LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 10

2021

Bate Stamp Numbers
01024410 – 01026357

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976–2021

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

VOLUME 10

2021

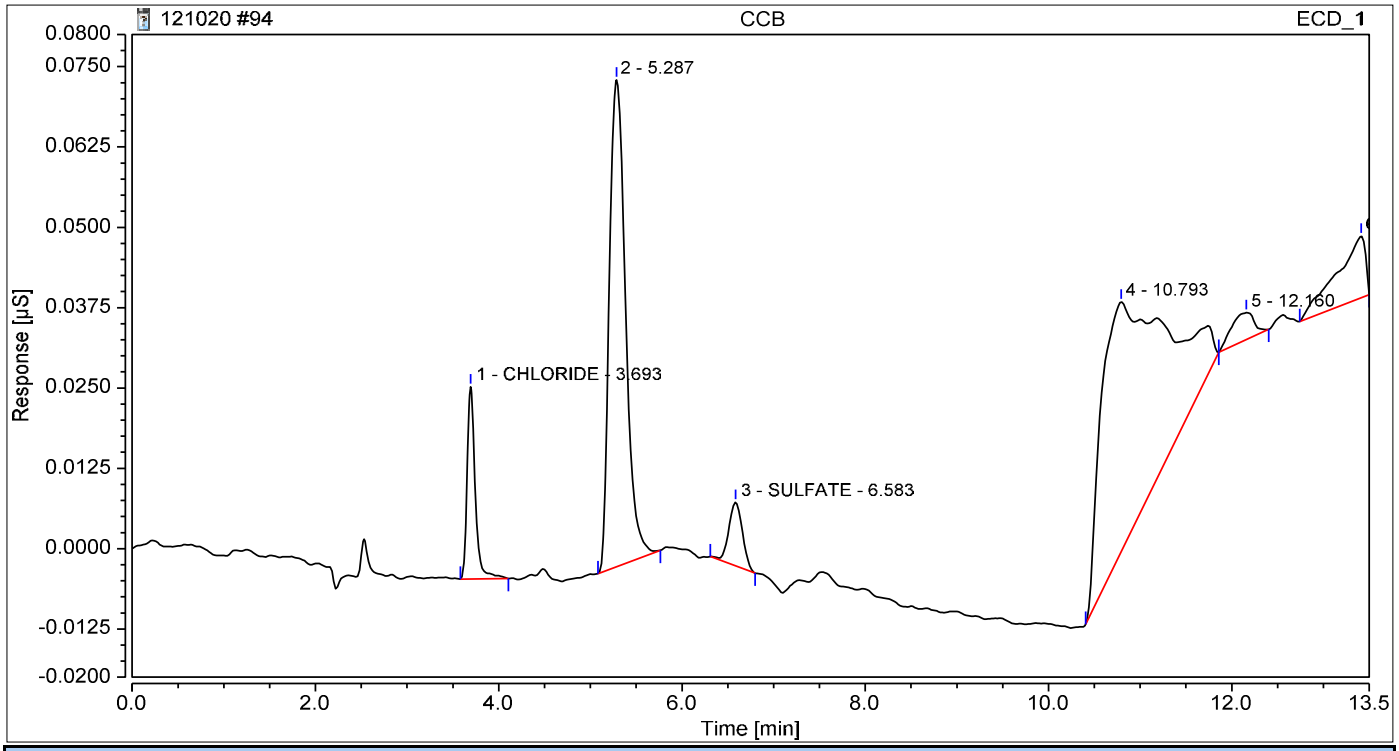
A. Title: (Cont'd) Report – Level IV DoD Analytical to Quarterly Evaluation Report, 4th Quarter (October-December) 2020, Groundwater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas, April 2021
Author(s): Bhate Environmental Associates, Inc.
Recipient: U.S. Army Corps of Engineers
Date: April 7, 2021
Bate Stamp: 01024410 – 01026357

Chromatogram and Results

Injection Details

Injection Name:	**CCB**	***Run Time (min):***	**13.50**
Vial Number:	**B5**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 13:11**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.693	0.003	0.030	5.44	17.78	0.0594
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.287	0.016	0.076	27.82	45.03	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	SULFATE	6.583	0.002	0.010	3.05	5.88	0.1129
n.a.	NITRATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		10.793	0.031	0.039	54.95	23.12	n.a.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		12.160	0.001	0.004	2.27	2.49	n.a.
6		13.413	0.004	0.010	6.46	5.70	n.a.
Total:			**0.056**	**0.168**	**100.00**	**100.00**	

HS20111258 Wet Chem Raw Data (COD)

ALS WO# HS20111258

ALS Laboratory Group — **COD Analysis** — **Logbook# 31508**

Method: HACH 8000 / EPA 410.4	Date: 12-8-20 TH 12-9-20	Low COD–420nm	Analyst:
SOP #: HS-WC025	Time: 10:30	High COD–620nm	TH

WO # / SX #	Bottle #	Init Sample Vol (mL)	Prep Final Volume (mL)	Dilution Factor	Init Conc. (mg/L)	Final Conc. (mg/L)	Comments
CCV50		2	2	1	51		
MBLK					0		
LCS					98		
HS20120271-01					6		
-01MS					53		
-01MSD					55		
HS20120355-01					13		
-02					20		
-03					17		
-04					22		
-05					13		
CCV100		2	2	1	101		
HS20120343-01					31		
HS20120251-01					30		
HS20120258-01					8		
HS20120260-01				↓	14		
HS20120299-01				2	110		
HS20120205-01				1	53		
HS20120326-01					32		
HS20120083-01					39		
CCV50		2	2	1	51		
HS20120105-01					59		
-02					37		
HS20120161-01					19		
HS20120222-01					43		
HS20120226-01					21		
HS20120354-01					60		
CCV100		2	2	1	101		

LCS ID #	CCV1 ID#	CCV2 ID#	Vial Lot#:	Reviewed By:
315.010.101	315.010.102	315.010.103	310.060.3101	pkist 12/14/20
LCS Prep Date:	**Prep Date:**	**Prep Date:**	**MS ID:**	***Pipette ID:***
10-23-20	→	→	310.060.2311	WC9. COD
Digestor ID:	**Digestor *Temp* (°C):**	**Date/Time In Digestor:**	**Date/Time Off Digestor:**	**Batch ID:**
DRB 200	150	12-9-20 8:00	12-9-20 10:00	374243

 © 2020 ALS Laboratory Group

HS20111258 Wet Chem Raw Data (O&G_1664_W_HS)

ALS WO# HS20111258

ALS Laboratory Group Confidential

121120O&GW

Method: O&G, HEM by EPA 1664A (SOP HS-WC036, Current Revision)

Analyst:	KAH
Review By:	
Batch ID:	
LCS/MS Spike ID:	3110603015
Hexane ID:	3100602817
Filter Lot:	3100602214
Silica Gel:	

Methanol ID:	3100601405	
1:1 HCl ID:	309116109	
Na2SO4 Cartridge ID:	3100602813	
Thermo HotBlock Setting (°C):	40	
pH Paper ID:	300107019-06	
Pipette ID	TDS	

Temp Ranges (°C)
Pan Drying: 105-115
Hex Evap: 68-72
HotBlock: 35-50

	grams	mg	Accept.
Init 2.0 mg wt (1.8mg to 2.2mg required):	0.0020	2.0	Yes
Init 1000 mg wt (995mg to 1005mg required):	0.9999	999.9	Yes
Final 2.0 mg wt (1.8mg to 2.2mg required):	0.0020	2.0	Yes
Final 1000 mg wt (995mg to 1005mg required):	1.0000	1000	Yes

Pan	Temp Deg C	Actual Deg C	Date	Time
Pan 1st In:	105-115	104	12/11/2020	7:40AM
Pan 1st Out:	105-115	104	12/11/2020	9:00AM
Pan 2nd In:	105-115	104	12/11/2020	9:30AM
Pan 2nd Out:	105-115	104	12/11/2020	10:35AM
Pan 3rd In:	105-115			
Pan 3rd Out:	105-115			
Oven ID:	WC Oven 4			
Balance ID:	WC Balance-03			

O&G	Temp Deg C	Actual Deg C	Date	Time
O&G 1st In:	68-72	68	12/11/2020	2:20PM
O&G 1st Out:	68-72	68	12/11/2020	2:30PM
O&G 2nd In:	68-72	68	12/11/2020	2:45PM
O&G 2nd Out:	68-72	68	12/11/2020	2:55PM
O&G 3rd In:	68-72			
O&G 3rd Out:	68-72			
Oven ID:	WC Oven 1A			
Balance ID:	WC Balance-03			

$$\text{O \& G (HEM), mg/L} = \frac{\text{Weight (HEM, mg)}}{\text{Volume (Sample Extracted, L)}}$$

Dish ID	Work Order #	Bottle Number	SGT	Sample Type	pH Check	1st Dry Pan Wt (g)	2nd Dry Pan Wt (g)	3rd Dry Pan Wt (g)	Passes Difference Criteria (Change is <0.0005 g)	Passes % Weight Criteria (Change is <4%)	Pan Weight (g)	Sample Vol (mL)	70 deg C O&G 1st dry Wt (g)	70 deg C O&G 2nd dry Wt (g)	70 deg C O&G 3rd dry Wt (g)	Passes Difference Criteria (Change is <0.0005 g)	Passes % Weight Criteria (Change is <4%)	O&G Weight (g)	O&G (mg/L)
1	WBLKW-121120	1 of 1		MBLK	<2	6.2550	6.2550		Yes	Yes	6.2550	1000	6.2551	6.2551		Yes	Yes	0.0001	0.1
2	WLCSW-121120	1 of 1		LCS	<2	6.2529	6.2529		Yes	Yes	6.2529	1000	6.2903	6.2904		Yes	Yes	0.0375	37.5
3	WLCSDW-121120	1 of 1		LCSD	<2	6.2751	6.2749		Yes	Yes	6.2749	1000	6.3141	6.3143		Yes	Yes	0.0394	39.4
4	HS20120088-01MS	2 of 2		MS	<2	6.2839	6.2838		Yes	Yes	6.2838	1000	6.3212	6.3213		Yes	Yes	0.0375	37.5
5	HS20111258-01	1 of 1		Sample	<2	6.2399	6.2395		Yes	Yes	6.2395	1000	6.2404	6.2401		Yes	Yes	0.0006	0.6
6	HS20111260-01	1 of 1		Sample	<2	6.2383	6.2383		Yes	Yes	6.2383	1000	6.2388	6.2385		Yes	Yes	0.0002	0.2
7	HS20111261-01	1 of 2		Sample	<2	6.2330	6.2330		Yes	Yes	6.2330	234	6.2334	6.2330		Yes	Yes	0.0000	0.0
8	HS20111299-02	1 of 2		Sample	<2	6.2559	6.2559		Yes	Yes	6.2559	233	6.2561	6.2561		Yes	Yes	0.0002	0.9
9	HS20120080-01	1 of 2		Sample	<2	6.2809	6.2807		Yes	Yes	6.2807	232	6.2810	6.2808		Yes	Yes	0.0001	0.4
10	HS20120088-01	1 of 2		Sample	<2	6.4102	6.4102		Yes	Yes	6.4102	230	6.4102	6.4101		Yes	Yes	-0.0001	-0.4
11	HS20120183-03	1 of 2		Sample	<2	6.2348	6.2348		Yes	Yes	6.2348	235	6.2348	6.2348		Yes	Yes	0.0000	0.0
12	HS20120185-02	1 of 2		Sample	<2	6.2199	6.2196		Yes	Yes	6.2196	230	6.2195	6.2197		Yes	Yes	0.0001	0.4
13	HS20120187-02	1 of 2		Sample	<2	6.2359	6.2361		Yes	Yes	6.2361	231	6.2363	6.2364		Yes	Yes	0.0003	1.3
14	HS20120237-01	1 of 2		Sample	<2	6.2367	6.2367		Yes	Yes	6.2367	242	6.2369	6.2369		Yes	Yes	0.0002	0.8
15	HS20120250-02	1 of 2		Sample	<2	6.1818	6.1818		Yes	Yes	6.1818	233	6.1817	6.1817		Yes	Yes	-0.0001	-0.4
16	HS20120271-01	1 of 2		Sample	<2	6.2655	6.2656		Yes	Yes	6.2656	231	6.2659	6.2657		Yes	Yes	0.0001	0.4
17	HS20120295-01	1 of 2		Sample	<2	6.2662	6.2662		Yes	Yes	6.2662	232	6.2667	6.2667		Yes	Yes	0.0005	2.2
18	HS20120296-01	1 of 2		Sample	<2	6.2374	6.2374		Yes	Yes	6.2374	232	6.2378	6.2376		Yes	Yes	0.0002	0.9
19	HS20120296-02	1 of 2		Sample	<2	6.2509	6.2510		Yes	Yes	6.2510	230	6.2514	6.2512		Yes	Yes	0.0002	0.9
20	HS20120296-03	1 of 2		Sample	<2	6.2708	6.2708		Yes	Yes	6.2708	230	6.2712	6.2711		Yes	Yes	0.0003	1.3
21	HS20120296-04	1 of 2		Sample	<2	6.2946	6.2946		Yes	Yes	6.2946	230	6.2946	6.2945		Yes	Yes	-0.0001	-0.4
22	HS20120298-01	1 of 2		Sample	<2	6.3459	6.3459		Yes	Yes	6.3459	233	6.3460	6.3460		Yes	Yes	0.0001	0.4
23	HS20120299-01	1 of 2		Sample	<2	6.3055	6.3056		Yes	Yes	6.3056	238	6.3091	6.3091		Yes	Yes	0.0035	14.7
24	HS20120384-01	3 of 4		Sample	<2	6.2261	6.2265		Yes	Yes	6.2265	960	6.2264	6.2264		Yes	Yes	-0.0001	-0.1

O&G	Temp Deg C	Actual Deg C	Date	Time
Silica Gel O&G 1st In:	68-72			
Silica Gel O&G 1st Out:	68-72			
Silica Gel O&G 2nd In:	68-72			
Silica Gel O&G 2nd Out:	68-72			
Silica Gel O&G 3rd In:	68-72			
Silica Gel O&G 3rd Out:	68-72			
Oven ID:				
Balance ID:				

$$\text{O \& G (SGT - HEM), mg/L} = \frac{\text{Weight (SGT - HEM, mg)}}{\text{Volume (Sample Extracted, L)}}$$

Dish ID	Work Order #	Silca Gel O&G 70 deg C 1st dry Wt (g)	Silca Gel O&G 70 deg C 2nd dry Wt (g)	Silca Gel O&G 70 deg C 3rd dry Wt (g)	Silica Gell Passes Difference Criteria	Silica Gell Passes % Weight Criteria	Silca Gel O&G Weight (g)	Silica Gel O&G (mg/L)
1	WBLKW-121120							#VALUE!
2	WLCSW-121120							#VALUE!
3	WLCSDW-121120							#VALUE!
4	HS20120088-01MS							#VALUE!
5	HS20111258-01							#VALUE!
6	HS20111260-01							#VALUE!
7	HS20111261-01							#VALUE!
8	HS20111299-02							#VALUE!
9	HS20120080-01							#VALUE!
10	HS20120088-01							#VALUE!
11	HS20120183-03							#VALUE!
12	HS20120185-02							#VALUE!
13	HS20120187-02							#VALUE!
14	HS20120237-01							#VALUE!
15	HS20120250-02							#VALUE!
16	HS20120271-01							#VALUE!
17	HS20120295-01							#VALUE!
18	HS20120296-01							#VALUE!
19	HS20120296-02							#VALUE!
20	HS20120296-03							#VALUE!
21	HS20120296-04							#VALUE!
22	HS20120298-01							#VALUE!
23	HS20120299-01							#VALUE!
24	HS20120384-01							#VALUE!

HS20111258 - Sub Perch Report IV (E2001170)

ALS WO# HS20111258

December 15, 2020 Service Request No:E2001170

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

Laboratory Results for: HS20111258

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory November 25, 2020
For your reference, these analyses have been assigned our service request number **E2001170.**

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.:**	E2001170
Project:	HS20111258	**Date Received:**	11/25/20
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 11/25/20.

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:

EQ2000652: 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:**E2001170
Project: HS20111258

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2001170-001	LH18/24-SP140_112420	11/24/2020	1400

Service Request Summary

Folder #: **E2001170**
Client Name: ALS Environmental - US
Project Name: HS20111258
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: 11/25/20
Internal Due Date: 12/11/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20111258
EDD: No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
Location: EHRMS-WIC 3B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2001170-001	LH18/24-SP140_112420	Water	11/24/20 1400	IV

Service Request Summary

Folder #: **E2001170**
Client Name: ALS Environmental - US
Project Name: HS20111258
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: 11/25/20
Internal Due Date: 12/11/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20111258
EDD: No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
Location: EHRMS-WIC 3B
Pressure Gas:

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

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

ALS

Chain of Custody

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

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Colorado** **COC ID:** **15223**

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: HS20111258
TSR: Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20111258-01**	**LH18/24-SP140_112420**	**Water**	**24 Nov 2020 14:00**
	SUB_Perch-6850			11 Dec 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. Mancuso Date/Time: 11/25/20

Received By: [illegible] Date/Time: [illegible]

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ACH Thermometer ID IR31

Date/Time Received: 11/29/20 Initials: CH Date/Time Logged in: 11/29/20 Initials CH

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ Courier (ACH) ○ 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?
NA		11/29/20	1200	CH	3.3	☒
						☐
						☐
						☐

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#: 371244 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/9/20 13:32

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2001169-001	LH18/24-SP650_112420_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2001170-001	LH18/24-SP140_112420	.01	6850/ClO4 DOD			Water	10mL	
3	E2001171-001	LH18/24-SP650_112420_AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2001182-001	HBW7_120320	.01	6850/ClO4 DOD			Water	10mL	
5	E2001182-002	HBW10_120320	.01	6850/ClO4 DOD			Water	10mL	
6	E2001182-003	HBW1_120320	.01	6850/ClO4 DOD			Water	10mL	
7	E2001182-004	HBW1_120320_a	.01	6850/ClO4 DOD			Water	10mL	
8	E2001182-005	GPW1_120320	.01	6850/ClO4 DOD			Water	10mL	
9	E2001182-006	GPW3_120320	.01	6850/ClO4 DOD			Water	10mL	
10	E2001186-001	LH18/24-SP650_120220-AIX	.01	6850/ClO4 DOD			Water	10mL	
11	E2001186-002	LH18/24-SP650_120220-Between	.01	6850/ClO4 DOD			Water	10mL	
12	EQ2000652-01	MB		6850/ClO4 DOD			Liquid	10mL	
13	EQ2000652-02	LCS		6850/ClO4 DOD			Liquid	10mL	
14	EQ2000652-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2000652-01 1.00µL EQ2000652-02 1.00µL EQ2000652-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 214133 Logbook Ref: Sodium Perchlorate Expires On: 08/13/2022

E2001169-001 100.00µL E2001170-001 100.00µL E2001171-001 100.00µL E2001182-001 100.00µL E2001182-002 100.00µL E2001182-003 100.00µL
E2001182-004 100.00µL E2001182-005 100.00µL E2001182-006 100.00µL E2001186-001 100.00µL E2001186-002 100.00µL EQ2000652-01 100.00µL
EQ2000652-02 100.00µL EQ2000652-03 100.00µL

Preparation Steps

Step: Preparation
Started: 12/9/20 13:32
Finished: 12/9/20 15:00
By: GRIVERA
Comments

Comments:

Preparation Information Benchsheet

Prep Run#: 371244
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/9/20 13:32

Reviewed By: GR Date: 12/9/20

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001170
Project:	HS20111258	**Date Collected:**	11/24/20 1400
Sample Matrix:	Water	**Date Received:**	11/25/20
Sample Name:	LH18/24-SP140_112420	**Units:**	µg/L
Lab Code:	E2001170-001	**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	**8900**		50.0	25.0	12.5	500	12/ 9/20	12/13/20 20:41	371244	706933	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001170
Project:	HS20111258	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000652-01	**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	12/ 9/20	12/13/20 20:09	371244	706933	

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: HS20111258
Sample Matrix: Water

Service Request: E2001170
Date Analyzed: 12/13/20

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: 371244

	Lab Control Sample EQ2000652-02			Duplicate Lab Control Sample EQ2000652-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.112	0.100	112	0.111	0.100	111	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:**	E2001170
Project:	HS20111258	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000652-02	**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	**0.112**		0.100	0.0500	0.0250	1	12/ 9/20	12/13/20 20:17	371244	706933	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001170
Project:	HS20111258	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000652-03	**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	**0.111**		0.100	0.0500	0.0250	1	12/ 9/20	12/13/20 20:25	371244	706933	

