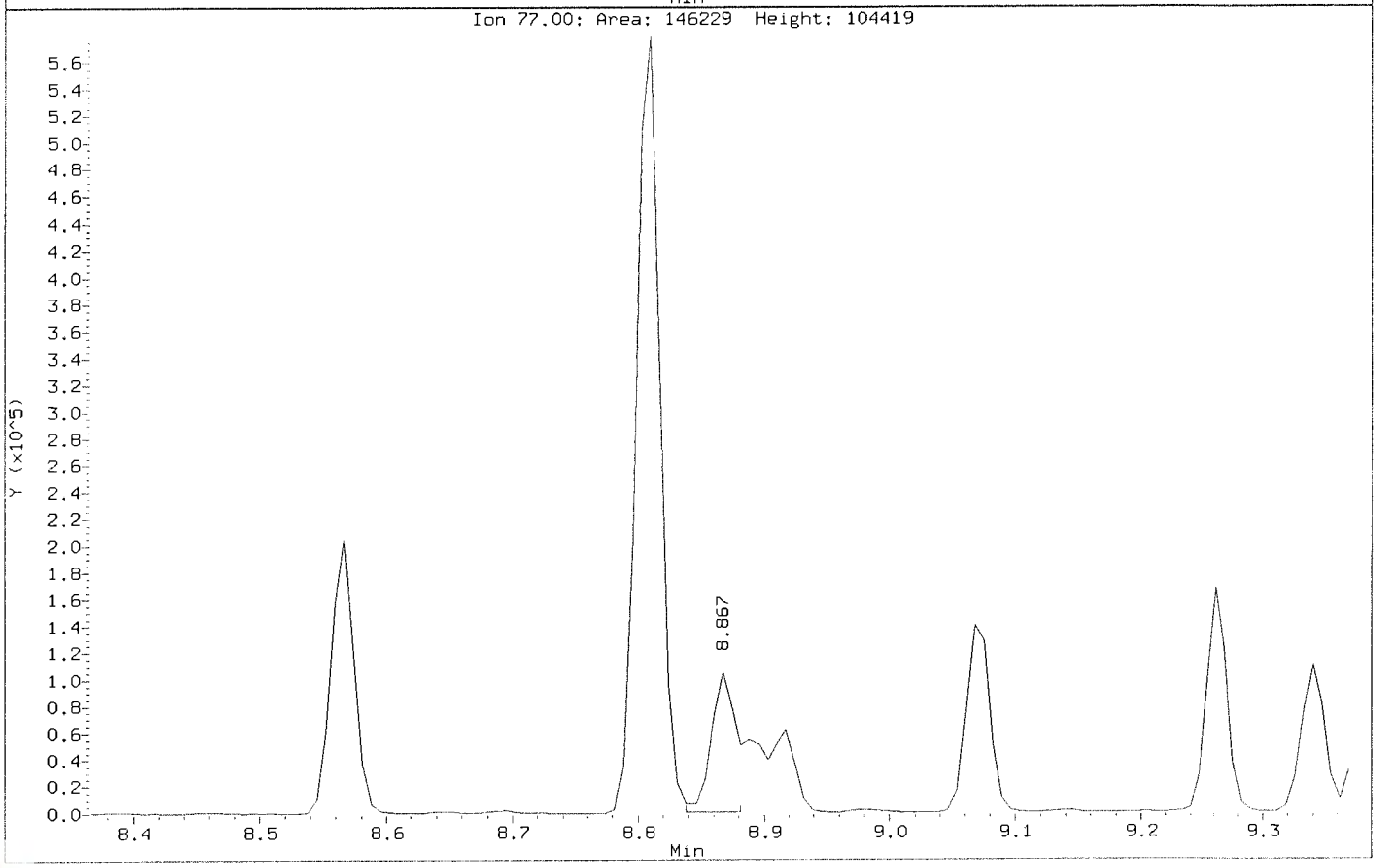
Date : 19-JUN-2020 15:05
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061910.D
Injection Date: 19-JUN-2020 15:05
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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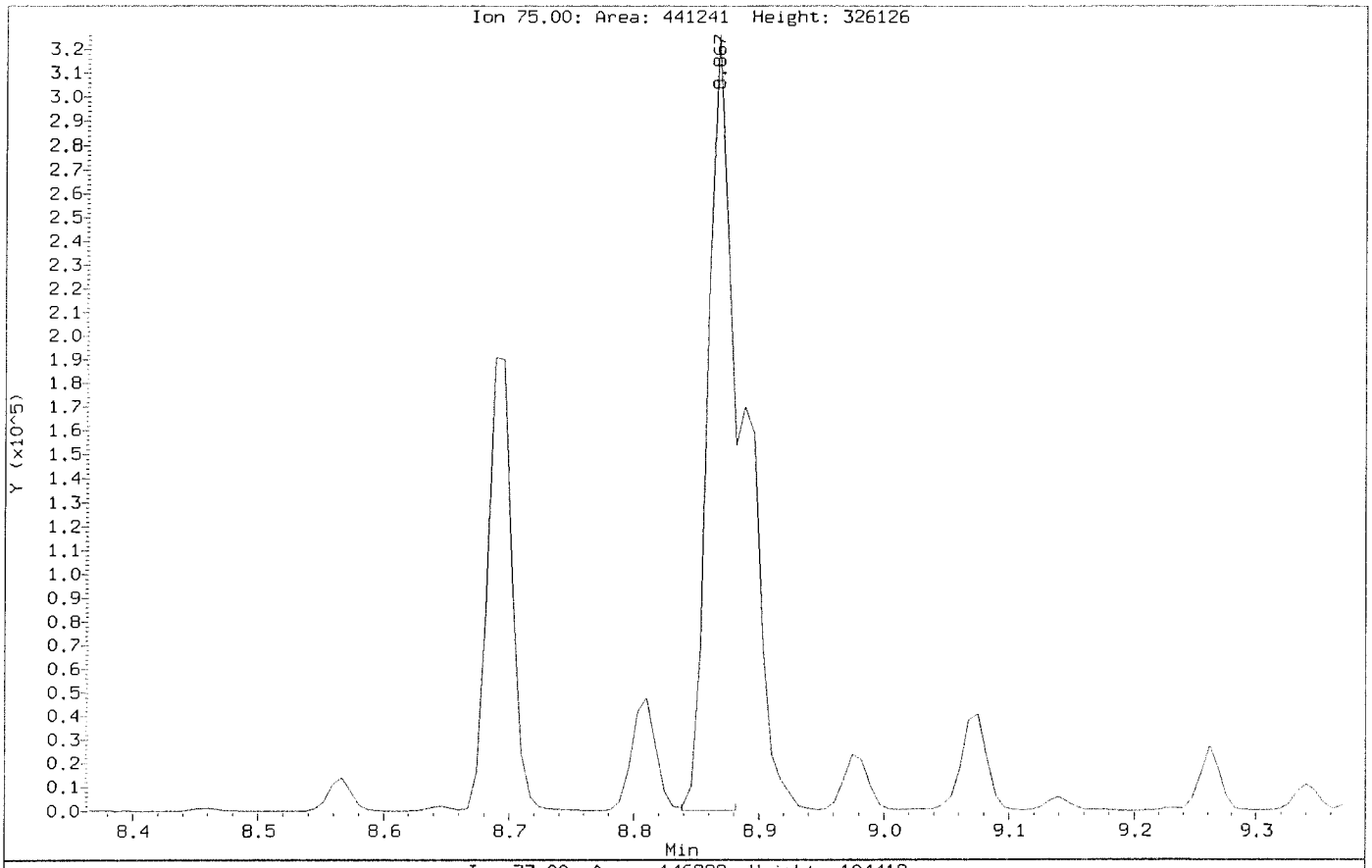
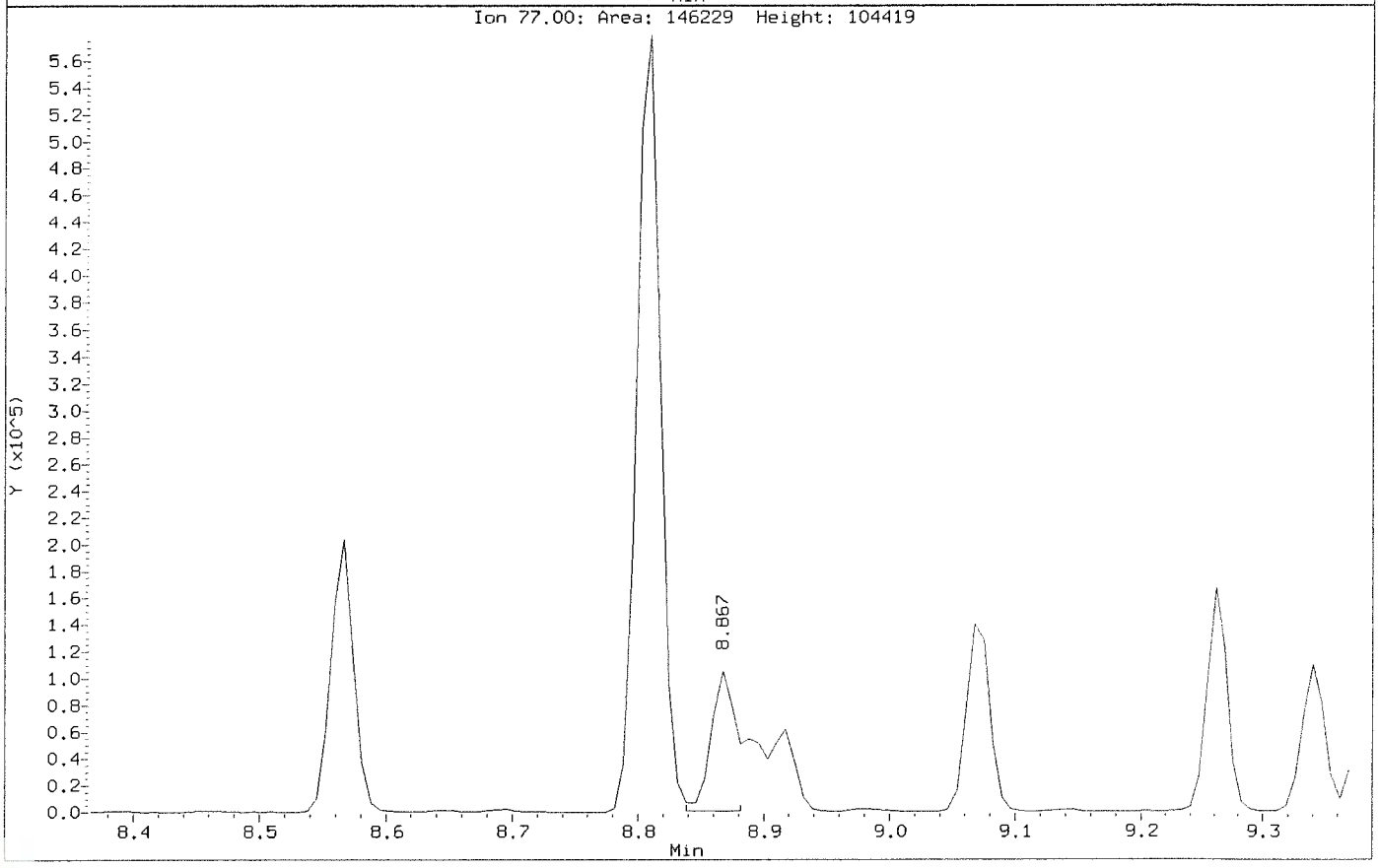
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200619.b\X061911.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 19-JUN-2020 15:29
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\X200619.b\8260W.m
Meth Date : 09-Jul-2020 09:58 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 15:29 Cal File: X061911.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)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	202512	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	369920	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	355446	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	160294	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	511755	200.000	197.05
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	739559	200.000	197.23
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1722990	200.000	194.85
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	683763	200.000	188.83
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	525031	200.000	202.84(A)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	769756	200.000	204.59(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	642225	200.000	201.59(A)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	442199	200.000	193.70
22 1,1-Dichloroethane	63	2.921	2.921	(0.697)	1200600	200.000	190.90
11 1,1-Dichloroethene	96	1.911	1.911	(0.456)	401703	200.000	203.15(A)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	655069	200.000	196.71
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	76925	200.000	201.92(A)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	560130	200.000	189.12(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	153582	200.000	203.75(A)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1771094	200.000	202.60(A)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	49492	200.000	201.04(A)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	555512	200.000	198.13
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	865428	200.000	199.21
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	952582	200.000	196.51

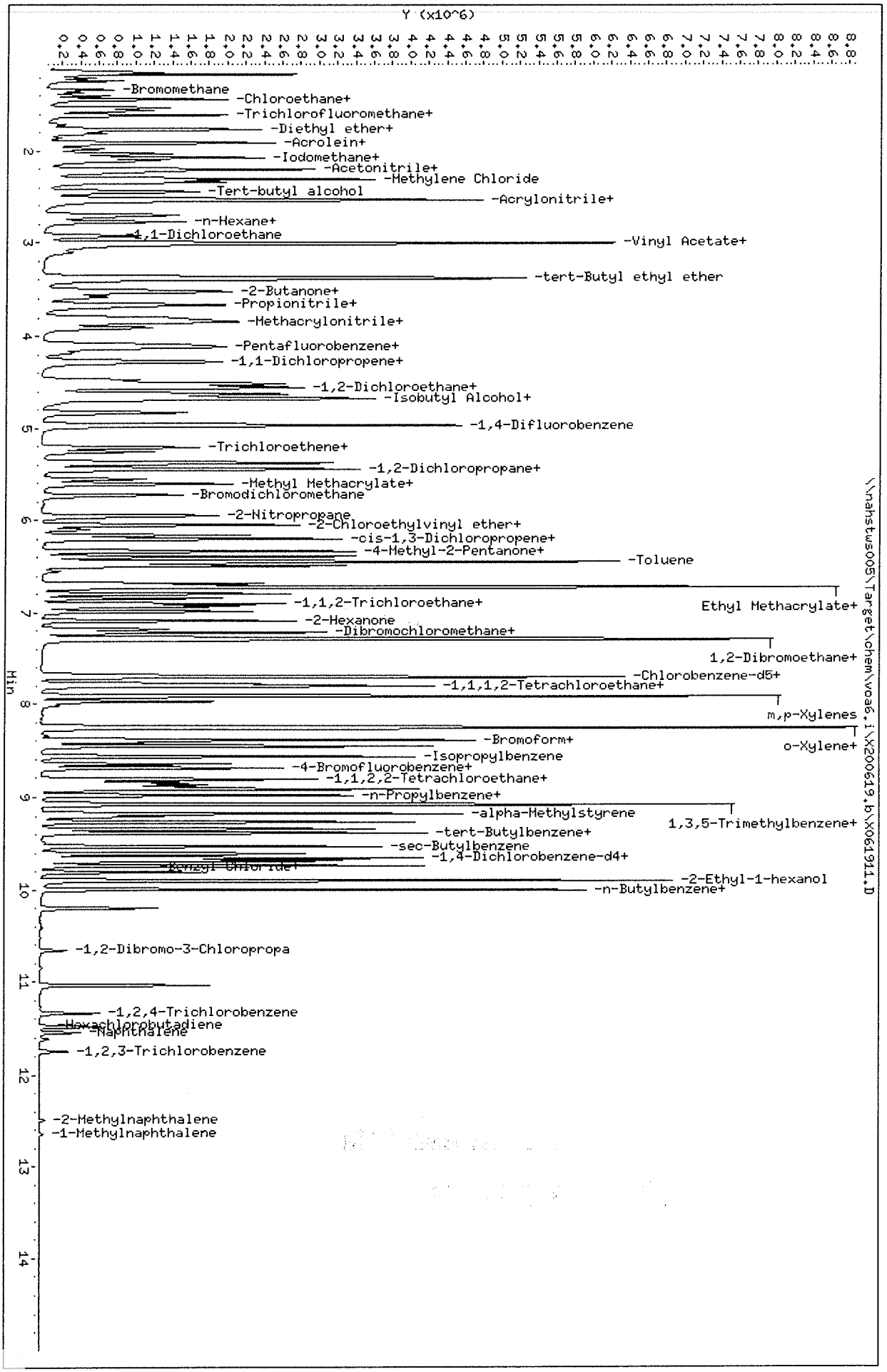
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	705249	200.000	202.30(A)
75 1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	1709042	200.000	207.35(A)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	961827	200.000	201.39(A)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	914494	200.000	191.13
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	961003	200.000	197.61
26 2,2-Dichloropropane	77	3.516	3.516	(0.839)	720755	200.000	183.37
24 2-Butanone	43	3.580	3.580	(0.855)	913703	400.000	391.75(A)
76 2-Chlorotoluene	91	8.981	8.981	(0.929)	1504114	200.000	197.55
52 2-Hexanone	43	7.090	7.090	(0.924)	1523378	400.000	415.08(A)
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	1776637	200.000	201.35(A)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1637980	200.000	207.93(A)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	2181984	400.000	407.31(A)
10 Acetone	43	1.976	1.976	(0.472)	631240	400.000	394.65(A)
37 Benzene	78	4.519	4.519	(0.909)	2067890	200.000	200.08(A)
74 Bromobenzene	156	8.809	8.809	(0.911)	599050	200.000	199.17
29 Bromochloromethane	128	3.795	3.795	(0.906)	281237	200.000	181.21
39 Bromodichloromethane	83	5.729	5.729	(1.153)	782492	200.000	207.88(A)
66 Bromoform	173	8.416	8.416	(1.097)	398104	200.000	210.20(A)
6 Bromomethane	94	1.331	1.331	(0.318)	336571	200.000	177.53
19 Carbon Disulfide	76	2.069	2.069	(0.494)	2654462	400.000	408.13(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	653032	200.000	202.60(AH)
59 Chlorobenzene	112	7.699	7.699	(1.004)	1339251	200.000	194.60
7 Chloroethane	64	1.396	1.396	(0.333)	416043	200.000	193.29
28 Chloroform	83	3.910	3.910	(0.933)	964837	200.000	194.55
3 Chloromethane	50	1.081	1.081	(0.258)	1070738	200.000	211.62(A)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	568336	200.000	195.13
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	928679	200.000	206.60(A)
55 Dibromochloromethane	129	7.183	7.183	(0.937)	577426	200.000	202.99(A)
44 Dibromomethane	93	5.557	5.557	(1.118)	384538	200.000	198.45
2 Dichlorodifluoromethane	85	0.973	0.973	(0.232)	549993	200.000	196.00
61 Ethylbenzene	106	7.807	7.807	(1.018)	690131	200.000	196.64
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	101440	200.000	202.90(A)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	2006543	200.000	202.47(A)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	1656625	400.000	402.67(A)
17 Methylene Chloride	84	2.305	2.305	(0.550)	557175	200.000	194.61
87 n-Butylbenzene	91	9.999	9.999	(1.034)	1452908	200.000	204.57(A)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	2454727	200.000	207.91(A)
92 Naphthalene	128	11.546	11.546	(1.194)	268406	200.000	200.79(A)
63 o-Xylene	106	8.244	8.244	(1.075)	830335	200.000	198.17
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	1907084	200.000	207.97(A)
64 Styrene	104	8.265	8.265	(1.078)	1489716	200.000	201.01(A)
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	1320413	200.000	203.96(A)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	363394	200.000	197.55
50 Toluene	91	6.453	6.453	(0.841)	2062267	200.000	194.93
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.603)	459599	200.000	199.69
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	865391	200.000	207.62(A)
38 Trichloroethene	130	5.206	5.206	(1.048)	502082	200.000	205.41(A)
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	763711	200.000	211.65(A)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	828837	200.000	206.96(A)

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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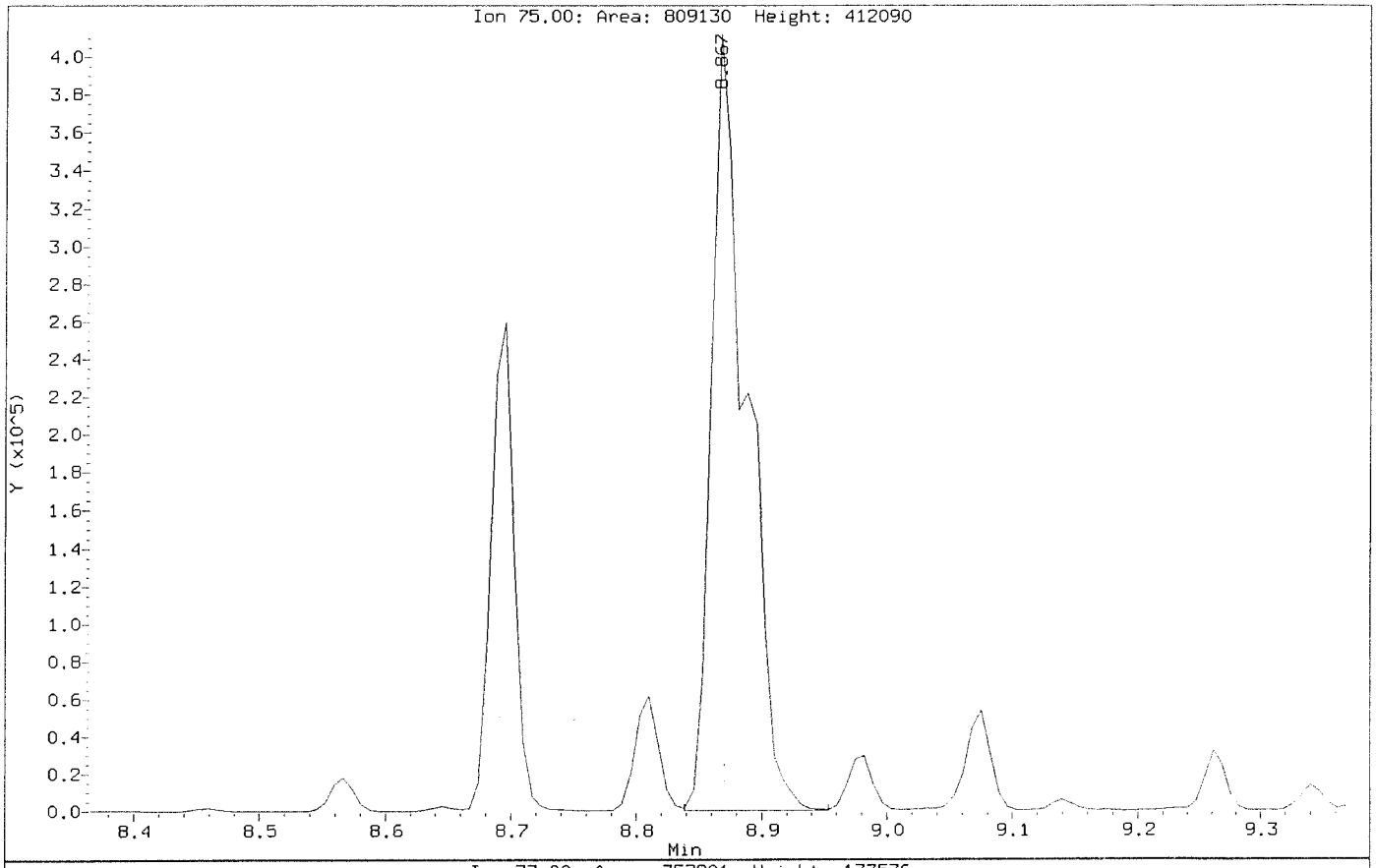
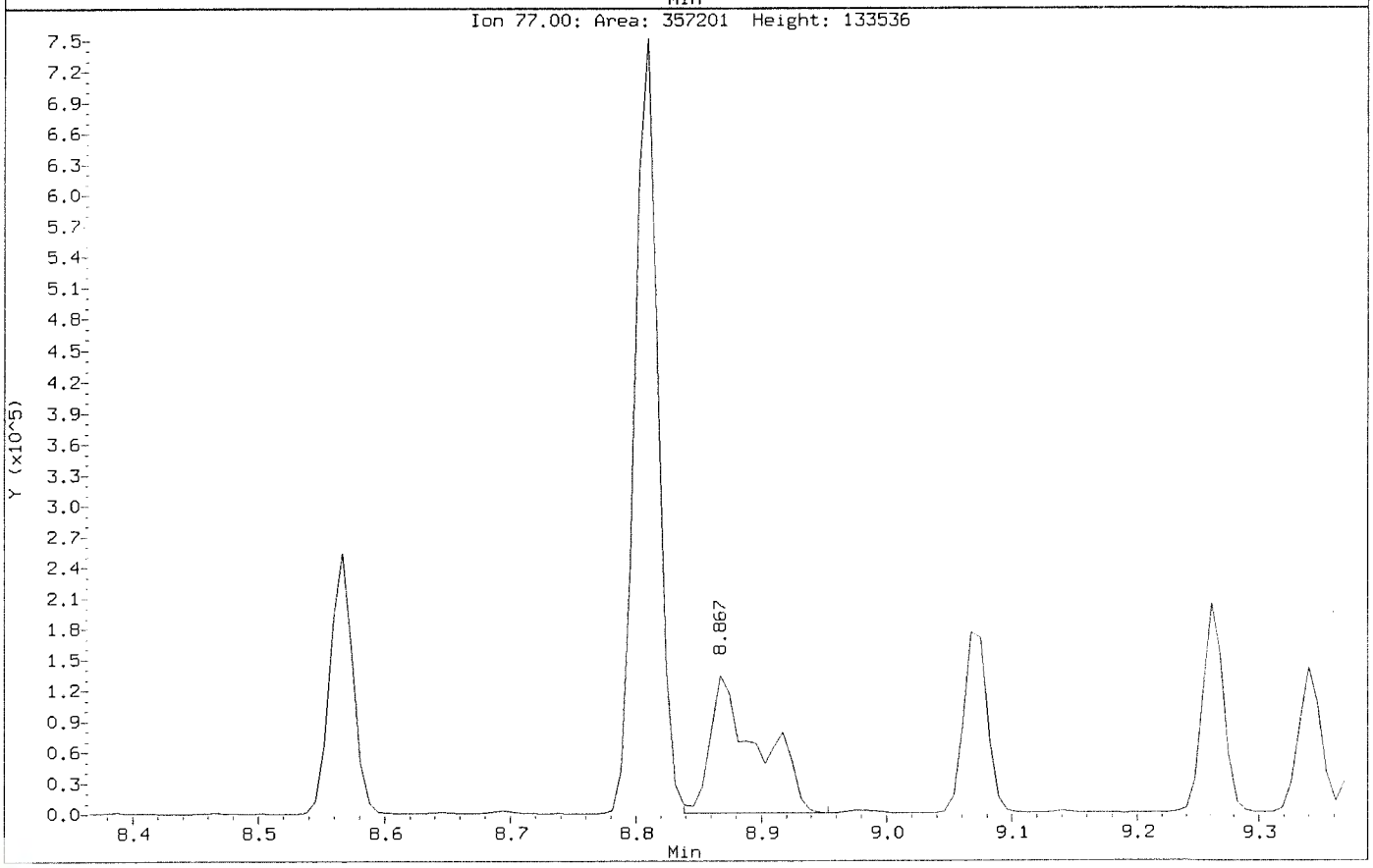
Date : 19-JUN-2020 15:29
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061911.D
Injection Date: 19-JUN-2020 15:29
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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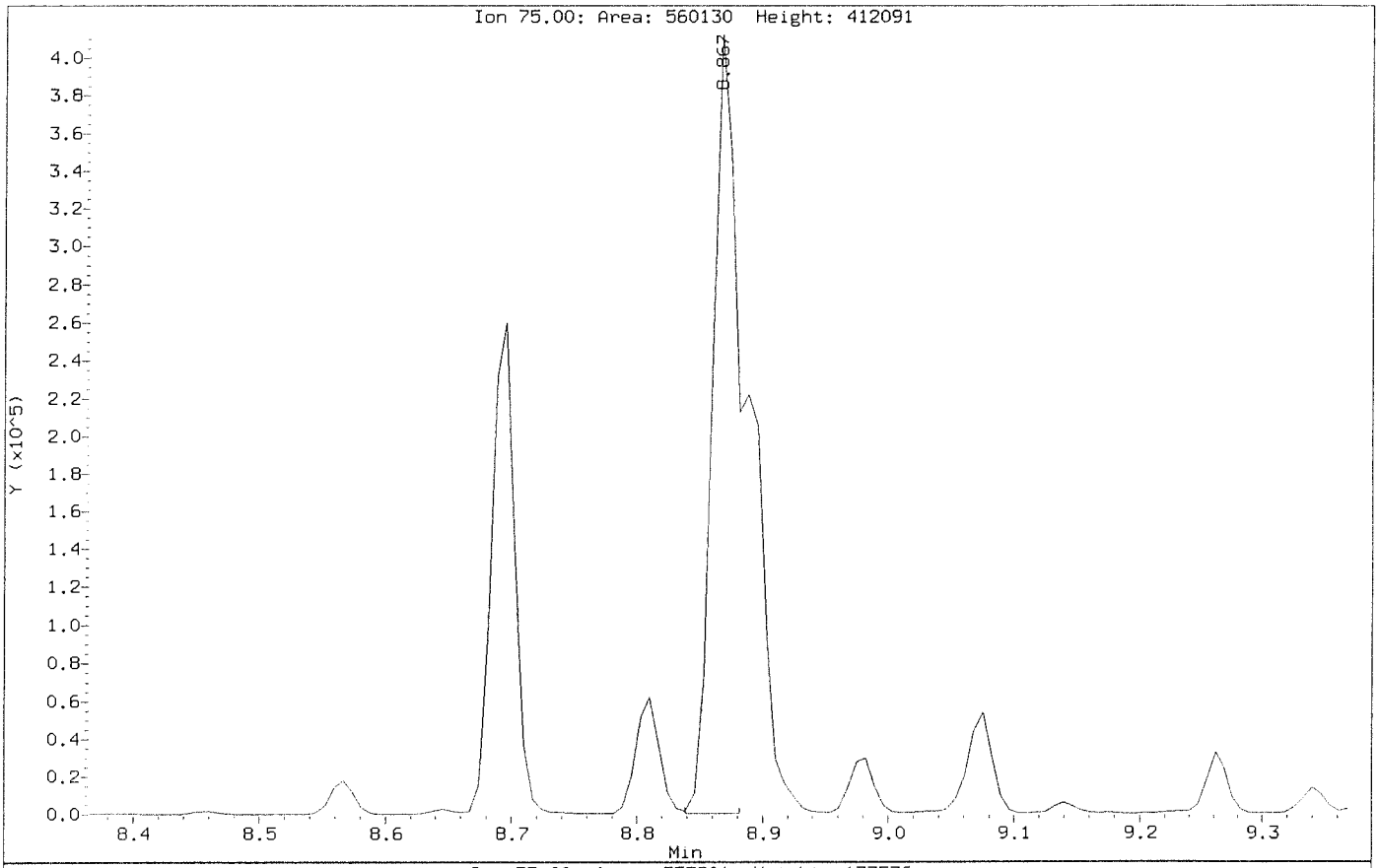
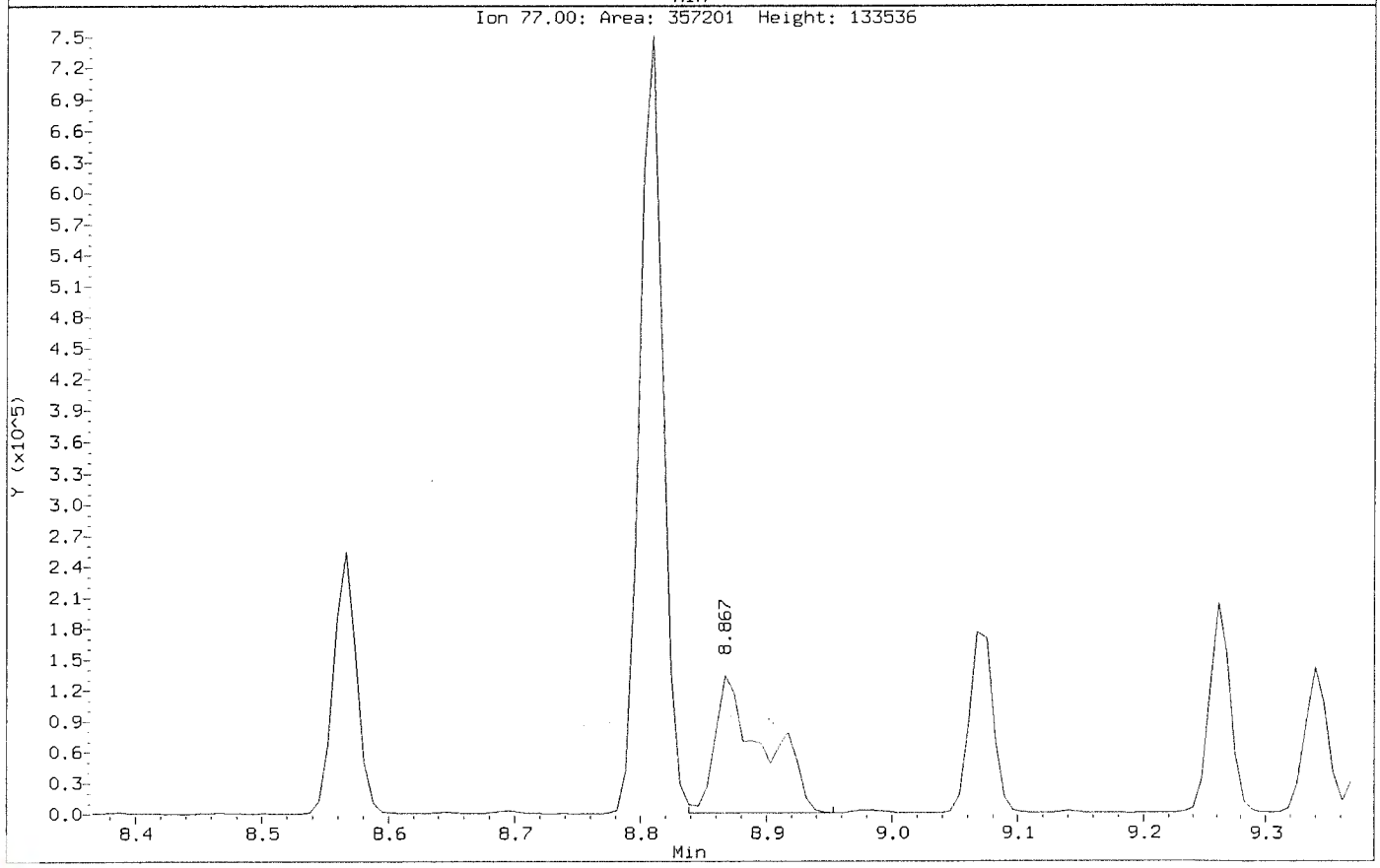
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200619.b\X061913.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 19-JUN-2020 16:41
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200619.b\8260W.m
Meth Date : 09-Jul-2020 09:58 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 12:42 Cal File: X061904.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14

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

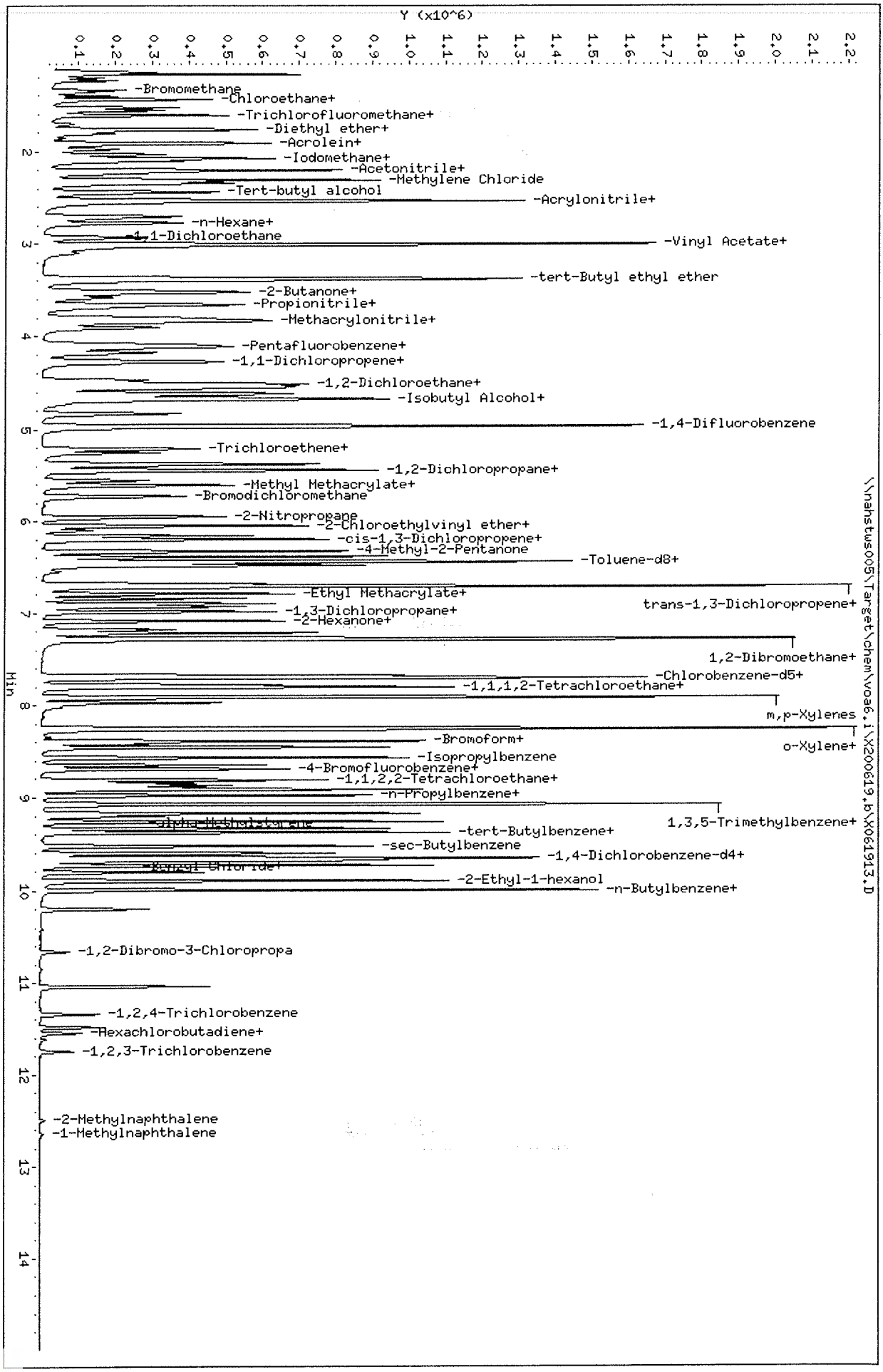
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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)	217753	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	389267	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	368251	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	169551	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	141002	50.4939	50.49
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	201011	49.3881	49.38
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	471370	51.4551	51.45
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	188335	50.2035	50.20
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	136580	50.9336	50.93
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	196161	48.4892	48.48
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	171061	50.7642	50.76
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	117980	49.8836	49.88
22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	322682	47.7179	47.71
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	104413	49.1099	49.10
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	166469	47.5049	47.50
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	21643	56.6536	56.65
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	153791	49.0908	49.09(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	38492	47.3474	47.34
79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.971)	464138	50.1963	50.19
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.658	(1.103)	12835	49.1869	49.18
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	146314	50.3719	50.37
88 1,2-Dichlorobenzene	146	9.998	9.999	(1.035)	232499	50.5981	50.59
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	259269	50.8280	50.82

	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)	190470	51.9223	51.92
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	445542	51.1049	51.10
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	257302	50.9335	50.93
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	244447	49.3155	49.31
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	257515	50.0635	50.06
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	208622	49.3624	49.36
24	2-Butanone	43	3.580	3.580	(0.856)	247582	98.1352	98.13
76	2-Chlorotoluene	91	8.974	8.981	(0.929)	398262	49.4521	49.45
52	2-Hexanone	43	7.090	7.090	(0.924)	392765	103.299	103.29
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	467563	50.0975	50.09
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	418927	50.2765	50.27
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	564690	101.746	101.74
10	Acetone	43	1.976	1.976	(0.473)	183595	104.889	104.88
37	Benzene	78	4.512	4.519	(0.908)	550524	50.6202	50.62
74	Bromobenzene	156	8.809	8.809	(0.912)	158127	49.7043	49.70
29	Bromochloromethane	128	3.795	3.795	(0.908)	77904	46.6846	46.68
39	Bromodichloromethane	83	5.729	5.729	(1.153)	205637	51.9161	51.91
66	Bromoform	173	8.415	8.416	(1.097)	102310	52.1426	52.14
6	Bromomethane	94	1.338	1.331	(0.320)	98421	48.2807	48.28
19	Carbon Disulfide	76	2.069	2.069	(0.495)	697482	99.7336	99.73
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	161866	47.7245	47.72
59	Chlorobenzene	112	7.699	7.699	(1.004)	353886	49.6340	49.63
7	Chloroethane	64	1.403	1.396	(0.336)	109592	47.3526	47.35
28	Chloroform	83	3.910	3.910	(0.935)	257019	48.2001	48.20
3	Chloromethane	50	1.081	1.081	(0.258)	270110	49.6484	49.64
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	155243	49.5699	49.56
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	241681	51.0940	51.09
55	Dibromochloromethane	129	7.176	7.183	(0.936)	150053	50.9161	50.91
44	Dibromomethane	93	5.557	5.557	(1.118)	102329	50.1863	50.18
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	133236	44.8561	44.85
61	Ethylbenzene	106	7.799	7.807	(1.017)	178201	49.0110	49.01
91	Hexachlorobutadiene	225	11.488	11.481	(1.189)	26433	48.4630	48.46
67	Isopropylbenzene	105	8.566	8.566	(1.117)	518763	50.5267	50.52
62	m,p-Xylenes	106	7.907	7.907	(1.031)	434832	102.018	102.01
17	Methylene Chloride	84	2.305	2.305	(0.551)	155161	48.9004	48.90
87	n-Butylbenzene	91	9.998	9.999	(1.035)	375190	49.9443	49.94
73	n-Propylbenzene	91	8.917	8.917	(0.923)	627313	50.2333	50.23
92	Naphthalene	128	11.546	11.546	(1.195)	73307	54.7715	54.77
63	o-Xylene	106	8.244	8.244	(1.075)	220708	50.8443	50.84
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	480626	49.5515	49.55
64	Styrene	104	8.258	8.265	(1.077)	391072	50.9333	50.93
78	tert-Butylbenzene	119	9.339	9.340	(0.967)	337929	49.3509	49.35
56	Tetrachloroethene	164	6.933	6.933	(0.904)	94392	49.5297	49.52
50	Toluene	91	6.446	6.453	(0.840)	551212	50.2914	50.29
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	122861	49.6463	49.64
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	222656	50.7640	50.76
38	Trichloroethene	130	5.206	5.206	(1.048)	129527	50.3591	50.35
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	193823	49.9576	49.95
5	Vinyl Chloride	62	1.145	1.138	(0.274)	204555	47.5037	47.50

QC Flag Legend

M - Compound response manually integrated.

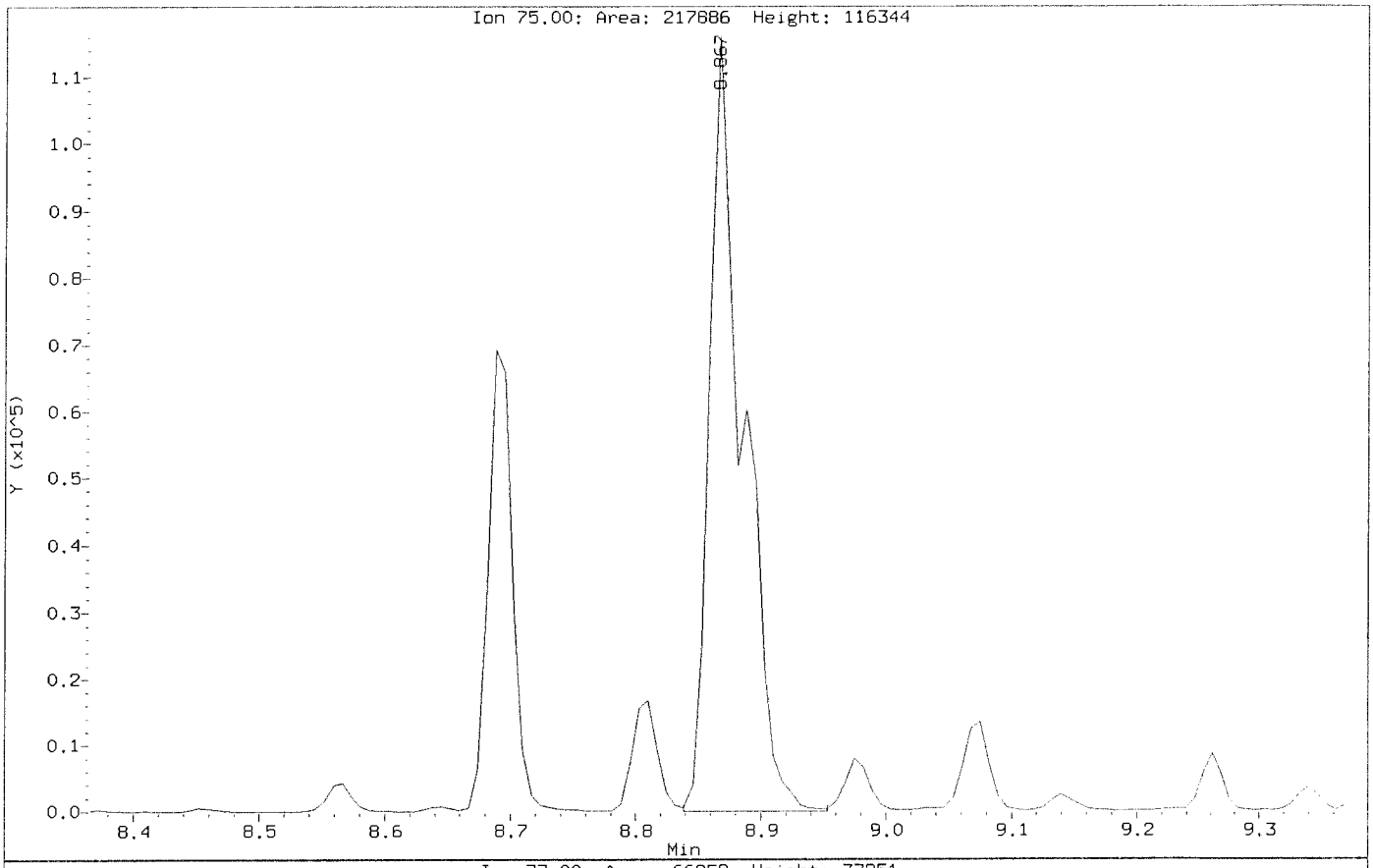


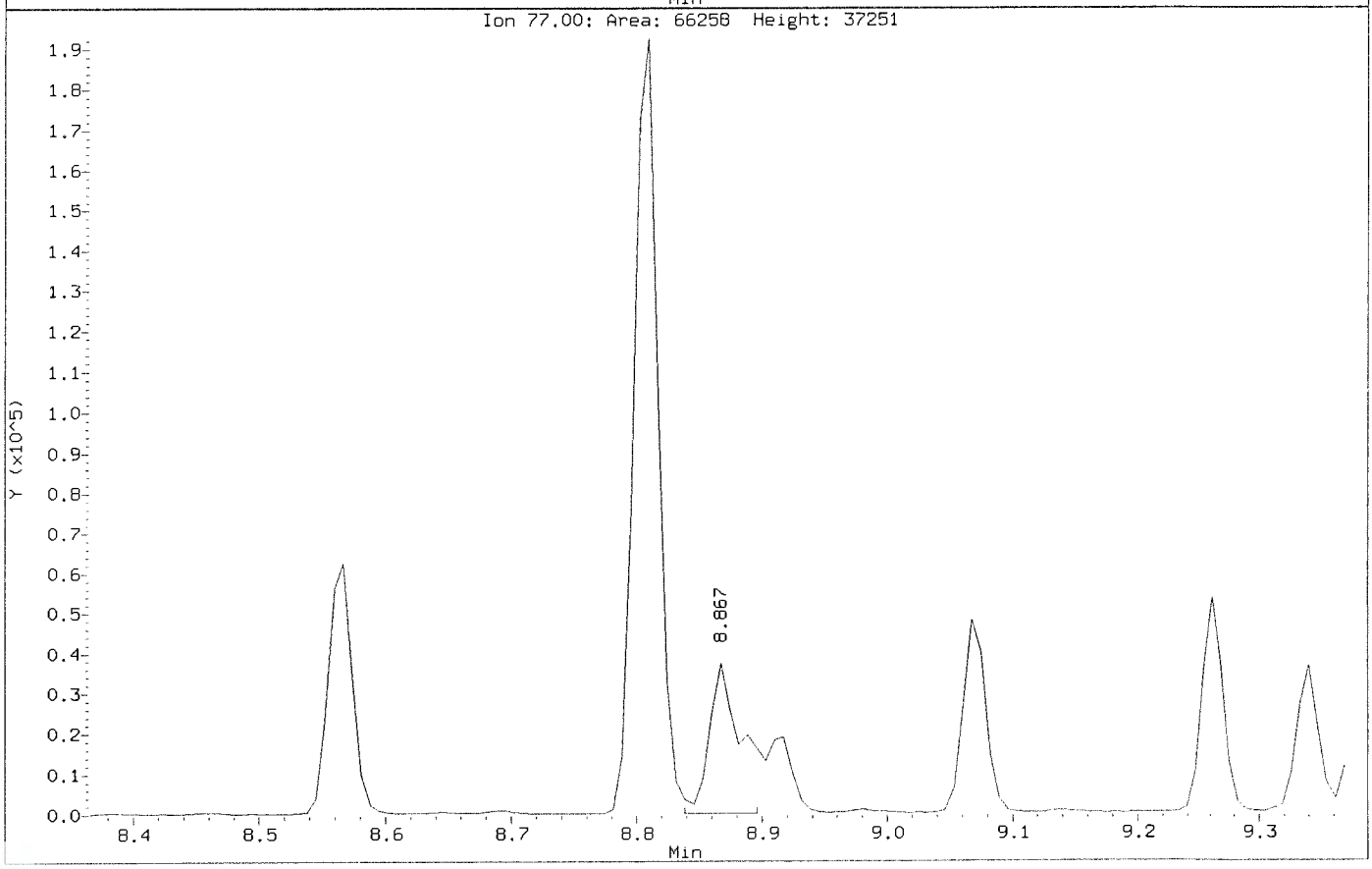
Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061913.D
Date : 19-JUN-2020 16:41
Client ID: ICV
Sample Info: CCV;CCV;2;;;ICV
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\Before\X061913.D
Injection Date: 19-JUN-2020 16:41
Instrument: voa6.i
Client Sample ID: ICV

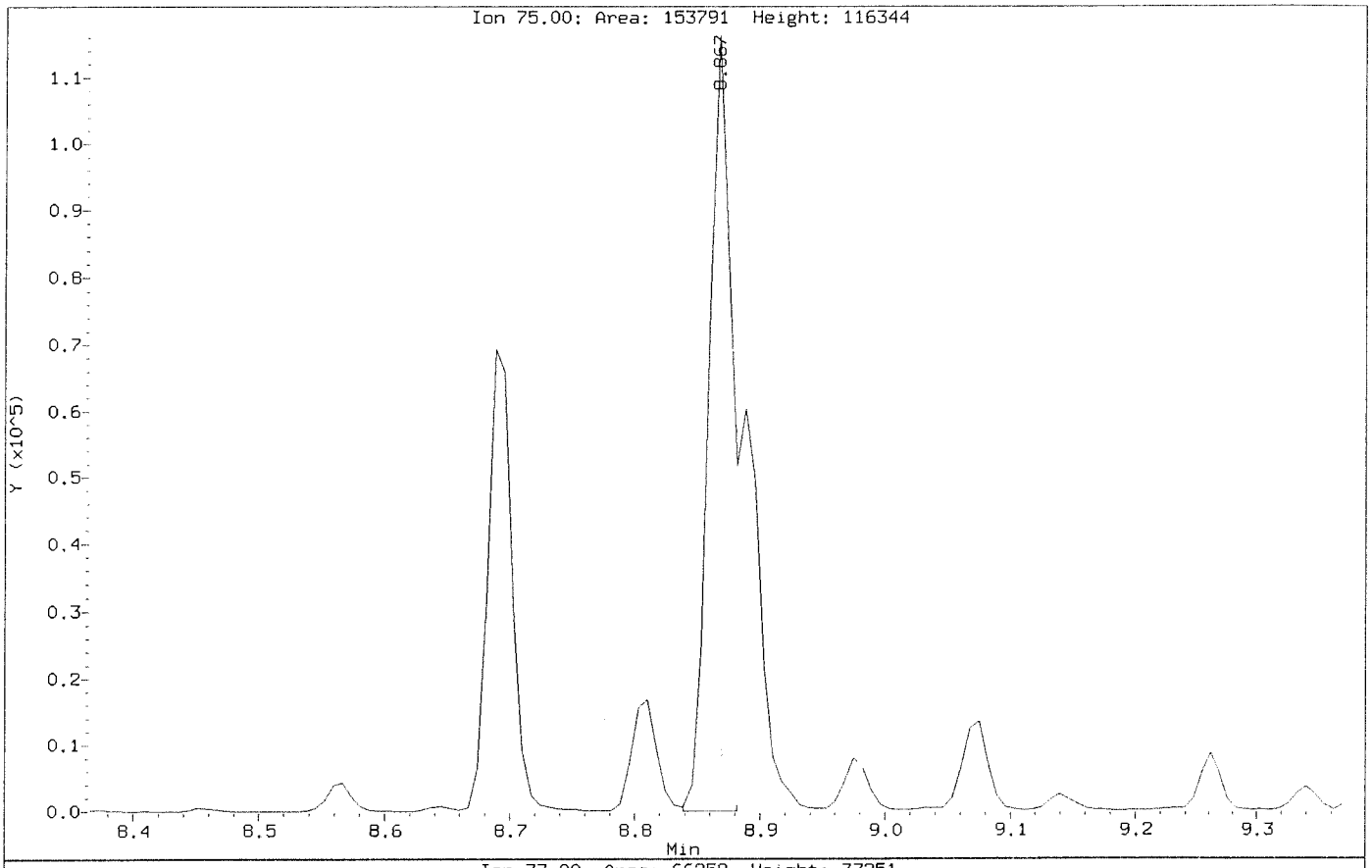
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

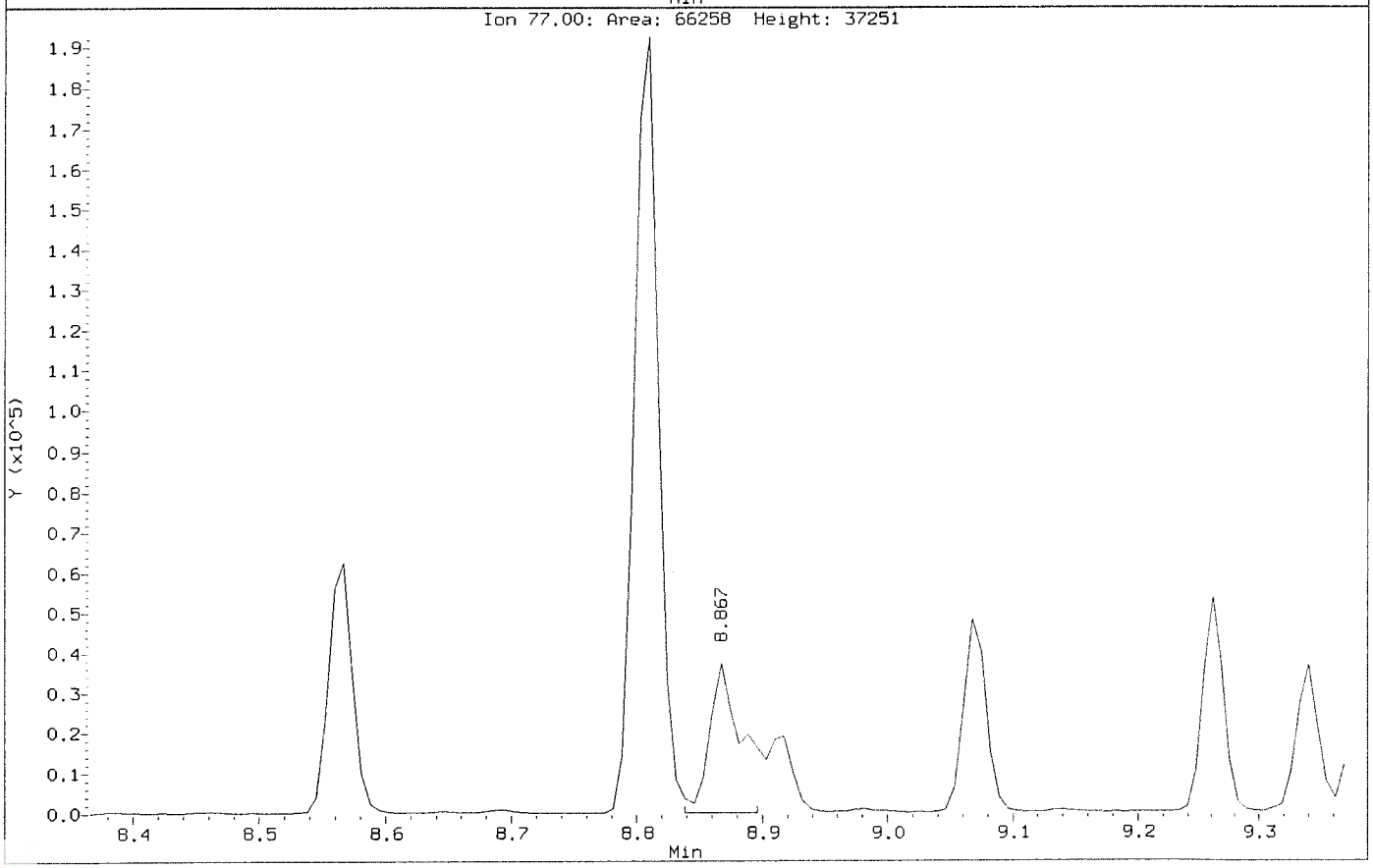




Data File: \\nahstws005\Target\chem\voa6.i\X200619.b\X061913.D
Injection Date: 19-JUN-2020 16:41
Instrument: voa6.i
Client Sample ID: ICV

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





MSVOA06 -Logbook

Batch: 40932
Date: 06-26-2020
Method: 8260
Comments:

Analyst: Devak Giga
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	06-26-2020 11:33 am	1.00	0.00 mL	0.00 mL	X062601.D	Liquid	Y	NA
2	CCV	CCV	06-26-2020 11:57 am	1.00	5.00 mL	0.00 mL	X062602.D	Liquid	Y	NA
3	CCV	CCV	06-26-2020 12:21 pm	1.00	5.00 mL	0.00 mL	X062603a.D	Liquid	Y	NA
4	CCB	SAMP	06-26-2020 12:45 pm	1.00	5.00 mL	0.00 mL	X062604.D	Liquid	Y	NA
5	VLCSW-200626	LCS	06-26-2020 01:09 pm	1.00	5.00 mL	0.00 mL	X062605.D	Liquid	Y	NA
6	BLANK	SAMP	06-26-2020 01:33 pm	1.00	5.00 mL	0.00 mL	X062606.D	Liquid	Y	NA
7	VBLKW-200626	MBLK	06-26-2020 01:57 pm	1.00	5.00 mL	0.00 mL	X062607.D	Liquid	Y	NA
8	HS20050797-05	SAMP	06-26-2020 02:20 pm	1.00	5.00 mL	0.00 mL	X062608.D	Liquid	Y	NA
9	HS20061206-07	SAMP	06-26-2020 02:44 pm	1.00	5.00 mL	0.00 mL	X062609.D	Liquid	Y	NA
10	HS20061206-01	SAMP	06-26-2020 03:08 pm	1.00	5.00 mL	0.00 mL	X062610.D	Liquid	Y	NA
11	HS20061206-02	SAMP	06-26-2020 03:32 pm	1.00	5.00 mL	0.00 mL	X062611.D	Liquid	Y	NA
12	HS20061206-03	SAMP	06-26-2020 03:56 pm	1.00	5.00 mL	0.00 mL	X062612.D	Liquid	Y	NA
13	HS20061206-04	SAMP	06-26-2020 04:20 pm	1.00	5.00 mL	0.00 mL	X062613.D	Liquid	Y	NA
14	HS20061206-05	SAMP	06-26-2020 04:44 pm	1.00	5.00 mL	0.00 mL	X062614.D	Liquid	Y	NA
15	HS20061206-06	SAMP	06-26-2020 05:08 pm	1.00	5.00 mL	0.00 mL	X062615.D	Liquid	Y	NA
16	HS20061178-01	SAMP	06-26-2020 05:32 pm	1.00	5.00 mL	0.00 mL	X062616.D	Liquid	Y	NA
17	HS20061206-02MS	MS	06-26-2020 05:56 pm	1.00	5.00 mL	0.00 mL	X062617.D	Liquid	Y	NA
18	HS20061206-02MDS	MSD	06-26-2020 06:19 pm	1.00	5.00 mL	0.00 mL	X062618.D	Liquid	Y	NA
19	HS20061178-01	SAMP	06-26-2020 06:43 pm	20.00	5.00 mL	0.00 mL	X062619.D	Liquid	Y	NA
20	HS20061179-02	SAMP	06-26-2020 07:07 pm	1.00	5.00 mL	0.00 mL	X062620.D	Liquid	Y	NA
21	HS20061178-05	SAMP	06-26-2020 07:31 pm	1.00	5.00 mL	0.00 mL	X062621.D	Liquid	Y	NA
22	HS20061179-01	SAMP	06-26-2020 07:55 pm	1.00	5.00 mL	0.00 mL	X062622.D	Liquid	Y	NA
23	HS20061178-04	SAMP	06-26-2020 08:19 pm	1.00	5.00 mL	0.00 mL	X062623.D	Liquid	Y	NA
24	HS20061178-02	SAMP	06-26-2020 08:43 pm	5.00	5.00 mL	0.00 mL	X062624.D	Liquid	Y	NA
25	HS20061178-03n/r	SAMP	06-26-2020 09:07 pm	5.00	5.00 mL	0.00 mL	X062625.D	Liquid	Y	NA
26	CCV-END	CCV	06-26-2020 09:31 pm	1.00	5.00 mL	0.00 mL	X062626.D	Liquid	Y	NA
27	HS20061133-23	SAMP	06-26-2020 09:55 pm	1.00	5.00 mL	0.00 mL	X062627.D	Liquid	Y	NA
28	HS20061192-21	SAMP	06-26-2020 10:19 pm	1.00	5.00 mL	0.00 mL	X062628.D	Liquid	Y	NA
29	HS20061192-22	SAMP	06-26-2020 10:43 pm	1.00	5.00 mL	0.00 mL	X062629.D	Liquid	Y	NA
30	HS20061192-23	SAMP	06-26-2020 11:07 pm	1.00	5.00 mL	0.00 mL	X062630.D	Liquid	Y	NA
31	BFB	TUNE	06-26-2020 11:31 pm	1.00	0.00 mL	0.00 mL	Y062601.D	Liquid	Y	NA
32	CCV	CCV	06-26-2020 11:55 pm	1.00	5.00 mL	0.00 mL	Y062602a.D	Liquid	Y	NA
33	CCV	CCV	06-27-2020 12:19 am	1.00	5.00 mL	0.00 mL	Y062603.D	Liquid	Y	NA
34	CCB	SAMP	06-27-2020 12:43 am	1.00	5.00 mL	0.00 mL	Y062604.D	Liquid	Y	NA
35	VLCSW-200626	LCS	06-27-2020 01:07 am	1.00	5.00 mL	0.00 mL	Y062605.D	Liquid	Y	NA
36	BLANK	SAMP	06-27-2020 01:31 am	1.00	5.00 mL	0.00 mL	Y062606.D	Liquid	Y	NA
37	VBLKW-200626	MBLK	06-27-2020 01:55 am	1.00	5.00 mL	0.00 mL	Y062607.D	Liquid	Y	NA
38	HS20061133-24	SAMP	06-27-2020 02:19 am	1.00	5.00 mL	0.00 mL	Y062608.D	Liquid	Y	NA
39	HS20061133-25	SAMP	06-27-2020 02:43 am	1.00	5.00 mL	0.00 mL	Y062609.D	Liquid	Y	NA
40	HS20061133-26	SAMP	06-27-2020 03:07 am	1.00	5.00 mL	0.00 mL	Y062610.D	Liquid	Y	NA
41	HS20061133-26MS	MS	06-27-2020 03:31 am	1.00	5.00 mL	0.00 mL	Y062611.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS20061133-26MSD	MSD	06-27-2020 03:55 am	1.00	5.00 mL	0.00 mL	Y062612.D	Liquid	Y	NA
43	HS20061133-27	SAMP	06-27-2020 04:19 am	1.00	5.00 mL	0.00 mL	Y062613.D	Liquid	Y	NA
44	HS20061133-28	SAMP	06-27-2020 04:43 am	1.00	5.00 mL	0.00 mL	Y062614.D	Liquid	Y	NA
45	HS20061133-29	SAMP	06-27-2020 05:07 am	1.00	5.00 mL	0.00 mL	Y062615.D	Liquid	Y	NA
46	HS20061133-30	SAMP	06-27-2020 05:31 am	1.00	5.00 mL	0.00 mL	Y062616.D	Liquid	Y	NA
47	HS20061133-31	SAMP	06-27-2020 05:55 am	1.00	5.00 mL	0.00 mL	Y062617.D	Liquid	Y	NA
48	HS20061133-32	SAMP	06-27-2020 06:19 am	1.00	5.00 mL	0.00 mL	Y062618.D	Liquid	Y	NA
49	HS20061133-33	SAMP	06-27-2020 06:43 am	1.00	5.00 mL	0.00 mL	Y062619.D	Liquid	Y	NA
50	HS20061133-34	SAMP	06-27-2020 07:07 am	1.00	5.00 mL	0.00 mL	Y062620.D	Liquid	Y	NA
51	HS20061133-35	SAMP	06-27-2020 07:32 am	1.00	5.00 mL	0.00 mL	Y062621.D	Liquid	Y	NA
52	HS20061133-36	SAMP	06-27-2020 07:56 am	1.00	5.00 mL	0.00 mL	Y062622.D	Liquid	Y	NA
53	HS20061133-37	SAMP	06-27-2020 08:20 am	1.00	5.00 mL	0.00 mL	Y062623.D	Liquid	Y	NA
54	HS20061133-39	SAMP	06-27-2020 08:44 am	1.00	5.00 mL	0.00 mL	Y062624.D	Liquid	Y	NA
55	HS20061133-41	SAMP	06-27-2020 09:08 am	1.00	5.00 mL	0.00 mL	Y062625.D	Liquid	Y	NA
56	HS20061133-42	SAMP	06-27-2020 09:32 am	1.00	5.00 mL	0.00 mL	Y062626.D	Liquid	Y	NA
57	HS20061133-44	SAMP	06-27-2020 09:56 am	1.00	5.00 mL	0.00 mL	Y062627.D	Liquid	Y	NA
58	HS20061133-43	SAMP	06-27-2020 10:20 am	1.00	5.00 mL	0.00 mL	Y062628.D	Liquid	Y	NA
59	HS20061133-38	SAMP	06-27-2020 10:44 am	1.00	5.00 mL	0.00 mL	Y062629.D	Liquid	Y	NA
60	BLANK	SAMP	06-27-2020 11:08 am	1.00	5.00 mL	0.00 mL	Y062630.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-30-06
IS ID	31106-30-06
CAL STD ID	31106-33-01/02
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.: HS20061179

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-200626	96	98	97	94	0
02	VBLKW-200626	90	94	102	96	0
03	HS20061179-02	98	101	106	99	0
04	HS20061179-01	100	101	108	102	0
05						
06						
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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 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-200626

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20061179

Lab File ID: X062607 Lab Sample ID: VBLKW-200626

Date Analyzed: 06/26/20 Time Analyzed: 1357

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-200626	VLCSW-200626	X062605	1309
02	HS20061206-0	HS20061206-02M	X062617	1756
03	HS20061206-0	HS20061206-02M	X062618	1819
04	HS20061179-0	HS20061179-02	X062620	1907
05	HS20061179-0	HS20061179-01	X062622	1955
06				
07				
08				
09				
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12				
13				
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27				
28				
29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20061179

Lab File ID: X062601 BFB Injection Date: 06/26/20

Instrument ID: VOA6 BFB Injection Time: 1133

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	31.6
75	30.0 - 60.0% of mass 95	53.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	0.8 (1.4)1
174	Greater than 50.0% of mass 95	56.9
175	5.0 - 9.0% of mass 174	4.3 (7.5)1
176	95.0 - 101.0% of mass 174	54.8 (96.4)1
177	5.0 - 9.0% of mass 176	4.2 (7.6)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	X062602	06/26/20	1157
02	VLCSW-200626	VLCSW-200626	X062605	06/26/20	1309
03	VBLKW-200626	VBLKW-200626	X062607	06/26/20	1357
04	HS20061206-0	HS20061206-02M	X062617	06/26/20	1756
05	HS20061206-0	HS20061206-02M	X062618	06/26/20	1819
06	HS20061179-0	HS20061179-02	X062620	06/26/20	1907
07	HS20061179-0	HS20061179-01	X062622	06/26/20	1955
08	CCV-END	CCV-END	X062626	06/26/20	2131
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.: HS20061179

Instrument ID: VOA6 Calibration Date: 06/26/20 Time: 1157

Lab File ID: X062602 Init. Calib. Date(s): 06/19/20 06/19/20

Init. Calib. Times: 1130 1529

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	0.6080000	0.6199083	0.6199083	0.2	-1.96	20.00	AVRG
trans-1,3-Dichloropropene	0.5630000	0.5607388	0.5607388	0.1	0.40	20.00	AVRG
1,3-Dichlorobenzene	1.4900000	1.4706473	1.4706473	0.6	1.30	20.00	AVRG
2,2-Dichloropropane	0.9700000	0.9000067	0.9000067	0.1	7.22	20.00	AVRG
1,1-Dichloropropene	0.4500000	0.4096014	0.4096014	0.1	8.98	20.00	AVRG
Dibromomethane	0.2620000	0.2601757	0.2601757	0.1	0.70	20.00	AVRG
1,2-Dibromoethane	0.3940000	0.3993069	0.3993069	0.1	-1.35	20.00	AVRG
trans-1,2-Dichloroethene	0.5680000	0.5447194	0.5447194	0.1	4.10	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3640000	0.3664125	0.3664125	0.1	-0.66	20.00	AVRG
1,1,1-Trichloroethane	0.9290000	0.8792075	0.8792075	0.1	5.36	20.00	AVRG
1,1,2,2-Tetrachloroethane	0.9940000	0.9846083	0.9846083	0.3	0.94	20.00	AVRG
1,1,2-Trichloroethane	0.3210000	0.3238462	0.3238462	0.1	-0.89	20.00	AVRG
1,1-Dichloroethane	1.5530000	1.4131841	1.4131841	0.2	9.00	20.00	AVRG
1,1-Dichloroethene	0.4880000	0.4491822	0.4491822	0.1	7.95	20.00	AVRG
Trichloroethene	0.3300000	0.3340709	0.3340709	0.2	-1.23	20.00	AVRG
1,2,3-Trichlorobenzene	57.344577	50.000000	0.1291857	0.01	-14.69	20.00	2RDR
Trichlorofluoromethane	0.8910000	0.8463371	0.8463371	0.1	5.01	20.00	AVRG
1,2,4-Trichlorobenzene	53.596099	50.000000	0.2562311	0.1	-7.19	20.00	LINR
1,2,4-Trimethylbenzene	2.7270000	2.6610933	2.6610933	0.1	2.42	20.00	AVRG
Tetrachloroethene	0.2590000	0.2490073	0.2490073	0.2	3.86	20.00	AVRG
1,2-Dichlorobenzene	1.3550000	1.3739199	1.3739199	0.4	-1.40	20.00	AVRG
1,2-Dichloroethane	0.6550000	0.6431820	0.6431820	0.1	1.80	20.00	AVRG
1,2-Dichloropropane	0.4710000	0.4812051	0.4812051	0.1	-2.17	20.00	AVRG
1,3,5-Trimethylbenzene	2.5710000	2.5259291	2.5259291	0.1	1.75	20.00	AVRG
1,3-Dichloropropane	0.6730000	0.6694176	0.6694176	0.1	0.53	20.00	AVRG
1,4-Dichlorobenzene	1.5170000	1.4916143	1.4916143	0.4	1.67	20.00	AVRG
Toluene	1.4880000	1.4730511	1.4730511	0.4	1.00	20.00	AVRG
2-Butanone	96.282060	100.00000	0.5578429	0.1	3.72	20.00	LINR
2-Chlorotoluene	2.3750000	2.2597000	2.2597000	0.1	4.85	20.00	AVRG
2-Hexanone	0.5160000	0.5380520	0.5380520	0.1	-4.27	20.00	AVRG
4-Chlorotoluene	2.7520000	2.6457697	2.6457697	0.1	3.86	20.00	AVRG
tert-Butylbenzene	2.0190000	1.8966980	1.8966980	0.1	6.06	20.00	AVRG
4-Methyl-2-Pentanone	0.7530000	0.7762873	0.7762873	0.1	-3.09	20.00	AVRG
Acetone	99.962326	100.00000	0.4022370	0.1	0.04	20.00	LINR
Benzene	1.3970000	1.3893670	1.3893670	0.5	0.55	20.00	AVRG
Bromobenzene	0.9380000	0.9164159	0.9164159	0.1	2.30	20.00	AVRG
Bromochloromethane	0.3830000	0.3460387	0.3460387	0.1	9.65	20.00	AVRG
Bromodichloromethane	0.5090000	0.5183524	0.5183524	0.2	-1.84	20.00	AVRG
Bromoform	0.2660000	0.2825856	0.2825856	0.1	-6.24	20.00	AVRG
Bromomethane	0.4680000	0.4270233	0.4270233	0.1	8.76	20.00	AVRG
Carbon Disulfide	1.6060000	1.5061612	1.5061612	0.1	6.22	20.00	AVRG
Carbon Tetrachloride	0.4360000	0.3942603	0.3942603	0.1	9.57	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2006117

Instrument ID: VOA6 Calibration Date: 06/26/20 Time: 1157

Lab File ID: X062602 Init. Calib. Date(s): 06/19/20 06/19/20

Init. Calib. Times: 1130 1529

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	0.9680000	0.9578122	0.9578122	0.5	1.05	20.00	AVRG
Chloroethane	0.5310000	0.4944378	0.4944378	0.1	6.88	20.00	AVRG
Chloroform	1.2240000	1.1491126	1.1491126	0.2	6.12	20.00	AVRG
Chloromethane	1.2490000	1.0735534	1.0735534	0.1	14.05	20.00	AVRG
cis-1,2-Dichloroethene	0.7190000	0.6779107	0.6779107	0.1	5.71	20.00	AVRG
Dibromochloromethane	0.4000000	0.4049619	0.4049619	0.1	-1.24	20.00	AVRG
Dichlorodifluoromethane	41.983350	50.000000	0.5718773	0.1	16.03	20.00	LINR
Ethylbenzene	0.4940000	0.4827905	0.4827905	0.1	2.27	20.00	AVRG
Hexachlorobutadiene	50.484837	50.000000	0.1621436	0.1	-0.97	20.00	LINR
Isopropylbenzene	1.3940000	1.3686885	1.3686885	0.1	1.82	20.00	AVRG
m,p-Xylenes	0.5790000	0.5810048	0.5810048	0.1	-0.35	20.00	AVRG
Methylene Chloride	46.466252	50.000000	0.6784985	0.1	7.07	20.00	LINR
n-Butylbenzene	2.2150000	2.1709040	2.1709040	0.5	1.99	20.00	AVRG
n-Propylbenzene	3.6820000	3.4947143	3.4947143	0.1	5.09	20.00	AVRG
Naphthalene	56.852345	50.000000	0.4488287	0.2	-13.70	20.00	2RDR
o-Xylene	0.5890000	0.5899211	0.5899211	0.3	-0.16	20.00	AVRG
sec-Butylbenzene	2.8600000	2.7178796	2.7178796	0.1	4.97	20.00	AVRG
Styrene	1.0420000	1.0551331	1.0551331	0.3	-1.26	20.00	AVRG
Vinyl Chloride	0.9890000	0.8883753	0.8883753	0.1	10.17	20.00	AVRG
1,2,3-Trichloropropane	0.9240000	0.8955909	0.8955909	0.1	3.07	20.00	AVRG
p-Isopropyltoluene	2.4570000	2.3560698	2.3560698	0.1	4.11	20.00	AVRG
1,2-Dibromo-3-Chloropropane	51.438670	50.000000	7.92e-002	0.05	-2.88	20.00	LINR
1,2-Dichloroethane-d4	46.221490	50.000000	0.8646683	0.1	7.56	20.00	LINR
Dibromofluoromethane	0.6410000	0.6114295	0.6114295	0.1	4.61	20.00	AVRG
Toluene-d8	1.2440000	1.2220841	1.2220841	0.1	1.76	20.00	AVRG
4-Bromofluorobenzene	0.5090000	0.4862802	0.4862802	0.1	4.46	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20061179