Initial Calibration

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

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: EC2000058

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201213_006	Perchlorate6850b.lcm	1x	☒	3100808-05	12/13/2020 12:49
2	PERCHLORATE2		20201213_007	Perchlorate6850b.lcm	1x	☒	3100808-06	12/13/2020 12:57
3	PERCHLORATE3		20201213_008	Perchlorate6850b.lcm	1x	☒	3100808-07	12/13/2020 13:05
4	PERCHLORATE4		20201213_009	Perchlorate6850b.lcm	1x	☒	3100808-08	12/13/2020 13:13
5	PERCHLORATE5		20201213_010	Perchlorate6850b.lcm	1x	☒	3100808-09	12/13/2020 13:20
6	PERCHLORATE6		20201213_011	Perchlorate6850b.lcm	1x	☒	3100809-01	12/13/2020 13:28
7	PERCHLORATE7		20201213_012	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 13:36
8	PERCHLORATE8		20201213_013	Perchlorate6850b.lcm	1x	☒	3100809-03	12/13/2020 13:44
9	PERCHLORATE9		20201213_014	Perchlorate6850b.lcm	1x	☒	3100809-04	12/13/2020 13:52
10	PERCHLORATE10		20201213_015	Perchlorate6850b.lcm	1x	☒	3100809-05	12/13/2020 14:00
11	ICS		20201213_016	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:08
12	PERCHLORATEICV		20201213_017	Perchlorate6850b.lcm	1x	☒	3100809-06	12/13/2020 14:16
13	LODV		20201213_019	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:32
14	PERCHLORATE7		20201213_021	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 14:47
15	E2001161-019		20201213_023	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:17
16	E2001161-020		20201213_024	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:25
17	E2001161-021		20201213_025	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:33
18	E2001161-022		20201213_026	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:41
19	E2001161-023		20201213_027	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:49
20	E2001161-024		20201213_028	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:57
21	E2001161-025X2		20201213_029	Perchlorate6850b.lcm	2x	☒		12/13/2020 16:04
22	E2001161-026		20201213_030	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:12
23	E2001161-028		20201213_031	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:20
24	E2001161-029		20201213_032	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:28
25	PERCHLORATE7		20201213_033	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 16:36
26	E2001161-006X5		20201213_034	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:44
27	E2001161-009X5		20201213_035	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:52
28	E2001161-011X5		20201213_036	Perchlorate6850b.lcm	5X	☒		12/13/2020 17:00
29	E2001161-020X2		20201213_037	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:08
30	E2001161-022X2		20201213_038	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:15
31	E2001161-028X2		20201213_039	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:23
32	PERCHLORATE7		20201213_040	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 17:31
33	EQ2000651-01		20201213_041	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:39
34	EQ2000651-02		20201213_042	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:47
35	EQ2000651-03		20201213_043	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:55
36	E2001166-001		20201213_044	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:03
37	E2001166-002		20201213_045	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:11
38	E2001166-003		20201213_046	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:19
39	E2001166-004		20201213_047	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:26
40	E2001166-005		20201213_048	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:34
41	E2001166-006		20201213_049	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:42
42	E2001166-007		20201213_050	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:50
43	PERCHLORATE7		20201213_051	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 18:58
44	E2001166-008		20201213_052	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:06
45	E2001166-009		20201213_053	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:14
46	E2001166-010		20201213_054	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:22
47	E2001166-011		20201213_055	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:30
48	E2001166-012		20201213_056	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:37
49	E2001166-013		20201213_057	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:45
50	E2001166-014		20201213_058	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:53
51	PERCHLORATE7		20201213_059	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 20:01
52	EQ2000652-01		20201213_060	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:09
53	EQ2000652-02		20201213_061	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:17
54	EQ2000652-03		20201213_062	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:25
55	E2001169-001		20201213_063	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:33
56	E2001170-001X500		20201213_064	Perchlorate6850b.lcm	500X	☒		12/13/2020 20:41
57	E2001171-001		20201213_065	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:48
58	E2001182-001		20201213_066	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:56
59	E2001182-002		20201213_067	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:04
60	E2001182-003		20201213_068	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:12
61	E2001182-004		20201213_069	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:20

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	PERCHLORATE7		20201213_070	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 21:28
63	E2001182-005		20201213_071	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:36
64	E2001182-006		20201213_072	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:44
65	E2001186-001		20201213_073	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:52
66	E2001186-002		20201213_074	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:00
67	PERCHLORATE7		20201213_075	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 22:07
68	EQ2000653-01		20201213_076	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:15
69	EQ2000653-02		20201213_077	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:23
70	EQ2000653-03		20201213_078	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:31
71	E2001175-001		20201213_079	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:39
72	E2001175-002		20201213_080	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:47
73	E2001175-003		20201213_081	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:55
74	E2001175-004X5		20201213_082	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:03
75	E2001175-005X2		20201213_083	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:11
76	E2001175-006		20201213_084	Perchlorate6850b.lcm	1x	☒		12/13/2020 23:19
77	E2001175-007X5		20201213_085	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:26
78	PERCHLORATE7		20201213_086	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 23:34
79	E2001175-008X2		20201213_087	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:42
80	E2001175-009X2		20201213_088	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:50
81	E2001175-010X2		20201213_089	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:58
82	E2001175-011X5		20201213_090	Perchlorate6850b.lcm	5X	☒		12/14/2020 0:06
83	E2001175-012X20		20201213_091	Perchlorate6850b.lcm	20X	☒		12/14/2020 0:14
84	E2001175-013		20201213_092	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:22
85	E2001175-014		20201213_093	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:30
86	E2001185-001		20201213_094	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:38
87	E2001185-002		20201213_095	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:45
88	E2001185-003		20201213_096	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:53
89	PERCHLORATE7		20201213_097	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:01
90	E2001185-004		20201213_098	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:09
91	E2001185-005		20201213_099	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:17
92	E2001185-006		20201213_100	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:25
93	PERCHLORATE7		20201213_101	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:33
94								

Initial Calibration - Detailed Report

Calibration ID: EC2000058 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000058-01	PERCHLORATE1	20201213_006	12/13/2020 12:49
02	EC2000058-02	PERCHLORATE2	20201213_007	12/13/2020 12:57
03	EC2000058-03	PERCHLORATE3	20201213_008	12/13/2020 13:05
04	EC2000058-04	PERCHLORATE4	20201213_009	12/13/2020 13:13
05	EC2000058-05	PERCHLORATE5	20201213_010	12/13/2020 13:20
06	EC2000058-06	PERCHLORATE6	20201213_011	12/13/2020 13:28
07	EC2000058-07	PERCHLORATE7	20201213_012	12/13/2020 13:36
08	EC2000058-08	PERCHLORATE8	20201213_013	12/13/2020 13:44
09	EC2000058-09	PERCHLORATE9	20201213_014	12/13/2020 13:52
10	EC2000058-10	PERCHLORATE10	20201213_015	12/13/2020 14:00

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

Perchlorate **Average RF** **RSD = 5.994** **Average RF = 0.1361**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1219	02	0.5000	0.142	03	0.7000	0.1452	04	1.0000	0.1394
05	2.0000	0.1451	06	5.0000	0.1424	07	10.0000	0.1339	08	20.0000	0.1304
09	30.0000	0.1353	10	50.0000	0.1255						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.0896	-10.4	02	0.5000	0.522	4.3	03	0.7000	0.747	6.7
04	1.0000	1.02	2.4	05	2.0000	2.13	6.6	06	5.0000	5.23	4.6
07	10.0000	9.84	-1.6	08	20.0000	19.2	-4.2	09	30.0000	29.8	-0.6
10	50.0000	46.1	-7.8								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000058	**Instrument ID:**	E-LCMS-01
Datafile ID:	20201213_017	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000058-11	T	Average RF	10	9.213	ng/mL	-7.9	<= 15

ALS Group Houston

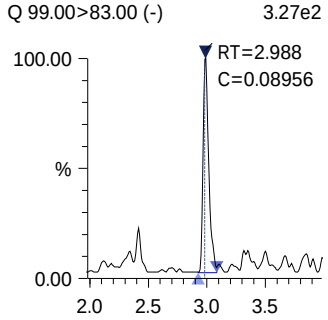
PERCHLORATE1

Date acquired: 12/13/2020 12:49:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_006.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	12/13/2020 12:49:24 PM	1098	0.08956	20201213_006	2.988	25.0000	1.0000	22
Sodium Perchlorate-18O4_IS	PERCHLORATE1	12/13/2020 12:49:24 PM	90045	1.00000	20201213_006	2.986	25.0000	1.0000	22

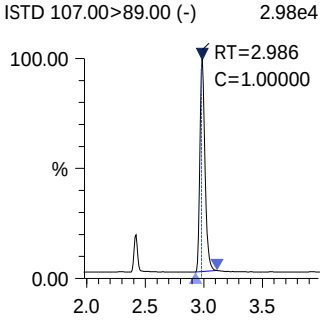
Perchlorate

Conc 0.08956
Area 1098



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 90045



ALS Group Houston

PERCHLORATE2

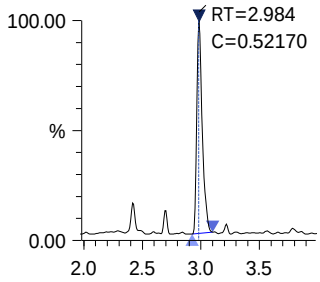
Date acquired: 12/13/2020 12:57:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_007.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	12/13/2020 12:57:20 PM	6242	0.52170	20201213_007	2.984	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	PERCHLORATE2	12/13/2020 12:57:20 PM	87904	1.00000	20201213_007	2.984	25.0000	1.0000	23

Perchlorate

Conc 0.52170
Area 6242

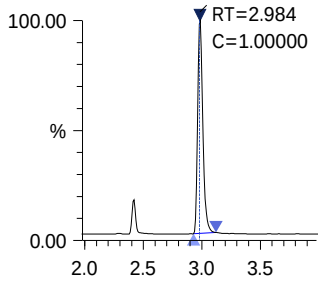
Q 99.00>83.00 (-) 1.94e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 87904

ISTD 107.00>89.00 (-) 2.84e4



ALS Group Houston

PERCHLORATE3

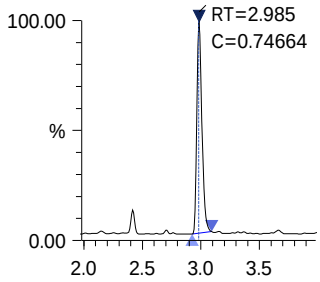
Date acquired: 12/13/2020 1:05:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_008.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	12/13/2020 1:05:13 PM	8872	0.74664	20201213_008	2.985	25.0000	1.0000	24
Sodium Perchlorate-18O4_IS	PERCHLORATE3	12/13/2020 1:05:13 PM	87298	1.00000	20201213_008	2.984	25.0000	1.0000	24

Perchlorate

Conc 0.74664
Area 8872

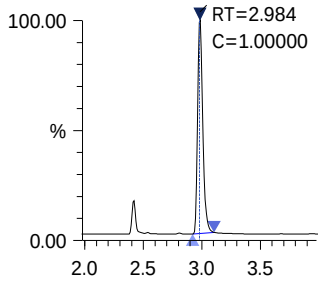
Q 99.00>83.00 (-) 2.99e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 87298

ISTD 107.00>89.00 (-) 2.82e4



ALS Group Houston

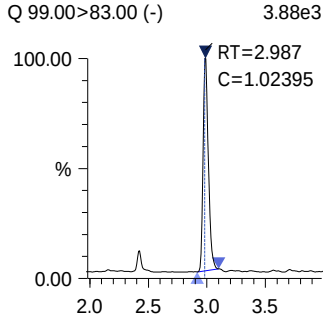
PERCHLORATE4

Date acquired: 12/13/2020 1:13:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_009.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	12/13/2020 1:13:05 PM	11913	1.02395	20201213_009	2.987	25.0000	1.0000	25
Sodium Perchlorate-18O4_IS	PERCHLORATE4	12/13/2020 1:13:05 PM	85470	1.00000	20201213_009	2.986	25.0000	1.0000	25

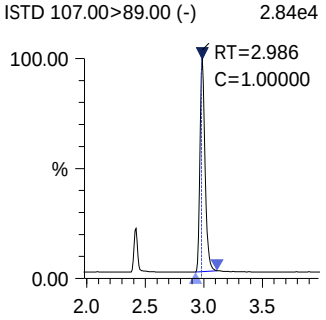
Perchlorate

Conc 1.02395
Area 11913



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 85470



ALS Group Houston

PERCHLORATE5

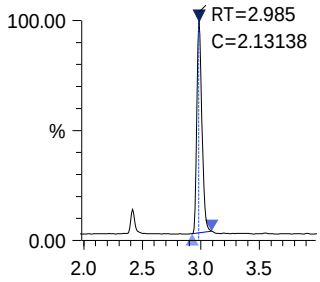
Date acquired: 12/13/2020 1:20:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_010.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	12/13/2020 1:20:58 PM	24278	2.13138	20201213_010	2.985	25.0000	1.0000	26
Sodium Perchlorate-18O4_IS	PERCHLORATE5	12/13/2020 1:20:58 PM	83679	1.00000	20201213_010	2.984	25.0000	1.0000	26

Perchlorate

Conc 2.13138
Area 24278

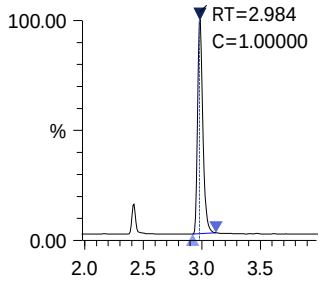
Q 99.00>83.00 (-) 8.14e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 83679

ISTD 107.00>89.00 (-) 2.65e4



ALS Group Houston

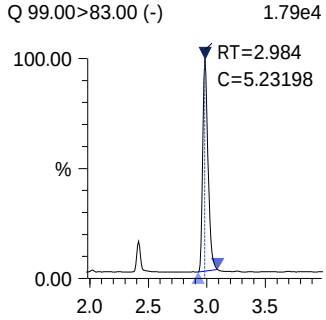
PERCHLORATE6

Date acquired: 12/13/2020 1:28:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_011.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	12/13/2020 1:28:51 PM	55433	5.23198	20201213_011	2.984	25.0000	1.0000	27
Sodium Perchlorate-18O4_IS	PERCHLORATE6	12/13/2020 1:28:51 PM	77835	1.00000	20201213_011	2.983	25.0000	1.0000	27

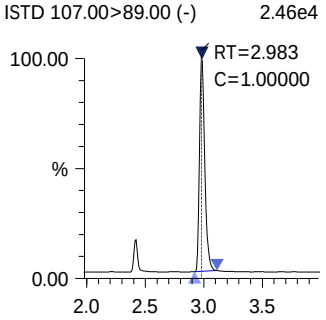
Perchlorate

Conc 5.23198
Area 55433



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 77835



ALS Group Houston

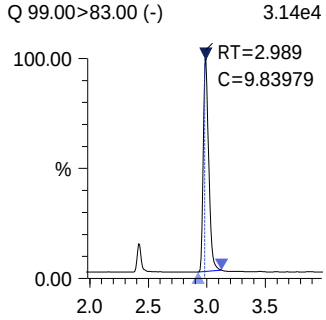
PERCHLORATE7

Date acquired: 12/13/2020 1:36:47 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_012.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/13/2020 1:36:47 PM	99306	9.83979	20201213_012	2.989	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/13/2020 1:36:47 PM	74142	1.00000	20201213_012	2.988	25.0000	1.0000	21

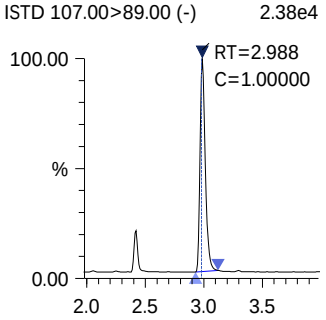
Perchlorate

Conc 9.83979
Area 99306



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 74142



ALS Group Houston

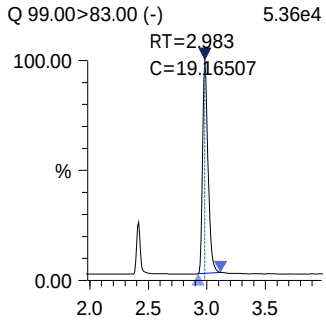
PERCHLORATE8

Date acquired: 12/13/2020 1:44:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_013.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	12/13/2020 1:44:41 PM	171329	19.16507	20201213_013	2.983	25.0000	1.0000	28
Sodium Perchlorate-18O4_IS	PERCHLORATE8	12/13/2020 1:44:41 PM	65674	1.00000	20201213_013	2.982	25.0000	1.0000	28

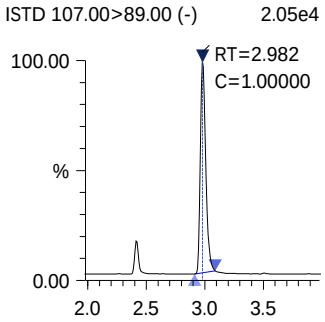
Perchlorate

Conc 19.16507
Area 171329



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 65674



ALS Group Houston

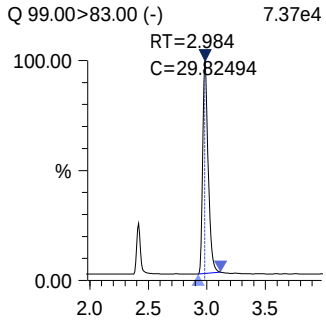
PERCHLORATE9

Date acquired: 12/13/2020 1:52:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_014.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	12/13/2020 1:52:33 PM	234759	29.82494	20201213_014	2.984	25.0000	1.0000	29
Sodium Perchlorate-18O4_IS	PERCHLORATE9	12/13/2020 1:52:33 PM	57825	1.00000	20201213_014	2.983	25.0000	1.0000	29

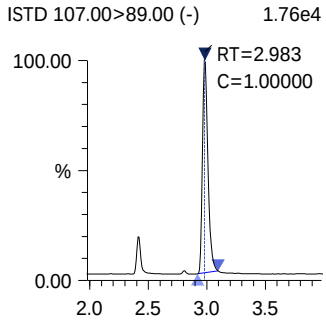
Perchlorate

Conc 29.82494
Area 234759



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 57825



ALS Group Houston

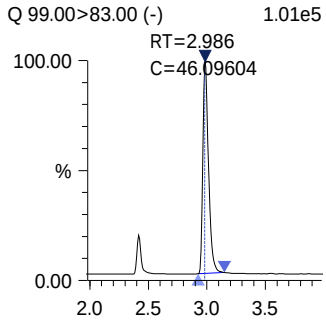
PERCHLORATE10

Date acquired: 12/13/2020 2:00:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_015.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	12/13/2020 2:00:26 PM	331808	46.09604	20201213_015	2.986	25.0000	1.0000	30
Sodium Perchlorate-18O4_IS	PERCHLORATE10	12/13/2020 2:00:26 PM	52880	1.00000	20201213_015	2.985	25.0000	1.0000	30

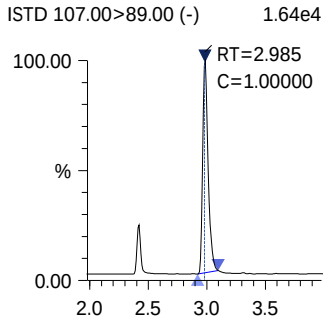
Perchlorate

Conc 46.09604
Area 331808



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 52880



ALS Group Houston

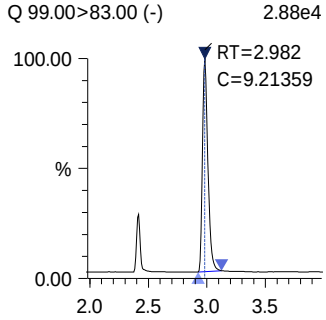
PERCHLORATEICV

Date acquired: 12/13/2020 2:16:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_017.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	12/13/2020 2:16:15 PM	92339	9.21359	20201213_017	2.982	25.0000	1.0000	31
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	12/13/2020 2:16:15 PM	73626	1.00000	20201213_017	2.980	25.0000	1.0000	31

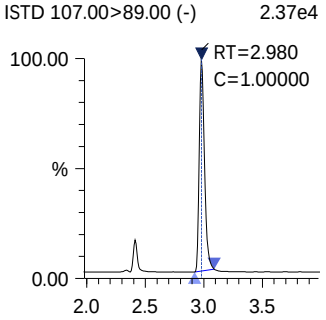
Perchlorate

Conc 9.21359
Area 92339



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 73626



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

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: EC2000058

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201213_006	Perchlorate6850b.lcm	1x	☒	3100808-05	12/13/2020 12:49
2	PERCHLORATE2		20201213_007	Perchlorate6850b.lcm	1x	☒	3100808-06	12/13/2020 12:57
3	PERCHLORATE3		20201213_008	Perchlorate6850b.lcm	1x	☒	3100808-07	12/13/2020 13:05
4	PERCHLORATE4		20201213_009	Perchlorate6850b.lcm	1x	☒	3100808-08	12/13/2020 13:13
5	PERCHLORATE5		20201213_010	Perchlorate6850b.lcm	1x	☒	3100808-09	12/13/2020 13:20
6	PERCHLORATE6		20201213_011	Perchlorate6850b.lcm	1x	☒	3100809-01	12/13/2020 13:28
7	PERCHLORATE7		20201213_012	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 13:36
8	PERCHLORATE8		20201213_013	Perchlorate6850b.lcm	1x	☒	3100809-03	12/13/2020 13:44
9	PERCHLORATE9		20201213_014	Perchlorate6850b.lcm	1x	☒	3100809-04	12/13/2020 13:52
10	PERCHLORATE10		20201213_015	Perchlorate6850b.lcm	1x	☒	3100809-05	12/13/2020 14:00
11	ICS		20201213_016	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:08
12	PERCHLORATEICV		20201213_017	Perchlorate6850b.lcm	1x	☒	3100809-06	12/13/2020 14:16
13	LODV		20201213_019	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:32
14	PERCHLORATE7		20201213_021	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 14:47
15	E2001161-019		20201213_023	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:17
16	E2001161-020		20201213_024	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:25
17	E2001161-021		20201213_025	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:33
18	E2001161-022		20201213_026	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:41
19	E2001161-023		20201213_027	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:49
20	E2001161-024		20201213_028	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:57
21	E2001161-025X2		20201213_029	Perchlorate6850b.lcm	2x	☒		12/13/2020 16:04
22	E2001161-026		20201213_030	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:12
23	E2001161-028		20201213_031	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:20
24	E2001161-029		20201213_032	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:28
25	PERCHLORATE7		20201213_033	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 16:36
26	E2001161-006X5		20201213_034	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:44
27	E2001161-009X5		20201213_035	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:52
28	E2001161-011X5		20201213_036	Perchlorate6850b.lcm	5X	☒		12/13/2020 17:00
29	E2001161-020X2		20201213_037	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:08
30	E2001161-022X2		20201213_038	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:15
31	E2001161-028X2		20201213_039	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:23
32	PERCHLORATE7		20201213_040	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 17:31
33	EQ2000651-01		20201213_041	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:39
34	EQ2000651-02		20201213_042	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:47
35	EQ2000651-03		20201213_043	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:55
36	E2001166-001		20201213_044	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:03
37	E2001166-002		20201213_045	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:11
38	E2001166-003		20201213_046	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:19
39	E2001166-004		20201213_047	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:26
40	E2001166-005		20201213_048	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:34
41	E2001166-006		20201213_049	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:42
42	E2001166-007		20201213_050	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:50
43	PERCHLORATE7		20201213_051	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 18:58
44	E2001166-008		20201213_052	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:06
45	E2001166-009		20201213_053	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:14
46	E2001166-010		20201213_054	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:22
47	E2001166-011		20201213_055	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:30
48	E2001166-012		20201213_056	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:37
49	E2001166-013		20201213_057	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:45
50	E2001166-014		20201213_058	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:53
51	PERCHLORATE7		20201213_059	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 20:01
52	EQ2000652-01		20201213_060	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:09
53	EQ2000652-02		20201213_061	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:17
54	EQ2000652-03		20201213_062	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:25
55	E2001169-001		20201213_063	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:33
56	E2001170-001X500		20201213_064	Perchlorate6850b.lcm	500X	☒		12/13/2020 20:41
57	E2001171-001		20201213_065	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:48
58	E2001182-001		20201213_066	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:56
59	E2001182-002		20201213_067	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:04
60	E2001182-003		20201213_068	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:12
61	E2001182-004		20201213_069	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:20

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	PERCHLORATE7		20201213_070	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 21:28
63	E2001182-005		20201213_071	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:36
64	E2001182-006		20201213_072	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:44
65	E2001186-001		20201213_073	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:52
66	E2001186-002		20201213_074	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:00
67	PERCHLORATE7		20201213_075	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 22:07
68	EQ2000653-01		20201213_076	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:15
69	EQ2000653-02		20201213_077	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:23
70	EQ2000653-03		20201213_078	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:31
71	E2001175-001		20201213_079	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:39
72	E2001175-002		20201213_080	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:47
73	E2001175-003		20201213_081	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:55
74	E2001175-004X5		20201213_082	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:03
75	E2001175-005X2		20201213_083	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:11
76	E2001175-006		20201213_084	Perchlorate6850b.lcm	1x	☒		12/13/2020 23:19
77	E2001175-007X5		20201213_085	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:26
78	PERCHLORATE7		20201213_086	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 23:34
79	E2001175-008X2		20201213_087	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:42
80	E2001175-009X2		20201213_088	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:50
81	E2001175-010X2		20201213_089	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:58
82	E2001175-011X5		20201213_090	Perchlorate6850b.lcm	5X	☒		12/14/2020 0:06
83	E2001175-012X20		20201213_091	Perchlorate6850b.lcm	20X	☒		12/14/2020 0:14
84	E2001175-013		20201213_092	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:22
85	E2001175-014		20201213_093	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:30
86	E2001185-001		20201213_094	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:38
87	E2001185-002		20201213_095	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:45
88	E2001185-003		20201213_096	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:53
89	PERCHLORATE7		20201213_097	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:01
90	E2001185-004		20201213_098	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:09
91	E2001185-005		20201213_099	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:17
92	E2001185-006		20201213_100	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:25
93	PERCHLORATE7		20201213_101	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:33
94								

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20111258

Service Request: E2001170
Date Analyzed: 12/13/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201213\20201213_059

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706933
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.62	0.1361	0.1310	-3.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20111258

Service Request: E2001170
Date Analyzed: 12/13/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201213\20201213_070

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706933
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.66	0.1361	0.1315	-3.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20111258

Service Request: E2001170
Date Analyzed: 12/13/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201213\20201213_075

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706933
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.51	0.1361	0.1294	-4.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20111258

Service Request: E2001170
Date Analyzed: 12/13/20 20:01

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

File ID: I:\LCMS01\DATA\20201213\20201213_059
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000672-01
Analysis Lot: 706933
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000672-01	65,522	2.97
Method Blank	EQ2000652-01	72,694	2.97
Lab Control Sample	EQ2000652-02	74,285	2.97
Duplicate Lab Control Sample	EQ2000652-03	73,673	2.97
LH18/24-SP140_112420	E2001170-001	60,512	2.97

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:**	E2001170
Project:	HS20111258	**Date Analyzed:**	12/13/20 21:28

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201213\20201213_070	**Lab Code:**	EQ2000672-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	706933
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000672-02	64,408	2.97

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:**	E2001170
Project:	HS20111258	**Date Analyzed:**	12/13/20 22:07

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201213\20201213_075	**Lab Code:**	EQ2000672-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	706933
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000672-03	63,148	2.97

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

ALS Group Houston

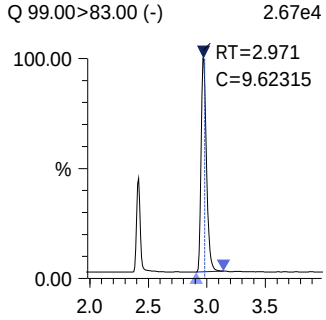
PERCHLORATE7

Date acquired: 12/13/2020 8:01:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_059.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/13/2020 8:01:34 PM	85828	9.62315	20201213_059	2.971	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/13/2020 8:01:34 PM	65522	1.00000	20201213_059	2.969	25.0000	1.0000	21

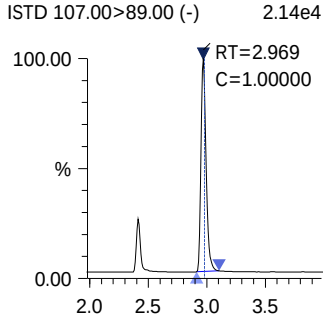
Perchlorate

Conc 9.62315
Area 85828



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 65522



ALS Group Houston

EQ2000652-01

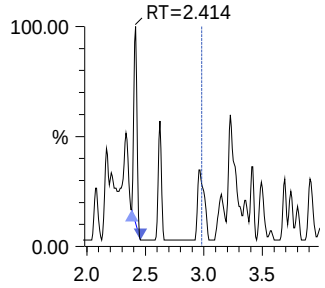
Date acquired: 12/13/2020 8:09:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_060.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000652-01	12/13/2020 8:09:29 PM	----	----	20201213_060	----	25.0000	1.0000	1
Sodium Perchlorate-18O4_IS	EQ2000652-01	12/13/2020 8:09:29 PM	72694	1.00000	20201213_060	2.970	25.0000	1.0000	1

Perchlorate

Conc ----
Area ----

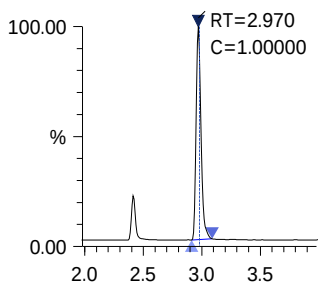
Q 99.00>83.00 (-) 7.00e1



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 72694

ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

EQ2000652-02

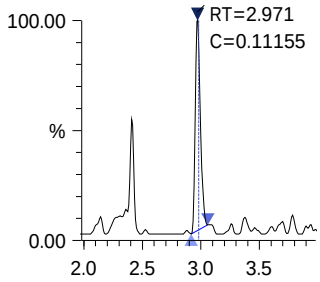
Date acquired: 12/13/2020 8:17:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_061.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000652-02	12/13/2020 8:17:25 PM	1128	0.11155	20201213_061	2.971	25.0000	1.0000	2
Sodium Perchlorate-18O4_IS	EQ2000652-02	12/13/2020 8:17:25 PM	74285	1.00000	20201213_061	2.970	25.0000	1.0000	2

Perchlorate

Conc 0.11155
Area 1128

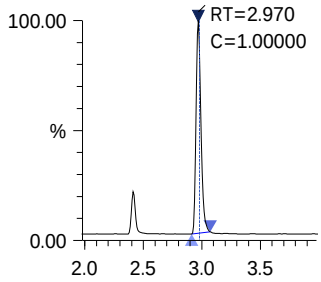
Q 99.00>83.00 (-) 3.74e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 74285

ISTD 107.00>89.00 (-) 2.54e4



ALS Group Houston

EQ2000652-03

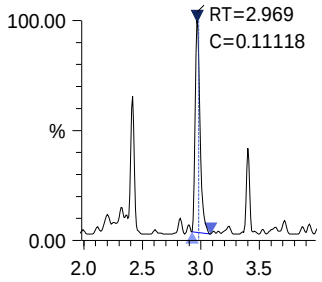
Date acquired: 12/13/2020 8:25:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_062.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000652-03	12/13/2020 8:25:17 PM	1115	0.11118	20201213_062	2.969	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	EQ2000652-03	12/13/2020 8:25:17 PM	73673	1.00000	20201213_062	2.970	25.0000	1.0000	3

Perchlorate

Conc 0.11118
Area 1115

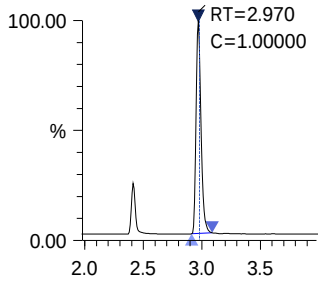
Q 99.00>83.00 (-) 3.84e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 73673

ISTD 107.00>89.00 (-) 2.49e4



ALS Group Houston

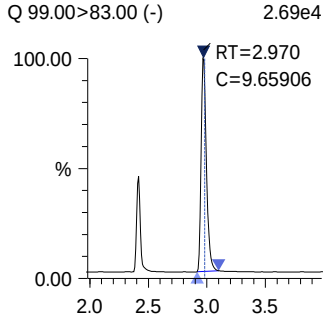
PERCHLORATE7

Date acquired: 12/13/2020 9:28:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_070.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/13/2020 9:28:29 PM	84685	9.65906	20201213_070	2.970	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/13/2020 9:28:29 PM	64408	1.00000	20201213_070	2.970	25.0000	1.0000	21

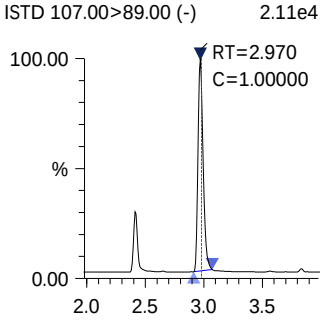
Perchlorate

Conc 9.65906
Area 84685



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 64408



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

WorkOrder: HS20111260

Groundwater Treatment Plant Quarterly Effluent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

26-Jan-2021

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
T : +1 281 530 5656
F : +1 281 530 5887
www.alsglobal.com

Table of Contents

HS20111260 Cover Page
- CoverPage
- HS20111260 Groundwater Treatment Plant Quarterly Effluent Samples REV01 Final
  - CoverLetter
  - Sample Summary
  - CaseNarrative
  - LH18/24-SP650_112420
  - LH18/24-SP650_112420_AIX
  - Trip Blank
  - Weight/Volume Log
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList
  - COC
  - HS20111260 - Sub Perch Report II (E2001169)
- HS20111260 8260_W_DOD Raw Data
- HS20111260 8270SIM_W Raw Data
- HS20111260 - ME - HG_W_DODICP_W_DOD
  - Form 11 - ICPMS04 Internal Standard Association

Table of Contents (continued)

- Form 12 - HG03_374335 Preparation Log
- Form 12 - ICPMS04_374333 Preparation Log
- Form 13 - HG03_374335 Run Log
- Form 13 - ICPMS04_374333 Run Log
- Form 13 - ICPMS04_374425 Run Log
- Form 2 - HG03_374335 CCV
- Form 2 - ICPMS04_374333 CCV
- Form 2 - ICPMS04_374425 CCV
- Form 3 - HG03_374335 CCB
- Form 3 - ICPMS04_374333 CCB
- Form 3 - ICPMS04_374425 CCB
- Form 4 - ICPMS04_374333 ICSA
- Form 4 - ICPMS04_374425 ICSA
- Form 5A - HG03_374335 MS
- Form 5A - ICPMS04_374333 MS
- Form 5B - ICPMS04_374333 PDS
- Form 5B - ICPMS04_374425 PDS
- Form 7 - HG03_374335 LCS
- Form 7 - ICPMS04_374333 LCS
- Form 7 - ICPMS04_374425 LCS
- Form 8 - ICPMS04_374333 SD
- Form 8 - ICPMS04_374425 SD

HS20111260 Wet Chem Raw Data (9056_anions_W)

HS20111260 Wet Chem Raw Data (COD)

HS20111260 Wet Chem Raw Data (O&G_1664_W_HS)

HS20111260 - Sub Perch Report IV (E2001169)

- CoverLetter
- Certificate of Analysis
- Chain of Custody
- Preparation Sheets
- Analytical Results
- Accuracy and Precision
- Initial Calibration
- Chromatogram

HS20111260 Groundwater Treatment Plant Quarterly Effluent Samples REV01 Final

ALS WO# HS20111260

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 25, 2021

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

Work Order: **HS20111260**

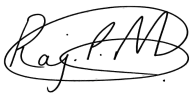
Laboratory Results for: **Groundwater Treatment Plant Quarterly Effluent Samples**

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Nov 25, 2020 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,



Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS20111260

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20111260-01	LH18/24-SP650_112420	Water		24-Nov-2020 14:00	25-Nov-2020 10:45	☐
HS20111260-02	LH18/24-SP650_112420_AIX	Water		24-Nov-2020 14:00	25-Nov-2020 10:45	☐
HS20111260-03	Trip Blank	Water		24-Nov-2020 14:00	25-Nov-2020 10:45	☐

Revision:1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS20111260

Work Order Comments

- This report was revised on January 25, 2021 to include Internal Standard comment for PAH Semivolatile Organics Method SW8270 Batch 160215: (LCS-160215) which was missing from the original report.

The analysis for Perchlorate was subcontracted to ALS High Res Lab Houston, TX. Final report attached.

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 160215

Sample ID: LH18/24-SP650_112420 (HS20111260-01)

- The GCMS semi-volatile extract of this sample was run at a dilution due to a high level of matrix interference.
- The surrogate recoveries could not be determined due to dilution below the calibration range.

Sample ID: LCSD-160215

- The RPD between the LCS and LCSD was outside of the control limit.

Sample ID: LCS-160215

- Low area counts for Perylene-d12, it in not associated with target reported compound (1,4-Dioxane).

GCMS Volatiles by Method SW8260

Batch ID: R374019

Sample ID: HS20120235-06MS

- MS and MSD are for an unrelated sample

Metals by Method SW7470

Batch ID: 160524

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

Metals by Method SW6020

Batch ID: 160306

Sample ID: HS20111258-01MS

- MS/MSD and DUPs are for an unrelated sample

WetChemistry by Method E1664A

Batch ID: R374473

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

WetChemistry by Method SW9056

Batch ID: R374453

Sample ID: HS20120243-01MS

- MS and MSD are for an unrelated sample (Chloride)

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS20111260

CASE NARRATIVE

WetChemistry by Method E410.4

Batch ID: R374243

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

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20111260
Sample ID: LH18/24-SP650_112420 Lab ID:HS20111260-01
Collection Date: 24-Nov-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 17:12
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	05-Dec-2020 17:12
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 17:12
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
1,1-Dichloropropene	**5.4**		**0.30**	**0.50**	**1.0**	**ug/L**	1	05-Dec-2020 17:12
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Dec-2020 17:12
1,2,3-Trichloropropane	**27**		**0.50**	**1.0**	**1.0**	**ug/L**	1	05-Dec-2020 17:12
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	05-Dec-2020 17:12
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 17:12
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	05-Dec-2020 17:12
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	05-Dec-2020 17:12
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 17:12
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Dec-2020 17:12
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 17:12
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Dec-2020 17:12
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
2-Butanone	**110**		**0.50**	**1.0**	**2.0**	**ug/L**	1	05-Dec-2020 17:12
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 17:12
2-Hexanone	**9.7**		**1.0**	**2.0**	**2.0**	**ug/L**	1	05-Dec-2020 17:12
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Dec-2020 17:12
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 17:12
4-Methyl-2-pentanone	**1.1**	J	**0.70**	**2.0**	**2.0**	**ug/L**	1	05-Dec-2020 17:12
Acetone	**140**		**0.40**	**1.0**	**2.0**	**ug/L**	1	05-Dec-2020 17:12
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Dec-2020 17:12
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Bromoform	**0.96**	J	**0.40**	**0.50**	**1.0**	**ug/L**	1	05-Dec-2020 17:12
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	05-Dec-2020 17:12
Carbon tetrachloride	**7.8**		**0.50**	**0.50**	**1.0**	**ug/L**	1	05-Dec-2020 17:12
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Chloroethane	**1.3**		**0.30**	**0.50**	**1.0**	**ug/L**	1	05-Dec-2020 17:12
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20111260
Sample ID: LH18/24-SP650_112420 Lab ID:HS20111260-01
Collection Date: 24-Nov-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
Chloromethane	**1.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	05-Dec-2020 17:12
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 17:12
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	05-Dec-2020 17:12
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 17:12
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	05-Dec-2020 17:12
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	05-Dec-2020 17:12
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Dec-2020 17:12
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 17:12
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 17:12
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 17:12
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 17:12
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 17:12
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 17:12
Surr: 1,2-Dichloroethane-d4	*91.3*			**0**	*81-118*	*%REC*	*1*	*05-Dec-2020 17:12*
Surr: 4-Bromofluorobenzene	*95.0*			**0**	*85-114*	*%REC*	*1*	*05-Dec-2020 17:12*
Surr: Dibromofluoromethane	*88.3*			**0**	*80-119*	*%REC*	*1*	*05-Dec-2020 17:12*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*05-Dec-2020 17:12*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 01-Dec-2020		Analyst: ACN
1,4-Dioxane	**5.0**		**1.0**	**1.0**	**1.0**	**ug/L**	100	11-Dec-2020 14:20
Surr: 2-Fluorobiphenyl	*0*	*S*		0	*40-140*	*%REC*	*100*	*11-Dec-2020 14:20*
Surr: 4-Terphenyl-d14	*0*	*S*		0	*40-140*	*%REC*	*100*	*11-Dec-2020 14:20*
Surr: Nitrobenzene-d5	*0*	*S*		0	*40-140*	*%REC*	*100*	*11-Dec-2020 14:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Sample ID: LH18/24-SP650_112420
Collection Date: 24-Nov-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20111260
Lab ID:HS20111260-01
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 03-Dec-2020		Analyst: JHD
Aluminum	**0.0394**		**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	10-Dec-2020 16:34
Antimony	0.00100	U	0.000400	0.00100	0.00500	mg/L	1	10-Dec-2020 16:34
Arsenic	**0.000419**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	10-Dec-2020 16:34
Barium	**0.220**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	10-Dec-2020 16:34
Beryllium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	10-Dec-2020 16:34
Cadmium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	10-Dec-2020 16:34
Calcium	**11.0**		**0.0340**	**0.0500**	**0.500**	**mg/L**	1	10-Dec-2020 16:34
Chromium	**0.00665**		**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	10-Dec-2020 16:34
Cobalt	**0.00152**	J	**0.000100**	**0.000500**	**0.00500**	**mg/L**	1	10-Dec-2020 16:34
Iron	**0.434**		**0.0120**	**0.0500**	**0.200**	**mg/L**	1	10-Dec-2020 16:34
Lead	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	10-Dec-2020 16:34
Magnesium	**16.3**		**0.0100**	**0.0500**	**0.200**	**mg/L**	1	10-Dec-2020 16:34
Manganese	**0.131**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	10-Dec-2020 16:34
Nickel	**0.00353**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	10-Dec-2020 16:34
Potassium	**1.89**		**0.0180**	**0.0500**	**0.200**	**mg/L**	1	10-Dec-2020 16:34
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	10-Dec-2020 16:34
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	10-Dec-2020 16:34
Sodium	**4.17**		**0.140**	**0.500**	**2.00**	**mg/L**	10	10-Dec-2020 16:50
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	10-Dec-2020 16:34
Vanadium	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	10-Dec-2020 16:34
Zinc	**0.0501**		**0.00200**	**0.00250**	**0.00500**	**mg/L**	1	10-Dec-2020 16:34
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 09-Dec-2020		Analyst: JC
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	10-Dec-2020 14:11
OIL & GREASE (HEM) BY E1664A		**Method:E1664A**						Analyst: KAH
Oil and Grease	2.00	U	0.610	2.00	2.00	mg/L	1	11-Dec-2020 14:20
CHEMICAL OXYGEN DEMAND BY E410.4		**Method:E410.4**						Analyst: TH
Chemical Oxygen Demand	**14.0**	J	**5.00**	**15.0**	**15.0**	**mg/L**	1	09-Dec-2020 10:30
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**653**		**4.00**	**10.0**	**10.0**	**mg/L**	20	11-Dec-2020 06:40
Sulfate	**27.9**		**4.00**	**10.0**	**10.0**	**mg/L**	20	11-Dec-2020 06:40

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

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20111260

Sample ID: LH18/24-SP650_112420_AIX Lab ID:HS20111260-02

Collection Date: 24-Nov-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	15-Dec-2020 18:35

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20111260

Sample ID: Trip Blank Lab ID:HS20111260-03

Collection Date: 24-Nov-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 14:02
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	05-Dec-2020 14:02
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 14:02
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
1,1-Dichloropropene	**5.7**		**0.30**	**0.50**	**1.0**	**ug/L**	1	05-Dec-2020 14:02
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Dec-2020 14:02
1,2,3-Trichloropropane	**27**		**0.50**	**1.0**	**1.0**	**ug/L**	1	05-Dec-2020 14:02
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	05-Dec-2020 14:02
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 14:02
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	05-Dec-2020 14:02
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	05-Dec-2020 14:02
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 14:02
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Dec-2020 14:02
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 14:02
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Dec-2020 14:02
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	05-Dec-2020 14:02
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 14:02
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	05-Dec-2020 14:02
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Dec-2020 14:02
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 14:02
4-Methyl-2-pentanone	**1.1**	J	**0.70**	**2.0**	**2.0**	**ug/L**	1	05-Dec-2020 14:02
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	05-Dec-2020 14:02
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Dec-2020 14:02
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Bromoform	**1.1**		**0.40**	**0.50**	**1.0**	**ug/L**	1	05-Dec-2020 14:02
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	05-Dec-2020 14:02
Carbon tetrachloride	**7.6**		**0.50**	**0.50**	**1.0**	**ug/L**	1	05-Dec-2020 14:02
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20111260

Sample ID: Trip Blank Lab ID:HS20111260-03

Collection Date: 24-Nov-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
Chloromethane	**1.4**		**0.20**	**0.50**	**1.0**	**ug/L**	1	05-Dec-2020 14:02
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 14:02
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	05-Dec-2020 14:02
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 14:02
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	05-Dec-2020 14:02
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	05-Dec-2020 14:02
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Dec-2020 14:02
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 14:02
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 14:02
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 14:02
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Dec-2020 14:02
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2020 14:02
Surr: 1,2-Dichloroethane-d4	*92.5*			**0**	*81-118*	*%REC*	*1*	*05-Dec-2020 14:02*
Surr: 4-Bromofluorobenzene	*95.3*			**0**	*85-114*	*%REC*	*1*	*05-Dec-2020 14:02*
Surr: Dibromofluoromethane	*89.9*			**0**	*80-119*	*%REC*	*1*	*05-Dec-2020 14:02*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*05-Dec-2020 14:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Batch ID: 160215 **Start Date:** 01 Dec 2020 07:59 **End Date:** 01 Dec 2020 14:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20111260-01	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat

Batch ID: 160306 **Start Date:** 03 Dec 2020 11:00 **End Date:** 03 Dec 2020 15:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20111260-01		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 160524 **Start Date:** 10 Dec 2020 08:00 **End Date:** 10 Dec 2020 10:00
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20111260-01		10 (mL)	10 (mL)	1	120 plastic HNO3