Instrument ID: VOA6 Calibration Date: 06/26/20 Time: 2131

Lab File ID: X062626 Init. Calib. Date(s): 06/19/20 06/19/20

Init. Calib. Times: 1130 1529

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	0.6080000	0.6667818	0.6667818	0.2	-9.67	50.00	AVRG
trans-1,3-Dichloropropene	0.5630000	0.6077957	0.6077957	0.1	-7.96	50.00	AVRG
1,3-Dichlorobenzene	1.4900000	1.5769622	1.5769622	0.6	-5.84	50.00	AVRG
2,2-Dichloropropane	0.9700000	0.9333085	0.9333085	0.1	3.78	50.00	AVRG
1,1-Dichloropropene	0.4500000	0.4705478	0.4705478	0.1	-4.57	50.00	AVRG
Dibromomethane	0.2620000	0.2850259	0.2850259	0.1	-8.79	50.00	AVRG
1,2-Dibromoethane	0.3940000	0.4287758	0.4287758	0.1	-8.83	50.00	AVRG
trans-1,2-Dichloroethene	0.5680000	0.6525452	0.6525452	0.1	-14.88	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3640000	0.4001209	0.4001209	0.1	-9.92	50.00	AVRG
1,1,1-Trichloroethane	0.9290000	1.0291270	1.0291270	0.1	-10.78	50.00	AVRG
1,1,2,2-Tetrachloroethane	0.9940000	1.0466095	1.0466095	0.3	-5.29	50.00	AVRG
1,1,2-Trichloroethane	0.3210000	0.3542080	0.3542080	0.1	-10.34	50.00	AVRG
1,1-Dichloroethane	1.5530000	1.6590854	1.6590854	0.2	-6.83	50.00	AVRG
1,1-Dichloroethene	0.4880000	0.5404939	0.5404939	0.1	-10.76	50.00	AVRG
Trichloroethene	0.3300000	0.3771736	0.3771736	0.2	-14.30	50.00	AVRG
1,2,3-Trichlorobenzene	46.427507	50.000000	0.1050332	0.01	7.14	50.00	2RDR
Trichlorofluoromethane	0.8910000	0.9995490	0.9995490	0.1	-12.18	50.00	AVRG
1,2,4-Trichlorobenzene	46.141013	50.000000	0.2213843	0.1	7.72	50.00	LINR
1,2,4-Trimethylbenzene	2.7270000	2.8786133	2.8786133	0.1	-5.56	50.00	AVRG
Tetrachloroethene	0.2590000	0.2792458	0.2792458	0.2	-7.82	50.00	AVRG
1,2-Dichlorobenzene	1.3550000	1.4505036	1.4505036	0.4	-7.05	50.00	AVRG
1,2-Dichloroethane	0.6550000	0.7145064	0.7145064	0.1	-9.08	50.00	AVRG
1,2-Dichloropropane	0.4710000	0.5307358	0.5307358	0.1	-12.68	50.00	AVRG
1,3,5-Trimethylbenzene	2.5710000	2.7420593	2.7420593	0.1	-6.65	50.00	AVRG
1,3-Dichloropropane	0.6730000	0.7189291	0.7189291	0.1	-6.82	50.00	AVRG
1,4-Dichlorobenzene	1.5170000	1.5899869	1.5899869	0.4	-4.81	50.00	AVRG
Toluene	1.4880000	1.6428010	1.6428010	0.4	-10.40	50.00	AVRG
2-Butanone	105.57291	100.00000	0.6112375	0.1	-5.57	50.00	LINR
2-Chlorotoluene	2.3750000	2.4879981	2.4879981	0.1	-4.76	50.00	AVRG
2-Hexanone	0.5160000	0.5695977	0.5695977	0.1	-10.39	50.00	AVRG
4-Chlorotoluene	2.7520000	2.8999237	2.8999237	0.1	-5.38	50.00	AVRG
tert-Butylbenzene	2.0190000	2.1077386	2.1077386	0.1	-4.40	50.00	AVRG
4-Methyl-2-Pentanone	0.7530000	0.8202807	0.8202807	0.1	-8.94	50.00	AVRG
Acetone	115.19281	100.00000	0.4619967	0.1	-15.19	50.00	LINR
Benzene	1.3970000	1.5649200	1.5649200	0.5	-12.02	50.00	AVRG
Bromobenzene	0.9380000	0.9918656	0.9918656	0.1	-5.74	50.00	AVRG
Bromochloromethane	0.3830000	0.3993352	0.3993352	0.1	-4.26	50.00	AVRG
Bromodichloromethane	0.5090000	0.5741147	0.5741147	0.2	-12.79	50.00	AVRG
Bromoform	0.2660000	0.2982828	0.2982828	0.1	-12.14	50.00	AVRG
Bromomethane	0.4680000	0.4230496	0.4230496	0.1	9.60	50.00	AVRG
Carbon Disulfide	1.6060000	1.7947703	1.7947703	0.1	-11.75	50.00	AVRG
Carbon Tetrachloride	0.4360000	0.4536515	0.4536515	0.1	-4.05	50.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20061

Instrument ID: VOA6 Calibration Date: 06/26/20 Time: 2131

Lab File ID: X062626 Init. Calib. Date(s): 06/19/20 06/19/20

Init. Calib. Times: 1130 1529

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	0.9680000	1.0448305	1.0448305	0.5	-7.94	50.00	AVRG
Chloroethane	0.5310000	0.6533052	0.6533052	0.1	-23.03	50.00	AVRG
Chloroform	1.2240000	1.3286823	1.3286823	0.2	-8.55	50.00	AVRG
Chloromethane	1.2490000	1.1671872	1.1671872	0.1	6.55	50.00	AVRG
cis-1,2-Dichloroethene	0.7190000	0.7903505	0.7903505	0.1	-9.92	50.00	AVRG
Dibromochloromethane	0.4000000	0.4399482	0.4399482	0.1	-9.99	50.00	AVRG
Dichlorodifluoromethane	49.696362	50.000000	0.6792454	0.1	0.61	50.00	LINR
Ethylbenzene	0.4940000	0.5359971	0.5359971	0.1	-8.50	50.00	AVRG
Hexachlorobutadiene	45.853471	50.000000	0.1478417	0.1	8.29	50.00	LINR
Isopropylbenzene	1.3940000	1.5291860	1.5291860	0.1	-9.70	50.00	AVRG
m,p-Xylenes	0.5790000	0.6408579	0.6408579	0.1	-10.68	50.00	AVRG
Methylene Chloride	54.572089	50.000000	0.7919096	0.1	-9.14	50.00	LINR
n-Butylbenzene	2.2150000	2.2774415	2.2774415	0.5	-2.82	50.00	AVRG
n-Propylbenzene	3.6820000	3.8752481	3.8752481	0.1	-5.25	50.00	AVRG
Naphthalene	44.797555	50.000000	0.3538408	0.2	10.40	50.00	2RDR
o-Xylene	0.5890000	0.6503865	0.6503865	0.3	-10.42	50.00	AVRG
sec-Butylbenzene	2.8600000	2.9598303	2.9598303	0.1	-3.49	50.00	AVRG
Styrene	1.0420000	1.1830817	1.1830817	0.3	-13.54	50.00	AVRG
Vinyl Chloride	0.9890000	1.0786051	1.0786051	0.1	-9.06	50.00	AVRG
1,2,3-Trichloropropane	0.9240000	0.9397666	0.9397666	0.1	-1.71	50.00	AVRG
p-Isopropyltoluene	2.4570000	2.5702077	2.5702077	0.1	-4.61	50.00	AVRG
1,2-Dibromo-3-Chloropropane	51.859029	50.000000	7.98e-002	0.05	-3.72	50.00	LINR
1,2-Dichloroethane-d4	53.790066	50.000000	1.0043634	0.1	-7.58	50.00	LINR
Dibromofluoromethane	0.6410000	0.7134516	0.7134516	0.1	-11.30	50.00	AVRG
Toluene-d8	1.2440000	1.3815416	1.3815416	0.1	-11.06	50.00	AVRG
4-Bromofluorobenzene	0.5090000	0.5390860	0.5390860	0.1	-5.91	50.00	AVRG

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20061179

Lab File ID (Standard): X062602 Date Analyzed: 06/26/20

Instrument ID: VOA6 Time Analyzed: 1157

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	369941	7.67	393192	4.97	176134	9.67
	UPPER LIMIT	739882	8.17	786384	5.47	352268	10.17
	LOWER LIMIT	184971	7.17	196596	4.47	88067	9.17
	CLIENT SAMPLE NO.						
01	VLCSW-200626	378125	7.67	401427	4.97	174362	9.67
02	VBLKW-200626	451043	7.67	499909	4.97	201957	9.67
03	HS20061206-02	388697	7.67	429630	4.97	178569	9.67
04	HS20061206-02	405604	7.67	451434	4.97	187784	9.67
05	HS20061179-02	435281	7.67	479876	4.97	189338	9.67
06	HS20061179-01	435308	7.67	476636	4.97	190204	9.67
07							
08							
09							
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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 VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20061179

Lab File ID (Standard): X062602 Date Analyzed: 06/26/20

Instrument ID: VOA6 Time Analyzed: 1157

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	222845	4.19				
	UPPER LIMIT	445690	4.69				
	LOWER LIMIT	111423	3.69				
	CLIENT SAMPLE NO.						
01	VLCSW-200626	221839	4.19				
02	VBLKW-200626	281258	4.19				
03	HS20061206-02	234036	4.19				
04	HS20061206-02	253755	4.19				
05	HS20061179-02	265200	4.19				
06	HS20061179-01	266394	4.19				
07							
08							
09							
10							
11							
12							
13							
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15							
16							
17							
18							
19							
20							

IS4 = Pentafluorobenzene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\X062601.D

Date : 26-JUN-2020 11:33

Client ID: BFB

Instrument: voa6.i

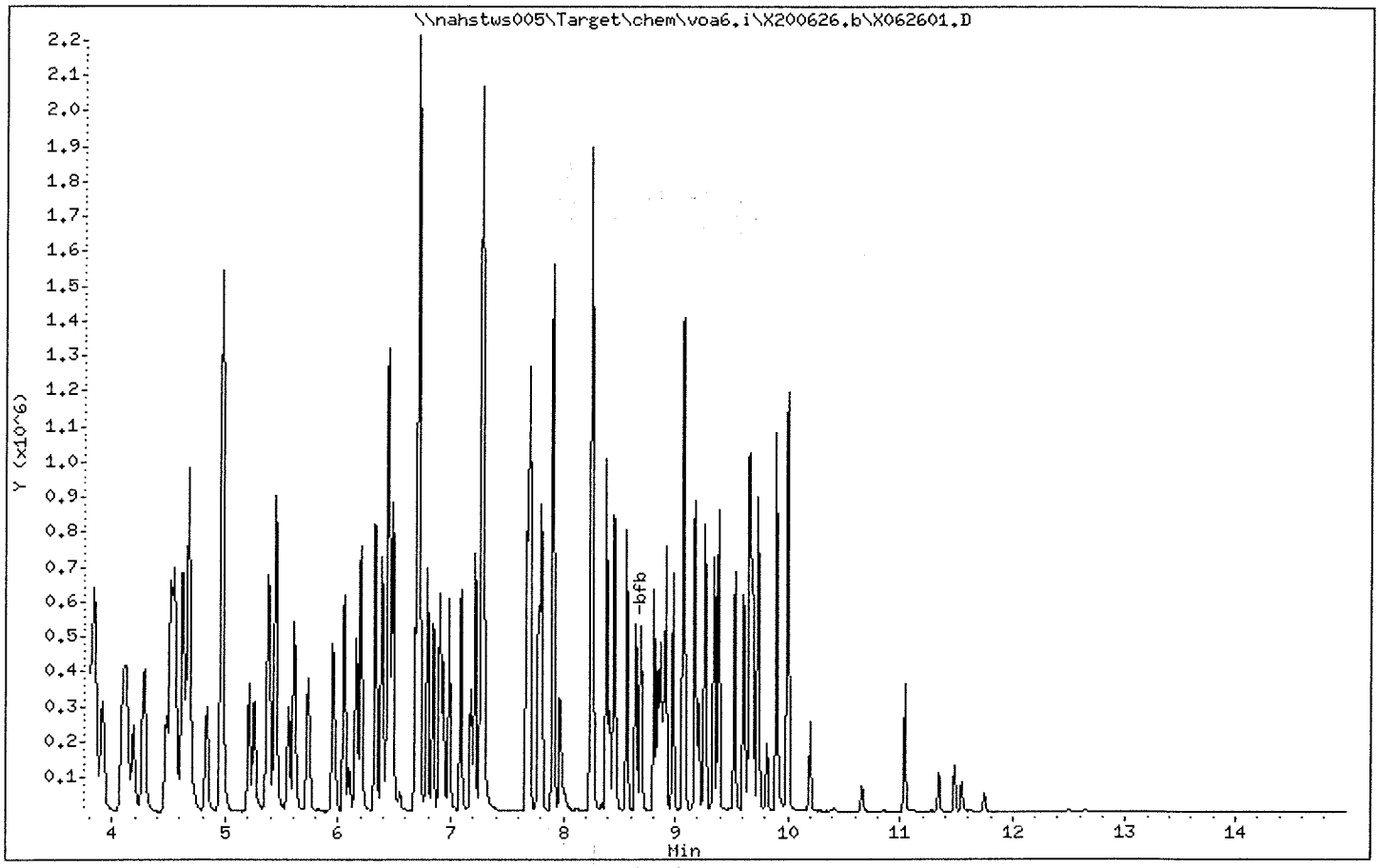
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\X062601.D

Date : 26-JUN-2020 11:33

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

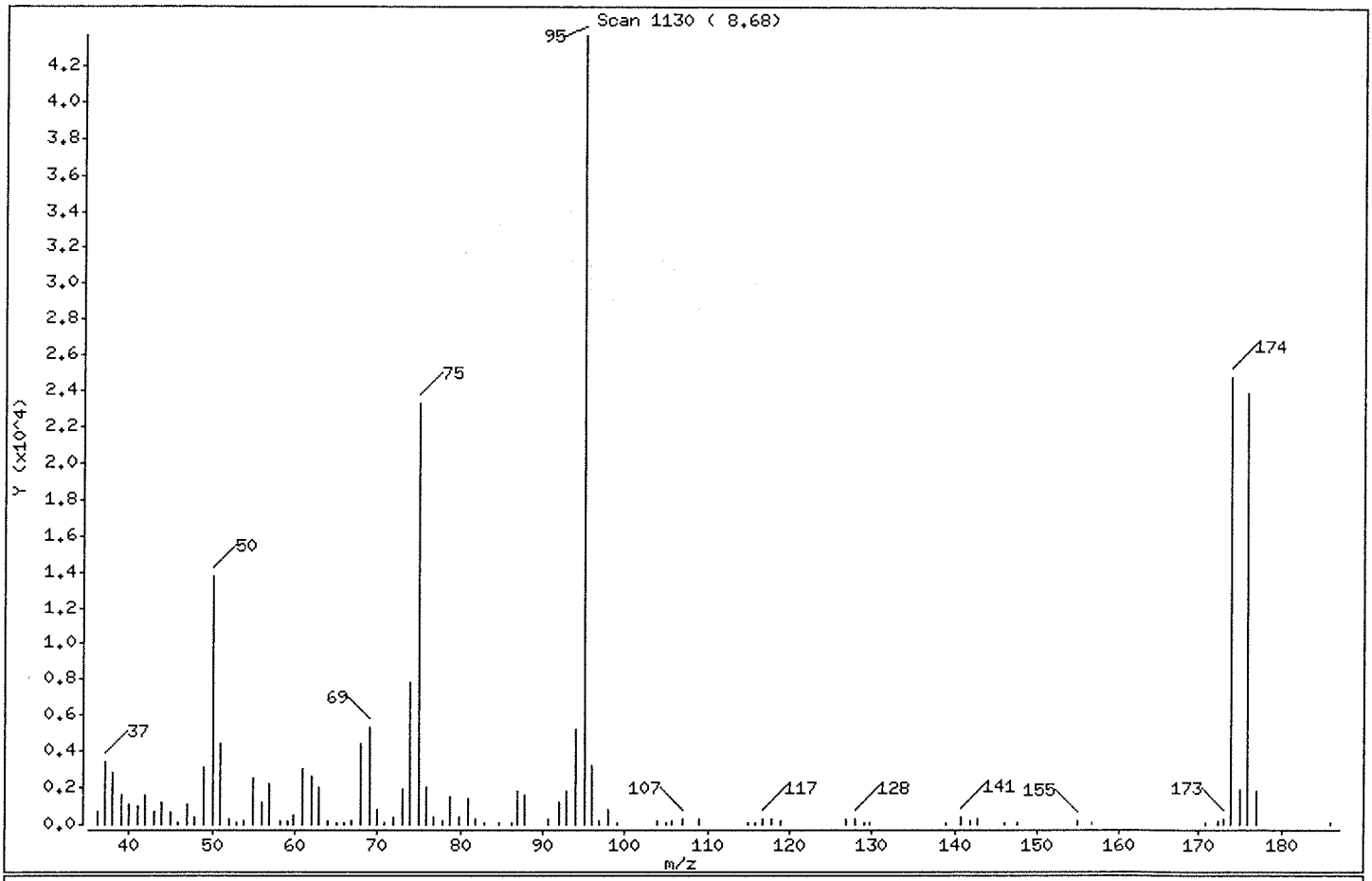
Volume Injected (uL): 2.0

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	31.61
75	30.00 - 60.00% of mass 95	53.31
96	5.00 - 9.00% of mass 95	7.44
173	Less than 2.00% of mass 174	0.77 (1.35)
174	Greater than 50.00% of mass 95	56.88
175	5.00 - 9.00% of mass 174	4.29 (7.54)
176	95.00 - 101.00% of mass 174	54.82 (96.36)
177	5.00 - 9.00% of mass 176	4.16 (7.59)

Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\X062601.D

Date : 26-JUN-2020 11:33

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: X062601.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 91

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	753	59.10	236	81.80	282	117.80	266
37.00	3436	59.90	500	83.00	131	118.90	209
38.00	2764	60.90	2979	84.80	85	126.90	274
39.00	1607	62.00	2585	86.20	106	128.00	295
40.00	1066	63.00	2041	86.90	1846	129.00	59
41.00	988	64.00	223	87.90	1606	129.80	116
42.00	1567	65.00	148	90.70	262	139.10	58
43.10	702	65.90	102	92.10	1169	140.80	355
43.90	1208	66.80	189	92.90	1778	141.90	168
45.00	747	68.00	4449	93.90	5233	142.80	282
46.00	64	69.00	5309	95.00	43696	146.00	59
47.00	1078	70.00	780	96.00	3253	147.70	55
47.90	392	70.80	115	96.90	238	154.90	187
49.00	3139	72.00	411	98.00	774	156.70	63
50.00	13811	73.00	1871	99.10	122	170.80	52
51.00	4407	74.00	7881	104.00	248	172.40	210
52.00	313	75.00	23296	105.00	142	172.90	336
52.90	120	76.00	2027	105.80	169	173.90	24856
53.90	166	76.90	407	107.00	303	174.90	1874
55.00	2558	77.80	235	109.00	302	175.90	23952
56.00	1238	78.80	1526	114.90	118	176.90	1817
56.90	2255	79.90	406	115.80	139	186.10	124
58.20	233	80.90	1442	116.70	276		

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Data file : \\nahstws005\Target\chem\voa6.i\X200626.b\X062602.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 26-JUN-2020 11:57
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200626.b\8260W.m
Meth Date : 20-Jul-2020 12:33 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 14:17 Cal File: X061908.D
Als bottle: 2 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

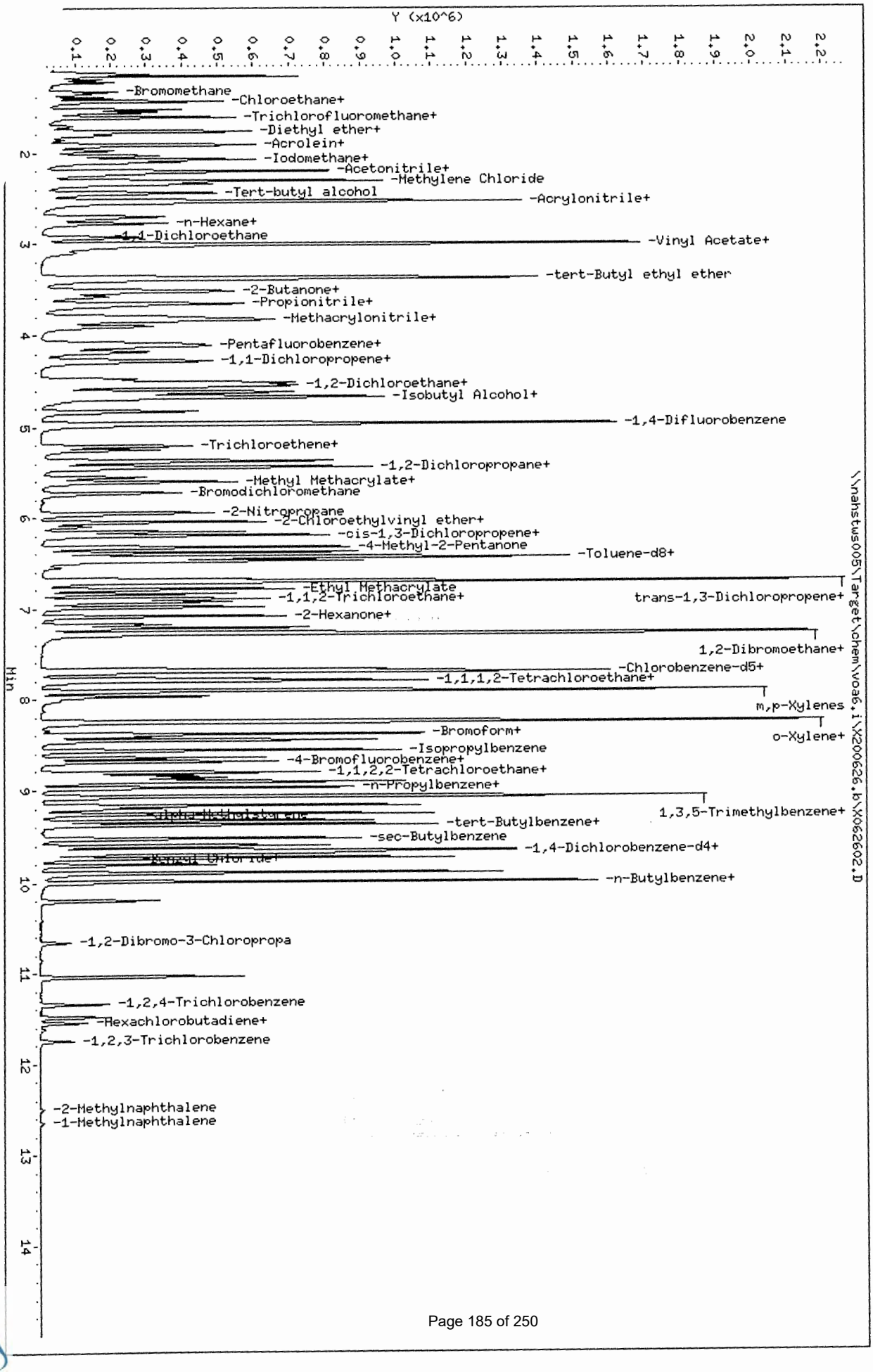
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	222845	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	393192	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	369941	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	176134	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	136254	50.0000	47.67
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	192687	50.0000	46.22
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	452099	50.0000	49.12
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	179895	50.0000	47.73
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	135551	50.0000	50.31
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	195927	50.0000	47.32
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	173423	50.0000	49.54
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	119804	50.0000	50.42
22 1,1-Dichloroethane	63	2.929	2.929	(0.699)	314921	50.0000	45.50
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	100098	50.0000	46.00
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	161052	50.0000	45.50
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	22754	50.0000	57.34
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	157744	50.0000	48.47(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	45131	50.0000	53.59
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	468709	50.0000	48.79
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	13942	50.0000	51.43
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	147720	50.0000	50.62
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	241994	50.0000	50.69

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)	252894	50.0000	49.08
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	189206	50.0000	51.06
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	444902	50.0000	49.12
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	259031	50.0000	49.35
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	247645	50.0000	49.73
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	262724	50.0000	49.16
26 2,2-Dichloropropane	77	3.516	3.516	(0.839)	200562	50.0000	46.37
24 2-Butanone	43	3.580	3.580	(0.855)	248625	100.000	96.28
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	398010	50.0000	47.57
52 2-Hexanone	43	7.090	7.090	(0.924)	398095	100.000	104.22
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	466010	50.0000	48.06
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	414984	50.0000	47.94
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	574361	100.000	103.01
10 Acetone	43	1.976	1.976	(0.472)	179273	100.000	99.96
37 Benzene	78	4.519	4.519	(0.909)	546288	50.0000	49.72
74 Bromobenzene	156	8.809	8.809	(0.911)	161412	50.0000	48.84
29 Bromochloromethane	128	3.803	3.803	(0.908)	77113	50.0000	45.15
39 Bromodichloromethane	83	5.729	5.729	(1.153)	203812	50.0000	50.94
66 Bromoform	173	8.416	8.416	(1.097)	104540	50.0000	53.03
6 Bromomethane	94	1.338	1.338	(0.320)	95160	50.0000	45.61
19 Carbon Disulfide	76	2.069	2.069	(0.494)	671281	100.000	93.79
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	155020	50.0000	45.24
59 Chlorobenzene	112	7.699	7.699	(1.004)	354334	50.0000	49.46
7 Chloroethane	64	1.403	1.403	(0.335)	110183	50.0000	46.52
28 Chloroform	83	3.910	3.910	(0.933)	256074	50.0000	46.92
3 Chloromethane	50	1.081	1.081	(0.258)	239236	50.0000	42.96
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	151069	50.0000	47.13
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	243743	50.0000	51.01
55 Dibromochloromethane	129	7.176	7.176	(0.936)	149812	50.0000	50.60
44 Dibromomethane	93	5.557	5.557	(1.118)	102299	50.0000	49.67
2 Dichlorodifluoromethane	85	0.973	0.973	(0.232)	127440	50.0000	41.98
61 Ethylbenzene	106	7.800	7.800	(1.017)	178604	50.0000	48.89
91 Hexachlorobutadiene	225	11.488	11.488	(1.188)	28559	50.0000	50.48
67 Isopropylbenzene	105	8.566	8.566	(1.117)	506334	50.0000	49.09
62 m,p-Xylenes	106	7.907	7.907	(1.031)	429875	100.000	100.39
17 Methylene Chloride	84	2.305	2.305	(0.550)	151200	50.0000	46.46
87 n-Butylbenzene	91	9.999	9.999	(1.034)	382370	50.0000	48.99
73 n-Propylbenzene	91	8.917	8.917	(0.922)	615538	50.0000	47.44
92 Naphthalene	128	11.546	11.546	(1.194)	79054	50.0000	56.85
63 o-Xylene	106	8.244	8.244	(1.075)	218236	50.0000	50.04
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	478711	50.0000	47.50
64 Styrene	104	8.265	8.265	(1.078)	390337	50.0000	50.60
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	334073	50.0000	46.96
56 Tetrachloroethene	164	6.933	6.933	(0.904)	92118	50.0000	48.11
50 Toluene	91	6.453	6.453	(0.841)	544942	50.0000	49.49
20 trans-1,2-Dichloroethene	96	2.535	2.535	(0.605)	121388	50.0000	47.93
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	220478	50.0000	49.76
38 Trichloroethene	130	5.214	5.214	(1.049)	131354	50.0000	50.55
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	188602	50.0000	47.50
5 Vinyl Chloride	62	1.145	1.145	(0.273)	197970	50.0000	44.92

Flag Legend

- 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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:rument: voa6.i
ent Sample ID: CCV

mpound: 1,2,3-Trichloropropane
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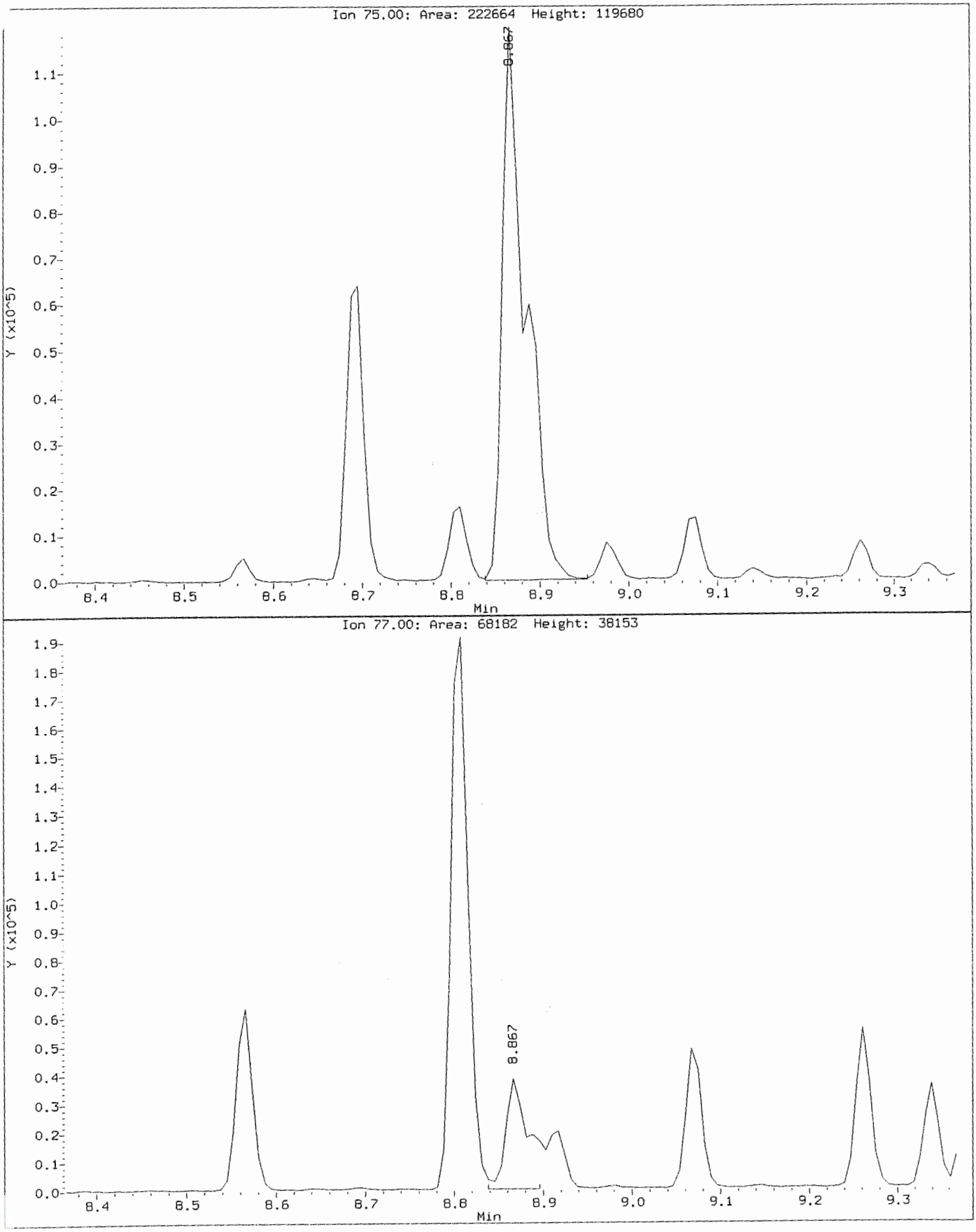

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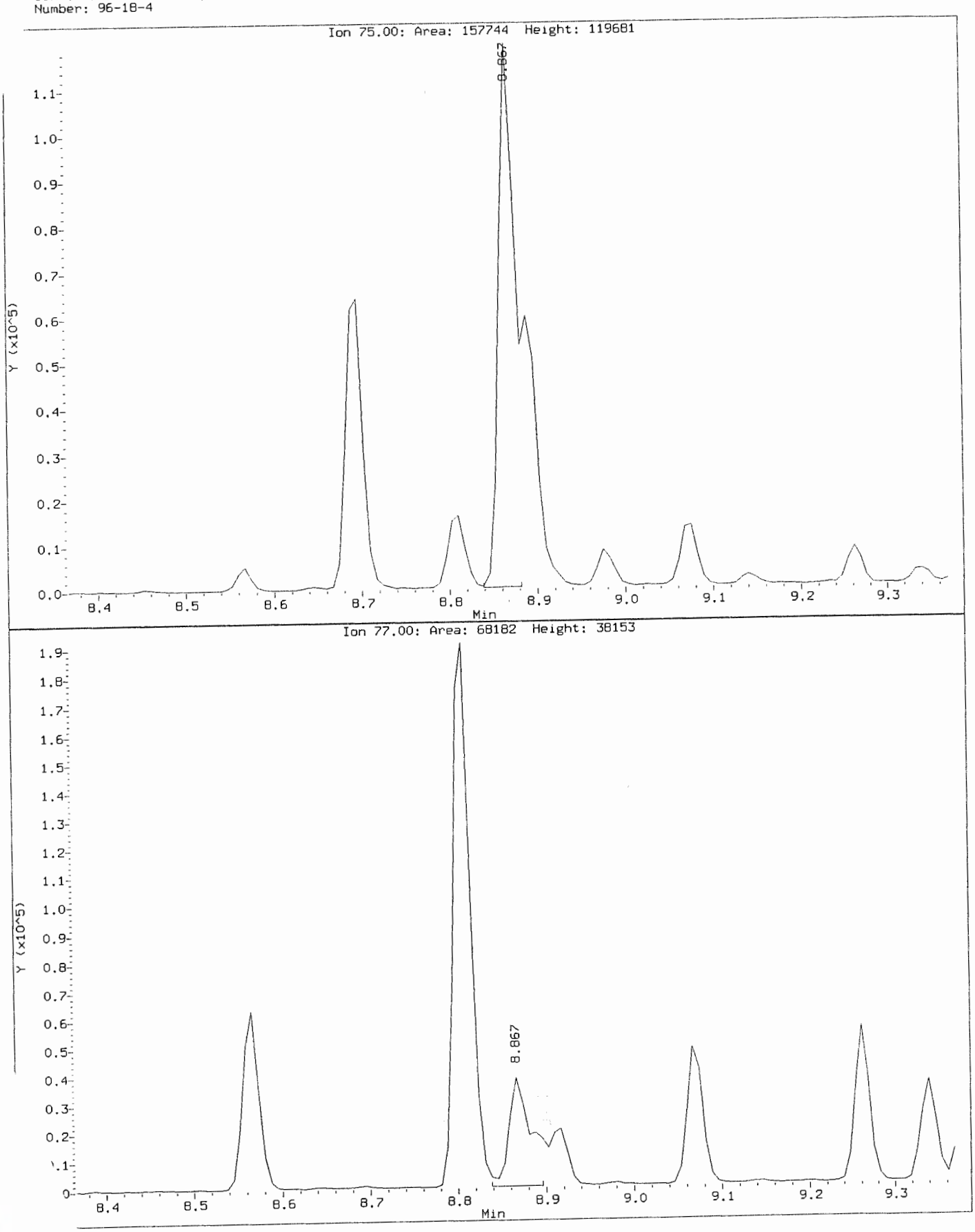
t Sample ID: CCV

ound: 1,2,3-Trichloropropane
Number: 96-18-4



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200626.b\X062605.D
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Inj Date : 26-JUN-2020 13:09
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200626;VLCSW-200626;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 20-Jul-2020 12:33 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 14:17 Cal File: X061908.D
Als bottle: 5 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

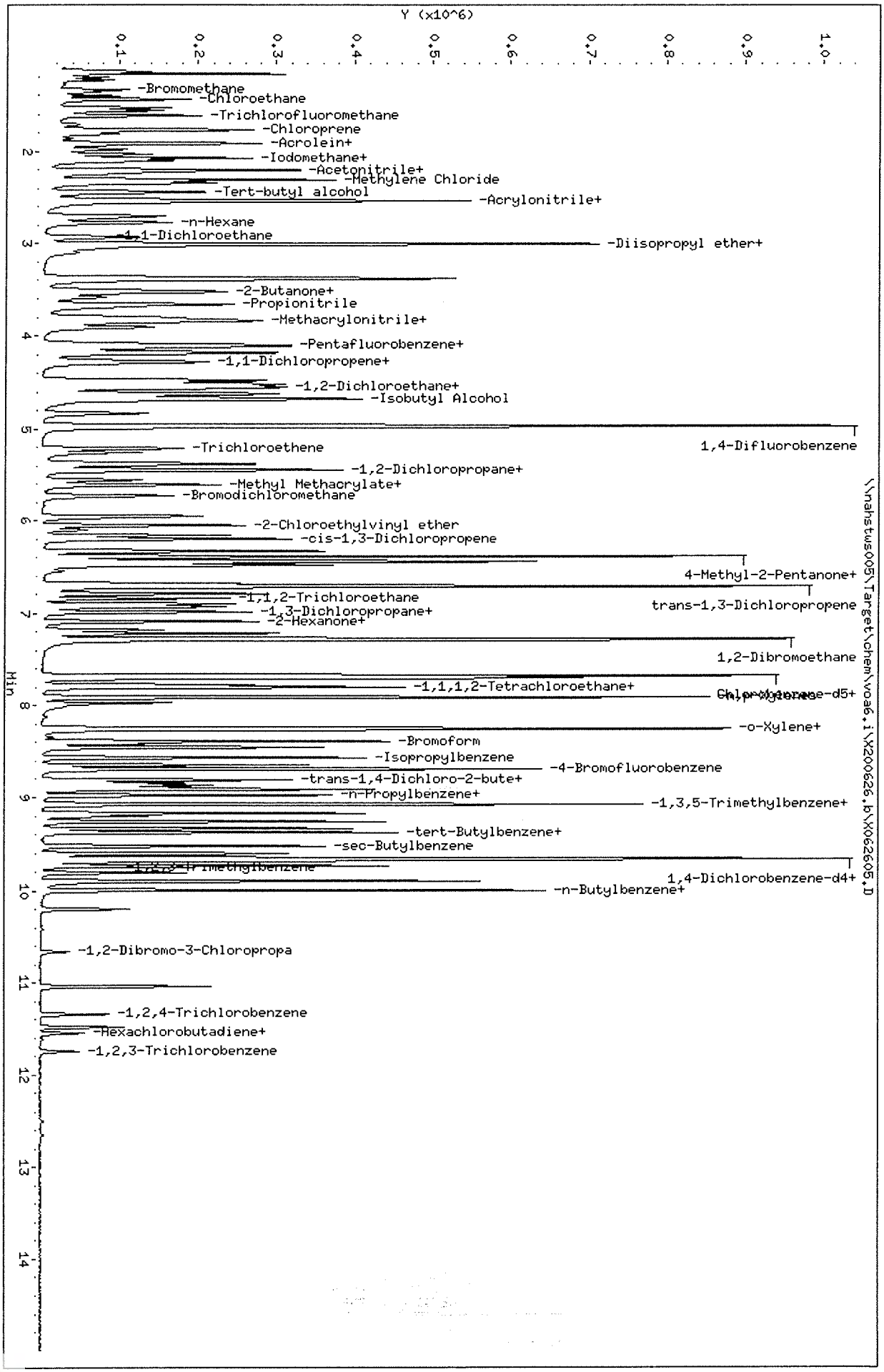
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	221839	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	401427	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	378125	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	174362	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	140241	49.2964	49.29
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	199562	48.1130	48.11
$	48 Toluene-d8	98	6.388	6.388	(0.833)	456331	48.5126	48.51
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	180633	46.8931	46.89
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	56783	20.6226	20.62
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	84529	20.5099	20.50
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.914)	74502	21.4993	21.49
	53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	50848	20.9379	20.93
	22 1,1-Dichloroethane	63	2.929	2.929	(0.699)	137478	19.9556	19.95
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	43664	20.1588	20.15
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	71339	19.7412	19.74
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	11421	28.2921	28.29
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	66909	20.7684	20.76(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	23130	27.1583	27.15
	79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	190405	20.0240	20.02
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.658	(1.102)	6167	22.9070	22.90
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	62848	21.0718	21.07
	9 1,2-Dichlorobenzene	146	9.998	9.999	(1.034)	100030	21.1686	21.16

pounds	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)	109221	20.7635	20.76
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	80638	21.3161	21.31
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	179836	20.0585	20.05
83 1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	105989	20.4019	20.40
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	106415	20.9079	20.90
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	109093	20.6236	20.62
26 2,2-Dichloropropane	77	3.516	3.516	(0.839)	89777	20.8510	20.85
24 2-Butanone	43	3.580	3.580	(0.855)	103424	39.7767	39.77
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	164924	19.9135	19.91
52 2-Hexanone	43	7.090	7.090	(0.924)	170218	43.5989	43.59
77 4-Chlorotoluene	91	9.074	9.075	(0.939)	192283	20.0339	20.03
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	166453	19.4253	19.42
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	248230	43.5581	43.55
10 Acetone	43	1.976	1.976	(0.472)	89552	48.8887	48.88
37 Benzene	78	4.519	4.519	(0.909)	233311	20.8029	20.80
74 Bromobenzene	156	8.809	8.809	(0.911)	66604	20.3581	20.35
29 Bromochloromethane	128	3.802	3.803	(0.908)	34037	20.0212	20.02
39 Bromodichloromethane	83	5.729	5.729	(1.153)	86166	21.0949	21.09
66 Bromoform	173	8.415	8.416	(1.097)	42926	21.3061	21.30
6 Bromomethane	94	1.338	1.338	(0.320)	42061	20.2531	20.25
19 Carbon Disulfide	76	2.069	2.069	(0.494)	290285	40.7436	40.74
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	68104	19.4715	19.47
59 Chlorobenzene	112	7.699	7.699	(1.004)	151213	20.6544	20.65
7 Chloroethane	64	1.403	1.403	(0.335)	49370	20.9389	20.93
28 Chloroform	83	3.910	3.910	(0.933)	110582	20.3560	20.35
3 Chloromethane	50	1.080	1.081	(0.258)	110594	19.9536	19.95
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	65362	20.4860	20.48
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	102598	21.0333	21.03
55 Dibromochloromethane	129	7.176	7.176	(0.936)	63352	20.9353	20.93
44 Dibromomethane	93	5.557	5.557	(1.118)	44435	21.1326	21.13
2 Dichlorodifluoromethane	85	0.973	0.973	(0.232)	55136	18.7558	18.75
61 Ethylbenzene	106	7.807	7.800	(1.018)	75774	20.2961	20.29
91 Hexachlorobutadiene	225	11.481	11.488	(1.187)	15612	26.9730	26.97
67 Isopropylbenzene	105	8.566	8.566	(1.117)	212305	20.1382	20.13
62 m,p-Xylenes	106	7.907	7.907	(1.031)	182193	41.6291	41.62
17 Methylene Chloride	84	2.305	2.305	(0.550)	68164	19.9333	19.93
87 n-Butylbenzene	91	9.998	9.999	(1.034)	152070	19.6846	19.68
73 n-Propylbenzene	91	8.917	8.917	(0.922)	255858	19.9230	19.92
92 Naphthalene	128	11.546	11.546	(1.194)	35884	25.7522	25.75
63 o-Xylene	106	8.244	8.244	(1.075)	91479	20.5236	20.52
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	194679	19.5172	19.51
64 Styrene	104	8.265	8.265	(1.078)	167496	21.2451	21.24
78 tert-Butylbenzene	119	9.339	9.340	(0.966)	136523	19.3876	19.38
56 Tetrachloroethene	164	6.933	6.933	(0.904)	39551	20.2114	20.21
50 Toluene	91	6.453	6.453	(0.841)	231689	20.5868	20.58
20 trans-1,2-Dichloroethene	96	2.527	2.535	(0.603)	53699	21.2993	21.29
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	96649	21.3678	21.36
38 Trichloroethene	130	5.214	5.214	(1.049)	55858	21.0593	21.05
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	84082	21.2728	21.27
5 Vinyl Chloride	62	1.145	1.145	(0.273)	82923	18.9025	18.90

QC Flag Legend

M - Compound response manually integrated.



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Date : 26-JUN-2020 13:09
Client ID: VLCSW-200626
Sample Info: VLCSW-200626;VLCSW-200626;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

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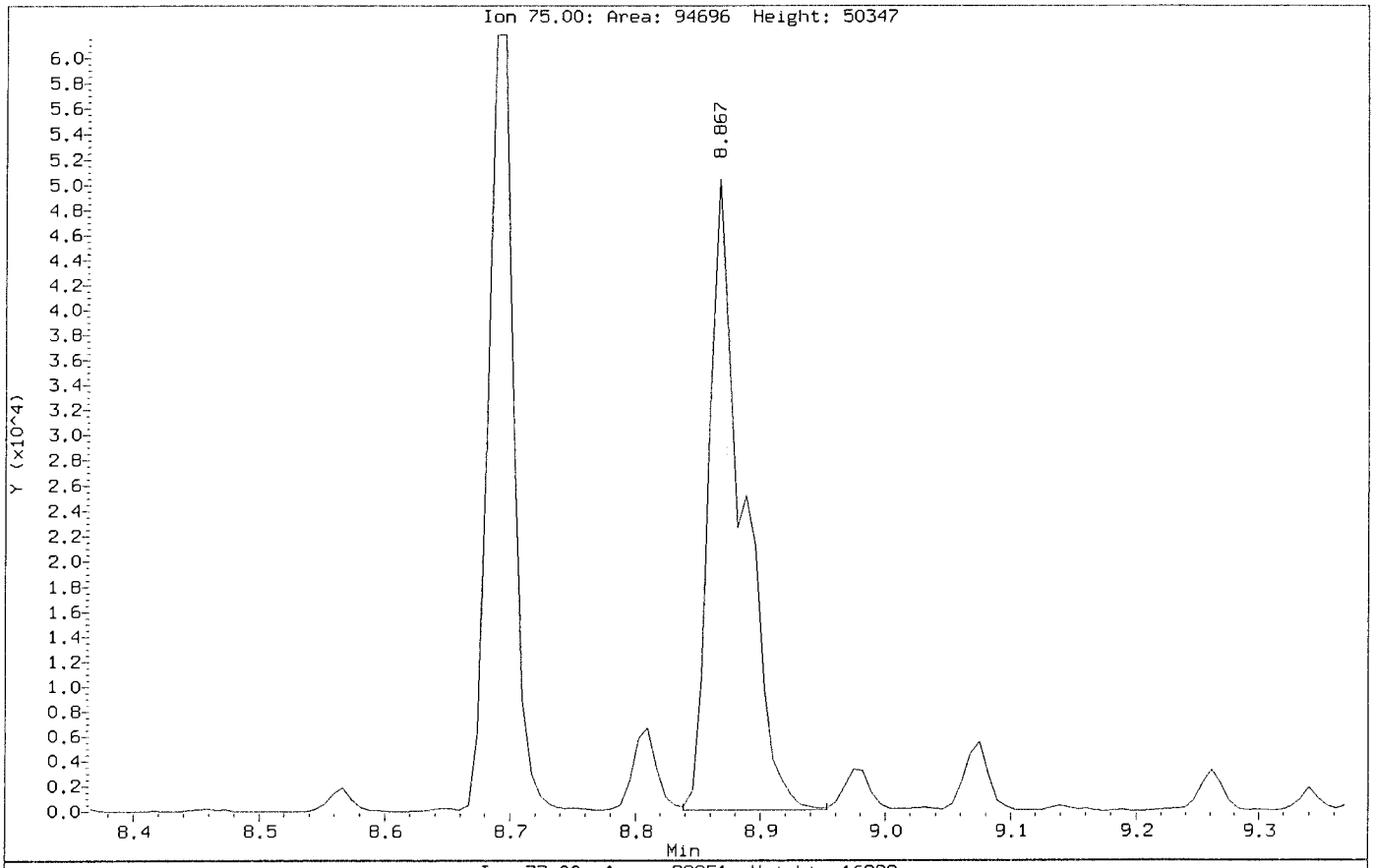
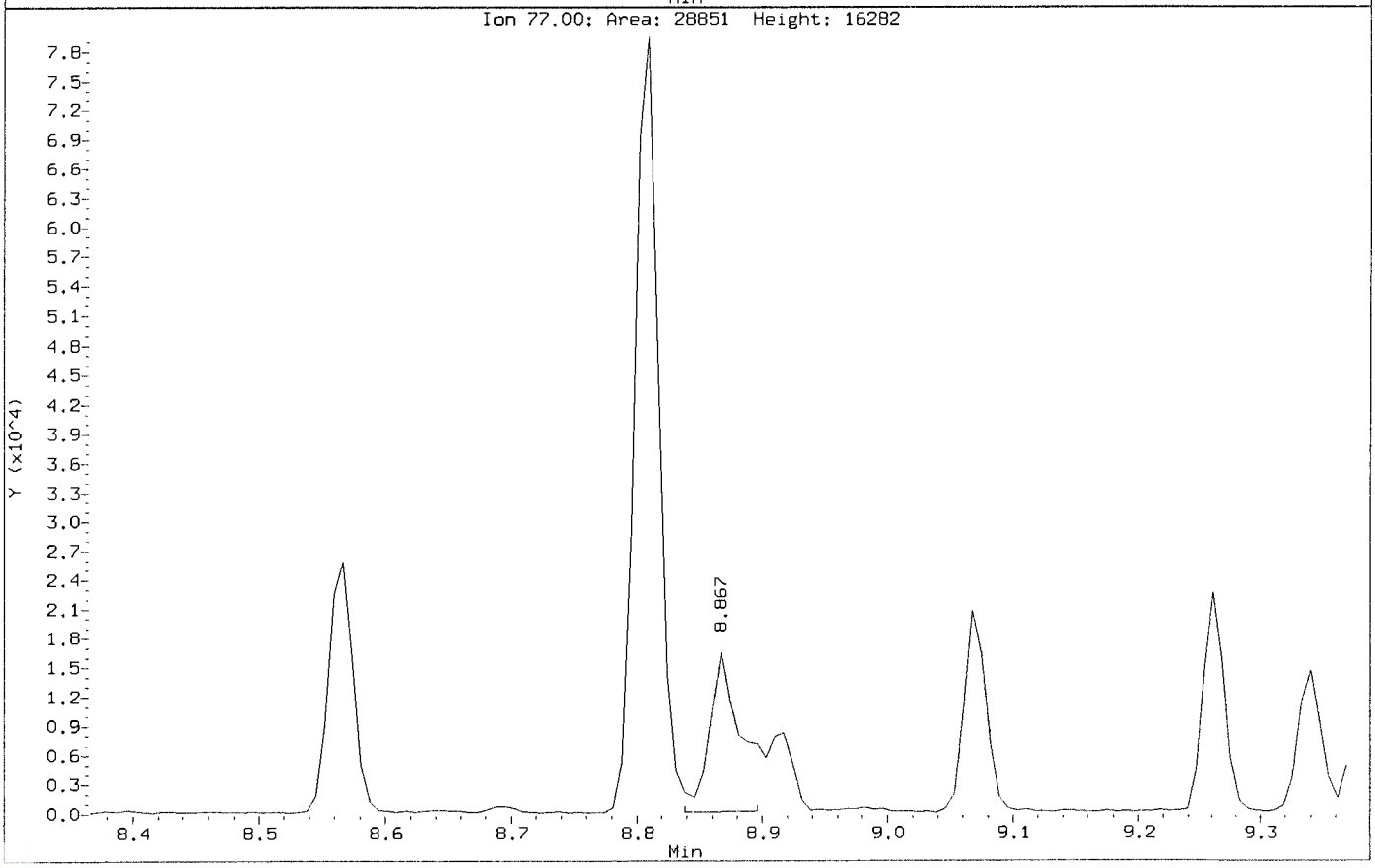
Injection Date: 26-JUN-2020 13:09
Instrument: voa6.i
Client Sample ID: VLCSW-200626

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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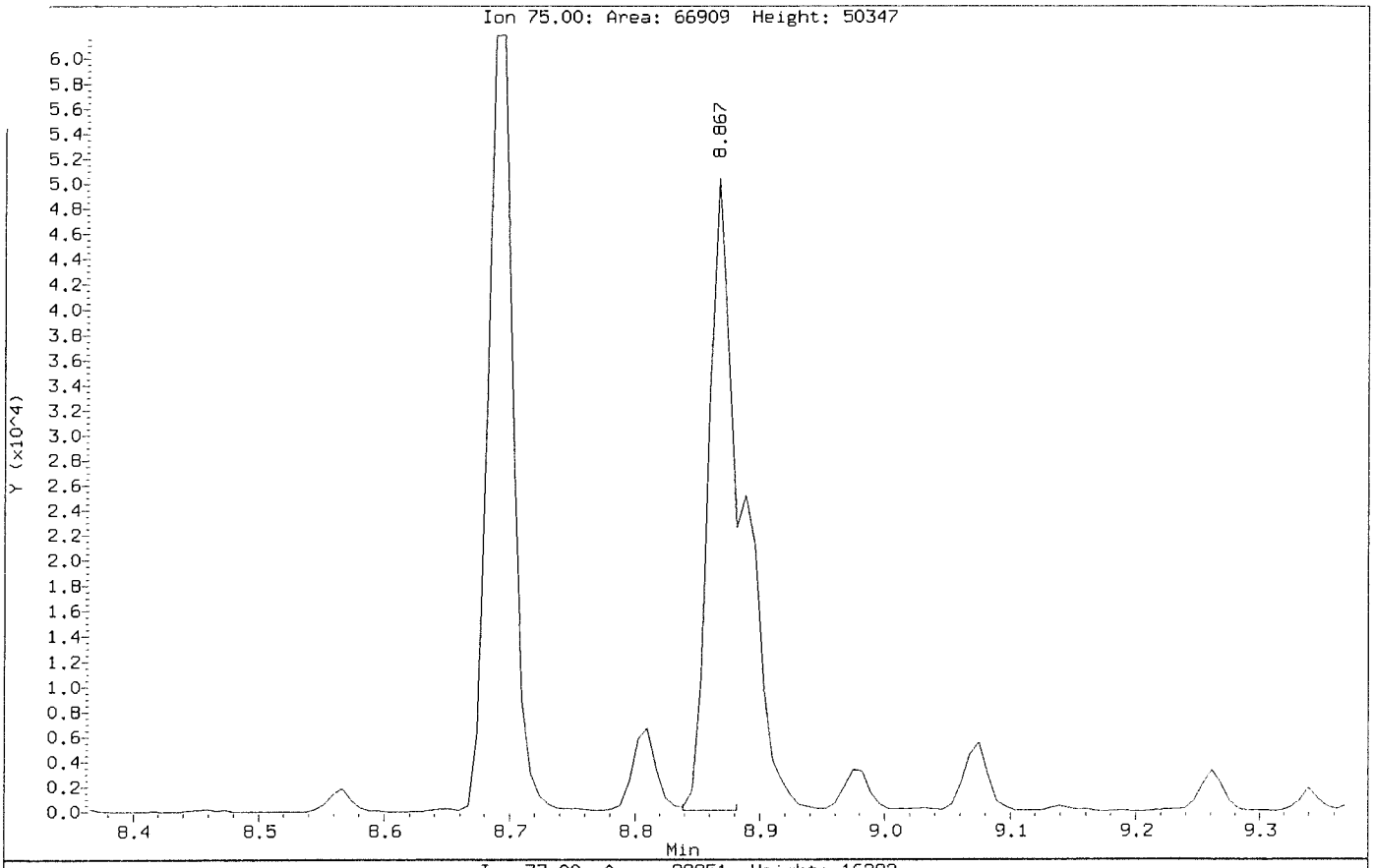
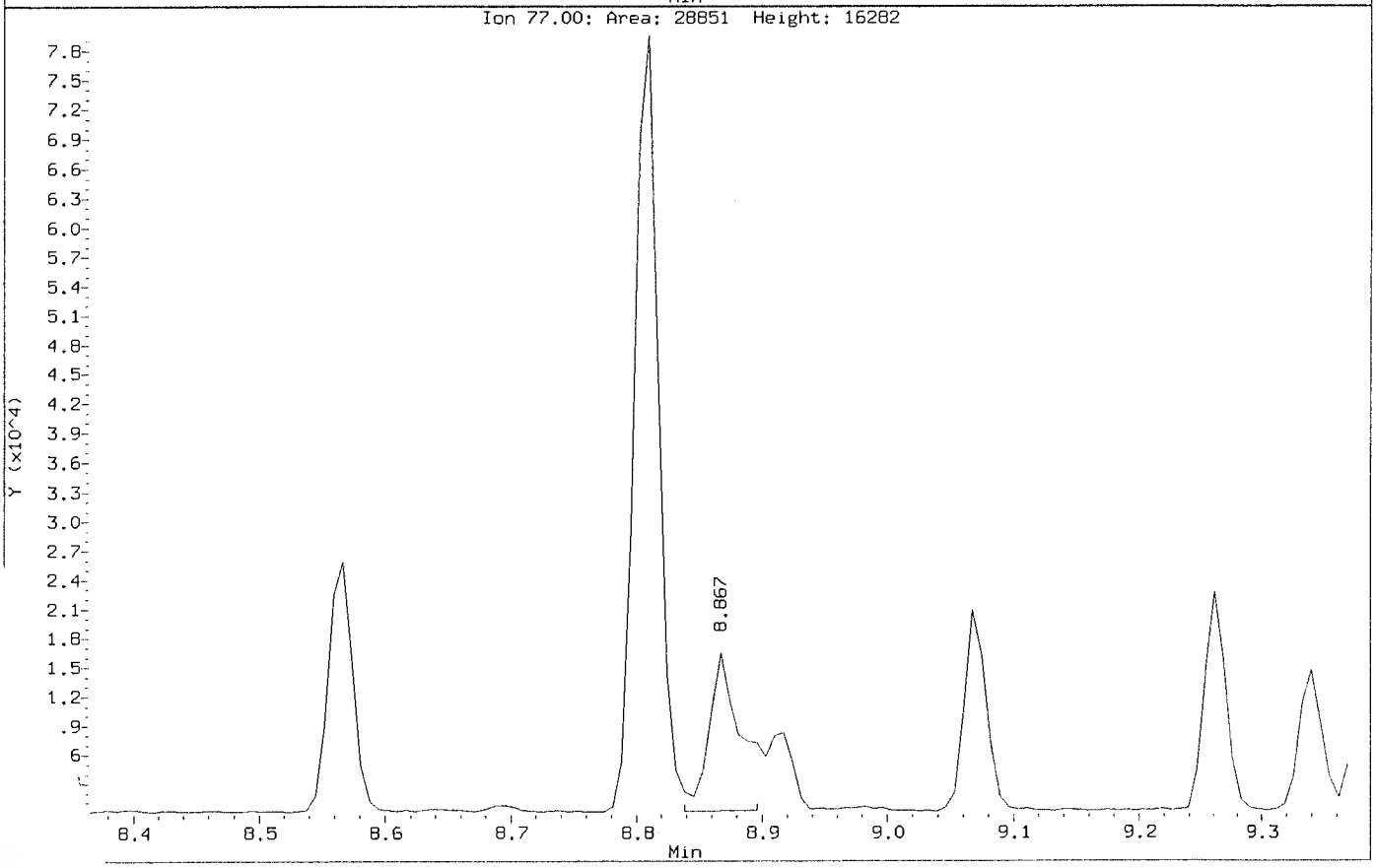
on Date: 26-JUN-2020 13:09
ient: voa6.i
Sample ID: VLCSW-200626

.und: 1,2,3-Trichloropropane
Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200626.b\X062607.D
Lab Smp Id: VBLKW-200626 Client Smp ID: VBLKW-200626
Inj Date : 26-JUN-2020 13:57
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200626;VBLKW-200626;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200626.b\8260W.m
Meth Date : 20-Jul-2020 12:33 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 14:17 Cal File: X061908.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

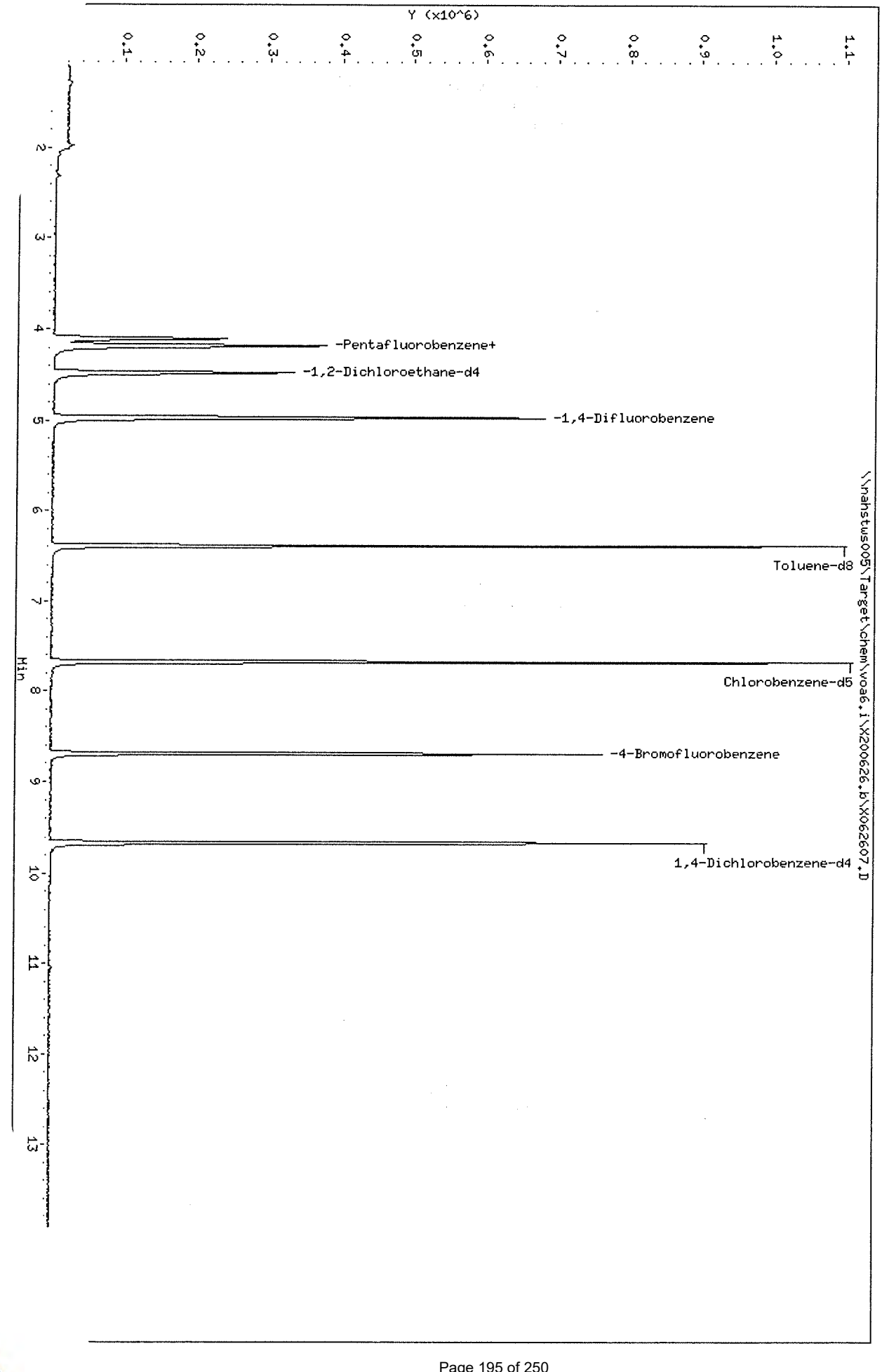
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	281258	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	499909	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	451043	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	201957	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	169439	46.9771	46.97
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	237681	45.1593	45.15
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	571479	50.9322	50.93
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	220092	47.8998	47.89

Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\X062607.D
Date : 26-JUN-2020 13:57
Client ID: VBLKW-200626
Sample Info: VBLKW-200626;VBLKW-200626;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\X200626.b\X062617.D
Lab Smp Id: HS20061206-02MS Client Smp ID: HS20061206-02MS
Inj Date : 26-JUN-2020 17:56
Operator : PC Inst ID: voa6.i
Smp Info : HS20061206-02MS;HS20061206-02MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200626.b\8260W.m
Meth Date : 20-Jul-2020 12:33 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 14:17 Cal File: X061908.D
Als bottle: 17 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

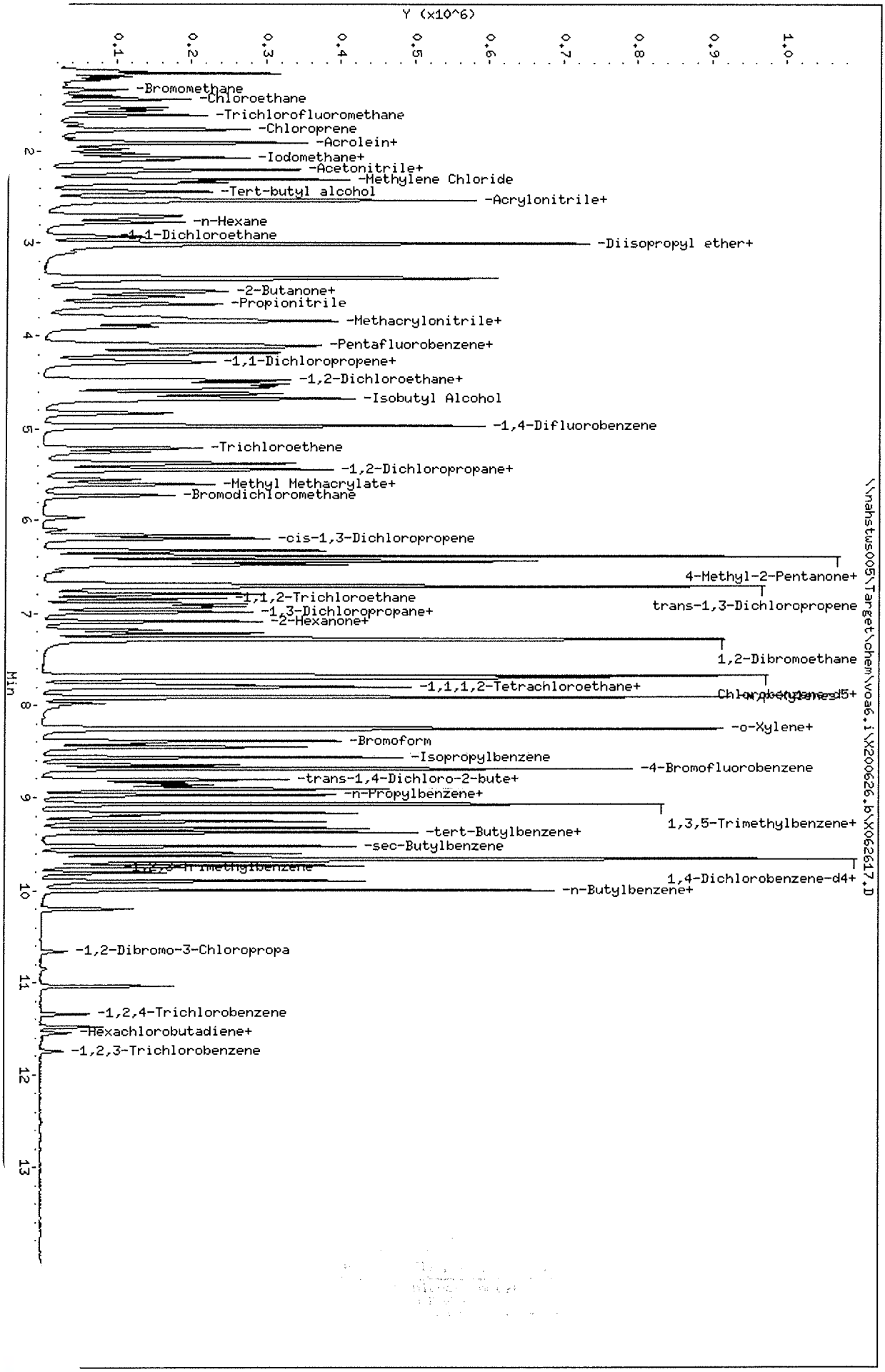
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	234036	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	429630	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	388697	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	178569	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	162954	54.2951	54.29
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	238113	54.4975	54.49
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	543782	56.2372	56.23
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	213112	53.8200	53.82
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	60456	21.3594	21.35
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	93209	21.4374	21.43
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.914)	78833	22.2131	22.21
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	53828	21.5621	21.56
22 1,1-Dichloroethane	63	2.929	2.929	(0.699)	145512	20.0210	20.02
11 1,1-Dichloroethene	96	1.912	1.919	(0.456)	46807	20.4836	20.48
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	78663	20.3390	20.33
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	7574	17.5477	17.54
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	69368	21.0244	21.02(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	16313	18.3224	18.32
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	207939	21.3528	21.35
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	6163	22.3494	22.34
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	66824	21.7955	21.79
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	104351	21.5627	21.56

	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)	115505	20.5166	20.51
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	83984	20.7433	20.74
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	200802	21.8694	21.86
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	113398	21.3138	21.31
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	109560	20.9403	20.94
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	114194	21.0793	21.07
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	89996	19.8126	19.81
24	2-Butanone	43	3.581	3.580	(0.855)	252343	93.0227	93.02
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	180506	21.2815	21.28
52	2-Hexanone	43	7.090	7.090	(0.924)	176666	44.0197	44.01
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	208544	21.2162	21.21
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	190833	21.7458	21.74
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	258557	44.1363	44.13
10	Acetone	43	1.976	1.976	(0.472)	87387	45.0290	45.02
37	Benzene	78	4.519	4.519	(0.909)	248792	20.7270	20.72
74	Bromobenzene	156	8.810	8.809	(0.911)	70039	20.9036	20.90
29	Bromochloromethane	128	3.803	3.803	(0.908)	34156	19.0442	19.04
39	Bromodichloromethane	83	5.729	5.729	(1.153)	91373	20.9012	20.90
66	Bromoform	173	8.416	8.416	(1.097)	44260	21.3707	21.37
6	Bromomethane	94	1.339	1.338	(0.320)	40189	18.3432	18.34
19	Carbon Disulfide	76	2.069	2.069	(0.494)	302106	40.1929	40.19
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	75814	20.2529	20.25
59	Chlorobenzene	112	7.699	7.699	(1.004)	157075	20.8716	20.87
7	Chloroethane	64	1.403	1.403	(0.335)	48292	19.4143	19.41
28	Chloroform	83	3.910	3.910	(0.933)	118946	20.7546	20.75
3	Chloromethane	50	1.081	1.081	(0.258)	95927	16.4054	16.40
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	71443	21.2250	21.22
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	108132	20.7126	20.71
55	Dibromochloromethane	129	7.176	7.176	(0.936)	66794	21.4724	21.47
44	Dibromomethane	93	5.558	5.557	(1.118)	45679	20.2981	20.29
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	41525	13.6474	13.64
61	Ethylbenzene	106	7.800	7.800	(1.017)	82363	21.4609	21.46
91	Hexachlorobutadiene	225	11.481	11.488	(1.187)	12093	19.9083	19.90
67	Isopropylbenzene	105	8.566	8.566	(1.117)	238714	22.0273	22.02
62	m,p-Xylenes	106	7.907	7.907	(1.031)	196886	43.7628	43.76
17	Methylene Chloride	84	2.306	2.305	(0.550)	69644	19.2407	19.24
87	n-Butylbenzene	91	9.999	9.999	(1.034)	170263	21.5203	21.52
73	n-Propylbenzene	91	8.917	8.917	(0.922)	285608	21.7156	21.71
92	Naphthalene	128	11.546	11.546	(1.194)	28737	19.9173	19.91
63	o-Xylene	106	8.244	8.244	(1.075)	97107	21.1937	21.19
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	223794	21.9075	21.90
64	Styrene	104	8.258	8.265	(1.077)	175624	21.6701	21.67
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	159130	22.0656	22.06
56	Tetrachloroethene	164	6.933	6.933	(0.904)	45291	22.5151	22.51
50	Toluene	91	6.453	6.453	(0.841)	253095	21.8772	21.87
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.605)	56488	21.2379	21.23
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	97042	20.0463	20.04
38	Trichloroethene	130	5.214	5.214	(1.049)	65610	23.1122	23.11
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	85844	20.5867	20.58
5	Vinyl Chloride	62	1.138	1.145	(0.272)	86946	18.7866	18.78

QC Flag Legend

M - Compound response manually integrated.