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 160215 (0)	**Test Name :** SEMIVOLATILES SIM				**Matrix:** Water	
HS20111260-01	LH18/24-SP650_112420	24 Nov 2020 14:00		01 Dec 2020 07:59	11 Dec 2020 14:20	100
Batch ID: 160306 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS20111260-01	LH18/24-SP650_112420	24 Nov 2020 14:00		03 Dec 2020 15:00	10 Dec 2020 16:50	10
HS20111260-01	LH18/24-SP650_112420	24 Nov 2020 14:00		03 Dec 2020 15:00	10 Dec 2020 16:34	1
Batch ID: 160524 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Water	
HS20111260-01	LH18/24-SP650_112420	24 Nov 2020 14:00		09 Dec 2020 11:45	10 Dec 2020 14:11	1
Batch ID: R374019 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20111260-01	LH18/24-SP650_112420	24 Nov 2020 14:00			05 Dec 2020 17:12	1
HS20111260-03	Trip Blank	24 Nov 2020 14:00			05 Dec 2020 14:02	1
Batch ID: R374243 (0)	**Test Name :** CHEMICAL OXYGEN DEMAND BY E410.4				**Matrix:** Water	
HS20111260-01	LH18/24-SP650_112420	24 Nov 2020 14:00			09 Dec 2020 10:30	1
Batch ID: R374453 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS20111260-01	LH18/24-SP650_112420	24 Nov 2020 14:00			11 Dec 2020 06:40	20
Batch ID: R374473 (0)	**Test Name :** OIL & GREASE (HEM) BY E1664A				**Matrix:** Water	
HS20111260-01	LH18/24-SP650_112420	24 Nov 2020 14:00			11 Dec 2020 14:20	1
Batch ID: R374695 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20111260-02	LH18/24-SP650_112420_AIX	24 Nov 2020 14:00			15 Dec 2020 18:35	1

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: 160306 (0) **Instrument: ICPMS04** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-160306** Units: **mg/L** Analysis Date: **10-Dec-2020 16:18**
Client ID: Run ID: **ICPMS04_374333** SeqNo: **5873677** PrepDate: **03-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.007427	0.0100								J
Antimony	0.002151	0.00500								J
Arsenic	0.00100	0.00500								U
Barium	0.00250	0.00500								U
Beryllium	0.000500	0.00200								U
Cadmium	0.000500	0.00200								U
Calcium	0.0500	0.500								U
Chromium	0.00100	0.00500								U
Cobalt	0.000500	0.00500								U
Iron	0.0500	0.200								U
Lead	0.00100	0.00500								U
Magnesium	0.01893	0.200								J
Manganese	0.00250	0.00500								U
Nickel	0.00100	0.00500								U
Potassium	0.0500	0.200								U
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U
Sodium	0.1485	0.200								J
Thallium	0.000500	0.00200								U
Vanadium	0.00100	0.00500								U
Zinc	0.00250	0.00500								U

LCS Sample ID: **LCS-160306** Units: **mg/L** Analysis Date: **11-Dec-2020 12:53**
Client ID: Run ID: **ICPMS04_374425** SeqNo: **5876321** PrepDate: **03-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1072	0.0100	0.1	0	107	84 - 117				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: 160306 (0) **Instrument: ICPMS04** **Method: METALS BY ICPMS BY SW6020A**

LCS Sample ID: **LCS-160306** Units: **mg/L** Analysis Date: **10-Dec-2020 16:06**
Client ID: Run ID: **ICPMS04_374333** SeqNo: **5873671** PrepDate: **03-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05297	0.00500	0.05	0	106	85 - 117				
Arsenic	0.05306	0.00500	0.05	0	106	84 - 116				
Barium	0.05264	0.00500	0.05	0	105	86 - 114				
Beryllium	0.05272	0.00200	0.05	0	105	83 - 121				
Cadmium	0.05341	0.00200	0.05	0	107	87 - 115				
Calcium	5.193	0.500	5	0	104	87 - 118				
Chromium	0.05145	0.00500	0.05	0	103	85 - 116				
Cobalt	0.05081	0.00500	0.05	0	102	86 - 115				
Iron	5.353	0.200	5	0	107	87 - 118				
Lead	0.0506	0.00500	0.05	0	101	88 - 115				
Magnesium	5.712	0.200	5	0	114	83 - 118				
Manganese	0.05285	0.00500	0.05	0	106	87 - 115				
Nickel	0.05231	0.00500	0.05	0	105	85 - 117				
Potassium	5.611	0.200	5	0	112	87 - 115				
Selenium	0.05555	0.00500	0.05	0	111	80 - 120				
Silver	0.04614	0.00500	0.05	0	92.3	85 - 116				
Sodium	5.577	0.200	5	0	112	85 - 117				
Thallium	0.05348	0.00200	0.05	0	107	82 - 116				
Vanadium	0.0511	0.00500	0.05	0	102	86 - 115				
Zinc	0.05613	0.00500	0.05	0	112	83 - 119				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: 160306 (0) **Instrument: ICPMS04** **Method: METALS BY ICPMS BY SW6020A**

MS Sample ID: **HS20111258-01MS** Units: **mg/L** Analysis Date: **10-Dec-2020 16:12**
Client ID: Run ID: **ICPMS04_374333** SeqNo: **5873674** PrepDate: **03-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.2059	0.0100	0.1	0.1242	81.8	84 - 117				S
Antimony	0.04625	0.00500	0.05	0.000879	90.7	85 - 117				
Arsenic	0.0471	0.00500	0.05	0.000811	92.6	84 - 116				
Barium	0.6633	0.00500	0.05	0.6627	1.25	86 - 114				SO
Beryllium	0.04759	0.00200	0.05	0.000152	94.9	83 - 121				
Cadmium	0.0462	0.00200	0.05	0.000361	91.7	87 - 115				
Calcium	38.65	0.500	5	36.18	49.4	87 - 118				SO
Chromium	0.04595	0.00500	0.05	0.002484	86.9	85 - 116				
Cobalt	0.04679	0.00500	0.05	0.004591	84.4	86 - 115				S
Iron	5.258	0.200	5	0.7977	89.2	87 - 118				
Lead	0.04267	0.00500	0.05	0.000285	84.8	88 - 115				S
Magnesium	28.04	0.200	5	24.82	64.4	83 - 118				SO
Manganese	0.3809	0.00500	0.05	0.352	57.7	87 - 115				SO
Nickel	0.0549	0.00500	0.05	0.01324	83.3	85 - 117				S
Potassium	6.115	0.200	5	1.415	94.0	87 - 115				
Selenium	0.0492	0.00500	0.05	0.000397	97.6	80 - 120				
Silver	0.03865	0.00500	0.05	0.00001	77.3	85 - 116				S
Sodium	173.5	0.200	5	179.7	-125	85 - 117				SO
Thallium	0.04185	0.00200	0.05	0.000241	83.2	82 - 116				
Vanadium	0.0455	0.00500	0.05	0.000535	89.9	86 - 115				
Zinc	0.1926	0.00500	0.05	0.1566	72.1	83 - 119				S

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: 160306 (0) **Instrument:** ICPMS04 **Method:** METALS BY ICPMS BY SW6020A

MSD Sample ID: **HS20111258-01MSD** Units: **mg/L** Analysis Date: **10-Dec-2020 16:14**
Client ID: Run ID: **ICPMS04_374333** SeqNo: **5873675** PrepDate: **03-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.2088	0.0100	0.1	0.1242	84.6	84 - 117	0.2059	1.39	20	
Antimony	0.04682	0.00500	0.05	0.000879	91.9	85 - 117	0.04625	1.22	20	
Arsenic	0.04723	0.00500	0.05	0.000811	92.8	84 - 116	0.0471	0.29	20	
Barium	0.6642	0.00500	0.05	0.6627	3.10	86 - 114	0.6633	0.139	20	SO
Beryllium	0.04655	0.00200	0.05	0.000152	92.8	83 - 121	0.04759	2.2	20	
Cadmium	0.04477	0.00200	0.05	0.000361	88.8	87 - 115	0.0462	3.13	20	
Calcium	37.97	0.500	5	36.18	35.7	87 - 118	38.65	1.79	20	SO
Chromium	0.04588	0.00500	0.05	0.002484	86.8	85 - 116	0.04595	0.168	20	
Cobalt	0.04675	0.00500	0.05	0.004591	84.3	86 - 115	0.04679	0.0748	20	S
Iron	5.25	0.200	5	0.7977	89.0	87 - 118	5.258	0.157	20	
Lead	0.0429	0.00500	0.05	0.000285	85.2	88 - 115	0.04267	0.554	20	S
Magnesium	27.72	0.200	5	24.82	57.9	83 - 118	28.04	1.17	20	SO
Manganese	0.3735	0.00500	0.05	0.352	43.1	87 - 115	0.3809	1.95	20	SO
Nickel	0.0544	0.00500	0.05	0.01324	82.3	85 - 117	0.0549	0.913	20	S
Potassium	6.076	0.200	5	1.415	93.2	87 - 115	6.115	0.642	20	
Selenium	0.04871	0.00500	0.05	0.000397	96.6	80 - 120	0.0492	0.991	20	
Silver	0.0378	0.00500	0.05	0.00001	75.6	85 - 116	0.03865	2.23	20	S
Sodium	172.6	0.200	5	179.7	-143	85 - 117	173.5	0.534	20	SO
Thallium	0.04231	0.00200	0.05	0.000241	84.1	82 - 116	0.04185	1.09	20	
Vanadium	0.04488	0.00500	0.05	0.000535	88.7	86 - 115	0.0455	1.37	20	
Zinc	0.1902	0.00500	0.05	0.1566	67.3	83 - 119	0.1926	1.25	20	S

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: 160306 (0) **Instrument: ICPMS04** **Method: METALS BY ICPMS BY SW6020A**

PDS Sample ID: **HS20111258-01PDS** Units: **mg/L** Analysis Date: **10-Dec-2020 16:16**
Client ID: Run ID: **ICPMS04_374333** SeqNo: **5873676** PrepDate: **03-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.2358	0.0100	0.1	0.1242	112	80 - 120				
Antimony	0.1026	0.00500	0.1	0.000879	102	80 - 120				
Arsenic	0.1134	0.00500	0.1	0.000811	113	80 - 120				
Barium	0.7832	0.00500	0.1	0.6627	120	80 - 120				SO
Beryllium	0.1109	0.00200	0.1	0.000152	111	80 - 120				
Cadmium	0.1085	0.00200	0.1	0.000361	108	80 - 120				
Chromium	0.1093	0.00500	0.1	0.002484	107	80 - 120				
Cobalt	0.106	0.00500	0.1	0.004591	101	80 - 120				
Iron	11.71	0.200	10	0.7977	109	80 - 120				
Lead	0.1031	0.00500	0.1	0.000285	103	80 - 120				
Magnesium	36.22	0.200	10	24.82	114	80 - 120				
Manganese	0.4695	0.00500	0.1	0.352	118	80 - 120				
Nickel	0.1149	0.00500	0.1	0.01324	102	80 - 120				
Potassium	12.74	0.200	10	1.415	113	80 - 120				
Selenium	0.1157	0.00500	0.1	0.000397	115	80 - 120				
Silver	0.1027	0.00500	0.1	0.00001	103	80 - 120				
Thallium	0.1046	0.00200	0.1	0.000241	104	80 - 120				
Vanadium	0.1091	0.00500	0.1	0.000535	109	80 - 120				
Zinc	0.2654	0.00500	0.1	0.1566	109	80 - 120				

PDS Sample ID: **HS20111258-01PDS** Units: **mg/L** Analysis Date: **11-Dec-2020 12:36**
Client ID: Run ID: **ICPMS04_374425** SeqNo: **5876318** PrepDate: **03-Dec-2020** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	138.5	5.00	100	35.52	103	80 - 120				
Sodium	271.3	2.00	100	173.2	98.1	80 - 120				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: 160306 (0) **Instrument: ICPMS04** **Method: METALS BY ICPMS BY SW6020A**

SD Sample ID: **HS20111258-01SD** Units: **mg/L** Analysis Date: **10-Dec-2020 16:10**
Client ID: Run ID: **ICPMS04_374333** SeqNo: **5873820** PrepDate: **03-Dec-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.1442	0.0500					0.1242	16.2	10	R
Antimony	0.00500	0.0250					0.000879	0	10	U
Arsenic	0.00500	0.0250					0.000811	0	10	U
Barium	0.6426	0.0250					0.6627	3.03	10	
Beryllium	0.00250	0.0100					0	0	10	U
Cadmium	0.00250	0.0100					0.000361	0	10	U
Chromium	0.002636	0.0250					0.002484	0	10	J
Cobalt	0.004895	0.0250					0.004591	0	10	J
Iron	0.7908	1.00					0.7977	0	10	J
Lead	0.00500	0.0250					0	0	10	U
Magnesium	25.5	1.00					24.82	2.72	10	
Manganese	0.3436	0.0250					0.352	2.4	10	
Nickel	0.01424	0.0250					0.01324	0	10	J
Potassium	1.467	1.00					1.415	3.74	10	
Selenium	0.0125	0.0250					0	0	10	U
Silver	0.00250	0.0250					0	0	10	U
Thallium	0.00250	0.0100					0.000241	0	10	U
Vanadium	0.00500	0.0250					0	0	10	U
Zinc	0.1581	0.0250					0.1566	0.964	10	

SD Sample ID: **HS20111258-01SD** Units: **mg/L** Analysis Date: **11-Dec-2020 12:34**
Client ID: Run ID: **ICPMS04_374425** SeqNo: **5876317** PrepDate: **03-Dec-2020** DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Calcium	38.75	25.0					35.52	9.07	10	
Sodium	187.6	10.0					173.2	8.3	10	

The following samples were analyzed in this batch: HS20111260-01

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: 160524 (0) **Instrument: HG03** **Method: MERCURY BY SW7470A**

MBLK Sample ID: **MBLK-160524** Units: **mg/L** Analysis Date: **10-Dec-2020 13:50**
Client ID: Run ID: **HG03_374335** SeqNo: **5873307** PrepDate: **09-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.000100	0.000200								U

LCS Sample ID: **LCS-160524** Units: **mg/L** Analysis Date: **10-Dec-2020 13:52**
Client ID: Run ID: **HG03_374335** SeqNo: **5873308** PrepDate: **09-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00493	0.000200	0.005	0	98.6	82 - 119				

MS Sample ID: **HS20111258-01MS** Units: **mg/L** Analysis Date: **10-Dec-2020 13:56**
Client ID: Run ID: **HG03_374335** SeqNo: **5873310** PrepDate: **09-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00492	0.000200	0.005	-0.00002200	98.8	82 - 119				

MSD Sample ID: **HS20111258-01MSD** Units: **mg/L** Analysis Date: **10-Dec-2020 13:57**
Client ID: Run ID: **HG03_374335** SeqNo: **5873311** PrepDate: **09-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00471	0.000200	0.005	-0.00002200	94.6	82 - 119	0.004920	4.36	20	

The following samples were analyzed in this batch: HS20111260-01

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: 160215 (0) **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

MBLK Sample ID: **MBLK-160215** Units: **ug/L** Analysis Date: **11-Dec-2020 11:19**
Client ID: Run ID: **SV-6_374543** SeqNo: **5878436** PrepDate: **01-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.010	0.010								U
Surr: 2-Fluorobiphenyl	*0.07529*	*0*	*0.08*	*0*	*94.1*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.07789*	*0*	*0.08*	*0*	*97.4*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.07664*	*0*	*0.08*	*0*	*95.8*	*40 - 140*				

LCS Sample ID: **LCS-160215** Units: **ug/L** Analysis Date: **11-Dec-2020 11:37**
Client ID: Run ID: **SV-6_374543** SeqNo: **5878437** PrepDate: **01-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.04996	0.010	0.08	0	62.4	40 - 140				
Surr: 2-Fluorobiphenyl	*0.09695*	*0*	*0.08*	*0*	*121*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.06298*	*0*	*0.08*	*0*	*78.7*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.06635*	*0*	*0.08*	*0*	*82.9*	*40 - 140*				

LCSD Sample ID: **LCSD-160215** Units: **ug/L** Analysis Date: **11-Dec-2020 11:55**
Client ID: Run ID: **SV-6_374543** SeqNo: **5878438** PrepDate: **01-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.04674	0.010	0.08	0	58.4	40 - 140	0.04996	6.65	20	
Surr: 2-Fluorobiphenyl	*0.07215*	*0*	*0.08*	*0*	*90.2*	*40 - 140*	*0.09695*	*29.3*	*20*	R
Surr: 4-Terphenyl-d14	*0.06284*	*0*	*0.08*	*0*	*78.6*	*40 - 140*	*0.06298*	*0.219*	*20*	
Surr: Nitrobenzene-d5	*0.06768*	*0*	*0.08*	*0*	*84.6*	*40 - 140*	*0.06635*	*1.98*	*20*	

The following samples were analyzed in this batch: HS20111260-01

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: R374019 (0) **Instrument:** VOA6 **Method:** VOLATILES - SW8260C

MBLK Sample ID: **VBLKW-201205** Units: **ug/L** Analysis Date: **05-Dec-2020 13:20**
Client ID: Run ID: **VOA6_374019** SeqNo: **5866109** 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	0.50	5.0								U
1,1,1-Trichloroethane	1.0	5.0								U
1,1,2,2-Tetrachloroethane	1.0	5.0								U
1,1,2-Trichloroethane	1.0	5.0								U
1,1-Dichloroethane	1.0	5.0								U
1,1-Dichloroethene	1.0	5.0								U
1,1-Dichloropropene	1.0	5.0								U
1,2,3-Trichlorobenzene	1.0	5.0								U
1,2,3-Trichloropropane	2.0	5.0								U
1,2,4-Trichlorobenzene	1.0	5.0								U
1,2,4-Trimethylbenzene	1.0	5.0								U
1,2-Dibromo-3-chloropropane	1.0	5.0								U
1,2-Dibromoethane	1.0	5.0								U
1,2-Dichlorobenzene	1.0	5.0								U
1,2-Dichloroethane	1.0	5.0								U
1,2-Dichloropropane	2.0	5.0								U
1,3,5-Trimethylbenzene	1.0	5.0								U
1,3-Dichlorobenzene	1.0	5.0								U
1,3-Dichloropropane	1.0	5.0								U
1,4-Dichlorobenzene	1.0	5.0								U
2,2-Dichloropropane	1.0	5.0								U
2-Butanone	4.0	10								U
2-Chlorotoluene	1.0	5.0								U
2-Hexanone	4.0	10								U
4-Chlorotoluene	1.0	5.0								U
4-Isopropyltoluene	1.0	5.0								U
4-Methyl-2-pentanone	2.0	10								U
Acetone	5.0	10								U
Benzene	1.0	5.0								U
Bromobenzene	1.0	5.0								U
Bromochloromethane	1.0	5.0								U
Bromodichloromethane	1.0	5.0								U
Bromoform	1.0	5.0								U
Bromomethane	1.0	5.0								U

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: R374019 (0) **Instrument:** VOA6 **Method:** VOLATILES - SW8260C

MBLK Sample ID: **VBLKW-201205** Units: **ug/L** Analysis Date: **05-Dec-2020 13:20**
Client ID: Run ID: **VOA6_374019** SeqNo: **5866109** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	2.0	10								U
Carbon tetrachloride	1.0	5.0								U
Chlorobenzene	1.0	5.0								U
Chloroethane	1.0	5.0								U
Chloroform	1.0	5.0								U
Chloromethane	1.0	5.0								U
cis-1,2-Dichloroethene	1.0	5.0								U
cis-1,3-Dichloropropene	1.0	5.0								U
Dibromochloromethane	1.0	5.0								U
Dibromomethane	1.0	5.0								U
Dichlorodifluoromethane	1.0	5.0								U
Ethylbenzene	1.0	5.0								U
Hexachlorobutadiene	2.0	5.0								U
Isopropylbenzene	1.0	5.0								U
m,p-Xylene	1.0	10								U
Methylene chloride	2.0	10								U
Naphthalene	2.0	5.0								U
n-Butylbenzene	2.0	5.0								U
n-Propylbenzene	1.0	5.0								U
o-Xylene	1.0	5.0								U
sec-Butylbenzene	1.0	5.0								U
Styrene	1.0	5.0								U
tert-Butylbenzene	1.0	5.0								U
Tetrachloroethene	1.0	5.0								U
Toluene	1.0	5.0								U
trans-1,2-Dichloroethene	1.0	5.0								U
trans-1,3-Dichloropropene	1.0	5.0								U
Trichloroethene	1.0	5.0								U
Trichlorofluoromethane	1.0	5.0								U
Vinyl chloride	1.0	2.0								U
Surr: 1,2-Dichloroethane-d4	*45.86*	*0*	*50*	*0*	*91.7*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*47.81*	*0*	*50*	*0*	*95.6*	*82 - 115*				
Surr: Dibromofluoromethane	*44.9*	*0*	*50*	*0*	*89.8*	*73 - 126*				
Surr: Toluene-d8	*52.27*	*0*	*50*	*0*	*105*	*81 - 120*				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: R374019 (0) **Instrument:** VOA6 **Method:** VOLATILES - SW8260C

LCS Sample ID: **VLCSW-201205** Units: **ug/L** Analysis Date: **05-Dec-2020 12:38**
Client ID: Run ID: **VOA6_374019** SeqNo: **5865300** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.34	1.0	20	0	96.7	78 - 124				
1,1,1-Trichloroethane	19.2	1.0	20	0	96.0	74 - 131				
1,1,2,2-Tetrachloroethane	18.82	1.0	20	0	94.1	71 - 121				
1,1,2-Trichloroethane	19.94	1.0	20	0	99.7	80 - 119				
1,1-Dichloroethane	20.13	1.0	20	0	101	77 - 125				
1,1-Dichloroethene	18.29	1.0	20	0	91.4	71 - 131				
1,1-Dichloropropene	19.14	1.0	20	0	95.7	78 - 125				
1,2,3-Trichlorobenzene	21.14	1.0	20	0	106	69 - 129				
1,2,3-Trichloropropane	19.25	1.0	20	0	96.2	73 - 122				
1,2,4-Trichlorobenzene	19.62	1.0	20	0	98.1	69 - 130				
1,2,4-Trimethylbenzene	17.95	1.0	20	0	89.8	76 - 124				
1,2-Dibromo-3-chloropropane	19.8	1.0	20	0	99.0	62 - 128				
1,2-Dibromoethane	19.99	1.0	20	0	99.9	77 - 121				
1,2-Dichlorobenzene	17.92	1.0	20	0	89.6	80 - 119				
1,2-Dichloroethane	20.53	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	20.94	1.0	20	0	105	78 - 122				
1,3,5-Trimethylbenzene	16.99	1.0	20	0	84.9	75 - 124				
1,3-Dichlorobenzene	17.81	1.0	20	0	89.1	80 - 119				
1,3-Dichloropropane	20.55	1.0	20	0	103	80 - 119				
1,4-Dichlorobenzene	18.21	1.0	20	0	91.0	79 - 118				
2,2-Dichloropropane	20.07	1.0	20	0	100	60 - 139				
2-Butanone	40.73	2.0	40	0	102	56 - 143				
2-Chlorotoluene	18.32	1.0	20	0	91.6	79 - 122				
2-Hexanone	40.03	2.0	40	0	100	57 - 139				
4-Chlorotoluene	17.77	1.0	20	0	88.9	78 - 122				
4-Isopropyltoluene	16.59	1.0	20	0	83.0	77 - 127				
4-Methyl-2-pentanone	39.32	2.0	40	0	98.3	67 - 130				
Acetone	44.63	2.0	40	0	112	39 - 160				
Benzene	19.85	1.0	20	0	99.3	79 - 120				
Bromobenzene	18.62	1.0	20	0	93.1	80 - 120				
Bromochloromethane	18.65	1.0	20	0	93.2	78 - 123				
Bromodichloromethane	20.74	1.0	20	0	104	79 - 125				
Bromoform	19.35	1.0	20	0	96.7	66 - 130				
Bromomethane	20.52	1.0	20	0	103	53 - 141				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: R374019 (0) **Instrument:** VOA6 **Method:** VOLATILES - SW8260C

LCS Sample ID: **VLCSW-201205** Units: **ug/L** Analysis Date: **05-Dec-2020 12:38**
Client ID: Run ID: **VOA6_374019** SeqNo: **5865300** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	41.45	2.0	40	0	104	64 - 133				
Carbon tetrachloride	18.5	1.0	20	0	92.5	72 - 136				
Chlorobenzene	18.82	1.0	20	0	94.1	82 - 118				
Chloroethane	18.54	1.0	20	0	92.7	60 - 138				
Chloroform	19.79	1.0	20	0	99.0	79 - 124				
Chloromethane	19.36	1.0	20	0	96.8	50 - 139				
cis-1,2-Dichloroethene	19.81	1.0	20	0	99.0	78 - 123				
cis-1,3-Dichloropropene	20.52	1.0	20	0	103	75 - 124				
Dibromochloromethane	19.62	1.0	20	0	98.1	74 - 126				
Dibromomethane	20.26	1.0	20	0	101	79 - 123				
Dichlorodifluoromethane	19.56	1.0	20	0	97.8	32 - 152				
Ethylbenzene	18.81	1.0	20	0	94.1	79 - 121				
Hexachlorobutadiene	19.21	1.0	20	0	96.0	66 - 134				
Isopropylbenzene	17.08	1.0	20	0	85.4	72 - 131				
m,p-Xylene	35.5	2.0	40	0	88.7	80 - 121				
Methylene chloride	19.54	2.0	20	0	97.7	74 - 124				
Naphthalene	20.24	1.0	20	0	101	61 - 128				
n-Butylbenzene	17.21	1.0	20	0	86.0	75 - 128				
n-Propylbenzene	16.5	1.0	20	0	82.5	76 - 126				
o-Xylene	18.2	1.0	20	0	91.0	78 - 122				
sec-Butylbenzene	15.99	1.0	20	0	80.0	77 - 126				
Styrene	18.86	1.0	20	0	94.3	78 - 123				
tert-Butylbenzene	16.51	1.0	20	0	82.5	78 - 124				
Tetrachloroethene	17.66	1.0	20	0	88.3	74 - 129				
Toluene	18.84	1.0	20	0	94.2	80 - 121				
trans-1,2-Dichloroethene	19.95	1.0	20	0	99.8	75 - 124				
trans-1,3-Dichloropropene	20.39	1.0	20	0	102	73 - 127				
Trichloroethene	18.17	1.0	20	0	90.8	79 - 123				
Trichlorofluoromethane	17.84	1.0	20	0	89.2	65 - 141				
Vinyl chloride	18.55	1.0	20	0	92.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*54.36*	*1.0*	*50*	*0*	*109*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.48*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*50.49*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*50.06*	*1.0*	*50*	*0*	*100*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: R374019 (0) **Instrument:** VOA6 **Method:** VOLATILES - SW8260C

MS Sample ID: **HS20120235-06MS** Units: **ug/L** Analysis Date: **05-Dec-2020 15:47**
Client ID: Run ID: **VOA6_374019** SeqNo: **5865308** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.49	1.0	20	0	92.5	78 - 124				
1,1,1-Trichloroethane	17.51	1.0	20	0	87.5	74 - 131				
1,1,2,2-Tetrachloroethane	19.13	1.0	20	0	95.7	71 - 121				
1,1,2-Trichloroethane	18.77	1.0	20	0	93.9	80 - 119				
1,1-Dichloroethane	16.49	1.0	20	0	82.5	77 - 125				
1,1-Dichloroethene	14.73	1.0	20	0	73.6	71 - 131				
1,1-Dichloropropene	18.98	1.0	20	0	94.9	78 - 125				
1,2,3-Trichlorobenzene	21.44	1.0	20	0	107	69 - 129				
1,2,3-Trichloropropane	19.35	1.0	20	26.56	-36.1	73 - 122				S
1,2,4-Trichlorobenzene	21.74	1.0	20	0	109	69 - 130				
1,2,4-Trimethylbenzene	21.19	1.0	20	0	106	76 - 124				
1,2-Dibromo-3-chloropropane	18.53	1.0	20	0	92.6	62 - 128				
1,2-Dibromoethane	18.6	1.0	20	0	93.0	77 - 121				
1,2-Dichlorobenzene	19.33	1.0	20	0	96.6	80 - 119				
1,2-Dichloroethane	17.21	1.0	20	0	86.0	73 - 128				
1,2-Dichloropropane	17.84	1.0	20	0	89.2	78 - 122				
1,3,5-Trimethylbenzene	20.32	1.0	20	0	102	75 - 124				
1,3-Dichlorobenzene	19.09	1.0	20	0	95.4	80 - 119				
1,3-Dichloropropane	18.94	1.0	20	0	94.7	80 - 119				
1,4-Dichlorobenzene	19.21	1.0	20	0	96.0	79 - 118				
2,2-Dichloropropane	17.16	1.0	20	0	85.8	60 - 139				
2-Butanone	33.5	2.0	40	0	83.8	56 - 143				
2-Chlorotoluene	19.57	1.0	20	0	97.8	79 - 122				
2-Hexanone	39.69	2.0	40	0	99.2	57 - 139				
4-Chlorotoluene	19.61	1.0	20	0	98.1	78 - 122				
4-Isopropyltoluene	21.14	1.0	20	0	106	77 - 127				
4-Methyl-2-pentanone	38.1	2.0	40	0	95.3	67 - 130				
Acetone	27.23	2.0	40	0	68.1	39 - 160				
Benzene	18.06	1.0	20	0	90.3	79 - 120				
Bromobenzene	18.88	1.0	20	0	94.4	80 - 120				
Bromochloromethane	14.83	1.0	20	0	74.1	78 - 123				S
Bromodichloromethane	18.58	1.0	20	0	92.9	79 - 125				
Bromoform	20.08	1.0	20	1.112	94.9	66 - 130				
Bromomethane	14.83	1.0	20	0	74.2	53 - 141				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: R374019 (0) **Instrument:** VOA6 **Method:** VOLATILES - SW8260C

MS Sample ID: **HS20120235-06MS** Units: **ug/L** Analysis Date: **05-Dec-2020 15:47**
Client ID: Run ID: **VOA6_374019** SeqNo: **5865308** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	31.02	2.0	40	0	77.5	64 - 133				
Carbon tetrachloride	20	1.0	20	0.7654	96.2	72 - 136				
Chlorobenzene	18.23	1.0	20	0	91.2	82 - 118				
Chloroethane	13.86	1.0	20	0	69.3	60 - 138				
Chloroform	16.94	1.0	20	0	84.7	79 - 124				
Chloromethane	13	1.0	20	1.361	58.2	50 - 139				
cis-1,2-Dichloroethene	18.26	1.0	20	0	91.3	78 - 123				
cis-1,3-Dichloropropene	17.03	1.0	20	0	85.2	75 - 124				
Dibromochloromethane	17.3	1.0	20	0	86.5	74 - 126				
Dibromomethane	18.22	1.0	20	0	91.1	79 - 123				
Dichlorodifluoromethane	10.43	1.0	20	0	52.2	32 - 152				
Ethylbenzene	20.36	1.0	20	0	102	79 - 121				
Hexachlorobutadiene	22.15	1.0	20	0	111	66 - 134				
Isopropylbenzene	20.33	1.0	20	0	102	72 - 131				
m,p-Xylene	37.93	2.0	40	0	94.8	80 - 121				
Methylene chloride	15.83	2.0	20	0	79.2	74 - 124				
Naphthalene	18.89	1.0	20	0	94.5	61 - 128				
n-Butylbenzene	22.3	1.0	20	0	111	75 - 128				
n-Propylbenzene	20.09	1.0	20	0	100	76 - 126				
o-Xylene	18.65	1.0	20	0	93.2	78 - 122				
sec-Butylbenzene	21.42	1.0	20	0	107	77 - 126				
Styrene	18.69	1.0	20	0	93.4	78 - 123				
tert-Butylbenzene	20.86	1.0	20	0	104	78 - 124				
Tetrachloroethene	20.35	1.0	20	0	102	74 - 129				
Toluene	18.5	1.0	20	0	92.5	80 - 121				
trans-1,2-Dichloroethene	15.65	1.0	20	0	78.3	75 - 124				
trans-1,3-Dichloropropene	17.77	1.0	20	0	88.8	73 - 127				
Trichloroethene	20.87	1.0	20	0	104	79 - 123				
Trichlorofluoromethane	15.67	1.0	20	0	78.3	65 - 141				
Vinyl chloride	13.16	1.0	20	0	65.8	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.73*	*1.0*	*50*	*0*	*93.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.96*	*1.0*	*50*	*0*	*99.9*	*85 - 114*				
Surr: Dibromofluoromethane	*46.21*	*1.0*	*50*	*0*	*92.4*	*80 - 119*				
Surr: Toluene-d8	*50.97*	*1.0*	*50*	*0*	*102*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: R374019 (0) **Instrument:** VOA6 **Method:** VOLATILES - SW8260C

MSD Sample ID: **HS20120235-06MSD** Units: **ug/L** Analysis Date: **05-Dec-2020 16:08**
Client ID: Run ID: **VOA6_374019** SeqNo: **5865309** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.06	1.0	20	0	90.3	78 - 124	18.49	2.36	20	
1,1,1-Trichloroethane	16.87	1.0	20	0	84.3	74 - 131	17.51	3.73	20	
1,1,2,2-Tetrachloroethane	19.84	1.0	20	0	99.2	71 - 121	19.13	3.59	20	
1,1,2-Trichloroethane	18.29	1.0	20	0	91.5	80 - 119	18.77	2.58	20	
1,1-Dichloroethane	16.03	1.0	20	0	80.1	77 - 125	16.49	2.87	20	
1,1-Dichloroethene	14.03	1.0	20	0	70.1	71 - 131	14.73	4.89	20	S
1,1-Dichloropropene	17.55	1.0	20	0	87.7	78 - 125	18.98	7.87	20	
1,2,3-Trichlorobenzene	24.43	1.0	20	0	122	69 - 129	21.44	13	20	
1,2,3-Trichloropropane	19.85	1.0	20	26.56	-33.6	73 - 122	19.35	2.56	20	S
1,2,4-Trichlorobenzene	23.34	1.0	20	0	117	69 - 130	21.74	7.1	20	
1,2,4-Trimethylbenzene	21.02	1.0	20	0	105	76 - 124	21.19	0.789	20	
1,2-Dibromo-3-chloropropane	22.99	1.0	20	0	115	62 - 128	18.53	21.5	20	R
1,2-Dibromoethane	18.12	1.0	20	0	90.6	77 - 121	18.6	2.64	20	
1,2-Dichlorobenzene	19.06	1.0	20	0	95.3	80 - 119	19.33	1.4	20	
1,2-Dichloroethane	17.02	1.0	20	0	85.1	73 - 128	17.21	1.07	20	
1,2-Dichloropropane	17.5	1.0	20	0	87.5	78 - 122	17.84	1.93	20	
1,3,5-Trimethylbenzene	19.97	1.0	20	0	99.8	75 - 124	20.32	1.75	20	
1,3-Dichlorobenzene	18.76	1.0	20	0	93.8	80 - 119	19.09	1.75	20	
1,3-Dichloropropane	18.19	1.0	20	0	91.0	80 - 119	18.94	4.04	20	
1,4-Dichlorobenzene	19.07	1.0	20	0	95.4	79 - 118	19.21	0.691	20	
2,2-Dichloropropane	16.54	1.0	20	0	82.7	60 - 139	17.16	3.65	20	
2-Butanone	33.79	2.0	40	0	84.5	56 - 143	33.5	0.852	20	
2-Chlorotoluene	19.13	1.0	20	0	95.7	79 - 122	19.57	2.24	20	
2-Hexanone	39.47	2.0	40	0	98.7	57 - 139	39.69	0.539	20	
4-Chlorotoluene	19.4	1.0	20	0	97.0	78 - 122	19.61	1.08	20	
4-Isopropyltoluene	21.2	1.0	20	0	106	77 - 127	21.14	0.281	20	
4-Methyl-2-pentanone	37.63	2.0	40	0	94.1	67 - 130	38.1	1.25	20	
Acetone	28.07	2.0	40	0	70.2	39 - 160	27.23	3.04	20	
Benzene	17.09	1.0	20	0	85.5	79 - 120	18.06	5.54	20	
Bromobenzene	18.85	1.0	20	0	94.3	80 - 120	18.88	0.15	20	
Bromochloromethane	15.21	1.0	20	0	76.1	78 - 123	14.83	2.55	20	S
Bromodichloromethane	18.43	1.0	20	0	92.1	79 - 125	18.58	0.823	20	
Bromoform	19.25	1.0	20	1.112	90.7	66 - 130	20.08	4.26	20	
Bromomethane	15	1.0	20	0	75.0	53 - 141	14.83	1.12	20	

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: R374019 (0) **Instrument:** VOA6 **Method:** VOLATILES - SW8260C

MSD Sample ID: **HS20120235-06MSD** Units: **ug/L** Analysis Date: **05-Dec-2020 16:08**
Client ID: Run ID: **VOA6_374019** SeqNo: **5865309** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	30.21	2.0	40	0	75.5	64 - 133	31.02	2.63	20	
Carbon tetrachloride	18.89	1.0	20	0.7654	90.6	72 - 136	20	5.7	20	
Chlorobenzene	17.53	1.0	20	0	87.7	82 - 118	18.23	3.94	20	
Chloroethane	12.38	1.0	20	0	61.9	60 - 138	13.86	11.3	20	
Chloroform	16.17	1.0	20	0	80.8	79 - 124	16.94	4.68	20	
Chloromethane	11.94	1.0	20	1.361	52.9	50 - 139	13	8.45	20	
cis-1,2-Dichloroethene	16.43	1.0	20	0	82.2	78 - 123	18.26	10.6	20	
cis-1,3-Dichloropropene	16.52	1.0	20	0	82.6	75 - 124	17.03	3.04	20	
Dibromochloromethane	17.01	1.0	20	0	85.1	74 - 126	17.3	1.69	20	
Dibromomethane	17.74	1.0	20	0	88.7	79 - 123	18.22	2.66	20	
Dichlorodifluoromethane	10.21	1.0	20	0	51.0	32 - 152	10.43	2.15	20	
Ethylbenzene	19.25	1.0	20	0	96.2	79 - 121	20.36	5.62	20	
Hexachlorobutadiene	23.26	1.0	20	0	116	66 - 134	22.15	4.9	20	
Isopropylbenzene	19.18	1.0	20	0	95.9	72 - 131	20.33	5.81	20	
m,p-Xylene	35.55	2.0	40	0	88.9	80 - 121	37.93	6.47	20	
Methylene chloride	15.04	2.0	20	0	75.2	74 - 124	15.83	5.17	20	
Naphthalene	22.99	1.0	20	0	115	61 - 128	18.89	19.6	20	
n-Butylbenzene	22.38	1.0	20	0	112	75 - 128	22.3	0.387	20	
n-Propylbenzene	19.45	1.0	20	0	97.2	76 - 126	20.09	3.26	20	
o-Xylene	17.84	1.0	20	0	89.2	78 - 122	18.65	4.42	20	
sec-Butylbenzene	20.85	1.0	20	0	104	77 - 126	21.42	2.67	20	
Styrene	18.02	1.0	20	0	90.1	78 - 123	18.69	3.66	20	
tert-Butylbenzene	20.19	1.0	20	0	101	78 - 124	20.86	3.28	20	
Tetrachloroethene	19.15	1.0	20	0	95.8	74 - 129	20.35	6.07	20	
Toluene	18.05	1.0	20	0	90.3	80 - 121	18.5	2.44	20	
trans-1,2-Dichloroethene	15.06	1.0	20	0	75.3	75 - 124	15.65	3.85	20	
trans-1,3-Dichloropropene	17.1	1.0	20	0	85.5	73 - 127	17.77	3.83	20	
Trichloroethene	17.5	1.0	20	0	87.5	79 - 123	20.87	17.6	20	
Trichlorofluoromethane	15.2	1.0	20	0	76.0	65 - 141	15.67	3.01	20	
Vinyl chloride	12.32	1.0	20	0	61.6	58 - 137	13.16	6.52	20	
Surr: 1,2-Dichloroethane-d4	*47.17*	*1.0*	*50*	*0*	*94.3*	*81 - 118*	*46.73*	*0.953*	*20*	
Surr: 4-Bromofluorobenzene	*50.29*	*1.0*	*50*	*0*	*101*	*85 - 114*	*49.96*	*0.658*	*20*	
Surr: Dibromofluoromethane	*44.86*	*1.0*	*50*	*0*	*89.7*	*80 - 119*	*46.21*	*2.97*	*20*	
Surr: Toluene-d8	*50.75*	*1.0*	*50*	*0*	*101*	*89 - 112*	*50.97*	*0.427*	*20*	

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client:	Bhate Environmental Associates, Inc.
Project:	Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder:	HS20111260

QC BATCH REPORT

Batch ID:	**R374019 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES - SW8260C**

The following samples were analyzed in this batch: HS20111260-01 HS20111260-03

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: R374243 (0) **Instrument: WetChem_HS** **Method: CHEMICAL OXYGEN DEMAND BY E410.4**

MBLK Sample ID: **MBLK-R374243** Units: **mg/L** Analysis Date: **09-Dec-2020 10:30**
Client ID: Run ID: **WetChem_HS_374243** SeqNo: **5870382** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	15.0	15.0								U

LCS Sample ID: **LCS-R374243** Units: **mg/L** Analysis Date: **09-Dec-2020 10:30**
Client ID: Run ID: **WetChem_HS_374243** SeqNo: **5870381** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	98	15.0	100	0	98.0	85 - 115				

MS Sample ID: **HS20120271-01MS** Units: **mg/L** Analysis Date: **09-Dec-2020 10:30**
Client ID: Run ID: **WetChem_HS_374243** SeqNo: **5870384** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	53	15.0	50	6	94.0	80 - 120				

MSD Sample ID: **HS20120271-01MSD** Units: **mg/L** Analysis Date: **09-Dec-2020 10:30**
Client ID: Run ID: **WetChem_HS_374243** SeqNo: **5870383** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	55	15.0	50	6	98.0	80 - 120	53	3.7	20	

The following samples were analyzed in this batch: HS20111260-01

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: R374453 (0) **Instrument:** ICS2100 **Method:** ANIONS BY SW9056A

MBLK Sample ID: **MBLK-** Units: **mg/L** Analysis Date: **11-Dec-2020 10:00**
Client ID: Run ID: **ICS2100_374453** SeqNo: **5875960** PrepDate: DF: **1**

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

LCS Sample ID: **LCS-** Units: **mg/L** Analysis Date: **11-Dec-2020 11:47**
Client ID: Run ID: **ICS2100_374453** SeqNo: **5875962** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.49	0.500	20	0	97.4	80 - 120				
Sulfate	19.41	0.500	20	0	97.0	80 - 120				

MS Sample ID: **HS20120243-01MS** Units: **mg/L** Analysis Date: **11-Dec-2020 08:11**
Client ID: Run ID: **ICS2100_374453** SeqNo: **5875954** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	835.5	10.0	200	678	78.8	80 - 120				S
Sulfate	222.2	10.0	200	29.25	96.5	80 - 120				

MSD Sample ID: **HS20120243-01MSD** Units: **mg/L** Analysis Date: **11-Dec-2020 08:29**
Client ID: Run ID: **ICS2100_374453** SeqNo: **5875955** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	833.8	10.0	200	678	77.9	80 - 120	835.5	0.201	20	S
Sulfate	221.4	10.0	200	29.25	96.1	80 - 120	222.2	0.344	20	

The following samples were analyzed in this batch: HS20111260-01

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

QC BATCH REPORT

Batch ID: R374473 (0) **Instrument: Balance1** **Method: OIL & GREASE (HEM) BY E1664A**

MBLK Sample ID: **WBLKW-121120** Units: **mg/L** Analysis Date: **11-Dec-2020 14:20**
Client ID: Run ID: **Balance1_374473** SeqNo: **5876673** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	2.00	2.00								U

LCS Sample ID: **WLCSW-121120** Units: **mg/L** Analysis Date: **11-Dec-2020 14:20**
Client ID: Run ID: **Balance1_374473** SeqNo: **5876675** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	37.5	2.00	40	0	93.8	78 - 114				

LCSD Sample ID: **WLCSDW-121120** Units: **mg/L** Analysis Date: **11-Dec-2020 14:20**
Client ID: Run ID: **Balance1_374473** SeqNo: **5876674** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	39.4	2.00	40	0	98.5	78 - 114	37.5	4.94	18	

MS Sample ID: **HS20120088-01MS** Units: **mg/L** Analysis Date: **11-Dec-2020 14:20**
Client ID: Run ID: **Balance1_374473** SeqNo: **5876658** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	37.5	2.00	40	-0.4348	94.8	78 - 114				

The following samples were analyzed in this batch: HS20111260-01

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: **HS20111260**

QUALIFIERS, ACRONYMS, UNITS

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

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

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS20111260

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20111260-01	LH18/24-SP650_112420	Login	11/25/2020 12:15:47 PM	PMG	Disposed
HS20111260-01	LH18/24-SP650_112420	Login	11/25/2020 12:15:47 PM	PMG	Disposed
HS20111260-01	LH18/24-SP650_112420	Login	11/25/2020 12:15:47 PM	PMG	Disposed
HS20111260-01	LH18/24-SP650_112420	Login	11/25/2020 12:15:47 PM	PMG	Disposed
HS20111260-01	LH18/24-SP650_112420	Login	11/25/2020 12:15:47 PM	PMG	Disposed
HS20111260-01	LH18/24-SP650_112420	Login	11/25/2020 12:15:47 PM	PMG	VOA230
HS20111260-02	LH18/24-SP650_112420_AIX	Login	11/25/2020 12:15:47 PM	PMG	Sub
HS20111260-03	Trip Blank	Login	11/25/2020 12:15:47 PM	PMG	VOA230

Revision:1

ALS Houston, US Date: 25-Jan-21

Sample Receipt Checklist

Work Order ID: HS20111260 **Date/Time Received:** 25-Nov-2020 10:45

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

Completed By:	/S/ Paresh M. Giga	25-Nov-2020 12:19	**Reviewed by:**	/S/ RJ Modashia	29-Nov-2020 11:35
	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):	1.2C U/C	IR31
Cooler(s)/Kit(s):	46379	
Date/Time sample(s) sent to storage:	11/25/2020 12:40	

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

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd., Suite 210 Houston, Tx. 77099 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 QUARTERLY EFFLUENT SAMPLES

Prepared By: Scott Beesinger

P. O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: ROD Volatiles	Total Metals	Oil & Grease	Chemical Oxygen Demand	Chloride & Sulfate	1, 4 - DIOXANE	PERCHLORATE				Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_112420	Water	011/24/20 / 14:00		4	3		1								HCL	
LH18/24-SP650_112420	Water	011/24/20 / 14:00		1		1									HNO3	
LH18/24-SP650_112420	Water	011/24/20 / 14:00		2					1	1					NONE	
LH18/24-SP650_112420	Water	011/24/20 / 14:00		1				1							H2SO4	
LH18/24-SP650_112420_AIX	Water	011/24/20 / 14:00		1							1				NONE	
Trip Blank	Water	11/24/20		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	11/24/20	14:30	Jon L Westcott		10:45						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date

Remarks:
L16379 VIC. 1.2 +3x

HS20111260
Bhate Environmental Associates, Inc.
Groundwater Treatment Plant Quarterly Effluent Sampl

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

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

46379

CUSTODY SEAL

Date: 11/24/20 Time: 1430
Name: Scott Beesinger
Company: Shate

Seal Broken By:
Date: 11/25/20

46379

Must Deliver Next Business Day
Time and Tempature Sensitive!