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Date : 26-JUN-2020 17:56
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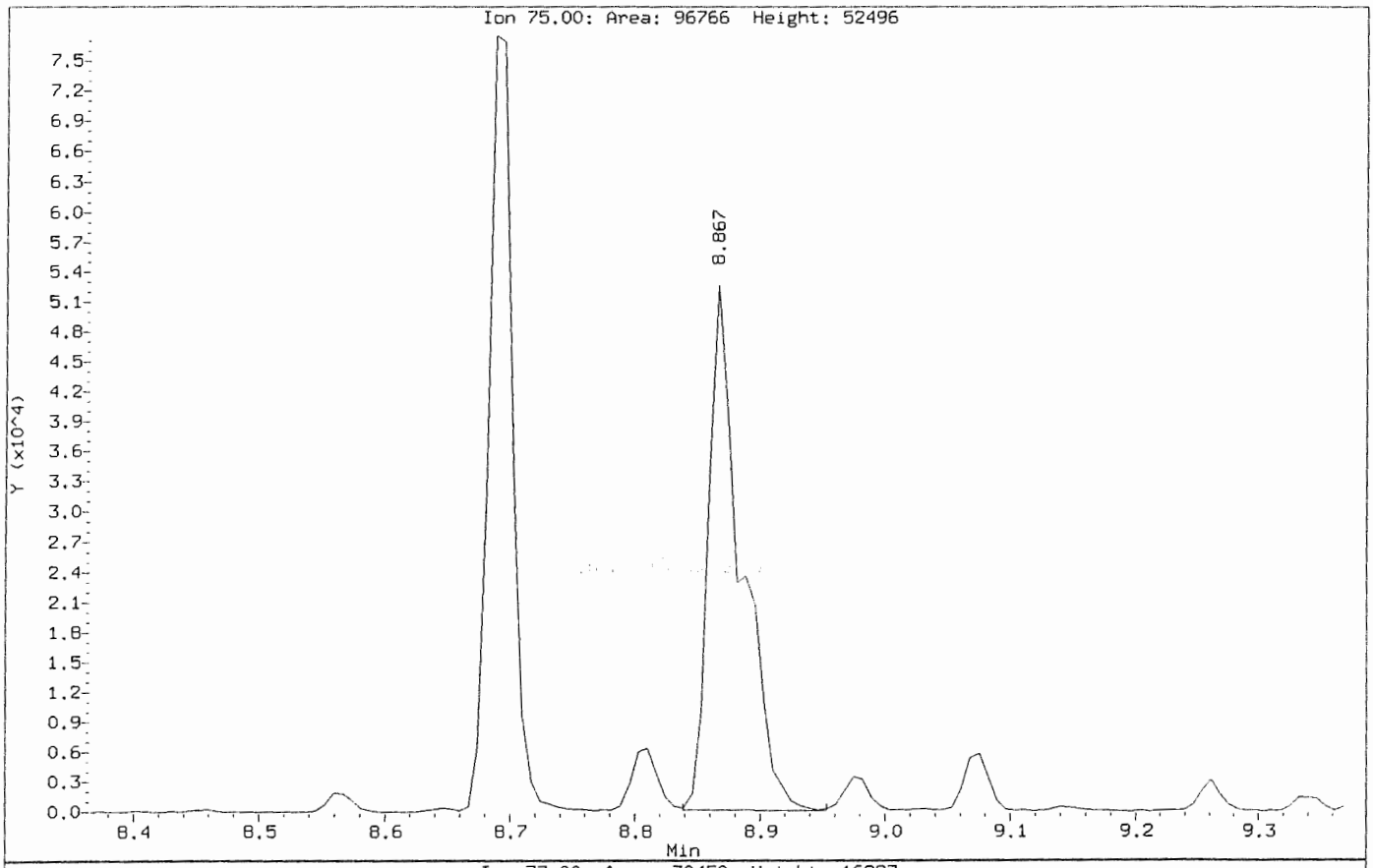
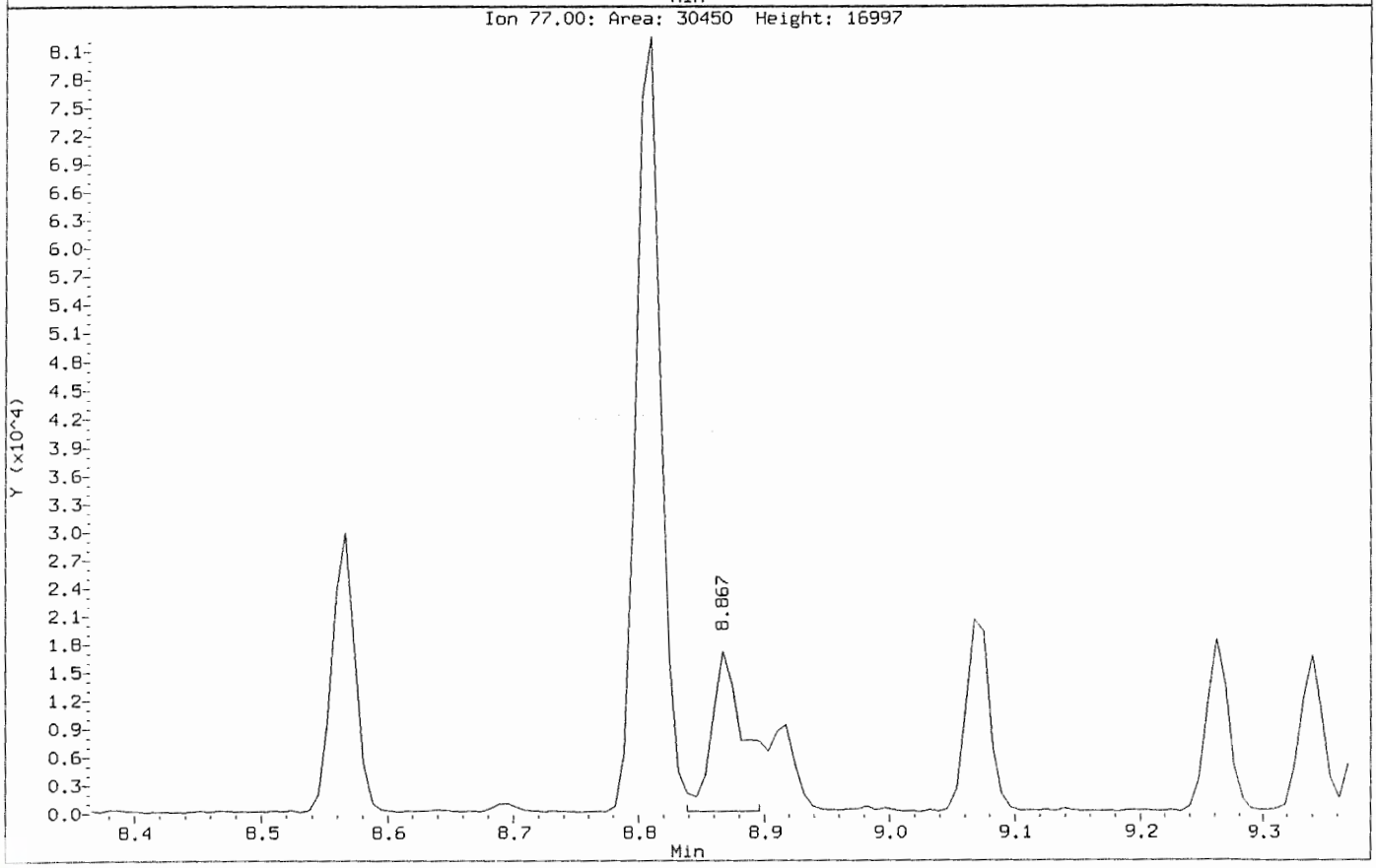
Sample Info: HS20061206-02MS;HS20061206-02MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\Before\X062617.D
Injection Date: 26-JUN-2020 17:56
Instrument: voa6.i
Client Sample ID: HS20061206-02MS

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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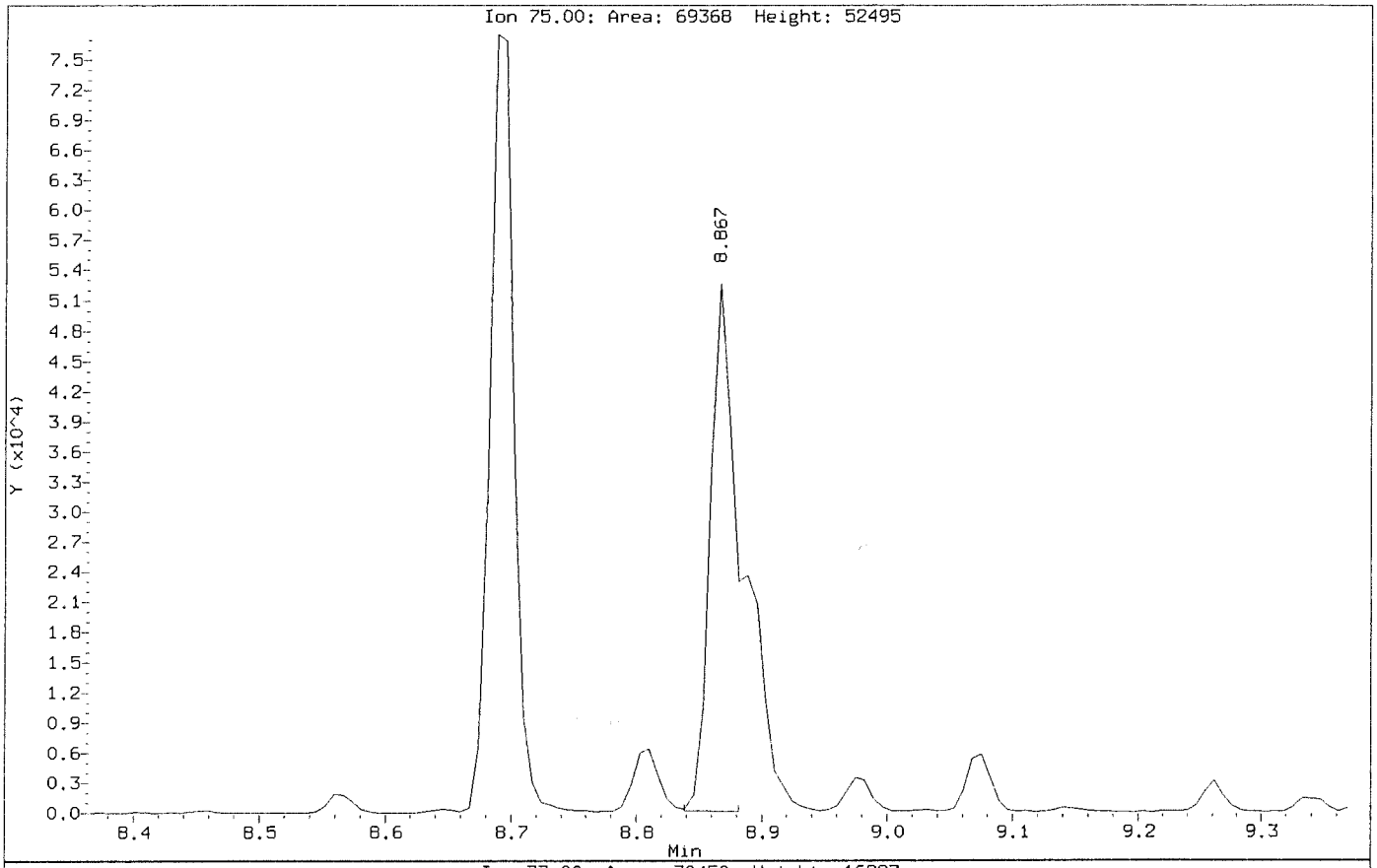
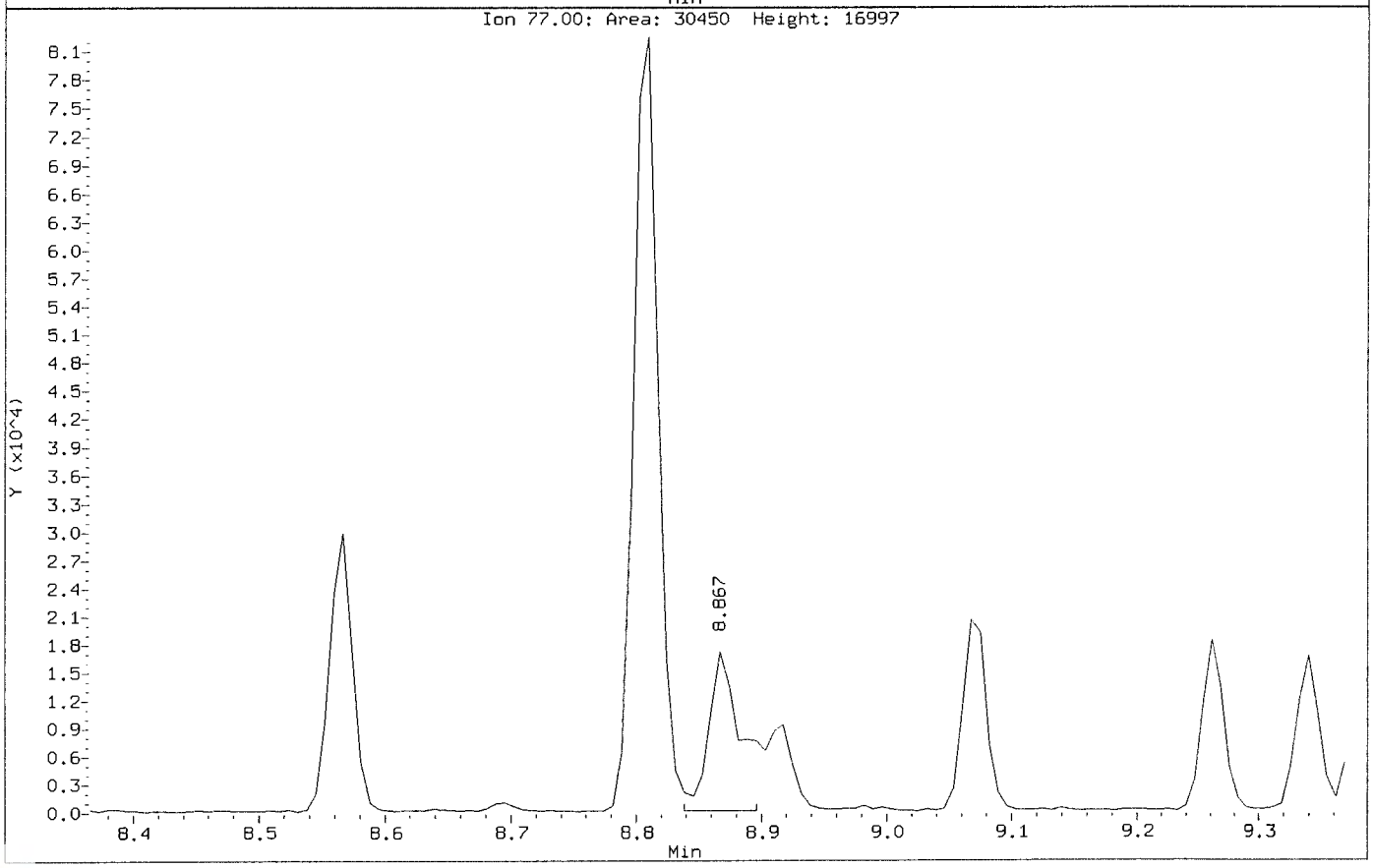
Injection Date: 26-JUN-2020 17:56
Instrument: voa6.i
Client Sample ID: HS20061206-02MS

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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Data file : \\nahstws005\Target\chem\voa6.i\X200626.b\X062618.D
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Inj Date : 26-JUN-2020 18:19
Operator : PC Inst ID: voa6.i
Smp Info : HS20061206-02MDS;HS20061206-02MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200626.b\8260W.m
Meth Date : 20-Jul-2020 12:33 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 14:17 Cal File: X061908.D
Als bottle: 17 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

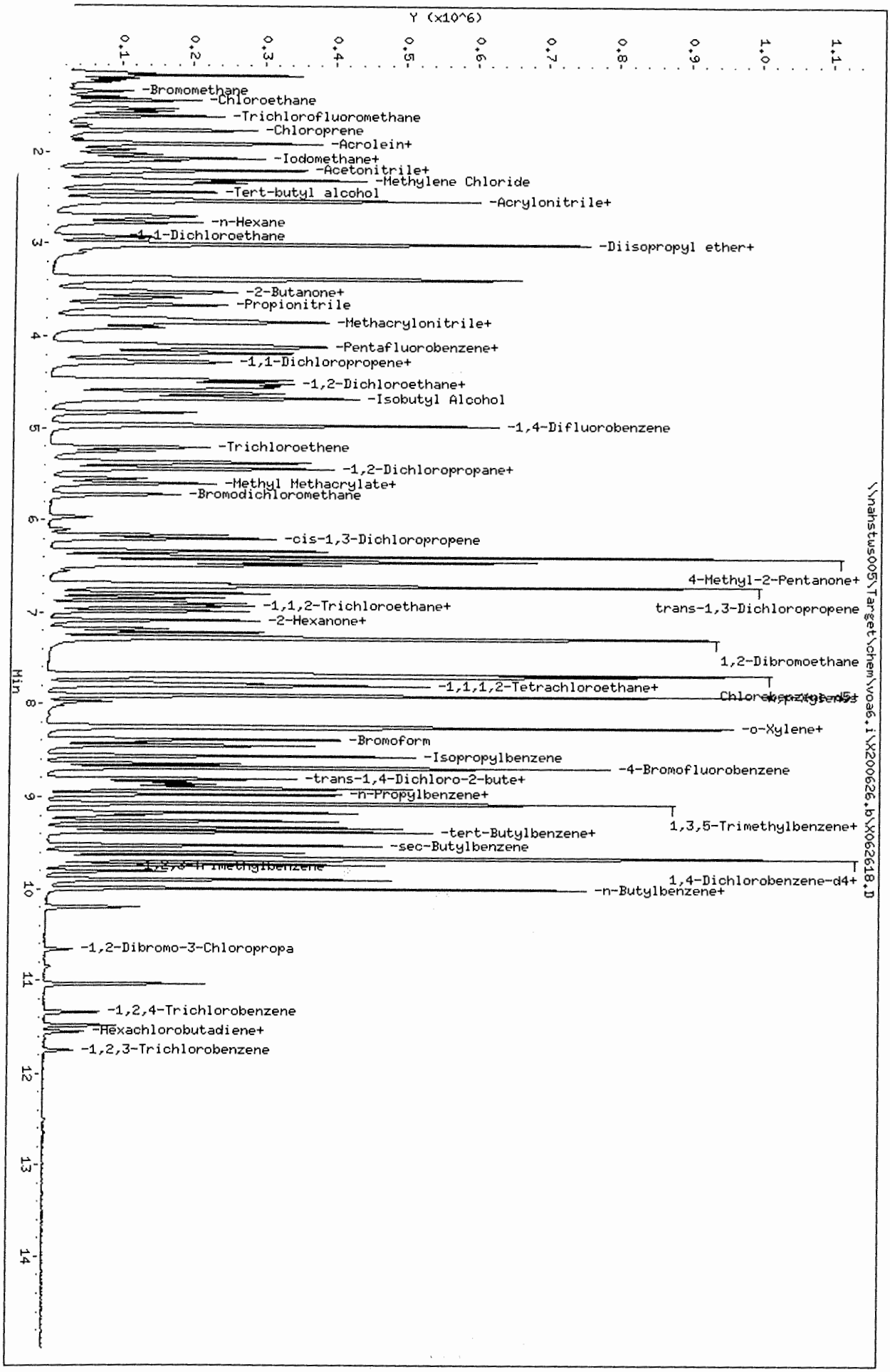
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1	Pentafluorobenzene	168	4.189	4.189	(1.000)	253755	50.0000	
* 36	1,4-Difluorobenzene	114	4.970	4.970	(1.000)	451434	50.0000	
* 47	Chlorobenzene-d5	117	7.671	7.671	(1.000)	405604	50.0000	
* 70	1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	187784	50.0000	
$ 30	Dibromofluoromethane	113	4.103	4.103	(0.979)	167187	51.3767	51.37
$ 35	1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	235162	49.5839	49.58
$ 48	Toluene-d8	98	6.388	6.388	(0.833)	564325	55.9290	55.92
$ 69	4-Bromofluorobenzene	95	8.695	8.695	(1.134)	220524	53.3704	53.37
60	1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	63391	21.4628	21.46
31	1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	99892	21.1891	21.18
68	1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	81826	21.9250	21.92
53	1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	55490	21.3013	21.30
22	1,1-Dichloroethane	63	2.929	2.929	(0.699)	152801	19.3902	19.39
11	1,1-Dichloroethene	96	1.912	1.919	(0.456)	51791	20.9035	20.90
32	1,1-Dichloropropene	75	4.283	4.282	(0.862)	84715	20.8458	20.84
93	1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	10357	23.4903	23.49
71	1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	70164	20.2221	20.22(M)
90	1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	19901	21.4511	21.45
79	1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	223621	21.8363	21.83
9	1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	6166	21.2562	21.25
7	1,2-Dibromoethane	107	7.262	7.262	(0.947)	67452	21.0833	21.08
	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	108708	21.3607	21.36

Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\X062618.D Page 2
Report Date: 20-Jul-2020 12:33

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)	118674	20.0614	20.06
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	89165	20.9592	20.95
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	217320	22.5069	22.50
83 1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	119879	21.4262	21.42
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	113423	20.7750	20.77
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	121075	21.2528	21.25
26 2,2-Dichloropropane	77	3.516	3.516	(0.839)	94077	19.1016	19.10
24 2-Butanone	43	3.581	3.580	(0.855)	247406	84.0404	84.04
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	189628	21.2598	21.25
52 2-Hexanone	43	7.090	7.090	(0.924)	180819	43.1765	43.17
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	219077	21.1941	21.19
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	209691	22.7221	22.72
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	260640	42.6373	42.63
10 Acetone	43	1.976	1.976	(0.472)	88931	42.1068	42.10
37 Benzene	78	4.519	4.519	(0.909)	261188	20.7088	20.70
74 Bromobenzene	156	8.810	8.809	(0.911)	73908	20.9759	20.97
29 Bromochloromethane	128	3.803	3.803	(0.908)	37329	19.1959	19.19
39 Bromodichloromethane	83	5.729	5.729	(1.153)	95205	20.7259	20.72
66 Bromoform	173	8.416	8.416	(1.097)	45671	21.1328	21.13
6 Bromomethane	94	1.339	1.338	(0.320)	43437	18.2850	18.28
19 Carbon Disulfide	76	2.069	2.069	(0.494)	324714	39.8437	39.84
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	83640	21.2644	21.26
59 Chlorobenzene	112	7.699	7.699	(1.004)	166271	21.1726	21.17
7 Chloroethane	64	1.403	1.403	(0.335)	51990	19.2768	19.27
28 Chloroform	83	3.910	3.910	(0.933)	123778	19.9194	19.91
3 Chloromethane	50	1.081	1.081	(0.258)	102715	16.2012	16.20
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	74238	20.3415	20.34
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	109598	19.9795	19.97
55 Dibromochloromethane	129	7.176	7.176	(0.936)	67976	20.9415	20.94
44 Dibromomethane	93	5.558	5.557	(1.118)	47582	20.1225	20.12
2 Dichlorodifluoromethane	85	0.973	0.973	(0.232)	47068	14.2261	14.22
61 Ethylbenzene	106	7.800	7.800	(1.017)	88360	22.0638	22.06
91 Hexachlorobutadiene	225	11.481	11.488	(1.187)	13922	21.9862	21.98
67 Isopropylbenzene	105	8.566	8.566	(1.117)	260998	23.0797	23.07
62 m,p-Xylenes	106	7.907	7.907	(1.031)	208459	44.4037	44.40
17 Methylene Chloride	84	2.306	2.305	(0.550)	72774	18.4695	18.46
87 n-Butylbenzene	91	9.999	9.999	(1.034)	191876	23.0620	23.06
73 n-Propylbenzene	91	8.917	8.917	(0.922)	315421	22.8055	22.80
92 Naphthalene	128	11.546	11.546	(1.194)	36418	24.2120	24.21
63 o-Xylene	106	8.244	8.244	(1.075)	101811	21.2942	21.29
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	252988	23.5500	23.55
64 Styrene	104	8.265	8.265	(1.078)	183973	21.7541	21.75
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	175398	23.1279	23.12
56 Tetrachloroethene	164	6.933	6.933	(0.904)	48526	23.1178	23.11
50 Toluene	91	6.453	6.453	(0.841)	266288	22.0581	22.05
20 trans-1,2-Dichloroethene	96	2.535	2.535	(0.605)	59158	20.5133	20.51
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	99281	19.5183	19.51
38 Trichloroethene	130	5.214	5.214	(1.049)	70138	23.5139	23.51
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	93180	20.6095	20.60
5 Vinyl Chloride	62	1.145	1.145	(0.273)	88666	17.6695	17.66

QC Flag Legend

M - Compound response manually integrated.

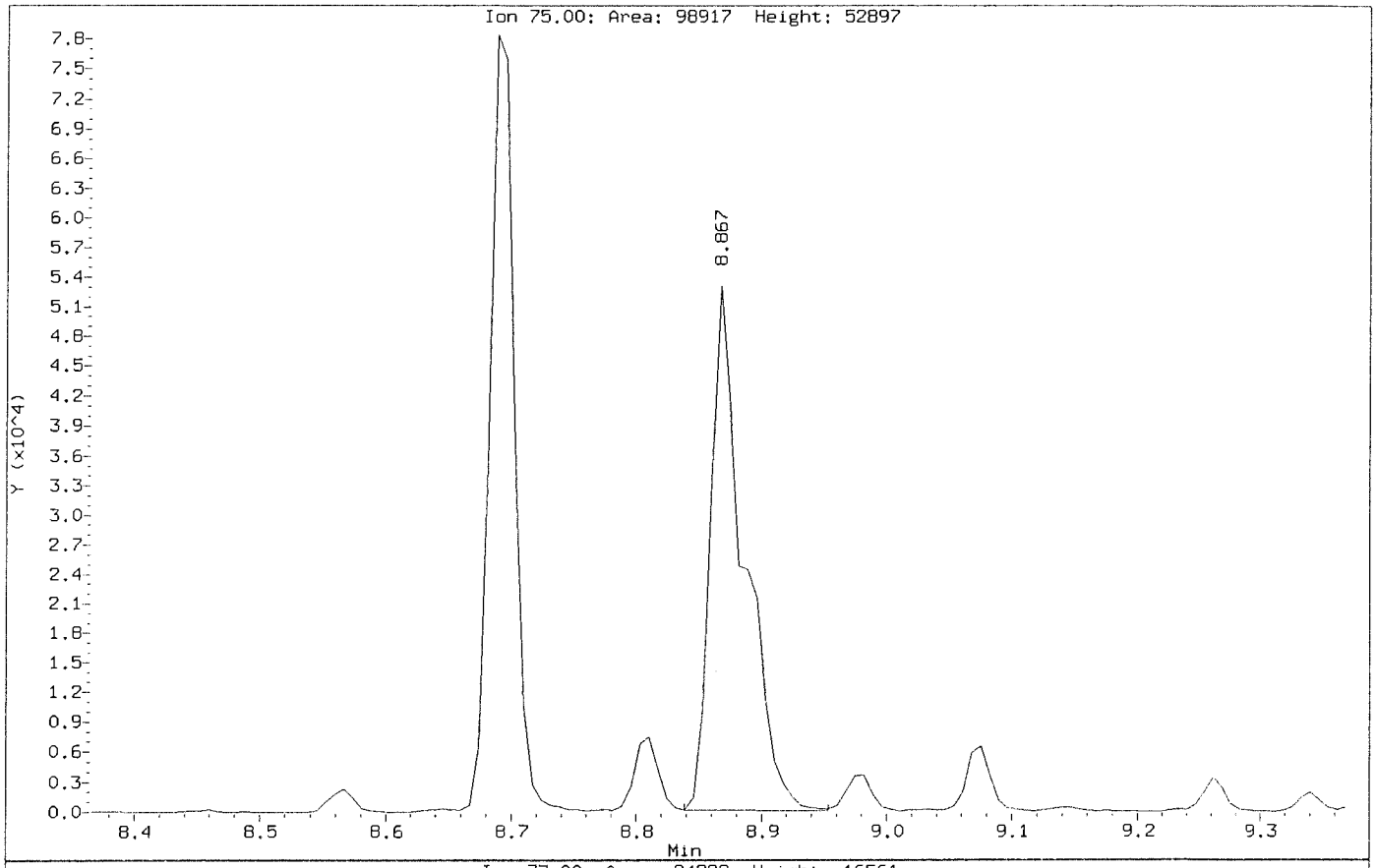


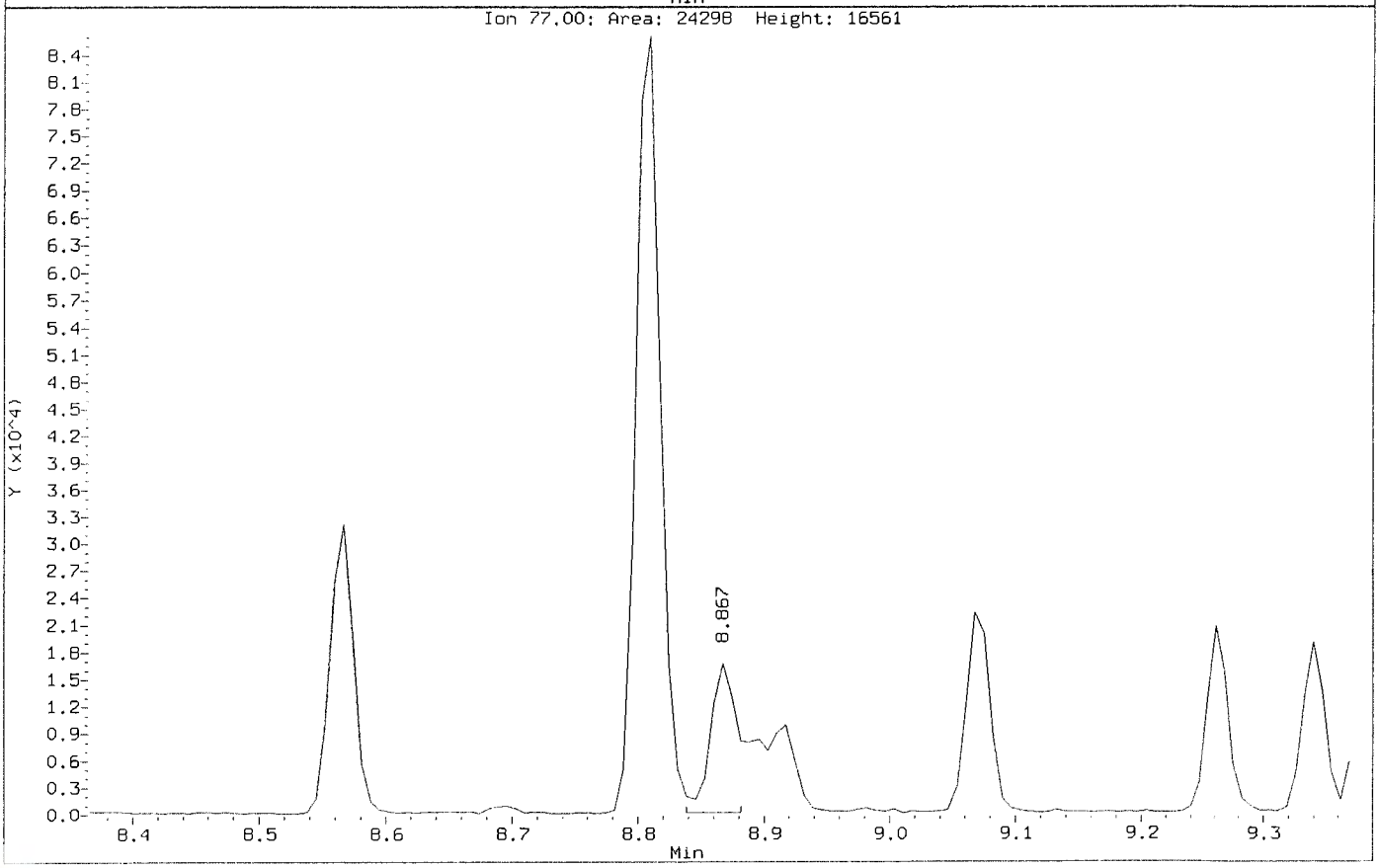
Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\X062618.D
Date : 26-JUN-2020 18:19
Client ID: HS20061206-02HSD
Sample Info: HS20061206-02HDS;HS20061206-02HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\Before\X062618.D
Injection Date: 26-JUN-2020 18:19
Instrument: voa6.i
Client Sample ID: HS20061206-02MSD

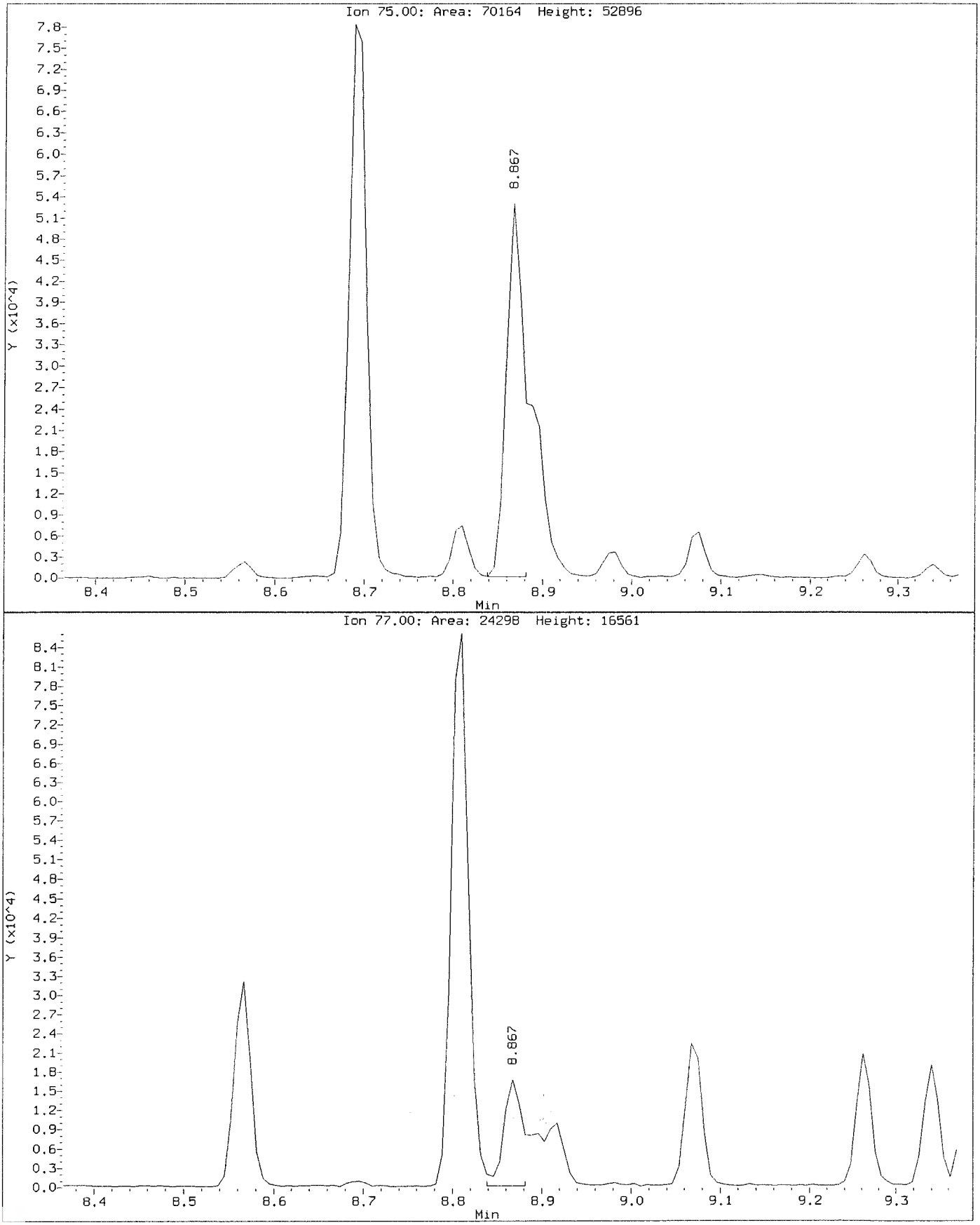
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\X062618.D
Injection Date: 26-JUN-2020 18:19
Instrument: voa6.i
Client Sample ID: HS20061206-02MSD

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



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Data file : \\nahstws005\Target\chem\voa6.i\X200626.b\X062620.D
Lab Smp Id: HS20061179-02 Client Smp ID: HS20061179-02
Inj Date : 26-JUN-2020 19:07
Operator : PC Inst ID: voa6.i
Smp Info : HS20061179-02;HS20061179-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200626.b\8260W.m
Meth Date : 20-Jul-2020 12:27 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 14:17 Cal File: X061908.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

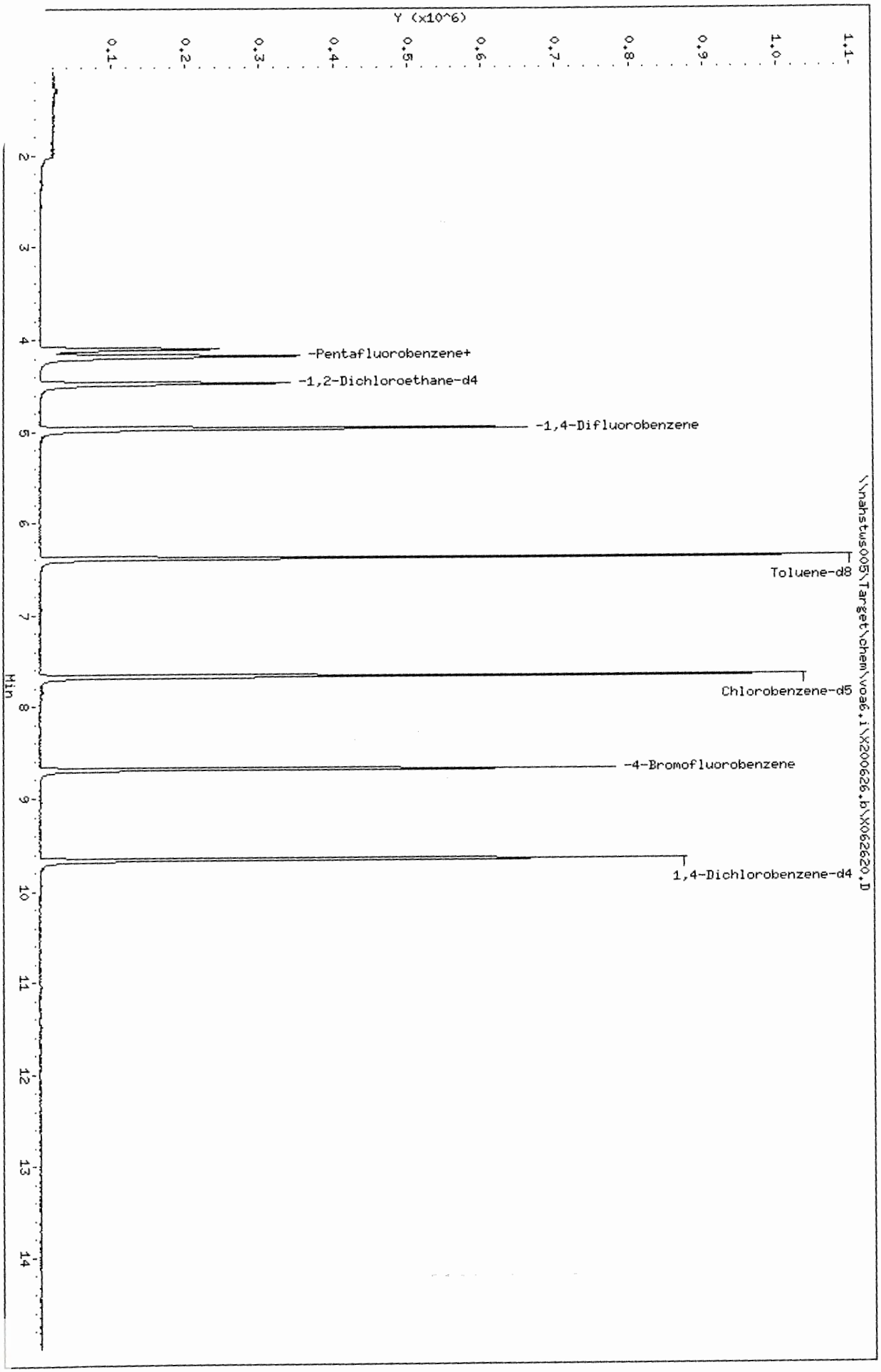
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.189	4.189	(1.000)	265200	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	479876	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	435281	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	189338	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	171077	50.3033	50.30
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	243523	49.1251	49.12
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	576474	53.2378	53.23
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	220200	49.6586	49.65

Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\X062620.D
Date : 26-JUN-2020 19:07
Client ID: HS20061179-02
Sample Info: HS20061179-02;HS20061179-02;;;
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\X200626.b\X062622.D
Lab Smp Id: HS20061179-01 Client Smp ID: HS20061179-01
Inj Date : 26-JUN-2020 19:55
Operator : PC Inst ID: voa6.i
Smp Info : HS20061179-01;HS20061179-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200626.b\8260W.m
Meth Date : 20-Jul-2020 12:27 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 14:17 Cal File: X061908.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

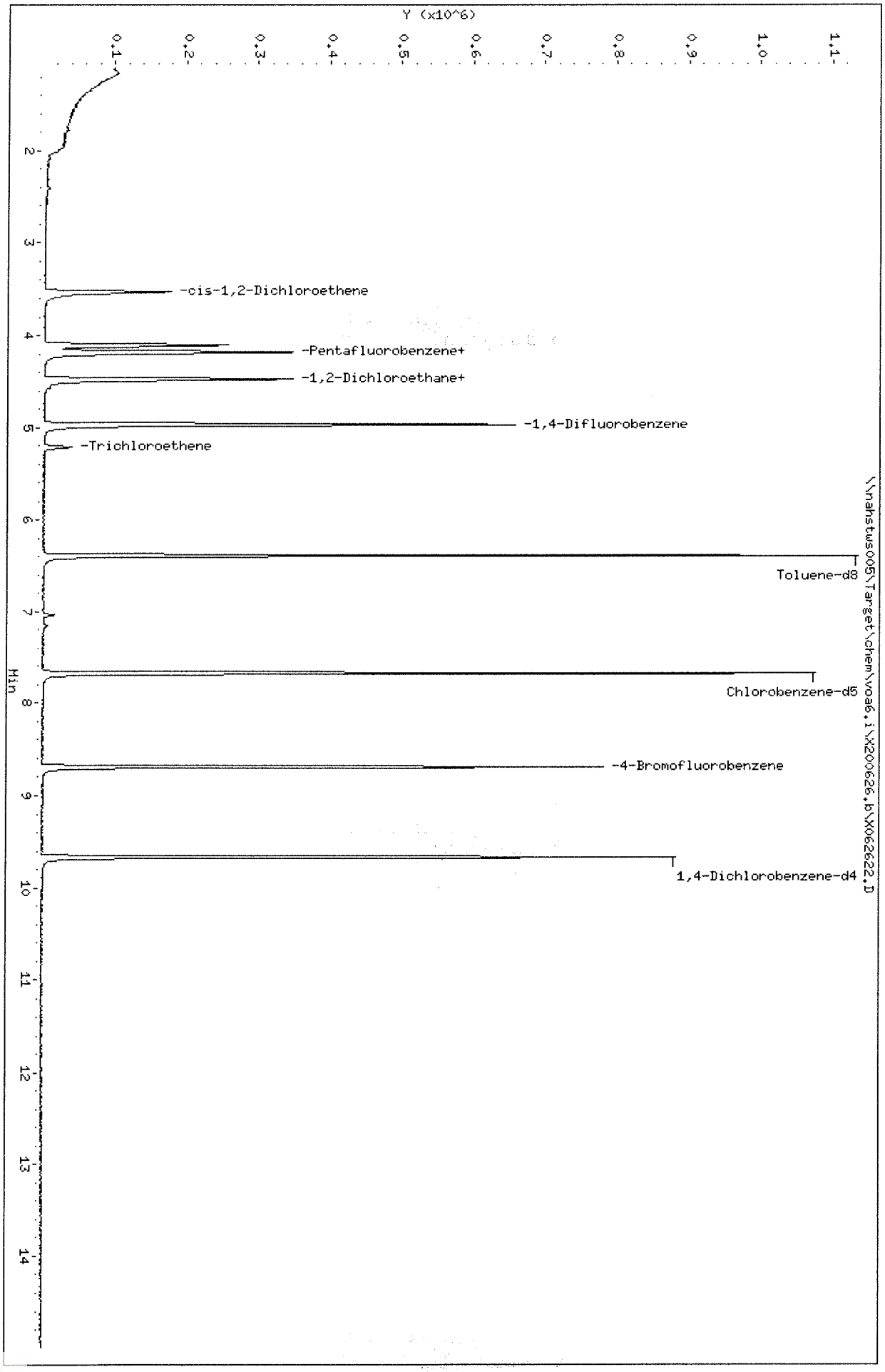
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.189	4.189	(1.000)	266394	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	476636	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	435308	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	190204	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	172876	50.6044	50.60
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	248488	49.9119	49.91
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	586944	54.2014	54.20
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	226209	51.0106	51.01
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	5264	0.84281	0.84(aM)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	76328	19.9219	19.92
38 Trichloroethene	130	5.214	5.214	(1.049)	11971	3.80110	3.80(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\X200626.b\X062622.D
Date : 26-JUN-2020 19:55
Client ID: HS20061179-01
Sample Info: HS20061179-01;HS20061179-01;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\X062622.D

Date : 26-JUN-2020 19:55

Client ID: HS20061179-01

Instrument: voa6.i

Sample Info: HS20061179-01;HS20061179-01;;;

Purge Volume: 5.0

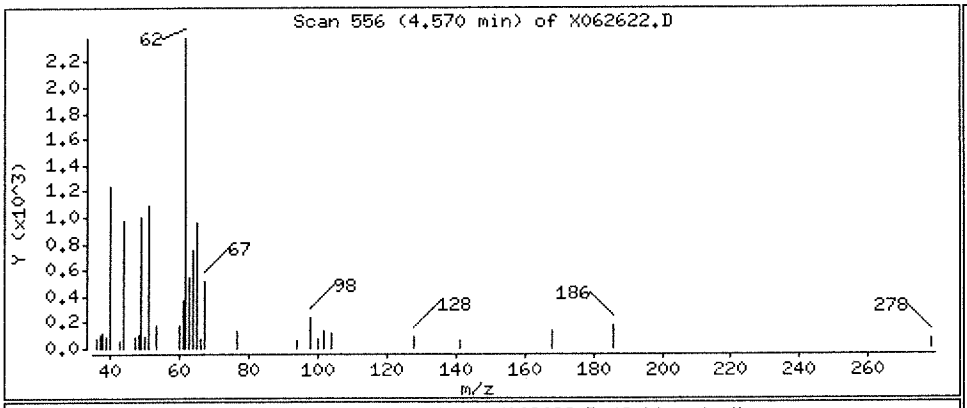
Operator: PC

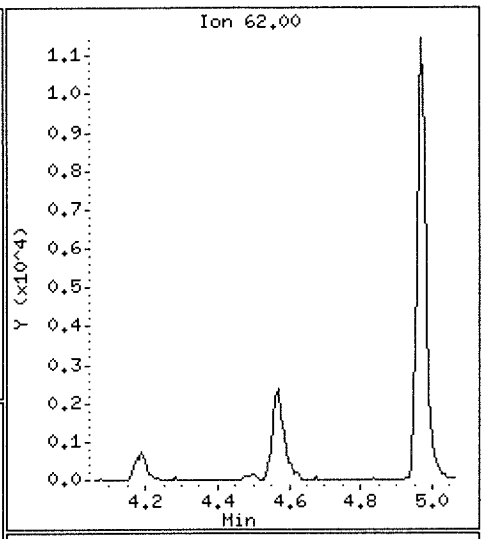
Column phase: DB624

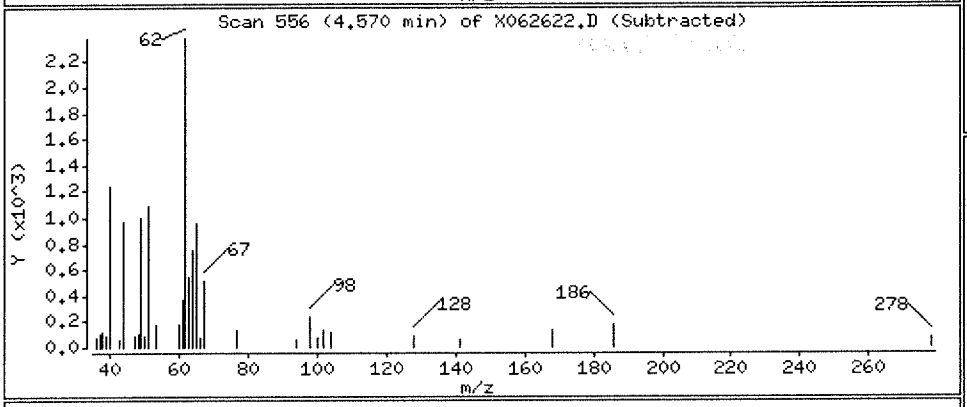
Column diameter: 0.18

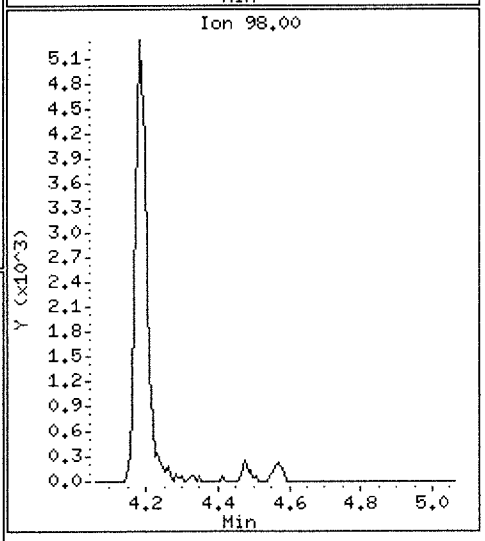
33 1,2-Dichloroethane

Concentration: 0.84 ug/l









Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\X062622.D

Date : 26-JUN-2020 19:55

Client ID: HS20061179-01

Instrument: voa6.i

Sample Info: HS20061179-01;HS20061179-01;;;

Purge Volume: 5.0

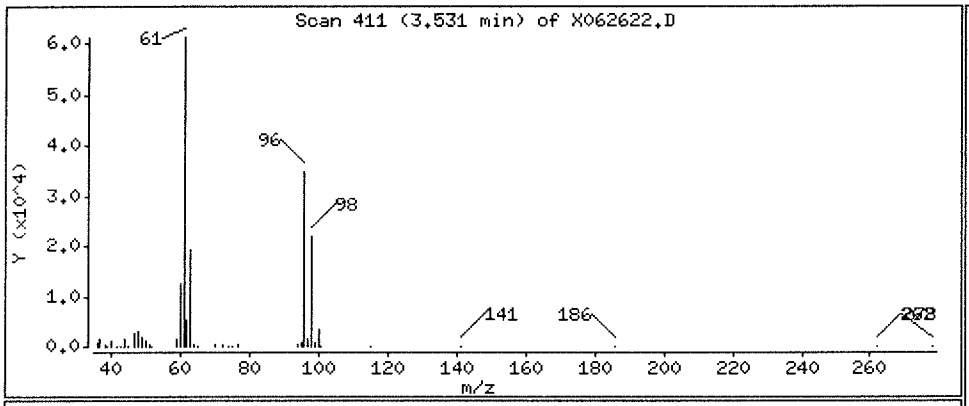
Operator: PC

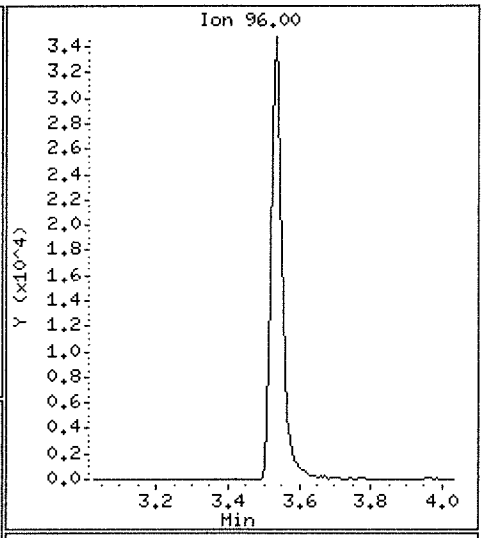
Column phase: DB624

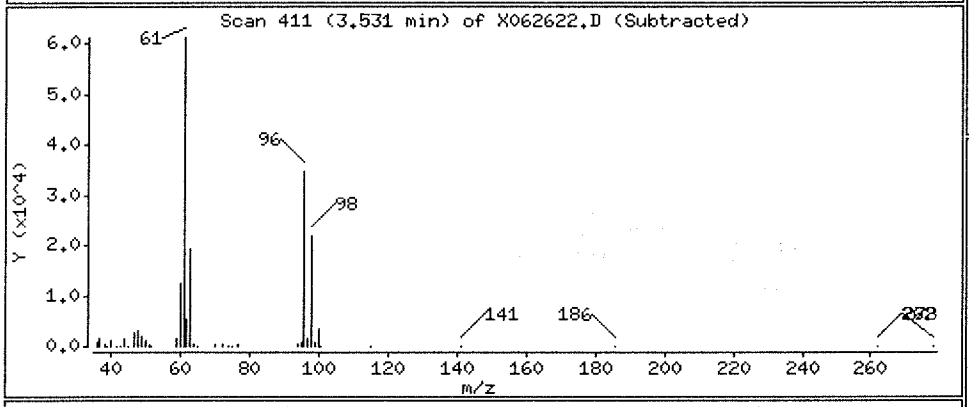
Column diameter: 0.18

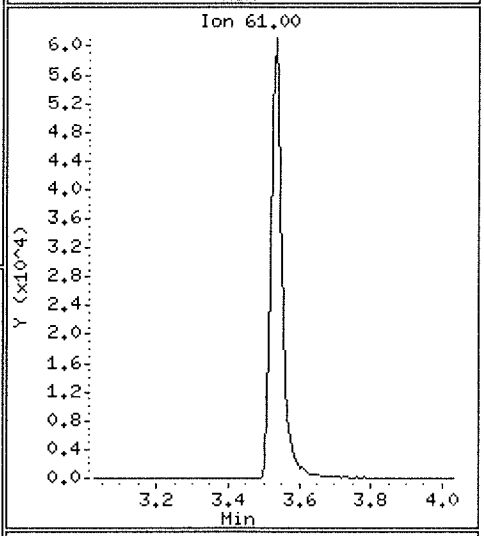
27 cis-1,2-Dichloroethene

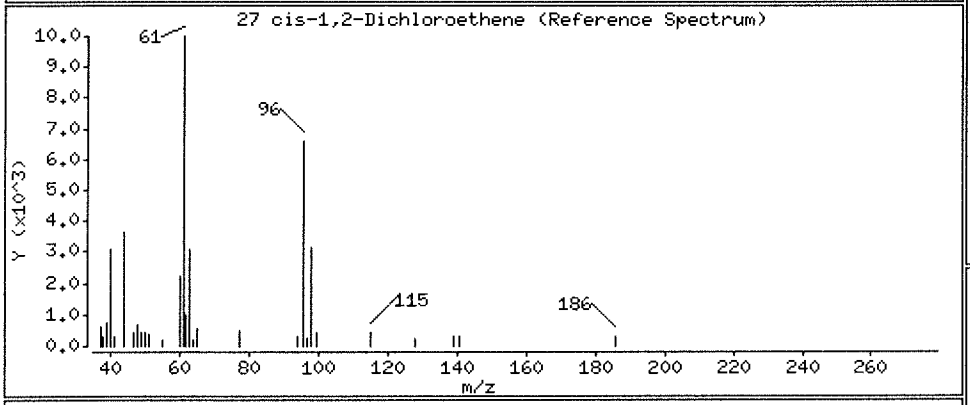
Concentration: 19.92 ug/l

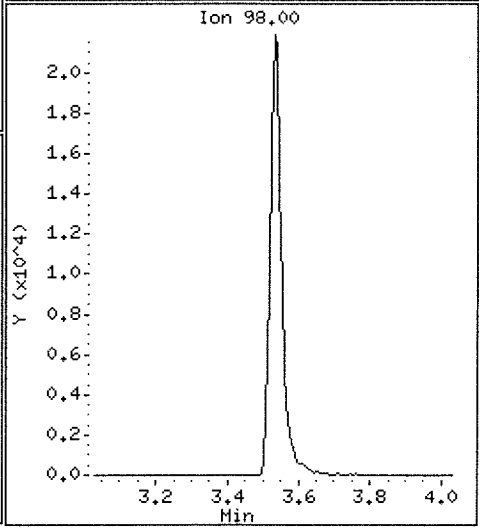


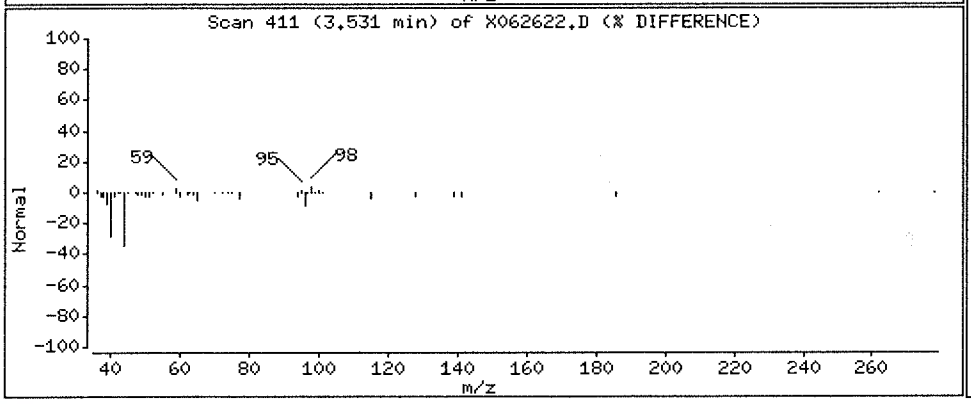












Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\X062622.D

Date : 26-JUN-2020 19:55

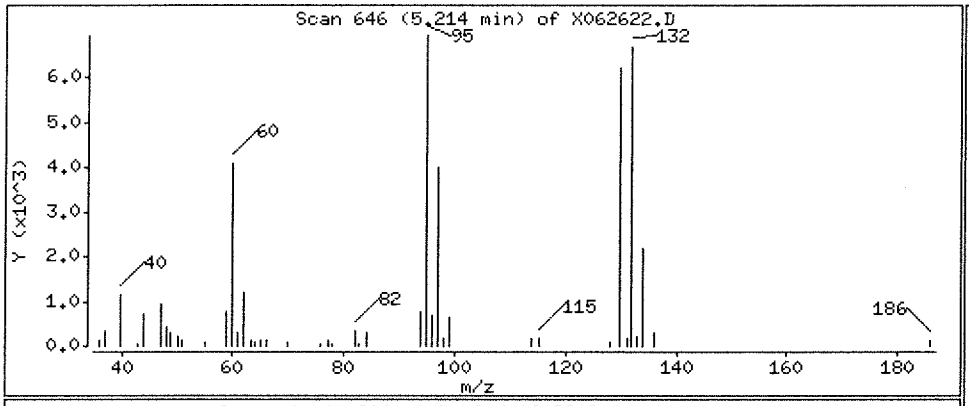
Client ID: HS20061179-01 Instrument: voa6.i

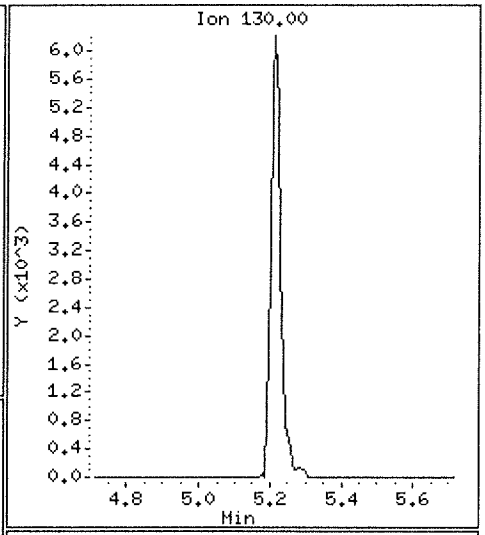
Sample Info: HS20061179-01;HS20061179-01;;;

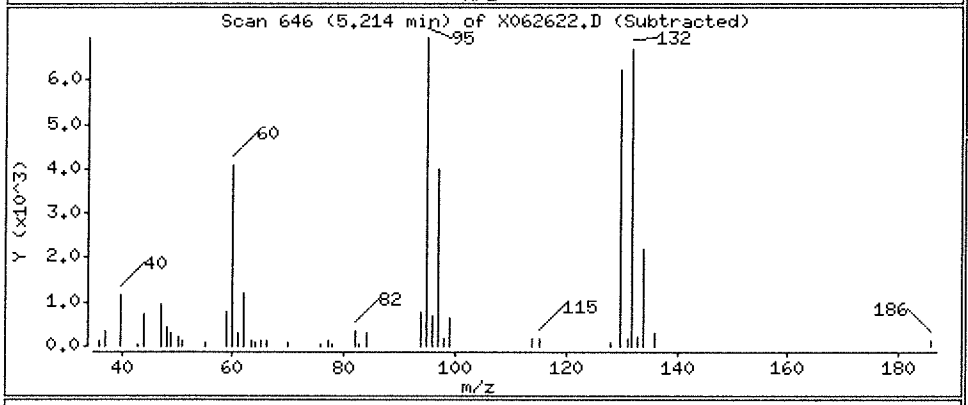
Purge Volume: 5.0 Operator: PC

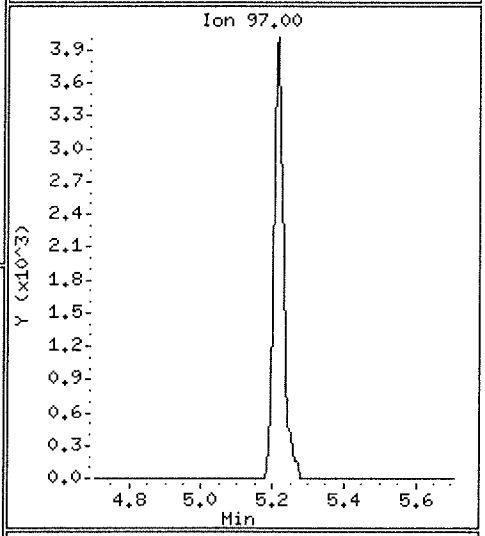
Column phase: DB624 Column diameter: 0.18

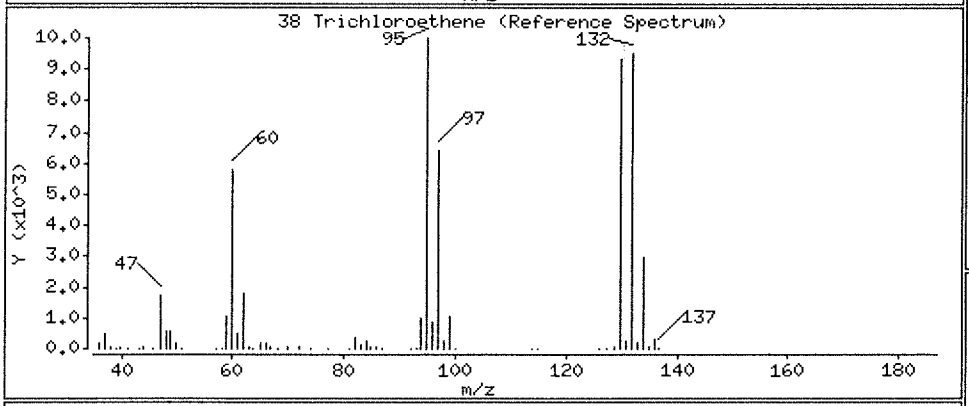
38 Trichloroethene Concentration: 3.80 ug/l

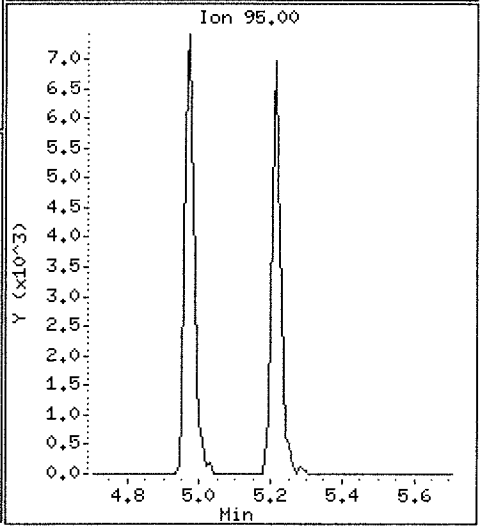


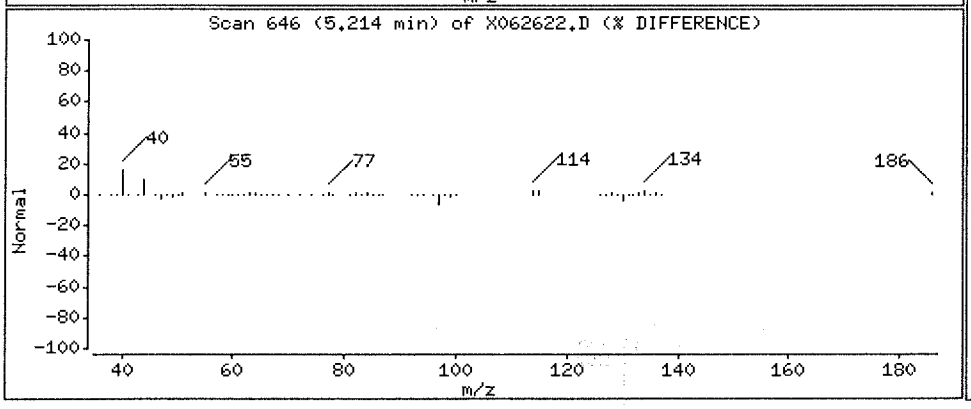












ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200626.b\X062626.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 26-JUN-2020 21:31
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\X200626.b\8260W.m
Meth Date : 20-Jul-2020 12:33 voa6.i Quant Type: ISTD
Cal Date : 19-JUN-2020 14:17 Cal File: X061908.D
Als bottle: 25 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

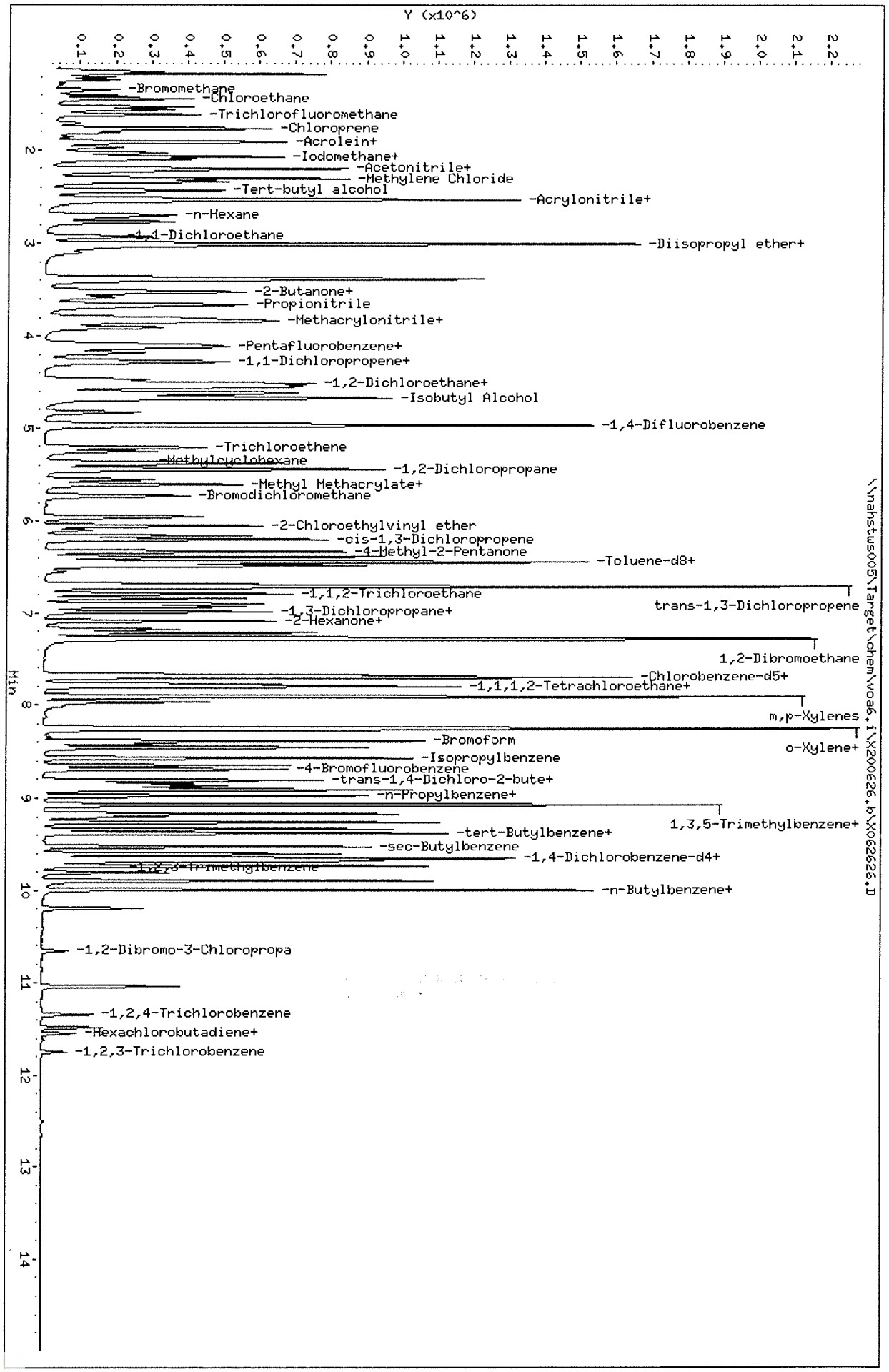
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	203969	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	367714	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	347375	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	165224	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	145522	50.0000	55.63
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	204859	50.0000	53.79
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	479913	50.0000	55.53
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	187265	50.0000	52.91
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	138992	50.0000	54.94
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.976)	209910	50.0000	55.39
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	172925	50.0000	52.66
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	123043	50.0000	55.15
22 1,1-Dichloroethane	63	2.929	2.929	(0.699)	338402	50.0000	53.42
11 1,1-Dichloroethene	96	1.911	1.911	(0.456)	110244	50.0000	55.35
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	173027	50.0000	52.27
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	17354	50.0000	46.42
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	155272	50.0000	50.86(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	36578	50.0000	46.14
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	475616	50.0000	52.78
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	13185	50.0000	51.85
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	148946	50.0000	54.35
88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	239658	50.0000	53.52

Data File: \\nahstws005\Target\chem\voa6.i\X200626.b\X062626.D Page 2
Report Date: 20-Jul-2020 12:33

	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)	262734	50.0000	54.52
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	195159	50.0000	56.31
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	453054	50.0000	53.32
83	1,3-Dichlorobenzene	146	9.604	9.604	(0.993)	260552	50.0000	52.92
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	249738	50.0000	53.41
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	262704	50.0000	52.40
26	2,2-Dichloropropane	77	3.516	3.516	(0.839)	190366	50.0000	48.08
24	2-Butanone	43	3.580	3.580	(0.855)	249347	100.000	105.57
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	411077	50.0000	52.38
52	2-Hexanone	43	7.090	7.090	(0.924)	395728	100.000	110.33
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	479137	50.0000	52.68
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	424660	50.0000	52.29
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	569890	100.000	108.85
10	Acetone	43	1.976	1.976	(0.472)	188466	100.000	115.19
37	Benzene	78	4.519	4.519	(0.909)	575443	50.0000	56.01
74	Bromobenzene	156	8.809	8.809	(0.911)	163880	50.0000	52.86
29	Bromochloromethane	128	3.802	3.802	(0.908)	81452	50.0000	52.10
39	Bromodichloromethane	83	5.729	5.729	(1.153)	211110	50.0000	56.42
66	Bromoform	173	8.415	8.415	(1.097)	103616	50.0000	55.98
6	Bromomethane	94	1.338	1.338	(0.320)	86289	50.0000	45.18
19	Carbon Disulfide	76	2.069	2.069	(0.494)	732155	100.000	111.76
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	166814	50.0000	52.06
59	Chlorobenzene	112	7.699	7.699	(1.004)	362948	50.0000	53.96
7	Chloroethane	64	1.403	1.403	(0.335)	133254	50.0000	61.46
28	Chloroform	83	3.910	3.910	(0.933)	271010	50.0000	54.25
3	Chloromethane	50	1.080	1.080	(0.258)	238070	50.0000	46.71
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	161207	50.0000	54.95
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	245185	50.0000	54.87
55	Dibromochloromethane	129	7.176	7.176	(0.936)	152827	50.0000	54.97
44	Dibromomethane	93	5.557	5.557	(1.118)	104808	50.0000	54.41
2	Dichlorodifluoromethane	85	0.973	0.973	(0.232)	138545	50.0000	49.69
61	Ethylbenzene	106	7.799	7.799	(1.017)	186192	50.0000	54.28
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	24427	50.0000	45.85
67	Isopropylbenzene	105	8.566	8.566	(1.117)	531201	50.0000	54.84
62	m,p-Xylenes	106	7.907	7.907	(1.031)	445236	100.000	110.73
17	Methylene Chloride	84	2.305	2.305	(0.550)	161525	50.0000	54.57
87	n-Butylbenzene	91	9.998	9.998	(1.034)	376288	50.0000	51.40
73	n-Propylbenzene	91	8.917	8.917	(0.922)	640284	50.0000	52.61
92	Naphthalene	128	11.546	11.546	(1.194)	58463	50.0000	44.79
63	o-Xylene	106	8.244	8.244	(1.075)	225928	50.0000	55.17
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	489035	50.0000	51.73
64	Styrene	104	8.258	8.258	(1.077)	410973	50.0000	56.74
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	348249	50.0000	52.18
56	Tetrachloroethene	164	6.933	6.933	(0.904)	97003	50.0000	53.95
50	Toluene	91	6.446	6.446	(0.840)	570668	50.0000	55.19
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.605)	133099	50.0000	57.41
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	223495	50.0000	53.94
38	Trichloroethene	130	5.214	5.214	(1.049)	138692	50.0000	57.08
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	203877	50.0000	56.10
5	Vinyl Chloride	62	1.145	1.145	(0.273)	220002	50.0000	54.54

QC Flag Legend

M - Compound response manually integrated.



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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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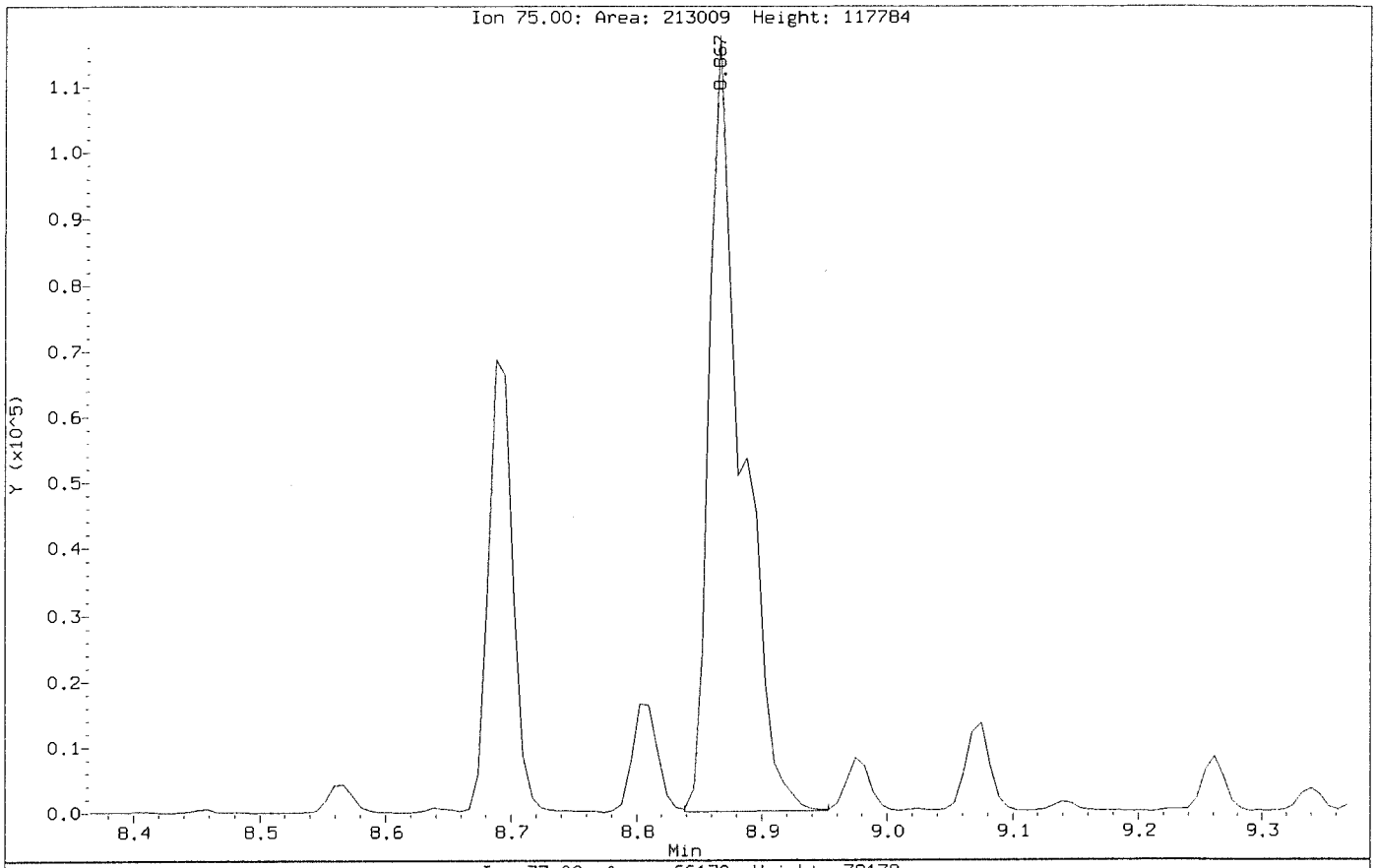
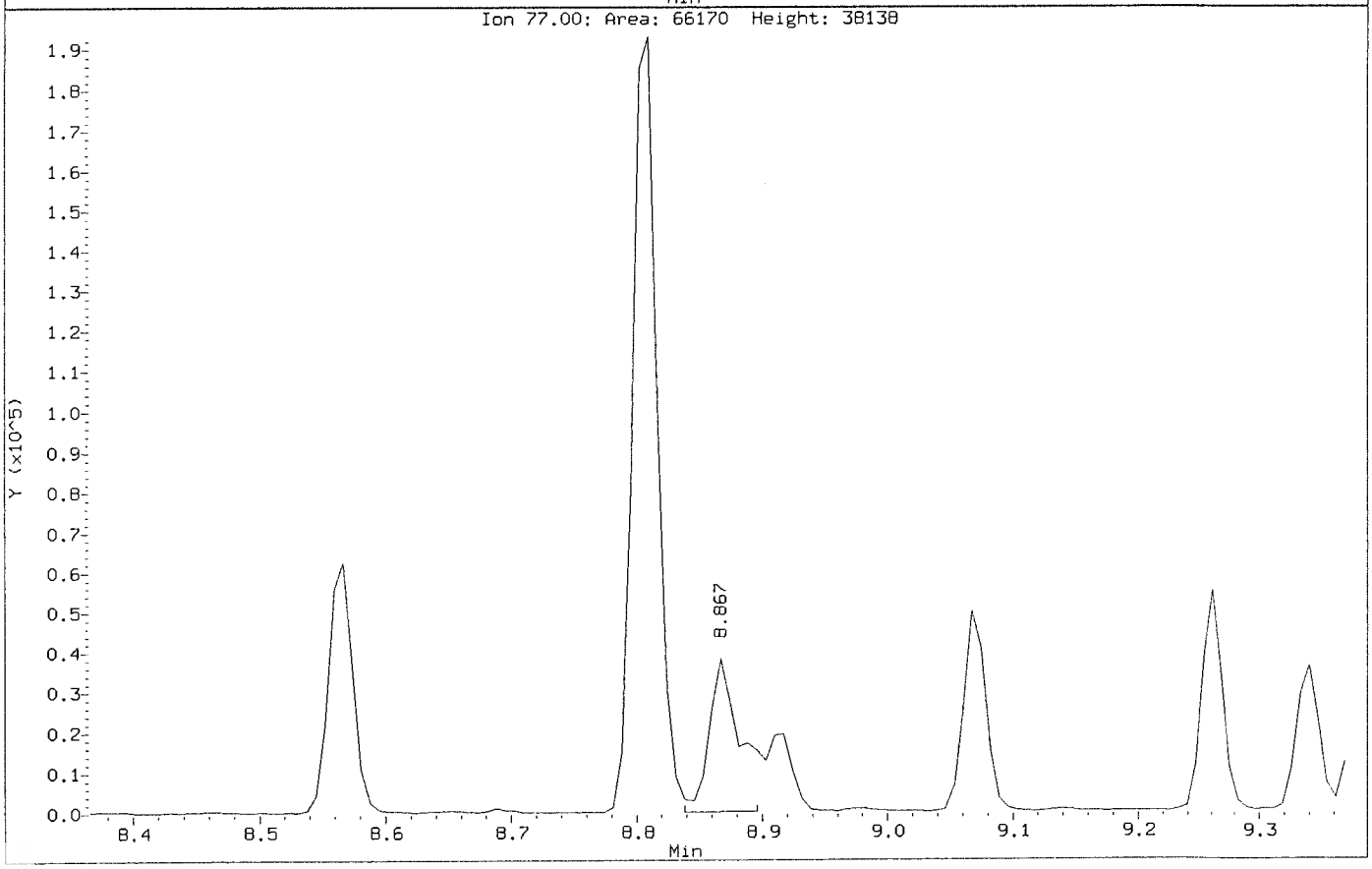
Injection Date: 26-JUN-2020 21:31
Instrument: voa6.i
Client Sample ID: CCV-END

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





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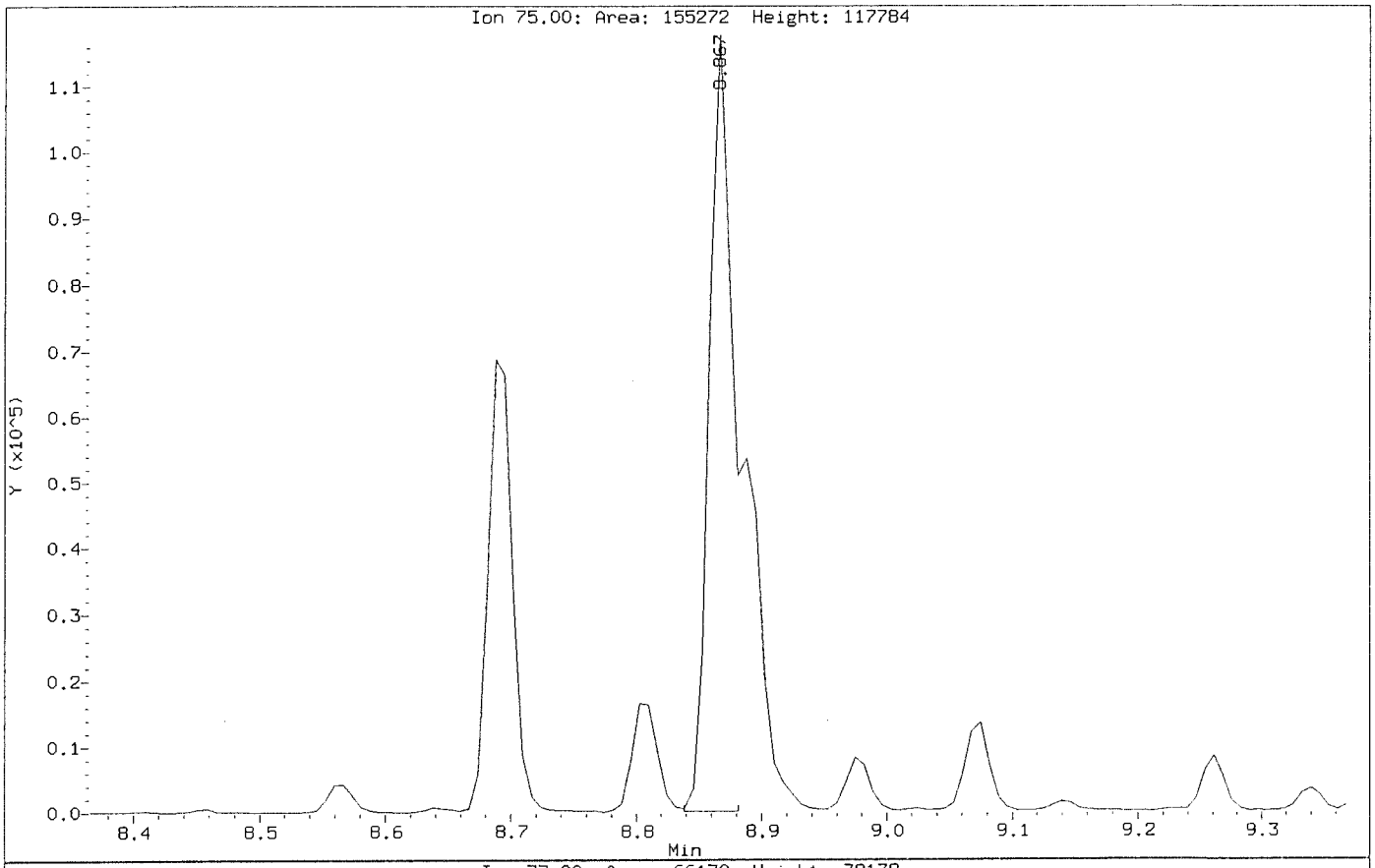
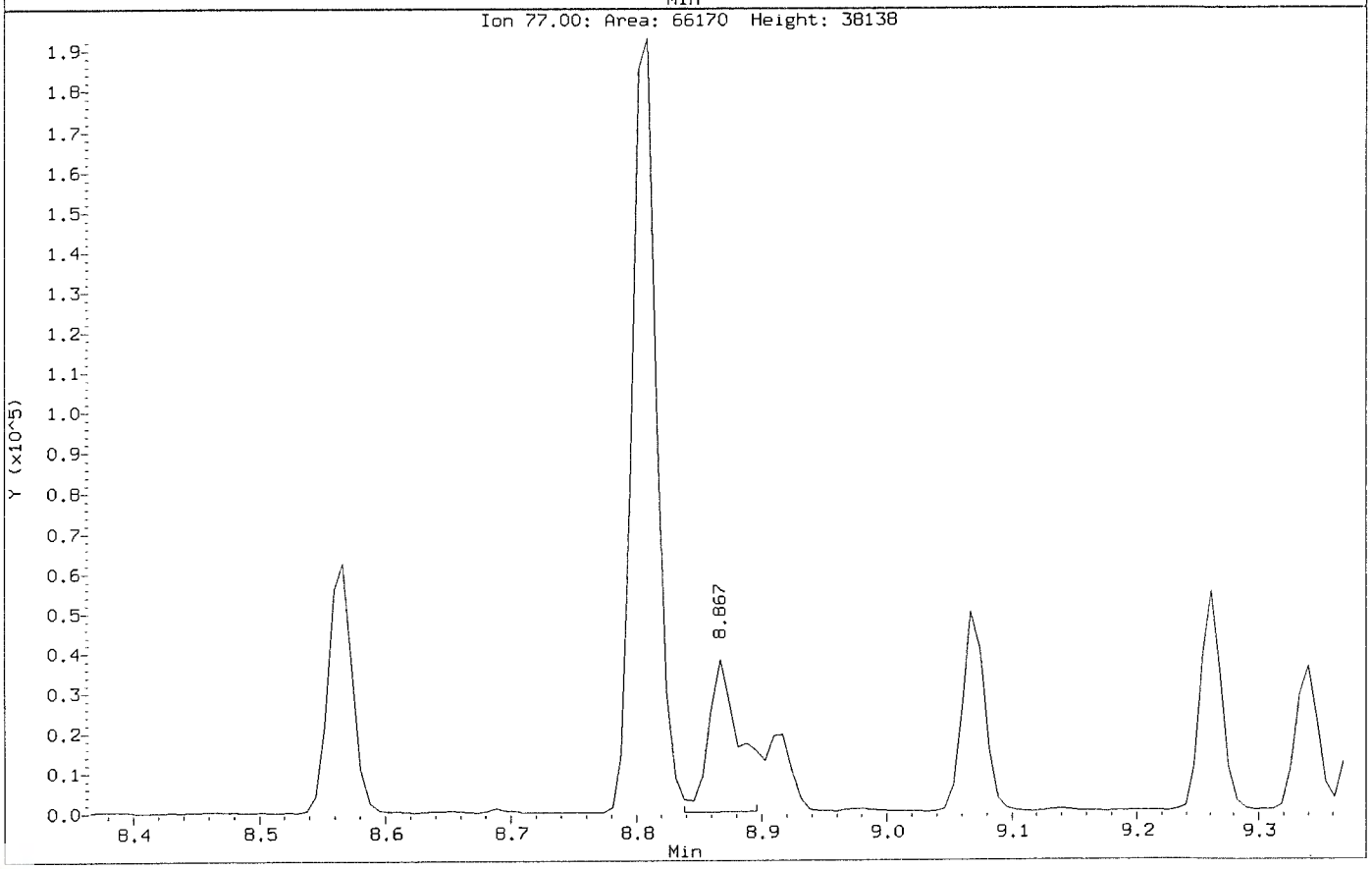
Instrument: voa6.i
Client Sample ID: CCV-END

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





HS20061179 Wet Chem Raw Data (IC)

ALS WO# HS20061179

Sequence: 070620
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	me	Status
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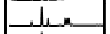
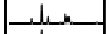
	STD2		Calibration	GB2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	GB3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	GB4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	GB5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	GB6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	GB7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-070820		Unknown	BB3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BB2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BB3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS-070820		Unknown	BB2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
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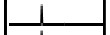
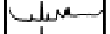
	HS20061179-01		Unknown	RD3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20061179-01DF10		Unknown	RD4	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20061283-02		Unknown	RD6	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20061283-02MS		Unknown	RD7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20061283-02MSD		Unknown	RD8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 070620
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
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6/2/2020 1:45:50 PM -05:00
7/7/2020 11:16:34 PM -05:00
7/7/2020 11:34:41 PM -05:00
7/8/2020 12:29:01 AM -05:00
7/8/2020 12:47:06 AM -05:00
7/8/2020 1:05:14 AM -05:00
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7/8/2020 3:12:05 AM -05:00
7/8/2020 3:30:13 AM -05:00
7/8/2020 5:36:56 AM -05:00
7/8/2020 5:55:02 AM -05:00
7/8/2020 6:31:15 AM -05:00
7/8/2020 6:49:20 AM -05:00
7/8/2020 7:07:28 AM -05:00
7/8/2020 7:25:35 AM -05:00
7/8/2020 7:43:39 AM -05:00
7/8/2020 10:08:31 AM -05:00
7/8/2020 10:26:37 AM -05:00

Sequence: 070620
Injection #6: STD6

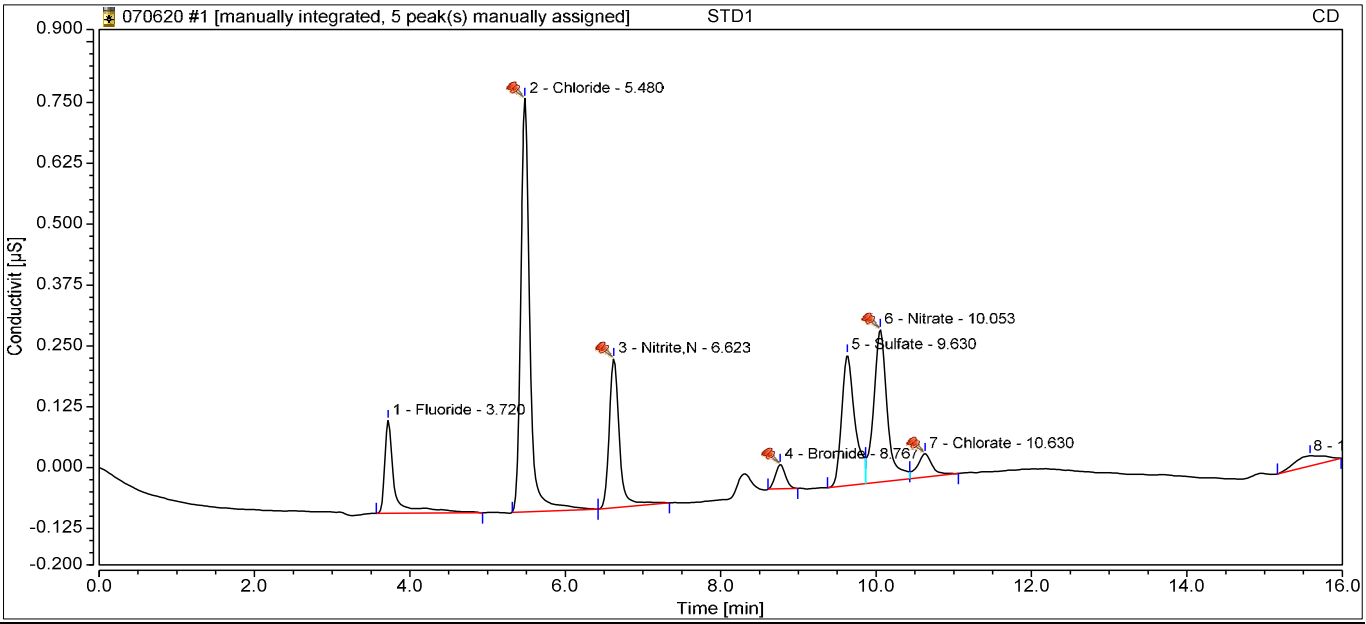
Calibration

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:



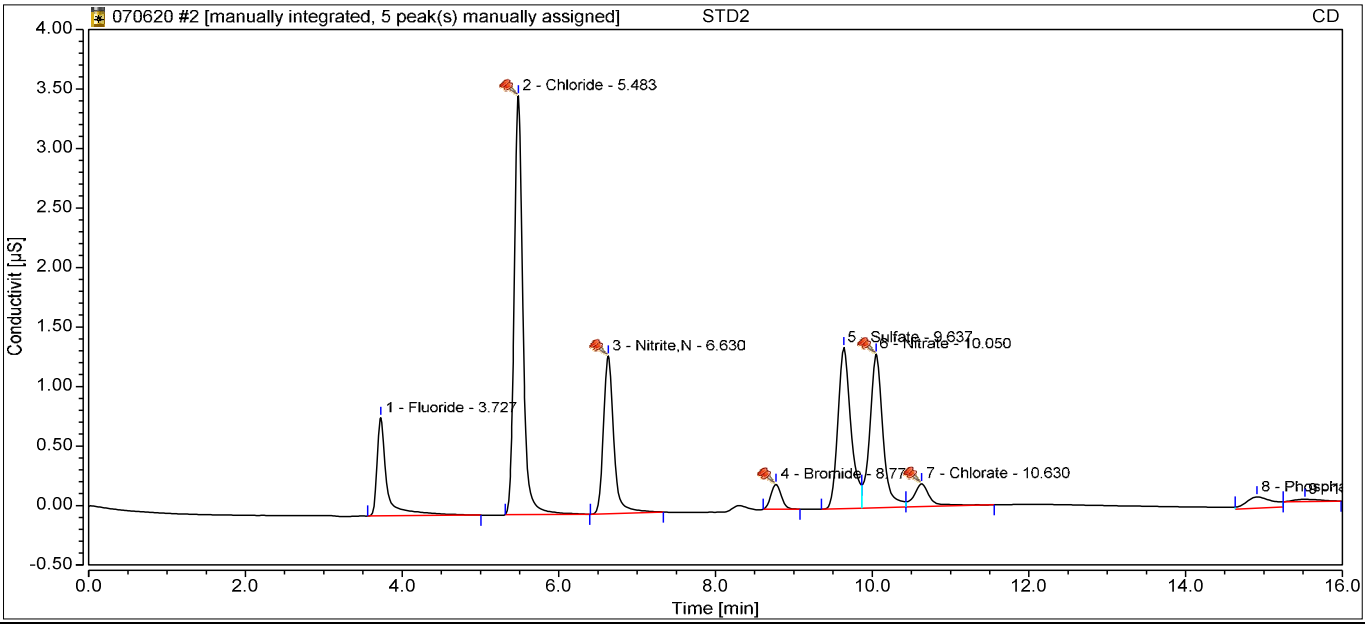
Integration Results

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:

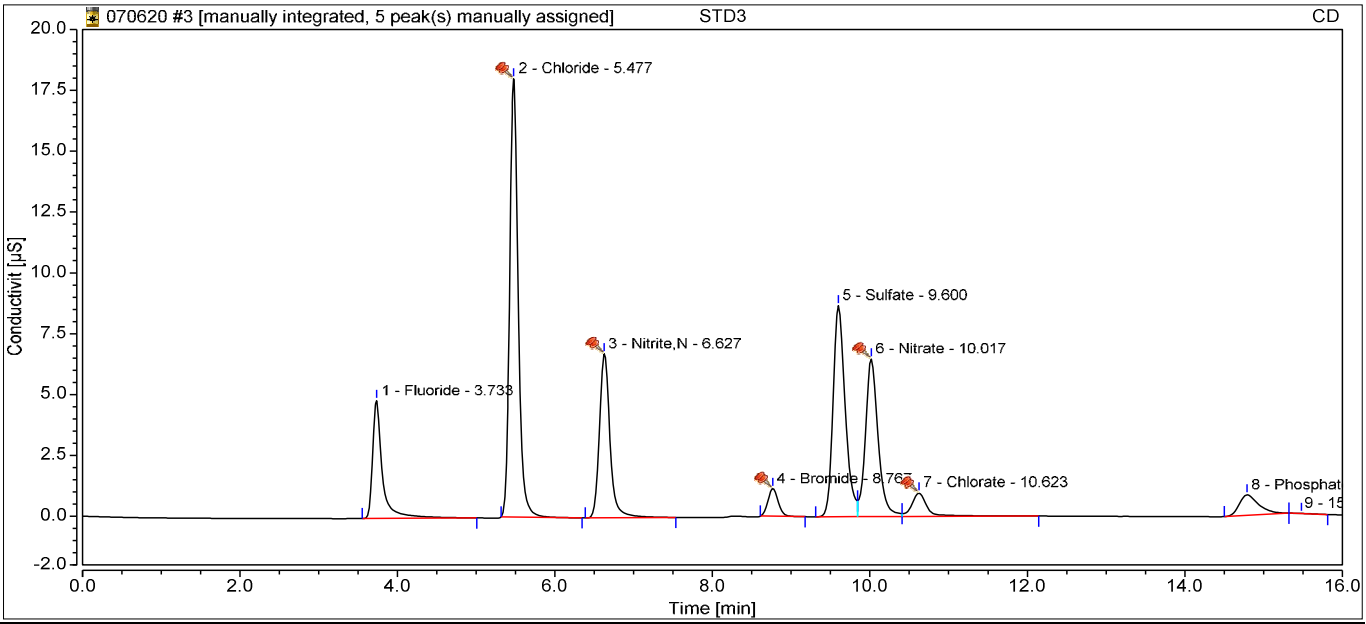


Integration Results

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:



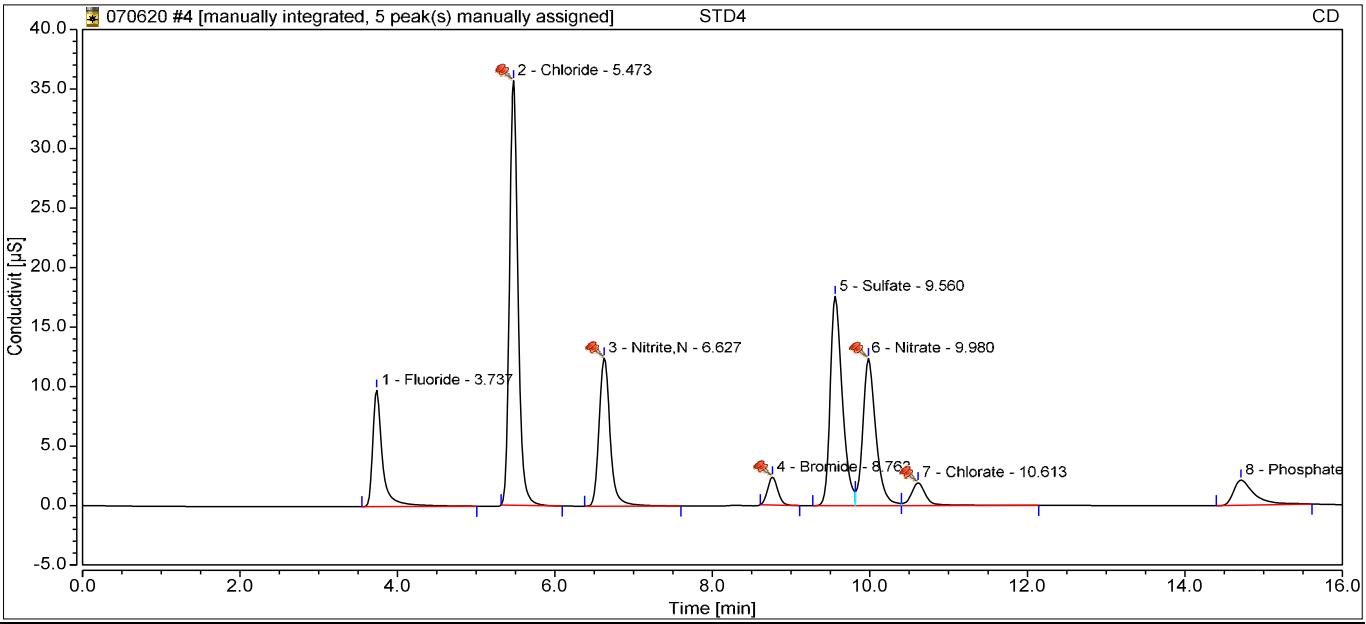
Integration Results

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:

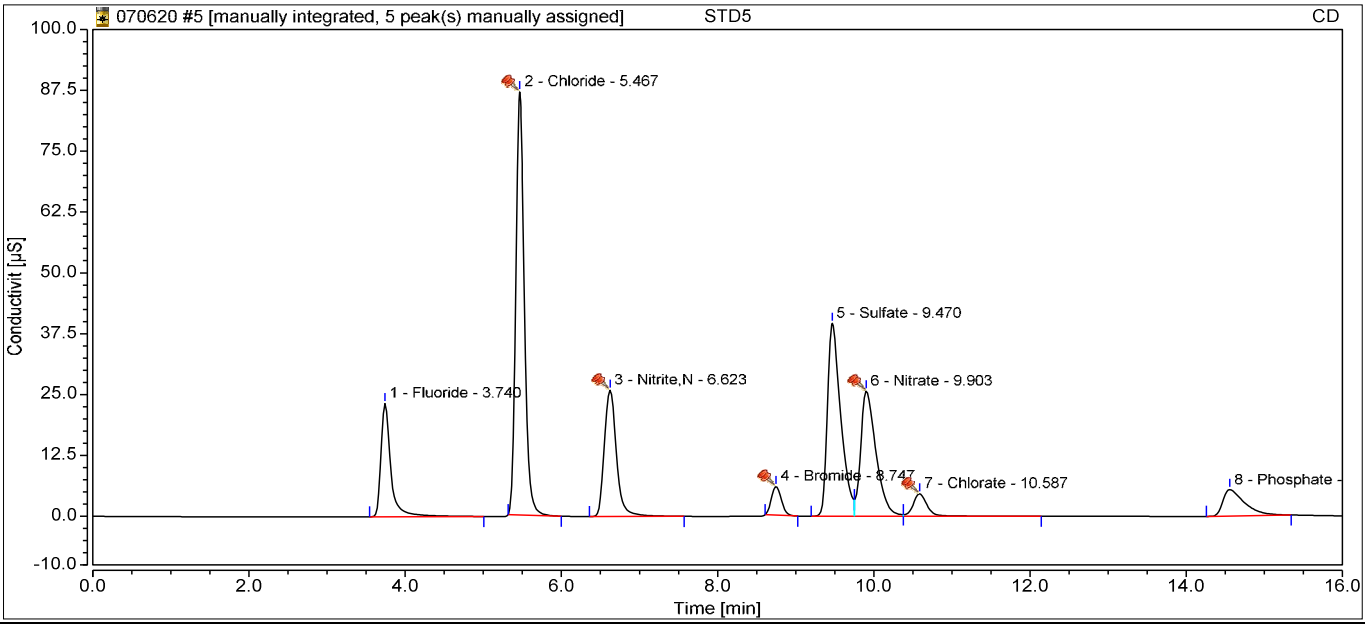


Integration Results

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:



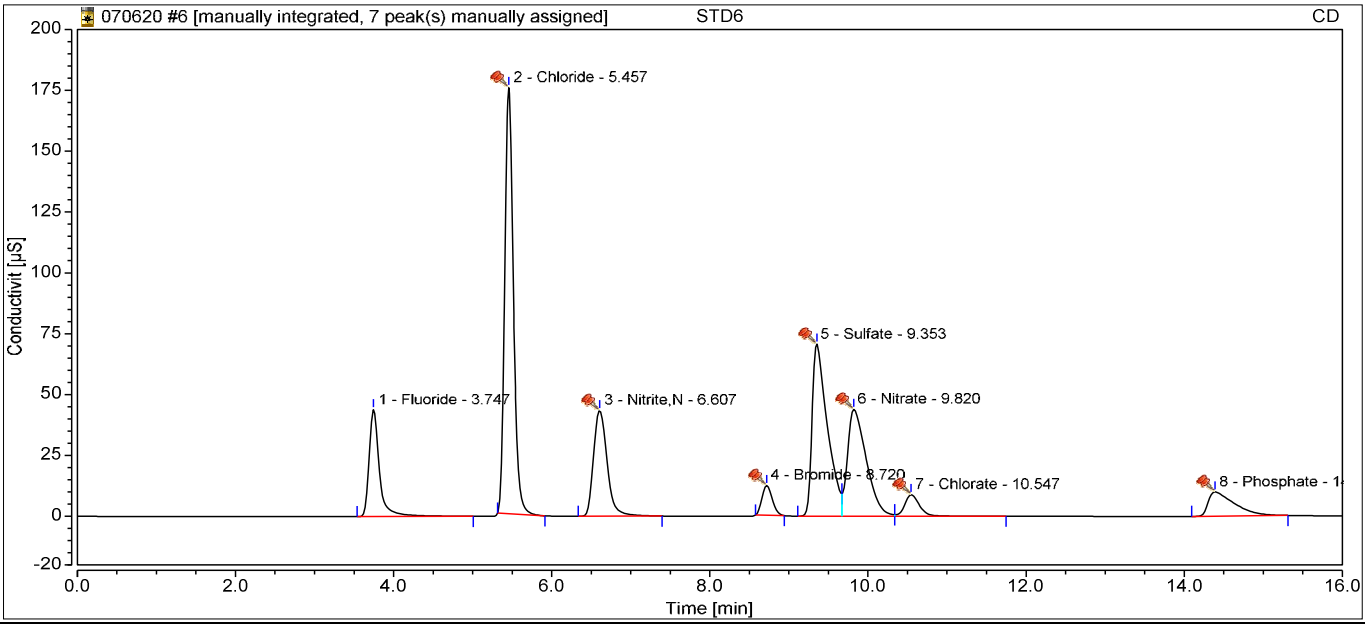
Integration Results

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:



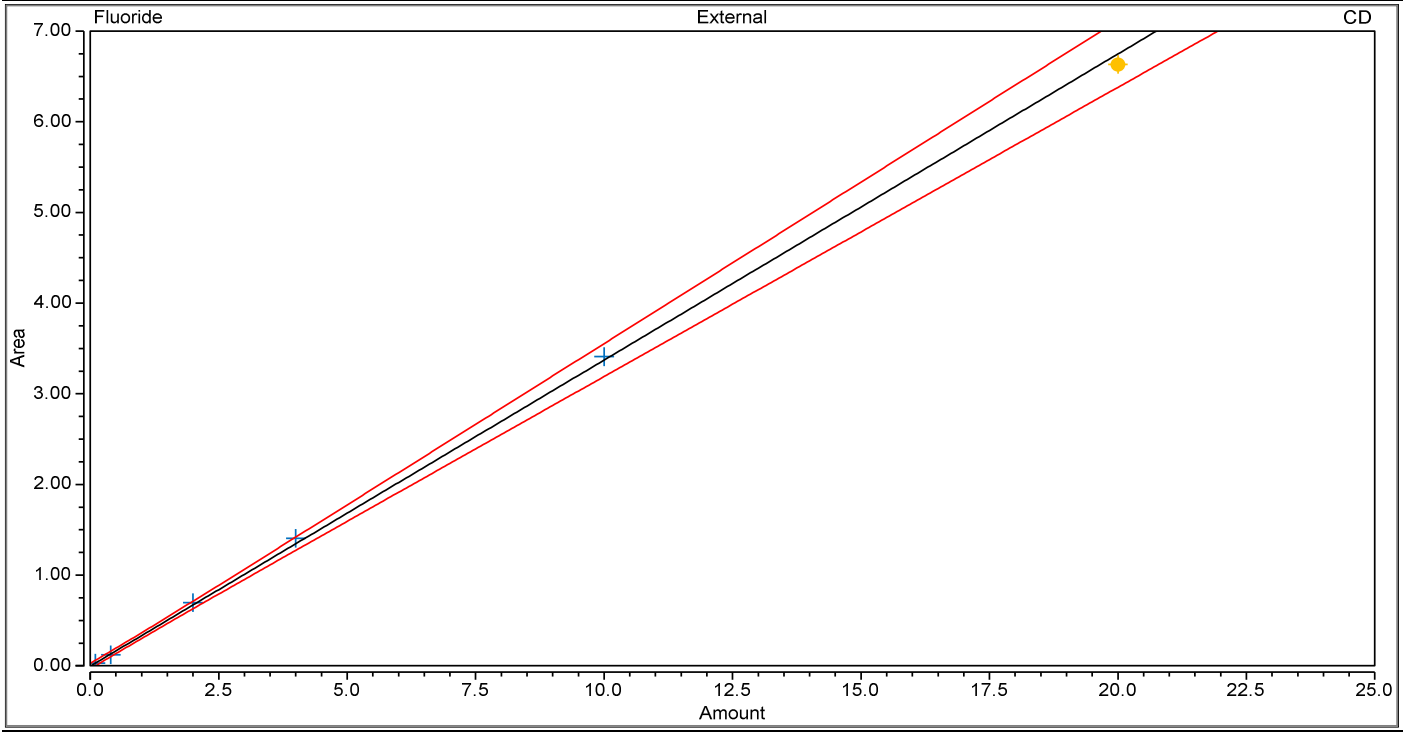
Integration Results

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**



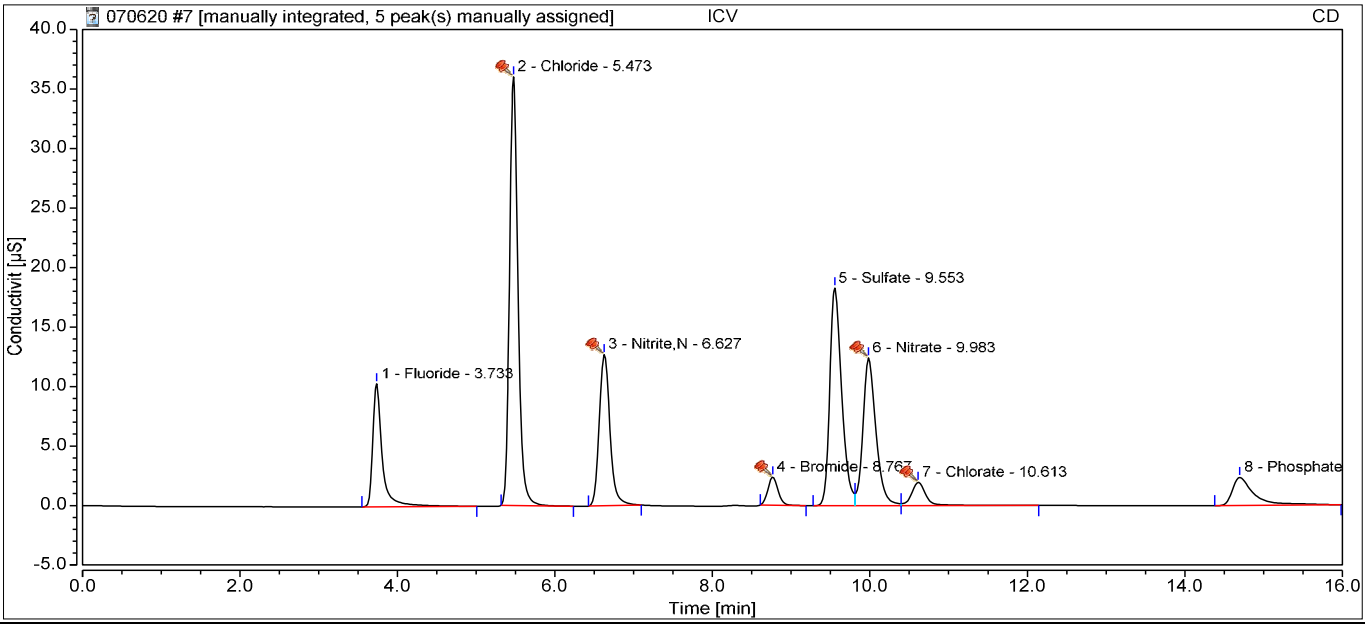
Calibration Results **Fluoride**

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:



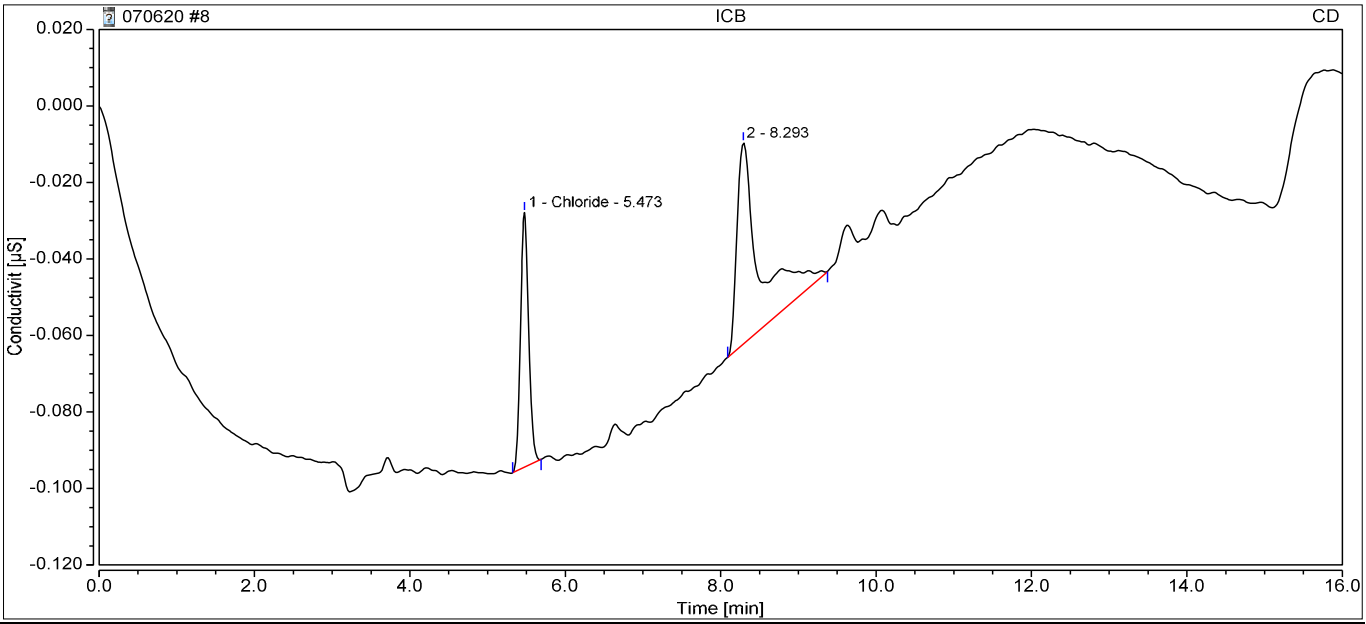
Integration Results

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:



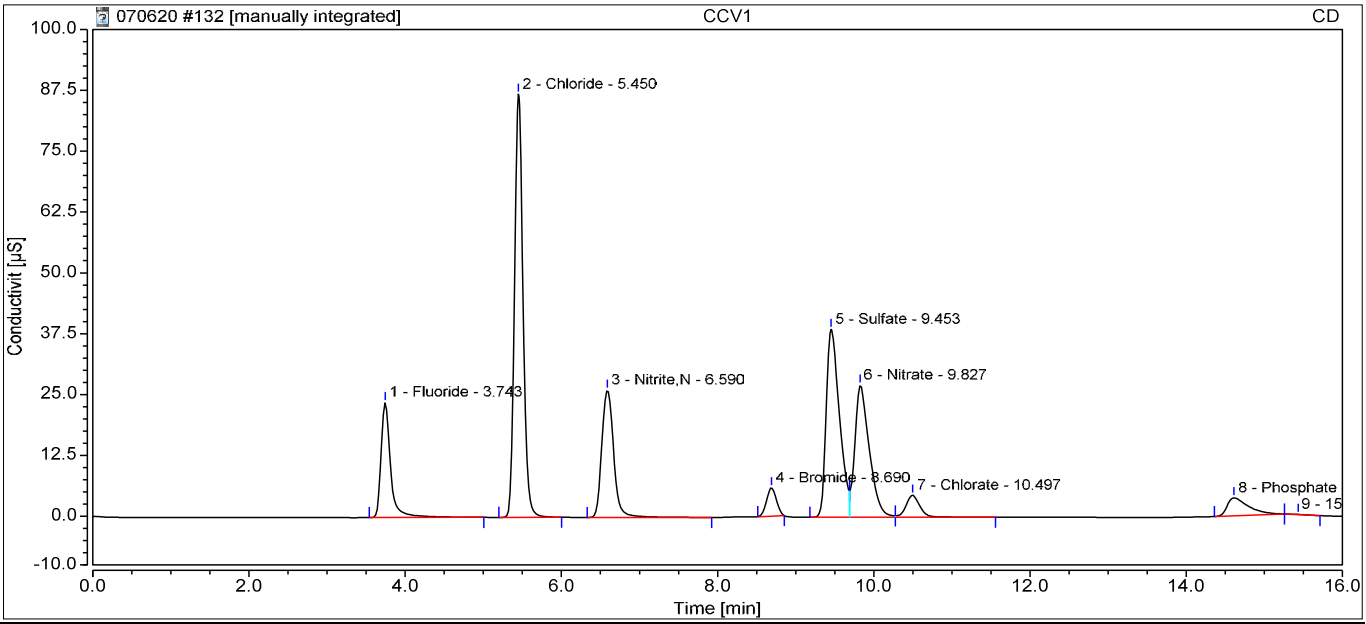
Integration Results

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**	

132 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:	**07/07/2020 23:16**	*Sample Weight:*	**1.0000**

Run Time:



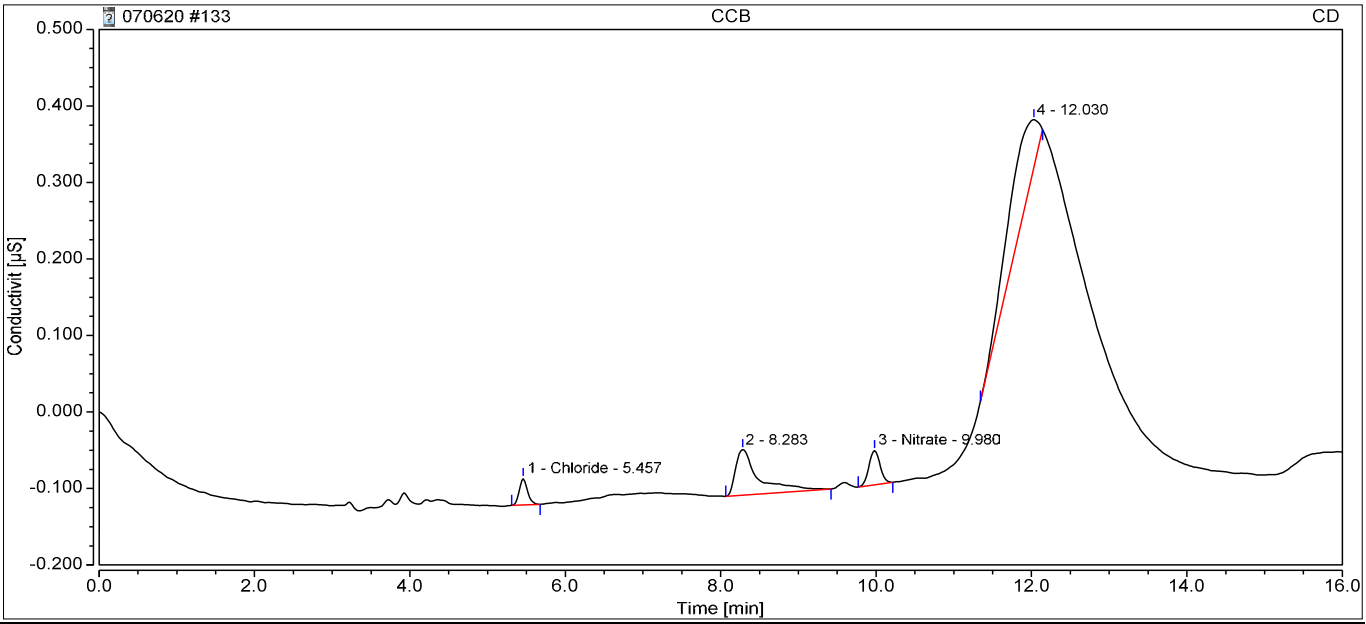
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.343	9.9144	9.9144	1.0000
2	5.45	Chloride	BMB*	10.909	49.2022	49.2022	1.0000
3	6.59	Nitrite,N	BMB	4.590	10.0189	10.0189	1.0000
4	8.69	Bromide	BMB*	0.849	9.5554	9.5554	1.0000
5	9.45	Sulfate	BM	7.577	48.1036	48.1036	1.0000
6	9.83	Nitrate	M	5.820	9.7391	9.7391	1.0000
7	10.50	Chlorate	MB	0.923	9.4667	9.4667	1.0000
8	14.61	Phosphate	BMB	1.180	6.6352	6.6352	1.0000
Total:			**0.000**	**35.190**		**152.64**	

133 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/07/2020 23:34**	*Sample Weight:*	**1.0000**

Run Time:



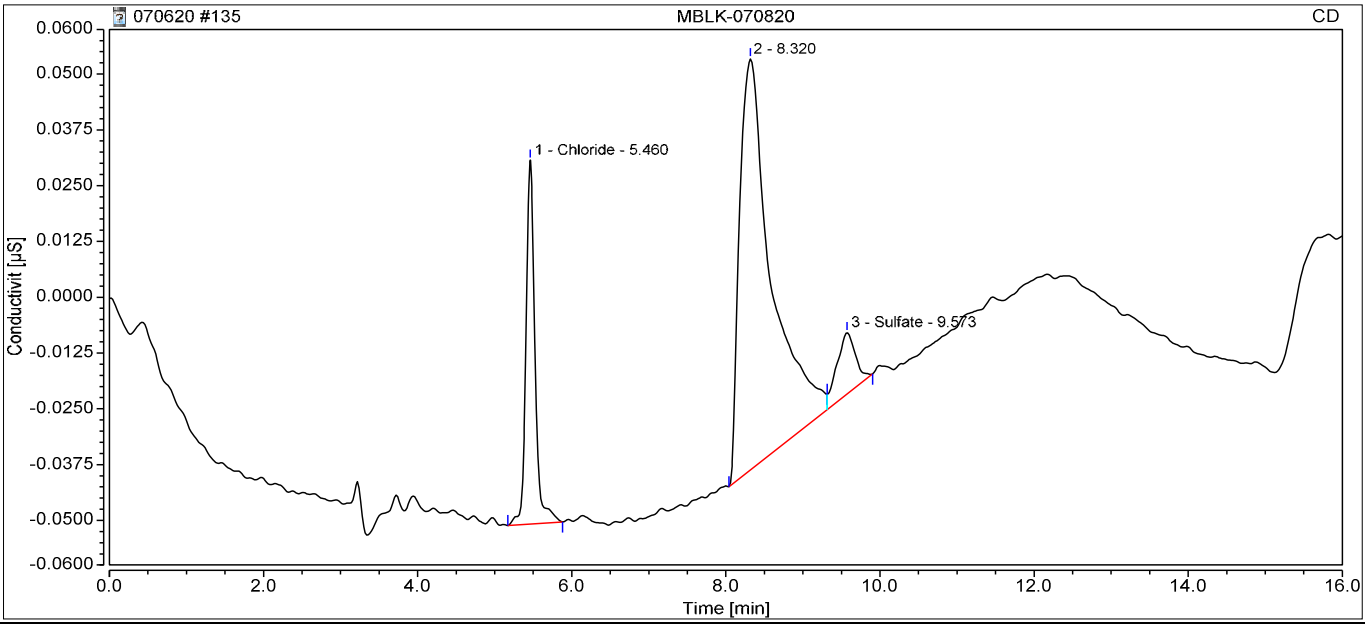
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.46	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.98	Nitrate	BMB	0.007	0.0027	0.0027	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**		**0.00**	

135 MBLK-070820

Sample Name:	**MBLK-070820**	*Injection Volume:*	**5.00**
Vial Number:	**BB3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/08/2020 00:29**	*Sample Weight:*	**1.0000**

Run Time:



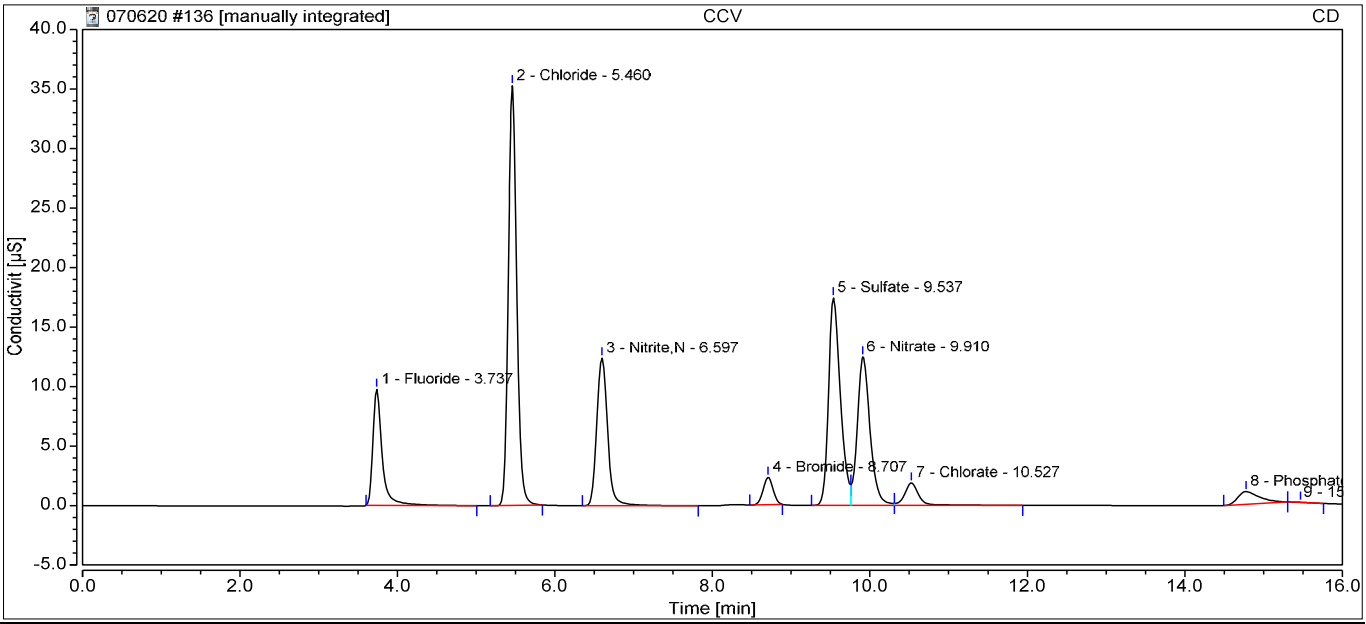
Integration Results

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	5.46	Chloride	BMB	0.011	0.0199	0.0199	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	9.57	Sulfate	MB	0.004	0.2250	0.2250	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**		**0.24**	

136 CCV

Sample Name:	**CCV**	*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:	**07/08/2020 00:47**	*Sample Weight:*	**1.0000**

Run Time:



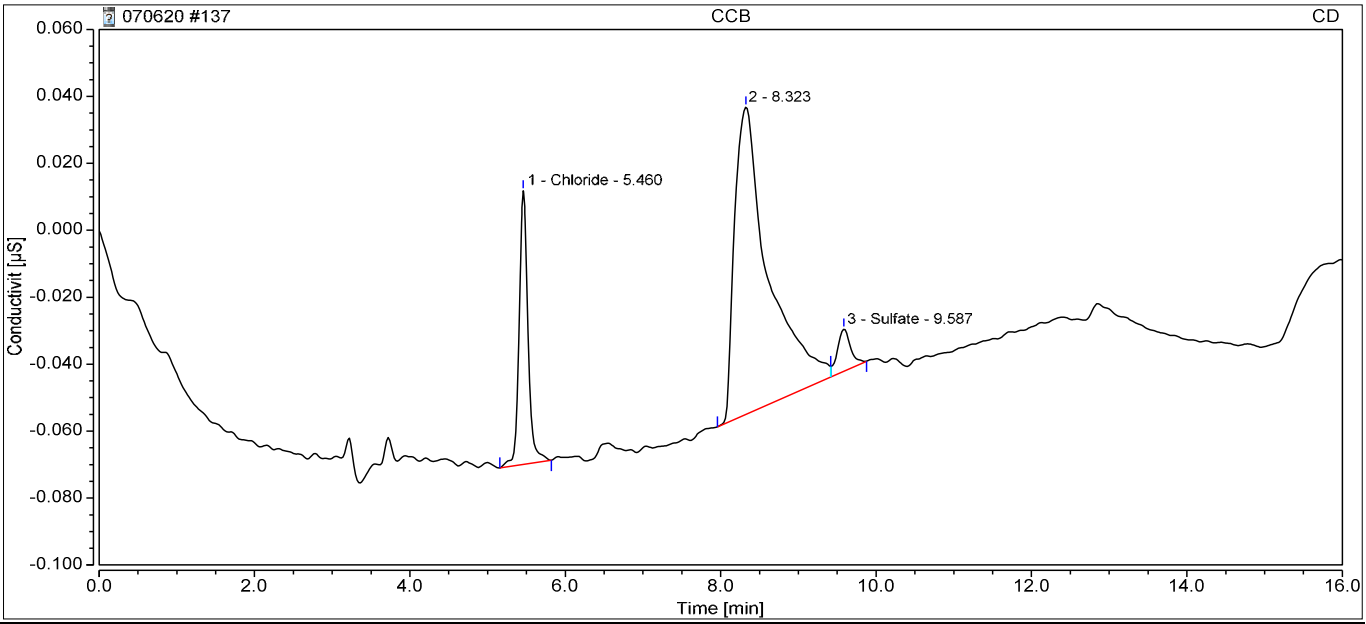
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.333	3.9626	3.9626	1.0000
2	5.46	Chloride	BMB*	4.404	19.8466	19.8466	1.0000
3	6.60	Nitrite,N	BMB	1.987	4.3221	4.3221	1.0000
4	8.71	Bromide	BMB*	0.340	3.8426	3.8426	1.0000
5	9.54	Sulfate	BM	3.059	19.5422	19.5422	1.0000
6	9.91	Nitrate	M	2.340	3.9101	3.9101	1.0000
7	10.53	Chlorate	MB	0.398	4.0635	4.0635	1.0000
8	14.78	Phosphate	BMB	0.338	2.1152	2.1152	1.0000
Total:			**0.000**	**14.200**		**61.60**	

137 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BB3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/08/2020 01:05**	*Sample Weight:*	**1.0000**

Run Time:



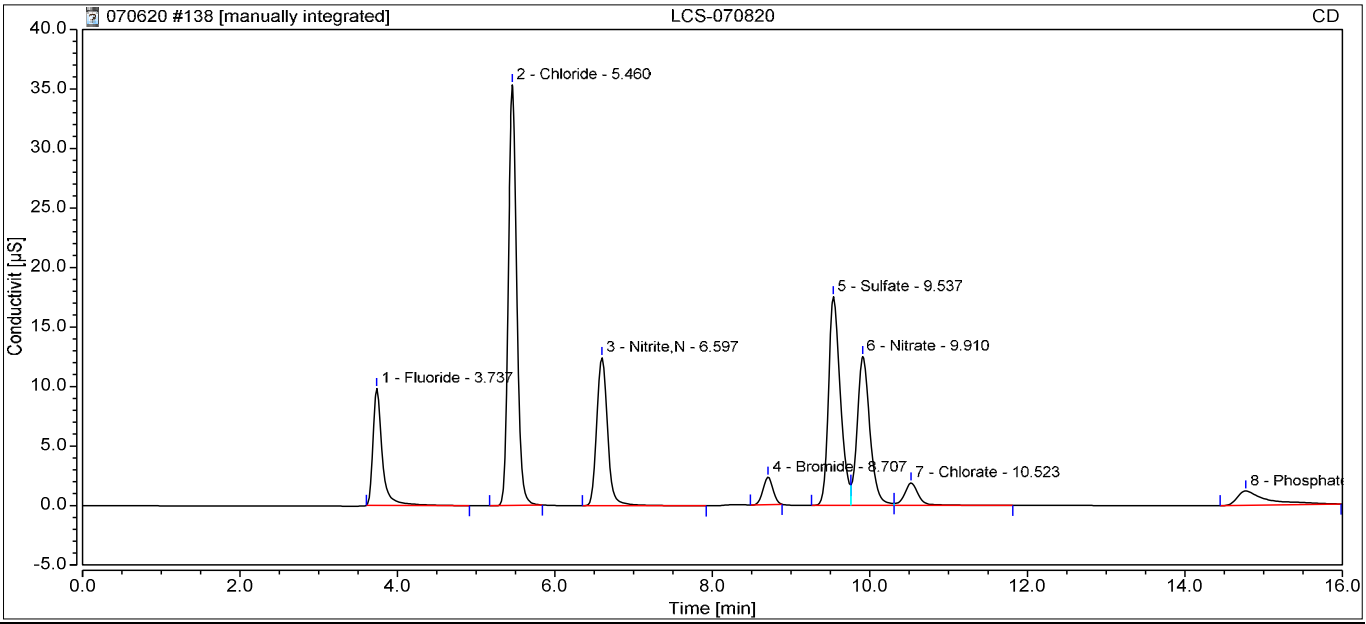
Integration Results

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	5.46	Chloride	BMB	0.011	0.0188	0.0188	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	9.59	Sulfate	MB	0.003	0.2161	0.2161	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**	

138 LCS-070820

Sample Name:	**LCS-070820**	*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:	**07/08/2020 01:23**	*Sample Weight:*	**1.0000**

Run Time:



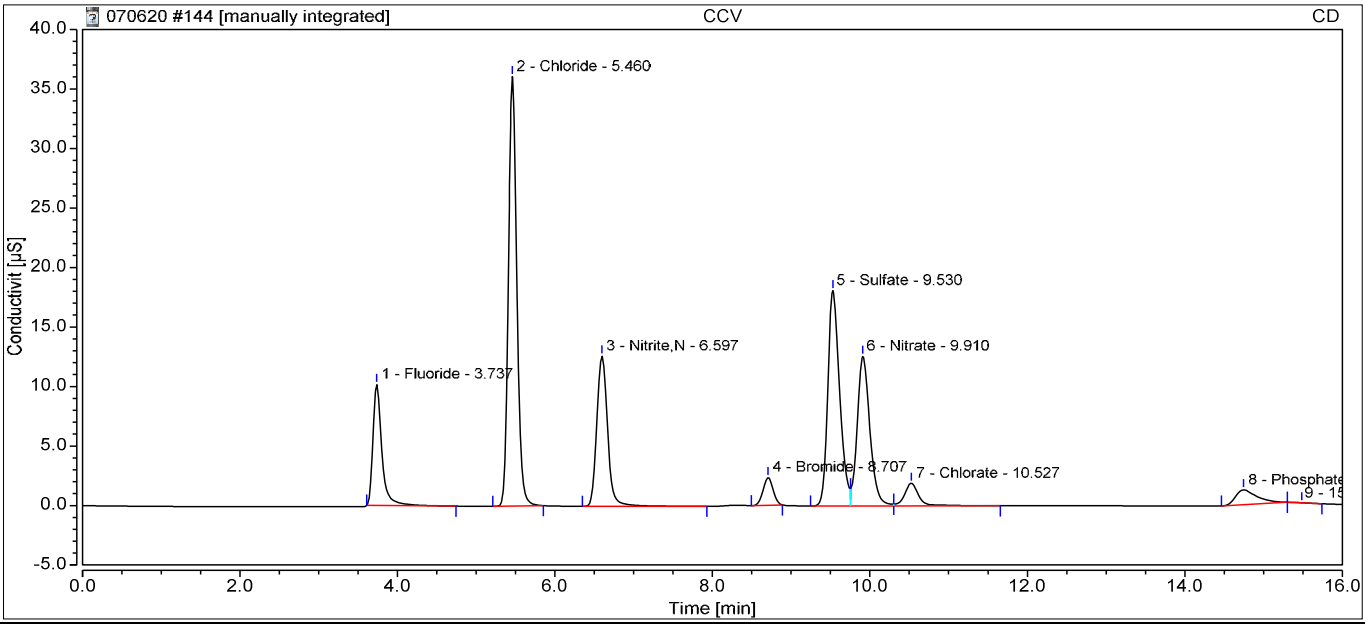
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.331	3.9559	3.9559	1.0000
2	5.46	Chloride	BMB*	4.401	19.8325	19.8325	1.0000
3	6.60	Nitrite,N	BMB	1.994	4.3371	4.3371	1.0000
4	8.71	Bromide	BMB*	0.340	3.8452	3.8452	1.0000
5	9.54	Sulfate	BM	3.070	19.6086	19.6086	1.0000
6	9.91	Nitrate	M	2.347	3.9216	3.9216	1.0000
7	10.52	Chlorate	MB	0.392	4.0067	4.0067	1.0000
8	14.77	Phosphate	BMB	0.527	3.1286	3.1286	1.0000
Total:			**0.000**	**14.403**		**62.64**	

144 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:	**07/08/2020 03:12**	*Sample Weight:*	**1.0000**

Run Time:



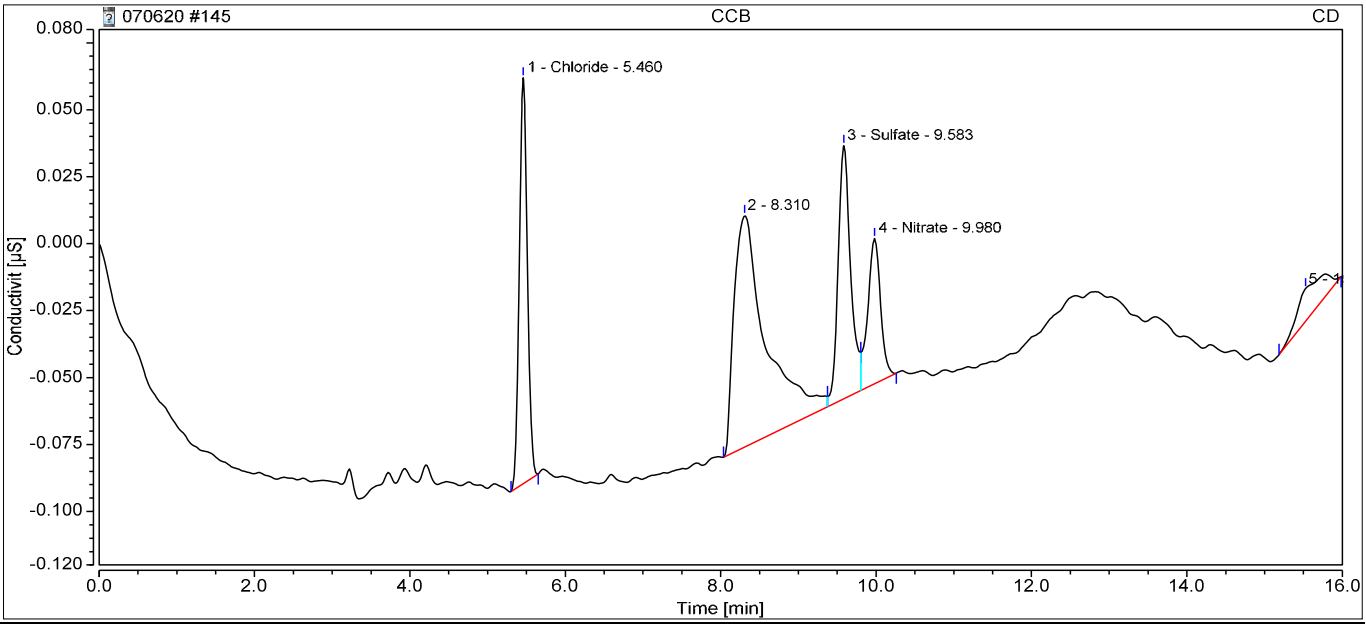
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.323	3.9328	3.9328	1.0000
2	5.46	Chloride	BMB*	4.494	20.2506	20.2506	1.0000
3	6.60	Nitrite,N	BMB	2.010	4.3721	4.3721	1.0000
4	8.71	Bromide	BMB*	0.345	3.8981	3.8981	1.0000
5	9.53	Sulfate	BM	3.159	20.1741	20.1741	1.0000
6	9.91	Nitrate	M	2.341	3.9115	3.9115	1.0000
7	10.53	Chlorate	MB	0.401	4.0935	4.0935	1.0000
8	14.75	Phosphate	BMB	0.396	2.4247	2.4247	1.0000
Total:			**0.000**	**14.469**		**63.06**	

145 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:	**07/08/2020 03:30**	*Sample Weight:*	**1.0000**

Run Time:



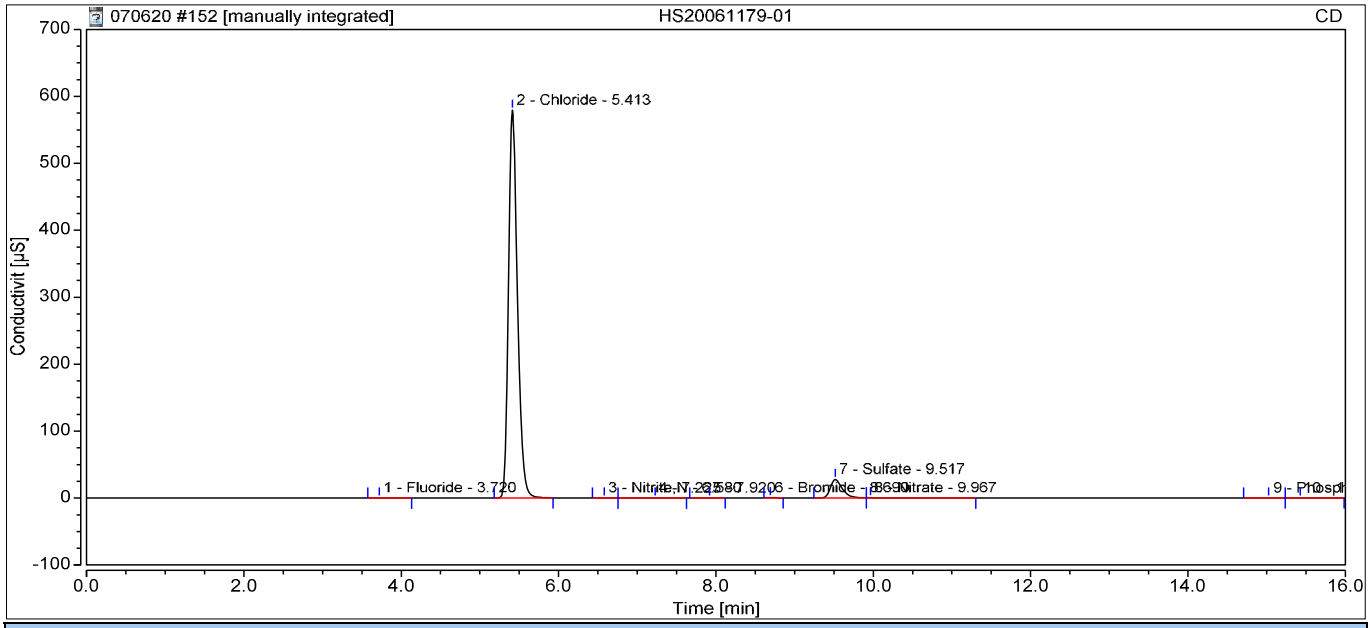
Integration Results

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	5.46	Chloride	BMB	0.018	0.0522	0.0522	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	9.58	Sulfate	M	0.018	0.3113	0.3113	1.0000
4	9.98	Nitrate	MB	0.010	0.0077	0.0077	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**	**0.046**		**0.37**	

152 HS20061179-01

Sample Name:	**HS20061179-01**	*Injection Volume:*	**5.00**
Vial Number:	**RD3**	*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:	**07/08/2020 05:36**	*Sample Weight:*	**1.0000**

Run Time:



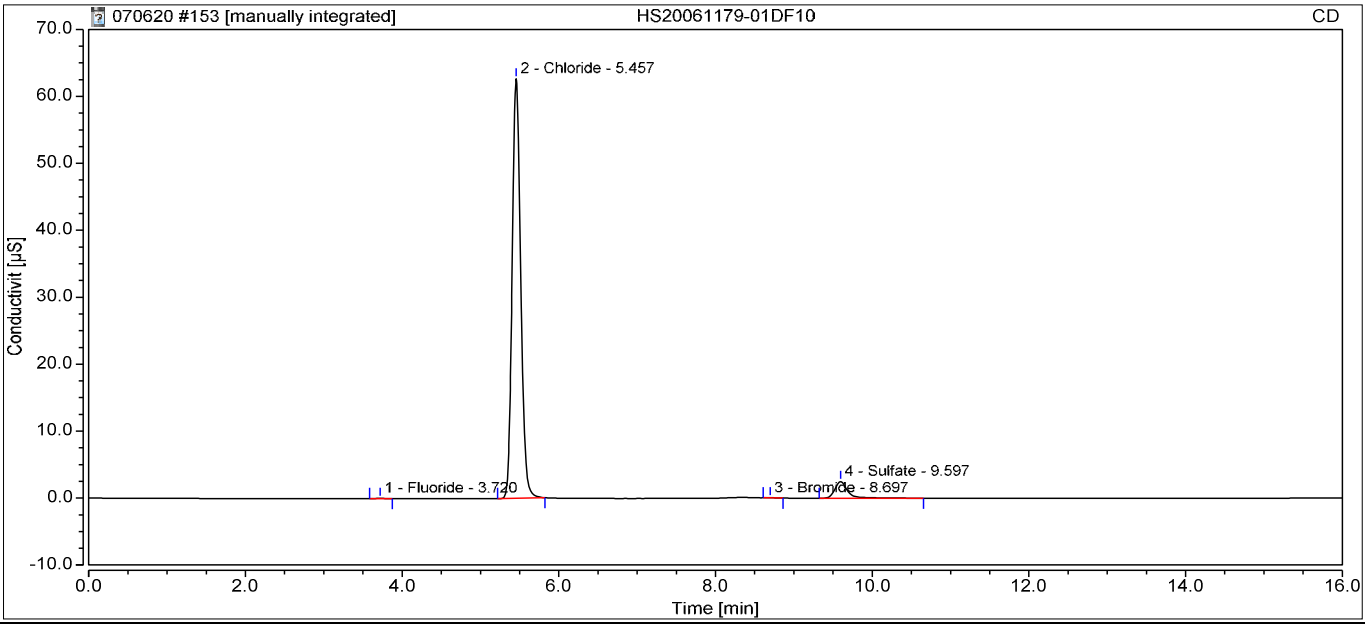
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.030	0.1022	0.1022	1.0000
2	5.41	Chloride	BMB*	77.079	347.8339	347.8339	1.0000
3	6.58	Nitrite,N	BMB	0.013	0.0013	0.0013	1.0000
6	8.69	Bromide	BMB	0.040	0.4780	0.4780	1.0000
7	9.52	Sulfate	BM	4.955	31.5295	31.5295	1.0000
8	9.97	Nitrate	MB	0.099	0.1554	0.1554	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
9	15.02	Phosphate	BMB	0.025	0.4308	0.4308	1.0000
Total:			**0.000**	**82.241**		**380.53**	

153 HS20061179-01DF10

Sample Name:	**HS20061179-01DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RD4**	*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:	**07/08/2020 05:55**	*Sample Weight:*	**1.0000**

Run Time:



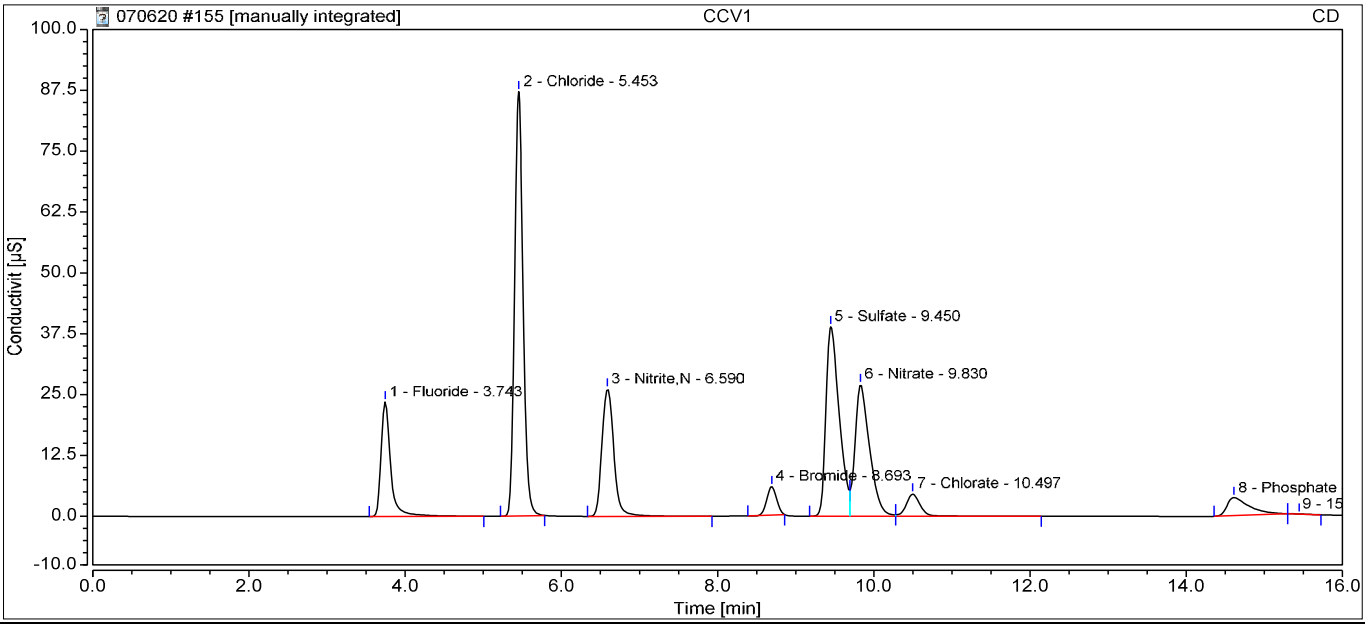
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.002	0.0204	0.2036	10.0000
2	5.46	Chloride	BMB*	7.842	35.3613	353.6132	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
3	8.70	Bromide	BMB	0.004	0.0749	0.7490	10.0000
4	9.60	Sulfate	BMB	0.475	3.2015	32.0145	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**	**8.323**		**386.58**	

155 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:	**07/08/2020 06:31**	*Sample Weight:*	**1.0000**

Run Time:



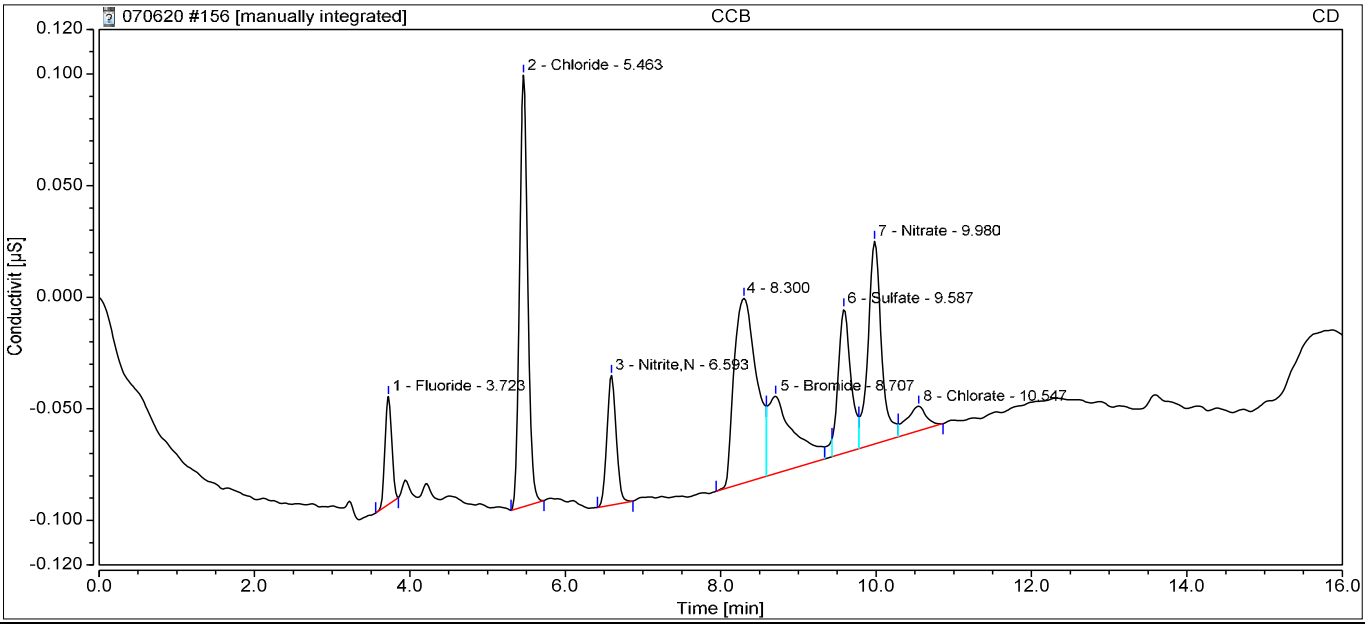
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.369	9.9916	9.9916	1.0000
2	5.45	Chloride	BMB*	10.921	49.2560	49.2560	1.0000
3	6.59	Nitrite,N	BMB	4.621	10.0859	10.0859	1.0000
4	8.69	Bromide	BMB*	0.852	9.5950	9.5950	1.0000
5	9.45	Sulfate	BM	7.682	48.7693	48.7693	1.0000
6	9.83	Nitrate	M	5.846	9.7834	9.7834	1.0000
7	10.50	Chlorate	MB	0.951	9.7552	9.7552	1.0000
8	14.61	Phosphate	BMB	1.225	6.8781	6.8781	1.0000
Total:			**0.000**	**35.467**		**154.11**	

156 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:	**07/08/2020 06:49**	*Sample Weight:*	**1.0000**

Run Time:



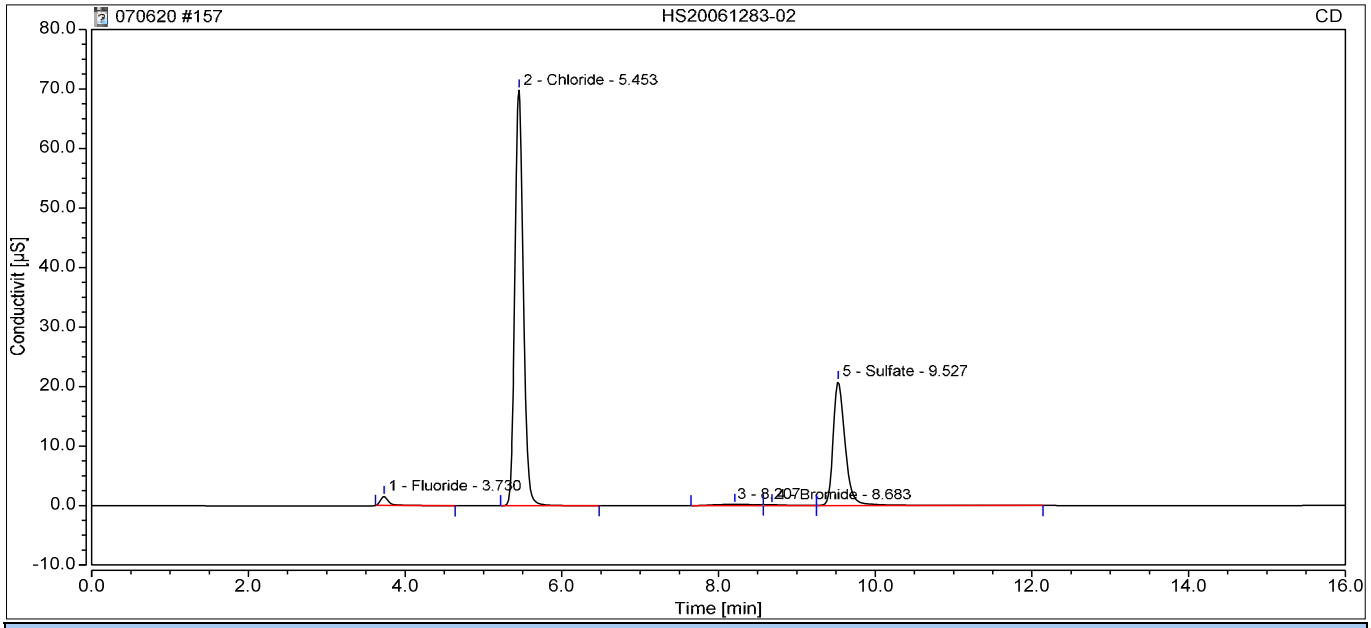
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.005	0.0280	0.0280	1.0000
2	5.46	Chloride	BMB	0.024	0.0767	0.0767	1.0000
3	6.59	Nitrite,N	BMB	0.008	n.a.	n.a.	1.0000
5	8.71	Bromide	M	0.013	0.1759	0.1759	1.0000
6	9.59	Sulfate	M *	0.012	0.2774	0.2774	1.0000
7	9.98	Nitrate	M	0.018	0.0208	0.0208	1.0000
8	10.55	Chlorate	MB	0.003	0.0017	0.0017	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.084**		**0.58**	

157 HS20061283-02

Sample Name:	**HS20061283-02**	*Injection Volume:*	**5.00**
Vial Number:	**RD6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/08/2020 07:07**	*Sample Weight:*	**1.0000**

Run Time:



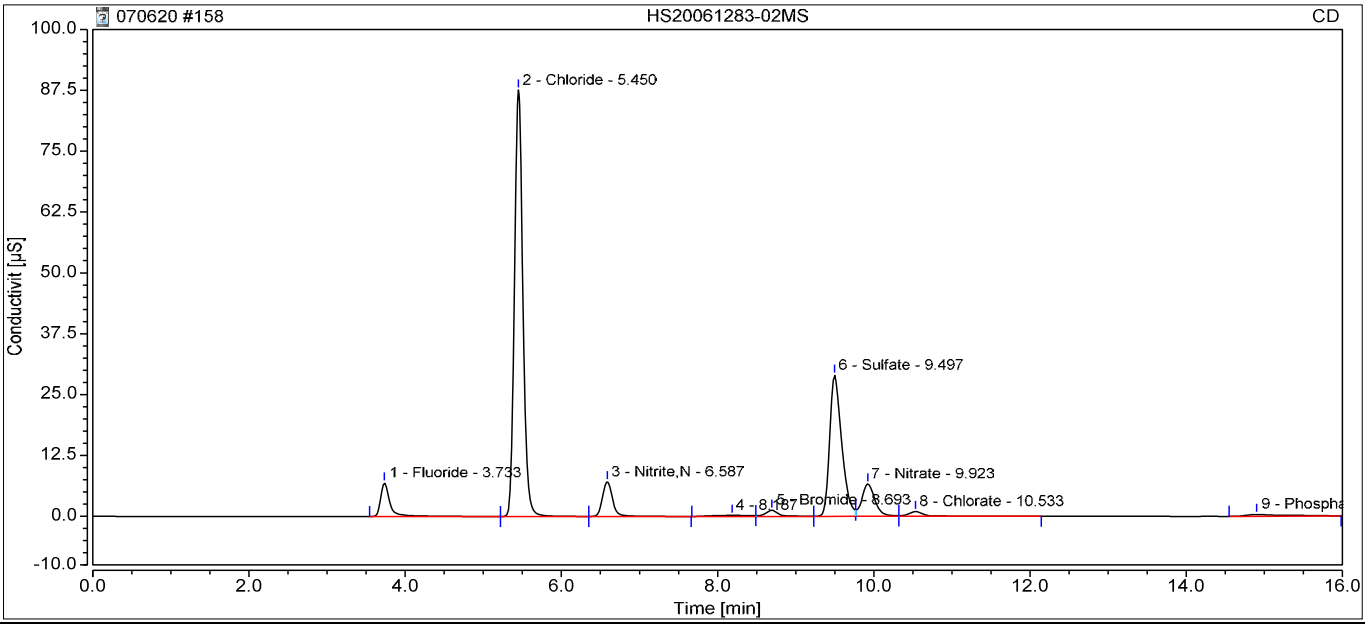
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.191	0.5791	0.5791	1.0000
2	5.45	Chloride	BMB	8.684	39.1599	39.1599	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
4	8.68	Bromide	M	0.065	0.7607	0.7607	1.0000
5	9.53	Sulfate	MB	3.728	23.7689	23.7689	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**	**12.668**		**64.27**	

158 HS20061283-02MS

Sample Name:	**HS20061283-02MS**	*Injection Volume:*	**5.00**
Vial Number:	**RD7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/08/2020 07:25**	*Sample Weight:*	**1.0000**

Run Time:



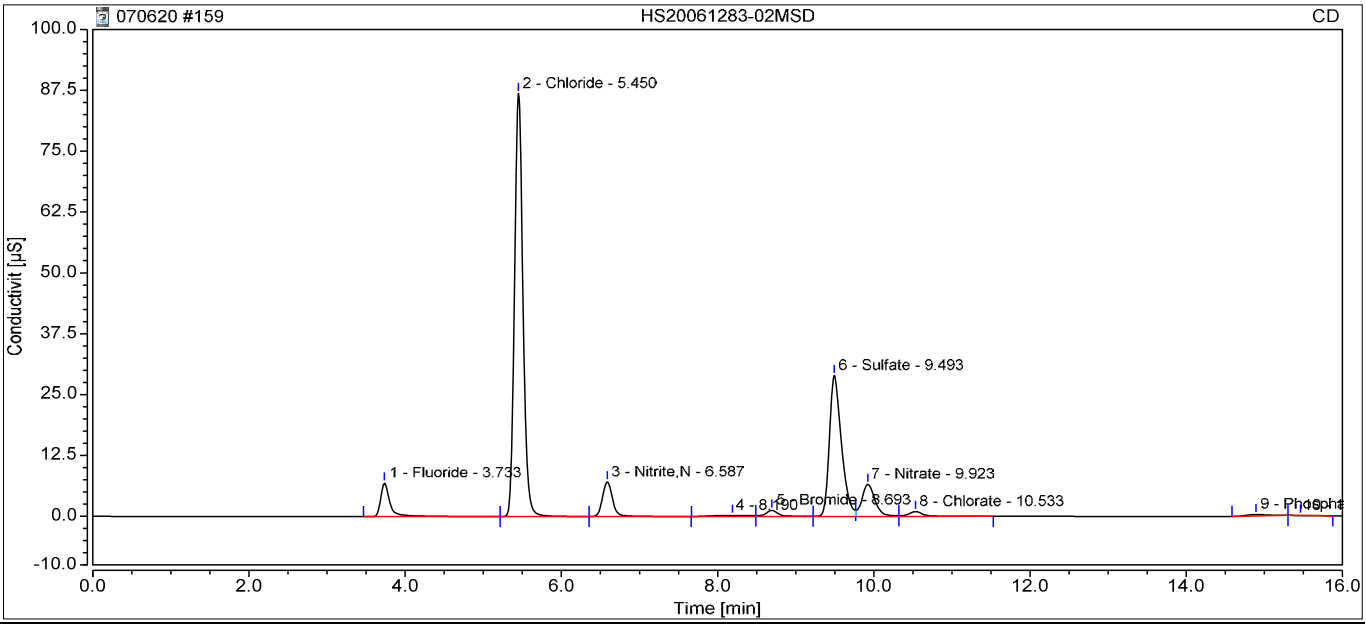
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.970	2.8857	2.8857	1.0000
2	5.45	Chloride	BMB	10.930	49.2997	49.2997	1.0000
3	6.59	Nitrite,N	BMB	1.066	2.3053	2.3053	1.0000
5	8.69	Bromide	M	0.251	2.8461	2.8461	1.0000
6	9.50	Sulfate	M	5.199	33.0708	33.0708	1.0000
7	9.92	Nitrate	M	1.295	2.1603	2.1603	1.0000
8	10.53	Chlorate	MB	0.234	2.3781	2.3781	1.0000
9	14.90	Phosphate	BMB	0.206	1.4069	1.4069	1.0000
Total:			**0.000**	**20.152**		**96.35**	