46379

ORIGIN ID:SGRA (303) 592 2450
SCOTT BEESINGER
SHATE ENVIRONMENTAL ASSOCIATES
1209-B EAST GRAND AVE.
PM8202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 08SEP20
ACTWGT: 1.00 LB MAN
CAD: 3001307CAFE3211
DIMS: 18x18x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-6666
REF: ADDITIONAL BOTTLES -- BO 73699 -- RJ
AMA: IN

FedEx Express

FedEx
TRK# 0221 1891 8880 1496

WED - 25 NOV AA
PRIORITY OVERNIGHT

XH SGRA

77099
TX-US
IAH

December 15, 2020 Service Request No:E2001169

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

Laboratory Results for: HS20111260

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory November 25, 2020
For your reference, these analyses have been assigned our service request number **E2001169.**

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.:**	E2001169
Project:	HS20111260	**Date Received:**	11/25/20
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 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 11/25/20.

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:

EQ2000652: 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:**E2001169
Project: HS20111260

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2001169-001	LH18/24-SP650_112420_AIX	11/24/2020	1400

Service Request Summary

Folder #: **E2001169**
Client Name: ALS Environmental - US
Project Name: HS20111260
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: 11/25/20
Internal Due Date: 12/11/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20111260
EDD: No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
Location: EHRMS-WIC 3B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2001169-001	LH18/24-SP650_112420_AIX	Water	11/24/20 1400	**IV**

Service Request Summary

Folder #:	**E2001169**
Client Name:	ALS Environmental - US
Project Name:	HS20111260
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:	11/25/20
Internal Due Date:	12/11/2020
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS20111260
EDD:	No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved

Location: EHRMS-WIC 3B

Pressure Gas:

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

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

ALS

Chain of Custody

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

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Colorado** **COC ID:** **15224**

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:	HS20111260
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20111260-02**	**LH18/24-SP650_112420_AIX**	**Water**	**24 Nov 2020 14:00**
	SUB_Perch-6850			11 Dec 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. Mussett Date/Time: 11/25/20

Received By: [illegible] Date/Time: 11/25/20 1206

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS-H

Thermometer ID IR31

Date/Time Received: 11/25/20 Initials: CH Date/Time Logged in: 11/25/20 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?
NA		11/25/20	1200	CH	3.3	☒
						☐
						☐
						☐

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#: 371244 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/9/20 13:32

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2001169-001	LH18/24-SP650_112420_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2001170-001	LH18/24-SP140_112420	.01	6850/ClO4 DOD			Water	10mL	
3	E2001171-001	LH18/24-SP650_112420_AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2001182-001	HBW7_120320	.01	6850/ClO4 DOD			Water	10mL	
5	E2001182-002	HBW10_120320	.01	6850/ClO4 DOD			Water	10mL	
6	E2001182-003	HBW1_120320	.01	6850/ClO4 DOD			Water	10mL	
7	E2001182-004	HBW1_120320_a	.01	6850/ClO4 DOD			Water	10mL	
8	E2001182-005	GPW1_120320	.01	6850/ClO4 DOD			Water	10mL	
9	E2001182-006	GPW3_120320	.01	6850/ClO4 DOD			Water	10mL	
10	E2001186-001	LH18/24-SP650_120220-AIX	.01	6850/ClO4 DOD			Water	10mL	
11	E2001186-002	LH18/24-SP650_120220-Between	.01	6850/ClO4 DOD			Water	10mL	
12	EQ2000652-01	MB		6850/ClO4 DOD			Liquid	10mL	
13	EQ2000652-02	LCS		6850/ClO4 DOD			Liquid	10mL	
14	EQ2000652-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2000652-01 1.00µL EQ2000652-02 1.00µL EQ2000652-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 214133 Logbook Ref: Sodium Perchlorate Expires On: 08/13/2022

E2001169-001 100.00µL E2001170-001 100.00µL E2001171-001 100.00µL E2001182-001 100.00µL E2001182-002 100.00µL E2001182-003 100.00µL
E2001182-004 100.00µL E2001182-005 100.00µL E2001182-006 100.00µL E2001186-001 100.00µL E2001186-002 100.00µL EQ2000652-01 100.00µL
EQ2000652-02 100.00µL EQ2000652-03 100.00µL

Preparation Steps

Step: Preparation
Started: 12/9/20 13:32
Finished: 12/9/20 15:00
By: GRIVERA
Comments

Comments:

Preparation Information Benchsheet

Prep Run#: 371244
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/9/20 13:32

Reviewed By: GR Date: 12/9/20

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001169
Project:	HS20111260	**Date Collected:**	11/24/20 1400
Sample Matrix:	Water	**Date Received:**	11/25/20
Sample Name:	LH18/24-SP650_112420_AIX	**Units:**	µg/L
Lab Code:	E2001169-001	**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	0.500	0.250	0.125	5	12/ 9/20	12/14/20 10:46	371244	706941	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001169
Project:	HS20111260	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000652-01	**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	12/ 9/20	12/13/20 20:09	371244	706933	

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	**Service Request:**	E2001169
Project:	HS20111260	**Date Analyzed:**	12/13/20
Sample Matrix:	Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	371244

	Lab Control Sample EQ2000652-02			Duplicate Lab Control Sample EQ2000652-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.112	0.100	112	0.111	0.100	111	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:**	E2001169
Project:	HS20111260	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000652-02	**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	**0.112**		0.100	0.0500	0.0250	1	12/ 9/20	12/13/20 20:17	371244	706933	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001169
Project:	HS20111260	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000652-03	**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	**0.111**		0.100	0.0500	0.0250	1	12/ 9/20	12/13/20 20:25	371244	706933	

HS20111260 8260_W_DOD Raw Data

ALS WO# HS20111260

MSVOA06 -Logbook

Batch: 42814 **Analyst:** Devak Giga

Date: 12-03-2020 **Reviewer:**

Method: 8260_W **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-03-2020 10:41 am	1.00	0.00 mL	0.00 mL	X120301.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	12-03-2020 11:01 am	1.00	5.00 mL	0.00 mL	X120302.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	12-03-2020 11:22 am	1.00	5.00 mL	0.00 mL	X120303.D	Liquid	Y	NA
4	VSTD001	ICAL3	12-03-2020 12:04 pm	1.00	5.00 mL	0.00 mL	X120304.D	Liquid	Y	NA
5	VSTD002	ICAL4	12-03-2020 12:25 pm	1.00	5.00 mL	0.00 mL	X120305.D	Liquid	Y	NA
6	VSTD005	ICAL5	12-03-2020 12:46 pm	1.00	5.00 mL	0.00 mL	X120306.D	Liquid	Y	NA
7	VSTD020	ICAL6	12-03-2020 01:07 pm	1.00	5.00 mL	0.00 mL	X120307.D	Liquid	Y	NA
8	VSTD050	ICAL7	12-03-2020 01:28 pm	1.00	5.00 mL	0.00 mL	X120308.D	Liquid	Y	NA
9	VSTD100	ICAL8	12-03-2020 01:49 pm	1.00	5.00 mL	0.00 mL	X120309.D	Liquid	Y	NA
10	VSTD150	ICAL9	12-03-2020 02:10 pm	1.00	5.00 mL	0.00 mL	X120310.D	Liquid	Y	NA
11	VSTD200	ICAL	12-03-2020 02:31 pm	1.00	5.00 mL	0.00 mL	X120311.D	Liquid	Y	NA
12	BLANK	SAMP	12-03-2020 02:52 pm	1.00	5.00 mL	0.00 mL	X120312.D	Liquid	Y	NA
13	BLANK	SAMP	12-03-2020 03:22 pm	1.00	5.00 mL	0.00 mL	X120313.D	Liquid	Y	NA
14	ICV	ICV	12-03-2020 03:43 pm	1.00	5.00 mL	0.00 mL	X120314.D	Liquid	Y	NA
15	CCB	SAMP	12-03-2020 04:04 pm	1.00	5.00 mL	0.00 mL	X120315.D	Liquid	Y	NA
16	VLCSW-201203	LCS	12-03-2020 04:25 pm	1.00	5.00 mL	0.00 mL	X120316.D	Liquid	Y	NA
17	BLANK	SAMP	12-03-2020 04:46 pm	1.00	5.00 mL	0.00 mL	X120317.D	Liquid	Y	NA
18	VBLKW-201203	MBLK	12-03-2020 05:07 pm	1.00	5.00 mL	0.00 mL	X120318.D	Liquid	Y	NA
19	HS20111074-03	SAMP	12-03-2020 05:28 pm	1.00	5.00 mL	0.00 mL	X120319.D	Liquid	Y	NA
20	HS20111080-05	SAMP	12-03-2020 05:49 pm	1.00	5.00 mL	0.00 mL	X120320.D	Liquid	Y	NA
21	HS20111074-01	SAMP	12-03-2020 06:10 pm	1.00	5.00 mL	0.00 mL	X120321.D	Liquid	Y	NA
22	HS20111074-02	SAMP	12-03-2020 06:31 pm	1.00	5.00 mL	0.00 mL	X120322.D	Liquid	Y	NA
23	HS20111080-01	SAMP	12-03-2020 06:52 pm	1.00	5.00 mL	0.00 mL	X120323.D	Liquid	Y	NA
24	HS20111080-02	SAMP	12-03-2020 07:13 pm	1.00	5.00 mL	0.00 mL	X120324.D	Liquid	Y	NA
25	HS20111080-03	SAMP	12-03-2020 07:34 pm	1.00	5.00 mL	0.00 mL	X120325.D	Liquid	Y	NA
26	HS20111080-04	SAMP	12-03-2020 07:56 pm	1.00	5.00 mL	0.00 mL	X120326.D	Liquid	Y	NA
27	HS20120097-01	SAMP	12-03-2020 08:17 pm	1000.0	5.00 mL	0.00 mL	X120327.D	Liquid	Y	NA
28	HS20111074-01MS	MS	12-03-2020 08:38 pm	1.00	5.00 mL	0.00 mL	X120328.D	Liquid	Y	NA
29	HS20111074-01MSD	MSD	12-03-2020 08:59 pm	1.00	5.00 mL	0.00 mL	X120329.D	Liquid	Y	NA
30	CCV-END	CCV	12-03-2020 09:20 pm	1.00	5.00 mL	0.00 mL	X120330.D	Liquid	Y	NA
31	BFB	TUNE	12-03-2020 09:41 pm	1.00	0.00 mL	0.00 mL	Y120301.D	Liquid	Y	NA
32	CCV	CCV	12-03-2020 10:02 pm	1.00	5.00 mL	0.00 mL	Y120302a.D	Liquid	Y	NA
33	CCV	CCV	12-03-2020 10:22 pm	1.00	5.00 mL	0.00 mL	Y120303.D	Liquid	Y	NA
34	CCB	SAMP	12-03-2020 10:44 pm	1.00	5.00 mL	0.00 mL	Y120304.D	Liquid	Y	NA
35	VLCSW-201203	LCS	12-03-2020 11:04 pm	1.00	5.00 mL	0.00 mL	Y120305.D	Liquid	Y	NA
36	BLANK	SAMP	12-03-2020 11:26 pm	1.00	5.00 mL	0.00 mL	Y120306.D	Liquid	Y	NA
37	VBLKW-201203	MBLK	12-03-2020 11:47 pm	1.00	5.00 mL	0.00 mL	Y120307.D	Liquid	Y	NA
38	MBLK-160023	MBLK	12-04-2020 12:08 am	20.00	5.00 mL	0.00 mL	Y120308.D	Liquid	Y	NA
39	HS20110992-01	SAMP	12-04-2020 12:29 am	20.00	5.00 mL	0.00 mL	Y120309.D	Liquid	Y	NA
40	HS20110992-02	SAMP	12-04-2020 12:50 am	20.00	5.00 mL	0.00 mL	Y120310.D	Liquid	Y	NA
41	HS20110992-03	SAMP	12-04-2020 01:11 am	20.00	5.00 mL	0.00 mL	Y120311.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS20110992-04	SAMP	12-04-2020 01:32 am	20.00	5.00 mL	0.00 mL	Y120312.D	Liquid	Y	NA
43	HS20110992-05	SAMP	12-04-2020 01:53 am	20.00	5.00 mL	0.00 mL	Y120313.D	Liquid	Y	NA
44	HS20110992-06	SAMP	12-04-2020 02:14 am	20.00	5.00 mL	0.00 mL	Y120314.D	Liquid	Y	NA
45	HS20110992-07	SAMP	12-04-2020 02:35 am	20.00	5.00 mL	0.00 mL	Y120315.D	Liquid	Y	NA
46	HS20110992-08	SAMP	12-04-2020 02:56 am	20.00	5.00 mL	0.00 mL	Y120316.D	Liquid	Y	NA
47	HS20110992-09	SAMP	12-04-2020 03:17 am	20.00	5.00 mL	0.00 mL	Y120317.D	Liquid	Y	NA
48	HS20110992-07MS	MS	12-04-2020 03:38 am	20.00	5.00 mL	0.00 mL	Y120318.D	Liquid	Y	NA
49	HS20111071-01	SAMP	12-04-2020 03:59 am	20.00	5.00 mL	0.00 mL	Y120319.D	Liquid	Y	NA
50	MBLK-160068	MBLK	12-04-2020 04:20 am	20.00	5.00 mL	0.00 mL	Y120320.D	Liquid	Y	NA
51	HS20110992-10	SAMP	12-04-2020 04:42 am	20.00	5.00 mL	0.00 mL	Y120321.D	Liquid	Y	NA
52	HS20110992-11	SAMP	12-04-2020 05:03 am	20.00	5.00 mL	0.00 mL	Y120322.D	Liquid	Y	NA
53	HS20110992-12	SAMP	12-04-2020 05:24 am	20.00	5.00 mL	0.00 mL	Y120323.D	Liquid	Y	NA
54	HS20110992-13	SAMP	12-04-2020 05:45 am	20.00	5.00 mL	0.00 mL	Y120324.D	Liquid	Y	NA
55	HS20110992-14	SAMP	12-04-2020 06:06 am	20.00	5.00 mL	0.00 mL	Y120325.D	Liquid	Y	NA
56	CCV-END	CCV	12-04-2020 06:27 am	1.00	5.00 mL	0.00 mL	Y120326.D	Liquid	Y	NA
57	HS20111090-01	SAMP	12-04-2020 06:48 am	20.00	5.00 mL	0.00 mL	Y120327.D	Liquid	Y	NA
58	HS20111090-02	SAMP	12-04-2020 07:09 am	20.00	5.00 mL	0.00 mL	Y120328.D	Liquid	Y	NA
59	HS20111110-01	SAMP	12-04-2020 07:30 am	20.00	5.00 mL	0.00 mL	Y120329.D	Liquid	Y	NA
60	HS20111112-01	SAMP	12-04-2020 07:51 am	20.00	5.00 mL	0.00 mL	Y120330.D	Liquid	Y	NA
61	MBLK-160185	MBLK	12-04-2020 08:12 am	20.00	5.00 mL	0.00 mL	Y120331.D	Liquid	Y	NA
62	HS20111292-01	SAMP	12-04-2020 08:33 am	20.00	5.00 mL	0.00 mL	Y120332.D	Liquid	Y	NA
63	BLANK	SAMP	12-04-2020 08:54 am	1.00	5.00 mL	0.00 mL	Y120333.D	Liquid	Y	NA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
cis-1,3-Dichloropropene	50.00	49.96	100	80-120
trans-1,3-Dichloroprope	50.00	48.88	98	80-120
1,3-Dichlorobenzene	50.00	44.58	89	80-120
2,2-Dichloropropane	50.00	45.30	91	80-120
1,1-Dichloropropene	50.00	44.88	90	80-120
Dibromomethane	50.00	48.83	98	80-120
1,2-Dibromoethane	50.00	48.39	97	80-120
trans-1,2-Dichloroethen	50.00	46.48	93	80-120
1,1,1,2-Tetrachloroetha	50.00	46.56	93	80-120
1,1,1-Trichloroethane	50.00	43.60	87	80-120
1,1,2,2-Tetrachloroetha	50.00	47.58	95	80-120
1,1,2-Trichloroethane	50.00	45.93	92	80-120
1,1-Dichloroethane	50.00	46.65	93	80-120
1,1-Dichloroethene	50.00	42.41	85	80-120
Trichloroethene	50.00	43.44	87	80-120
1,2,3-Trichlorobenzene	50.00	45.94	92	80-120
Trichlorofluoromethane	50.00	40.95	82	80-120
1,2,4-Trichlorobenzene	50.00	47.47	95	80-120
1,2,4-Trimethylbenzene	50.00	44.34	89	80-120
Tetrachloroethene	50.00	43.02	86	80-120
1,2-Dichlorobenzene	50.00	45.13	90	80-120
1,2-Dichloroethane	50.00	48.33	97	80-120
1,2-Dichloropropane	50.00	48.26	96	80-120
1,3,5-Trimethylbenzene	50.00	42.06	84	80-120
1,3-Dichloropropane	50.00	46.45	93	80-120
1,4-Dichlorobenzene	50.00	45.33	91	80-120
Toluene	50.00	45.72	91	80-120
2-Butanone	100.00	99.12	99	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
2-Chlorotoluene	50.00	45.89	92	80-120
2-Hexanone	100.00	91.56	92	80-120
4-Chlorotoluene	50.00	43.34	87	80-120
tert-Butylbenzene	50.00	41.54	83	80-120
4-Methyl-2-Pentanone	100.00	94.99	95	80-120
Acetone	100.00	98.30	98	80-120
Benzene	50.00	46.56	93	80-120
Bromobenzene	50.00	46.17	92	80-120
Bromochloromethane	50.00	47.32	95	80-120
Bromodichloromethane	50.00	49.79	100	80-120
Bromoform	50.00	50.45	101	80-120
Bromomethane	50.00	42.87	86	80-120
Carbon Disulfide	100.00	90.45	90	80-120
Carbon Tetrachloride	50.00	45.40	91	80-120
Chlorobenzene	50.00	46.37	93	80-120
Chloroethane	50.00	40.82	82	80-120
Chloroform	50.00	46.35	93	80-120
Chloromethane	50.00	45.80	92	80-120
cis-1,2-Dichloroethene	50.00	46.52	93	80-120
Dibromochloromethane	50.00	47.32	95	80-120
Dichlorodifluoromethane	50.00	40.89	82	80-120
Ethylbenzene	50.00	44.48	89	80-120
Hexachlorobutadiene	50.00	43.37	87	80-120
Isopropylbenzene	50.00	42.71	85	80-120
m,p-Xylenes	100.00	88.92	89	80-120
Methylene Chloride	50.00	45.27	90	80-120
n-Butylbenzene	50.00	40.18	80	80-120
n-Propylbenzene	50.00	43.12	86	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Naphthalene	50.00	48.06	96	80-120
o-Xylene	50.00	44.74	89	80-120
sec-Butylbenzene	50.00	40.51	81	80-120
Styrene	50.00	47.61	95	80-120
Vinyl Chloride	50.00	40.36	81	80-120
1,2,3-Trichloropropane	50.00	48.29	96	80-120
p-Isopropyltoluene	50.00	40.72	81	80-120
1,2-Dibromo-3-Chloropro	50.00	47.75	96	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Lab File ID: X120301 BFB Injection Date: 12/03/20

Instrument ID: VOA6 BFB Injection Time: 1041

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	22.8
75	30.0 - 60.0% of mass 95	55.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	1.1 (1.5)1
174	Greater than 50.0% of mass 95	73.0
175	5.0 - 9.0% of mass 174	5.5 (7.5)1
176	95.0 - 101.0% of mass 174	73.7 (101.0)1
177	5.0 - 9.0% of mass 176	4.8 (6.5)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	X120302	12/03/20	1101
02	VSTD000.5	VSTD000.5	X120303	12/03/20	1122
03	VSTD001	VSTD001	X120304	12/03/20	1204
04	VSTD002	VSTD002	X120305	12/03/20	1225
05	VSTD005	VSTD005	X120306	12/03/20	1246
06	VSTD020	VSTD020	X120307	12/03/20	1307
07	VSTD050	VSTD050	X120308	12/03/20	1328
08	VSTD100	VSTD100	X120309	12/03/20	1349
09	VSTD150	VSTD150	X120310	12/03/20	1410
10	VSTD200	VSTD200	X120311	12/03/20	1431
11	ICV	ICV	X120314	12/03/20	1543
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