159 HS20061283-02MSD

Sample Name:	**HS20061283-02MSD**	*Injection Volume:*	**5.00**
Vial Number:	**RD8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/08/2020 07:43**	*Sample Weight:*	**1.0000**

Run Time:



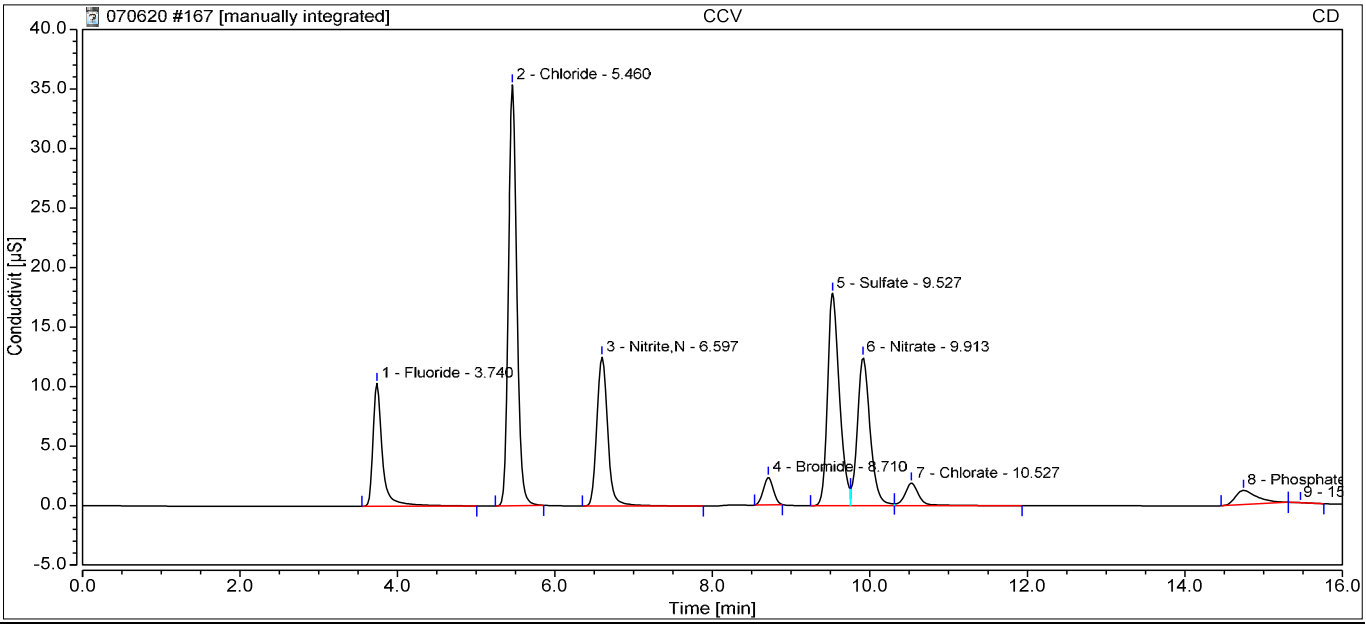
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.968	2.8804	2.8804	1.0000
2	5.45	Chloride	BMB	10.848	48.9298	48.9298	1.0000
3	6.59	Nitrite,N	BMB	1.065	2.3027	2.3027	1.0000
5	8.69	Bromide	M	0.247	2.7990	2.7990	1.0000
6	9.49	Sulfate	M	5.174	32.9142	32.9142	1.0000
7	9.92	Nitrate	M	1.280	2.1350	2.1350	1.0000
8	10.53	Chlorate	MB	0.217	2.1982	2.1982	1.0000
9	14.89	Phosphate	BMB	0.095	0.8108	0.8108	1.0000
Total:			**0.000**	**19.895**		**94.97**	

167 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:	**07/08/2020 10:08**	*Sample Weight:*	**1.0000**

Run Time:



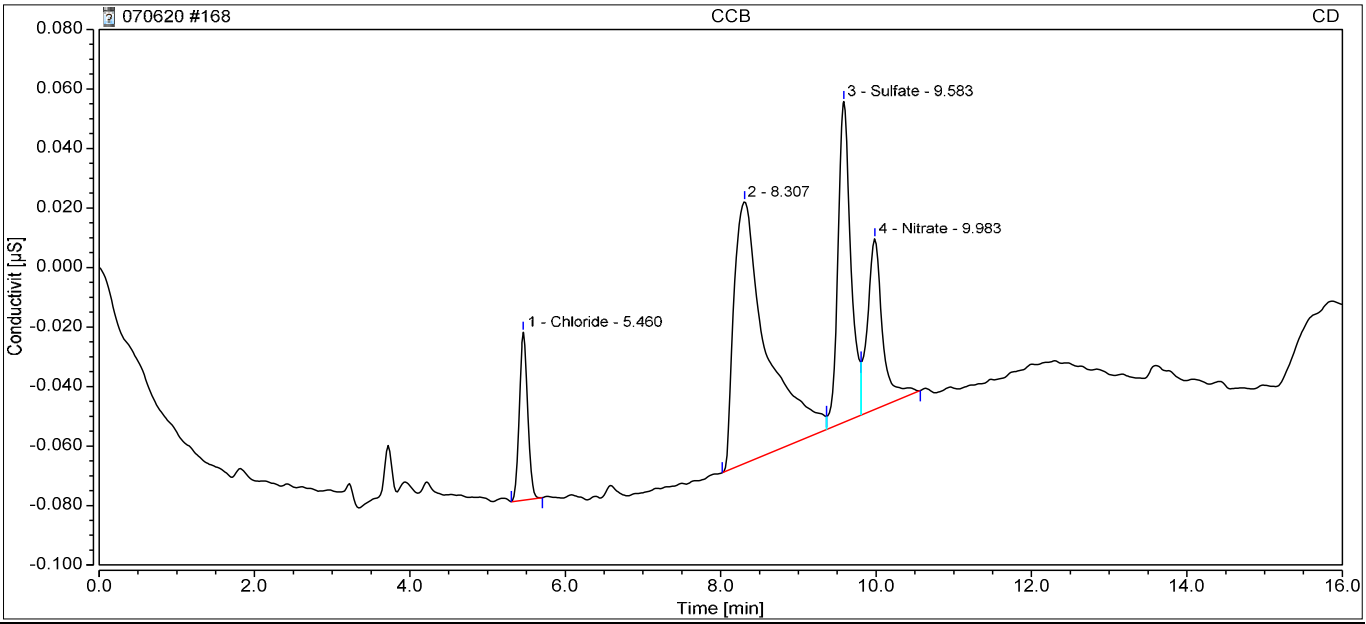
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.427	4.2390	4.2390	1.0000
2	5.46	Chloride	BMB*	4.409	19.8661	19.8661	1.0000
3	6.60	Nitrite,N	BMB	2.003	4.3576	4.3576	1.0000
4	8.71	Bromide	BMB*	0.340	3.8445	3.8445	1.0000
5	9.53	Sulfate	BM	3.134	20.0133	20.0133	1.0000
6	9.91	Nitrate	M	2.340	3.9101	3.9101	1.0000
7	10.53	Chlorate	MB	0.395	4.0337	4.0337	1.0000
8	14.74	Phosphate	BMB	0.383	2.3547	2.3547	1.0000
Total:			**0.000**	**14.431**		**62.62**	

168 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:	**07/08/2020 10:26**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.46	Chloride	BMB	0.007	0.0016	0.0016	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	9.58	Sulfate	M	0.021	0.3314	0.3314	1.0000
4	9.98	Nitrate	MB	0.013	0.0122	0.0122	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**	**0.041**		**0.35**	

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WorkOrder: HS20070018

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

16-Jul-2020

ALS Environmental
ALS Group USA, Corp
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HS20070018 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS20070018

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July 21, 2020

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

Work Order: **HS20070018**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Jul 01, 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: DAYNA.FISHER
RJ Modashia
Project Manager

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20070018

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20070018-01	LH18/24-SP650_063020	Water		30-Jun-2020 14:00	01-Jul-2020 09:40	☐
HS20070018-02	LH18/24-SP650_063020-BIX	Water		30-Jun-2020 14:00	01-Jul-2020 09:40	☐

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20070018

CASE NARRATIVE

Work Order Comments

- The analysis for TOC was subcontracted to ALS Environmental in Kelso, WA. Final Report attached.
- Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. Laboratory. Final report attached

WetChemistry by Method E350.3

Batch ID: R364692

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

WetChemistry by Method E365.3

Batch ID: R364336

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

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Sample ID: LH18/24-SP650_063020
Collection Date: 30-Jun-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20070018
Lab ID:HS20070018-01
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)	**8.9**	a	**0.20**	**0.20**	**0.20**	**mg/L**	1	08-Jul-2020 09:15
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**1.64**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	01-Jul-2020 14:36
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	21-Jul-2020 13:29

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

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20070018
Sample ID: LH18/24-SP650_063020-BIX
Lab ID:HS20070018-02
Collection Date: 30-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	09-Jul-2020 15:43

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

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20070018

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R364336 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20070018-01	LH18/24-SP650_063020	30 Jun 2020 14:00			01 Jul 2020 14:36	10
Batch ID: R364692 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20070018-01	LH18/24-SP650_063020	30 Jun 2020 14:00			08 Jul 2020 09:15	1
Batch ID: R364809 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20070018-02	LH18/24-SP650_063020-BIX	30 Jun 2020 14:00			09 Jul 2020 15:43	1
Batch ID: R365370 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20070018-01	LH18/24-SP650_063020	30 Jun 2020 14:00			21 Jul 2020 13:29	1

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20070018

QC BATCH REPORT

Batch ID: R364336 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

MBLK Sample ID: **MBLK-364336** Units: **mg/L** Analysis Date: **01-Jul-2020 14:36**
Client ID: Run ID: **UV-2450_364336** SeqNo: **5646660** 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-364336** Units: **mg/L** Analysis Date: **01-Jul-2020 14:36**
Client ID: Run ID: **UV-2450_364336** SeqNo: **5646661** 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)	0.261	0.0250	0.25	0	104	85 - 115				

MS Sample ID: **HS20070018-01MS** Units: **mg/L** Analysis Date: **01-Jul-2020 14:36**
Client ID: **LH18/24-SP650_063020** Run ID: **UV-2450_364336** SeqNo: **5646663** 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	1.64	106	80 - 120				

MSD Sample ID: **HS20070018-01MSD** Units: **mg/L** Analysis Date: **01-Jul-2020 14:36**
Client ID: **LH18/24-SP650_063020** Run ID: **UV-2450_364336** SeqNo: **5646664** 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)	4.04	0.250	2.5	1.64	96.0	80 - 120	4.3	6.24	20	

The following samples were analyzed in this batch: HS20070018-01

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20070018

QC BATCH REPORT

Batch ID: R364692 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-364692** Units: **mg/L** Analysis Date: **08-Jul-2020 09:15**
Client ID: Run ID: **WetChem_HS_364692** SeqNo: **5654268** 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)	0.20	0.20								U

LCS Sample ID: **LCS-364692** Units: **mg/L** Analysis Date: **08-Jul-2020 09:15**
Client ID: Run ID: **WetChem_HS_364692** SeqNo: **5654269** 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)	10.16	0.20	10	0	102	80 - 120				

MS Sample ID: **HS20061351-01MS** Units: **mg/L** Analysis Date: **08-Jul-2020 09:15**
Client ID: Run ID: **WetChem_HS_364692** SeqNo: **5654270** 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)	11.06	0.20	10	0.128	109	80 - 120				

MSD Sample ID: **HS20061351-01MSD** Units: **mg/L** Analysis Date: **08-Jul-2020 09:15**
Client ID: Run ID: **WetChem_HS_364692** SeqNo: **5654271** 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)	10.79	0.20	10	0.128	107	80 - 120	11.06	2.47	20	

The following samples were analyzed in this batch: HS20070018-01

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20070018**

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
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-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-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20070018

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20070018-01	LH18/24-SP650_063020	Login	7/1/2020 12:13:51 PM	PMG	WET281
HS20070018-01	LH18/24-SP650_063020	Login	7/1/2020 12:13:51 PM	PMG	WET281
HS20070018-01	LH18/24-SP650_063020	Login	7/1/2020 12:13:51 PM	PMG	Sub
HS20070018-02	LH18/24-SP650_063020-BIX	Login	7/1/2020 12:13:51 PM	PMG	Sub

ALS Houston, US Date: 21-Jul-20

Sample Receipt Checklist

Work Order ID: HS20070018 **Date/Time Received:** 01-Jul-2020 09:40

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By:	/S/ Paresh M. Giga	01-Jul-2020 12:15	**Reviewed by:**	/S/ RJ Modashia	01-Jul-2020 15:17
	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):	1.5C U/c	IR25	
Cooler(s)/Kit(s):	43292		
Date/Time sample(s) sent to storage:	7/1/2020 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

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

HS20070018
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

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_063020	Water	06/30/20 / 14:00		3	X	X			H2SO4	
LH18/24-SP650_063020	Water	06/30/20 / 14:00		1			X		NONE	
LH18/24–SP650_063020_BIX	Water	06/30/20 / 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	06/30/20	14:30	[signature]	7/1/2020	0940						

For Lab Use Only

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

Remarks:

etc.
43292 1.5°
#25
Cifoo

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

ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887 43292	CUSTODY SEAL Date: 6/30/20 Time: 1430 Name: Scott Beesinger Company: BHATE	Seal Broken By: SM Date: 07/01/20

43292

Must Deliver Next Business Day
Time and Tempature Sensitive!

43292

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
BHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 18MAY20
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-18/24-RJ-BD 71831
RMA:

FedEx Express E

FedEx
TRK# 0221 1251 0297 2061

WED - 01 JUL 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

July 09, 2020 Service Request No:E2000606

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

Laboratory Results for: hs20070018

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 02, 2020
For your reference, these analyses have been assigned our service request number **E2000606.**

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.:**	E2000608
Project:	HS20070018	**Date Received:**	07/02/20
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 07/02/20.

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:

EQ2000288: 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 & 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:**E2000606
Project: hs20070018

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000606-001	LH18/24-SP650_063020-BIX	6/30/2020	1400

Service Request Summary

Folder #: **E2000606**
Client Name: ALS Environmental - US
Project Name: hs20070018
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: 07/02/20
Internal Due Date: 7/16/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: hs20070018
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 2B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000606-001	LH18/24-SP650_063020-BIX	Water	06/30/20 1400	**IV**

Service Request Summary

Folder #: **E2000606**
Client Name: ALS Environmental - US
Project Name: hs20070018
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: 07/02/20
Internal Due Date: 7/16/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: hs20070018
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 2B
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	Level IV due 7/23,level II 7/16

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
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 Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
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 York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
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

ALS

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
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E2000606 5
ALS Laboratory Group
hs20070018

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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:** **14225**

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:	HS20070018
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20070018-02**	**LH18/24-SP650_063020-BIX**	**Water**	**30 Jun 2020 14:00**
	SUB_Perch-6850			16 Jul 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: 07/02/20

Received By: Loret G Date/Time: 7/2/20 0900

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist: lk

Client/Project: ALS-H | Thermometer ID: 1R25

Date/Time Received: 7/2/20 | Initials: lk | Date/Time Logged in: 7/2/20 | Initials: lk

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?
-		7/2/20	0900	lk	0.4	☒
						☐
						☐
						☐

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: E2000606 5
ALS Laboratory Group
hs20070018

HS-HRMSCoolerReceipt R1.0

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

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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

Preparation Information Benchsheet

Prep Run#: 361280 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 7/8/20 14:51

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000588-001	LH18/24-SP650_062320-BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000606-001	LH18/24-SP650_063020-BIX	.01	6850/ClO4 DOD			Water	10mL	
3	EQ2000288-01	MB		6850/ClO4 DOD			Liquid	10mL	
4	EQ2000288-02	LCS		6850/ClO4 DOD			Liquid	10mL	
5	EQ2000288-03	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

E2000588-001 100.00µL E2000606-001 100.00µL EQ2000288-01 100.00µL EQ2000288-02 100.00µL EQ2000288-03 100.00µL

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

EQ2000288-02 1.00µL EQ2000288-03 1.00µL

Preparation Steps

Step: Preparation
Started: 7/8/20 14:51
Finished: 7/8/20 16:00
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 7/9/20

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000606
Project:	hs20070018	**Date Collected:**	6/30/20 1400
Sample Matrix:	Water	**Date Received:**	7/ 2/20
Sample Name:	LH18/24-SP650_063020-BIX	**Units:**	µg/L
Lab Code:	E2000606-001	**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	7/ 8/20	7/8/20 18:37	361280	686082	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000606
Project:	hs20070018	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000288-01	**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	7/ 8/20	7/8/20 18:05	361280	686082	

Accuracy & Precision

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: hs20070018
Sample Matrix: Water

Service Request: E2000606
Date Analyzed: 7/ 8/20

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: 361280

	Lab Control Sample EQ2000288-02			Duplicate Lab Control Sample EQ2000288-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.102	0.100	102	0.107	0.100	107	84 - 119	6	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:**	E2000606
Project:	hs20070018	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000288-02	**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	**0.102**		0.100	0.0500	0.0250	1	7/ 8/20	7/8/20 18:13	361280	686082	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000606
Project:	hs20070018	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000288-03	**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	7/ 8/20	7/8/20 18:21	361280	686082	

Initial Calibration

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

20200625

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/25/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000009**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments			Date/Time
	null		20200625_001	Perchlorate6850b.lcm	1x	☒				6/25/2020 16:46
	null		20200625_002	Perchlorate6850b.lcm	1x	☒				6/25/2020 16:51
	IB		20200625_003	Perchlorate6850b.lcm	1x	☒				6/25/2020 16:56
	IB		20200625_004	Perchlorate6850b.lcm	1x	☒				6/25/2020 17:06
	IB		20200625_005	Perchlorate6850b.lcm	1x	☒				6/25/2020 17:13
	PERCHLORATE1		20200625_006	Perchlorate6850b.lcm	1x	☒	3100806-05			6/25/2020 17:21
	PERCHLORATE2		20200625_007	Perchlorate6850b.lcm	1x	☒	3100806-06			6/25/2020 17:29
	PERCHLORATE3		20200625_008	Perchlorate6850b.lcm	1x	☒	3100806-07			6/25/2020 17:37
	PERCHLORATE4		20200625_009	Perchlorate6850b.lcm	1x	☒	3100807-01			6/25/2020 17:45
	PERCHLORATE5		20200625_011	Perchlorate6850b.lcm	1x	☒	3100807-03			6/25/2020 18:01
	PERCHLORATE6		20200625_012	Perchlorate6850b.lcm	1x	☒	3100807-04			6/25/2020 18:09
	PERCHLORATE7		20200625_013	Perchlorate6850b.lcm	1x	☒	3100807-05			6/25/2020 18:17
	PERCHLORATE8		20200625_014	Perchlorate6850b.lcm	1x	☒	3100807-06			6/25/2020 18:25
	PERCHLORATE9		20200625_015	Perchlorate6850b.lcm	1x	☒	3100807-07			6/25/2020 18:33
	PERCHLORATEICV		20200625_016	Perchlorate6850b.lcm	1x	☒	3100807-08			6/25/2020 18:40
	IB		20200625_017	Perchlorate6850b.lcm	1x	☒				6/25/2020 18:48
	IB		20200625_018	Perchlorate6850b.lcm	1x	☒				6/25/2020 18:56
	LODV		20200625_019	Perchlorate6850b.lcm	1x	☒				6/25/2020 19:04
	ICS		20200625_020	Perchlorate6850b.lcm	1x	☒				6/25/2020 19:12
	PERCHLORATE7		20200625_021	Perchlorate6850b.lcm	1x	☒	3100807-05			6/25/2020 19:20
	EQ2000244-01		20200625_022	Perchlorate6850b.lcm	1x	☒				6/25/2020 19:28
	EQ2000244-02		20200625_023	Perchlorate6850b.lcm	1x	☒				6/25/2020 19:36
	EQ2000244-03		20200625_024	Perchlorate6850b.lcm	1x	☒				6/25/2020 19:44
	EQ2000244-04		20200625_025	Perchlorate6850b.lcm	1x	☒				6/25/2020 19:52
	EQ2000244-05		20200625_026	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:00
	E2000537-001		20200625_027	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:08
	E2000537-002		20200625_028	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:15
	E2000537-003		20200625_029	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:23
	E2000537-004		20200625_030	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:31
	E2000537-005		20200625_031	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:39
	PERCHLORATE7		20200625_032	Perchlorate6850b.lcm	1x	☒	3100807-05			6/25/2020 20:47
	E2000537-006		20200625_033	Perchlorate6850b.lcm	1x	☒				6/25/2020 20:55
	E2000537-007		20200625_034	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:03
	E2000537-008		20200625_035	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:11
	E2000537-009		20200625_036	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:19
	E2000540-001		20200625_037	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:27
	E2000540-002		20200625_038	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:34
	E2000540-003		20200625_039	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:42
	E2000540-004		20200625_040	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:50
	E2000537-001		20200625_041	Perchlorate6850b.lcm	1x	☒				6/25/2020 21:58
	E2000537-002		20200625_042	Perchlorate6850b.lcm	1x	☒				6/25/2020 22:06
	PERCHLORATE7		20200625_043	Perchlorate6850b.lcm	1x	☒	3100807-05			6/25/2020 22:14
	EQ2000243-01		20200625_044	Perchlorate6850b.lcm	1x	☒				6/25/2020 22:22
	EQ2000243-02		20200625_045	Perchlorate6850b.lcm	1x	☒				6/25/2020 22:30
	EQ2000243-03		20200625_046	Perchlorate6850b.lcm	1x	☒				6/25/2020 22:38
	EQ2000243-04		20200625_047	Perchlorate6850b.lcm	1x	☒				6/25/2020 22:45
	EQ2000243-05		20200625_048	Perchlorate6850b.lcm	1x	☒				6/25/2020 22:53
	E2000541-001		20200625_049	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:01
	E2000541-002		20200625_050	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:09
	E2000541-003		20200625_051	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:17
	E2000541-004		20200625_052	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:25
	E2000541-005		20200625_053	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:33
	PERCHLORATE7		20200625_054	Perchlorate6850b.lcm	1x	☒	3100807-05			6/25/2020 23:41
	E2000541-006		20200625_055	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:49
	E2000541-007		20200625_056	Perchlorate6850b.lcm	1x	☒				6/25/2020 23:57
	E2000541-008		20200625_057	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:05
	E2000541-009		20200625_058	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:12
	E2000541-010		20200625_059	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:20
	E2000541-011		20200625_060	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:28
	E2000541-012		20200625_061	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:36
	E2000541-013		20200625_062	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:44
	E2000541-014		20200625_063	Perchlorate6850b.lcm	1x	☒				6/26/2020 0:52
	E2000541-015		20200625_064	Perchlorate6850b.lcm	1x	☒				6/26/2020 1:00
	PERCHLORATE7		20200625_065	Perchlorate6850b.lcm	1x	☒	3100807-05			6/26/2020 1:08

Initial Calibration - Detailed Report

Calibration ID: EC2000009 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000009-01	PERCHLORATE1	20200625_006	06/25/2020 17:21
02	EC2000009-02	PERCHLORATE2	20200625_007	06/25/2020 17:29
03	EC2000009-03	PERCHLORATE3	20200625_008	06/25/2020 17:37
04	EC2000009-04	PERCHLORATE4	20200625_009	06/25/2020 17:45
05	EC2000009-05	PERCHLORATE5	20200625_011	06/25/2020 18:01
06	EC2000009-06	PERCHLORATE6	20200625_012	06/25/2020 18:09
07	EC2000009-07	PERCHLORATE7	20200625_013	06/25/2020 18:17
08	EC2000009-08	PERCHLORATE8	20200625_014	06/25/2020 18:25
09	EC2000009-09	PERCHLORATE9	20200625_015	06/25/2020 18:33

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

Perchlorate **Average RF** **RSD = 12.17** **Average RF = 0.1345**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.173	02	0.5000	0.1369	03	0.7000	0.1363	04	1.0000	0.1365
05	5.0000	0.1253	06	10.0000	0.1383	07	20.0000	0.126	08	30.0000	0.1197
09	50.0000	0.1184									

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.129	28.6	02	0.5000	0.509	1.8	03	0.7000	0.709	1.3
04	1.0000	1.02	1.5	05	5.0000	4.66	-6.8	06	10.0000	10.3	2.9
07	20.0000	18.7	-6.3	08	30.0000	26.7	-11.0	09	50.0000	44.0	-12.0

Initial Calibration Verification Summary Report

Calibration ID:	EC2000009	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200625_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000009-10	T	Average RF	10	10.115	ng/mL	1.2	<= 15

ALS Group Houston

PERCHLORATE1

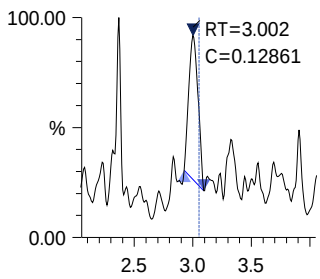
Date acquired: 6/25/2020 5:21:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_006.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	6/25/2020 5:21:49 PM	6704	0.12861	20200625_006	3.002	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/25/2020 5:21:49 PM	387624	1.00000	20200625_006	3.002	25.0000	1.0000	5

Perchlorate

Conc 0.12861
Area 6704

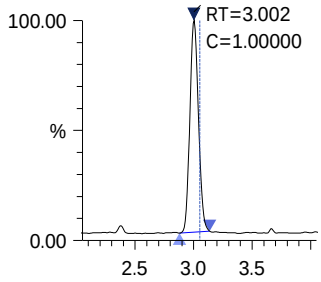
Q 99.00>83.00 (-) 1.79e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 387624

ISTD 107.00>89.00 (-) 7.66e4



ALS Group Houston

PERCHLORATE2

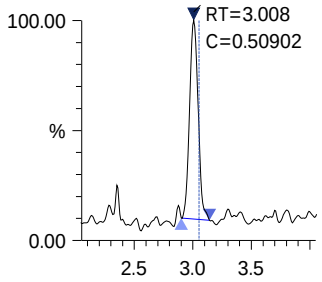
Date acquired: 6/25/2020 5:29:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_007.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	6/25/2020 5:29:41 PM	26486	0.50902	20200625_007	3.008	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/25/2020 5:29:41 PM	386905	1.00000	20200625_007	3.003	25.0000	1.0000	6

Perchlorate

Conc 0.50902
Area 26486

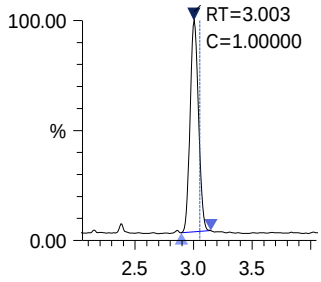
Q 99.00>83.00 (-) 5.58e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 386905

ISTD 107.00>89.00 (-) 7.79e4



ALS Group Houston

PERCHLORATE3

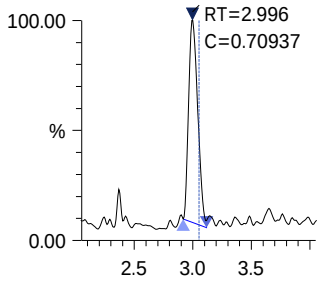
Date acquired: 6/25/2020 5:37:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_008.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	6/25/2020 5:37:36 PM	36977	0.70937	20200625_008	2.996	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/25/2020 5:37:36 PM	387606	1.00000	20200625_008	2.998	25.0000	1.0000	7

Perchlorate

Conc 0.70937
Area 36977

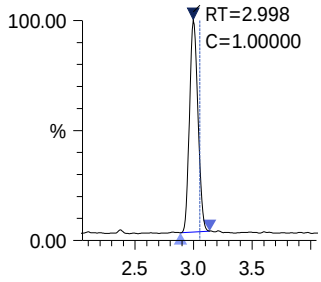
Q 99.00>83.00 (-) 7.15e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 387606

ISTD 107.00>89.00 (-) 7.76e4



ALS Group Houston

PERCHLORATE4

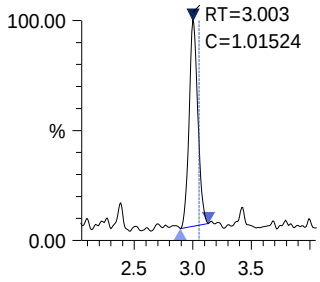
Date acquired: 6/25/2020 5:45:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_009.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	6/25/2020 5:45:31 PM	49004	1.01524	20200625_009	3.003	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/25/2020 5:45:31 PM	358914	1.00000	20200625_009	3.001	25.0000	1.0000	8

Perchlorate

Conc 1.01524
Area 49004

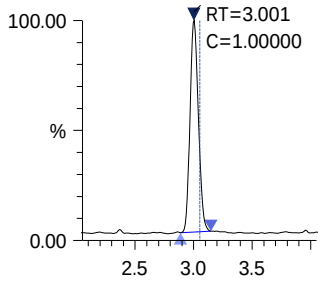
Q 99.00>83.00 (-) 9.81e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 358914

ISTD 107.00>89.00 (-) 7.26e4



ALS Group Houston

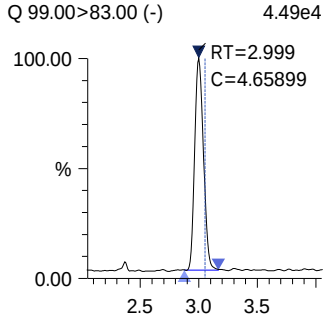
PERCHLORATE5

Date acquired: 6/25/2020 6:01:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_011.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	6/25/2020 6:01:22 PM	232008	4.65899	20200625_011	2.999	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/25/2020 6:01:22 PM	370291	1.00000	20200625_011	2.996	25.0000	1.0000	10

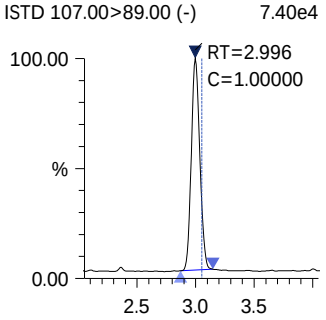
Perchlorate

Conc 4.65899
Area 232008



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 370291



ALS Group Houston

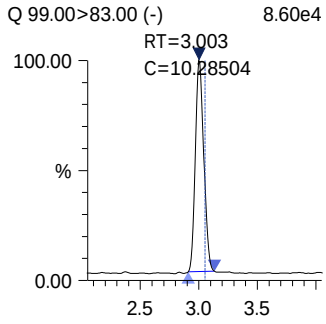
PERCHLORATE6

Date acquired: 6/25/2020 6:09:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_012.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	6/25/2020 6:09:15 PM	427451	10.28504	20200625_012	3.003	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/25/2020 6:09:15 PM	309038	1.00000	20200625_012	3.001	25.0000	1.0000	4

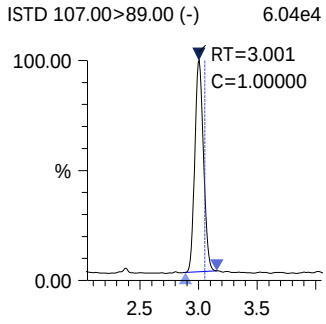
Perchlorate

Conc 10.28504
Area 427451



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 309038



ALS Group Houston

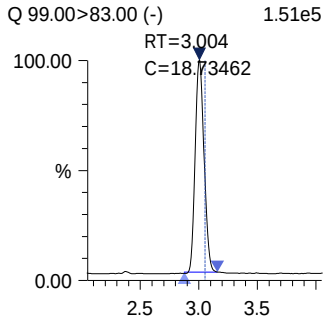
PERCHLORATE7

Date acquired: 6/25/2020 6:17:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_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	PERCHLORATE7	6/25/2020 6:17:10 PM	786893	18.73462	20200625_013	3.004	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/25/2020 6:17:10 PM	312322	1.00000	20200625_013	3.002	25.0000	1.0000	11

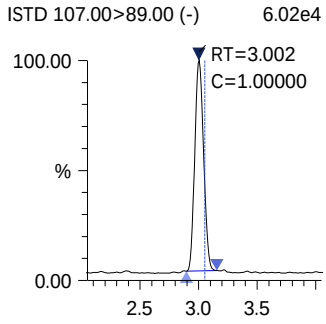
Perchlorate

Conc 18.73462
Area 786893



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 312322



ALS Group Houston

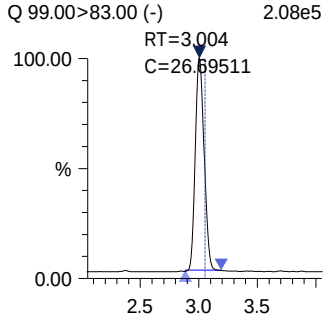
PERCHLORATE8

Date acquired: 6/25/2020 6:25:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_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	PERCHLORATE8	6/25/2020 6:25:06 PM	1075993	26.69511	20200625_014	3.004	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/25/2020 6:25:06 PM	299716	1.00000	20200625_014	3.004	25.0000	1.0000	12

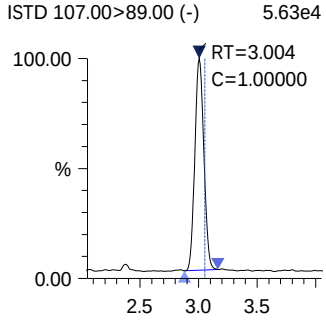
Perchlorate

Conc 26.69511
Area 1075993



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 299716



ALS Group Houston

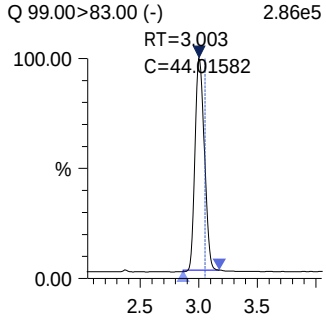
PERCHLORATE9

Date acquired: 6/25/2020 6:33:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_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	PERCHLORATE9	6/25/2020 6:33:01 PM	1567374	44.01582	20200625_015	3.003	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/25/2020 6:33:01 PM	264786	1.00000	20200625_015	3.002	25.0000	1.0000	13

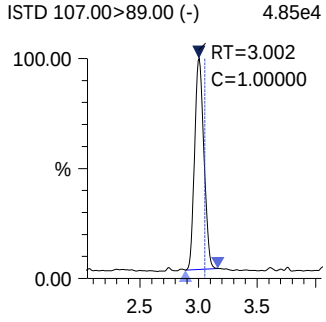
Perchlorate

Conc 44.01582
Area 1567374



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 264786



ALS Group Houston

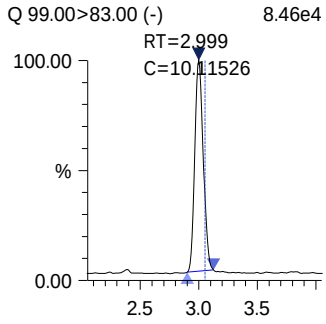
PERCHLORATEICV

Date acquired: 6/25/2020 6:40:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_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	6/25/2020 6:40:55 PM	420958	10.11526	20200625_016	2.999	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/25/2020 6:40:55 PM	309452	1.00000	20200625_016	2.996	25.0000	1.0000	14

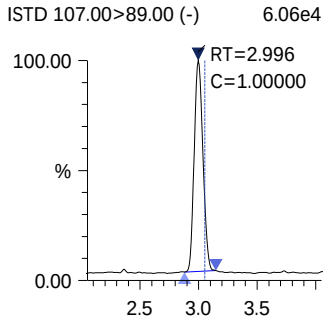
Perchlorate

Conc 10.11526
Area 420958



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 309452



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

20200708

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/25/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000009

1st Review: Kneir
2nd Review: Hvan

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilutio	R	Comments
1	null		20200708_001	Perchlorate6850b.lcm	1x	☒	
2	null		20200708_002	Perchlorate6850b.lcm	1x	☒	
3	IB		20200708_003	Perchlorate6850b.lcm	1x	☒	
4	IB		20200708_004	Perchlorate6850b.lcm	1x	☒	
5	LODV		20200708_005	Perchlorate6850b.lcm	1x	☒	
6	ICS		20200708_006	Perchlorate6850b.lcm	1x	☒	
7	PERCHLORATE7		20200708_007	Perchlorate6850b.lcm	1x	☒	3100807-04
8	EQ2000288-01		20200708_008	Perchlorate6850b.lcm	1x	☒	
9	EQ2000288-02		20200708_009	Perchlorate6850b.lcm	1x	☒	
10	EQ2000288-03		20200708_010	Perchlorate6850b.lcm	1x	☒	
11	E2000588-001		20200708_011	Perchlorate6850b.lcm	1x	☒	
12	E2000606-001		20200708_012	Perchlorate6850b.lcm	1x	☒	
13	PERCHLORATE7		20200708_013	Perchlorate6850b.lcm	1x	☒	3100807-04
14	EQ2000287-01		20200708_014	Perchlorate6850b.lcm	1x	☒	
15	EQ2000287-02		20200708_015	Perchlorate6850b.lcm	1x	☒	
16	EQ2000287-03		20200708_016	Perchlorate6850b.lcm	1x	☒	
17	EQ2000287-04		20200708_017	Perchlorate6850b.lcm	1x	☒	
18	EQ2000287-05		20200708_018	Perchlorate6850b.lcm	1x	☒	
19	E2000607-001		20200708_019	Perchlorate6850b.lcm	1x	☒	
20	E2000607-002		20200708_020	Perchlorate6850b.lcm	1x	☒	
21	E2000607-003		20200708_021	Perchlorate6850b.lcm	1x	☒	
22	E2000607-004		20200708_022	Perchlorate6850b.lcm	1x	☒	
23	E2000607-005		20200708_023	Perchlorate6850b.lcm	1x	☒	
24	PERCHLORATE7		20200708_024	Perchlorate6850b.lcm	1x	☒	3100807-04
25	E2000607-006		20200708_025	Perchlorate6850b.lcm	1x	☒	
26	E2000607-007		20200708_026	Perchlorate6850b.lcm	1x	☒	
27	E2000607-008		20200708_027	Perchlorate6850b.lcm	1x	☒	
28	E2000607-009		20200708_028	Perchlorate6850b.lcm	1x	☒	
29	E2000607-010		20200708_029	Perchlorate6850b.lcm	1x	☒	
30	E2000607-011		20200708_030	Perchlorate6850b.lcm	1x	☒	
31	E2000607-012		20200708_031	Perchlorate6850b.lcm	1x	☒	
32	E2000607-013		20200708_032	Perchlorate6850b.lcm	1x	☒	
33	E2000607-014		20200708_033	Perchlorate6850b.lcm	1x	☒	
34	E2000607-015		20200708_034	Perchlorate6850b.lcm	1x	☒	
35	PERCHLORATE7		20200708_035	Perchlorate6850b.lcm	1x	☒	3100807-04
36	E2000607-016		20200708_036	Perchlorate6850b.lcm	1x	☒	
37	E2000607-017		20200708_037	Perchlorate6850b.lcm	1x	☒	
38	E2000607-018		20200708_038	Perchlorate6850b.lcm	1x	☒	
39	E2000607-019		20200708_039	Perchlorate6850b.lcm	1x	☒	
40	PERCHLORATE7		20200708_040	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: hs20070018

Service Request: E2000606
Date Analyzed: 7/ 8/20

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\20200708\20200708_007

Calibration Date: 6/25/20
Calibration ID: EC2000009
Analysis Lot: 686082
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.69	0.1345	0.1316	-2.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: hs20070018

Service Request: E2000606
Date Analyzed: 7/ 8/20

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\20200708\20200708_013

Calibration Date: 6/25/20
Calibration ID: EC2000009
Analysis Lot: 686082
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.82	0.1345	0.1333	-0.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: hs20070018

Service Request: E2000606
Date Analyzed: 7/ 8/20

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\20200708\20200708_024

Calibration Date: 6/25/20
Calibration ID: EC2000009
Analysis Lot: 686082
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.98	0.1345	0.1355	0.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: hs20070018

Service Request: E2000606
Date Analyzed: 7/8/20 17:57

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

File ID: I:\LCMS01\DATA\20200708\20200708_007
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000292-01
Analysis Lot: 686082
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	341,911	3.00
	Upper Limit ==>	512,867	5.00
	Lower Limit ==>	170,956	1.00
Associated Analyses			
Continuing Calibration Verification	EQ2000292-01	315,436	2.93
Method Blank	EQ2000288-01	346,303	2.94
Lab Control Sample	EQ2000288-02	385,389	2.93
Duplicate Lab Control Sample	EQ2000288-03	391,382	2.93
LH18/24-SP650_063020-BIX	E2000606-001	225,634	2.90

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: hs20070018

Service Request: E2000606
Date Analyzed: 7/8/20 18:45

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

File ID: I:\LCMS01\DATA\20200708\20200708_013
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000292-02
Analysis Lot: 686082
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	341,911	3.00
	Upper Limit ==>	512,867	5.00
	Lower Limit ==>	170,956	1.00
Associated Analyses			
Continuing Calibration Verification	EQ2000292-02	308,199	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
Project: hs20070018

Service Request: E2000606
Date Analyzed: 7/8/20 20:12

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

File ID: I:\LCMS01\DATA\20200708\20200708_024
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000292-03
Analysis Lot: 686082
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	341,911	3.00
	Upper Limit ==>	512,867	5.00
	Lower Limit ==>	170,956	1.00
Associated Analyses			
Continuing Calibration Verification	EQ2000292-03	303,219	2.94

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

ALS Group Houston

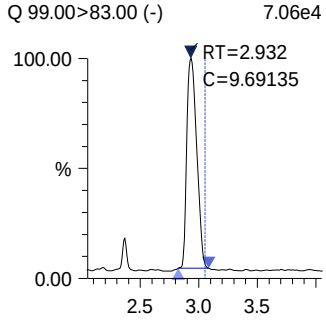
PERCHLORATE7

Date acquired: 7/8/2020 5:57:52 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200708\20200708_007.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	7/8/2020 5:57:52 PM	415042	9.69135	20200708_007	2.932	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	7/8/2020 5:57:52 PM	315436	1.00000	20200708_007	2.929	25.0000	1.0000	4

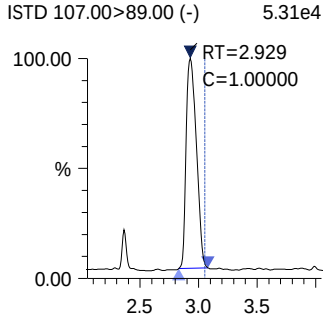
Perchlorate

Conc 9.69135
Area 415042



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 315436



ALS Group Houston

EQ2000288-01

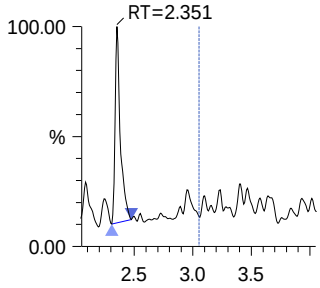
Date acquired: 7/8/2020 6:05:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200708\20200708_008.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000288-01	7/8/2020 6:05:45 PM	----	----	20200708_008	----	25.0000	1.0000	1
Sodium Perchlorate-18O4_IS	EQ2000288-01	7/8/2020 6:05:45 PM	346303	1.00000	20200708_008	2.937	25.0000	1.0000	1

Perchlorate

Conc ----
Area ----

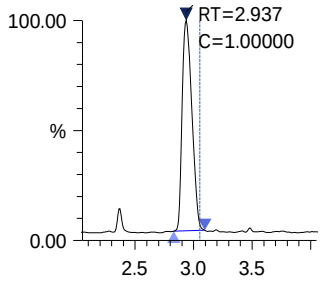
Q 99.00>83.00 (-) 3.54e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 346303

ISTD 107.00>89.00 (-) 6.14e4



ALS Group Houston

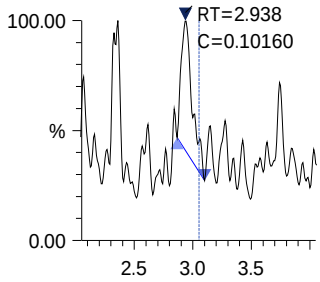
EQ2000288-02

Date acquired: 7/8/2020 6:13:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200708\20200708_009.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000288-02	7/8/2020 6:13:38 PM	5316	0.10160	20200708_009	2.938	25.0000	1.0000	2
Sodium Perchlorate-18O4_IS	EQ2000288-02	7/8/2020 6:13:38 PM	385389	1.00000	20200708_009	2.928	25.0000	1.0000	2

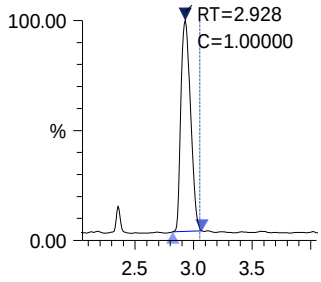
Perchlorate

Conc 0.10160
Area 5316
Q 99.00>83.00 (-) 1.32e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 385389
ISTD 107.00>89.00 (-) 6.80e4



ALS Group Houston

EQ2000288-03

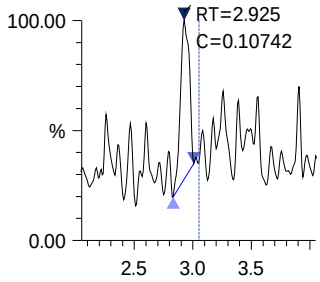
Date acquired: 7/8/2020 6:21:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200708\20200708_010.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000288-03	7/8/2020 6:21:31 PM	5708	0.10742	20200708_010	2.925	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	EQ2000288-03	7/8/2020 6:21:31 PM	391382	1.00000	20200708_010	2.932	25.0000	1.0000	3

Perchlorate

Conc 0.10742
Area 5708

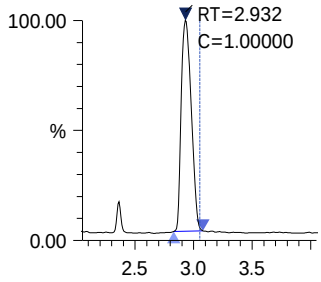
Q 99.00>83.00 (-) 1.45e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 391382

ISTD 107.00>89.00 (-) 6.68e4



ALS Group Houston

E2000606-001

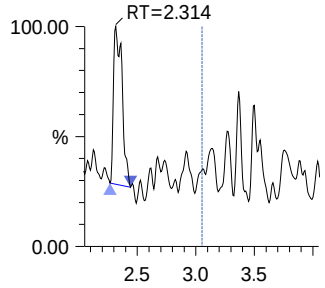
Date acquired: 7/8/2020 6:37:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200708\20200708_012.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	E2000606-001	7/8/2020 6:37:18 PM	----	----	20200708_012	----	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	E2000606-001	7/8/2020 6:37:18 PM	225634	1.00000	20200708_012	2.904	25.0000	1.0000	5

Perchlorate

Conc ----
Area ----

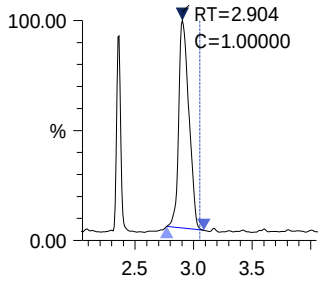
Q 99.00>83.00 (-) 1.38e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 225634

ISTD 107.00>89.00 (-) 3.82e4



ALS Group Houston

PERCHLORATE7

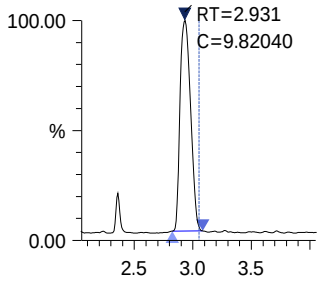
Date acquired: 7/8/2020 6:45:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200708\20200708_013.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	7/8/2020 6:45:13 PM	410918	9.82040	20200708_013	2.931	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	7/8/2020 6:45:13 PM	308199	1.00000	20200708_013	2.929	25.0000	1.0000	4

Perchlorate

Conc 9.82040
Area 410918

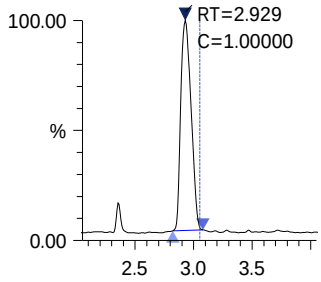
Q 99.00>83.00 (-) 6.59e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 308199

ISTD 107.00>89.00 (-) 5.14e4



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July 20, 2020

Analytical Report for Service Request No: K2005527

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

RE: ALS Houston DOD TOC / HS20070018

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 02, 2020
For your reference, these analyses have been assigned our service request number **K2005527.**

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

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy

Kelley Lovejoy
Project Manager

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Table of Contents

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: ALS Houston DOD TOC
Sample Matrix: Water

Service Request: K2005527
Date Received: 07/02/2020

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 07/02/2020. 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 07/20/2020

Chain of Custody

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K2005537

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14226**

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:	HS20070018
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20070018-01**	**LH18/24-SP650_063020**	**Water**	**30 Jun 2020 14:00**
	TOC Analysis for DOD Level IV			16 Jul 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: [signature] Date/Time: 07/01/20 18:00

Received By: Date/Time: 7/2/20 0930

Cooler ID(s): Temperature(s):

PC VL

Cooler Receipt and Preservation Form

Client A18 - Horizon Service Request K20 05507

Received: 7/21/20 Opened: 7/21/20 By: BR Unloaded: 7/21/20 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? 1 Front 1 Back
   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	3.3	3.0	-	-	1601		1891 8878 0071	

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: @ Temp Blank

General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2005527
Project:	ALS Houston DOD TOC/HS20070018	**Date Collected:**	06/30/20
Sample Matrix:	Water	**Date Received:**	07/2/20
Analysis Method:	9060A	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic (TOC)

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
LH18/24-SP650_063020	K2005527-001	**2.56**	0.50	0.20	0.07	1	07/15/20 15:10	
Method Blank	K2005527-MB	ND U	0.50	0.20	0.07	1	07/15/20 15:10	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2005527
Project:	ALS Houston DOD TOC/HS20070018	**Date Analyzed:**	07/15/20
Sample Matrix:	Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	9060A	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	687240

	Lab Control Sample K2005527-LCS			Duplicate Lab Control Sample K2005527-DLCS					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic (TOC)	27.1	25.0	108	26.7	25.0	107	83-117	1	20

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2005527
Project: ALS Houston DOD TOC/HS20070018

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic (TOC)

Analysis Method: 9060A **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	687240	KQ2009653-04	07/15/20 15:10	25.0	24.9	100	90-110
CCV2	687240	KQ2009653-05	07/15/20 15:10	25.0	24.4	98	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2005527
Project: ALS Houston DOD TOC/HS20070018

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic (TOC)

Analysis Method: 9060A **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	687240	KQ2009653-06	07/15/20 15:10	0.50	0.20	0.07	ND	U
CCB2	687240	KQ2009653-07	07/15/20 15:10	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # Original (5527) 5525 5668 5287

Tier: IV II II IV

Date Analyzed: 7/15/20

Analyst: MK

Run # 687240/687239/687238

Analysis: TOC/DOC

DATA QUALITY REPORT
INORGANICS

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

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

COMMENTS:

Final Approved by: QC Date: 7/28/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** MKANALY **Analysis Lot:** 687240 **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
K2005527-001	Carbon, Total Organic (TOC)	N/A		Water	2.56 mg/L	10 mL	2.56 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009653-01	Carbon, Total Organic (TOC)	LCS		Water	27.06 mg/L	10 mL	27.1 mg/L	1	0.07	0.50	108		7/15/20 15:10:00	N	IV
KQ2009653-02	Carbon, Total Organic (TOC)	DLCS		Water	26.66 mg/L	10 mL	26.7 mg/L	1	0.07	0.50	107	1	7/15/20 15:10:00	N	IV
KQ2009653-03	Carbon, Total Organic (TOC)	MB		Water	-0.12 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009653-04	Carbon, Total Organic (TOC)	CCV		Water	24.93 mg/L	10 mL	24.9 mg/L	1					7/15/20 15:10:00	N	IV
KQ2009653-05	Carbon, Total Organic (TOC)	CCV		Water	24.43 mg/L	10 mL	24.4 mg/L	1					7/15/20 15:10:00	N	IV
KQ2009653-06	Carbon, Total Organic (TOC)	CCB		Water	0.04 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009653-07	Carbon, Total Organic (TOC)	CCB		Water	-0.14 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	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:** MKANALY **Analysis Lot:** 687239 **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
K2005525-001	Carbon, Total Organic	N/A		Water	-0.02 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	II
K2005668-001	Carbon, Total Organic	N/A		Water	2.31 mg/L	10 mL	2.31 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	II
KQ2009652-01	Carbon, Total Organic	LCS		Water	27.18 mg/L	10 mL	27.2 mg/L	1	0.07	0.50	109		7/15/20 15:10:00	N	II
KQ2009652-02	Carbon, Total Organic	DLCS		Water	27.90 mg/L	10 mL	27.9 mg/L	1	0.07	0.50	112	3	7/15/20 15:10:00	N	II
KQ2009652-03	Carbon, Total Organic	MB		Water	-0.12 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	II
KQ2009652-04	Carbon, Total Organic	CCV		Water	25.18 mg/L	10 mL	25.2 mg/L	1					7/15/20 15:10:00	N	II
KQ2009652-05	Carbon, Total Organic	CCV		Water	24.93 mg/L	10 mL	24.9 mg/L	1					7/15/20 15:10:00	N	II
KQ2009652-06	Carbon, Total Organic	CCB		Water	-0.01 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	II
KQ2009652-07	Carbon, Total Organic	CCB		Water	0.04 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	II
KQ2009652-08	Carbon, Total Organic	DUP	K2005668-001	Water	2.22 mg/L	10 mL	2.22 mg/L	1	0.07	0.50		4	7/15/20 15:10:00	N	II
KQ2009652-09	Carbon, Total Organic	MS	K2005668-001	Water	30.69 mg/L	10 mL	30.7 mg/L	1	0.07	0.50	114		7/15/20 15:10:00	N	II
KQ2009652-10	Carbon, Total Organic	CCV		Water	24.43 mg/L	10 mL	24.4 mg/L	1					7/15/20 15:10:00	N	II
KQ2009652-11	Carbon, Total Organic	CCB		Water	-0.14 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	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:** MKANALY **Analysis Lot:** 687238 **Method/Testcode:** 9060A/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
K2005287-001	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	8.65 mg/L	10 mL	8.65 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-002	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	2.55 mg/L	10 mL	2.55 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-003	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	1.46 mg/L	10 mL	1.46 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-004	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	4.73 mg/L	10 mL	4.73 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-005	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	1.99 mg/L	10 mL	1.99 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-006	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	1.57 mg/L	10 mL	1.57 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-008	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	3.35 mg/L	10 mL	3.35 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-009	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	4.34 mg/L	10 mL	4.34 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-010	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	5.62 mg/L	10 mL	5.62 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-011	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	0.27 mg/L	10 mL	0.27 mg/L J	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-012	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	-0.13 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-013	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	0.71 mg/L	10 mL	0.71 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-014	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	1.00 mg/L	10 mL	1.00 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-015	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	2.31 mg/L	10 mL	2.31 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-016	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	0.65 mg/L	10 mL	0.65 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-017	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	2.19 mg/L	10 mL	2.19 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-018	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	0.52 mg/L	10 mL	0.52 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-019	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	7.16 mg/L	10 mL	7.16 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-020	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	5.67 mg/L	10 mL	5.67 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009654-01	Carbon, Dissolved Organic (DOC)	LCS		Pore Water	27.06 mg/L	10 mL	27.1 mg/L	1	0.07	0.50	108		7/15/20 15:10:00	N	IV
KQ2009654-02	Carbon, Dissolved Organic (DOC)	DLCS		Pore Water	26.66 mg/L	10 mL	26.7 mg/L	1	0.07	0.50	107	1	7/15/20 15:10:00	N	IV
KQ2009654-03	Carbon, Dissolved Organic (DOC)	MB		Pore Water	-0.12 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009654-04	Carbon, Dissolved Organic (DOC)	CCV		Pore Water	24.93 mg/L	10 mL	24.9 mg/L	1					7/15/20 15:10:00	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:** MKANALY **Analysis Lot:** 687238 **Method/Testcode:** 9060A/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
KQ2009654-05	Carbon, Dissolved Organic (DOC)	CCV		Pore Water	24.43 mg/L	10 mL	24.4 mg/L	1					7/15/20 15:10:00	N	IV
KQ2009654-06	Carbon, Dissolved Organic (DOC)	CCV		Pore Water	24.22 mg/L	10 mL	24.2 mg/L	1					7/15/20 15:10:00	N	IV
KQ2009654-07	Carbon, Dissolved Organic (DOC)	CCV		Pore Water	24.36 mg/L	10 mL	24.4 mg/L	1					7/15/20 15:10:00	N	IV
KQ2009654-08	Carbon, Dissolved Organic (DOC)	CCB		Pore Water	0.04 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009654-09	Carbon, Dissolved Organic (DOC)	CCB		Pore Water	-0.14 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009654-10	Carbon, Dissolved Organic (DOC)	CCB		Pore Water	-0.22 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009654-11	Carbon, Dissolved Organic (DOC)	CCB		Pore Water	-0.22 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV

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

COLUMBIA ANALYTICAL SERVICES, INC.

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	0.0000	<0.5	
2	CCV	1	25.3932	0.2167	25.1765	25.1765	25.2	
3	CCB	1	0.2028	0.2167	-0.0139	-0.0139	<0.5	
4	MB	1	0.0000	0.2167	-0.2167	-0.2167	<0.5	
5	LCS	1	8.8879	0.2167	8.6712	8.6712	NR	
6	ICS	1	0.5289	0.2167	0.3122	0.3122	<0.5	
7	K2005525-001	1	0.1961	0.2167	-0.0206	-0.0206	<0.5	
8	K2005668-001	1	2.5249	0.2167	2.3082	2.3082	2.3	
9	LCS	1	27.3948	0.2167	27.1781	27.1781	27.2	
10	DLCS	1	28.1122	0.2167	27.8955	27.8955	27.9	
11	IB	1	0.2306	0.2167	0.0139	0.0139	<0.5	
12	CCV	1	25.1469	0.2167	24.9302	24.9302	24.9	
13	CCB	1	0.2614	0.2167	0.0447	0.0447	<0.5	
14	K2005668-001DUI	1	2.4346	0.2167	2.2179	2.2179	2.2	
15	K2005668-001MI	1	30.9113	0.2167	30.6946	30.6946	30.7	
16	IB	1	0.3163	0.2167	0.0996	0.0996	<0.5	
17	K2005527-001	1	2.7723	0.2167	2.5556	2.5556	2.6	
18	LCS	1	27.2730	0.2167	27.0563	27.0563	27.1	
19	DLCS	1	26.8766	0.2167	26.6599	26.6599	26.7	
20	BEADS	1	0.3559	0.2167	0.1392	0.1392	<0.5	
21	MB	1	0.0924	0.2167	-0.1243	-0.1243	<0.5	
22	K2005287-001	1	8.8640	0.2167	8.6473	8.6473	8.65	
23	K2005287-002	1	2.7697	0.2167	2.5530	2.553	2.55	
24	CCV	1	24.644	0.2167	24.4268	24.4268	24.4	
25	CCB	1	0.073	0.2167	-0.1437	-0.1437	<0.5	

		date	time
Analyzed By:	ME	Date Analyzed	7/17/20
Reviewed By:		Date Reviewed	7/18/20

COLUMBIA ANALYTICAL SERVICES, INC.

Matrix: WATER

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

Printout	Sample #	Dil. Factor	Solution Conc. ,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	MB	1	0.013	0.2167	-0.2034	-0.2034	<0.5	
27	LCS	1	26.128	0.2167	25.9115	25.9115	25.9	
28	K2005287-003	1	1.634	0.2167	1.4169	1.4169	1.4	
29	K2005287-004	1	4.945	0.2167	4.7284	4.7284	4.7	
30	K2005287-005	1	2.211	0.2167	1.9943	1.9943	2.0	
31	K2005287-006	1	1.786	0.2167	1.5693	1.5693	1.57	
32	K2005287-008	1	3.568	0.2167	3.3516	3.3516	3.35	
33	K2005287-009	1	4.556	0.2167	4.3389	4.3389	4.3	
34	K2005287-010	1	5.840	0.2167	5.6235	5.6235	5.62	
35	K2005287-011	1	0.486	0.2167	0.2693	0.2693	<0.5	
36	CCV	1	24.437	0.2167	24.2201	24.2201	24.22	
37	CCB	1	0.000	0.2167	-0.2167	-0.2167	<0.5	
38	K2005287-012	1	0.082	0.2167	-0.1343	-0.1343	<0.5	
39	K2005287-013	1	0.925	0.2167	0.7081	0.7081	0.71	
40	K2005287-014	1	1.218	0.2167	1.0017	1.0017	1.0	
41	K2005287-015	1	2.526	0.2167	2.3096	2.3096	2.3	
42	K2005287-016	1	0.868	0.2167	0.6511	0.6511	0.65	
43	K2005287-017	1	2.410	0.2167	2.1932	2.1932	2.19	
44	K2005287-018	1	0.733	0.2167	0.5163	0.5163	0.52	
45	K2005287-019	1	7.377	0.2167	7.1598	7.1598	7.16	
46	K2005287-020	1	5.884	0.2167	5.6668	5.6668	5.67	
47	CCV	1	24.579	0.2167	24.3622	24.3622	24.36	
48	CCB	1	0.000	0.2167	-0.2167	-0.2167	<0.5	
49		1						
50		1						

Analyzed By:	MM	Date Analyzed	7/15/20
Reviewed By:		Date Reviewed	7/18/20

0.203	0.203	0.203	0.203	OBSERVATIONS	7	0.2028
0.140	0.140	0.140		STD Deviation	0.09903	0.1395
0.231	0.231	0.231	0.231	AVERAGE	0.13609	0.2306
0.261				UCL	0.23512	ABOVE
0.027				LCL	0.03705	BELOW
0.073	0.073					0.073
0.019						BELOW
				OBSERVATIONS	4	BELOW
				STD Deviation	0.07023	BELOW
				AVERAGE	0.16148	BELOW
				UCL	0.23170	BELOW
				LCL	0.09125	BELOW
						BELOW
						BELOW
				OBSERVATIONS	3	BELOW
				STD Deviation	0.04669	BELOW
				AVERAGE	0.19097	BELOW
				UCL	0.23766	BELOW
				LCL	0.14428	BELOW
						BELOW
						BELOW
				OBSERVATIONS	2	BELOW
				STD Deviation	0.02780	BELOW
				AVERAGE	0.21670	BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW

Schedule: 071520

Version: 19
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/07/16 08:36 - Thursday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(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	K2005525-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2005668-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
9	Sample	IB	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	K2005668-001DUP	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2005668-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	IB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2005527-001	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
16	Sample	BEADS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
17	Sample	MB	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
18	Sample	K2005287-001	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
19	Sample	K2005287-002	CAS_salt_010711 (CAS_salt_010711)	4	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)	2	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2005287-003	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
22	Sample	K2005287-004	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
23	Sample	K2005287-005	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
24	Sample	K2005287-006	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
25	Sample	K2005287-008	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
26	Sample	K2005287-009	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
27	Sample	K2005287-010	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
28	Sample	K2005287-011	CAS_salt_010711 (CAS_salt_010711)	4	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	K2005287-012	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
30	Sample	K2005287-013	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
31	Sample	K2005287-014	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
32	Sample	K2005287-015	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
33	Sample	K2005287-016	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
34	Sample	K2005287-017	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
35	Sample	K2005287-018	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
36	Sample	K2005287-019	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
37	Sample	K2005287-020	CAS_salt_010711 (CAS_salt_010711)	4	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 - 071520
Wednesday, July 15, 2020 08:35 AM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/07/16 15:00 - Thursday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	071520	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) (v3) Fusion1 (Fusion1) (v4) Fusion1 (Fusion1) (v7) Fusion1 (Fusion1) (v8) Fusion1 (Fusion1) (v9) Fusion1 (Fusion1) (v10) Fusion1 (Fusion1) (v12) Fusion1 (Fusion1) (v14) Fusion1 (Fusion1) (v15) Fusion1 (Fusion1) (v16) Fusion1 (Fusion1) (v17) Fusion1 (Fusion1) (v19)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/07/15 08:35

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	12.60	27.55	14.95	49.58	05:26
2	TC Clean	8.76	22.99	14.23	49.94	04:07
3	TC Clean	1.32	15.46	14.14	50.08	03:53
4	TC Clean	0.38	14.58	14.20	50.04	03:53

Sample Type: Blank (Creating v1411) — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/07/15 08:57

Rep	Base	Adjusted				

#	Analysis Type	(Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.54	14.50	13.96	49.60	05:15
2	TC Clean	3.28	17.33	14.04	49.93	04:05
3	TC Clean	0.88	14.97	14.09	50.03	03:49
4	TC Clean	0.41	14.64	14.23	50.02	03:50
5	Reagent Blank	11.05	25.22	14.17	49.94	05:04
6	Acid Blank	1.93	15.68	13.75	49.64	05:32

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.5088 ppm	0.0000 ppm	0.0000%	2020/07/15 09:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5088	5.0885	13.21	27.19	13.98	50.16	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.3932 ppm (PASS)	0.0000 ppm	0%	2020/07/15 09:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.3932	253.9321	188.02	201.92	13.90	50.22	10:31

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

Sample Type: Check Standard --> CCB From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.2028 ppm (PASS)	0.0000 ppm	0%	2020/07/15 10:00

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2028	2.0285	11.31	25.31	13.99	50.19	10:29

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

Sample Type: Sample — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	1	TOC	MB1	0.1395 ppm	0.0000 ppm	0.0000%	2020/07/15 10:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1395	1.3949	10.62	24.65	14.03	50.29	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	8.8879 ppm (PASS)	0.0000 ppm	0%	2020/07/15 10:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	8.8879	88.8788	72.24	86.13	13.89	50.22	10:31

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

Sample Type: Sample — From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	2	TOC	ICS	0.5289 ppm	0.0000 ppm	0.0000%	2020/07/15 10:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5289	5.2895	13.35	27.33	13.98	50.22	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

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

◆	3	TOC	K2005525-001	0.1961 ppm	0.0419 ppm	21.3900%	2020/07/15 10:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1664	1.6643	10.81	24.92	14.12	50.29	10:29
2	TOC	0.2257	2.2573	11.22	25.21	13.99	50.23	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2005668-001	2.5249 ppm	0.0039 ppm	0.1600%	2020/07/15 11:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.5277	25.2772	27.37	41.27	13.90	50.28	10:29
2	TOC	2.5222	25.2216	27.33	41.40	14.07	50.26	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 8

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	27.3948 ppm (PASS)	0.0000 ppm	0%	2020/07/15 11:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	27.3948	273.9483	202.06	215.88	13.81	50.20	10:31

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

Sample Type: Check Standard --> LCS From Schedule Version 8

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	28.1122 ppm (PASS)	0.0000 ppm	0%	2020/07/15 12:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	28.1122	281.1216	207.09	220.89	13.79	50.24	10:35

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

Sample Type: Sample — From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	IB	0.2306 ppm	0.0645 ppm	27.9800%	2020/07/15 12:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2762	2.7620	11.58	25.55	13.97	50.13	10:29
2	TOC	0.1850	1.8496	10.94	24.99	14.05	50.15	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm — From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.1469 ppm (PASS)	0.0000 ppm	0%	2020/07/15 13:19

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.1469	251.4687	186.29	200.06	13.77	50.17	10:33

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

Sample Type: Check Standard --> CCB — From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.2614 ppm (PASS)	0.0000 ppm	0%	2020/07/15 13:34

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2614	2.6144	11.73	25.59	13.86	50.15	10:31

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

Sample Type: Sample — From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2005668-001DUP	2.4346 ppm	0.0332 ppm	1.3600%	2020/07/15 13:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4111	24.1111	26.55	40.51	13.96	50.16	10:28
2	TOC	2.4580	24.5801	26.88	40.79	13.91	50.22	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2005668-001MS	30.9113 ppm	0.2365 ppm	0.7700%	2020/07/15 14:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	31.0785	310.7853	227.65	241.54	13.89	50.19	10:26
2	TOC	30.7441	307.4409	225.30	239.27	13.97	50.19	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 14

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	IB	0.3163 ppm	0.0333 ppm	10.5200%	2020/07/15 14:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3398	3.3978	12.02	25.81	13.79	50.20	10:26
2	TOC	0.2927	2.9273	11.69	25.52	13.83	50.18	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2005527-001	2.7723 ppm	0.0393 ppm	1.4200%	2020/07/15 15:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7200	27.2002	28.72	42.30	13.58	50.24	10:27
2	TOC	2.7953	27.9529	29.25	42.94	13.69	50.23	10:30
3	TOC	2.8085	28.0855	29.34	43.06	13.72	50.28	10:26
4	TOC	2.7654	27.6535	29.04	43.02	13.98	50.23	10:26

Dilution	Blank Contribution	Method	Calibration

1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS — From Schedule Version 15

	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)	27.2730 ppm (PASS)	0.2041 ppm	0.75%	2020/07/15 16:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	27.3271	273.2711	201.59	215.34	13.75	50.21	10:29
C	TOC	25.0 ppm	2	27.0362	270.3616	199.55	213.38	13.84	50.12	10:28
C	TOC	25.0 ppm	3	27.5214	275.2141	202.95	216.85	13.90	50.31	10:27
C	TOC	25.0 ppm	4	27.2075	272.0751	200.75	214.67	13.92	50.20	10:25

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

Sample Type: Check Standard --> LCS — From Schedule Version 15

	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)	26.8766 ppm (PASS)	0.2130 ppm	0.79%	2020/07/15 17:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	27.0188	270.1876	199.42	213.61	14.18	50.26	10:27
C	TOC	25.0 ppm	2	27.0135	270.1349	199.39	213.16	13.77	50.20	10:27
C	TOC	25.0 ppm	3	26.5664	265.6644	196.25	210.16	13.91	50.28	10:27
C	TOC	25.0 ppm	4	26.9079	269.0786	198.65	212.57	13.92	50.22	10:31

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

Sample Type: Sample — From Schedule Version 16

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	BEADS	0.3559 ppm	0.0000 ppm	0.0000%	2020/07/15 18:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3559	3.5589	12.14	26.10	13.97	50.25	10:33

Dilution	Blank Contribution	Method	Calibration

1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample — From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	MB	0.0924 ppm	0.0265 ppm	28.6300%	2020/07/15 18:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0635	0.6351	10.08	24.02	13.94	50.26	10:28
2	TOC	0.1230	1.2295	10.50	24.34	13.83	50.24	10:29
3	TOC	0.1046	1.0456	10.37	24.35	13.98	50.25	10:29
4	TOC	0.0788	0.7876	10.19	24.08	13.89	50.32	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2005287-001	8.8640 ppm	0.0406 ppm	0.4600%	2020/07/15 19:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.8051	88.0513	71.41	85.38	13.98	50.32	10:26
2	TOC	8.8912	88.9124	72.01	85.76	13.75	50.34	10:25
3	TOC	8.8689	88.6886	71.85	85.83	13.98	50.35	10:28
4	TOC	8.8910	88.9095	72.01	86.04	14.03	50.37	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2005287-002	2.7697 ppm	0.0674 ppm	2.4400%	2020/07/15 20:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8646	28.6457	29.73	43.51	13.78	50.40	10:25
2	TOC	2.7568	27.5680	28.98	43.06	14.08	50.43	10:25
3	TOC	2.7524	27.5238	28.95	42.98	14.03	50.45	10:28
4	TOC	2.7051	27.0505	28.62	42.67	14.06	50.42	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

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

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time

◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.6435 ppm (PASS)	0.0000 ppm	0%	2020/07/15 21:02	

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.6435	246.4351	182.76	196.95	14.19	50.46	10:32

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

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

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0730 ppm (PASS)	0.0000 ppm	0%	2020/07/15 21:17

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0730	0.7298	10.40	24.50	14.10	50.41	10:32

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

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0133 ppm	0.0188 ppm	141.4200%	2020/07/15 21:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0266	0.2658	9.83	23.89	14.07	50.46	10:30
2	TOC	0.0000	0.0000	9.49	23.79	14.30	50.37	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

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

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	26.1282 ppm (PASS)	0.0000 ppm	0%	2020/07/15 22:00

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

C	TOC	25.0 ppm	1	26.1282	261.2822	193.18	207.24	14.06	50.42	10:31

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

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2005287-003	1.6336 ppm	0.0504 ppm	3.0800%	2020/07/15 22:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7053	17.0531	21.60	35.62	14.02	50.45	10:27
2	TOC	1.5917	15.9170	20.80	34.92	14.11	50.33	10:29
3	TOC	1.6070	16.0695	20.91	35.11	14.20	50.40	10:25
4	TOC	1.6305	16.3047	21.08	35.18	14.10	50.45	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	22	TOC	K2005287-004	4.9451 ppm	0.0902 ppm	1.8200%	2020/07/15 23:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.0260	50.2600	44.90	59.00	14.10	50.35	10:27
2	TOC	4.9252	49.2521	44.19	58.27	14.08	50.40	10:29
3	TOC	5.0029	50.0290	44.73	58.95	14.21	50.46	10:26
4	TOC	4.8263	48.2628	43.50	57.76	14.27	50.38	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	23	TOC	K2005287-005	2.2110 ppm	0.0228 ppm	1.0300%	2020/07/16 00:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1903	21.9029	25.00	39.17	14.17	50.43	10:27
2	TOC	2.1986	21.9856	25.06	39.28	14.22	50.37	10:29
3	TOC	2.2422	22.4218	25.37	39.41	14.04	50.28	10:26
4	TOC	2.2128	22.1281	25.16	39.40	14.24	50.36	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	K2005287-006	1.7860 ppm	0.0198 ppm	1.1100%	2020/07/16 01:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7727	17.7274	22.07	36.32	14.25	50.26	10:27
2	TOC	1.8090	18.0895	22.33	36.24	13.91	50.35	10:30
3	TOC	1.7958	17.9584	22.24	36.34	14.11	50.27	10:24
4	TOC	1.7666	17.6661	22.03	36.21	14.18	50.21	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2005287-008	3.5683 ppm	0.0316 ppm	0.8800%	2020/07/16 01:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.5935	35.9346	34.85	48.72	13.88	50.33	10:25
2	TOC	3.5913	35.9132	34.83	48.86	14.02	50.26	10:25
3	TOC	3.5260	35.2603	34.37	48.47	14.10	50.19	10:25
4	TOC	3.5622	35.6224	34.63	48.46	13.83	50.31	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	26	TOC	K2005287-009	4.5556 ppm	0.0641 ppm	1.4100%	2020/07/16 02:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.4756	44.7559	41.04	55.03	14.00	50.22	10:28
2	TOC	4.5842	45.8422	41.80	55.82	14.02	50.17	10:28
3	TOC	4.5377	45.3774	41.47	55.62	14.15	50.27	10:28
4	TOC	4.6248	46.2484	42.08	56.01	13.93	50.19	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	27	TOC	K2005287-010	5.8402 ppm	0.0839 ppm	1.4400%	2020/07/16 03:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.8753	58.7534	50.85	64.66	13.81	50.14	10:25
2	TOC	5.7421	57.4205	49.92	64.12	14.20	50.26	10:25
3	TOC	5.9361	59.3607	51.28	65.34	14.06	50.18	10:26
4	TOC	5.8073	58.0734	50.38	64.49	14.11	50.16	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

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

		Type			(ppmC)		
◆	28	TOC	K2005287-011	0.4860 ppm	0.0164 ppm	3.3800%	2020/07/16 04:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4935	4.9345	13.10	27.24	14.14	50.24	10:27
2	TOC	0.5057	5.0571	13.19	27.28	14.10	50.17	10:26
3	TOC	0.4731	4.7307	12.96	27.09	14.13	50.16	10:26
4	TOC	0.4719	4.7193	12.95	27.13	14.18	50.23	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

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

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.4368 ppm (PASS)	0.0000 ppm	0%	2020/07/16 05:39

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.4368	244.3680	181.31	195.26	13.95	50.16	10:31

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

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

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/07/16 05:54

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.55	23.71	14.16	50.08	10:32

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

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2005287-012	7.5005 ppm	0.0824 ppm	1.1000%	2020/07/16 06:08

Rep	Base			Adjusted		Baseline	Pressure	Run

#	Analysis Type	ppm	µg	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1	TOC	7.4758	74.7581	62.08	76.16	14.08	50.21	10:26
2	TOC	7.5804	75.8044	62.82	76.88	14.07	50.16	10:25
3	TOC	7.3960	73.9598	61.52	75.53	14.00	50.10	10:26
4	TOC	7.5498	75.4979	62.60	76.69	14.09	50.04	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2005287-013	0.9248 ppm	0.0486 ppm	5.2600%	2020/07/16 07:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9761	9.7614	16.49	30.66	14.17	50.00	10:27
2	TOC	0.9552	9.5519	16.34	30.27	13.93	49.96	10:24
3	TOC	0.8744	8.7436	15.77	29.73	13.96	49.97	10:26
4	TOC	0.8935	8.9346	15.91	29.72	13.81	49.93	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2005287-014	1.2184 ppm	0.0227 ppm	1.8600%	2020/07/16 07:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2181	12.1806	18.18	31.94	13.76	49.90	10:26
2	TOC	1.2467	12.4671	18.39	32.29	13.91	50.06	10:29
3	TOC	1.2178	12.1778	18.18	32.02	13.84	49.96	10:27
4	TOC	1.1911	11.9112	17.99	31.83	13.84	49.95	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 19

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K2005287-015	2.5263 ppm	0.0141 ppm	0.5600%	2020/07/16 08:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.5187	25.1873	27.31	40.88	13.57	49.95	10:29
2	TOC	2.5290	25.2900	27.38	41.13	13.75	49.93	10:24
3	TOC	2.5448	25.4482	27.49	41.36	13.87	50.08	10:29
4	TOC	2.5125	25.1246	27.26	41.09	13.83	49.97	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC)	CAS_salt_010711	CAS_salt_010711

(v1411) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	33	TOC	K2005287-016	0.8678 ppm	0.0488 ppm	5.6200%	2020/07/16 09:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8962	8.9617	15.93	29.71	13.79	49.97	10:27
2	TOC	0.9193	9.1927	16.09	29.84	13.76	50.08	10:26
3	TOC	0.8434	8.4343	15.56	29.38	13.83	49.97	10:28
4	TOC	0.8122	8.1221	15.34	29.19	13.85	49.91	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2005287-017	2.4099 ppm	0.0087 ppm	0.3600%	2020/07/16 10:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4077	24.0768	26.53	40.02	13.49	49.98	10:28
2	TOC	2.4094	24.0939	26.54	40.16	13.62	49.90	10:29
3	TOC	2.4217	24.2165	26.63	40.08	13.45	50.00	10:27
4	TOC	2.4007	24.0070	26.48	39.95	13.47	49.89	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	35	TOC	K2005287-018	0.7330 ppm	0.0284 ppm	3.8700%	2020/07/16 11:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7652	7.6516	15.01	28.54	13.53	49.95	10:26
2	TOC	0.7349	7.3494	14.80	28.53	13.74	49.92	10:28
3	TOC	0.7358	7.3580	14.80	28.44	13.64	49.90	10:25
4	TOC	0.6960	6.9602	14.52	28.27	13.75	49.98	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	36	TOC	K2005287-019	7.3765 ppm	0.1335 ppm	1.8100%	2020/07/16 12:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.2048	72.0481	60.18	73.77	13.59	49.95	10:28
2	TOC	7.3411	73.4109	61.14	74.97	13.83	50.06	10:25
3	TOC	7.4551	74.5514	61.94	75.54	13.60	49.95	10:26
4	TOC	7.5050	75.0503	62.29	75.92	13.63	49.99	10:26

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2005287-020	5.8835 ppm	0.0680 ppm	1.1600%	2020/07/16 13:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.9053	59.0528	51.06	64.93	13.86	50.07	10:28
2	TOC	5.7823	57.8225	50.20	64.15	13.95	49.96	10:25
3	TOC	5.9205	59.2053	51.17	64.91	13.73	50.00	10:25
4	TOC	5.9258	59.2580	51.21	64.88	13.67	50.10	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 19

	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)	24.5789 ppm (PASS)	0.0000 ppm	0%	2020/07/16 14:28

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.5789	245.7893	182.31	196.13	13.82	50.02	10:32

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

Sample Type: Check Standard --> CCB From Schedule Version 19

	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%	2020/07/16 14:43

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.48	22.97	13.50	50.09	10:31

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

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1410	1.5490	0.4140	0.0000	0.0000	0.0000	2020/07/14 12:55	Fusion1 (Fusion1)
v1411	3.6833	1.9320	0.0000	0.0000	0.0000	2020/07/15 09:31	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38

Ver Creation: 2020/06/13 16:40

Comment:

Operator: Fusion1 (Fusion1)

Basic Analysis Type: TOC

Calibration curve formula: TOC: y = 7.015x + 9.892

r^2 value: TOC: r^2 = 0.99974

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4

Ver Creation: 2019/02/21 17:57

Comment:

Operator: Fusion1 (Fusion1)

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	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

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	2020/07/16 14:58

ALS Environmental

StarLIMS Run: 687240/687239/687238

Analysis: DOC/TOC

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

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-25J 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

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-08-24I

21 % H3PO4: 19-GEN-08-25A

Equipment ID: K-TOC-03

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

FILTER ID: 16967789

Analyzed By:	MK	Date Analyzed:	7/15/20
Reviewed By:		Date Reviewed:	7/18/20

HS20070018 NIT_AMN_W_ISE WC

ALS WO# HS20070018

NIT-AMN-W-ISE /350.3

ALS Laboratory Group

Logbook **31220**

Ion Selective Electrode Logbook

Analyst: MD				Date: 7/8/20 9:15AM	
Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F					
Probe Calibration Date: 7/8/20		Cal Std ID: 3140606(10 to 60-701-04)		Probe ID: X01-11806	
Std Level		mV	Conc., mg/L:	Sodium Thiosulfate ID:	
STD 1 (mg/L):	0.2	130.2	0.199	Std Level	mV / Conc., mg/L:
STD 2 (mg/L):	1	95.8	1.008	STD 4 (mg/L): 30	37.1 / 10.019
STD 3 (mg/L):	5	55.2	5.053	STD 5 (mg/L): 50	-3.5 / 50.22
LSC / MS Spike ID:	3100601709			ICAL Date & Slope:	
ICV Cal STD ID:	3140606 10			97.5-1.1 / -57.5mV	
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		10.016			
CCB					0.009			
MBlK					0.010			
LCS					10.159			
HS2006135-01					0.128		-ve	
1351-01MS					11.061		+ve	Rechecked
1351-01MSD					10.791			
1351-03					0.716			
1483-01					0169		+ve	Rechecked
1489-01					0.101		-ve	
HS2007001 8-01					8.931		-ve	
243-01					0.318		+ve	Rechecked
CCV		50ml	50ml		9.633			
CCB					0.011			
HS2007025 2-01					0.123			
CCV					9.319			
CCB					0.013			

Batch ID:	Reported By	Reviewed By:
3641689 / 3641692	MD	KV

HS20070018 P_ORTHO_WC

ALS WO# HS20070018

Standard Table Report

07/15/2020 03:44:12 PM

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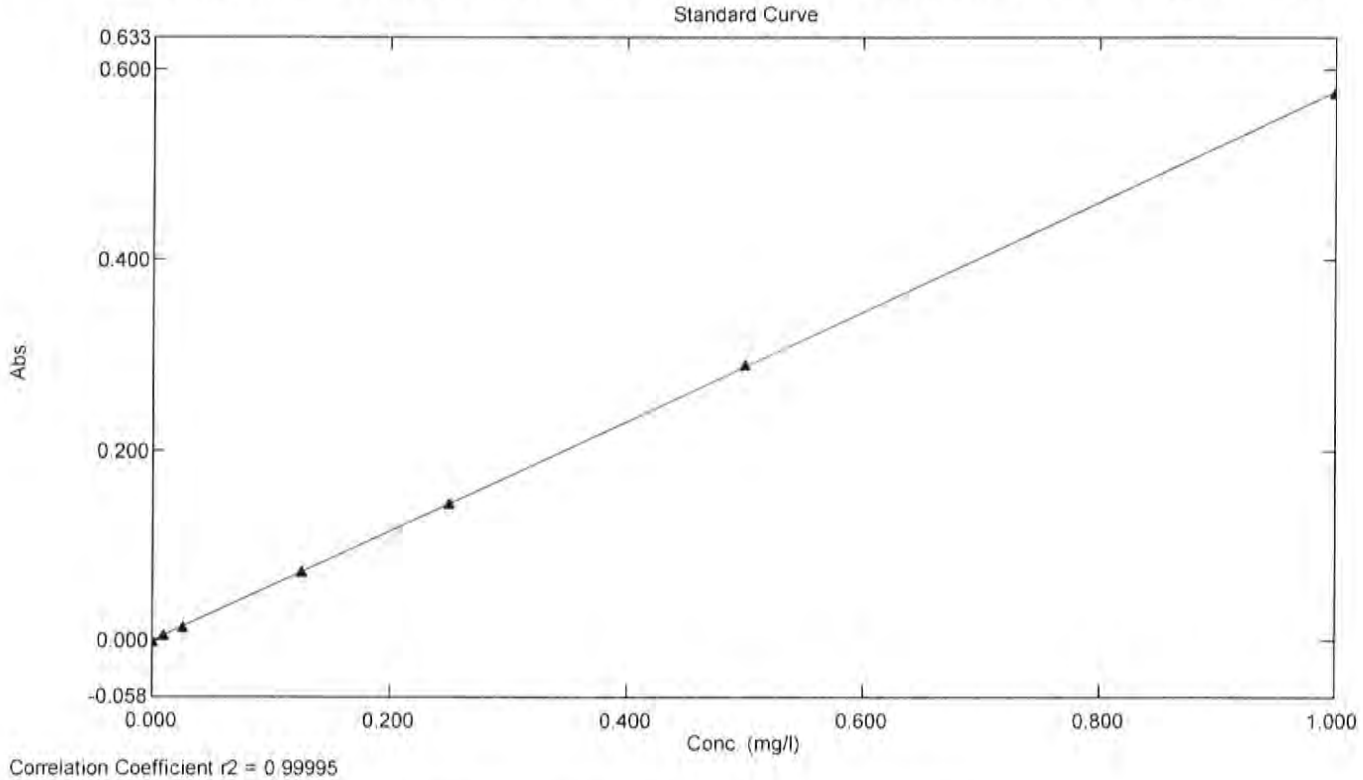


Correlation Coefficient r2 = 0.99995

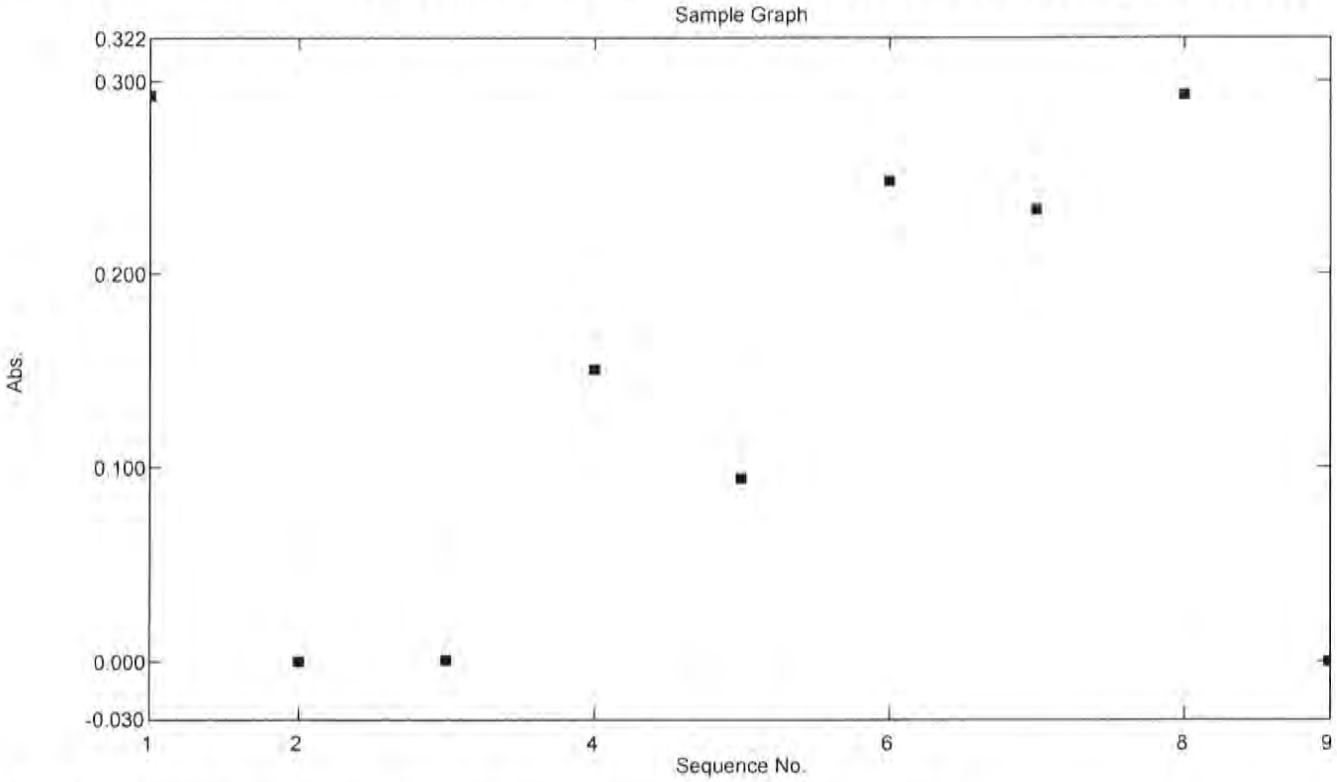
Standard Table

	Sample ID	Type	Ex	Conc	WL880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	-0.001	1.000	
2	STD2	Standard		0.010	0.005	1.000	
3	STD3	Standard		0.025	0.013	1.000	
4	STD4	Standard		0.125	0.073	1.000	
5	STD5	Standard		0.250	0.145	1.000	
6	STD6	Standard		0.500	0.290	1.000	
7	STD7	Standard		1.000	0.575	1.000	
8							

Sample Table Report

07/15/2020 03:44:19 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\070120_P_ORTHO.pho..p



Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.508	0.293	313107109 WC-14
2	CCB	Unknown		-0.001	-0.000	
3	MBLK	Unknown		0.001	0.001	
4	LCS	Unknown		0.261	0.151	313107108 WC-14
5	HS20070018.01	Unknown		0.164	0.095	02:36PM,PF10X
6	HS20070018.01M	Unknown		0.430	0.248	02:37PM,PF:10X
7	HS20070018.01M	Unknown		0.404	0.233	02:38PM,PF:10X
8	CCV2	Unknown		0.508	0.293	
9	CCB2	Unknown		-0.000	0.000	C-314060402 UV-11
10						

Subject: **Final Monthly Managers' Meeting (MMM), Longhorn Army Ammunition Plant (LHAAP)**
Location of Meeting: **Teleconference**
Date of Meeting: **19 August 2020– 1000 Central Daylight Time (CDT)**

Attendees:

Army BRAC:	Rose M. Zeiler (RMZ)
USEPA:	Bill Rhotenberry (BR) and Kent Becher-USGS Liaison
TCEQ:	April Palmie (AP)
USACE:	
Bhate:	Kim Nemmers (KN)
APTIM:	Bill Foss (BF)
USFWS:	Paul Bruckwicki (PB)

Defense Environmental Restoration Program (DERP) Performance-Based Remediation (PBR) Update

Groundwater Treatment Plant (GWTP) – KN stated that there are no major issues at the GWTP. KN stated that improvements discussed in July's MMM are commencing. KN stated that the inline strainer after the Fluidized Bed Reactor (FBR) is being installed. KN explained that the strainer is replacing the media capture tank which was rusting and leaking. KN stated that pumps for the clarifier sludge and caustic are being replaced in August. KN indicated that the tanks were being painted where rusting had been observed. KN stated that LHAAP-19 had been bush-hogged earlier in the month. KN said that removal of signage would be completed also. KN stated that the GWTP effluent is being discharged to the INF, which is currently very low allowing for sufficient capacity to discharge. Lastly, KN explained that pumps for LHAAP-18/24 need repair or cleaning, which is a continual maintenance item.

Field Work: BF stated that crews were onsite for the past two weeks completing excavation at LHAAP-03, backfilling at LHAAP-03 and LHAAP-17 and abandoning wells. BF stated that backfilling at LHAAP-17 was completed on 14 August 2020. BFs stated that berms were built at either end of Area H to prevent surface water flow into that excavation.

BF stated that the final excavation wall at LHAAP-03 was over-excavated by five feet and about 300 gallons pumped out of the excavation for treatment by the GWTP. BF stated that LHAAP-03 was backfilled following confirmation sampling receipt that the sidewall was remediated. BF stated that the excavated soil was relocated closer to the road in a stockpile for offsite disposal access. BF stated that the waste profile approval is pending.

BF stated that the well plugging and abandonment was completed at 45 of 46 wells on the approved list. One one-inch temporary, polyvinyl chloride (PVC) well that had no protective casing or bollards could not be located. This one temporary well could not be found even with a global positioning system (GPS). AP asked which well it was. BF stated that it was well 1010TW003.

BF stated that the 3rd quarter LHAAP-04 groundwater sampling was completed in early August 2020. BF stated that the two LHAAP-16 wells along the east side of Harrison Bayou were sampled 17 August 2020.

BF stated that the results for the new monitoring well at LHAAP-46 were clean and the plume is bounded again.

Update to Land Use Control (LUC) Management Plan: BF stated that AP comments were received on the LUC boundaries for LHAAP-04 and LHAAP-16 but are awaiting comments from the

EPA. BF stated that the boundaries will be surveyed once comments are resolved. With no in-person Restoration Advisory Board (RAB) meeting in October 2020, these boundaries cannot be recorded within Harrison County which is required.

KN asked everyone to refer to the Document and Issues Tracking Table dated 19 August 2020.

- **Task 1** (Project Management) – KN stated that minutes from the June 2020 MMM were finalized. KN stated that input from the EPA had not been received for the July 2020 meeting. BR stated that he thought he had responded but would follow up after the call. KN stated that she would then send the minutes out to the RAB Members. KN stated that the next RAB was planned for 21 October 2020 and the meeting will be held remotely.
- **Task 3** (LHAAP-03) – Finished excavation work and will commence the Remedial Action Completion Report (RACR) once the soil disposal is done.
- **Task 4** (LHAAP-04) – BF said that the Year 1 Quarter 3 sampling was completed in August 2020 and should be validated for presentation at the September 2020 MMM. BF stated that there is one more quarter to be completed before commencing the Year 1 Remedial Action – Operation (RA-O) Report. BF stated that AP had provided comments on the RACR. EPA comments had not been received but are not due until the end of the month. BF said that once the LUC boundary comments are received, then the boundary will be surveyed. The final survey will then be placed into the final RACR,
- **Task 5** (LHAAP-12) – BF stated that the final 2019 RA-O report was submitted on 24 July 2020 following resolution of comments.
- **Task 6** (LHAAP-16) – BF restated that the Year 1, Quarter 2 groundwater sampling was completed this week with the two monitoring wells across the bayou. The remaining wells were sampled in July but final wells sampled this week. BF stated that the validated data will be presented at the next MMM. BF stated that the RACR is in Army review and will hopefully be submitted to the Regulators before August ends.
- **Task 7** (LHAAP-17) – BF reiterated that backfill was completed in the clean excavations with a berm placed to reduce potential for storm water entering the open excavations. BF stated that documentation/report for this final work is being discussed with USACE.
- **Task 9** (LHAAP-37) – Semi-Annual Sampling Year 4, Semiannual Sampling Event 1 is schedule for November 2020. BF stated that the Year 3 RA-O Report is in internal review; expect to submit to Regulators in September.
- **Task 10** (LHAAP-46) – BF stated that Draft Final Year 5 Annual RA-O Report was submitted on 27 July 2020 to Regulators with comments addressed. BF stated that the Year 6 Annual RA-O Report is in progress and likely to be submitted late September or early October 2020.
- **Task 11** (LHAAP-50) – BF stated the Year 1 Quarter 1 sampling was completed in July 2020, and data is presented in the data package. BF stated that there were no big changes but some of the concentrations did go up slightly, but the following quarters will allow for evaluation of the remedy. BF stated that the RACR is in progress for submittal in August 2020. BF stated that that the Year 6 RA-O Report will cover the period up to and before the Year 1 Quarter 1 sampling and is in progress.
- **Task 12** (LHAAP-58) – KN stated that the final sampling event as part of the Year 6 RA-O Report was completed in June and is provided with the August MMM validated data. KN Year 6 RA-O Report is being prepared and will likely be submitted to Regulators in early October 2020. KN stated that the results indicate that the reductive dechlorination process seems to be continuing to work. KN pointed out monitoring well 35AWW20 where the TCE has decreased but the vinyl chloride has significantly increased, which is expected for

the dechlorinating process. KN then stated that there is sufficient bacteria present to remediate the vinyl chloride.

- **Task 13** (LHAAP-67) – BF stated that the Year 6 RA-O Report was submitted 30 July 2020 to the Regulators.
- **Task 14** (LHAAP-001-R and –003-R) – KN did not discuss Task 14.
- **Task 16** (GWTP) **–** KN stated that the 2nd Quarter 2020 report was going through internal quality control and would be submitted to the Army within the next week and then to the Regulators thereafter.
- **Task 17** (LHAAP-18/24) – KN stated that the 2nd Quarter 2020 GWTP Report will include the June 2020 groundwater data, which is also included in the August 2020 MMM validated data package. KN stated that RMZ had pointed out one of the monitoring wells that had a high perchlorate result, which was due to a significant dilution by the laboratory. The dilution is noted in the table provided. RMZ stated that the monitoring well was 18WW17, which is located to the east, and that the result was 763,000 micrograms per liter (µg/L). The results for 18WW17 are typically closer to 76,300 µg/L, as RMZ noted. KN stated that the report will discuss the dilution also.
- **Task 18** (Surface Water) – KN stated that validated data is included in August 2020 data package.
- **Task 19** (LUC Management Plan) – Discussed earlier in the call and presented above.
- **Administrative Record (AR) –** BF stated that Bates stamping is in progress for the October to December 2019 documents to allow uploading to the AR on the website. BF stated that the July to September 2019 AR is now online. BF stated that the list of documents for January to March 2020 has been submitted for Army review and approval. BF stated that the April to June 2020 AR will then be prepared.

Update on other DERP Sites:

- **LHAAP 18/24 and LHAAP-29** – AW was having phone issues so RMZ led the discussion on the other DERP sites. RMZ stated that there was nothing new to discuss for LHAAP-18/24 and LHAAP-29.
- **LHAAP-47** – RMZ stated that the field work was completed, new monitoring wells were developed and that the validated data was received and provided to the Regulators. RMZ stated that the Post-Screening Investigation (PSI) Report is in progress. RMZ asked about the Interim Draft issued in December to which the Regulators provided comments. RMZ asked if the Regulators want Response to Comments (RTCs). RMZ stated that the PSI Report will be comprehensive with all of the data and include those revisions from the RTCs. RMZ said most of the comments were formatting but wanted to know if AP wanted the comments on record. AP asked what the new document was being called. RMZ said that the report is being prepared as the draft PSI Addendum 2 Report and will support the FS. AP asked if the RTCs could be provided but would not require the RTCs with the official draft. RMZ agreed to provide the RTCs and said that BR also had provided comments and those would be provided also. RMZ found the RTCs as the discussion progressed and clarified that the comments were not all formatting.

COVID-19 - RMZ said that Army travel will be on a case-by-case basis based upon the state requirements. AP said TCEQ requirements for teleworking and limiting persons in the office have not changed. KB said that the USGS is allowing waivers if the COVID levels are low in the particular area where personnel are traveling. AP said that getting a vehicle is difficult due to the decontamination process. BR said that there is a plan for the USEPA to go back to the office the week after Labor Day with a split schedule, and travel will likely start again also. RMZ said that

the RAB is likely to be a teleconference in October. RMZ said that this will hold up finalizing the RACRs for LHAAP-04 and LHAAP-16 but everything else will be final in the reports for when the recordation in Harrison County can be completed. RMZ suggested that the Regulators provide input on the LUCs and that the RACR get finalized with this portion being replaced at a later date. AP clarified that the Updated LUC Management Plan will also be delayed to which RMZ confirmed.

USFWS Update– PB said that USFWS is on an altered schedule. PB said that he will make sure the burn for LHAAP-19 gets on the schedule. BR asked if there were any damage from storms on Sunday. PB said that the storms tracked northwest and did not cause any damage.

Schedule Next Managers' Meeting

The next MMM will be held on Wednesday, 16 September 2020 at 10:00 am CDT via conference call.

Meeting concluded at approximately 10:46 am CDT.

ACRONYM LIST

µg/L	Micrograms per liter
AP	April Palmie
APTIM	APTIM Federal Services, LLC
AR	Administrative Record
AW	Aaron Williams
BF	Bill Foss
Bhate	Bhate Environmental Associates, Inc.
BR	Bill Rhotenberry
BRAC	Base Realignment and Closure
CDT	Central Daylight Time
DERP	Defense Environmental Restoration Program
GWTP	Groundwater Treatment Plant
KN	Kim Nemmers
LHAAP	Longhorn Army Ammunition Plant
LUC	Land Use Control
MMM	Monthly Managers' Meeting
PB	Paul Bruckwicki
PBR	Performance-Based Remediation
PSI	Post-Screening Investigation
PVC	Polyvinyl Chloride
RAB	Restoration Advisory Board
RACR	Remedial Action Completion Report
RA-O	Remedial Action – Operation
RAWP	Remedial Action Work Plan
RMZ	Rose M. Zeiler
TCEQ	Texas Commission on Environmental Quality
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

LHAAP Data Validated
August 2020 MMM

GWTP Effluent	*Weekly Perchlorate Sampling – June 2020* Perchlorate (6850)
GWTP Effluent	*Weekly, Bi-Weekly, and Monthly Sampling – June 2020* Ammonia (350.3) Ortho-Phosphate (365.3) Total Organic Carbon (SM5310C) VOC (8260C) Metals (6020A) Hexavalent Chromium (7196A) 1,4-Dioxane (8270D-SIM) Anions (9056)
GWTP Influent	*Monthly Sampling – June 2020* Metals (6020A) Perchlorate (6850) Hexavalent Chromium (7196A)
LHAAP-18/24	*Annual Sampling – June 2020* Perchlorate (6850) Metals (6020A) VOCs (8260C) 1,4- Dioxane (8270D SIM)
LHAAP Surface Water	*Quarterly Perchlorate Sampling - July 2020* Perchlorate (6850)
LHAAP-58	*Semi-Annual Sampling Event– June 2020* Anions (9056) VOC (8260C) Total Organic Carbon (SM5310C) Metabolic Acids (HPLC-METACIDS) Dechlorinating Bacteria (CENSUS) Dissolved Gases (RSK-175) Arsenic (SW6020A)
LHAAP-46	*New Monitoring Well Sample-July 2020* Volatile Organic Compounds (8260C) Field Measurements (Dissolved Oxygen, Oxidation Reduction Potential, and pH)
LHAAP-50	*Remedial Performance Monitoring (Year 1, Quarter 1)-July 2020* Volatile Organic Compounds (8260C) Perchlorate (EPA 6850) Alkalinity (SM2320B) Chloride, Nitrate, Nitrite, and Sulfate (SW9056A) Total Organic Carbon (SM5310B) Field Measurements (Dissolved Oxygen, Oxidation Reduction Potential, Ferrous Iron, and pH)

GWTP Weekly/Effluent Perchlorate Sampling - June 2020

Location ID: Sample Date:	Units	Daily Maximum Conc	INF pond (PCL)	LH18/24-SP650_060220-BIX 6/2/20	LH18/24-SP650_060220_BIX 6/2/20	LH18/24-SP650_060920-BIX 6/9/20	LH18/24-SP650_061620-BIX 6/16/20	LH18/24-SP650_062320-BIX 6/23/20	LH18/24-SP650_063020-BIX 6/30/20
Location Description				**Collected from a spigot on the discharge of effluent TK-650.**					
				Weekly	Monthly EFF	Weekly	Weekly	Weekly	Weekly
Perchlorate (6850)									
Perchlorate	µg/L	589	17	< 0.0500 U	< 0.0500 U	**0.0890 J**	< 0.0500 U	< 0.0500 U	< 0.0500 U

µg/L - micrograms per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

BIX - before ion exchange

J -estimated value between the detection limit and limit of quantitation and/or due to quality contol issues

GWTP Weekly Sampling - June 2020

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650_060220 6/2/20	LH18/24-SP650_060920 6/9/20	LH18/24-SP650_061620 6/16/20	LH18/24-SP650_062320 6/23/20	LH18/24-SP650_063020 6/30/20
Location Description			**GWTP–Collected from a spigot on the discharge of effluent TK-650. Sampled Weekly.**				
Ammonia as N (350.3)							
Ammonia as N	mg/L	NV	**7.8**	**16.0**	**9**	**14**	**8.9**
Ortho-Phosphate (365.3)							
Ortho-Phosphate	mg/L	NV	**1.47**	**2.64**	**1.96**	**1.83**	**1.64**
Organic Carbon (SM5310C)							
Total Organic Carbon (TOC)	mg/L	NV	**2.17 J**	**2.01**	**1.82**	**2.1**	**2.56**

mg/L - milligrams per liter

NV - No Value

GWTP Bi-Weekly Sampling - June 2020

Location ID: Sample Date:	Units	(Bayou) Daily Maximum Conc	(INF pond) MCL	LH18/24-SP650_060920 6/9/20	LH18/24-SP650_062320 6/23/20
Location Description				**GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled Biweekly.**	
Volatile Organic Compounds (8260C)					
1,1,1-Trichloroethane	µg/L	7,230	200	< 0.50 U	< 0.50 U
1,1,2-Trichloroethane	µg/L	216.9	5	< 1.0 U	< 1.0 U
1,1-Dichloroethane	µg/L	14,032	NV	< 0.50 U	< 0.50 U
1,1-Dichloroethene	µg/L	253	7	< 0.50 U	< 0.50 U
1,2-Dichloroethane	µg/L	181	5	**0.81 J**	**0.84 J**
1,2-Dichloropropane	µg/L	5	5	< 1.0 U	< 1.0 U
Acetone	µg/L	2,395	NV	< 1.0 U	< 1.0 U
Benzene	µg/L	181	5	< 0.50 U	< 0.50 U
Carbon tetrachloride	µg/L	181	5	< 1.0 U	< 1.0 U
Chlorobenzene	µg/L	47,180	100	< 1.0 U	< 1.0 U
Chloroform	µg/L	3,615	NV	< 0.50 U	< 0.50 U
cis-1,2-Dichloroethene	µg/L	NV	70	**17**	**20**
Ethylbenzene	µg/L	57,025	700	< 1.0 U	< 1.0 U
m,p-Xylene	µg/L	83.6	NV	< 1.0 U	< 1.0 U
Methylene chloride	µg/L	1,699	5	< 1.0 U	< 1.0 U
o-Xylene	µg/L	83.6	NV	< 1.0 U	< 1.0 U
Styrene	µg/L	5,987	100	< 1.0 U	< 1.0 U
Tetrachloroethene	µg/L	180.7	5	< 1.0 U	< 1.0 U
Toluene	µg/L	4,189	10	< 0.50 U	< 0.50 U
Trichloroethene	µg/L	181	5	**3.4**	**3.8**
Vinyl chloride	µg/L	72	2	< 0.50 U	< 0.50 U
Anions (9056)					
Chloride	mg/L	NV	NV	**316**	**354**
Sulfate	mg/L	NV	NV	**31.5**	**31.5**

µg/L - micrograms per liter

mg/L - milligrams per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

NV - No Value

NA -not analyzed

J -estimated value between the detection limit and limit of quantitation and/or due to quality contol issues

GWTP Monthly Effluent Sampling - June 2020

Location ID: Sample Date:	Units	Daily Maximum Conc	(INF pond) MCL	LH18/24-SP650_060220 6/2/20
Location Description				**GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled monthly**
Volatile Organic Compounds (8260C)				
1,1,1-Trichloroethane	µg/L	7,230	200	< 0.50 U
1,1,2-Trichloroethane	µg/L	216.9	5	< 1.0 U
1,1-Dichloroethane	µg/L	14,032	NV	< 0.50 U
1,1-Dichloroethene	µg/L	253	7	< 0.50 U
1,2-Dichloroethane	µg/L	181	5	**0.84 J**
1,2-Dichloropropane	µg/L	5	5	< 1.0 U
Acetone	µg/L	2,395	NV	< 1.0 U
Benzene	µg/L	181	5	< 0.50 U
Carbon tetrachloride	µg/L	181	5	< 1.0 U
Chlorobenzene	µg/L	47,180	100	< 1.0 U
Chloroform	µg/L	3,615	NV	< 0.50 U
cis-1,2-dichloroethene	µg/L	NV	70	**17**
Ethylbenzene	µg/L	57,025	700	< 1.0 U
m,p-Xylene	µg/L	83.6	NV	< 1.0 U
Methylene chloride	µg/L	1,699	5	< 1.0 U
o-Xylene	µg/L	83.6	NV	< 1.0 U
Styrene	µg/L	5,987	100	< 1.0 U
Tetrachloroethene	µg/L	180.7	5	< 1.0 U
Toluene	µg/L	4,189	10	< 0.50 U
Trichloroethene	µg/L	181	5	**3.2**
Vinyl chloride	µg/L	72	2	< 0.50 U
Metals (6020A)				
Barium	mg/L	2	2	**0.144**
Lead	mg/L	0.0046	0.015	< 0.00100 U
Selenium	mg/L	0.012	0.05	< 0.00250 U
Silver	mg/L	0.003	0.1	< 0.000500 U
Hexavalent Chromium (7196A)				
Hexavalent Chromium	mg/L	0.1244	NV	< 0.0100 U
Semi-Volatile Organic Compounds (8270D SIM)				
1,4-Dioxane	µg/L	134.2	NV	**0.48**

µg/L - micrograms per liter

mg/L - milligrams per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

NV - no value

J -estimated value between the detection limit and limit of quantitation and/or due to quality contol issues

GWTP Monthly Influent Sampling - June 2020

Location ID: Sample Date:	Units	LH18/24-SP140_060220 6/2/20
Location Description		**GWTP – Collected from a spigot on the influent to TK-140. Sampled Monthly.**
Metals (6020A)		
Selenium	mg/L	< 0.00250 U
Silver	mg/L	< 0.000500 U
Hexavalent Chromium (7196A)		
Hexavalent Chromium	mg/L	< 0.0100 U
Perchlorate (6850)		
Perchlorate	µg/L	**8,290**

mg/L - milligrams per liter

µg/L - micrograms per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

LHAAP-18/24 Sampling Event - June 2020

Location ID: / Sample Date:	Units	MCL/MSC/PCL	AWD1_060920 6/20/199/20	AWD3_0621120 6/11/20	AWD3_0621120-a 6/11/20	AWD4_061520 6/15/20	18CPTMW01DW_061020 6/10/20	18CPTMW01SW_061020 6/10/20	18CPTMW03SW_060920 6/09/20	18CPTMW04_061020 6/10/20	18CPTMW04_061020-a 6/10/20	18CPTMW04SW_061020 6/10/20	18CPTMW06_061020 6/10/20	18CPTMW07_060920 6/09/20	18CPTMW08SW-060920 6/09/20	18CPTMW08DW-060920 6/09/20	18CPTMW10SW_061520 6/15/20	18CPTMW10DW_061520 6/15/20	18CPTMW10DW_061520-a 6/15/20	18CPTMW12SW_060220 6/02/20	18CPTMW12DW_060220 6/02/20	18CPTMW14_060420 6/04/20	18CPTMW15_061620 6/16/20	18CPTMW16_061720 6/17/20
Aquifer Zone:			Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Shallow
Lab Package			HS20060495-02	HS20060659-02	HS20060659-03	HS20060849-07	HS20060545-03	HS20060545-04	HS20060495-01	HS20060547-02	HS20060547-03	HS20060547-01	HS20060545-06	HS20060495-04	HS20060498-03	HS20060498-02	HS20060849-04	HS20060849-02	HS20060849-03	HS20060135-01	HS20060135-02	HS20060251-01	HS20060898-02	HS20060898-03
Well ID			AWD-1	AWD-3	AWD-3	AWD-4	18CPTMW01DW	18CPTMW01SW	18CPTMW03SW	18CPTMW04	18CPTMW04	18CPTMW04SW	18CPTMW06	18CPTMW07	18CPTMW08SW	18CPTMW08DW	18CPTMW10SW	18CPTMW10DW	18CPTMW10DW	18CPTMW12SW	18CPTMW12DW	18CPTMW14	18CPTMW15	18CPTMW16
Perchlorate (6850)																								
Perchlorate	µg/L	17*	NA	**4.07**	**4.04**	< 0.0500 U	< 0.0500 U	< 0.0500 U	**0.38**	**261**	**235**	**0.889**	< 0.0500 U	**0.41**	**18,400**	**2,260**	< 0.0500 U	**12.8**	**12.6**	**0.464**	**0.795**	**1,660**	**274**	< 0.0500 U
Volatile Organic Compounds (8260C)																								
1,1,1,2-Tetrachloroethane	µg/l	110	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
1,1,1-Trichloroethane	µg/l	200	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
1,1,2,2-Tetrachloroethane	µg/l	14	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
1,1,2-Trichloroethane	µg/l	5	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
1,1-Dichloroethane	µg/l	10,000	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.9**	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
1,1-Dichloroethene	µg/l	7	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**0.63 J**	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
1,1-Dichloropropene	µg/l	2.9	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
1,2,3-Trichlorobenzene	µg/l	310	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 U	NA
1,2,3-Trichloropropane	µg/l	0.041	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
1,2,4-Trichlorobenzene	µg/l	70	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
1,2,4-Trimethylbenzene	µg/l	5,100	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
1,2-Dibromo-3-chloropropane	µg/l	0.2	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 UJ	< 0.5 U	NA
1,2-Dibromoethane	µg/l	0.05	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
1,2-Dichlorobenzene	µg/l	600	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
1,2-Dichloroethane	µg/l	5	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	**0.91 J**	**0.71 J**	**0.72 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**3.0**	< 0.5 U	NA
1,2-Dichloropropane	µg/l	5	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
1,3,5-Trimethylbenzene	µg/l	5,100	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
1,3-Dichlorobenzene	µg/l	3,100	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**0.51 J**	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
1,3-Dichloropropane	µg/l	29	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
1,4-Dichlorobenzene	µg/l	75	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
2,2-Dichloropropane	µg/l	42	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
2-Butanone	µg/l	61,000	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
2-Chlorotoluene	µg/l	2,000	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
2-Hexanone	µg/l	6,100	NA	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 10 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	NA	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	NA
4-Chlorotoluene	µg/l	2,000	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
4-Isopropyltoluene	µg/l	10,000	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
4-Methyl-2-pentanone	µg/l	8,200	NA	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 10 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	NA	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	NA
Acetone	µg/l	92,000	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Benzene	µg/l	5	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**4.8 J**	**1.7**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.2**	< 0.5 U	NA
Bromobenzene	µg/l	2,000	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Bromochloromethane	µg/l	4,100	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
Bromodichloromethane	µg/l	4.6	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
Bromoform	µg/l	36	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Bromomethane	µg/l	140	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Carbon disulfide	µg/l	10,000	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Carbon tetrachloride	µg/l	5	NA	**12**	**11**	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Chlorobenzene	µg/l	100	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Chloroethane	µg/l	41,000	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Chloroform	µg/l	1,000	NA	**1.1**	**1.0**	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**8.9**	< 0.5 U	NA
Chloromethane	µg/l	220	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
cis-1,2-Dichloroethene	µg/l	70	NA	**2.4**	**2.3**	< 0.5 U	< 0.5 U	**100**	**4.2**	**11**	**11**	< 0.5 U	< 0.5 U	< 0.5 U	**9.2**	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**51**	< 0.5 U	NA
cis-1,3-Dichloropropene	µg/l	5.3	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
Dibromochloromethane	µg/l	34	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Dibromomethane	µg/l	380	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
Dichlorodifluoromethane	µg/l	20,000	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Ethylbenzene	µg/l	700	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Hexachlorobutadiene	µg/l	20	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Isopropylbenzene	µg/l	10,000	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
m,p-Xylene	µg/l	10,000**	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Methylene chloride	µg/l	5	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Naphthalene	µg/l	2,000	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 U	NA
n-Butylbenzene	µg/l	4,100	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA

LHAAP-18/24 Sampling Event - June 2020

Location ID: / Sample Date:	Units	MCL/MSC/PCL	AWD1_060920 6/20/199/20	AWD3_0621120 6/11/20	AWD3_0621120-a 6/11/20	AWD4_061520 6/15/20	18CPTMW01DW_061020 6/10/20	18CPTMW01SW_061020 6/10/20	18CPTMW03SW_060920 6/09/20	18CPTMW04_061020 6/10/20	18CPTMW04_061020-a 6/10/20	18CPTMW04SW_061020 6/10/20	18CPTMW06_061020 6/10/20	18CPTMW07_060920 6/09/20	18CPTMW08SW-060920 6/09/20	18CPTMW08DW-060920 6/09/20	18CPTMW10SW_061520 6/15/20	18CPTMW10DW_061520 6/15/20	18CPTMW10DW_061520-a 6/15/20	18CPTMW12SW_060220 6/02/20	18CPTMW12DW_060220 6/02/20	18CPTMW14_060420 6/04/20	18CPTMW15_061620 6/16/20	18CPTMW16_061720 6/17/20
		Aquifer Zone:	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Shallow
n-Propylbenzene	µg/l	4,100	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
o-Xylene	µg/l	10,000**	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
sec-Butylbenzene	µg/l	4,100	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Styrene	µg/l	100	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
tert-Butylbenzene	µg/l	4,100	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Tetrachloroethene	µg/l	5	NA	**1.7**	**1.4**	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**1.4**	< 1.0 U	NA
Toluene	µg/l	1,000	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
trans-1,2-Dichloroethene	µg/l	100	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	**1.1**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
trans-1,3-Dichloropropene	µg/l	29	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
Trichloroethene	µg/l	5	NA	**340**	**330**	< 0.5 U	< 0.5 U	**72**	**28**	**300**	**310**	< 0.5 U	**1.1**	< 0.5 U	**33**	NA	< 0.5 U	**1.2**	**1.5**	**0.86 J**	< 0.5 U	**840**	**2.4**	NA
Trichlorofluoromethane	µg/l	31,000	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA
Vinyl chloride	µg/l	2	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.7**	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA
Metals (6020A)																								
Aluminum	mg/L	100	NA	**0.317**	**0.310**	**14.7**	**0.0260**	**0.0251**	**0.0599**	NA	NA	**0.0272**	**0.0334**	NA	NA	NA	NA	**0.0143**	**0.0160**	**0.0233**	**0.0103**	**0.393**	NA	NA
Antimony	mg/L	0.006	NA	< 0.000500 U	< 0.000500 U	**0.000468 J**	**0.000584 J**	< 0.000500 U	**0.000592 J**	NA	NA	< 0.000500 U	< 0.000500 U	NA	NA	NA	NA	< 0.000500 U	< 0.000500 U	**0.000459 J**	**0.000421 J**	< 0.000500 U	NA	NA
Arsenic	mg/L	0.01	NA	< 0.000500 U	< 0.000500 U	**0.00281 J**	**0.00106 J**	**0.00682**	**0.00367 J**	NA	NA	**0.00132 J**	**0.00577**	NA	NA	NA	NA	**0.00183 J**	**0.00183 J**	**0.000653 J**	**0.00349 J**	**0.00168 J**	NA	NA
Barium	mg/L	2	NA	**0.0256**	**0.0242**	**0.249**	**0.315**	**0.884**	**0.602**	NA	NA	**0.396**	**1.79**	NA	NA	NA	NA	**0.0742**	**0.0750**	**0.675**	**0.103**	**6.90**	NA	NA
Beryllium	mg/L	0.004	NA	< 0.000500 U	< 0.000500 U	**0.000962 J**	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	< 0.000500 U	NA	NA	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA
Cadmium	mg/L	0.005	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	**0.000302 J**	NA	NA	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	**0.000307 J**	NA	NA
Calcium	mg/L	NV	NA	**0.507**	**0.512**	**10.1**	**30.6**	**27.1**	**159**	NA	NA	**19.1**	**157**	NA	NA	NA	NA	**6.85**	**6.91**	**51.3**	**7.48**	**459**	NA	NA
Chromium	mg/L	0.1	NA	**0.184**	**0.200**	**0.509**	**0.0163**	**0.00436 J**	**0.0179**	NA	NA	**0.0197**	**0.0182**	NA	NA	NA	NA	**0.00294 J**	**0.00257 J**	**0.0266**	**0.00413 J**	**0.00994**	NA	NA
Cobalt	mg/L	6.1	NA	**0.00152 J**	**0.00147 J**	**0.0135**	**0.000613 J**	**0.000245 J**	**0.00291 J**	NA	NA	**0.00182 J**	**0.0140**	NA	NA	NA	NA	< 0.000500 U	< 0.000500 U	**0.00106 J**	< 0.000500 U	**0.0146**	NA	NA
Copper	mg/L	1.3	NA	**0.00271 J**	**0.00214 J**	**0.0214**	**0.00149 J**	< 0.00250 U	**0.00103 J**	NA	NA	< 0.00250 U	**0.00101 J**	NA	NA	NA	NA	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	**0.00129 J**	NA	NA
Iron	mg/L	NV	NA	**0.834**	**0.887**	**18.9**	**0.812**	**40.4**	**5.81**	NA	NA	**2.03**	**19.4**	NA	NA	NA	NA	**0.786**	**0.777**	**0.265**	**0.900**	**2.16**	NA	NA
Lead	mg/L	0.015	NA	< 0.00100 U	< 0.00100 U	**0.00778**	< 0.00100 U	< 0.00100 U	**0.00103 J**	NA	NA	< 0.00100 U	< 0.00100 U	NA	NA	NA	NA	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	NA	NA
Magnesium	mg/L	NV	NA	**0.358**	**0.352**	**4.68**	**11**	**17.8**	**16.3**	NA	NA	**15.4**	**31**	NA	NA	NA	NA	**4.01**	**3.86**	**33.8**	**4.19**	**160**	NA	NA
Manganese	mg/L	1.1*	NA	**0.0165**	**0.0165**	**0.0965**	**0.0814**	**0.485**	**0.649**	NA	NA	**0.117**	**0.915**	NA	NA	NA	NA	**0.0151**	**0.0145**	**0.122**	**0.0266**	**0.785**	NA	NA
Nickel	mg/L	0.49*	NA	**0.0205**	**0.0209**	**0.550**	**0.00348 J**	**0.000856 J**	**0.00465 J**	NA	NA	**0.00110 J**	**0.00850**	NA	NA	NA	NA	**0.000692 J**	**0.000657 J**	**0.00147 J**	< 0.00100 U	**0.00820**	NA	NA
Potassium	mg/L	NV	NA	**0.455**	**0.455**	**1.08**	**70.8**	**12.5**	**87**	NA	NA	**137**	**57.3**	NA	NA	NA	NA	**78.7**	**77.8**	**98.4**	**77**	**15.3**	NA	NA
Selenium	mg/L	0.05	NA	**0.00402 J**	**0.00416 J**	**0.00290 J**	< 0.00250 U	< 0.00250 U	< 0.00250 U	NA	NA	< 0.00250 U	< 0.00250 U	NA	NA	NA	NA	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	NA	NA
Silver	mg/L	0.51	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	< 0.000500 U	NA	NA	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA
Sodium	mg/L	NV	NA	**21.9**	**21.5**	**53.2**	**371**	**92**	**192**	NA	NA	**137**	**152**	NA	NA	NA	NA	**168**	**167**	**219**	**151**	**583**	NA	NA
Thallium	mg/L	0.002	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	< 0.000500 U	NA	NA	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA
Vanadium	mg/L	0.72	NA	**0.00325 J**	**0.00369 J**	**0.0295**	< 0.00100 U	< 0.00100 U	< 0.00100 U	NA	NA	< 0.00100 U	< 0.00100 U	NA	NA	NA	NA	< 0.00100 U	< 0.00100 U	**0.000625 J**	< 0.00100 U	**0.00167 J**	NA	NA
Zinc	mg/L	31	NA	**0.00252 J**	**0.00202 J**	**0.0533**	**0.00358 J**	**0.00503**	**0.0150**	NA	NA	**0.00536**	**0.0152**	NA	NA	NA	NA	< 0.00250 U	< 0.00250 U	**0.00374 J**	**0.00502**	**0.00769**	NA	NA
Mercury	mg/L	0.002	NA	< 0.000100 U	< 0.000100 U	**0.0000490 J**	< 0.000100 U	< 0.000100 U	< 0.000100 U	NA	NA	< 0.000100 U	< 0.000100 U	NA	NA	NA	NA	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	NA	NA
1,4-Dioxane (8270D SIM)																								
1,4-Dioxane	µg/l	9.1	**0.88**	NA	NA	**0.11**	**0.22**	**0.23**	**0.15**	**1.9**	**2.9**	**0.25**	**0.19**	**0.2**	**0.68**	**0.28**	**0.092**	NA	NA	**0.99**	**2.7**	**2.30**	**0.09**	**0.080**

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed

µg/L - micrograms per liter

a - duplicate sample

mg/L - milligrams per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

NV - No Value

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

*** Perchlorate required a 20,000x dilution

LHAAP-18/24 Sampling Event - June 2020

Location ID: / Sample Date:	Units	MCL/MSC/PCL	18CPTMW18 _060920 6/09/20	18CPTMW19 _060320 6/03/20	18CPTMW19 _060320-a 6/03/20	18CPTMW19SW _060320 6/03/20	18CPTMW22R_0 60120 6/01/20	18CPTMW22SW_0 60120 6/01/20	18CPTMW22DW_ 060120 6/01/20	18CPTMW23 _060220 6/02/20	18CPTMW23SW _060220 6/02/20	18CPTMW24 _060420 6/04/20	18CPTMW26SW_ 060120 6/01/20	17WW08 _061520 6/15/20	18WW02 _061520 6/15/20	18WW03 _061120 6/11/20	18WW03 _061120_a 6/11/20	18WW06 _061520 6/15/20	18WW08 _060320 6/03/20	18WW09 _060320 6/03/20	18WW10 _060420 6/04/20	18WW14 _060220 6/02/20	18WW16 _061520 6/15/20	18WW17 _061520 6/15/20
		Aquifer Zone:	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow
Lab Package			HS20060498-07	HS20060202-03	HS20060202-04	HS20060202-05	HS20060133-04	HS20060133-01	HS20060133-03	HS20060135-06	HS20060135-05	HS20060251-02	HS20060133-05	HS20060849-01	HS20060849-06	HS20060659-08	HS20060659-09	HS20060849-05	HS20060202-06	HS20060202-07	HS20060251-04	HS20060135-08	HS20060849-11	HS20060849-09
Well ID			18CPTMW18	18CPTMW19	18CPTMW19	18CPTMW19SW	18CPTMW22R	18CPTMW22SW	18CPTMW22DW	18CPTMW23	18CPTMW23SW	18CPTMW24	18CPTMW26SW	17WW08	18WW02	18WW03	18WW03	18WW06	18WW08	18WW09	18WW10	18WW14	18WW16	18WW17
Perchlorate (6850)																								
Perchlorate	µg/L	17*	**0.206**	**16.6**	**17.8**	**45.5**	< 0.0500 U	**383**	< 0.0500 U	**732**	< 0.0500 U	**5.86**	< 0.0500 U	**0.0450 J**	< 0.0500 U	**0.11 J**	**38.2 J**	< 0.0500 U	**0.425**	< 0.0500 U	**0.0904 J**	**2.79**	**5.3**	**763000*****
Volatile Organic Compounds (8260C)																								
1,1,1,2-Tetrachloroethane	µg/l	110	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
1,1,1-Trichloroethane	µg/l	200	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
1,1,2,2-Tetrachloroethane	µg/l	14	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
1,1,2-Trichloroethane	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
1,1-Dichloroethane	µg/l	10,000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
1,1-Dichloroethene	µg/l	7	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**4.7 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
1,1-Dichloropropene	µg/l	2.9	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
1,2,3-Trichlorobenzene	µg/l	310	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	NA	< 1.0 UJ	NA	< 1.0 U	< 1.0 U
1,2,3-Trichloropropane	µg/l	0.041	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
1,2,4-Trichlorobenzene	µg/l	70	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
1,2,4-Trimethylbenzene	µg/l	5,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	µg/l	0.2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 UJ	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 UJ	NA	< 0.5 U	< 0.5 U
1,2-Dibromoethane	µg/l	0.05	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
1,2-Dichlorobenzene	µg/l	600	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
1,2-Dichloroethane	µg/l	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**120**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
1,2-Dichloropropane	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
1,3,5-Trimethylbenzene	µg/l	5,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
1,3-Dichlorobenzene	µg/l	3,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
1,3-Dichloropropane	µg/l	29	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	µg/l	75	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
2,2-Dichloropropane	µg/l	42	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
2-Butanone	µg/l	61,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
2-Chlorotoluene	µg/l	2,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
2-Hexanone	µg/l	6,100	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 10 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	NA	< 2.0 U	NA	< 2.0 U	< 2.0 U
4-Chlorotoluene	µg/l	2,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
4-Isopropyltoluene	µg/l	10,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
4-Methyl-2-pentanone	µg/l	8,200	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 10 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	NA	< 2.0 U	NA	< 2.0 U	< 2.0 U
Acetone	µg/l	92,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Benzene	µg/l	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
Bromobenzene	µg/l	2,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Bromochloromethane	µg/l	4,100	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
Bromodichloromethane	µg/l	4.6	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
Bromoform	µg/l	36	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Bromomethane	µg/l	140	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Carbon disulfide	µg/l	10,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Carbon tetrachloride	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Chlorobenzene	µg/l	100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Chloroethane	µg/l	41,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Chloroform	µg/l	1,000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**3.1 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
Chloromethane	µg/l	220	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene	µg/l	70	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**120**	< 0.5 U	**25**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	**0.98 J**
cis-1,3-Dichloropropene	µg/l	5.3	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
Dibromochloromethane	µg/l	34	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Dibromomethane	µg/l	380	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
Dichlorodifluoromethane	µg/l	20,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Ethylbenzene	µg/l	700	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Hexachlorobutadiene	µg/l	20	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Isopropylbenzene	µg/l	10,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
m,p-Xylene	µg/l	10,000**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Methylene chloride	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Naphthalene	µg/l	2,000	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	NA	< 1.0 UJ	NA	< 1.0 U	< 1.0 U
n-Butylbenzene	µg/l	4,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U

LHAAP-18/24 Sampling Event - June 2020

Location ID: / Sample Date:	Units	MCL/MSC/PCL	18CPTMW18_060920 6/09/20	18CPTMW19_060320 6/03/20	18CPTMW19_060320-a 6/03/20	18CPTMW19SW_060320 6/03/20	18CPTMW22R_060120 6/01/20	18CPTMW22SW_060120 6/01/20	18CPTMW22DW_060120 6/01/20	18CPTMW23_060220 6/02/20	18CPTMW23SW_060220 6/02/20	18CPTMW24_060420 6/04/20	18CPTMW26SW_060120 6/01/20	17WW08_061520 6/15/20	18WW02_061520 6/15/20	18WW03_061120 6/11/20	18WW03_061120_a 6/11/20	18WW06_061520 6/15/20	18WW08_060320 6/03/20	18WW09_060320 6/03/20	18WW10_060420 6/04/20	18WW14_060220 6/02/20	18WW16_061520 6/15/20	18WW17_061520 6/15/20
		Aquifer Zone:	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow
n-Propylbenzene	µg/l	4,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
o-Xylene	µg/l	10,000**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
sec-Butylbenzene	µg/l	4,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Styrene	µg/l	100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
tert-Butylbenzene	µg/l	4,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Tetrachloroethene	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Toluene	µg/l	1,000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
trans-1,2-Dichloroethene	µg/l	100	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.0 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
trans-1,3-Dichloropropene	µg/l	29	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
Trichloroethene	µg/l	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2,300**	< 0.5 U	**8.4**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	**40**
Trichlorofluoromethane	µg/l	31,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA	< 1.0 U	< 1.0 U
Vinyl chloride	µg/l	2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.1 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	NA	< 0.5 U	NA	< 0.5 U	< 0.5 U
Metals (6020A)																								
Aluminum	mg/L	100	**0.0185**	NA	NA	**0.0447**	**0.566**	**0.187**	**0.0421**	NA	NA	NA	NA	**0.0420 J**	**0.294**	**0.0111**	**0.0104**	NA	NA	**0.300**	NA	**0.0545**	**0.235**	0.0125
Antimony	mg/L	0.006	**0.000671 J**	NA	NA	**0.000556 J**	**0.00185 J**	**0.000475 J**	< 0.000500 U	NA	NA	NA	NA	**0.000444 J**	**0.000570 J**	< 0.000500 U	< 0.000500 U	NA	NA	**0.000536 J**	NA	< 0.000500 U	**0.00113 J**	< 0.00100 U
Arsenic	mg/L	0.01	**0.000889 J**	NA	NA	**0.00368 J**	**0.000807 J**	**0.00286 J**	**0.00396 J**	NA	NA	NA	NA	**0.00667**	**0.000581 J**	**0.000741 J**	**0.000575 J**	NA	NA	**0.00835**	NA	**0.000746 J**	**0.00162 J**	**0.000623 J**
Barium	mg/L	2	**0.669**	NA	NA	**0.156**	**0.0211**	**0.0520**	**0.0880**	NA	NA	NA	NA	**0.540**	**0.0397**	**0.207**	**0.196**	NA	NA	**0.274**	NA	**0.984**	**0.119**	**3.32**
Beryllium	mg/L	0.004	< 0.000500 U	NA	NA	< 0.000500 U	**0.000307 J**	< 0.000500 U	< 0.000500 U	NA	NA	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	NA	< 0.000500 U	**0.00140 J**	< 0.000500 U
Cadmium	mg/L	0.005	< 0.000500 U	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA	**0.000745 J**	NA	**0.000524 J**	**0.00448**	**0.000346 J**
Calcium	mg/L	NV	**261**	NA	NA	**9.32**	**0.293 J**	**9.29**	**11**	NA	NA	NA	NA	**129**	**6.64**	**8.97**	**8.58**	NA	NA	**18.5**	NA	**43.3**	**198**	**334**
Chromium	mg/L	0.1	**0.00191 J**	NA	NA	**0.00118 J**	**0.000618 J**	**0.0382**	< 0.000500 U	NA	NA	NA	NA	**0.671**	**0.0124**	**0.00226 J**	**0.00181 J**	NA	NA	**0.0851**	NA	**0.598**	**2.58**	**0.212**
Cobalt	mg/L	6.1	**0.0131**	NA	NA	**0.00709**	**0.00292 J**	< 0.000500 U	**0.000132 J**	NA	NA	NA	NA	**0.0144**	**0.000331 J**	< 0.000500 U	< 0.000500 U	NA	NA	**0.00146 J**	NA	**0.00311 J**	**0.209**	**0.00248 J**
Copper	mg/L	1.3	< 0.00250 U	NA	NA	**0.00126 J**	< 0.00250 U	**0.00134 J**	< 0.00250 U	NA	NA	NA	NA	**0.0125**	**0.00472 J**	< 0.00250 U	< 0.00250 U	NA	NA	**0.00443 J**	NA	**0.00780**	**0.224**	**0.00928**
Iron	mg/L	NV	**0.729**	NA	NA	**11.3**	**0.600**	**0.0540 J**	**1.31**	NA	NA	NA	NA	**27.9**	**1.59**	**9.51**	**8.05**	NA	NA	**48.9**	NA	**3.26**	**17.3**	**1.07**
Lead	mg/L	0.015	< 0.00100 U	NA	NA	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	NA	NA	NA	NA	< 0.00100 U	**0.000635 J**	< 0.00100 U	< 0.00100 U	NA	NA	**0.000935 J**	NA	< 0.00100 U	< 0.00100 U	< 0.00100 U
Magnesium	mg/L	NV	**187**	NA	NA	**5.11**	**0.327**	**0.292**	**5.39**	NA	NA	NA	NA	**83.9**	**1.23**	**6.17**	**5.93**	NA	NA	**10.4**	NA	**33.2**	**147**	**215**
Manganese	mg/L	1.1*	**2.03**	NA	NA	**0.393**	**0.0266**	**0.00768**	**0.0401**	NA	NA	NA	NA	**1.47**	**0.0857**	**0.0824**	**0.0773**	NA	NA	**0.881**	NA	**0.244**	**2.05**	**0.0531**
Nickel	mg/L	0.49*	**0.0131**	NA	NA	**0.00192 J**	**0.00190 J**	**0.00101 J**	**0.00120 J**	NA	NA	NA	NA	**0.412**	**0.0104**	**0.000911 J**	**0.000878 J**	NA	NA	**0.0339**	NA	**0.253**	**8.37**	**0.189**
Potassium	mg/L	NV	**3.07**	NA	NA	**1.29**	**0.139 J**	**238**	**2.39**	NA	NA	NA	NA	**2.13**	**1.80**	**1.93**	**1.86**	NA	NA	**2.58**	NA	**3.79**	**3.88**	**1.49**
Selenium	mg/L	0.05	< 0.00250 U	NA	NA	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	NA	NA	NA	NA	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	NA	NA	< 0.00250 U	NA	**0.00145 J**	**0.0157**	**0.00395 J**
Silver	mg/L	0.51	< 0.000500 U	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA	NA	NA	< 0.000500 U	< 0.00500 U	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U
Sodium	mg/L	NV	**696**	NA	NA	**25.9**	**16.7**	**217**	**211**	NA	NA	NA	NA	**518**	**24**	**110**	**106**	NA	NA	**46.7**	NA	**117**	**585**	**1,140**
Thallium	mg/L	0.002	< 0.000500 U	NA	NA	< 0.000500 U	**0.000623 J**	**0.000256 J**	< 0.000500 U	NA	NA	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U
Vanadium	mg/L	0.72	< 0.00100 U	NA	NA	**0.00123 J**	**0.00195 J**	**0.00764**	**0.00133 J**	NA	NA	NA	NA	**0.00188 J**	**0.00196J**	**0.000664 J**	**0.00119 J**	NA	NA	**0.00423 J**	NA	**0.00347 J**	**0.0111**	**0.00264 J**
Zinc	mg/L	31	**0.0149**	NA	NA	**0.0160**	**0.00452 J**	**0.00449 J**	**0.00342 J**	NA	NA	NA	NA	**0.0119**	**0.00405 J**	< 0.00250 U	< 0.00250 U	NA	NA	**0.0127**	NA	**0.0121**	**0.103**	**0.0278**
Mercury	mg/L	0.002	< 0.000100 U	NA	NA	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	NA	NA	NA	NA	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	NA	NA	< 0.000100 U	NA	**0.0000340 J**	< 0.000100 U	< 0.000100 U
1,4-Dioxane (8270D SIM)																								
1,4-Dioxane	µg/l	9.1	**0.220**	**1.20**	**1.40**	**0.91**	**0.44**	**2.5**	**0.92**	**16**	**1.3**	**0.96**	**1.20**	NA	**0.11**	**0.19**	**0.17**	**0.087**	**2.0**	**0.60**	**0.68**	NA	NA	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed

µg/L - micrograms per liter

a - duplicate sample

mg/L - milligrams per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

NV - No Value

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential

*** Perchlorate required a 20,000x dilution

LHAAP-18/24 Sampling Event - June 2020

Location ID: / Sample Date:	Units	MCL/MSC/PCL	18WW18_061520 6/15/20	18WW19_060320 6/3/20	18WW20_060320 6/3/20	18WW22_060120 6/021/20	18WW24_060220 6/02/20	18WW25_060420 6/04/20	C01_060920 6/09/20	C02_060420 6/04/20	C03_060920 6/09/20	C04_060120 6/01/20	C04_060120-a 6/01/20	C06_060320 6/03/20	C08_061120 6/11/20	C09_060320 6/03/20	MW1_061120 6/11/20	MW2_061020 6/10/20	MW2_061020_a 6/10/20	MW3_061020 6/10/20	MW5_060920 6/09/20	MW6_061120 6/11/20	MW7_060220 6/02/20	MW8_060120 6/01/20
Aquifer Zone:			Wilcox			Shallow	Shallow	Shallow	Wilcox	Shallow	Wilcox	Wilcox	Wilcox		Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Lab Package			HS20060849-08	HS20060202-01	HS20060202-02	HS20060133-07	HS20060135-07	HS20060251-03	HS20060498-05	HS20060251-06	HS20060498-08	HS20060133-08	HS20060133-09	HS20060202-09	HS20060659-10	HS20060202-08	HS20060659-04	HS20060545-01	HS20060545-02	HS20060547-04	HS20060498-01	HS20060659-05	HS20060135-03	HS20060133-06
Well ID			18WW18	18WW19	18WW20	18WW22	18WW24	18WW25	C-01	C-02	C-03	C-04	C-04	C-06	C-08	C-09	MW-1	MW-2	MW-2	MW-3	MW-5	MW-6	MW-7	MW-8
Perchlorate (6850)																								
Perchlorate	µg/L	17*	< 0.0500 U	< 0.0500 U	< 0.0500 U	**0.364**	< 0.0500 U	< 0.0500 U	**0.887**	< 0.0500 U	**54**	**141**	< 0.0500 U	< 0.0500 U	< 0.0500 U	< 0.0500 U	**2,350**	< 0.0500 U	< 0.0500 U	**13,100**	**23,900**	**3,890**	**20,300**	**2,150**
Volatile Organic Compounds (8260C)																								
1,1,1,2-Tetrachloroethane	µg/l	110	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
1,1,1-Trichloroethane	µg/l	200	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	< 10 U	< 10 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U
1,1,2,2-Tetrachloroethane	µg/l	14	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
1,1,2-Trichloroethane	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	**14 J**	**16 J**	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
1,1-Dichloroethane	µg/l	10,000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	**43**	**49**	**3.7**	**2.6**	**1.9**	< 2.5 U	< 0.5 U
1,1-Dichloroethene	µg/l	7	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	**930**	**1000**	< 0.5 U	< 0.5 U	< 0.5 U	**7.6**	< 0.5 U
1,1-Dichloropropene	µg/l	2.9	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
1,2,3-Trichlorobenzene	µg/l	310	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 5.0 UJ	< 1.0 U
1,2,3-Trichloropropane	µg/l	0.041	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
1,2,4-Trichlorobenzene	µg/l	70	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 5.0 U	< 1.0 U
1,2,4-Trimethylbenzene	µg/l	5,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	µg/l	0.2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 UJ	< 0.5 U	< 0.5 UJ	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	< 10 U	< 10 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U
1,2-Dibromoethane	µg/l	0.05	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	< 10 U	< 10 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U
1,2-Dichlorobenzene	µg/l	600	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
1,2-Dichloroethane	µg/l	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**1,200**	< 10 U	< 10 U	< 0.5 U	< 0.5 U	**1.2**	**27**	**1.2**
1,2-Dichloropropane	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
1,3,5-Trimethylbenzene	µg/l	5,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
1,3-Dichlorobenzene	µg/l	3,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	**0.71 J**	< 5.0 U	< 1.0 U
1,3-Dichloropropane	µg/l	29	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
1,4-Dichlorobenzene	µg/l	75	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
2,2-Dichloropropane	µg/l	42	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	< 10 U	< 10 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U
2-Butanone	µg/l	61,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
2-Chlorotoluene	µg/l	2,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
2-Hexanone	µg/l	6,100	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 100 U	< 40 U	< 40 U	< 2.0 U	< 2.0 U	< 2.0 U	< 10 U	< 2.0 U
4-Chlorotoluene	µg/l	2,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
4-Isopropyltoluene	µg/l	10,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
4-Methyl-2-pentanone	µg/l	8,200	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 100 U	< 40 U	< 40 U	< 2.0 U	< 2.0 U	< 2.0 U	< 10 U	< 2.0 U
Acetone	µg/l	92,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Benzene	µg/l	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	< 10 U	< 10 U	< 0.5 U	< 0.5 U	< 0.5 U	**6.4**	< 0.5 U
Bromobenzene	µg/l	2,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Bromochloromethane	µg/l	4,100	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	**190 J**	**100 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U
Bromodichloromethane	µg/l	4.6	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	< 10 U	< 10 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U
Bromoform	µg/l	36	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Bromomethane	µg/l	140	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Carbon disulfide	µg/l	10,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Carbon tetrachloride	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	**3.6 J**	< 1.0 U
Chlorobenzene	µg/l	100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Chloroethane	µg/l	41,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Chloroform	µg/l	1,000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**59**	**150**	**180**	**1.3**	< 0.5 U	< 0.5 U	**13**	< 0.5 U
Chloromethane	µg/l	220	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 UJ	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	< 10 U	< 10 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U
cis-1,2-Dichloroethene	µg/l	70	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**15,000**	**76,000**	**75,000**	**57**	**9.1**	**6.4**	**19**	**11**
cis-1,3-Dichloropropene	µg/l	5.3	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	< 10 U	< 10 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U
Dibromochloromethane	µg/l	34	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Dibromomethane	µg/l	380	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	< 10 U	< 10 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U
Dichlorodifluoromethane	µg/l	20,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Ethylbenzene	µg/l	700	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	**29**	**34**	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Hexachlorobutadiene	µg/l	20	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 5.0 U	< 1.0 U
Isopropylbenzene	µg/l	10,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
m,p-Xylene	µg/l	10,000**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	**15 J**	**18 J**	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Methylene chloride	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	**290,000**	**280,000**	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Naphthalene	µg/l	2,000	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 5.0 UJ	< 1.0 U
n-Butylbenzene	µg/l	4,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U

LHAAP-18/24 Sampling Event - June 2020

Location ID: / Sample Date:	Units	MCL/MSC/PCL	18WW18_061520 6/15/20	18WW19_060320 6/3/20	18WW20_060320 6/3/20	18WW22_060120 6/021/20	18WW24_060220 6/02/20	18WW25_060420 6/04/20	C01_060920 6/09/20	C02_060420 6/04/20	C03_060920 6/09/20	C04_060120 6/01/20	C04_060120-a 6/01/20	C06_060320 6/03/20	C08_061120 6/11/20	C09_060320 6/03/20	MW1_061120 6/11/20	MW2_061020 6/10/20	MW2_061020_a 6/10/20	MW3_061020 6/10/20	MW5_060920 6/09/20	MW6_061120 6/11/20	MW7_060220 6/02/20	MW8_060120 6/01/20
		Aquifer Zone:	Wilcox			Shallow	Shallow	Shallow	Wilcox	Shallow	Wilcox	Wilcox	Wilcox		Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
n-Propylbenzene	µg/l	4,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
o-Xylene	µg/l	10,000**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
sec-Butylbenzene	µg/l	4,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Styrene	µg/l	100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
tert-Butylbenzene	µg/l	4,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Tetrachloroethene	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	33	40	1.0	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Toluene	µg/l	1,000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	28	30	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U
trans-1,2-Dichloroethene	µg/l	100	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	30 J	200	230	2.2	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U
trans-1,3-Dichloropropene	µg/l	29	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 25 U	< 10 U	< 10 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U
Trichloroethene	µg/l	5	< 0.5 U	< 0.5 U	0.60 J	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	31,000	1,100	1200	360	38	19	2,100	120
Trichlorofluoromethane	µg/l	31,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 50 U	< 20 U	< 20 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U
Vinyl chloride	µg/l	2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	24 J	45	46	3.9	2.6	0.94 J	< 2.5 U	< 0.5 U
Metals (6020A)																								
Aluminum	mg/L	100	0.0280	0.187 J	0.0328	0.123	0.0819	0.0713	NA	NA	0.0149	NA	NA	0.0324	NA	0.103	0.0296	NA	NA	0.00738 J	NA	0.0114	NA	NA
Antimony	mg/L	0.006	< 0.00100 U	< 0.000500 U	0.00107 J	0.000775 J	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	NA	NA	< 0.000500 U	NA	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	NA	< 0.000500 U	NA	NA
Arsenic	mg/L	0.01	0.00437 J	0.000580 J	0.000435 J	0.00150 J	0.000639 J	0.00873	NA	NA	0.00170 J	NA	NA	0.00143 J	NA	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	NA	0.00118 J	NA	NA
Barium	mg/L	2	1.21	0.124	0.0909	0.0721	0.0491	0.379	NA	NA	1.25	NA	NA	1.05	NA	0.559	0.496	NA	NA	0.376	NA	0.611	NA	NA
Beryllium	mg/L	0.004	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	0.000664 J	< 0.000500 U	NA	NA	< 0.000500 U	NA	NA	< 0.000500 U	NA	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500U	NA	< 0.000500 U	NA	NA
Cadmium	mg/L	0.005	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	NA	NA	< 0.000500 U	NA	< 0.000500 U	< 0.000500 U	NA	NA	< 0.0005000 U	NA	< 0.000500 U	NA	NA
Calcium	mg/L	NV	55.4	6.19	2.73	11.1	39.3	17.7	NA	NA	44.3	NA	NA	19.8	NA	136	21.8	NA	NA	26.8	NA	24.5	NA	NA
Chromium	mg/L	0.1	0.0622	0.0119	0.00157 J	0.0154	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	NA	NA	0.000421 J	NA	0.0571	0.300	NA	NA	0.0118	NA	0.125	NA	NA
Cobalt	mg/L	6.1	0.000192 J	0.000522 J	0.00453 J	0.000179 J	0.00203 J	0.00199 J	NA	NA	0.000124 J	NA	NA	0.00194 J	NA	0.000941 J	0.0136	NA	NA	0.000529 J	NA	0.00144 J	NA	NA
Copper	mg/L	1.3	0.00123 J	0.00134 J	0.00118 J	< 0.00250 U	< 0.00250 U	0.00158 J	NA	NA	< 0.00250 U	NA	NA	0.00105 J	NA	0.00115 J	0.00896	NA	NA	< 0.00250 U	NA	0.00265 J	NA	NA
Iron	mg/L	NV	109	17.7	7.86	0.0349 J	0.0867 J	47	NA	NA	68.4	NA	NA	63.4	NA	0.457	3.34	NA	NA	0.328	NA	1.38	NA	NA
Lead	mg/L	0.015	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	NA	NA	< 0.00100 U	NA	NA	< 0.00100 U	NA	< 0.00100 U	< 0.00100 U	NA	NA	< 0.00100 U	NA	< 0.00100 U	NA	NA
Magnesium	mg/L	NV	34.3	3.31	1.87	2.03	33.4	11	NA	NA	24.2	NA	NA	11.6	NA	38	18.7	NA	NA	16.4	NA	20.4	NA	NA
Manganese	mg/L	1.1*	2.07	0.327	0.269	0.00171 J	0.433	2.54	NA	NA	1.22	NA	NA	0.981	NA	0.106	0.905	NA	NA	0.343	NA	0.0713	NA	NA
Nickel	mg/L	0.49*	0.00590	0.00613	0.00525	< 0.00100 U	0.0555	0.00130 J	NA	NA	< 0.00100 U	NA	NA	0.00168 J	NA	0.0670	1.06	NA	NA	0.00252 J	NA	0.0502	NA	NA
Potassium	mg/L	NV	3.42	2.01	1.24	3.69	0.501	1.27	NA	NA	3.21	NA	NA	3.83	NA	0.687	2.05	NA	NA	1.57	NA	1.99	NA	NA
Selenium	mg/L	0.05	< 0.00250 U	< 0.00250 U	< 0.00250 U	0.00117 J	< 0.00250 U	< 0.00250 U	NA	NA	< 0.00250 U	NA	NA	< 0.00250 U	NA	< 0.00250 U	< 0.00250 U	NA	NA	< 0.00250 U	NA	< 0.00250 U	NA	NA
Silver	mg/L	0.51	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	NA	NA	< 0.000500 U	NA	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	NA	< 0.000500 U	NA	NA
Sodium	mg/L	NV	143	22.2	24.7	30.9	513	38.1	NA	NA	144	NA	NA	184	NA	107	160	NA	NA	251	NA	187	NA	NA
Thallium	mg/L	0.002	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	NA	NA	< 0.000500 U	NA	< 0.000500 U	< 0.000500 U	NA	NA	< 0.000500 U	NA	< 0.000500 U	NA	NA
Vanadium	mg/L	0.72	0.000638 J	0.00206 J	0.00148 J	0.0157	< 0.00100 U	< 0.00100 U	NA	NA	< 0.00100 U	NA	NA	< 0.00100 U	NA	0.000737 J	0.00351 J	NA	NA	0.00117 J	NA	0.00265 J	NA	NA
Zinc	mg/L	31	0.00363 J	0.00605	0.0102	< 0.00250 U	0.0442	0.00596	NA	NA	0.00627	NA	NA	0.00959	NA	0.00942	0.00240 J	NA	NA	0.00219 J	NA	0.00597	NA	NA
Mercury	mg/L	0.002	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	0.0000320 J	< 0.000100 U	NA	NA	< 0.000100 U	NA	NA	< 0.000100 U	NA	< 0.000100 U	< 0.000100 U	NA	NA	< 0.000100 U	NA	< 0.000100 U	NA	NA
1,4-Dioxane (8270D SIM)																								
1,4-Dioxane	µg/l	9.1	< 0.010 U	NA	1.70	0.630	NA	1.6	NA	NA	0.290	NA	NA	NA	0.21	NA	NA	35	69	NA	0.65	NA	30.0	1.8