LAB FILE ID: RF0.25: X120302 RF0.5: X120303 RF1: X120304
RF2: X120305 RF5: X120306 RF20: X120307

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
cis-1,3-Dichloropropene		0.716	0.633	0.637	0.615	0.605
trans-1,3-Dichloropropene		0.657	0.534	0.534	0.542	0.520
1,3-Dichlorobenzene		1.902	1.572	1.509	1.413	1.475
2,2-Dichloropropane		1.167	1.141	1.068	0.942	0.987
1,1-Dichloropropene		0.543	0.506	0.497	0.482	0.440
Dibromomethane		0.270	0.260	0.233	0.262	0.251
1,2-Dibromoethane		0.427	0.409	0.344	0.398	0.367
trans-1,2-Dichloroethene		0.630	0.582	0.573	0.581	0.591
1,1,1,2-Tetrachloroethane		0.430	0.392	0.341	0.331	0.341
1,1,1-Trichloroethane		1.249	0.922	1.039	0.883	1.007
1,1,2,2-Tetrachloroethane		1.156	1.079	1.077	1.003	1.000
1,1,2-Trichloroethane		0.374	0.318	0.326	0.321	0.298
1,1-Dichloroethane		1.346	1.284	1.123	1.215	1.164
1,1-Dichloroethene		0.877	0.752	0.731	0.704	0.742
Trichloroethene		0.462	0.403	0.367	0.344	0.335
1,2,3-Trichlorobenzene		0.200	0.324	0.298	0.250	0.233
Trichlorofluoromethane		1.612	1.492	1.420	1.264	1.420
1,2,4-Trichlorobenzene		0.463	0.433	0.520	0.416	0.429
1,2,4-Trimethylbenzene		3.200	2.605	2.455	2.361	2.606
Tetrachloroethene		0.304	0.331	0.225	0.242	0.254
1,2-Dichlorobenzene		1.807	1.363	1.431	1.245	1.379
1,2-Dichloroethane		0.593	0.579	0.610	0.595	0.564
1,2-Dichloropropane		0.405	0.419	0.361	0.382	0.344
1,3,5-Trimethylbenzene		3.498	2.667	2.607	2.340	2.573
1,3-Dichloropropane		0.698	0.600	0.652	0.640	0.603
1,4-Dichlorobenzene		1.595	1.677	1.648	1.495	1.501
Toluene		1.770	1.562	1.529	1.483	1.453
2-Butanone		0.220	0.204	0.282	0.244	0.220
2-Chlorotoluene		3.016	2.328	2.316	2.130	2.269
2-Hexanone		0.291	0.249	0.284	0.232	0.221
4-Chlorotoluene		3.686	2.970	2.574	2.530	2.778
tert-Butylbenzene		2.875	2.185	2.140	1.785	2.099
4-Methyl-2-Pentanone		0.375	0.374	0.386	0.380	0.336
Acetone		7183	7661	10587	17442	49369
Benzene		1.626	1.433	1.352	1.327	1.284
Bromobenzene		1.074	0.891	0.851	0.860	0.844
Bromochloromethane		0.338	0.404	0.385	0.369	0.356
Bromodichloromethane		0.554	0.518	0.468	0.533	0.507
Bromoform		0.221	0.228	0.208	0.230	0.222
Bromomethane		2325	4928	9968	23460	87980
Carbon Disulfide		1.766	1.600	1.644	1.553	1.621
Carbon Tetrachloride		0.455	0.294	0.386	0.363	0.391
Chlorobenzene		1.126	1.048	1.049	0.968	0.970
Chloroethane		0.727	0.557	0.621	0.566	0.586

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2011126

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

LAB FILE ID: RF0.25: X120302 RF0.5: X120303 RF1: X120304
RF2: X120305 RF5: X120306 RF20: X120307

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Chloroform		1.474	1.344	1.247	1.241	1.243
Chloromethane		3221	5480	10331	25288	104619
cis-1,2-Dichloroethene		0.812	0.682	0.726	0.666	0.679
Dibromochloromethane		0.450	0.402	0.405	0.388	0.382
Dichlorodifluoromethane		1748	3828	7432	15656	76291
Ethylbenzene		0.578	0.504	0.482	0.467	0.472
Hexachlorobutadiene		433	1259	2432	4266	20353
Isopropylbenzene		1.853	1.509	1.561	1.228	1.397
m,p-Xylenes		0.782	0.622	0.621	0.562	0.605
Methylene Chloride		0.787	0.689	0.730	0.670	0.640
n-Butylbenzene		6359	10432	19960	36063	206417
n-Propylbenzene		4.896	3.788	3.962	3.434	3.747
Naphthalene		0.760	0.964	0.904	0.712	0.703
o-Xylene		0.790	0.580	0.600	0.580	0.598
sec-Butylbenzene		3.804	3.177	3.156	2.450	2.910
Styrene		1.246	1.000	0.949	0.937	1.032
Vinyl Chloride		1.002	0.914	0.890	0.852	0.866
1,2,3-Trichloropropane		1.307	1.230	1.149	1.161	1.137
p-Isopropyltoluene		3.269	2.783	2.700	2.222	2.422
1,2-Dibromo-3-Chloropropane			469	853	1406	6806
1,2-Dichloroethane-d4		3206	5576	10141	24355	88752
Dibromofluoromethane		1948	3334	7182	19795	70849
Toluene-d8		7857	12569	23817	60361	223091
4-Bromofluorobenzene		3817	5900	12242	23638	88172

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2011126

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

LAB FILE ID: RF50: X120308 RF100: X120309 RF150: X120310
RF200: X120311

COMPOUND	RF50	RF100	RF150	RF200
cis-1,3-Dichloropropene	0.657	0.624	0.673	0.622
trans-1,3-Dichloropropene	0.569	0.554	0.575	0.545
1,3-Dichlorobenzene	1.434	1.522	1.538	1.494
2,2-Dichloropropane	0.974	1.059	1.056	1.056
1,1-Dichloropropene	0.453	0.470	0.490	0.472
Dibromomethane	0.258	0.243	0.265	0.239
1,2-Dibromoethane	0.381	0.379	0.384	0.374
trans-1,2-Dichloroethene	0.561	0.615	0.618	0.645
1,1,1,2-Tetrachloroethane	0.343	0.358	0.361	0.364
1,1,1-Trichloroethane	0.986	1.083	1.096	1.095
1,1,2,2-Tetrachloroethane	0.946	0.962	0.980	0.916
1,1,2-Trichloroethane	0.307	0.316	0.302	0.302
1,1-Dichloroethane	1.059	1.229	1.172	1.217
1,1-Dichloroethene	0.654	0.785	0.762	0.821
Trichloroethene	0.340	0.342	0.354	0.338
1,2,3-Trichlorobenzene	0.255	0.279	0.288	0.260
Trichlorofluoromethane	1.242	1.462	1.472	1.534
1,2,4-Trichlorobenzene	0.454	0.496	0.530	0.487
1,2,4-Trimethylbenzene	2.613	2.866	2.898	2.862
Tetrachloroethene	0.258	0.300	0.298	0.305
1,2-Dichlorobenzene	1.342	1.451	1.515	1.497
1,2-Dichloroethane	0.575	0.513	0.568	0.490
1,2-Dichloropropane	0.380	0.359	0.377	0.357
1,3,5-Trimethylbenzene	2.547	2.911	3.013	3.073
1,3-Dichloropropane	0.619	0.628	0.605	0.611
1,4-Dichlorobenzene	1.467	1.533	1.536	1.502
Toluene	1.452	1.560	1.577	1.592
2-Butanone	0.228	0.242	0.229	0.226
2-Chlorotoluene	2.274	2.357	2.414	2.361
2-Hexanone	0.248	0.246	0.249	0.232
4-Chlorotoluene	2.698	2.999	3.100	3.101
tert-Butylbenzene	2.055	2.400	2.336	2.358
4-Methyl-2-Pentanone	0.359	0.357	0.373	0.350
Acetone	115400	230256	345461	455195
Benzene	1.347	1.252	1.364	1.252
Bromobenzene	0.837	0.871	0.902	0.850
Bromochloromethane	0.331	0.354	0.352	0.338
Bromodichloromethane	0.535	0.498	0.546	0.495
Bromoform	0.234	0.231	0.244	0.232
Bromomethane	207664	424564	691088	953139
Carbon Disulfide	1.458	1.742	1.700	1.802
Carbon Tetrachloride	0.393	0.443	0.460	0.453
Chlorobenzene	0.964	1.017	1.035	1.066
Chloroethane	0.518	0.583	0.580	0.604

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2011126

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

LAB FILE ID: RF50: X120308 RF100: X120309 RF150: X120310
RF200: X120311

COMPOUND	RF50	RF100	RF150	RF200
Chloroform	1.236	1.256	1.292	1.248
Chloromethane	263664	554456	845637	1263538
cis-1,2-Dichloroethene	0.657	0.689	0.719	0.704
Dibromochloromethane	0.400	0.408	0.410	0.408
Dichlorodifluoromethane	172818	402184	658231	961874
Ethylbenzene	0.467	0.515	0.517	0.520
Hexachlorobutadiene	52188	143368	226530	317246
Isopropylbenzene	1.432	1.649	1.623	1.661
m,p-Xylenes	0.626	0.685	0.678	0.714
Methylene Chloride	0.576	0.638	0.662	0.655
n-Butylbenzene	549126	1374517	2184866	3158558
n-Propylbenzene	3.617	4.196	4.311	4.264
Naphthalene	0.758	0.827	0.858	0.761
o-Xylene	0.598	0.649	0.664	0.685
sec-Butylbenzene	2.898	3.493	3.494	3.547
Styrene	1.087	1.133	1.180	1.206
Vinyl Chloride	0.780	0.877	0.874	0.934
1,2,3-Trichloropropane	1.058	1.125	1.122	1.078
p-Isopropyltoluene	2.430	2.928	2.929	2.936
1,2-Dibromo-3-Chloropropane	18561	37818	59701	77694
1,2-Dichloroethane-d4	243264	493358	721913	1007416
Dibromofluoromethane	188739	377139	598380	804284
Toluene-d8	636641	1342152	2026860	2874805
4-Bromofluorobenzene	240109	495764	783951	1059650

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2011126

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
cis-1,3-Dichloropropene	AVRG		0.64254312		5.386	15.000
trans-1,3-Dichloropropene	AVRG		0.55904144		7.276	15.000
1,3-Dichlorobenzene	AVRG		1.53982640		9.394	15.000
2,2-Dichloropropane	AVRG		1.05005171		7.057	15.000
1,1-Dichloropropene	AVRG		0.48369117		6.302	15.000
Dibromomethane	AVRG		0.25330747		5.007	15.000
1,2-Dibromoethane	AVRG		0.38483987		6.258	15.000
trans-1,2-Dichloroethene	AVRG		0.59961457		4.748	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.36246638		8.558	15.000
1,1,1-Trichloroethane	AVRG		1.04005748		10.437	15.000
1,1,2,2-Tetrachloroethane	AVRG		1.01340692		7.543	15.000
1,1,2-Trichloroethane	AVRG		0.31813769		7.264	15.000
1,1-Dichloroethane	AVRG		1.20117985		7.053	15.000
1,1-Dichloroethene	AVRG		0.75873181		8.559	15.000
Trichloroethene	AVRG		0.36513773		11.480	15.000
1,2,3-Trichlorobenzene	AVRG		0.26521683		13.882	15.000
Trichlorofluoromethane	AVRG		1.43556388		8.302	15.000
1,2,4-Trichlorobenzene	AVRG		0.46979034		8.719	15.000
1,2,4-Trimethylbenzene	AVRG		2.71853698		9.561	15.000
Tetrachloroethene	AVRG		0.27971775		12.687	15.000
1,2-Dichlorobenzene	AVRG		1.44767134		10.936	15.000
1,2-Dichloroethane	AVRG		0.56530920		6.931	15.000
1,2-Dichloropropane	AVRG		0.37617557		6.373	15.000
1,3,5-Trimethylbenzene	AVRG		2.80335971		12.617	15.000
1,3-Dichloropropane	AVRG		0.62844441		4.994	15.000
1,4-Dichlorobenzene	AVRG		1.55058805		4.732	15.000
Toluene	AVRG		1.55310772		6.228	15.000
2-Butanone	AVRG		0.23284903		9.420	15.000
2-Chlorotoluene	AVRG		2.38507824		10.471	15.000
2-Hexanone	AVRG		0.25018942		9.374	15.000
4-Chlorotoluene	AVRG		2.93744227		12.028	15.000
tert-Butylbenzene	AVRG		2.24820476		13.392	15.000
4-Methyl-2-Pentanone	AVRG		0.36567137		4.378	15.000
Acetone	LINR	-0.1639367	5.32621418		0.9981668	0.9900000
Benzene	AVRG		1.35965118		8.479	15.000
Bromobenzene	AVRG		0.88677933		8.261	15.000
Bromochloromethane	AVRG		0.35853310		6.632	15.000
Bromodichloromethane	AVRG		0.51693931		5.334	15.000
Bromoform	AVRG		0.22788022		4.403	15.000
Bromomethane	LINR	5.118e-003	1.28159916		0.9991066	0.9900000
Carbon Disulfide	AVRG		1.65430376		6.656	15.000
Carbon Tetrachloride	AVRG		0.40426371		13.512	15.000
Chlorobenzene	AVRG		1.02704143		5.213	15.000
Chloroethane	AVRG		0.59365963		9.775	15.000

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2011126

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Chloroform	AVRG		1.28673673		6.100	15.000
Chloromethane	LINR	2.402e-002	0.98700984		0.9985091	0.9900000
cis-1,2-Dichloroethene	AVRG		0.70381496		6.624	15.000
Dibromochloromethane	AVRG		0.40581776		4.680	15.000
Dichlorodifluoromethane	LINR	5.455e-002	1.28626354		0.9964989	0.9900000
Ethylbenzene	AVRG		0.50242379		7.153	15.000
Hexachlorobutadiene	2ORDR	4.138e-002	3.47246638	-0.2719127	0.9964134	0.9900000
Isopropylbenzene	AVRG		1.54581697		11.711	15.000
m,p-Xylenes	AVRG		0.65510485		10.133	15.000
Methylene Chloride	AVRG		0.67162003		8.922	15.000
n-Butylbenzene	2ORDR	3.078e-002	0.36714780	-3.99e-003	0.9984541	0.9900000
n-Propylbenzene	AVRG		4.02373689		11.042	15.000
Naphthalene	AVRG		0.80531932		11.097	15.000
o-Xylene	AVRG		0.63837948		10.727	15.000
sec-Butylbenzene	AVRG		3.21422744		12.997	15.000
Styrene	AVRG		1.08554655		10.433	15.000
Vinyl Chloride	AVRG		0.88770647		6.866	15.000
1,2,3-Trichloropropane	AVRG		1.15191091		6.615	15.000
p-Isopropyltoluene	AVRG		2.73547266		11.970	15.000
1,2-Dibromo-3-Chloropropane	LINR	-1.37e-002	12.6976808		0.9963770	0.9900000
1,2-Dichloroethane-d4	LINR	-1.59e-002	1.20699711		0.9994481	0.9900000
Dibromofluoromethane	LINR	-3.33e-003	1.49820370		0.9991927	0.9900000
Toluene-d8	LINR	7.594e-003	0.75478184		0.9998687	0.9900000
4-Bromofluorobenzene	LINR	-3.71e-003	2.02263830		0.9993308	0.9900000

FORM VI VOA

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120301.D

Date : 03-DEC-2020 10:41

Client ID: BFB

Instrument: voa6.i

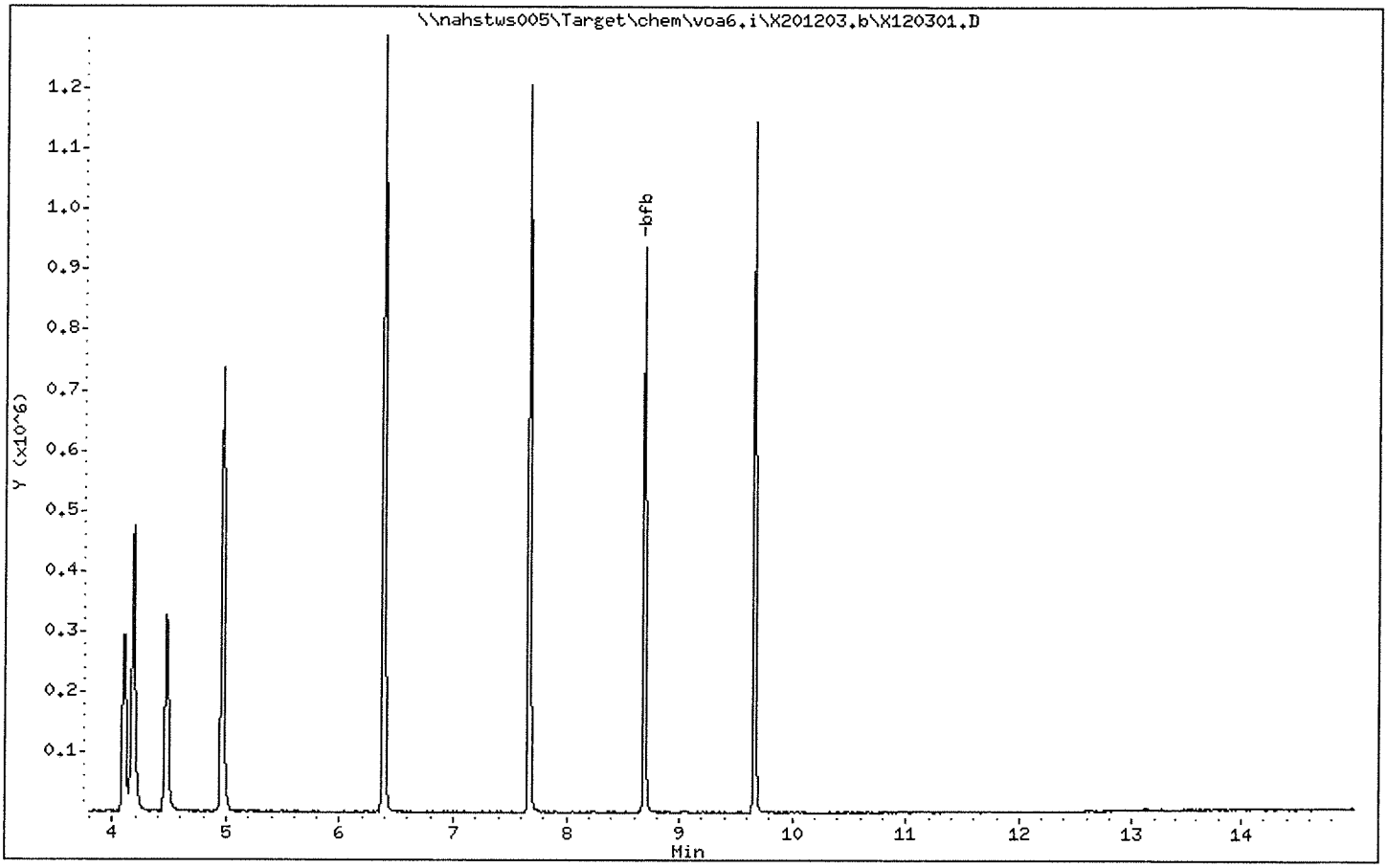
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120301.D

Date : 03-DEC-2020 10:41

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

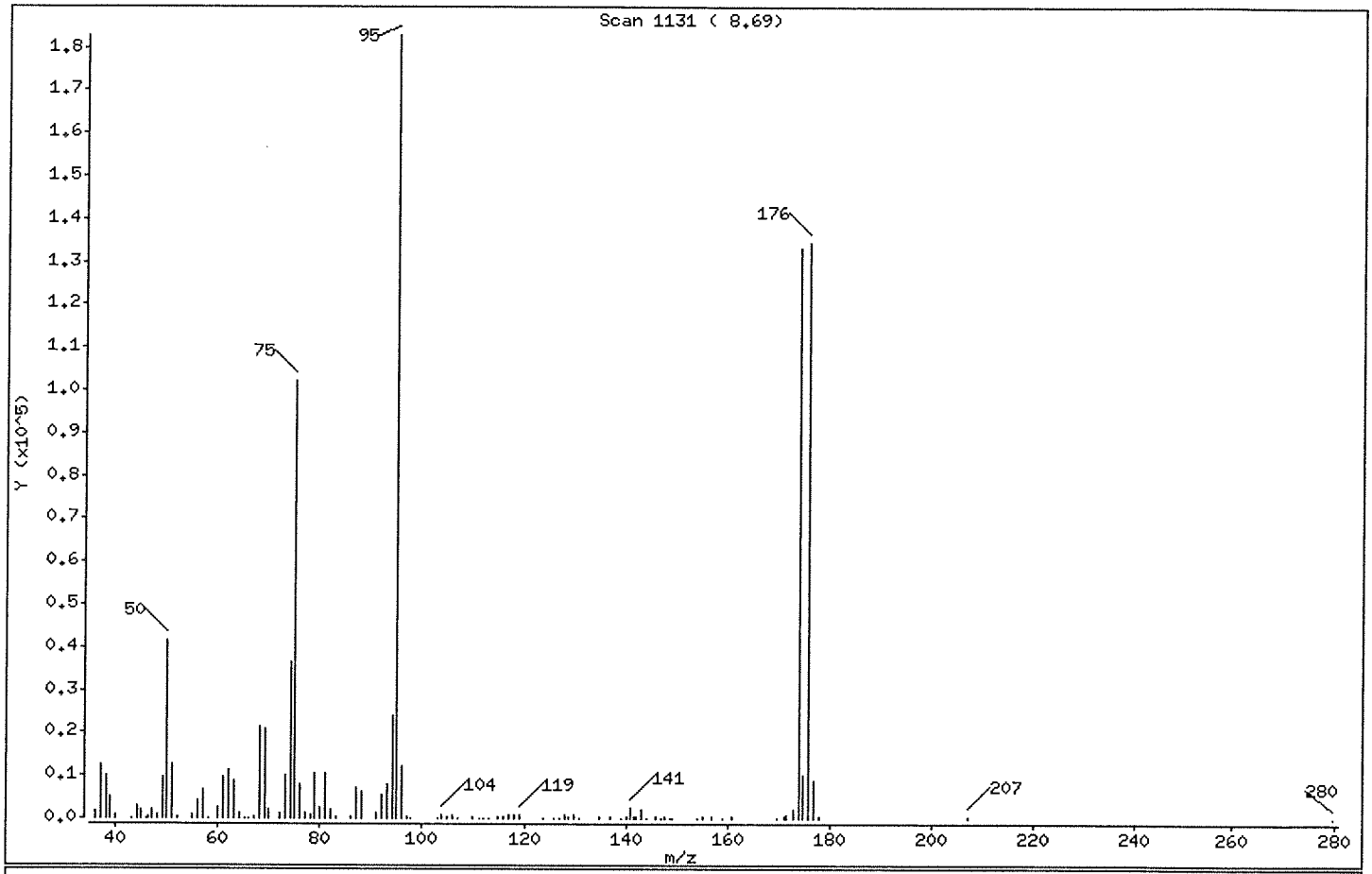
Volume Injected (uL): 2.0

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	22.79
75	30.00 - 60.00% of mass 95	55.77
96	5.00 - 9.00% of mass 95	6.65
173	Less than 2.00% of mass 174	1.10 (1.51)
174	Greater than 50.00% of mass 95	72.97
175	5.00 - 9.00% of mass 174	5.51 (7.55)
176	95.00 - 101.00% of mass 174	73.67 (100.96)
177	5.00 - 9.00% of mass 176	4.78 (6.49)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120301.D