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed

µg/L - micrograms per liter

a - duplicate sample

mg/L - milligrams per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

NV - No Value

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential

*** Perchlorate required a 20,000x dilution

LHAAP-18/24 Sampling Event - June 2020

Location ID: / Sample Date:	Units	MCL/MSC/PCL	MW9_060220 6/02/20	MW10_061020 6/10/20	MW12_061120 6/11/20	MW13_060420 6/04/20	MW14_060320 6/03/20	MW16_060920 6/09/20	MW17_061020 6/10/20	MW18_061020 6/10/20	MW19_061620 6/16/20	MW20_060120 6/01/20	MW21-060920 6/09/20	MW22_061020 6/10/20	MW23_060920 6/09/20	102_060320 6/03/20	109_061020 6/10/20	120_060320 6/03/20	125_061520 6/15/20	126_061120 6/11/20	126_061120-a 6/11/20	129_060320 6/03/20	130_061020 6/10/20
Aquifer Zone:			Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Lab Package			HS20060135-04	HS20060547-06	HS20060659-01	HS20060251-05	HS20060208-04	HS20060498-06	HS20060547-07	HS20060547-08	HS20060898-01	HS20060133-02	HS20060495-03	HS20060545-05	HS20060498-04	HS20060208-01	HS20060547-05	HS20060208-03	HS20060849-10	HS20060659-06	HS20060659-07	HS20060208-02	HS20060547-09
Well ID			MW-9	MW-10	MW-12	MW-13	MW-14	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-102	MW-109	MW-120	MW-125	MW-126	MW-126	MW-129	MW-130
Perchlorate (6850)																							
Perchlorate	µg/L	17*	**584**	**0.156**	< 0.0500 U	**0.0719 J**	**158,000**	**848**	< 0.0500 U	< 0.0500 U	**0.936**	< 0.0500 U	**33,200**	**493**	**63,100**	**31**	**10,500**	**12,300**	**380**	**1.08 J**	**0.462 J**	**3,180**	**0.517**
Volatile Organic Compounds (8260C)																							
1,1,1,2-Tetrachloroethane	µg/l	110	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,1-Trichloroethane	µg/l	200	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,1,2,2-Tetrachloroethane	µg/l	14	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2-Trichloroethane	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	**12**	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1-Dichloroethane	µg/l	10,000	**0.41 J**	< 0.5 U	**0.58 J**	< 0.5 U	**21**	**2.2**	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	**0.64 J**	**8.0**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,1-Dichloroethene	µg/l	7	**1.3**	< 0.5 U	**1.1**	< 0.5 U	**80**	**13**	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	**58**	< 0.5 U	< 0.5 U	< 0.5 U	**0.69 J**	< 0.5 U
1,1-Dichloropropene	µg/l	2.9	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,3-Trichlorobenzene	µg/l	310	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 UJ	< 10 UJ	< 1.0 UJ	NA	< 1.0 UJ	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 UJ	< 1.0 UJ	< 1.0 U	< 5.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U
1,2,3-Trichloropropane	µg/l	0.041	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,4-Trichlorobenzene	µg/l	70	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 UJ	NA	< 1.0 UJ	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 UJ	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,4-Trimethylbenzene	µg/l	5,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	µg/l	0.2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 UJ	< 5.0 UJ	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dibromoethane	µg/l	0.05	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dichlorobenzene	µg/l	600	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dichloroethane	µg/l	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**73**	**89**	NA	< 0.5 U	**0.52 J**	< 0.5 U	**44**	**5.7**	**60**	< 0.5 U	< 0.5 U	**15**	< 0.5 U	< 0.5 U	< 0.5 U	**12**	< 0.5 U
1,2-Dichloropropane	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3,5-Trimethylbenzene	µg/l	5,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3-Dichlorobenzene	µg/l	3,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3-Dichloropropane	µg/l	29	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	µg/l	75	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2,2-Dichloropropane	µg/l	42	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
2-Butanone	µg/l	61,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Chlorotoluene	µg/l	2,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Hexanone	µg/l	6,100	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 20 U	< 2.0 U	NA	< 2.0 U	< 2.0 U	< 2.0 U	< 20 U	< 2.0 U	< 10 U	< 2.0 U	< 2.0 U	< 10 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
4-Chlorotoluene	µg/l	2,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
4-Isopropyltoluene	µg/l	10,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
4-Methyl-2-pentanone	µg/l	8,200	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 20 U	< 2.0 U	NA	< 2.0 U	< 2.0 U	< 2.0 U	< 20 U	< 2.0 U	< 10 U	< 2.0 U	< 2.0 U	< 10 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Acetone	µg/l	92,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Benzene	µg/l	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 5.0 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Bromobenzene	µg/l	2,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromochloromethane	µg/l	4,100	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Bromodichloromethane	µg/l	4.6	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Bromoform	µg/l	36	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromomethane	µg/l	140	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon disulfide	µg/l	10,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon tetrachloride	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	**4.2 J**	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chlorobenzene	µg/l	100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroethane	µg/l	41,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroform	µg/l	1,000	**0.83 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	**11**	**3.0**	**6.9**	< 0.5 U	**0.93 J**	**12**	< 0.5 U	< 0.5 U	< 0.5 U	**2.0**	< 0.5 U
Chloromethane	µg/l	220	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene	µg/l	70	**12**	< 0.5 U	**7.0**	< 0.5 U	**1,500**	**45**	NA	**0.86 J**	**3.7**	< 0.5 U	**150**	**4.4**	**12**	< 0.5 U	**81**	**590**	< 0.5 U	< 0.5 U	< 0.5 U	**3.0**	< 0.5 U
cis-1,3-Dichloropropene	µg/l	5.3	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Dibromochloromethane	µg/l	34	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Dibromomethane	µg/l	380	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Dichlorodifluoromethane	µg/l	20,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Ethylbenzene	µg/l	700	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Hexachlorobutadiene	µg/l	20	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 UJ	NA	< 1.0 UJ	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 UJ	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Isopropylbenzene	µg/l	10,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
m,p-Xylene	µg/l	10,000**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylene chloride	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Naphthalene	µg/l	2,000	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 UJ	< 10 UJ	< 1.0 U	NA	< 1.0 UJ	< 1.0 U	< 1.0 U	< 10 UJ	< 1.0 U	< 5.0 U	< 1.0 UJ	< 1.0 U	< 5.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U
n-Butylbenzene	µg/l	4,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U

LHAAP-18/24 Sampling Event - June 2020

Location ID: / Sample Date:	Units	MCL/MSC/PCL	MW9_060220 6/02/20	MW10_061020 6/10/20	MW12_061120 6/11/20	MW13_060420 6/04/20	MW14_060320 6/03/20	MW16_060920 6/09/20	MW17_061020 6/10/20	MW18_061020 6/10/20	MW19_061620 6/16/20	MW20_060120 6/01/20	MW21-060920 6/09/20	MW22_061020 6/10/20	MW23_060920 6/09/20	102_060320 6/03/20	109_061020 6/10/20	120_060320 6/03/20	125_061520 6/15/20	126_061120 6/11/20	126_061120-a 6/11/20	129_060320 6/03/20	130_061020 6/10/20
		Aquifer Zone:	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
n-Propylbenzene	µg/l	4,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
o-Xylene	µg/l	10,000**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
sec-Butylbenzene	µg/l	4,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Styrene	µg/l	100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
tert-Butylbenzene	µg/l	4,100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Tetrachloroethene	µg/l	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	**1.4**	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	**0.65 J**	< 5.0 U	< 1.0 U	< 1.0 U	**3.4 J**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Toluene	µg/l	1,000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
trans-1,2-Dichloroethene	µg/l	100	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**14**	**0.98 J**	NA	< 0.5 U	< 0.5 U	< 0.5 U	**6.6 J**	< 0.5 U	< 2.5 U	< 0.5 U	**0.84 J**	**5.1**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
trans-1,3-Dichloropropene	µg/l	29	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	NA	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Trichloroethene	µg/l	5	**710**	**2.7**	**100**	< 0.5 U	**7,700**	**1,200**	NA	**15**	**1.2**	< 0.5 U	**7,200**	**400**	**2,300**	< 0.5 U	**310**	**6,100**	< 0.5 U	**0.88 J**	**0.82 J**	**450**	**0.73 J**
Trichlorofluoromethane	µg/l	31,000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride	µg/l	2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	**2.0**	NA	< 0.5 U	< 0.5 U	< 0.5 U	**23**	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	**4.0 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Metals (6020A)																							
Aluminum	mg/L	100	**0.0262**	NA	NA	**0.0585**	**0.0323**	NA	NA	NA	**0.731**	**0.0977**	**0.0548**	**0.0119**	NA	**4.29**	NA	NA	**0.0723**	**0.0710 J**	**0.138 J**	**1.38**	**1.11**
Antimony	mg/L	0.006	< 0.000500 U	NA	NA	< 0.000500 U	< 0.000500 U	NA	NA	NA	< 0.00100 U	< 0.000500 U	**0.00128 J**	**0.000559 J**	NA	< 0.000500 U	NA	NA	< 0.00100 U	< 0.000500 U	< 0.000500 U	**0.000844 J**	< 0.000500 U
Arsenic	mg/L	0.01	< 0.000500 U	NA	NA	< 0.000500 U	**0.00378 J**	NA	NA	NA	**0.00601**	< 0.000500 U	**0.000626 J**	**0.000521 J**	NA	**0.00155 J**	NA	NA	**< 0.000500 U**	**0.00323 J**	**0.00357 J**	**0.000834 J**	**0.00319 J**
Barium	mg/L	2	**0.0989**	NA	NA	**0.514**	**0.247**	NA	NA	NA	**0.547**	**0.336**	**8.32**	**1.07**	NA	**0.166**	NA	NA	**0.034**	**7.69**	**9.73**	**0.0934**	**0.163**
Beryllium	mg/L	0.004	< 0.000500 U	NA	NA	< 0.000500 U	**0.000533 J**	NA	NA	NA	**< 0.000500 U**	< 0.000500 U	**< 0.000500 U**	< 0.000500 U	NA	**0.000696 J**	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U
Cadmium	mg/L	0.005	< 0.000500 U	NA	NA	**0.000346 J**	**0.000906 J**	NA	NA	NA	**0.000316 J**	**0.000278 J**	**0.000811 J**	**0.000403 J**	NA	< 0.000500 U	NA	NA	**< 0.000500 U**	**0.000234 J**	**0.000233 J**	< 0.000500 U	**0.000248 J**
Calcium	mg/L	NV	**12.8**	NA	NA	**25.6**	**107**	NA	NA	NA	**126**	**34.5**	**208**	**116**	NA	**2.44**	NA	NA	**0.828**	**243**	**326**	**3.33**	**31.2**
Chromium	mg/L	0.1	**0.154**	NA	NA	**0.0377**	**0.0359**	NA	NA	NA	**0.0358**	**0.00543**	**2.22**	**0.115**	NA	**0.00579**	NA	NA	**0.00364 J**	**0.000862 J**	**0.000671 J**	**0.00413 J**	**0.00231 J**
Cobalt	mg/L	6.1	**0.00167 J**	NA	NA	**0.000534 J**	**0.0343**	NA	NA	NA	**0.00846**	**0.00513**	**0.116**	**0.0105**	NA	**0.00443 J**	NA	NA	**< 0.000500 U**	**0.0122**	**0.0157**	**0.00238 J**	**0.0161**
Copper	mg/L	1.3	0.00114 J	NA	NA	**0.00320 J**	0.00219 J	NA	NA	NA	**0.00362 J**	**0.00166 J**	**0.0784**	**0.00297 J**	NA	**0.00701**	NA	NA	< 0.00250 U	< 0.00250 U	**0.0209**	**0.00293 J**	**0.00183 J**
Iron	mg/L	NV	**1.16**	NA	NA	**82.1**	**102**	NA	NA	NA	**94.6**	**0.656**	**27.7**	**1.15**	NA	**6.79**	NA	NA	**0.0870 J**	**2.89**	**3.24**	**1.80**	**3.27**
Lead	mg/L	0.015	< 0.00100 U	NA	NA	< 0.00100 U	< 0.00100 U	NA	NA	NA	**0.000683 J**	< 0.00100 U	**0.000858 J**	< 0.00100 U	NA	**0.00583**	NA	NA	**< 0.00100 U**	< 0.00100 U	**0.00102 J**	**0.00163 J**	**0.00143 J**
Magnesium	mg/L	NV	**2.64**	NA	NA	**13.4**	**55.2**	NA	NA	NA	**71.3**	**9.68**	**168**	**34.4**	NA	**2.50**	NA	NA	**0.637**	**194**	**251**	**2.39**	**20.9**
Manganese	mg/L	1.1*	**0.0492**	NA	NA	**1.32**	**2.55**	NA	NA	NA	**2.66**	**0.175**	**2.53**	**0.273**	NA	**0.0508**	NA	NA	**0.00396 J**	**0.207 J**	**0.404 J**	**0.0464**	**1.14**
Nickel	mg/L	0.49*	**0.0829**	NA	NA	**0.0319**	**0.153**	NA	NA	NA	**0.0465**	**0.388**	**2.34**	**0.425**	NA	**0.0131**	NA	NA	**0.000998 J**	**0.0122 J**	**0.0561 J**	**0.00357 J**	**0.00693**
Potassium	mg/L	NV	**0.408**	NA	NA	**3.38**	**11.2**	NA	NA	NA	**4.79**	**0.646**	**2.65**	**1.90**	NA	**1.10**	NA	NA	**0.154 J**	**3.36**	**3.69**	**0.330**	**1.03**
Selenium	mg/L	0.05	< 0.00250 U	NA	NA	< 0.00250 U	< 0.00250 U	NA	NA	NA	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	NA	**0.00206 J**	NA	NA	< 0.00250 U	< 0.00250 U	< 0.00250 U	**0.00200 J**	< 0.00250 U
Silver	mg/L	0.51	< 0.000500 U	NA	NA	< 0.000500 U	< 0.000500 U	NA	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	< 0.000500 U	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U
Sodium	mg/L	NV	**14**	NA	NA	**89.2**	**240**	NA	NA	NA	**1,030**	**43.1**	**482**	**346**	NA	**21.7**	NA	NA	**25.9**	**676**	**881**	**55.8**	**402**
Thallium	mg/L	0.002	< 0.000500 U	NA	NA	< 0.000500 U	< 0.000500 U	NA	NA	NA	**< 0.000500 U**	< 0.000500 U	< 0.000500 U	< 0.000500 U	NA	< 0.000500 U	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U
Vanadium	mg/L	0.72	**0.00297 J**	NA	NA	< 0.00100 U	< 0.00100 U	NA	NA	NA	**0.00204 J**	**0.000613 J**	**0.00624**	< 0.00100 U	NA	**0.0119**	NA	NA	0.00126 J	**0.00102 J**	**0.00124 J**	**0.00415 J**	**0.00300 J**
Zinc	mg/L	31	**0.00526**	NA	NA	**0.00614**	**0.806**	NA	NA	NA	**0.00900**	**0.00453 J**	**0.0338**	**0.00297 J**	NA	**0.0394**	NA	NA	**0.00221 J**	**0.0235 J**	**0.547 J**	**0.0162**	**0.00870**
Mercury	mg/L	0.002	< 0.000100 U	NA	NA	< 0.000100 U	< 0.000100 U	NA	NA	NA	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	NA	**0.0000490 J**	NA	NA	< 0.000100 U	**0.0000330 J**	< 0.000100 U	< 0.000100 U	< 0.000100 U
1,4-Dioxane (8270D SIM)																							
1,4-Dioxane	µg/l	9.1	**2.6**	**0.21**	NA	NA	**950**	**8.1**	**0.28**	NA	NA	NA	**0.36**	NA	NA	NA	**0.870**	**52.0**	< 0.010 U	**0.26**	**0.24**	**3.3**	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed

µg/L - micrograms per liter

a - duplicate sample

mg/L - milligrams per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

NV - No Value

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential

*** Perchlorate required a 20,000x dilution

LHAAP-18/24 Sampling Event - June 2020

Location ID: / Sample Date:	Units	MCL/MSC/PCL	ICT2_063020 6/30/20	ICT4_063020 6/30/20	ICT4_063020-a 6/30/20	ICT7_063020 6/30/20	ICT8_063020 6/30/20	ICT8_063020-a 6/30/20	ICT11_063020 6/30/20	ICT12B_063020 6/30/20	ICT12C_063020 6/30/20	ICT12D_063020 6/30/20	ICT12E_063020 6/30/20	ICT13A_063020 6/30/20	ICT13B_063020 6/30/20	ICT13D_063020 6/30/20	ICT13E_063020 6/30/20	ICT13F_063020 6/30/20	ICT14B_063020 6/30/20	ICT14C_063020 6/30/20	ICT14D_063020 6/30/20
Aquifer Zone:																					
Lab Package			HS20070043-01	HS20070043-02	HS20070043-03	HS20070043-04	HS20070043-05	HS20070043-06	HS20070043-07	HS20070043-08	HS20070043-09	HS20070043-10	HS20070043-11	HS20070043-12	HS20070043-13	HS20070043-14	HS20070043-15	HS20070043-16	HS20070043-17	HS20070043-18	HS20070043-19
Well ID			ICT-2	ICT-4	ICT-4	ICT-7	ICT-8	ICT-8	ICT-11	ICT-12B	ICT-12C	ICT-12D	ICT-12E	ICT-13A	ICT-13B	ICT-13D	ICT-13E	ICT-13F	ICT-14B	ICT-14C	ICT-14D
Perchlorate (6850)																					
Perchlorate	µg/L	17*	**1,740**	**4,970**	**4,890**	**378**	**519**	**529**	**4,200**	**76,100**	**15,100**	**369**	**21,400**	**13,300**	**185**	**53.6**	**108**	**0.12**	**2,830**	**9.17**	**3260**
Volatile Organic Compounds (8260C)																					
1,1,1,2-Tetrachloroethane	µg/l	110	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
1,1,1-Trichloroethane	µg/l	200	< 0.5 U	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	< 5.0 U	< 5.0 U	< 10 U	< 25 U	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 10 U
1,1,2,2-Tetrachloroethane	µg/l	14	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
1,1,2-Trichloroethane	µg/l	5	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	**11 J**
1,1-Dichloroethane	µg/l	10,000	**0.53 J**	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	< 5.0 U	< 5.0 U	**28 J**	**130**	**12**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**0.66 J**	**6.6 J**	**14 J**
1,1-Dichloroethene	µg/l	7	**1.7**	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	**16**	**6.2 J**	< 10 U	**920**	**32**	**1.5**	< 0.5 U	< 0.5 U	< 0.5 U	**1.6**	68	< 10 U
1,1-Dichloropropene	µg/l	2.9	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
1,2,3-Trichlorobenzene	µg/l	310	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
1,2,3-Trichloropropane	µg/l	0.041	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
1,2,4-Trichlorobenzene	µg/l	70	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
1,2,4-Trimethylbenzene	µg/l	5,100	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
1,2-Dibromo-3-chloropropane	µg/l	0.2	< 0.5 U	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	< 5.0 U	< 5.0 U	< 10 U	< 25 U	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 10 U
1,2-Dibromoethane	µg/l	0.05	< 0.5 U	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	< 5.0 U	< 5.0 U	< 10 U	< 25 U	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 10 U
1,2-Dichlorobenzene	µg/l	600	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
1,2-Dichloroethane	µg/l	5	**21**	**130**	**110**	< 0.5 U	**70**	**90**	**1.8**	**44**	**56 J**	**240 J**	**190**	**68**	**44**	< 0.5 U	**0.51 J**	< 0.5 U	< 0.5 U	< 5.0 U	**27 J**
1,2-Dichloropropane	µg/l	5	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
1,3,5-Trimethylbenzene	µg/l	5,100	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
1,3-Dichlorobenzene	µg/l	3,100	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
1,3-Dichloropropane	µg/l	29	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
1,4-Dichlorobenzene	µg/l	75	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
2,2-Dichloropropane	µg/l	42	< 0.5 U	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	< 5.0 U	< 5.0 U	< 10 U	< 25 U	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 10 U
2-Butanone	µg/l	61,000	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
2-Chlorotoluene	µg/l	2,000	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
2-Hexanone	µg/l	6,100	< 2.0 U	< 20 U	< 20 U	< 2.0 U	< 100 U	< 100 U	< 2.0 U	< 20 U	< 20 U	< 40 U	< 100 U	< 20 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 20 U	< 40 U
4-Chlorotoluene	µg/l	2,000	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
4-Isopropyltoluene	µg/l	10,000	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
4-Methyl-2-pentanone	µg/l	8,200	< 2.0 U	< 20 U	< 20 U	< 2.0 U	< 100 U	< 100 U	< 2.0 U	< 20 U	< 20 U	< 40 U	< 100 U	< 20 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 20 U	< 40 U
Acetone	µg/l	92,000	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	**1100**	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 10 U	< 20 U
Benzene	µg/l	5	< 0.5 U	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	< 5.0 U	< 5.0 U	< 10 U	< 25 U	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 10 U
Bromobenzene	µg/l	2,000	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Bromochloromethane	µg/l	4,100	< 0.5 U	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	**32 J**	< 0.5 U	< 5.0 U	< 5.0 U	< 10 U	**160**	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 10 U
Bromodichloromethane	µg/l	4.6	< 0.5 U	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	< 5.0 U	< 5.0 U	< 10 U	< 25 U	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 10 U
Bromoform	µg/l	36	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Bromomethane	µg/l	140	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Carbon disulfide	µg/l	10,000	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Carbon tetrachloride	µg/l	5	< 1.0 U	**14**	**15**	< 1.0 U	< 50 U	< 50 U	**1.5**	**47**	**9.3 J**	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Chlorobenzene	µg/l	100	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Chloroethane	µg/l	41,000	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Chloroform	µg/l	1,000	< 0.5 U	**9.5 J**	**9.6 J**	< 0.5 U	< 25 U	< 25 U	**1.6**	**48**	**16 J**	**19 J**	**120**	**10**	**0.82 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**15**	**20 J**
Chloromethane	µg/l	220	< 0.5 U	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	< 5.0 U	< 5.0 U	< 10 U	< 25 U	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 10 U
cis-1,2-Dichloroethene	µg/l	70	**73**	**1000**	**960**	< 0.5 U	**8300**	**9300**	**95**	**80**	**210 J**	**11000 J**	**14000**	**640**	**120**	**1.8**	**23**	< 0.5 U	**15 J**	**3400**	**7500**
cis-1,3-Dichloropropene	µg/l	5.3	< 0.5 U	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	< 5.0 U	< 5.0 U	< 10 U	< 25 U	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 10 U
Dibromochloromethane	µg/l	34	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Dibromomethane	µg/l	380	< 0.5 U	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	< 5.0 U	< 5.0 U	< 10 U	< 25 U	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 10 U
Dichlorodifluoromethane	µg/l	20,000	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Ethylbenzene	µg/l	700	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Hexachlorobutadiene	µg/l	20	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 UJ
Isopropylbenzene	µg/l	10,000	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
m,p-Xylene	µg/l	10,000**	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Methylene chloride	µg/l	5	< 1.0 U	< 10 U	< 10 U	< 1.0 U	**26000 J**	**41000 J**	< 1.0 U	< 10 U	< 10 U	< 20 U	**48000 J**	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	**5900 J**
Naphthalene	µg/l	2,000	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
n-Butylbenzene	µg/l	4,100	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U

LHAAP-18/24 Sampling Event - June 2020

Location ID: / Sample Date:	Units	MCL/MSC/PCL	ICT2_063020 6/30/20	ICT4_063020 6/30/20	ICT4_063020-a 6/30/20	ICT7_063020 6/30/20	ICT8_063020 6/30/20	ICT8_063020-a 6/30/20	ICT11_063020 6/30/20	ICT12B_063020 6/30/20	ICT12C_063020 6/30/20	ICT12D_063020 6/30/20	ICT12E_063020 6/30/20	ICT13A_063020 6/30/20	ICT13B_063020 6/30/20	ICT13D_063020 6/30/20	ICT13E_063020 6/30/20	ICT13F_063020 6/30/20	ICT14B_063020 6/30/20	ICT14C_063020 6/30/20	ICT14D_063020 6/30/20
		Aquifer Zone:																			
n-Propylbenzene	µg/l	4,100	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
o-Xylene	µg/l	10,000**	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
sec-Butylbenzene	µg/l	4,100	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Styrene	µg/l	100	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	**35 J**	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
tert-Butylbenzene	µg/l	4,100	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Tetrachloroethene	µg/l	5	< 1.0 U	< 10 U	< 10 U	< 1.0 U	**220**	**180**	< 1.0 U	< 10 U	< 10 U	**15 J**	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	**13 J**
Toluene	µg/l	1,000	< 0.5 U	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	< 5.0 U	< 5.0 U	< 10 U	**46 J**	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 10 U
trans-1,2-Dichloroethene	µg/l	100	**1.1**	**5.9 J**	**5.0 J**	< 0.5 U	**24 J**	**28 J**	**0.50 J**	< 5.0 U	< 5.0 U	**14 J**	**50**	**4.2 J**	**0.77 J**	< 0.5 U	< 0.5 U	< 0.5 U	**0.42 J**	**23**	**29 J**
trans-1,3-Dichloropropene	µg/l	29	< 0.5 U	< 5.0 U	< 5.0 U	< 0.5 U	< 25 U	< 25 U	< 0.5 U	< 5.0 U	< 5.0 U	< 10 U	< 25 U	< 5.0 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 5.0 U	< 10 U
Trichloroethene	µg/l	5	**480**	**4900**	**4700**	**1.4**	**7200**	**7300**	**710**	**8600**	**5700**	**13000**	**74000**	**6900**	**910**	**19**	**72**	< 0.5 U	**78 J**	**1600**	**4900**
Trichlorofluoromethane	µg/l	31,000	< 1.0 U	< 10 U	< 10 U	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 10 U	< 10 U	< 20 U	< 50 U	< 10 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 20 U
Vinyl chloride	µg/l	2	**2.3**	**10**	**10**	< 0.5 U	**84**	**99**	**0.60 J**	< 5.0 U	**4.4 J**	**270 J**	**950**	**15**	**1.2**	< 0.5 U	< 0.5 U	< 0.5 U	**0.70 J**	**1800**	**150 J**
Metals (6020A)																					
Aluminum	mg/L	100	**0.102**	0.00743 UB	0.00754 UB	**2.54**	**0.0479**	**0.0455**	0.0132 UB	**0.0369**	**0.140**	0.0138 UB	**0.106**	0.0173 UB	0.00717 UB	**0.121**	**4.56**	**3.71**	0.0166 UB	**0.0407**	0.0146 UB
Antimony	mg/L	0.006	**0.000861 J**	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	**0.000751 J**	< 0.00100 U	**0.00108 J**	< 0.00100 U	**0.000553 J**	< 0.00100 UJ
Arsenic	mg/L	0.01	**0.00318 J**	< 0.00100 U	**0.000409 J**	**0.000833 J**	**0.00167 J**	**0.00155 J**	**0.000431 J**	**0.000554 J**	**0.000676 J**	**0.00971**	**0.00112 J**	**0.00156 J**	**0.000647 J**	**0.00105 J**	**0.00447 J**	**0.000972 J**	**0.00165 J**	**0.0192**	**0.00305 J**
Barium	mg/L	2	**0.137**	**0.105**	**0.104**	**0.103**	**0.509**	**0.516**	**0.261**	**0.172**	**0.113**	**0.0456**	**0.221**	**0.147**	**0.113**	**0.0481**	**0.0731**	**0.0839**	**0.177**	**1.35**	**1.44**
Beryllium	mg/L	0.004	< 0.000500 U	< 0.000500 U	< 0.000500 U	**0.000444 J**	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	**0.000646 J**	**< 0.000500 U**	< 0.000500 U	< 0.000500 U	**0.000697 J**	**0.000572 J**	< 0.000500 U	**0.000295 J**	**0.000204 J**
Cadmium	mg/L	0.005	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	**0.000531 J**	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	**0.000217 J**	**0.000276 J**
Calcium	mg/L	NV	**15.8**	**20.5**	**20.5**	**2.25**	**16.5**	**16.4**	**8.26**	**18.3**	**6.59**	**8.16**	**29.5**	**17.6**	**7.46**	**2.31**	**1.04**	**0.666**	**5.21**	**54.1**	**91.7**
Chromium	mg/L	0.1	**0.00230 J**	**0.00111 J**	**0.000885 J**	**0.00839**	**0.00265 J**	**0.0023 J**	**0.0340**	**0.00163 J**	**0.0577**	**0.0169**	**0.632**	**0.0322**	< 0.00100 U	**0.0346**	**0.316**	**0.0104**	**0.259**	**0.269**	**0.00157 J**
Cobalt	mg/L	6.1	**0.00749**	**0.00306 J**	**0.00310 J**	**0.00240 J**	**0.00408 J**	**0.00367 J**	**0.000380 J**	**0.000153 J**	**0.000455 J**	**0.0121**	**0.0535**	**0.0182**	**0.00714**	**0.000570 J**	**0.00320 J**	**0.00458 J**	**0.00134 J**	**0.0431**	**0.0120 J**
Copper	mg/L	1.3	**0.0204**	< 0.00250 U	< 0.00250 U	**0.00979**	< 0.00250 U	< 0.00250 U	**0.00678**	**0.0169**	**0.00130 J**	**0.0234**	**0.0164**	**0.0101**	**0.00104 J**	**0.00655**	**0.00996**	**0.0615**	< 0.00250 U	**0.0240**	**0.0116 J**
Iron	mg/L	NV	**4.32**	**0.0134 J**	< 0.0500 U	**3.72**	**2.52**	**2.23**	**0.251**	**0.0970 J**	**0.564**	**24.1**	**13.8**	**4.74**	**0.609**	**2.41**	**8.76**	**4.55**	**5.66**	**74.8**	**3.63 J**
Lead	mg/L	0.015	< 0.00100 U	< 0.00100 U	< 0.00100 U	**0.00130 J**	< 0.00100 U	< 0.00100 U	< 0.00100 U	**0.000629 J**	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	**0.00763**	**0.00380 J**	**0.00252 J**	< 0.00100 U	**0.0110**	< 0.00100 UJ
Magnesium	mg/L	NV	**16.8**	**18.3**	**18.3**	**2.40**	**13.3**	**13.1**	**5.99**	**13.2**	**5.16**	**8.10**	**25.3**	**16**	**9.53**	**1.85**	**1.10**	**1.0**	**4.91**	**36.6**	**63.3**
Manganese	mg/L	1.1*	**0.285**	**0.120**	**0.119**	**0.0556**	**0.370**	**0.343**	**0.0267**	**0.0117**	**0.0121**	**0.362**	**1.33**	**0.457**	**0.243**	**0.0113**	**0.0322**	**0.0250**	**0.0595**	**2.48**	**1.09**
Nickel	mg/L	0.49*	**0.00819**	**0.0048 J**	**0.00455 J**	**0.00981**	**0.00841**	**0.00774**	**0.0260**	**0.00569**	**0.0150**	**0.138**	**1.11**	**0.127**	**0.00739**	**0.0779**	**0.0186**	**0.0141**	**0.0267**	**0.223**	**0.0221 J**
Potassium	mg/L	NV	**1.34**	**0.986**	**1.0**	**1.47**	**1.33**	**1.46**	**0.871**	**0.606**	**0.300**	**0.423**	**1.85**	**1.69**	**1.43**	**0.653**	**1.06**	**1.42**	**0.389**	**0.849**	**1.10 J**
Selenium	mg/L	0.05	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	**0.00124 J**	**0.00233 J**	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	**0.00115 J**	< 0.00250 U
Silver	mg/L	0.51	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 UJ
Sodium	mg/L	NV	**131**	**154**	**156**	**31.5**	**83.1**	**85.6**	**52.6**	**168**	**80.8**	**49.8**	**288**	**251**	**68**	**13.6**	**13.2**	**6.24**	**62.1**	**142**	**316**
Thallium	mg/L	0.002	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U
Vanadium	mg/L	0.72	0.00134 J	**0.000810 J**	**0.00115 J**	**0.00955**	**0.00178 J**	**0.00209 J**	**0.00146 J**	**0.00173 J**	**0.00200 J**	**0.00118 J**	**0.000981 J**	**0.00325 J**	**0.000842 J**	**0.00129 J**	**0.0142**	**0.0129**	**0.00266 J**	**0.00365 J**	< 0.00100 U
Zinc	mg/L	31	**0.0485**	**0.00266 J**	**0.00240 J**	**0.0200**	**0.00395 J**	**0.00315 J**	**0.0133**	**0.0132**	**0.00543**	**0.00856**	**0.0353**	**0.126**	**0.00808**	**0.130**	**0.0318**	**0.137**	**0.00389 J**	**0.0433**	**0.0276 J**
Mercury	mg/L	0.002	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	**0.0000440 J**	< 0.000100 U
1,4-Dioxane (8270D SIM)																					
1,4-Dioxane	µg/l	9.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed

µg/L - micrograms per liter

a - duplicate sample

mg/L - milligrams per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

NV - No Value

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential

*** Perchlorate required a 20,000x dilution

LHAAP-Quarterly Surface Water Sampling - July 2020

Location ID: / Sample Date:	Units	PCL	HBW7_071620 7/16/20	HBW10_071620 7/16/20	HBW1_071620 7/16/20	GPW1_071620 7/16/20	GPW3_071620 7/16/20	GPW3_071620_a 7/16/20
Perchlorate (6850)			Harrison Bayou			Goose Prairie Creek		
Perchlorate	µg/L	17	**0.0318 J**	< 0.0500 U	< 0.0500 U	< 0.0500 U	**0.0326 J**	< 0.0500 U

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

µg/L - micrograms per liter

J - estimated value between the detection limit and limit of quantitation and/or due to quality contol issues

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

LHAAP-58 Remedial Action Operation Validated Data - June 2020

Location ID: / Sample Date:	Units	MCL/MSC	03WW01_062320 6/23/20	35AWW01_062520 6/25/20	35AWW01_062520-a 6/25/20	35AWW06_062420 6/24/20	35AWW08_062320 6/23/20	35AWW09_062320 6/23/20	35AWW10_062920 6/29/20	35AWW11_062320 6/23/20	35AWW12_062520 6/25/20
Location Description			Site 58 - E, inside site boundary.	Site 58 - E, inside site boundary.	Site 58 - E, inside site boundary. Field Duplicate.	Site 58 - SW, outside site boundary.	Site 58 - E, inside site boundary.	Site 58 - E, inside site boundary.	Site 58 - ESE, inside site boundary.	Site 58 - SE, inside site boundary.	Site 58 - E, outside site boundary.
Location Depth			Shallow	Intermediate	Intermediate	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Lab Package			HS20061178-02	HS20061390-01	HS20061390-02	HS20061218-04	HS20061178-03	HS20061178-01	HS20070055-04	HS20061178-04	HS20061390-04
Total Organic Carbon (415.1/SM5310C)											
Total Organic Carbon	mg/L	NV	**69.8**	NA	NA	**10.2**	**208**	**3.17**	**4.69**	**7.28**	NA
Volatile Organic Compounds (8260C)											
1,1,1,2-Tetrachloroethane	µg/L	110	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,1-Trichloroethane	µg/L	200	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,1,2,2-Tetrachloroethane	µg/L	14	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2-Trichloroethane	µg/L	5	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1-Dichloroethane	µg/L	10000	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	**0.77 J**	< 0.5 U	< 0.5 U	< 0.5 U
1,1-Dichloroethene	µg/L	7	< 2.5 U	< 0.5 U	< 0.5 U	**0.99 J**	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,1-Dichloropropene	µg/L	2.9	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,3-Trichlorobenzene	µg/L	310	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,3-Trichloropropane	µg/L	0.041	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,4-Trichlorobenzene	µg/L	70	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,4-Trimethylbenzene	µg/L	5100	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dibromoethane	µg/L	0.05	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dichlorobenzene	µg/L	600	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dichloroethane	µg/L	5	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dichloropropane	µg/L	5	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3,5-Trimethylbenzene	µg/L	5100	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3-Dichlorobenzene	µg/L	3100	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3-Dichloropropane	µg/L	29	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	µg/L	75	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2,2-Dichloropropane	µg/L	42	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
2-Butanone	µg/L	61000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Chlorotoluene	µg/L	2000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Hexanone	µg/L	6100	< 10 U	< 2.0 U	< 2.0 U	< 2.0 U	< 10 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
4-Chlorotoluene	µg/L	2000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
4-Isopropyltoluene	µg/L	10000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
4-Methyl-2-pentanone	µg/L	8200	< 10 U	< 2.0 U	< 2.0 U	< 2.0 U	**54**	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Acetone	µg/L	92000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U
Benzene	µg/L	5	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Bromobenzene	µg/L	2000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromochloromethane	µg/L	4100	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Bromodichloromethane	µg/L	4.6	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Bromoform	µg/L	36	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromomethane	µg/L	140	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon disulfide	µg/L	10000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon tetrachloride	µg/L	5	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chlorobenzene	µg/L	100	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroethane	µg/L	41000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroform	µg/L	1000	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Chloromethane	µg/L	220	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene	µg/L	70	**17**	< 0.5 U	< 0.5 U	< 0.5 U	**7.3**	**1.1**	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,3-Dichloropropene	µg/L	5.3	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Dibromochloromethane	µg/L	34	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Dibromomethane	µg/L	380	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Dichlorodifluoromethane	µg/L	20000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Ethylbenzene	µg/L	700	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Hexachlorobutadiene	µg/L	20	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Isopropylbenzene	µg/L	10000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
m,p-Xylene	µg/L	10000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylene chloride	µg/L	5	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
n-Butylbenzene	µg/L	4100	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
n-Propylbenzene	µg/L	4100	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Naphthalene	µg/L	2000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U

LHAAP-58 Remedial Action Operation Validated Data - June 2020

Location ID: / Sample Date:	Units	MCL/MSC	03WW01_062320 6/23/20	35AWW01_062520 6/25/20	35AWW01_062520-a 6/25/20	35AWW06_062420 6/24/20	35AWW08_062320 6/23/20	35AWW09_062320 6/23/20	35AWW10_062920 6/29/20	35AWW11_062320 6/23/20	35AWW12_062520 6/25/20
Location Description			Site 58 - E, inside site boundary.	Site 58 - E, inside site boundary.	Site 58 - E, inside site boundary. Field Duplicate.	Site 58 - SW, outside site boundary.	Site 58 - E, inside site boundary.	Site 58 - E, inside site boundary.	Site 58 - ESE, inside site boundary.	Site 58 - SE, inside site boundary.	Site 58 - E, outside site boundary.
Location Depth			Shallow	Intermediate	Intermediate	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
o-Xylene	µg/L	10000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
sec-Butylbenzene	µg/L	4100	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Styrene	µg/L	100	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
tert-Butylbenzene	µg/L	4100	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Tetrachloroethene	µg/L	5	**4.5 J**	< 1.0 U	< 1.0 U	< 1.0 U	**6.7**	**440**	< 1.0 U	< 1.0 U	< 1.0 U
Toluene	µg/L	1000	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
trans-1,2-Dichloroethene	µg/L	100	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
trans-1,3-Dichloropropene	µg/L	29	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Trichloroethene	µg/L	5	**4.5 J**	< 0.5 U	< 0.5 U	< 0.5 U	**4.5 J**	**140**	< 0.5 U	< 0.5 U	< 0.5 U
Trichlorofluoromethane	µg/L	31000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride		2	**7.2**	< 0.5 U	< 0.5 U	**0.51 J**	**17**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Volatile Fatty Acids (HPLC-METACIDS)											
Acetic Acid	mg/L	NV	< 2.0 U	NA	NA	< 2.0 U	**6.1**	< 1.0 U	NA	**0.65 J**	NA
Butyric Acid	mg/L	NV	< 1.0 U	NA	NA	< 1.0 U	< 1.0 U	< 2.0 U	NA	< 1.0 U	NA
Lactic Acid	mg/L	NV	< 1.0 U	NA	NA	< 1.0 U	**1.8 J**	< 1.0 U	NA	< 1.0 U	NA
Propionic Acid	mg/L	51	< 1.0 U	NA	NA	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	NA
Pyruvic Acid	mg/L	NV	< 0.10 U	NA	NA	< 0.10 U	< 0.10 U	< 0.5 U	NA	< 0.10 U	NA
ICP-MS Metals (6020A)											
Arsenic	mg/L	0.01	**0.00936**	NA	NA	NA	**0.0210**	< 0.000500 U	NA	NA	NA
Anions (9056A)											
Chloride	mg/L	NV	**965**	NA	NA	**1080**	**2510**	**1490**	NA	**2040**	NA
Nitrate	mg/L	10	< 0.200 U	NA	NA	< 0.100 U	< 0.200 U	< 0.100 U	NA	< 0.100 U	NA
Sulfate	mg/L	NV	**231**	NA	NA	**35.1**	**15.5**	**1060**	NA	**416**	NA
Dissolved Gases (RSK-175)											
Carbon Dioxide	µg/L	NV	**300,000**	NA	NA	**270000**	**230000**	**100,000**	NA	**390000**	NA
Ethane	µg/L	NV	< 0.47 U	NA	NA	< 0.47 U	< 0.47 U	< 0.47 U	NA	< 0.47 U	NA
Ethene	µg/L	NV	**0.46**	NA	NA	< 0.55 U	**12**	< 0.55 U	NA	< 0.55 U	NA
Methane	µg/L	NV	**640**	NA	NA	**1400**	**1500**	**1.9**	NA	**1000**	NA
Dechlorinating Bacteria											
BAV1 Vinyl Chloride Reductase	cells/mL	NV	< 0.50 U	NA	NA	< 0.60 U	< 1.0 U	< 0.7 U	NA	< 1.1 U	NA
Dehalobacter spp.	cells/mL	NV	**699**	NA	NA	**1990**	**29400**	**73.3**	NA	**41100**	NA
Dehalococoides	cells/mL	NV	**6500**	NA	NA	**3.5**	**594000**	**5.8**	NA	**382**	NA
tceA Reductase	cells/mL	NV	**742**	NA	NA	**0.3 J**	**256000**	< 0.7 U	NA	**78.2**	NA
Vinyl Chloride Reductase	cells/mL	NV	**2410**	NA	NA	**0.50 J**	**92000**	< 0.7 U	NA	**199**	NA

Blue Highlighting Indicates concentrations above the MCL/MSC

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations

NA - Not Analyzed

µg/L - micrograms per liter

mg/L - milligrams per liter

J - Estimated: Between the method detection limit and reporting limit and/or due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

NV - No Value

UB - considered an artifact of blank contamination

LHAAP-58 Remedial Action Operation Validated Data - June 2020

Location ID: / Sample Date:	Units	MCL/MSC	35AWW13_062920 6/29/20	35AWW14_062520 6/25/20	35AWW15_062520 6/25/20	35AWW16_062520 6/25/20	35AWW17_062920 6/29/20	35AWW18_062520 6/25/20	35AWW19_062420 6/24/20	35AWW20_062420 6/24/20	34AWW21_062920 6/29/20	34AWW21_062920_a 6/29/20
Location Description			Site 58 - SE, outside site boundary.	Site 58 - SE, outside site boundary.	Site 58 - W, inside site boundary.	Site 58 - SW, outside site boundary, near Building 744-A.	Site 58 - SW, outside site boundary.	Site 58 - SSW, outside site boundary.	Site 58 - S, outside site boundary.	Site 58 - SW, inside site boundary.	Site 58 - ESE, outside site boundary, beside Building 725.	Site 58 - ESE, outside site boundary, beside Building 725. Field Duplicate.
Location Depth			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Lab Package			HS20070055-03	HS20061390-10	HS20061390-03	HS20061390-05	HS20070055-05	HS20061390-09	HS20061218-01	HS20061218-02	HS20070055-01	HS20070055-02
Total Organic Carbon (415.1/SM5310C)												
Total Organic Carbon	mg/L	NV	NA	NA	NA	NA	NA	NA	**1.75**	**13.9**	NA	NA
Volatile Organic Compounds (8260C)												
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,1-Trichloroethane	µg/L	200	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2-Trichloroethane	µg/L	5	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	**73**	< 1.0 U	< 1.0 U
1,1-Dichloroethane	µg/L	10000	< 0.5 U	**12**	< 0.5 U	**0.43 J**	< 0.5 U	**2.8**	**0.85 J**	**510**	< 0.5 U	< 0.5 U
1,1-Dichloroethene	µg/L	7	< 0.5 U	**9.3**	< 0.5 U	< 0.5 U	< 0.5 U	**18**	**4.6**	**1100**	< 0.5 U	< 0.5 U
1,1-Dichloropropene	µg/L	2.9	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,3-Trichlorobenzene	µg/L	310	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,3-Trichloropropane	µg/L	0.041	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,4-Trichlorobenzene	µg/L	70	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,4-Trimethylbenzene	µg/L	5100	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dibromoethane	µg/L	0.05	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dichlorobenzene	µg/L	600	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	**21**	< 1.0 U	< 1.0 U
1,2-Dichloroethane	µg/L	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**18**	< 0.5 U	< 0.5 U
1,2-Dichloropropane	µg/L	5	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3,5-Trimethylbenzene	µg/L	5100	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3-Dichlorobenzene	µg/L	3100	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	**0.97 J**	< 1.0 U	< 1.0 U
1,3-Dichloropropane	µg/L	29	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	µg/L	75	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	**3.6**	< 1.0 U	< 1.0 U
2,2-Dichloropropane	µg/L	42	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
2-Butanone	µg/L	61000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Chlorotoluene	µg/L	2000	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Hexanone	µg/L	6100	< 1.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 1.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
4-Chlorotoluene	µg/L	2000	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
4-Isopropyltoluene	µg/L	10000	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
4-Methyl-2-pentanone	µg/L	8200	< 1.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 1.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Acetone	µg/L	92000	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
Benzene	µg/L	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**8.5**	< 0.5 U	< 0.5 U
Bromobenzene	µg/L	2000	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromochloromethane	µg/L	4100	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Bromodichloromethane	µg/L	4.6	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Bromoform	µg/L	36	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromomethane	µg/L	140	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon disulfide	µg/L	10000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**3.7**	< 1.0 U	< 1.0 U
Carbon tetrachloride	µg/L	5	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chlorobenzene	µg/L	100	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroethane	µg/L	41000	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroform	µg/L	1000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Chloromethane	µg/L	220	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene	µg/L	70	< 0.5 U	**4.6**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**63**	< 0.5 U	< 0.5 U
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Dibromochloromethane	µg/L	34	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Dibromomethane	µg/L	380	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Dichlorodifluoromethane	µg/L	20000	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Ethylbenzene	µg/L	700	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Hexachlorobutadiene	µg/L	20	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Isopropylbenzene	µg/L	10000	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
m,p-Xylene	µg/L	10000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylene chloride	µg/L	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
n-Butylbenzene	µg/L	4100	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
n-Propylbenzene	µg/L	4100	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Naphthalene	µg/L	2000	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U

LHAAP-58 Remedial Action Operation Validated Data - June 2020

Location ID: / Sample Date:	Units	MCL/MSC	35AWW13_062920 6/29/20	35AWW14_062520 6/25/20	35AWW15_062520 6/25/20	35AWW16_062520 6/25/20	35AWW17_062920 6/29/20	35AWW18_062520 6/25/20	35AWW19_062420 6/24/20	35AWW20_062420 6/24/20	34AWW21_062920 6/29/20	34AWW21_062920_a 6/29/20
Location Description			Site 58 - SE, outside site boundary.	Site 58 - SE, outside site boundary.	Site 58 - W, inside site boundary.	Site 58 - SW, outside site boundary, near Building 744-A.	Site 58 - SW, outside site boundary.	Site 58 - SSW, outside site boundary.	Site 58 - S, outside site boundary.	Site 58 - SW, inside site boundary.	Site 58 - ESE, outside site boundary, beside Building 725.	Site 58 - ESE, outside site boundary, beside Building 725. Field Duplicate
Location Depth			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
o-Xylene	µg/L	10000	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
sec-Butylbenzene	µg/L	4100	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Styrene	µg/L	100	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
tert-Butylbenzene	µg/L	4100	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Tetrachloroethene	µg/L	5	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	**0.61 J**	< 1.0 U	< 1.0 U
Toluene	µg/L	1000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
trans-1,2-Dichloroethene	µg/L	100	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.2**	< 0.5 U	< 0.5 U
trans-1,3-Dichloropropene	µg/L	29	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Trichloroethene	µg/L	5	< 0.5 U	**11**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**94**	< 0.5 U	< 0.5 U
Trichlorofluoromethane	µg/L	31000	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.5 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride		2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2000**	< 0.5 U	< 0.5 U
Volatile Fatty Acids (HPLC-METACIDS)												
Acetic Acid	mg/L	NV	NA	NA	NA	NA	NA	NA	< 2.0 U	< 2.0 U	NA	NA
Butyric Acid	mg/L	NV	NA	NA	NA	NA	NA	NA	< 1.0 U	< 1.0 U	NA	NA
Lactic Acid	mg/L	NV	NA	NA	NA	NA	NA	NA	< 1.0 U	< 1.0 U	NA	NA
Propionic Acid	mg/L	51	NA	NA	NA	NA	NA	NA	< 1.0 U	< 1.0 U	NA	NA
Pyruvic Acid	mg/L	NV	NA	NA	NA	NA	NA	NA	< 0.10 UJ	< 0.10 U	NA	NA
ICP-MS Metals (6020A)												
Arsenic	mg/L	0.01	NA	NA	NA	NA	NA	NA	NA	**0.00119 J**	NA	NA
Anions (9056A)												
Chloride	mg/L	NV	NA	NA	NA	NA	NA	NA	**934**	**911**	NA	NA
Nitrate	mg/L	10	NA	NA	NA	NA	NA	NA	< 0.100 U	**0.747**	NA	NA
Sulfate	mg/L	NV	NA	NA	NA	NA	NA	NA	**1020**	**1270**	NA	NA
Dissolved Gases (RSK-175)												
Carbon Dioxide	µg/L	NV	NA	NA	NA	NA	NA	NA	**160000**	**250000**	NA	NA
Ethane	µg/L	NV	NA	NA	NA	NA	NA	NA	< 0.47 U	< 0.47 U	NA	NA
Ethene	µg/L	NV	NA	NA	NA	NA	NA	NA	< 0.55 U	**5.5**	NA	NA
Methane	µg/L	NV	NA	NA	NA	NA	NA	NA	**3.0**	**260**	NA	NA
Dechlorinating Bacteria												
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA	NA	NA	NA	NA	NA	< 0.50 U	**18400**	NA	NA
Dehalobacter spp.	cells/mL	NV	NA	NA	NA	NA	NA	NA	**19700**	**3830**	NA	NA
Dehalococoides	cells/mL	NV	NA	NA	NA	NA	NA	NA	**2.0**	**115000**	NA	NA
tceA Reductase	cells/mL	NV	NA	NA	NA	NA	NA	NA	< 0.50 U	< 0.50 U	NA	NA
Vinyl Chloride Reductase	cells/mL	NV	NA	NA	NA	NA	NA	NA	**0.10 J**	< 0.50 U	NA	NA

Blue Highlighting Indicates concentrations above the MCL/MSC

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations

NA - Not Analyzed

µg/L - micrograms per liter

mg/L - milligrams per liter

J - Estimated: Between the method detection limit and reporting limit and/or due to discr

UJ - The analyte was not detected; however, the result is estimated due to discrepancies ir

U - Undetected: The analyte was analyzed for, but not detected.

NV - No Value

UB - considered an artifact of blank contamination

LHAAP-58 Remedial Action Operation Validated Data - June 2020

Location ID: / Sample Date:	Units	MCL/MSC	35AWW22_062420 6/24/20	35AWW23_062420 6/24/20	35AWW24_062520 6/25/20	35AWW24_062520-a 6/25/20	LHSMW06_062520 6/25/20	LHSMW07_062420 6/24/20
Location Description			Site 58 - ENE, outside site boundary.	Site 58 - SW, outside site boundary.	Downgradient Western Plume well	Downgradient Western Plume well Field Duplicate.	Site 58 - SW, inside site boundary, beside Building 715.	Site 58 - SW, outside site boundary.
Location Depth			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Lab Package			HS20061218-06	HS20061218-05	HS20061390-06	HS20061390-07	HS20061390-08	HS20061218-03
Total Organic Carbon (415.1/SM5310C)								
Total Organic Carbon	mg/L	NV	NA	**849**	NA	NA	NA	**3**
Volatile Organic Compounds (8260C)								
1,1,1,2-Tetrachloroethane	µg/L	110	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,1-Trichloroethane	µg/L	200	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,1,2,2-Tetrachloroethane	µg/L	14	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2-Trichloroethane	µg/L	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1-Dichloroethane	µg/L	10000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.0**	**9.0**
1,1-Dichloroethene	µg/L	7	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**22**	**130**
1,1-Dichloropropene	µg/L	2.9	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,3-Trichlorobenzene	µg/L	310	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,3-Trichloropropane	µg/L	0.041	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,4-Trichlorobenzene	µg/L	70	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,4-Trimethylbenzene	µg/L	5100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dibromoethane	µg/L	0.05	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dichlorobenzene	µg/L	600	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dichloroethane	µg/L	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dichloropropane	µg/L	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3,5-Trimethylbenzene	µg/L	5100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3-Dichlorobenzene	µg/L	3100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3-Dichloropropane	µg/L	29	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	µg/L	75	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2,2-Dichloropropane	µg/L	42	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
2-Butanone	µg/L	61000	< 1.0 U	**160**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Chlorotoluene	µg/L	2000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Hexanone	µg/L	6100	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
4-Chlorotoluene	µg/L	2000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
4-Isopropyltoluene	µg/L	10000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
4-Methyl-2-pentanone	µg/L	8200	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Acetone	µg/L	92000	< 1.0 U	**190**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Benzene	µg/L	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Bromobenzene	µg/L	2000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromochloromethane	µg/L	4100	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Bromodichloromethane	µg/L	4.6	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Bromoform	µg/L	36	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromomethane	µg/L	140	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon disulfide	µg/L	10000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon tetrachloride	µg/L	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chlorobenzene	µg/L	100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroethane	µg/L	41000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroform	µg/L	1000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Chloromethane	µg/L	220	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene	µg/L	70	< 0.5 U	**5.0**	< 0.5 U	< 0.5 U	**65**	**1.0**
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Dibromochloromethane	µg/L	34	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Dibromomethane	µg/L	380	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Dichlorodifluoromethane	µg/L	20000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Ethylbenzene	µg/L	700	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Hexachlorobutadiene	µg/L	20	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Isopropylbenzene	µg/L	10000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
m,p-Xylene	µg/L	10000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylene chloride	µg/L	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
n-Butylbenzene	µg/L	4100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
n-Propylbenzene	µg/L	4100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Naphthalene	µg/L	2000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U

LHAAP-58 Remedial Action Operation Validated Data - June 2020

Location ID: / Sample Date:	Units	MCL/MSC	35AWW22_062420 6/24/20	35AWW23_062420 6/24/20	35AWW24_062520 6/25/20	35AWW24_062520-a 6/25/20	LHSMW06_062520 6/25/20	LHSMW07_062420 6/24/20
Location Description			Site 58 - ENE, outside site boundary.	Site 58 - SW, outside site boundary.	Downgradient Western Plume well	Downgradient Western Plume well Field Duplicate.	Site 58 - SW, inside site boundary, beside Building 715.	Site 58 - SW, outside site boundary.
Location Depth			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
o-Xylene	µg/L	10000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
sec-Butylbenzene	µg/L	4100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Styrene	µg/L	100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
tert-Butylbenzene	µg/L	4100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Tetrachloroethene	µg/L	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**2.1**	< 1.0 U
Toluene	µg/L	1000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
trans-1,2-Dichloroethene	µg/L	100	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**1.4**	< 0.5 U
trans-1,3-Dichloropropene	µg/L	29	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Trichloroethene	µg/L	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**16**	**2.5**
Trichlorofluoromethane	µg/L	31000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride		2	< 0.5 U	**0.51 J**	< 0.5 U	< 0.5 U	**5.5**	**44**
Volatile Fatty Acids (HPLC-METACIDS)								
Acetic Acid	mg/L	NV	NA	**76**	NA	NA	NA	< 2.0 U
Butyric Acid	mg/L	NV	NA	< 1.0 U	NA	NA	NA	< 1.0 U
Lactic Acid	mg/L	NV	NA	< 1.0 U	NA	NA	NA	< 1.0 U
Propionic Acid	mg/L	51	NA	**44**	NA	NA	NA	< 1.0 U
Pyruvic Acid	mg/L	NV	NA	< 0.10 U	NA	NA	NA	< 0.10 U
ICP-MS Metals (6020A)								
Arsenic	mg/L	0.01	NA	NA	NA	NA	< 0.000500 U	NA
Anions (9056A)								
Chloride	mg/L	NV	NA	**1160**	NA	NA	NA	**2,010**
Nitrate	mg/L	10	NA	< 0.100 U	NA	NA	NA	< 0.100 U
Sulfate	mg/L	NV	NA	**1.26**	NA	NA	NA	**3,000**
Dissolved Gases (RSK-175)								
Carbon Dioxide	µg/L	NV	NA	**310,000**	NA	NA	NA	**250,000**
Ethane	µg/L	NV	NA	< 0.47 U	NA	NA	NA	< 0.47 U
Ethene	µg/L	NV	NA	< 0.55 U	NA	NA	NA	**2.2**
Methane	µg/L	NV	NA	**1,300**	NA	NA	NA	**140**
Dechlorinating Bacteria								
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA	**12.6**	NA	NA	NA	**0.9**
Dehalobacter spp.	cells/mL	NV	NA	< 5.6 U	NA	NA	NA	**42100**
Dehalococoides	cells/mL	NV	NA	**765**	NA	NA	NA	**7580**
tceA Reductase	cells/mL	NV	NA	**48.6**	NA	NA	NA	< 0.50 U
Vinyl Chloride Reductase	cells/mL	NV	NA	**106**	NA	NA	NA	**378.0**

Blue Highlighting Indicates concentrations above the MCL/MSC

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations

NA - Not Analyzed

µg/L - micrograms per liter

mg/L - milligrams per liter

J - Estimated: Between the method detection limit and reporting limit and/or due to discr

UJ - The analyte was not detected; however, the result is estimated due to discrepancies ir

U - Undetected: The analyte was analyzed for, but not detected.

NV - No Value

UB - considered an artifact of blank contamination

LHAAP-46
New Monitoring Well Sample
July 2020

			Location Code	46WW17
			Sample ID	46WW17-200707
			Sample Date	7/7/2020
			Location Description:	Site 46 - Northeast, Within Site Boundary, Shallow Zone
			Sample Purpose	REG
Analyte	Units	MCL	Result	Val Qual
Field Measurements				
Dissolved oxygen	mg/L	NV	3.32	
Oxidation-Reduction Potential	mV	NV	78	
pH	pH_units	NV	6.65	
Volatile Organic Compounds (8260C)				
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U

Notes:

U - Undetected: The analyte was analyzed for, but not detected.

MCL - Maximum Contaminant Limit

mg/L - milligrams per liter

ug/L - micrograms per liter

ID - Identification

REG - Regular sample

< - The analyte was not detected above the concentration shown

NV - No MCL/PCL is shown for analytes that are not contaminants of concern

STD UNIT - standard pH Units

mV - millivolts

Val Qual - validation qualifier

LHAAP-50 Remedial Performance Monitoring
Year 1, Quarter 1
July 2020

		Location Code	50WW05		50WW06		50WW08		50WW11			
		Sample ID	50WW05-200708		50WW06-200709		50WW08-200708		50WW11-200709		50WW11-200709-FD	
		Sample Date	7/8/2020		7/9/2020		7/8/2020		7/9/2020		7/9/2020	
		Location Description:	Site 50 - NE, lower shallow, outside site boundary.		Site 50 - ENE, outside site boundary.		Site 50 - E, upper shallow, inside site boundary.		Site 50 - ENE, upper shallow, outside site boundary.		Site 50 - ENE, upper shallow, outside site boundary.	
		Sample Purpose	REG		REG		REG		REG		FD	
	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Dechlorinating Bacteria (Census)												
Dehalococcoides	cells/mL	NV	NA		< 1.2	U	NA		0.5		NA	
Field Measurements												
Dissolved oxygen	mg/L	NV	0.12		2.42		0.09		1.88		1.88	
Ferrous Iron	NA	NV	NM		0.25		NM		0.51		0.51	
Oxidation-Reduction Potential	mV	NV	99		257		212		131		131	
pH	pH_units	NV	7.07		5.60		7.23		6.69		6.69	
Dissolved Gases (RSK-175)												
Carbon dioxide	µg/L	NV	NA		98000		NA		85000		80000	
Ethane	µg/L	NV	NA		< 0.47	U	NA		< 0.47	U	< 0.47	U
Ethylene	µg/L	NV	NA		< 0.55	U	NA		< 0.55	U	< 0.55	U
Methane	µg/L	NV	NA		2.1		NA		< 1	U	0.93	J
General Chemistry (2320B/SM5310B/SW9056A)												
Chloride	mg/L	NV	NA		3.25		NA		306		300	
Nitrate	mg/L	NV	NA		< 0.1	U	NA		< 0.1	U	< 0.1	U
Sulfate	mg/L	NV	NA		8.12		NA		391		388	
Total Organic Carbon	mg/L	NV	NA		9.31	J	NA		1.18	J	1.16	J
Perchlorate (EPA 6850)												
Perchlorate	µg/L	17	3.08		1.69		89.8		4880		4960	
Volatile Organic Compounds (8260C)												
1,1-Dichloroethene	µg/L	7	4.9		< 0.5	U	0.95	J	15		15	
1,2-Dichloroethane	µg/L	5	2.4		< 0.5	U	1.5		13		13	
cis-1,2-Dichloroethene	µg/L	70	250		< 0.5	U	41		29		29	
Tetrachloroethene	µg/L	5	< 1	U	< 1	U	1.4		2.4		2.7	
Trichloroethene	µg/L	5	280		1.3		390		1600		1500	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	1.1		1.1	

LHAAP-50 Remedial Performance Monitoring
Year 1, Quarter 1
July 2020

		Location Code	50WW12		50WW13		50WW14		50WW29	
		Sample ID	50WW12-200709		50WW13-200709		50WW14-200709		50WW29-200708	
		Sample Date	7/9/2020		7/9/2020		7/9/2020		7/8/2020	
		Location Description:	Site 50 - ENE, upper shallow, outside site boundary.		Site 50 - E, upper shallow, outside site boundary.		Site 50 - E, lower shallow, outside site boundary, along S. Crockett Ave.		Site 50 - ENE, upper shallow, outside site boundary	
		Sample Purpose	REG		REG		REG		REG	
	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Dechlorinating Bacteria (Census)										
Dehalococcoides	cells/mL	NV	0.4	J	2		0.8		NA	
Field Measurements										
Dissolved oxygen	mg/L	NV	0.05		0.78		0.46		0.03	
Ferrous Iron	NA	NV	0.31		NM		1.83		NM	
Oxidation-Reduction Potential	mV	NV	201		97		-21		68	
pH	pH_units	NV	6.20		6.88		6.75		6.51	
Dissolved Gases (RSK-175)										
Carbon dioxide	µg/L	NV	140000		72000		85000		NA	
Ethane	µg/L	NV	< 0.47	U	< 0.47	U	< 0.47	U	NA	
Ethylene	µg/L	NV	< 0.55	U	< 0.55	U	< 0.55	U	NA	
Methane	µg/L	NV	0.68	J	0.65	J	1.9		NA	
General Chemistry (2320B/SM5310B/SW9056A)										
Chloride	mg/L	NV	1080		353		397		NA	
Nitrate	mg/L	NV	< 0.1	U	< 0.1	U	< 0.1	U	NA	
Sulfate	mg/L	NV	561		363		382		NA	
Total Organic Carbon	mg/L	NV	0.73	J	1.39	J	0.84	J	NA	
Perchlorate (EPA 6850)										
Perchlorate	µg/L	17	43000		2900		3.69		2.47	
Volatile Organic Compounds (8260C)										
1,1-Dichloroethene	µg/L	7	7.3		7.4		< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	4.4		20		< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	1.1		120		1.3		< 0.5	U
Tetrachloroethene	µg/L	5	< 1	U	3.4	J	< 1	U	< 1	U
Trichloroethene	µg/L	5	550		3400		32		< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 2.5	U	< 0.5	U	< 0.5	U

LHAAP-50 Remedial Performance Monitoring
Year 1, Quarter 1
July 2020

Notes:

Blue Highlighting Indicates the concentration exceeds the MCL/PCL

Some samples have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

MCL - Maximum Contaminant Limit

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level (used for perchlorate,where no MCL has been established)

mg/L - milligrams per liter

ug/L - micrograms per liter

ID - Identification

REG - Regular sample

FD - Field duplicate sample

< - The analyte was not detected above the concentration shown

NV - No MCL/PCL is shown for analytes that are not contaminants of concern

NA - not analyzed

NM - not measured

STD UNIT - standard pH Units

mV - millivolts

cells/mL - cells per milliliter

Val Qual - validation qualifier

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

September 2, 2020

DAIN-ODB-LO

Mr. William Rhotenberry
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, TX 75270-2002

Re: Draft Remedial Action Completion Report, LHAAP-16 Landfill, Longhorn Army Ammunition Plant, Karnack, Texas, September 2020

Dear Mr. Rhotenberry,

An electronic copy of the above referenced document has been added to the project portal's "Documents" folder at the following address for your review: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter and download instructions for the electronic file have been sent via email. Review comments are requested by October 2, 2020.

The document was prepared by Bhate Environmental Associates, Inc., (Bhate) team, on behalf of the Army as part of Bhate's Performance Based Remediation contract for the facility. I ask that Kim Nemmers, Bhate's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at 479-635-0110, or by email at rose.m.zeiler.civ@mail.mil.

Sincerely,

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished:
A. Palmie, TCEQ, Austin, TX (electronic/online)
P. Bruckwicki, Caddo Lake NWR, TX (electronic/online)
R. Smith USACE, Tulsa District, OK (electronic/online)
A. Williams, USACE, Tulsa District, OK (electronic/online)
A. Maly USAEC, San Antonio, TX (electronic/online)
K. Nemmers, Bhate, Lakewood, CO (electronic/online)
P. Srivastav, APTIM, Houston, TX (electronic/online)

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

September 2, 2020

DAIN-ODB-LO

Ms. April Palmie
Texas Commission on Environmental Quality
Superfund Section, MC-136
12100 Park 35 Circle, Bldg D
Austin, TX 78753

Re: Draft Remedial Action Completion Report, LHAAP-16 Landfill, Longhorn Army Ammunition Plant, Karnack, Texas, September 2020

Dear Ms. Palmie,

An electronic copy of the above referenced document has been added to the project portal's "Documents" folder at the following address for your review: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter and download instructions for the electronic file have been sent via email. Review comments are requested by October 2, 2020.

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Sincerely,

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished (letter only):
W. Rhotenberry, USEPA Region 6, Dallas, TX
P. Bruckwicki, Caddo Lake NWR, TX
R. Smith, USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
A. Maly, USAEC, San Antonio, TX
K. Nemmers, Bhate, Lakewood, CO
P. Srivastav, APTIM, Houston, TX

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

September 16, 2020

DAIN-ODB-LO

Mr. William Rhotenberry
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, TX 75270-2002

Re: Draft Remedial Action Completion Report for Contingency Remedy, LHAAP-50, Former Sump Water Tank, Longhorn Army Ammunition Plant, Karnack, Texas, September 2020

Dear Mr. Rhotenberry,

An electronic copy of the above referenced document has been added to the project portal's "Documents" folder at the following address for your review: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter and download instructions for the electronic file have been sent via email. Review comments are requested by October 16, 2020.

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Sincerely,

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished:
A. Palmie, TCEQ, Austin, TX (letter)
P. Bruckwicki, Caddo Lake NWR, TX (1 hard copy and 1 CD)
R. Smith USACE, Tulsa District, OK (1 hard copy and 1 CD)
A. Williams, USACE, Tulsa District, OK (1 CD)
A. Maly USAEC, San Antonio, TX (1 CD)
K. Nemmers, Bhate, Lakewood, CO (1 hard copy and 1 CD)
P. Srivastav, APTIM, Houston, TX (letter)

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

September 16, 2020

DAIN-ODB-LO

Ms. April Palmie
Texas Commission on Environmental Quality
Superfund Section, MC-136
12100 Park 35 Circle, Bldg D
Austin, TX 78753

Re: Draft Remedial Action Completion Report for Contingency Remedy, LHAAP-50, Former Sump Water Tank, Longhorn Army Ammunition Plant, Karnack, Texas, September 2020

Dear Ms. Palmie,

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A. Williams, USACE, Tulsa District, OK
A. Maly, USAEC, San Antonio, TX (1 CD)
K. Nemmers, Bhate, Lakewood, CO
P. Srivastav, APTIM, Houston, TX

COMPREHENSIVE LUC & NOTIFICATION MANAGEMENT PLAN REVISION LOG

Fiscal Year	Date	Reason for Revision	Approved*		
			Army	EPA	TCEQ
Original	9-13-07	N/A			
2008		None Required			
2009		None Required			
2010		None Required			
2011		None Required			
2012	2-4-13	Add LHAAP-06,-07,-08,-35/36,-35B (37)/67, -46, -49, -50,-51,-55,-35A (58),-59,-60,-66,-68, Pistol Range, LHAAP-001-R-01 and LHAAP-003-R-01			
2013	10-1-13	None Required			
2014	12-17-14	Add LHAAP-02, -03, -19, -56, -65, -68, -69 and Notices for LHAAP-46, and -67			
2015	9-14-15	Add Notices for LHAAP-35B(37), -50 and -35A(58) (LHAAP-02, -03, -56, -59, -60, -65, -68, and -69 are contained within the LHAAP-58 LUC boundary)			
2016	10-20-16	None Required			

Date: October 4, 2019

Fiscal Year	Date	Reason for Revision	Approved*		
			Army	EPA	TCEQ
2017	10-30-17	Add LUCs for LHAAP-16			
2018	9-5-18	Add LUCs and Notices for LHAAP-001-R-01 and LHAAP-003-R-01			
2019	10-3-19	Add LHAAP-04 and LHAAP-17 and Notices for LHAAP-001-R-01 and LHAAP-003-R-01			
2020	9-17-20	None Required	ZEILER.ROSE.M.1230811551 Digitally signed by ZEILER.ROSE.M.1230811551 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=ZEILER.ROSE.M.1230811551 Date: 2020.09.23 10:07:34 -05'00'	WILLIAM RHOTENBERRY Digitally signed by WILLIAM RHOTENBERRY Date: 2020.09.25 11:31:51 -05'00'	April Palmie Digitally signed by April Palmie Date: 2020.09.25 11:45:01 -05'00'

* Approval by all three parties required during the first quarter of each fiscal year.

Date: October 4, 2019

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

September 30, 2020

DAIN-ODB-LO

Mr. William Rhotenberry
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, TX 75270-2002

Re: Final Sixth Annual Remedial Action Operation Report, LHAAP-67 (Aboveground Storage Tank Farm), Longhorn Army Ammunition Plant, Karnack, Texas, September 2020

Dear Mr. Rhotenberry,

A compact disc (CD) containing an electronic copy of the above referenced document is enclosed for your records. An electronic copy has also been added to the project portal's "Documents" folder at the following address: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter and download instructions for the electronic file have been sent via email. Minor review comments on the July 2020 draft document from USEPA and the Texas Commission on Environmental Quality were resolved via email exchange.

The document was prepared by Bhate Environmental Associates, Inc., (Bhate) team, on behalf of the Army as part of Bhate's Performance Based Remediation contract for the facility. I ask that Kim Nemmers, Bhate's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at 479-635-0110, or by email at rose.m.zeiler.civ@mail.mil.

Sincerely,

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

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A. Maly USAEC, San Antonio, TX (electronic/online)
K. Nemmers, Bhate, Lakewood, CO (electronic/online)
P. Srivastav, APTIM, Houston, TX (electronic/online)

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

September 30, 2020

DAIN-ODB-LO

Ms. April Palmie
Texas Commission on Environmental Quality
Superfund Section, MC-136
12100 Park 35 Circle, Bldg D
Austin, TX 78753

Re: Final Sixth Annual Remedial Action Operation Report, LHAAP-67 (Aboveground Storage Tank Farm), Longhorn Army Ammunition Plant, Karnack, Texas, September 2020

Dear Ms. Palmie,

An electronic copy has also been added to the project portal's "Documents" folder at the following address: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter and download instructions for the electronic file have been sent via email. Minor review comments on the July 2020 draft document from United States Environmental Protection Agency and TCEQ were resolved via email exchange.

The document was prepared by Bhate Environmental Associates, Inc., (Bhate) team, on behalf of the Army as part of Bhate's Performance Based Remediation contract for the facility. I ask that Kim Nemmers, Bhate's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at 479-635-0110, or by email at rose.m.zeiler.civ@mail.mil.

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Rose M. Zeiler, Ph.D.
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A. Maly, USAEC, San Antonio, TX
K. Nemmers, Bhate, Lakewood, CO
P. Srivastav, APTIM, Houston, TX

Final
Sixth Annual Remedial Action Operation Report, LHAAP-67 (Aboveground Storage Tank Farm)
Longhorn Army Ammunition Plant
Karnack, Texas

Prepared for

U.S. Army Corps of Engineers, Tulsa District
Contracting Division
2488 East 81st Street
Tulsa, Oklahoma 74137-4290

Prepared by

bhate

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Birmingham, Alabama 35205
1-800-806-4001 • www.bhate.com

Prepared by

APTIM

Aptim Federal Services, LLC
2500 City West, Suite 1700
Houston, Texas 77042

Contract No. W9128F-13-D-0012
Task Order No. W9128BV17F0150
Project No. 501032
Rev 0
September 2020

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Acronyms and Abbreviations

µg/L	micrograms per liter
AECOM	AECOM Technical Services, Inc.
APTIM	Aptim Federal Services, LLC
AST	aboveground storage tank
bgs	below ground surface
Bhate	Bhate Environmental, Inc.
COCs	contaminants of concern
DCA	dichloroethane
DCE	dichloroethene
DHC	*Dehalococcoides sp.*
DO	dissolved oxygen
LHAAP	Longhorn Army Ammunition Plant
LUCs	land use controls
MCL	maximum contaminant level
mg/L	milligrams per liter
MNA	monitored natural attenuation
mV	millivolts
No.	number
ORP	oxidation-reduction potential
RACR	Remedial Action Completion Report
RA-O	remedial action operation
RAWP	Remedial Action Work Plan
ROD	Record of Decision
RD	Remedial Design
Shaw	Shaw Environmental & Infrastructure, Inc.
SU	standard unit
TCA	trichloroethane
TCE	trichloroethene
TCEQ	Texas Commission on Environmental Quality
TOC	total organic carbon
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

Contract No. W9128F-13-D-0012, Task Order No. W9128BV17F0150 • Final • Rev 0 • September 2020

Contract No. W9128F-13-D-0012, Task Order No. W9128BV17F0150 • Final • Rev 0 • September 2020

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1.0 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Tulsa District, contracted with Bhate Environmental, Inc. (Bhate) under the Omaha Multiple Environmental Government Acquisition National Small Business Multiple Award Task Order Contract, Environmental Remediation Services with Military Munitions Response Program, Task Order Number (No.) W9128BV17F0150, to conduct environmental restoration at multiple sites at the former Longhorn Army Ammunition Plant (LHAAP). The Bhate Team consists of Bhate and Aptim Federal Services, LLC (APTIM).

LHAAP is located in east Texas in the northeastern corner of Harrison County between State Highway 43 in Karnack, Texas, and the western shore of Caddo Lake (**Figure 1-1**). The nearest cities are Marshall, Texas, approximately 14 miles to the southwest, and Shreveport, Louisiana, approximately 40 miles to the east. Caddo Lake is a large freshwater lake that bounds LHAAP to the north and east. The eastern fence of the LHAAP installation is 3.5 miles from the Texas-Louisiana state border.

A Final Record of Decision (ROD) was executed for LHAAP-67 in June 2010 (USACE 2010). Groundwater monitoring at LHAAP-67 is ongoing as described in the Final Remedial Action Completion Report (RACR) (AECOM 2016). The draft first year remedial action operation (RA-O) report was prepared in March 2015. The Fifth Year Final RA-O report was finalized in March 2020 and covered the period from August 2018 to August 2019. The Fifth Year RA-O report included semiannual sampling conducted in October 2018 and May 2019, but also covered installation of two new wells in August 2019 needed for the Sixth Year RA-O. To bring the normal RA-O report schedule in line with the previous four years, this report will again cover the period from June 2019 and May 2020, with the exclusion of the monitoring well installation in August 2019. This report encompasses and provides analysis for six years of monitored natural attenuation (MNA) data.

1.1 Remedial Action Objectives

The remedial action objectives at the LHAAP-67 site must protect human health and meet applicable or relevant and appropriate requirements. There are no ecological risks at the LHAAP-67 site (USACE 2010).

The remedial action objectives for the LHAAP-67 site, consistent with the reasonably anticipated future use as a national wildlife refuge, are:

- Protection of human health by preventing human exposure to the contaminated groundwater

Contract No. W9128F-13-D-0012, Task Order No. W9128BV17F0150 • Final • Rev 0 • September 2020

- Protection of human health and the environment by preventing contaminated groundwater from migrating into nearby surface water
- Return of groundwater to its potential beneficial use as drinking water, wherever practicable

1.2 Performance Objectives

The remedy selected for LHAAP-67 is land use controls (LUCs) and MNA. The performance objectives at LHAAP-67 consist of two components: 1) physical inspections and 2) groundwater/surface water monitoring. As a component of the LUC implementation, the civil survey of the LUC boundary was conducted in November 2014 and recorded in the Harrison County Courthouse in December 2014. Physical inspections are conducted periodically to confirm compliance with the LUC objectives, which consist of preventing human exposure to groundwater contamination presenting an unacceptable risk to a future maintenance worker and ensuring that there is no withdrawal or use of groundwater from the site for anything other than environmental monitoring and testing until the cleanup levels are attained. Groundwater monitoring has been in-progress at the site since May 2013, and LHAAP-67 was included as part of the site-wide Final Fourth Five Year Review Report finalized in May 2019 (USACE 2019).

According to the Remedial Design (RD), groundwater monitoring is being performed to demonstrate that natural attenuation is an effective remedy that will attain the remediation objectives over time and that the groundwater plume will not migrate to nearby surface water bodies at levels that may present an unacceptable risk to human health and the environment (Shaw 2011). Groundwater monitoring is being performed in accordance with the Remedial Action Work Plan (RAWP) (AECOM 2013) to:

- Detect changes in environmental conditions that may reduce the efficacy of natural attenuation processes
- Identify potentially toxic and/or mobile transformation products
- Verify that the plume is not expanding and poses no unacceptable risk to downgradient receptors
- Detect new releases of contaminants to the environment that could impact effectiveness of the natural attenuation remedy
- Verify attainment of the remediation objectives

Work completed as part of the 2019–2020 RA-O consisted of the following:

- Installation of monitoring wells 67WW17 and 67WW18 in July–August 2019, which was previously reported in the Fifth Year RA-O Report (Bhate 2020)
- October 2019 annual groundwater monitoring event consisting of 17 wells
- August 2019 LUC inspection
- Well maintenance activities

This report summarizes the LUC compliance inspection, results of groundwater sampling, and an evaluation of MNA.

1.3 Site Description

LHAAP-67 is in the central portion of LHAAP, as shown on **Figure 1-2**, and covers an area of approximately 1.9 acres. The site topography is relatively flat. The nearest significant surface water body is Central Creek located approximately 870 feet southeast and upgradient of LHAAP-67. Central Creek eventually flows into Caddo Lake.

When operational, LHAAP-67 consisted of seven aboveground storage tanks (AST) used for storing No. 2 fuel oil, kerosene, and solvents. The size of the tanks is unknown. The tanks were surrounded by earthen dikes designed to contain potential spills. The ASTs have been removed and the only manmade structure remaining at the site is a railroad bed.

The LUC area associated with the groundwater use restriction at LHAAP-67 extends beyond the historical site boundaries along the western, eastern, and southern sections of the site, and encompasses a total of 2.6 acres. LHAAP-67 has no known areas of archaeological or historical importance.

1.4 Conceptual Site Model

A detailed Conceptual Site Model of LHAAP-67 was previously presented in the ROD (USACE 2010). Based upon additional data collected as part of final remedy implementation as presented in the LHAAP-67 Final RACR (AECOM 2016), the lithologic units at the site have been reclassified.

Historically, two distinct water-bearing zones (shallow and intermediate) had been designated at LHAAP-67; however, during drilling performed for the 2013 investigation, no continuous clay layer (i.e., aquitard) or significant lithological differences between previously identified shallow and intermediate zones were encountered. Collocated monitoring wells 67WW06 (total depth 51 feet below ground surface [bgs]) and 67WW07 (total depth 24.0 feet bgs), historically identified as intermediate and shallow zone wells, respectively, had similar static

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groundwater levels during the four sampling events performed during 2013–2014, with a maximum difference of 1.04 feet noted during the January 2014 event (these small differences were confirmed in the four 2014–2015 sampling events, with a maximum difference of 0.08 feet). Therefore, the previously designated shallow and intermediate zones are now considered to be hydraulically connected and constitute a single uppermost groundwater-bearing unit at LHAAP-67 to a depth of approximately 50 feet bgs. Monitoring well 67WW06, which was previously identified as an intermediate zone well, has been reclassified as a shallow zone monitoring well, screened in the uppermost groundwater-bearing unit. A deeper "intermediate" water-bearing zone was identified at a depth of approximately 68 feet bgs in boring 67DPT14 (drilled in June 2014), with a clear aquitard separating this unit from the shallow zone. To assess the deeper "intermediate" water-bearing zone, 67WW16I was installed in May 2016. Based on this information, shallow and intermediate water-bearing zones are present in the LHAAP-67 investigation area, but the configuration has been modified from that presented in the RD as discussed above.

The contaminants of concern (COCs) identified in the ROD for LHAAP-67 shallow zone groundwater are: trichloroethene (TCE), 1,1-dichloroethene (DCE), 1,2-dichloroethane (DCA), 1,1,1-trichloroethane (TCA), and 1,1,2-TCA. It is also noted that vinyl chloride, a degradation product of TCE, was detected in May 2019 below the maximum contaminant level (MCL) and was below the detection limit of 0.5 micrograms per liter (µg/L) during the sixth year RA-O sampling in October 2019. The presence of these COCs in the shallow groundwater zone represents the primary driver for remedial action as they are at concentrations above the human health standards for a hypothetical future maintenance worker under an industrial exposure scenario. No COCs were detected in 67WW16I after the first sampling event in November 2017, confirming the June 2014 results from temporary well 67DPT14 and indicating that COCs are confined to the shallow groundwater zone.

The nature and extent of groundwater contamination at LHAAP-67 was evaluated during field investigations conducted between 1998 and 2007. It is believed that historical releases from the ASTs at the site contaminated the soil, with contaminants then leaching from the soil into groundwater. A relatively small area of contamination is observed in the shallow groundwater which poses an unacceptable carcinogenic risk and noncarcinogenic hazard to a hypothetical future maintenance worker under an industrial exposure scenario. There is no groundwater contamination in the deeper "intermediate" groundwater zone. The only potentially complete exposure pathway is via use of shallow groundwater zone as drinking water. However, shallow groundwater is not used as drinking water at the refuge and the pathway is eliminated from any hypothetical receptor because LUCs are in place that prohibits the use of groundwater other than for environmental monitoring and testing. The nearest significant surface water body to LHAAP-67 site is Central Creek, located upgradient and approximately 870 feet from

the site, as shown on **Figure 1-2**. There is no other surface water body in close proximity to the LHAAP-67 site. Therefore, there is not a complete pathway from groundwater to surface water.

The First Annual RA-O report indicated that the dominant shallow zone groundwater gradient was to the north-northeast, but the flow direction began to shift by May 2014 towards the north-northwest and continued to show a north-northwesterly flow direction. Based on groundwater level data collected in 2015 through 2020, the dominant shallow zone groundwater gradient appears to be to the north-northwest. The apparent change of the shallow zone groundwater gradient may be due to the increase in precipitation the area received during 2015 and the resulting rise in groundwater levels during 2016 and in the more recent sampling events. Also, the groundwater levels fluctuate with seasonal precipitation as the groundwater elevations are higher in most wells in the spring (May) and lower in the fall events (October/November), as seen on **Figure 2-3**. The historical gradient was originally assumed to be towards the southeast in the Final RD (Shaw 2011) and was based on data collected primarily from three monitoring wells because some of the wells, such as 67WW03 and 67WW04, were dry most of the time. Therefore, because the groundwater is flowing away from Central Creek at LHAAP-67, the potential discharge to surface water in Central Creek became an incomplete exposure pathway and surface water sampling as stated in the RAWP and RACR was deemed no longer necessary (AECOM 2013, 2016).

To assess the deeper "intermediate" water-bearing zone, monitoring well 67WW16I was completed to a depth of 78 feet bgs. This well was sampled in May 2016, November 2017, May 2018, October 2018, May 2019, and October 2019, and no COCs were detected. This sampling confirms that COCs are confined to the shallow zone groundwater.

In response to the *Fourth Five-Year Review Report* (USACE 2019) recommendation to "evaluate data in the north area of the plume to determine if temporary exceedances indicate plume migration or require extension of the plume boundary monitoring well system," two new monitoring wells (67WW17 and 67WW18) were installed in the shallow groundwater zone in July and August 2019. These wells were first sampled during the sixth annual RA-O event in October 2019, and all COCs were below their respective MCLs. Therefore, the plume boundary does not extend further to the north and is currently bounded by the data from these two wells.

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2.0 SITE ACTIVITIES AT LHAAP-67

This chapter describes the results of the Year 6 RA-O activities, including annual LUC compliance inspection, the first annual groundwater monitoring, and monitoring system repairs and/or maintenance performed at LHAAP-67.

2.1 Annual LUC Compliance Inspection

The annual LUC compliance inspection for LHAAP-67 was performed on May 13, 2020. The LUC for this site is groundwater restriction, which prohibits water well installation for any purpose other than environmental monitoring and testing; and residential groundwater use until the levels of COCs in groundwater and soil allow unrestricted use and unlimited exposure. The restriction applies to groundwater underlying an approximately 6-acre area defined by the surveyed LUC boundary (AECOM 2016). The Annual LUC Compliance Certification Documentation Form for the Year 6 RA-O monitoring period is included in **Appendix A**. No noncompliance issues or concerns were noted during the annual inspection.

2.2 Groundwater Monitoring

The Year 6 RA-O monitoring is the first annual monitoring event after three years of semiannual monitoring. Groundwater was sampled in October 2019 and results are reported here. Sample Collection Logs are included in **Appendix B**. Sampling was attempted at 17 monitoring wells, which included the first sampling event at the two new monitoring wells, 67WW17 and 67WW18, as shown in **Table 2-1**. Monitoring well locations are depicted on **Figure 2-1**.

Prior to collecting groundwater samples, monitoring wells were gauged using a water level probe, and the depth-to-water was recorded to the nearest 0.01 feet from the top of casing. Depth-to-water measurements were used to calculate the groundwater elevations presented in **Table 2-2**. In October 2019, monitoring well 67WW03 was dry and could not be gauged or sampled and 67WW04 which was to be gauged only, also did not have enough water for this measurement.

Water samples were collected using low-flow sampling techniques as described in the groundwater sampling procedures found in the *Final Installation-Wide Work Plan* (Bhate 2018).

2.2.1 Approved Modifications to the Groundwater Monitoring Program

Minor modifications have been made to the groundwater monitoring program since the beginning of the RA-Os, in coordination with U.S. Environmental Protection Agency

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(USEPA) and the Texas Commission on Environmental Quality (TCEQ), since it was first developed in the RAWP (AECOM 2013).

- Monitoring wells 67WW09A and 67WW10 replaced the sampling of 67WW04 to bound the plume to the south.
- 67WW04 will continue to be gauged for water levels only during each sampling event.
- Monitoring wells 67WW06 and 67WW07 are now considered duplicative and only 67WW07 will be sampled in the future.
- 67WW06 will continue to be gauged for water levels only during each sampling event.
- Monitoring wells 67WW01 and 67WW08 were selected in the RAWP for collection of MNA geochemical parameters. Based on the lack of consistent groundwater at 67WW01 and an evaluation of COC concentrations and monitoring well locations with respect to the plume, it was determined in coordination with USEPA and TCEQ that future sampling for MNA geochemical parameters will occur at monitoring wells 67WW13 and 67WW08.
- No further surface water monitoring is planned for the LHAAP-67 site at Central Creek (AECOM 2016).
- Two additional wells, 67WW17 and 67WW18, were installed and added to the monitoring plan to evaluate the groundwater and bound the plume to the north and northwest of the site.

2.2.2 Groundwater Elevations and Flow Direction

During the Year 6 RA-O sampling events, water levels were gauged in October 2019 and used to determine groundwater flow direction, as shown on **Figure 2-2**. Monitoring wells 67WW03 and 67WW04 were dry in October 2019; however, this did not limit the ability to construct a potentiometric surface contour map. Based on the gauging data during this event, the groundwater flow direction is interpreted to be north-northwesterly. As observed previously, the groundwater levels fluctuate with seasonal precipitation, as the groundwater elevations are higher in the spring and lower in the fall, as shown on **Figure 2-3**. This figure shows that the on average, the primary pattern is groundwater elevation approximately 1.5 feet lower in the fall than in the spring. The annual sampling that began during this Year 6 RA-O event will continue in the future and may provide more consistent groundwater water levels.

The groundwater elevations across the site during the Years 2, 3, 4, 5, and 6 RA-O sampling events remained similar, with the predominant groundwater flow direction in a north-north-westerly direction.

2.2.3 Groundwater Monitoring and Analytical Results

The sixth annual RA-O is the first annual groundwater sampling event after three years of semiannual sampling. Groundwater samples were collected and analyzed for volatile organic compounds (VOC) according to SW-846 Method 8260. During the October 2019 sampling event, there was an insufficient amount of water to collect for analysis at monitoring well 67WW03. Samples collected from 67WW08 and 67WW13 were also analyzed for MNA geochemical parameters (**Table 2-1**).

During the annual Year 6 RA-O sampling event, VOCs were detected above their respective MCLs in monitoring wells 67WW01, 67WW02, 67WW08, 67WW12, 67WW13, 67WW14, and 67WW15. The highest concentrations of VOCs were detected in wells 67WW13 and 67WW15, with 1,1-DCE levels at 640 µg/L in both wells.

Analytical results for the annual RA-O period are presented in **Table 2-3** and **Table 2-4**. **Table 2-3** presents the VOC and MNA data from the RA-O Year 6 annual sampling event while **Table 2-4** presents the data from the first (2013) through the sixth year (2019) sampling events. Historical COC results, as far back at 1988 for some wells, are presented in **Table 2-5**. **Figure 2-4** depicts the VOC data in wells sampled in October 2019. The trends of COC concentrations in monitoring wells with COC concentrations greater than the MCL are depicted in graphs presented on **Figure 2-4**.

An expanded discussion on the VOCs and their distribution, including trend analysis, is included **Section 3.1**.

Groundwater monitoring well sampling forms for the October 2019 sampling event were completed for each monitoring well sampled and are included in **Appendix B**. Laboratory analytical results are included in **Appendix C**.

2.3 Surface Water Sampling

Surface water monitoring is not required for LHAAP-67, based on the change in the groundwater flow direction, and with TCEQ and USEPA concurrence. The current north-northwest groundwater flow direction indicates that Central Creek, located south of the LHAAP-67 site, is upgradient from the site and surface water monitoring continues to be unnecessary.

2.4 Groundwater Monitoring System Maintenance

Inspections of the conditions and integrity of monitoring wells are conducted during each sampling event and the information is recorded on the field sampling forms. **Appendix D** includes a photographic log, which shows the condition of the wells in October 2019. Maintenance or repairs are performed as needed, based on observed conditions. During the Year 6 reporting period, no damage to well bollards, pads, or protective well casings was observed. Also, only minimal encroachment of weeds or brush on the well pads was observed. Mowing the area to control brush and weeds is conducted on a routine basis as needed to allow access to the wells. During the Year 6 RA-O, mowing of LHAAP-67 was conducted on October 18, 2019. **Table 2-6** provides a summary of the maintenance activities that were performed at the site during the Year 6 RA-O period.

2.5 Groundwater Monitoring Optimization

In accordance with the recommendation in the Fourth Five Year Review Report (USACE 2019), and discussed in the Year 5 RA-O, two monitoring wells, 67WW17 and 67WW18, were installed to the north and northwest of the site to evaluate the extent of the plume boundary in those directions. Monitoring well 67WW17 was installed at 27 feet bgs with a screened interval from 17 to 27 feet to match the shallow screened interval in well 67WW02, while well 16WW18 was installed at 39 feet bgs with a screened interval from 29 to 39 feet bgs to match the screened interval in well 67WW15. The two new monitoring wells were sampled in October 2019, and all of the COCs were below the MCLs. These wells will be sampled annually to bound the plume in the north-northwest direction. The monitoring well network for Year 7 RA-O sampling is presented in **Table 2-7**. In accordance with the RAWP (AECOM 2013), monitoring will be conducted annually beginning in October 2019 until the next Five Year Review.

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3.0 NATURAL ATTENUATION EVALUATION

This chapter presents the results of the natural attenuation evaluation in accordance with the three lines of evidence discussed in the Final RD (Shaw 2011) for site COCs.

3.1 First Line of Evidence: Change in COC Concentrations

Natural attenuation is the combination of multiple mechanisms that reduce contaminant concentrations, including biodegradation, volatilization, dilution, advection, and absorption. The decrease of COC concentrations over time and distance is evidence of natural attenuation. The change in groundwater COC concentrations over time and with distance was evaluated at LHAAP-67. COC concentrations for the October 2019 sampling event are provided on **Figure 2-4** as well as in **Tables 2-3** and **2-4**. COCs exceeding their respective MCLs are highlighted. To aid in evaluating groundwater levels and COCs over time, concentration trends are provided on **Figure 3-1**.

Based on the general direction of groundwater flow, monitoring wells 67WW09A and 67WW10 are considered upgradient background monitoring wells. Well 67WW04 was previously used as an upgradient background well; however, it has been removed from the RA-O because it was dry during most sampling events since 2013. Monitoring wells 67WW02, 67WW05 and the two new wells 678WW17 and 67WW18 are downgradient monitoring wells. In-plume monitoring wells include 67WW01, 67WW13, and 67WW15. Monitoring wells 67WW07 and 67WW14 are considered cross-gradient wells. In the Year 6 RA-O event, seven monitoring wells had COC concentrations above the MCL: 67WW01, 67WW02, 67WW08, 67WW12, 67WW13, 67WW14, and 67WW15. During the Year 6 RA-O period, the COCs at 67WW11 have decreased and remained below the MCLs since the Year 4 RA-O period in November 2017.

At 67WW13, 1,1-DCE concentrations seasonally fluctuated from 200 to 640 µg/L between May and October 2019, respectively. However, if the evaluation of 1,2-DCE concentrations is conducted for the fall data only, 1,1-DCE was detected at concentrations of 320, 570, and 640 µg/L in 2017, 2018, and 2019, respectively. In contrast to the fall concentrations, the spring 1,1-DCE concentrations were 160, 170, and 160 µg/L in 2017, 2018, and 2019, respectively. The data show that the fluctuations in concentrations correspond to lower groundwater elevations in the fall and higher groundwater elevations in the spring, as discussed in **Section 2.2.2**.

Sixth year RA-O data indicate that contaminant concentrations decrease with distance, from the highest levels inside the plume towards the downgradient edge of the plume. Concentrations of 1,1-DCE decrease along the groundwater path from 67WW01 towards

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67WW02 (158 feet) and then to 67WW17 (87 feet) from 70 to 34 µg/L to below the detection limit of 0.5 µg/L. Also, a decrease in 1,1-DCE has been observed from 640 J µg/L to below the detection limit of 0.5 µg/L as groundwater flows 202 feet from 67WW15 to 67WW18.

Mann-Kendall analysis for the Year 6 RA-O monitoring period was completed for compounds at the seven wells where a COC was above the MCL. The results are presented in **Appendix E** in graphical format with statistical results presented on the bottom of the page. The GSI Mann-Kendall Tool Kit was used for this analysis. The concentrations of COCs are presented in micrograms per liter (µg/L). Half the reporting limit was used for nondetect values. For locations with field duplicate samples, the primary sample concentration was used in the trend analysis. The level of significance is calculated for each analysis and provided on the trend analysis sheet. A summary table of the Mann-Kendall results is provided in **Table 3-1**. Historical COC results for all wells are present in **Table 2-5**.

Significant Decreases

Mann-Kendall analysis identified statistically significant evidence of decreasing trends at the following well:

- **Monitoring well 67WW08—1,1-DCE and 1,2-DCA.** This well is located upgradient of the higher COC concentrations present at LHAAP-67 and the decreasing trends may be the result of natural attenuation (e.g., dilution from clean upgradient groundwater). Concentrations of 1,2-DCA have been continually decreasing, from the highest concentration of 106 µg/L in December 2014 to below the MCL for the first time at 2.3 µg/L in October 2019 as shown on **Figure 3-1**. A decrease in 1,1-DCA has also been observed, from 2,320 to 63 µg/L between December 2014 to October 2019, respectively. Results from future sampling events will continue to be evaluated for COC concentration trends.

Significant Increases

Mann-Kendall analysis identified statistically significant evidence of increasing trends at the following wells:

- **Monitoring well 67WW02—1,1-DCE.** During the sixth year RA-O period, 1,1-DCE concentration increased from 6.9 µg/L in October 2018 to 180 µg/L in May 2019 and then decreased to 34 µg/L in October 2019. At this well, concentrations have been the highest during the spring sampling events. In May 2018 and 2019, the concentrations were 190 and 180 µg/L, respectively, but in October of the same years the concentrations were 6.9 and 34 µg/L,

respectively. Concentrations at this well have increased since 2013, from below the MCL to levels above the MCL, and have fluctuated in an increasing trend (**Figure 3-1**). Due to the groundwater flow direction becoming more northerly, this well is now on the downgradient edge of the plume and the trend suggests that the plume may be expanding in this direction. The two new wells, 67WW17 and 67WW18, are downgradient of this well and bound the plume. Results from future sampling events will continue to be evaluated for COC concentration trends.

- **Monitoring well 67WW12—1,1-DCE.** Over the first five-years of RA-O sampling, 1,1-DCE concentrations at 67WW12 were below the MCL until October 2019. This well is located on the eastern edge of the plume and concentrations began to increase in 2017 to above the detection limit and have fluctuated. The increase in concentrations from 2.1 to 17 µg/L between May and October 2019 is the largest increase observed at this well and will continue to be evaluated in the future to determine if this trend continues.
- **Monitoring well 67WW13—1,2-DCA.** Over the first five years of RA-O sampling, 1,2-DCA concentrations at this in plume well have been stable, and during the 6 Year RA-O sampling event an increasing trend was observed for the first time. Although 1,2-DCA concentrations increased from 24 to 36 µg/L between May and October 2019, the concentrations have declined since 2015.
- **Monitoring well 67WW14—1,1-DCE.** This well is located near the west side of the plume and concentrations of 1,2-DCE have fluctuated near the MCL of 5 µg/L during the sixth year RA-O period. Concentrations at this well ranged from 4.2 to 7.4 µg/L between November 2017 and October 2019. An increasing trend has been observed since 2013, suggesting that the plume may be expanding to the west.

Stable/No Trend

Mann-Kendall analysis identified a trend as either stable or no trend at the following wells:

- **Monitoring well 67WW01—1,1-DCE and 1,2-DCA.** This well is located closer to the center of the plume and historically, 1,1,1-TCA and 1,1,2-TCA were detected above the MCL at this well (1998) along with their degradation daughter products 1,1-DCE and 1,2-DCA. The increase in daughter products 1,1-DCE and 1,2-DCA indicates that degradation was occurring. In 2016, 1,1,1-TCA and 1,1,2-TCA were reduced to or near nondetect levels, and since that time 1,1-DCE and 1,2-DCA have been decreasing. Although the Mann-Kendall analysis indicates that trends for both compounds were increasing during the first five years

of RA-O, trends are now stable, and the concentrations have continued to decrease since the highest levels were observed in 2016.

- **Monitoring well 67WW13—1,1-DCE.** This well is also near the center of the contaminant plume, and over the six years of RA-O sampling, changes in 1,1-DCE concentrations show no statistical trend, indicating that the groundwater contaminant plume in the vicinity of 67WW13 is stable.
- **Monitoring well 67WW15—1,1-DCE, 1,2-DCA, and 1,1,2-TCA.** Monitoring well 67WW15 is located cross gradient of 67WW13 and during the Year 6 RA-O the Mann-Kendall analysis shows that concentration trends of the COCs above the MCL are stable. Concentrations of 1,1-DCE decreased from 2,460 µg/L in May 2016 to 510 µg/L in November 2017 (**Figure 3-1**). Since November 2017, the elevated concentrations have fluctuated with the seasonal groundwater with the higher levels observed during the fall sampling events which specifically have fluctuated between 510 and 670 µg/L and statistically there is no trend. Concentrations of 1,2-DCA and 1,1,2-TCA have also decreased between May 2016 and November 2017, but the trends of these two compounds also show that the data is stable.

3.1.1 Predictive Modeling

During the Year 6 RA-O sampling event, a statistically significant decrease was observed at one well, 67WW08. At this upgradient in-plume well, the decreasing trend was observed for 1,1-DCE and 1,2-DCA. To determine the estimated time to achieve the MCL in this upgradient plume well, time-dependent attenuation rates were determined and are provided in **Appendix F**.

During the Year 5 RA-O, predictive modeling estimated 0.1 year for 1,2-DCA to decrease below the MCL. During the Year 6 RA-O sampling 1,2-DCA was detected at 2.3 µg/L, below the MCL, confirming that the predicative modeling was correct.

A first order rate constant was estimated for 1,1-DCE during the Year 6 RA-O at 0.001 day^{-1}. The estimated time to reduce 1,1-DCE from 63 µg/L observed in October 2019 to the MCL of 5 µg/L is estimated to be 6.9 years. A significant decrease in COCs is not occurring in other wells at LHAAP-67, and therefore degradation rates cannot be calculated to determine a time to achieve the MCL for the plume (i.e., predictive modeling by assuming some degree of degradation and degradation half-lives is not meaningful for this plume).

3.1.2 Plume Stability

Plume maps from the May 2018 through October 2019 sampling events are presented for comparison on **Figure 3-2**. 1,1,2-TCA, 1,1-DCE and 1,2-DCA are the most widespread COCs in the shallow groundwater. Since baseline sampling in 2013, the plume has remained fairly

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stable with small shifts due to seasonal groundwater elevation changes. The COC data from the RA-O monitoring indicate that the plume has migrated north-northwest, in the direction of groundwater flow. Also, at 67WW14, concentrations of 1,1-DCE have increased above the MCL only during the Year 3 and Year 6 RA-O periods, indicating that the plume boundary has fluctuated. Even though the overall plume is relatively stable, Mann-Kendall indicates a statistically significant increasing trend for 1,1-DCE in the downgradient, east and west monitoring wells. It should be noted that the trends identified in the Mann-Kendall analysis may have been influenced by fluctuations in concentrations due groundwater elevation changes and/or changes in groundwater flow direction.

At the downgradient well 67WW02, concentrations have fluctuated with groundwater levels, but the overall trend is increasing. The two new monitoring wells, 67WW17 and 67WW18, and monitoring well 67WW05 are nondetect for the site COCs, thus bounding the downgradient edge of the plumes.

To the east, at monitoring well 67WW12, a statistically significant increase was observed in 1,1-DCE, which was detected above the MCL for the first time during the Year 6 RA-O sampling event in October 2019. This data may indicate that the plume is expanding in that direction, but since this is the first time the levels have increased above the MCL, additional sampling will be required to determine if the plume is migrating.

At cross-gradient monitoring well 67WW14, located on the west side of the LHAAP-67 contaminant plume, COCs were observed above their respective MCLs once during the Year 3 RA-O and were below the MCL during the Year 4 and Year 5 RA-O sampling events. During the Year 6 RA-O, an increase in 1,1-DCE was observed, from 5.3 to 7.4 µg/L, above the MCL. Since this is the first time 1,1-DCE has been observed over the MCL since 2013 and may be due to seasonal fluctuations, additional sampling will be required to determine if the increase continues.

At the upgradient in-plume monitoring well 67WW08 COC trends are decreasing indicating that the plume is shrinking in the upgradient area. At this well, 1,2-DCA concentrations decreased to below the MCL of 5 µg/L for the first time in October 2019. The 1,1-DCE concentrations also are decreasing at this well. The decreases in COCs is attributed to primarily abiotic natural attenuation processes, including dilution from upgradient clean groundwater.

Mann-Kendall analysis at the in-plume monitoring well 67WW15 indicates COC trends are stable. Downgradient of 67WW15 is monitoring well 67WW18, where all the COCs are nondetect and suggest that concentrations are decreasing downgradient, aiding in plume stability.

Monitoring well 67WW13, located near the center of the plume, exhibited a stable trend for 1,1-DCE and a statistically increasing trend for 1,2-DCA. Similar to monitoring well 67WW15, monitoring well 67WW13 remains bounded by downgradient monitoring wells 67WW17 and 67WW18, where COCs have not been detected above MCLs.

Historically, the upgradient monitoring well 67WW11 contained elevated levels of 1,1-DCE. Since 2016, all COCs have remained below the MCLs, which suggests that natural attenuation has decreased contaminant levels, likely due to dilution effects from upgradient groundwater.

Cross-gradient and downgradient monitoring well 67WW07 also has concentrations below the MCLs over the six year RA-O period.

COCs in the upgradient monitoring wells 67WW09, 67WW09A, 67WW10, and 67WW11 have remained below the MCLs.

The sixth year of RA-O suggest that the core of the plume is stable; however, the COCs present at the downgradient and side gradient edges may be migrating. Additional sampling in the future will aid in determining if these trends continue.

3.2 Second Line of Evidence: Geochemical Indicators

Table 2-3 includes the geochemical indicators that are useful MNA evaluation parameters. Some geochemical indicators are collected in the field and are recorded for all sampling events for all wells. In February 2019, the *Final Technical Memorandum – Monitored Natural Attenuation Monitoring Parameters* (Bhate 2019) updated the list of geochemical parameters to reduce redundancy. The updated list of parameters collected at LHAAP-67 is reflected in **Table 2-3**. The full list of parameters analyzed for the MNA evaluation were collected at two wells, 67WW08 and 67WW013. The field parameters for LHAAP-67 wells include dissolved oxygen (DO), oxidation-reduction potential (ORP), pH, conductivity, turbidity, ferrous iron, and temperature.

Dissolved Oxygen

DO is the most thermodynamically favored electron acceptor used by microbes for biodegradation of organic carbon, whether natural or anthropogenic (USEPA 1998). Anaerobic bacteria, which are the primary microbes able to degrade the site COCs, generally cannot function at DO concentrations greater than about 0.5 milligrams per liter (mg/L) and hence, reductive dechlorination may not occur.

Monitoring wells 67WW01, 67WW02, 67WW08, 67WW12, 67WW13, 67WW14, and 67WW15 were evaluated because COC concentrations are greater than the MCL. The DO concentrations during the Year 6 RA-O sampling event ranged from 0.03 to 0.8 mg/L, with

six of the seven readings below the 0.5 mg/L threshold. DO levels of 0.50 mg/L or less observed in these impacted wells are favorable for biological reductive dechlorination.

Oxidation-Reduction Potential

The ORP levels indicate the oxidative or reductive potential in the aquifer matrix and provide real-time data to determine if conditions are conducive for anaerobic biodegradation. ORP values less than 50 millivolts (mV) indicate that anaerobic conditions are present in the aquifer and are favorable for biological reductive dechlorination of chlorinated ethenes and ethanes. During the Year 6 RA-O monitoring period, the ORP measurements collected from groundwater in the impacted wells were greater than 50 mV and ranged from 99 to 230 mV, except for 67WW14. At 67WW14 the ORP was observed at -44 mV, which also correlates with the DO level of 0.15 mg/L, suggesting that the groundwater is anaerobic in this area. The measurements observed in the impacted wells indicate generally oxidative conditions are present, which are not favorable for reductive dechlorination.

Nitrate

After DO has been depleted by microbes in the treatment zone, nitrate may be used as an electron acceptor for the degradation of organic carbon via denitrification and is reduced to nitrite. Nitrate levels above 1.0 mg/L may compete with reductive dechlorination (USEPA 1998). Nitrate was analyzed for monitoring wells 67WW08 and 67WW13 during Year 6 RA-O. Nitrate concentrations were below laboratory reporting limit and will not compete as a respiratory substrate with site COCs.

Iron Reduction

After nitrate, iron (III) (ferric iron) is used as an electron acceptor during anaerobic biodegradation of organic carbon. During this process, iron (III) is reduced to iron (II) (ferrous iron), which is soluble in water. Therefore, an increase in ferrous iron can indicate reducing groundwater conditions. During the Year 4 and Year 5 RA-O sampling, ferrous iron was detected at low levels, below 0.343 mg/L. In the Year 6 RA-O sampling, ferrous iron levels were detected at 0.41 and 0.06 mg/L in monitoring wells 37WW08 and 67WW13, respectively. A significant increase in ferrous iron was not observed, indicating that reducing conditions are not present in the groundwater.

Sulfate

After DO, nitrate, and iron have been depleted in the groundwater, sulfate is used as an electron acceptor and is reduced to sulfide. Concentrations of sulfate greater than 20 mg/L may compete with reductive dechlorination of the site COCs. However, in many plumes with high

concentrations of sulfate, reductive dechlorination still occurs (USEPA 1998). Sulfate was sampled at monitoring wells 67WW08 and 67WW13 during the Year 6 RA-O and was detected at 515 mg/L and 304 mg/L, respectively. Since RA-O sampling began at LHAAP-67, relatively high concentrations of sulfate have been observed and have not declined. Sulfide analysis was conducted at LHAAP-67 through October 2018, and levels were consistently below the detection limit. The data indicate that sulfate-reducing conditions do not exist in the groundwater.

Methane

Methanogenesis occurs in highly reducing conditions and generally occurs after oxygen, nitrate, iron, and sulfate have been depleted. Methane levels above 500 µg/L are considered indicative of methanogenic conditions (USEPA 1998). Methane concentrations remain low and were less than 2.5 µg/L during the Year 6 RA-O at 67WW08 and 67WW13. These methane levels suggest that methanogenic conditions are not present in the groundwater at LHAAP-67.

Total Organic Carbon

Organic carbon is utilized as an energy and hydrogen source to support the reductive dechlorination of the chlorinated COCs. Total organic carbon (TOC) concentrations greater than 20 mg/L are considered adequate to support microbial activity (USEPA 1998). TOC was analyzed in monitoring wells 67WW08 and 67WW13 during the Year 6 RA-O sampling events and ranged from 1.38 to 1.69 mg/L. The data indicate that carbon concentrations in the groundwater are not at levels sufficient to be supportive of reductive dechlorination.

pH

The pH of the groundwater has an effect on the activity of microbial populations. Microbes capable of degrading chlorinated aliphatic hydrocarbons generally prefer pH values from 6 to 8 standard units (SU) (USEPA 1998). The shallow zone groundwater pH within the plume during the Year 6 RA-O period ranged from 5.69 SU (67WW15) to 6.26 SU (67WW02), with an average of value of 6.00 SU. The pH levels in these wells are marginal for dechlorinating bacteria and would likely limit the proliferation of the microbes.

Ethene and Ethane

Ethane and ethene are the end products of the reductive dechlorination pathways for chlorinated ethanes and ethenes. During the Year 6 RA-O, 67WW08 and 67WW13 were analyzed for ethene and ethane, and concentrations continue to be below the laboratory reporting limits. The data indicate that complete dechlorination is not occurring at this time.

Geochemical Indicator MNA Parameter Summary

The qualitative assessment of geochemical indicators during the six-year RA-O period in the shallow groundwater zone at LHAAP-67 indicates current geochemical conditions are not favorable for MNA processes via biological reduction. Nonetheless, certain parameters observed in a few locations may indicate that conditions could favor biological natural attenuation, such as the low DO concentrations observed. The presence of degradation products, 1,2-DCA and 1,1-DCE, suggest that limited biological degradation is occurring; however, the primary MNA processes reducing concentrations are abiotic.

3.3 Third Line of Evidence: Microbial Analysis

If the first two lines of evidence for MNA are deemed inadequate or inconclusive and/or if the need for a contingency remedy is evaluated, data from field or microcosm studies will be necessary to establish the third line of evidence for MNA.

Dechlorinating bacteria, *Dehalococcoides sp*. (DHC) analysis was not conducted during the Year 6 RA-O, based on the recommendation in the 2019 Five Year Review (USACE 2019) and will not be conducted in the future. During the last sampling event for DHC, in October 2018, low concentrations were detected but the populations would not be sufficient to aid the biological degradation of site COCs.

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4.0 SUMMARY AND CONCLUSIONS

The LUC for LHAAP-67 is a groundwater restriction, which prohibits water well installation for any purpose other than environmental monitoring and testing and residential groundwater use within the LUC boundary until the levels of COCs in groundwater and soil allow unrestricted use and unlimited exposure. The annual LUC compliance inspection for the Year 6 RA-O period was conducted on May 13, 2020. No change in land use or groundwater use has occurred at the site during the six years of RA-O monitoring.

No noncompliance issues or concerns were identified during the annual inspection, and site monitoring wells were in good condition.

VOC data and geochemical indicators were collected over the course of the monitoring period at LHAAP-67 to evaluate effectiveness of MNA as a site remedy. A tiered approach was used to evaluate the occurrence of natural attenuation in site groundwater. The first line of evidence evaluated reductions in COC concentrations and assessed the time to achieve the MCL. The second line of evidence evaluated geochemical indicators. The third line of evidence evaluates microbial populations in the aquifer, but due to low historical concentrations and the 2019 MNA memo, this analysis has been eliminated. The results of the tiered evaluation and the conclusions are summarized below.

An assessment of the first line of evidence included an evaluation of the groundwater flow and COC degradation trends. The groundwater flow direction at LHAAP-67 has shifted over the years. In 2007, the groundwater flowed to the northwest, but during the Year 1 RA-O in 2013-2014, it flowed toward the east. Since the Year 2 RA-O in 2014–2015 the groundwater flow has been in a more north-westerly direction. During the Year 6 RA-O the groundwater direction continued to be north-northwest, towards monitoring well 67WW02, as it has been since the Year 2 RA-O in 2015. As observed in previous years, groundwater levels fluctuate with seasonal precipitation; elevations being higher in the spring and lower in the fall. The Year 6 RA-O marks the change from semiannual to annual sampling, which will be conducted in the fall. This change may provide a more reliable MNA analysis due to more consistent groundwater levels, and therefore, contaminant concentrations.

Two wells, 67WW17 and 67WW18, were installed in August 2019 to determine the extent of the downgradient plume and were sampled for the first time during the Year 6 RA-O. Concentrations of COCs in these wells were below the MCLs and the wells bound the plume in the downgradient direction.

The COCs in upgradient wells 67WW09, 67WW09A, 67WW10, and 67WW11 remain below their respective MCLs and bound the plume in the upgradient direction.

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At monitoring wells within the center of the plume, 67WW01, 67WW13, and 67WW15, COCs concentrations remained statistically stable. In-plume well 67WW15 exhibited the highest levels of COCs during the Year 6 RA-O monitoring period for the third year in a row. Cross-gradient wells 67WW01 and 67WW13 also exhibited some of the highest concentrations at the site.

At 67WW02, located at the downgradient edge of the plume, COCs have increased above the MCL and a statistically significant increasing trend in concentrations continues to be observed, but the plume is bound by the two new downgradient monitoring wells, 67WW17 and 67WW18.

The western edge of the plume has shifted over the years as concentrations at 67WW14 have fluctuated. As suggested in the third RA-O assessment, a possible shift in the plume to the west may be occurring, resulting in increasing COC concentrations at 67WW14. Although concentrations have been below the MCL during the Year 4 and Year 5 RA-O sampling events, they increased during the Year 6 RA-O. Since the COCs were not observed above MCLs at this well during the previously two years of RA-O, future sampling will determine if the increases in concentration are sustained.

At the eastern edge of the plume, COCs at 67WW12 have been below the MCL until the Year 6 RA-O sampling event. At this well, concentrations began to increase in 2017 to above the detection limit and increased from 2.1 to 17 µg/L between May and October 2019, suggesting the plume may be expanding in this direction. Although a statistically significant increase in 1,2-DCE was observed at this well, it is the first time a COC has been above the MCL and future sampling will be used determine if this increase is sustained.

A statistically significant decreasing trend was observed in the upgradient in-plume monitoring well 67WW08 for 1,2-DCA and 1,1-DCE. Using the first order rate constant for 1,2-DCE during in the Year 5 RA-O, the estimated time for levels to decrease to below the MCL was less than one year and in October 2019 the level was below the MCL. The rate constant for 1,1-DCE was estimated at 0.001 day^{-1} in October 2019 and the time to achieve the MCL of 5 µg/L is 6.9 years.

The qualitative assessment of geochemical indicators performed as the second line of evidence at LHAAP-67 indicates that the conditions in the groundwater are not completely reducing, and therefore, are not optimal for the biological degradation processes that will degrade site COCs. Although degradation products (1,2-DCA and 1,1-DCE) have been detected in monitoring wells, groundwater conditions within the impacted area are not favorable for complete biological reductive dechlorination of site COCs.

The third line of evidence to assess MNA is to evaluate microorganisms that demonstrate biological degradation. DHC analysis was not conducted in October 2019 based on the recommendation in the 2019 Five Year Review (USACE 2019) and will not be conducted in the future. The last DHC analyses was conducted during the Year 5 RA-O, and concentrations were not observed at levels favorable for reductive dechlorination.

The evaluation of MNA at LHAAP-67 indicates decreasing concentrations in the upgradient part of the plume and are primarily due to abiotic processes, including dispersion, dilution, sorption, and volatilization. However, at the leading edges of the plume, there is not a strong evidence that MNA will prevent the plume from expanding in the downgradient direction. In the wells located at the eastern and western edges of the plume, although there has been an increase in concentrations, the levels are low and are fluctuating. Additional sampling is required to determine if the increases are sustained. The Year 7 RA-O groundwater monitoring will continue on an annual basis until the next Five Year Review, in compliance with the RAWP (AECOM 2013). No additional recommendations have been made during the Year 6 RA-O.

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Tables

Table 2-1
Groundwater RA-O Sampling – 2019

Monitoring Well ID	October 2019			
	VOCs	Field Parameters [a]	MNA Parameters [b]	Water Levels
67WW01	X	X		X
67WW02	X	X		X
67WW03	Not sufficient amount of water to sample			Dry
67WW04 [c]	Gauge for water levels only			Dry
67WW05	X	X		X
67WW06 [d]	Gauge for water levels only			X
67WW07	X	X		X
67WW08	X	X	X	X
67WW09	X	X		X
67WW09A	X	X		X
67WW10	X	X		X
67WW11	X	X		X
67WW12	X	X		X
67WW13	X	X	X	X
67WW14	X	X		X
67WW15	X	X		X
67WW16I				
67WW17	X	X		X
67WW18	X	X		X

Notes:

[a] Field parameters to be monitored for all wells: pH, temperature, conductivity, turbidity, oxidation-reduction potential (ORP), dissolved oxygen (DO), and ferrous iron.

[b] MNA parameters include nitrate, sulfate, chloride, TOC, dissolved gases (methane, ethane, ethene), carbon dioxide, and dissolved iron.

[c] 67WW04 was replaced by 67WW09A and 67WW10.

[d] 67WW06 was eliminated in May 2018 due to the close proximity of 67WW07.

X - well will be analyzed for that parameter.

ID - Identifier

MNA - monitored natural attenuation

RA-O - remedial action operation

TOC - total organic carbon

VOC - volatile organic compound

Table 2-2

Groundwater Elevation Data, LHAAP-67

Well ID	Sampling Date	Top of Casing Elevation	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Screen Interval (ft from TOC)		Screen Interval (ft MSL)		Groundwater Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
67WW01 [c,d]	05/31/13	200.92	198.21	25.55	17.25	26.98	183.67	173.94	175.37
	09/27/13	200.92	198.21	Dry	17.25	26.98	183.67	173.94	Dry
	01/23/14	200.92	198.21	Dry	17.25	26.98	183.67	173.94	Dry
	05/07/14	200.92	198.21	26.9	17.25	26.98	183.67	173.94	174.02
	07/24/14	200.92	198.21	26.20	17.25	26.98	183.67	173.94	174.72
	12/02/14	200.92	198.21	25.17	17.25	26.98	183.67	173.94	175.75
	02/10/15	200.92	198.21	25.55	17.25	26.98	183.67	173.94	175.37
	05/19/15	200.92	198.21	23.40	17.25	26.98	183.64	173.91	177.52
	11/18/15	200.92	198.21	26.17	17.25	26.98	183.64	173.91	174.75
	03/28/16	200.92	198.21	23.71	17.25	26.98	183.64	173.91	177.21
	05/18/16	200.92	198.21	23.26	17.25	26.98	183.64	173.91	177.66
	11/28/17	200.92	198.21	25.95	17.25	26.98	183.64	173.91	174.97
	05/02/18	200.92	198.21	24	17.25	26.98	183.64	173.91	176.92
	10/25/18	200.92	198.21	26.98	17.25	26.98	183.64	173.91	173.94
	05/03/19	200.92	198.21	22.97	17.25	26.98	183.64	173.91	177.95
	10/24/19	200.92	198.21	23.77	17.25	26.98	183.64	173.91	177.15
67WW02 [c,d]	05/31/13	199.69	196.61	24.38	18.05	27.78	181.64	171.91	175.31
	09/27/13	199.69	196.61	25.28	18.05	27.78	181.64	171.91	174.41
	01/23/14	199.69	196.61	24.77	18.05	27.78	181.64	171.91	174.92
	05/06/14	199.69	196.61	27.68	18.05	27.78	181.64	171.91	172.01
	07/23/14	199.69	196.61	23.45	18.05	27.78	181.64	171.91	176.24
	12/02/14	199.69	196.61	24.13	18.05	27.78	181.64	171.91	175.56
	02/10/15	199.69	196.61	23.65	18.05	27.78	181.64	171.91	176.04
	05/11/15	199.69	196.61	22.79	18.05	27.78	181.97	172.24	176.90
	11/18/15	199.69	196.61	24.22	18.05	27.78	181.97	172.24	175.47
	05/18/16	199.69	196.61	22.58	18.05	27.78	181.97	172.24	177.11
	11/28/17	199.69	196.61	23.95	18.05	27.78	181.97	172.24	175.74
	05/03/18	199.69	196.61	24.15	18.05	27.78	181.97	172.24	175.54
	10/25/18	199.69	196.61	24.35	18.05	27.78	181.97	172.24	175.34
	05/01/19	199.69	196.61	22.42	18.05	27.78	181.97	172.24	177.27
	10/24/19	199.69	196.61	22.97	18.05	27.78	181.97	172.24	176.72
67WW03 [c]	05/31/13	200.44	198.12	25.39	15.27	24.90	185.17	175.54	175.05
	09/27/13	200.44	198.12	Dry	15.27	24.90	185.17	175.54	Dry
	01/23/14	200.44	198.12	Dry	15.27	24.90	185.17	175.54	Dry
	05/06/14	200.44	198.12	Dry	15.27	24.90	185.17	175.54	Dry
	07/23/14	200.44	198.12	Dry	15.27	24.90	185.17	175.54	Dry
	12/02/14	200.44	198.12	Dry	15.27	24.90	185.17	175.54	Dry
	02/10/15	200.44	198.12	Dry	15.27	24.90	185.17	175.54	Dry
	05/11/15	200.44	198.12	22.98	15.27	24.90	185.17	175.54	177.46
	11/18/15	200.44	198.12	Dry	15.27	24.90	185.17	175.54	Dry
	03/28/16	200.44	198.12	23.2	15.27	24.90	185.17	175.54	177.24
	05/18/16	200.44	198.12	22.76	15.27	24.90	185.17	175.54	177.68
	11/27/17	200.44	198.12	Dry	15.27	24.90	185.17	175.54	Dry
	05/02/18	200.44	198.12	Dry	15.27	24.90	185.17	175.54	Dry
	10/22/18	200.44	198.12	24.95	15.27	24.90	185.17	175.54	175.49
	05/02/19	200.44	198.12	Dry	15.27	24.90	185.17	175.54	Dry
	10/28/19	200.44	198.12	Dry	15.27	24.90	185.17	175.54	Dry

Table 2-2

Groundwater Elevation Data, LHAAP-67

Well ID	Sampling Date	Top of Casing Elevation	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Screen Interval (ft from TOC)		Screen Interval (ft MSL)		Groundwater Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
67WW04 [a]	09/27/13	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
	01/23/14	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
	05/06/14	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
	07/25/14	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
	12/02/14	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
	02/10/15	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
	05/11/15	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
	11/18/15	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
	05/16/16	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
	11/27/17	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
	05/02/18	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
	10/25/18	203.76	200.50	24.48	14.26	24.26	189.50	179.50	179.28
	05/02/19	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
	10/28/19	203.76	200.50	Dry	14.26	24.26	189.50	179.50	Dry
67WW05 [a]	09/28/13	201.00	197.48	26.40	19.52	29.52	181.48	171.48	174.60
	01/23/14	201.00	197.48	26.00	19.52	29.52	181.48	171.48	175.00
	05/06/14	201.00	197.48	25.85	19.52	29.52	181.48	171.48	175.15
	07/23/14	201.00	197.48	25.20	19.52	29.52	181.48	171.48	175.80
	12/02/14	201.00	197.48	25.55	19.52	29.52	181.48	171.48	175.45
	02/10/15	201.00	197.48	26.20	19.52	29.52	181.48	171.48	174.80
	05/11/15	201.00	197.48	24.68	19.52	29.52	181.48	171.48	176.32
	11/18/15	201.00	197.48	25.76	19.52	29.52	181.48	171.48	175.24
	05/18/16	201.00	197.48	24.56	19.52	29.52	181.48	171.48	176.44
	11/28/17	201.00	197.48	25.6	19.52	29.52	181.48	171.48	175.40
	05/02/18	201.00	197.48	25.8	19.52	29.52	181.48	171.48	175.20
	10/25/18	201.00	197.48	25.8	19.52	29.52	181.48	171.48	175.20
	05/02/19	201.00	197.48	24.46	19.52	29.52	181.48	171.48	176.54
	10/24/19	201.00	197.48	24.72	19.52	29.52	181.48	171.48	176.28
67WW06 [a]	05/31/13	200.81	196.95	25.32	41.86	51.86	158.95	148.95	175.49
	09/28/13	200.81	196.95	26.32	41.86	51.86	158.95	148.95	174.49
	01/24/14	200.81	196.95	26.61	41.86	51.86	158.95	148.95	174.20
	05/06/14	200.81	196.95	23.75	41.86	51.86	158.95	148.95	177.06
	07/23/14	200.81	196.95	23.75	41.86	51.86	158.95	148.95	177.06
	12/02/14	200.81	196.95	24.80	41.86	51.86	158.95	148.95	176.01
	02/10/15	200.81	196.95	23.95	41.86	51.86	158.95	148.95	176.86
	05/11/15	200.81	196.95	22.38	41.86	51.86	158.95	148.95	178.43
	11/18/15	200.81	196.95	24.80	41.86	51.86	158.95	148.95	176.01
	05/18/16	200.81	196.95	22.16	41.86	51.86	158.95	148.95	178.65
	11/29/17	200.81	196.95	24.66	41.86	51.86	158.95	148.95	176.15
	05/02/18	200.81	196.95	23.18	41.86	51.86	158.95	148.95	177.63
	10/25/18	200.81	196.95	24.91	41.86	51.86	158.95	148.95	175.90
	05/03/19	200.81	196.95	21.63	41.86	51.86	158.95	148.95	179.18
	10/28/19	200.81	196.95	23.37	41.86	51.86	158.95	148.95	177.44

Table 2-2

Groundwater Elevation Data, LHAAP-67

Well ID	Sampling Date	Top of Casing Elevation	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Screen Interval (ft from TOC)		Screen Interval (ft MSL)		Groundwater Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
67WW07 [a]	05/31/13	200.84	197.04	25.35	17.80	27.80	183.04	173.04	175.49
	09/27/13	200.84	197.04	26.32	17.80	27.80	183.04	173.04	174.52
	01/23/14	200.84	197.04	25.6	17.80	27.80	183.04	173.04	175.24
	05/06/14	200.84	197.04	23.8	17.80	27.80	183.04	173.04	177.04
	07/24/14	200.84	197.04	23.83	17.80	27.80	183.04	173.04	177.01
	12/02/14	200.84	197.04	24.75	17.80	27.80	183.04	173.04	176.09
	02/10/15	200.84	197.04	24.00	17.80	27.80	183.04	173.04	176.84
67WW07 [a]	05/11/15	200.84	197.04	22.45	17.80	27.80	183.04	173.04	178.39
	11/18/15	200.84	197.04	24.84	17.80	27.80	183.04	173.04	176.00
	05/18/16	200.84	197.04	22.21	17.80	27.80	183.04	173.04	178.63
	11/29/17	200.84	197.04	24.65	17.80	27.80	183.04	173.04	176.19
	05/02/18	200.84	197.04	24.25	17.80	27.80	183.04	173.04	176.59
	10/25/18	200.84	197.04	24.94	17.80	27.80	183.04	173.04	175.90
	05/03/19	200.84	197.04	21.72	17.80	27.80	183.04	173.04	179.12
	10/28/19	200.84	197.04	23.40	17.80	27.80	183.04	173.04	177.44
67WW08 [b,d]	06/03/13	200.02	197.60	24.65	26.02	50.52	174.00	149.50	175.37
	10/02/13	200.02	197.60	25.57	26.02	50.52	174.00	149.50	174.45
	01/23/14	200.02	197.60	24.9	26.02	50.52	174.00	149.50	175.12
	05/07/14	200.02	197.60	23.65	26.02	50.52	174.00	149.50	176.37
	07/24/14	200.02	197.60	23.41	26.02	50.52	174.00	149.50	176.61
	12/04/14	200.02	197.60	24.23	26.02	50.52	174.00	149.50	175.79
	02/11/15	200.02	197.60	23.46	26.02	50.52	174.00	149.50	176.56
	05/19/15	200.02	197.60	22.25	26.02	50.52	174.00	149.50	177.77
	11/19/15	200.02	197.60	24.38	26.02	50.52	174.00	149.50	175.64
	05/19/16	200.02	197.60	22.12	26.02	50.54	174.00	149.50	177.90
	11/28/17	200.02	197.60	24.00	26.02	50.54	174.00	149.50	176.02
	05/01/18	200.02	197.60	22.92	26.02	50.54	174.00	149.50	177.10
	10/23/18	200.02	197.60	24.41	26.02	50.54	174.00	149.50	175.61
	05/01/19	200.02	197.60	21.67	26.02	50.54	174.00	149.50	178.35
	10/28/19	200.02	197.60	22.85	26.02	50.54	174.00	149.50	177.17
67WW09 [b]	06/01/13	198.21	195.72	22.78	16.99	36.49	181.22	161.72	175.43
	09/28/13	198.21	195.72	23.66	16.99	36.49	181.22	161.72	174.55
	01/24/14	198.21	195.72	22.95	16.99	36.49	181.22	161.72	175.26
	05/06/14	198.21	195.72	21.52	16.99	36.49	181.22	161.72	176.69
	07/25/14	198.21	195.72	21.40	16.99	36.49	181.22	161.72	176.81
	12/04/14	198.21	195.72	22.25	16.99	36.49	181.22	161.72	175.96
	02/11/15	198.21	195.72	21.50	16.99	36.49	181.22	161.72	176.71
	05/19/15	198.21	195.72	20.30	16.99	36.49	181.22	161.72	177.91
	11/18/15	198.21	195.72	22.24	16.99	36.49	181.22	161.72	175.97
	05/18/16	198.21	195.72	20.15	16.99	36.49	181.22	161.72	178.06
	11/27/17	198.21	195.72	22.06	16.99	36.49	181.22	161.72	176.15
	05/02/18	198.21	195.72	20.95	16.99	36.49	181.22	161.72	177.26
	10/23/18	198.21	195.72	22.43	16.99	36.49	181.22	161.72	175.78
	05/03/19	198.21	195.72	19.83	16.99	36.49	181.22	161.72	178.38
	10/24/19	198.21	195.72	20.78	16.99	36.49	181.22	161.72	177.43

Table 2-2

Groundwater Elevation Data, LHAAP-67

Well ID	Sampling Date	Top of Casing Elevation	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Screen Interval (ft from TOC)		Screen Interval (ft MSL)		Groundwater Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
67WW09A [b]	09/27/13	202.93	200.40	28.4	23.33	38.03	179.60	164.90	174.53
	01/23/14	202.93	200.40	27.65	23.33	38.03	179.60	164.90	175.28
	05/06/14	202.93	200.40	26.1	23.33	38.03	179.60	164.90	176.83
	07/24/14	202.93	200.40	26.06	23.33	38.03	179.60	164.90	176.87
	12/03/14	202.93	200.40	27.00	23.33	38.03	179.60	164.90	175.93
	02/10/15	202.93	200.40	26.11	23.33	38.03	179.60	164.90	176.82
	05/12/15	202.93	200.40	24.97	23.33	38.03	179.60	164.90	177.96
	11/18/15	202.93	200.40	26.97	23.33	38.03	179.60	164.90	175.96
	05/18/16	202.93	200.40	24.61	23.33	38.03	179.60	164.90	178.32
	11/29/17	202.93	200.40	26.81	23.33	38.03	179.60	164.90	176.12
	05/03/18	202.93	200.40	25.78	23.33	38.03	179.60	164.90	177.15
	10/25/18	202.93	200.40	27.02	23.33	38.03	179.60	164.90	175.91
	05/02/19	202.93	200.40	24.35	23.33	38.03	179.60	164.90	178.58
	10/28/19	202.93	200.40	25.5	23.33	38.03	179.60	164.90	177.43
67WW10 [b]	06/01/13	201.51	198.80	26.1	22.71	52.21	178.80	149.30	175.41
	09/27/13	201.51	198.80	27.03	22.71	52.21	178.80	149.30	174.48
	01/24/14	201.51	198.80	26.22	22.71	52.21	178.80	149.30	175.29
	05/06/14	201.51	198.80	24.4	22.71	52.21	178.80	149.30	177.11
	07/24/14	201.51	198.80	24.42	22.71	52.21	178.80	149.30	177.09
	12/03/14	201.51	198.80	25.58	22.71	52.21	178.80	149.30	175.93
	02/10/15	201.51	198.80	24.55	22.71	52.21	178.80	149.30	176.96
	05/12/15	201.51	198.80	23.10	22.71	52.21	178.80	149.30	178.41
	11/18/15	201.51	198.80	25.49	22.71	52.21	178.80	149.30	176.02
	05/18/16	201.51	198.80	22.73	22.71	52.21	178.80	149.30	178.78
	11/29/17	201.51	198.80	25.35	22.71	52.21	178.80	149.30	176.16
	05/03/18	201.51	198.80	23.77	22.71	52.21	178.80	149.30	177.74
	10/22/18	201.51	198.80	25.65	22.71	52.21	178.80	149.30	175.86
	05/02/19	201.51	198.80	22.31	22.71	52.21	178.80	149.30	179.20
	10/28/19	201.51	198.80	24.07	22.71	52.21	178.80	149.30	177.44
67WW11 [b]	06/01/13	199.64	197.21	24.21	22.93	47.43	176.71	152.21	175.43
	10/02/13	199.64	197.21	25.17	22.93	47.43	176.71	152.21	174.47
	01/23/14	199.64	197.21	24.45	22.93	47.43	176.71	152.21	175.19
	05/06/14	199.64	197.21	22.86	22.93	47.43	176.71	152.21	176.78
	07/24/14	199.64	197.21	23.89	22.93	47.43	176.71	152.21	175.75
	12/04/14	199.64	197.21	23.77	22.93	47.43	176.71	152.21	175.87
	02/11/15	199.64	197.21	23.95	22.93	47.43	176.71	152.21	175.69
	05/19/15	199.64	197.21	21.67	22.93	47.43	176.71	152.21	177.97
	11/19/15	199.64	197.21	23.91	22.93	47.43	176.71	152.21	175.73
	05/19/16	199.64	197.21	22.48	22.93	47.43	176.71	152.21	177.16
	11/27/17	199.64	197.21	23.53	22.93	47.43	176.71	152.21	176.11
	05/02/18	199.64	197.21	22.37	22.93	47.43	176.71	152.21	177.27
	10/23/18	199.64	197.21	23.95	22.93	47.43	176.71	152.21	175.69
	05/01/19	199.64	197.21	21.21	22.93	47.43	176.71	152.21	178.43
	10/24/19	199.64	197.21	22.28	22.93	47.43	176.71	152.21	177.36

Table 2-2

Groundwater Elevation Data, LHAAP-67

Well ID	Sampling Date	Top of Casing Elevation	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Screen Interval (ft from TOC)		Screen Interval (ft MSL)		Groundwater Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
67WW12 [b]	06/01/13	201.65	199.07	26.46	26.58	36.08	175.07	165.57	175.19
	10/01/13	201.65	199.07	24.4	26.58	36.08	175.07	165.57	177.25
	01/24/14	201.65	199.07	26.8	26.58	36.08	175.07	165.57	174.85
	05/06/14	201.65	199.07	25.43	26.58	36.08	175.07	165.57	176.22
	07/25/14	201.65	199.07	25.30	26.58	36.08	175.07	165.57	176.35
	12/03/14	201.65	199.07	26.12	26.58	36.08	175.07	165.57	175.53
	02/10/15	201.65	199.07	25.35	26.58	36.08	175.07	165.57	176.30
	05/12/15	201.65	199.07	24.50	26.58	36.08	175.07	165.57	177.15
	11/18/15	201.65	199.07	26.16	26.58	36.08	175.07	165.57	175.49
	05/18/16	201.65	199.07	24.16	26.58	36.08	175.07	165.57	177.49
	11/29/17	201.65	199.07	26.03	26.58	36.08	175.07	165.57	175.62
	05/03/18	201.65	199.07	24.85	26.58	36.08	175.07	165.57	176.80
	10/22/18	201.65	199.07	26.30	26.58	36.08	175.07	165.57	175.35
	05/02/19	201.65	199.07	23.85	26.58	36.08	175.07	165.57	177.80
	10/28/19	201.65	199.07	24.87	26.58	36.08	175.07	165.57	176.78
67WW13	05/31/13	197.92	195.85	22.55	12.57	27.07	185.35	170.85	175.37
	10/01/13	197.92	195.85	23.42	12.57	27.07	185.35	170.85	174.50
	01/24/14	197.92	195.85	22.68	12.57	27.07	185.35	170.85	175.24
	05/06/14	197.92	195.85	21.66	12.57	27.07	185.35	170.85	176.26
	07/25/14	197.92	195.85	21.55	12.57	27.07	185.35	170.85	176.37
	12/04/14	197.92	195.85	22.22	12.57	27.07	185.35	170.85	175.70
67WW13	02/11/15	197.92	195.85	21.61	12.57	27.07	185.35	170.85	176.31
	05/19/15	197.92	195.85	20.55	12.57	27.07	185.35	170.85	177.37
	11/18/15	197.92	195.85	22.22	12.57	27.07	185.35	170.85	175.70
	05/19/16	197.92	195.85	20.40	12.57	27.07	185.35	170.85	177.52
	11/28/17	197.92	195.85	21.98	12.57	27.07	185.35	170.85	175.94
	05/01/18	197.92	195.85	21.10	12.57	27.07	185.35	170.85	176.82
	10/23/18	197.92	195.85	22.38	12.57	27.07	185.35	170.85	175.54
	05/01/19	197.92	195.85	20.18	12.57	27.07	185.35	170.85	177.74
	10/28/19	197.92	195.85	20.95	12.57	27.07	185.35	170.85	176.97
67WW14	10/01/13	196.96	194.52	21.8	14.44	29.44	182.52	167.52	175.16
	01/24/14	196.96	194.52	21.47	14.44	29.44	182.52	167.52	175.49
	05/07/14	196.96	194.52	20.58	14.44	29.44	182.52	167.52	176.38
	07/25/14	196.96	194.52	20.25	14.44	29.44	182.52	167.52	176.71
	12/03/14	196.96	194.52	20.85	14.44	29.44	182.52	167.52	176.11
	02/10/15	196.96	194.52	20.40	14.44	29.44	182.52	167.52	176.56
	05/12/15	196.96	194.52	19.64	14.44	29.44	182.52	167.52	177.32
	11/18/15	196.96	194.52	20.81	14.44	29.44	182.52	167.52	176.15
	05/18/16	196.96	194.52	19.40	14.44	29.44	182.52	167.52	177.56
	11/27/17	196.96	194.52	20.51	14.44	29.44	182.52	167.52	176.45
	05/02/18	196.96	194.52	19.90	14.44	29.44	182.52	167.52	177.06
	10/22/18	196.96	194.52	20.85	14.44	29.44	182.52	167.52	176.11
	05/02/19	196.96	194.52	18.78	14.44	29.44	182.52	167.52	178.18
	10/24/19	196.96	194.52	19.37	14.44	29.44	182.52	167.52	177.59

Table 2-2

Groundwater Elevation Data, LHAAP-67

Well ID	Sampling Date	Top of Casing Elevation	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Screen Interval (ft from TOC)		Screen Interval (ft MSL)		Groundwater Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
67WW15	05/19/16	199.82	197.24	22.18	34.20	43.90	165.62	155.92	177.64
	11/27/17	199.82	197.24	23.85	34.20	43.90	165.62	155.92	175.97
	05/02/18	199.82	197.24	23.000	34.20	43.90	165.62	155.92	176.82
	10/23/18	199.82	197.24	24.23	34.20	43.90	165.62	155.92	175.59
	05/03/19	199.82	197.24	22.04	34.20	43.90	165.62	155.92	177.78
	10/24/19	199.82	197.24	22.72	34.20	43.90	165.62	155.92	177.10
67WW16I [e]	05/18/16	199.51	197.12	21.95	67.70	77.40	131.81	122.11	177.56
	11/29/17	199.51	197.12	24.81	67.70	77.40	131.81	122.11	174.70
	05/03/18	199.51	197.12	22.75	67.70	77.40	131.81	122.11	176.76
	10/25/18	199.51	197.12	24.03	67.70	77.40	131.81	122.11	175.48
	05/01/19	199.51	197.12	21.8	67.70	77.40	131.81	122.11	177.71
	10/24/19	199.51	197.12	22.69	67.70	77.40	131.81	122.11	176.82
67WW17	10/24/19	199.73	196.33	23.65	17.00	27.00	182.73	172.73	176.08
67WW18	10/24/19	198.90	195.29	23.55	29.00	39.00	169.90	159.90	175.35

Notes:

Elevations are reported as feet above mean sea level (ft MSL).

[a] Screen information calculated from Data Gap Investigation Report (Shaw 2007).

[b] Screen information calculated from well construction detail forms.

[c] Well screen top and bottom depths and elevations for monitoring wells 67WW01, 67WW02, and 67WW03 were revised/confirmed with a downhole camera survey performed in March 2015.

[d] Monitoring wells 67WW01, 67WW02, and 67WW08 were re-surveyed in September 2016 and elevations in the table for these wells are based on the re-survey

[e] Intermediate zone monitoring well

Dry - insufficient or no water in well

ft - feet

ID - Identifier

MSL - mean sea level

TOC - top of casing

Table 2-3
Groundwater Results
October 2019

		Location Code	67WW01		67WW02		67WW03		67WW05		67WW07		67WW08		67WW08		67WW09		67WW09A	
		Sample ID	67WW01-191024		67WW02-191024		67WW03-191028		67WW05-191024		67WW07-191028		67WW08-191028		67WW08-191028-FD		67WW09-191024		67WW09A-191028	
		Sample Date	10/24/2019		10/24/2019		10/28/2019		10/24/2019		10/28/2019		10/28/2019		10/28/2019		10/24/2019		10/28/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		FD		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																				
Chloride	mg/L	NV											1,920		1,890					
Nitrate	mg/L	10											< 0.06	U	< 0.06	U				
Sulfate	mg/L	NV											515		513					
FIELD TESTS																				
Dissolved oxygen	mg/L	NV	0.43		0.36				0.9		0.08		0.11				0.09		0.04	
Ferrous Iron	mg/L	NV											0.41							
Oxidation-Reduction Potential	mV	NV	99		125				62		61		126				194		71	
pH	SU	NV	5.99		6.26				5.63		6.34		6.05				6.05		6.22	
Conductivity	µS/cm	NV	4.39		4.12				2.58		2.06		6.57				3.22		4.07	
Temperature	°C	NV	21.04		22.6				18.35		18.36		18.88				21.04		18.51	
Turbidity	NTU	NV	57.3		8.7				48.8		42.9		0				0		1.7	
GASES																				
Carbon dioxide	µg/L	NV											130,000		110,000					
Ethane	µg/L	NV											< 0.16	U	< 0.16	U				
Ethylene	µg/L	NV											< 0.24	U	< 0.24	U				
Methane	µg/L	NV											2.5		2.1					
TOTAL ORGANIC CARBON																				
Total organic carbon	mg/L	NV											1.38	J	1.23					
VOLATILES																				
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
1,1,1-Trichloroethane	µg/L	200	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	0.53	J	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
1,1-Dichloroethane	µg/L	10,000	3.4		1.7				< 0.2	U	< 0.2	U	7.7		7.6		< 0.2	U	< 0.2	U
1,1-Dichloroethene	µg/L	7	70		34				< 0.2	U	< 0.2	U	63		65		< 0.2	U	< 0.2	U
1,1-Dichloropropene	µg/L	2.9	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
1,2,3-Trichlorobenzene	µg/L	310	< 0.4	UJ	< 0.4	U			< 0.4	U	< 0.4	UJ	< 0.4	UJ	< 0.4	UJ	< 0.4	UJ	< 0.4	UJ
1,2,3-Trichloropropane	µg/L	0.041	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,4-Trichlorobenzene	µg/L	70	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
1,2-Dibromoethane	µg/L	0.05	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
1,2-Dichlorobenzene	µg/L	600	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	7.6		< 0.2	U			< 0.2	U	< 0.2	U	2.3		2.4		< 0.2	U	< 0.2	U
1,2-Dichloropropane	µg/L	5	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
1,3-Dichlorobenzene	µg/L	3,100	< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
1,3-Dichloropropane	µg/L	29	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
1,4-Dichlorobenzene	µg/L	75	< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
2,2-Dichloropropane	µg/L	42	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
2-Butanone	µg/L	61,000	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
2-Chlorotoluene	µg/L	2,000	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
2-Hexanone	µg/L	6,100	< 1	U	< 1	U			< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
4-Chlorotoluene	µg/L	2,000	< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
Acetone	µg/L	92,000	< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
Benzene	µg/L	5	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Bromobenzene	µg/L	2,000	< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
Bromochloromethane	µg/L	4,100	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Bromodichloromethane	µg/L	4.6	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-3
Groundwater Results
October 2019

		Location Code	67WW01		67WW02		67WW03		67WW05		67WW07		67WW08		67WW08		67WW09		67WW09A	
		Sample ID	67WW01-191024		67WW02-191024		67WW03-191028		67WW05-191024		67WW07-191028		67WW08-191028		67WW08-191028-FD		67WW09-191024		67WW09A-191028	
		Sample Date	10/24/2019		10/24/2019		10/28/2019		10/24/2019		10/28/2019		10/28/2019		10/28/2019		10/24/2019		10/28/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		FD		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Bromoform	µg/L	36	< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
Bromomethane	µg/L	140	< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
Carbon disulfide	µg/L	10,000	< 0.6	U	< 0.6	U			< 0.6	U	< 0.6	U	< 0.6	U	< 0.6	U	< 0.6	U	< 0.6	U
Carbon tetrachloride	µg/L	5	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Chlorobenzene	µg/L	100	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Chloroethane	µg/L	41,000	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Chloroform	µg/L	1,000	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Chloromethane	µg/L	220	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	µg/L	70	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,3-Dichloropropene	µg/L	5.3	< 0.1	U	< 0.1	U			< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U
Dibromochloromethane	µg/L	34	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Dibromomethane	µg/L	380	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Dichlorodifluoromethane	µg/L	20,000	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Ethylbenzene	µg/L	700	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Hexachlorobutadiene	µg/L	20	< 1	U	< 1	U			< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
Isopropylbenzene	µg/L	10,000	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
m,p-Xylenes	µg/L	10,000	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Methyl isobutyl ketone	µg/L	8,200	< 0.7	U	< 0.7	U			< 0.7	U	< 0.7	U	< 0.7	U	< 0.7	U	< 0.7	U	< 0.7	U
Methylene chloride	µg/L	5	< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
Naphthalene	µg/L	2,000	< 0.3	UJ	< 0.3	U			< 0.3	U	< 0.3	UJ	< 0.3	UJ	< 0.3	UJ	< 0.3	UJ	< 0.3	UJ
n-Butylbenzene	µg/L	4,100	< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
n-Propylbenzene	µg/L	4,100	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
o-Xylene	µg/L	10,000	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
p-Isopropyltoluene	µg/L	10,000	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
sec-Butylbenzene	µg/L	4,100	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Styrene	µg/L	100	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
tert-Butylbenzene	µg/L	4,100	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Tetrachloroethene	µg/L	5	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Toluene	µg/L	1,000	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
trans-1,2-Dichloroethene	µg/L	100	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
trans-1,3-Dichloropropene	µg/L	29	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Trichloroethene	µg/L	5	0.53	J	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Trichlorofluoromethane	µg/L	31,000	< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Vinyl chloride	µg/L	2	< 0.2	U	< 0.2	U			< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-3
Groundwater Results
October 2019

		Location Code	67WW10		67WW11		67WW12		67WW13		67WW14		67WW15		67WW16I		67WW17		67WW18			
		Sample ID	67WW10-191028		67WW11-191024		67WW12-191028		67WW13-191028		67WW14-191024		67WW15-191024		67WW16I-191024		67WW17-191024		67WW18-191024		67WW18-191024-FD	
		Sample Date	10/28/2019		10/24/2019		10/28/2019		10/28/2019		10/24/2019		10/24/2019		10/24/2019		10/24/2019		10/24/2019		10/24/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV							1,280													
Nitrate	mg/L	10							< 0.06	U												
Sulfate	mg/L	NV							304													
FIELD TESTS																						
Dissolved oxygen	mg/L	NV	0.03		0.04		0.62		0.8		0.15		0.03		0.06		0.95		1.54			
Ferrous Iron	mg/L	NV							0.06													
Oxidation-Reduction Potential	mV	NV	164		187		126		185		-44		230		-53		87		125			
pH	SU	NV	5.34		6.23		5.72		6.26		6.19		5.69		5.88		6.65		6.52			
Conductivity	µS/cm	NV	5.10		4.73		4.35		4.87		2.31		1.80		1.32		2.36		0.974			
Temperature	°C	NV	18.48		21.72		18.62		19.38		17.99		21.62		21.45		20.40		20.26			
Turbidity	NTU	NV	160		0		1.8		0		3.7		0		5.8		0		8.1			
GASES																						
Carbon dioxide	µg/L	NV							140,000													
Ethane	µg/L	NV							< 0.16	U												
Ethylene	µg/L	NV							< 0.24	U												
Methane	µg/L	NV							< 0.51	U												
TOTAL ORGANIC CARBON																						
Total organic carbon	mg/L	NV							1.69													
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
1,1,1-Trichloroethane	µg/L	200	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.3	U	< 0.3	U	< 0.3	U	5		< 0.3	U	6.4		< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
1,1-Dichloroethane	µg/L	10,000	< 0.2	U	1.9		0.51	J	31		1.8		13		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
1,1-Dichloroethene	µg/L	7	< 0.2	U	1.9		17		640		7.4		640	J	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
1,1-Dichloropropene	µg/L	2.9	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
1,2,3-Trichlorobenzene	µg/L	310	< 0.4	UJ	< 0.4	UJ	< 0.4	UJ	< 0.4	UJ	< 0.4	U	< 0.4	UJ	< 0.4	UJ	< 0.4	U	< 0.4	U	< 0.4	U
1,2,3-Trichloropropane	µg/L	0.041	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,4-Trichlorobenzene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
1,2-Dibromoethane	µg/L	0.05	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
1,2-Dichlorobenzene	µg/L	600	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	< 0.2	U	< 0.2	U	< 0.2	U	36		1.5		27		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
1,2-Dichloropropane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
1,3-Dichlorobenzene	µg/L	3,100	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
1,3-Dichloropropane	µg/L	29	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
1,4-Dichlorobenzene	µg/L	75	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
2,2-Dichloropropane	µg/L	42	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
2-Butanone	µg/L	61,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
2-Chlorotoluene	µg/L	2,000	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
2-Hexanone	µg/L	6,100	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
4-Chlorotoluene	µg/L	2,000	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
Acetone	µg/L	92,000	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
Benzene	µg/L	5	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Bromobenzene	µg/L	2,000	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
Bromochloromethane	µg/L	4,100	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Bromodichloromethane	µg/L	4.6	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-3
Groundwater Results
October 2019

		Location Code	67WW10		67WW11		67WW12		67WW13		67WW14		67WW15		67WW16I		67WW17		67WW18			
		Sample ID	67WW10-191028		67WW11-191024		67WW12-191028		67WW13-191028		67WW14-191024		67WW15-191024		67WW16I-191024		67WW17-191024		67WW18-191024		67WW18-191024-FD	
		Sample Date	10/28/2019		10/24/2019		10/28/2019		10/28/2019		10/24/2019		10/24/2019		10/24/2019		10/24/2019		10/24/2019		10/24/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Bromoform	µg/L	36	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	2.3		< 0.4	U	< 0.4	U
Bromomethane	µg/L	140	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
Carbon disulfide	µg/L	10,000	< 0.6	U	< 0.6	U	< 0.6	U	< 0.6	U	< 0.6	U	< 0.6	U	< 0.6	U	< 0.6	U	< 0.6	U	< 0.6	U
Carbon tetrachloride	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Chlorobenzene	µg/L	100	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Chloroethane	µg/L	41,000	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Chloroform	µg/L	1,000	< 0.2	U	< 0.2	U	< 0.2	U	0.66	J	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Chloromethane	µg/L	220	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	µg/L	70	< 0.2	U	< 0.2	U	< 0.2	U	1.8		< 0.2	U	1.7		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,3-Dichloropropene	µg/L	5.3	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U
Dibromochloromethane	µg/L	34	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	2.2		< 0.3	U	< 0.3	U
Dibromomethane	µg/L	380	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	0.72	J	< 0.2	U	< 0.2	U
Dichlorodifluoromethane	µg/L	20,000	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Ethylbenzene	µg/L	700	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Hexachlorobutadiene	µg/L	20	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
Isopropylbenzene	µg/L	10,000	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
m,p-Xylenes	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Methyl isobutyl ketone	µg/L	8,200	< 0.7	U	< 0.7	U	< 0.7	U	< 0.7	U	< 0.7	U	< 0.7	U	< 0.7	U	< 0.7	U	< 0.7	U	< 0.7	U
Methylene chloride	µg/L	5	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
Naphthalene	µg/L	2,000	< 0.3	UJ	< 0.3	UJ	< 0.3	UJ	< 0.3	UJ	< 0.3	U	< 0.3	UJ	< 0.3	UJ	< 0.3	U	< 0.3	U	< 0.3	U
n-Butylbenzene	µg/L	4,100	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U	< 0.4	U
n-Propylbenzene	µg/L	4,100	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
o-Xylene	µg/L	10,000	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
p-Isopropyltoluene	µg/L	10,000	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
sec-Butylbenzene	µg/L	4,100	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Styrene	µg/L	100	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
tert-Butylbenzene	µg/L	4,100	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Tetrachloroethene	µg/L	5	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Toluene	µg/L	1,000	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
trans-1,2-Dichloroethene	µg/L	100	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
trans-1,3-Dichloropropene	µg/L	29	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Trichloroethene	µg/L	5	< 0.2	U	< 0.2	U	< 0.2	U	2.6		< 0.2	U	1.5		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Trichlorofluoromethane	µg/L	31,000	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Vinyl chloride	µg/L	2	< 0.2	U	< 0.2	U	< 0.2	U	0.82	J	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-3
Groundwater Results
October 2019

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

°C - degrees Celsius

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identification

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

NV - no value established

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Val Qual - validation qualifier

Table 2-4
Groundwater Results 2013–2019

	Location Code	67WW01																			
	Sample ID	67WW01-130430		67WW01-050113		67WW01-130531		67WW01-053113		67WW01-130927		67WW01-140123		67WW01-050714		67WW01-140507		67WW01-140725		67WW01-072514	
	Sample Date	4/30/2013		5/1/2013		5/31/2013		5/31/2013		9/27/2013		1/23/2014		5/7/2014		5/7/2014		7/25/2014		7/25/2014	
	Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV													981							
Nitrate	mg/L	10													< 1	U						
Nitrite	mg/L	1													< 1	U						
Sulfate	mg/L	NV													167							
Sulfide	mg/L	NV													< 1	U						
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV													23.4							
Total organic carbon	mg/L	NV													5.25							
DHC																						
BVC	cells/mL	NV													0.5	U						
Dehalococcoides	cells/mL	NV													4.7							
FIELD TESTS																						
Conductivity	µmhos/cm	NV	3.74				3.41		3.41		-99		-99		3.57		3.57		3.57		3.57	
Dissolved oxygen	mg/L	NV	2.33				8.62		8.62		-	-	-	-	8.81		8.81		8.79		8.79	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	0				15		15		-	-	-	-	85		85		107		107	
pH	SU	NV	5.57				5.84		5.84		-	-	-	-	5.52		5.52		5.91		5.91	
Temperature	C	NV	19.98				28		28		-	-	-99		19.77		19.77		21.9		21.9	
Turbidity	NTU	NV	116				69.6		69.6		-	-	-	-	36.6		36.6		33		33	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV													5.69							
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV													< 2	U						
Ethylene	µg/L	NV													< 2	U						
Methane	µg/L	NV													33.5							
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110							< 0.25	U					< 0.5	U					< 0.5	U
1,1,1-Trichloroethane	µg/L	200							< 0.25	U					< 0.5	U					< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14							< 0.2	U					< 0.4	U					< 0.4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5							< 0.25	U					< 0.5	U					0.29	J
1,1-Dichloroethane	µg/L	10,000							6.37						11						9.2	
1,1-Dichloroethene	µg/L	7							139						257						224	
1,1-Dichloropropene	µg/L	2.9							< 0.25	U					< 0.5	U					< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310							< 0.15	U					< 0.3	U					< 0.3	U
1,2,3-Trichloropropane	µg/L	0.041							< 0.5	U					< 1	U					< 1	U
1,2,4-Trichlorobenzene	µg/L	70							< 0.2	U					< 0.4	U					< 0.4	U
1,2,4-Trimethylbenzene	µg/L	5,100							< 0.25	U					< 0.5	U					< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2							< 1	U					< 2	U					< 2	U
1,2-Dibromoethane	µg/L	0.05							< 0.25	U					< 0.5	U					< 0.5	U
1,2-Dichlorobenzene	µg/L	600							< 0.125	U					< 0.25	U					< 0.25	U
1,2-Dichloroethane	µg/L	5							6.68						12.2						10.7	
1,2-Dichloropropane	µg/L	5							< 0.2	U					< 0.4	U					< 0.4	U
1,3,5-Trimethylbenzene	µg/L	5,100							< 0.25	U					< 0.5	U					< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100							< 0.25	U					< 0.5	U					< 0.5	U
1,3-Dichloropropane	µg/L	29							< 0.2	U					< 0.4	U					< 0.4	U
1,4-Dichlorobenzene	µg/L	75							< 0.125	U					< 0.25	U					< 0.25	U
2,2-Dichloropropane	µg/L	42							< 0.25	U					< 0.5	U					< 0.5	U