Date : 03-DEC-2020 10:41

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: X120301.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 105

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	1679	66.90	519	102.90	181	142.10	357
37.10	12576	68.00	21608	103.90	1039	142.90	1963
38.10	10136	69.00	20912	105.00	258	144.10	136
39.00	5107	70.00	2089	105.90	992	145.80	326
40.00	770	72.00	1249	106.80	176	146.90	159
43.00	172	73.00	10004	109.80	233	147.70	493
44.00	2768	74.00	36456	111.10	139	148.80	74
45.00	2064	75.00	101936	111.80	128	149.20	67
45.90	186	76.00	7849	113.00	122	153.90	147
46.20	212	76.90	1341	114.80	281	155.00	383
47.00	2163	77.90	991	115.90	613	156.80	260
48.10	1040	78.90	10694	116.90	958	158.90	164
49.00	9601	79.90	2524	117.90	780	160.90	381
50.00	41648	80.90	10713	119.00	971	169.60	81
51.00	12750	81.90	2149	123.90	66	171.10	414
52.00	529	82.90	420	126.00	78	171.70	684
55.00	684	85.90	307	126.90	103	173.00	2011
56.00	4186	86.90	7087	127.90	969	173.90	133376
57.00	6707	87.90	6201	128.80	467	174.90	10066
58.00	210	90.90	1146	129.90	680	175.90	134656
60.00	2446	92.00	5566	131.00	180	176.90	8742
61.00	9874	93.00	7988	134.80	343	178.00	310
62.00	11193	94.00	23792	136.80	442	207.10	219
63.00	8826	95.00	182784	138.90	88	279.70	66
64.00	1142	96.00	12154	140.10	231		
65.10	112	97.00	557	140.80	2395		
66.00	119	97.80	68	141.70	287		

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120302.D Page 1
Report Date: 22-Dec-2020 16:31

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120302.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 03-DEC-2020 11:01
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:31 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	274588	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	490514	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	451313	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	198730	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	1225	0.25000	0.16(aM)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	2145	0.25000	(TaM)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	7123	0.25000	0.97(a)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	5722	0.25000	1.09(a)
60 1,1,1,2-Tetrachloroethane	131	7.771	7.771	(1.013)	988	0.25000	0.30(a)
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	1759	0.25000	0.30(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1345	0.25000	0.33(aM)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	986	0.25000	0.34(a)
22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	2039	0.25000	0.30(Ta)
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	1269	0.25000	0.30(aM)
32 1,1-Dichloropropene	75	4.275	4.275	(0.861)	1706	0.25000	0.35(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	158	0.25000	0.14(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	1360	0.25000	0.29(a)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	610	0.25000	0.32(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	3505	0.25000	0.32(a)
57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	1098	0.25000	0.31(a)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	1775	0.25000	0.30(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	2082	0.25000	0.37(a)

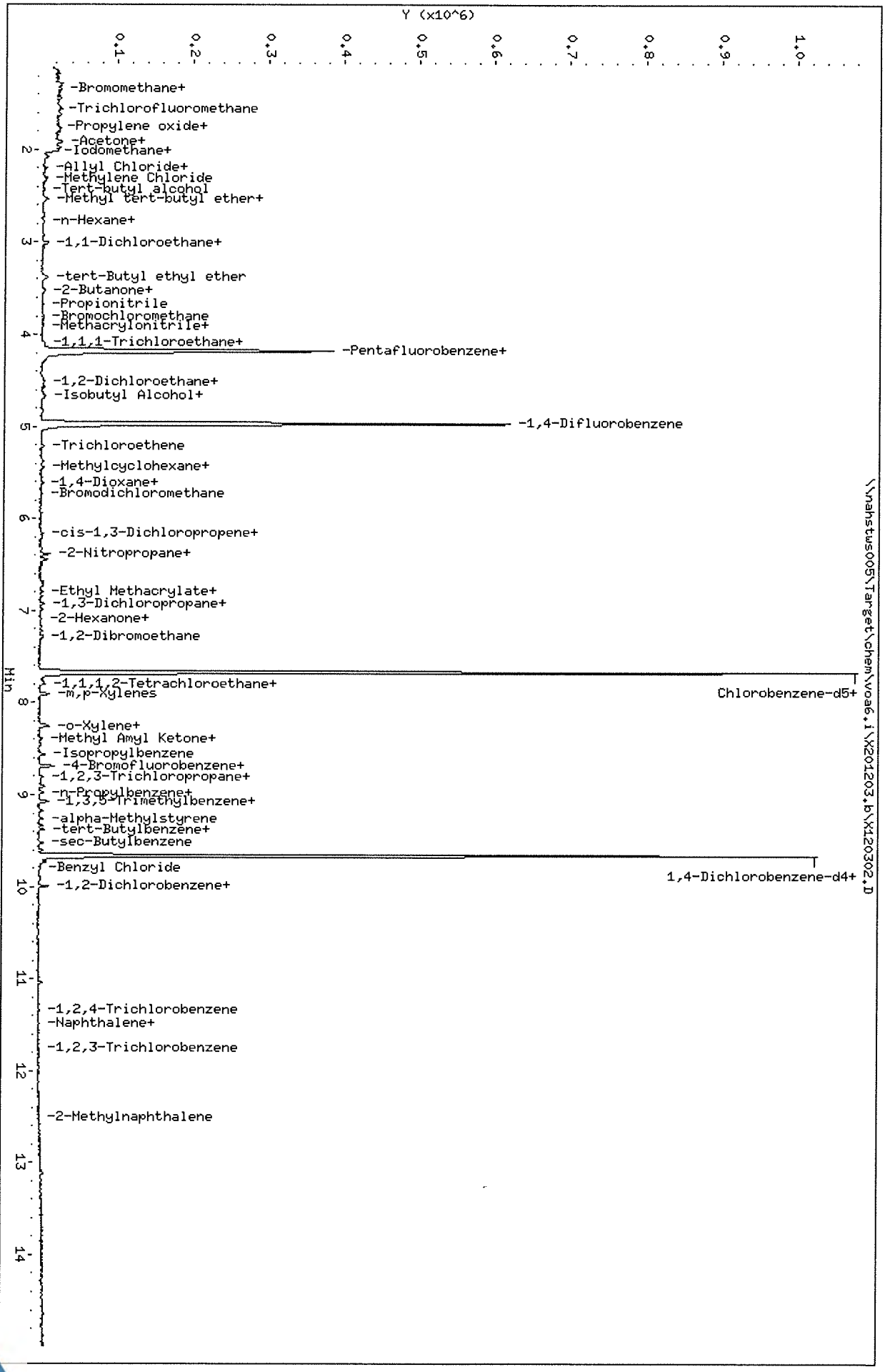
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.436	5.436	(1.095)	1254	0.25000	0.33(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	3501	0.25000	0.31(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	1723	0.25000	0.28(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	1671	0.25000	0.29(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	2418	0.25000	0.39(a)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	2008	0.25000	0.34(aM)
24	2-Butanone	43	3.595	3.595	(0.860)	781	0.50000	0.61(aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.930)	3628	0.25000	0.38(a)
52	2-Hexanone	43	7.098	7.098	(0.925)	1564	0.50000	0.69(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	4062	0.25000	0.34(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	3441	0.25000	0.31(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	2124	0.50000	0.64(a)
10	Acetone	43	1.969	1.969	(0.471)	7129	0.50000	(a)
37	Benzene	78	4.519	4.519	(0.911)	4229	0.25000	0.31(a)
74	Bromobenzene	156	8.809	8.809	(0.912)	1161	0.25000	0.32(a)
29	Bromochloromethane	128	3.803	3.803	(0.909)	502	0.25000	0.25(aM)
39	Bromodichloromethane	83	5.729	5.729	(1.154)	1608	0.25000	0.31(aM)
66	Bromoform	173	8.416	8.416	(1.097)	528	0.25000	0.25(aM)
6	Bromomethane	94	1.338	1.338	(0.320)	1529	0.25000	0.61(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	5591	0.50000	0.61(aM)
34	Carbon Tetrachloride	117	4.268	4.268	(0.860)	1472	0.25000	0.37(aM)
59	Chlorobenzene	112	7.699	7.699	(1.004)	3473	0.25000	0.37(a)
7	Chloroethane	64	1.403	1.403	(0.336)	987	0.25000	0.30(aM)
28	Chloroform	83	3.910	3.910	(0.935)	2317	0.25000	0.32(a)
3	Chloromethane	50	1.081	1.081	(0.258)	2075	0.25000	1.57(aM)
27	cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	1059	0.25000	0.27(aM)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.241)	1963	0.25000	0.31(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	992	0.25000	0.27(a)
44	Dibromomethane	93	5.557	5.557	(1.120)	914	0.25000	0.36(aM)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1286	0.25000	3.02(aM)
61	Ethylbenzene	106	7.799	7.799	(1.017)	1661	0.25000	0.36(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	227	0.25000	2.26(aM)
67	Isopropylbenzene	105	8.559	8.559	(1.116)	3768	0.25000	0.27(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	3108	0.50000	0.52(a)
17	Methylene Chloride	84	2.298	2.298	(0.550)	1375	0.25000	0.37(a)
87	n-Butylbenzene	91	9.991	9.991	(1.034)	3166	0.25000	1.83(aM)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	5046	0.25000	0.31(a)
92	Naphthalene	128	11.546	11.546	(1.195)	1135	0.25000	0.35(a)
63	o-Xylene	106	8.236	8.236	(1.074)	1930	0.25000	0.33(a)
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	3468	0.25000	0.27(a)
64	Styrene	104	8.258	8.258	(1.077)	2374	0.25000	0.24(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	2790	0.25000	0.31(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	897	0.25000	0.35(a)
50	Toluene	91	6.446	6.446	(0.840)	4907	0.25000	0.35(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	1299	0.25000	0.39(Ta)
51	trans-1,3-Dichloropropene	75	6.696	6.696	(1.349)	1512	0.25000	0.27(a)
38	Trichloroethene	130	5.214	5.214	(1.051)	1207	0.25000	0.33(a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	2544	0.25000	0.32(a)
5	Vinyl Chloride	62	1.145	1.145	(0.274)	1625	0.25000	0.33(aM)

QC Flag Legend

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

QC Flag Legend

M - Compound response manually integrated.



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120302.D
Date : 03-DEC-2020 11:01
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 03-DEC-2020 11:22
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:31 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 11:01 Cal File: X120302.D
Als bottle: 3 Calibration Sample, Level: 2
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

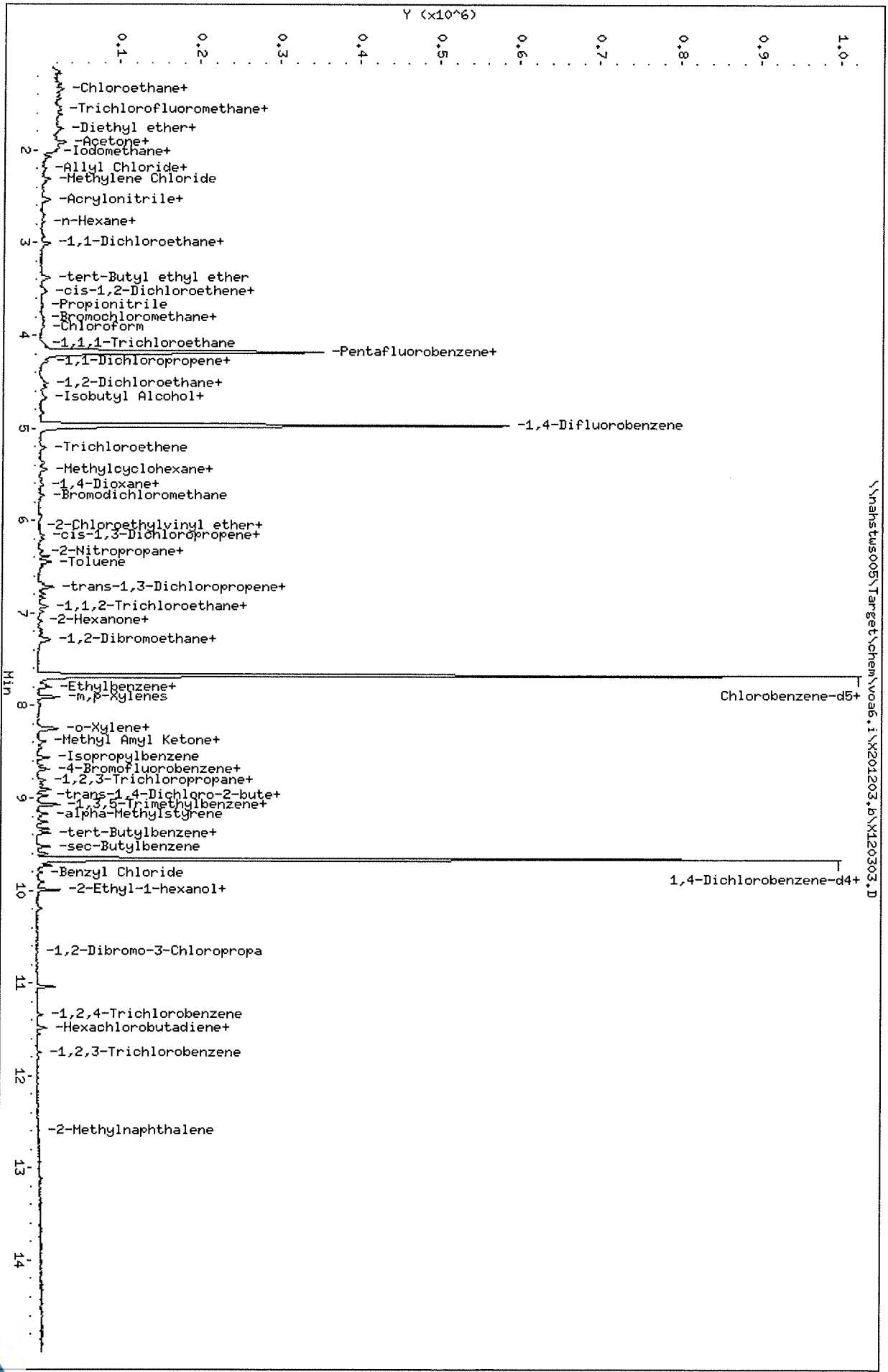
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	256515	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	457625	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	421111	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	189186	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	1948	0.50000	0.40(a)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	3206	0.50000	(Ta)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	7857	0.50000	1.08(a)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	3817	0.50000	0.73(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1809	0.50000	0.59(aM)
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	3204	0.50000	0.60(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	2187	0.50000	0.57(aM)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	1576	0.50000	0.58(a)
22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	3452	0.50000	0.56(Ta)
11 1,1-Dichloroethene	96	1.926	1.926	(0.461)	2250	0.50000	0.57(aM)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	2485	0.50000	0.56(a)
93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	379	0.50000	0.37(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	2473	0.50000	0.56(a)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	876	0.50000	0.49(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	6054	0.50000	0.58(aM)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	156	0.50000	(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	1797	0.50000	0.55(a)
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	3418	0.50000	0.62(aM)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D Page 2
Report Date: 22-Dec-2020 16:32

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)	2712	0.50000	0.52(a)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	1853	0.50000	0.53(aM)
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	6618	0.50000	0.62(aM)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	3599	0.50000	0.61(aM)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	2938	0.50000	0.55(a)
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	3018	0.50000	0.51(aM)
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	2994	0.50000	0.55(aM)
24 2-Butanone	43	3.595	3.595	(0.860)	1128	1.00000	0.94(aM)
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	5706	0.50000	0.63(aM)
52 2-Hexanone	43	7.083	7.083	(0.923)	2455	1.00000	1.16(a)
77 4-Chlorotoluene	91	9.074	9.074	(0.939)	6973	0.50000	0.62(aM)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	6184	0.50000	0.59(aM)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	3158	1.00000	1.02(a)
10 Acetone	43	1.976	1.976	(0.473)	7183	1.00000	(a)
37 Benzene	78	4.519	4.519	(0.909)	7440	0.50000	0.59(aM)
74 Bromobenzene	156	8.809	8.809	(0.912)	2031	0.50000	0.60(a)
29 Bromochloromethane	128	3.803	3.803	(0.909)	867	0.50000	0.47(a)
39 Bromodichloromethane	83	5.729	5.729	(1.153)	2534	0.50000	0.53(aM)
66 Bromoform	173	8.408	8.408	(1.096)	929	0.50000	0.48(aM)
6 Bromomethane	94	1.338	1.338	(0.320)	2325	0.50000	0.83(aM)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	9061	1.00000	1.06(aM)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	2081	0.50000	0.56(aM)
59 Chlorobenzene	112	7.699	7.699	(1.004)	4741	0.50000	0.54(a)
7 Chloroethane	64	1.403	1.403	(0.336)	1866	0.50000	0.61(a)
28 Chloroform	83	3.910	3.910	(0.935)	3782	0.50000	0.57(a)
3 Chloromethane	50	1.073	1.073	(0.257)	3221	0.50000	1.82(aM)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	2083	0.50000	0.57(a)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	3278	0.50000	0.55(a)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	1893	0.50000	0.55(a)
44 Dibromomethane	93	5.557	5.557	(1.118)	1234	0.50000	0.53(aM)
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1748	0.50000	3.16(a)
61 Ethylbenzene	106	7.807	7.807	(1.018)	2436	0.50000	0.57(a)
91 Hexachlorobutadiene	225	11.474	11.474	(1.188)	433	0.50000	2.46(aM)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	7802	0.50000	0.59(a)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	6588	1.00000	1.19(a)
17 Methylene Chloride	84	2.305	2.305	(0.551)	2018	0.50000	0.58(aM)
87 n-Butylbenzene	91	9.999	9.999	(1.035)	6359	0.50000	2.15(aM)
73 n-Propylbenzene	91	8.910	8.910	(0.922)	9262	0.50000	0.60(aM)
92 Naphthalene	128	11.546	11.546	(1.195)	1437	0.50000	0.47(aM)
63 o-Xylene	106	8.244	8.244	(1.075)	3329	0.50000	0.61(a)
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	7196	0.50000	0.59(aM)
64 Styrene	104	8.258	8.258	(1.077)	5249	0.50000	0.57(a)
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	5439	0.50000	0.63(aM)
56 Tetrachloroethene	164	6.926	6.926	(0.903)	1279	0.50000	0.54(a)
50 Toluene	91	6.453	6.453	(0.841)	7452	0.50000	0.56(a)
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	1616	0.50000	0.52(a)
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	3007	0.50000	0.58(a)
38 Trichloroethene	130	5.206	5.206	(1.048)	2112	0.50000	0.63(a)
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	4135	0.50000	0.56(a)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	2571	0.50000	0.56(aM)

QC Flag Legend

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

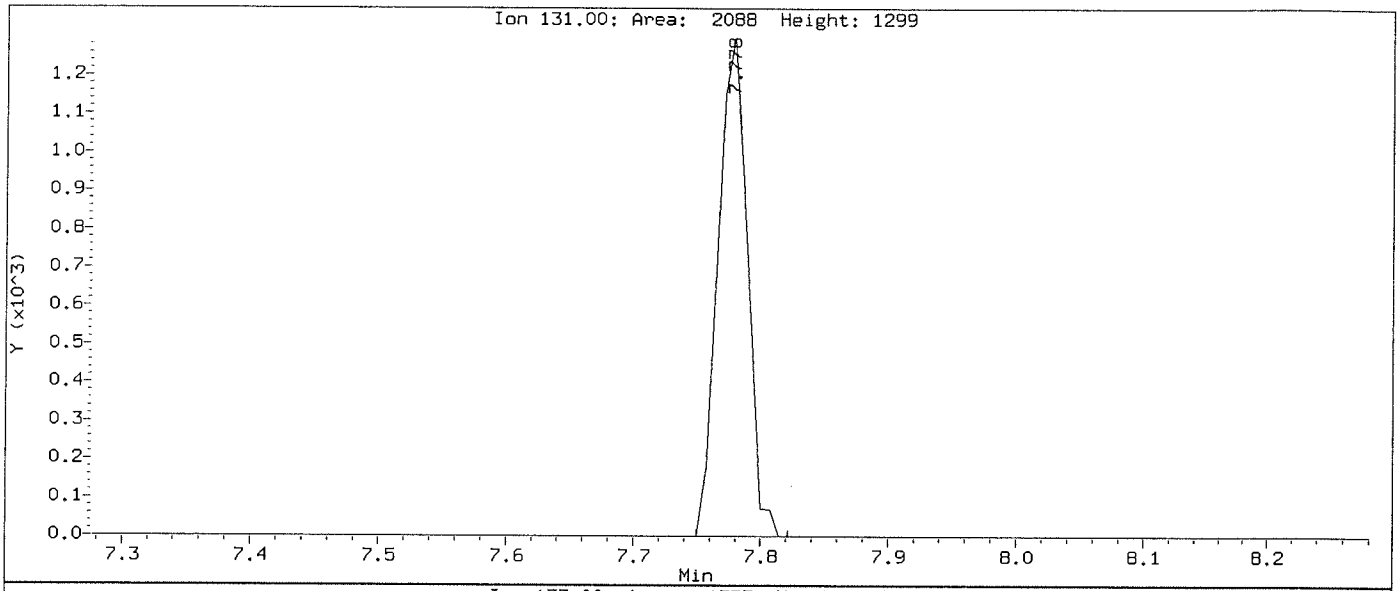


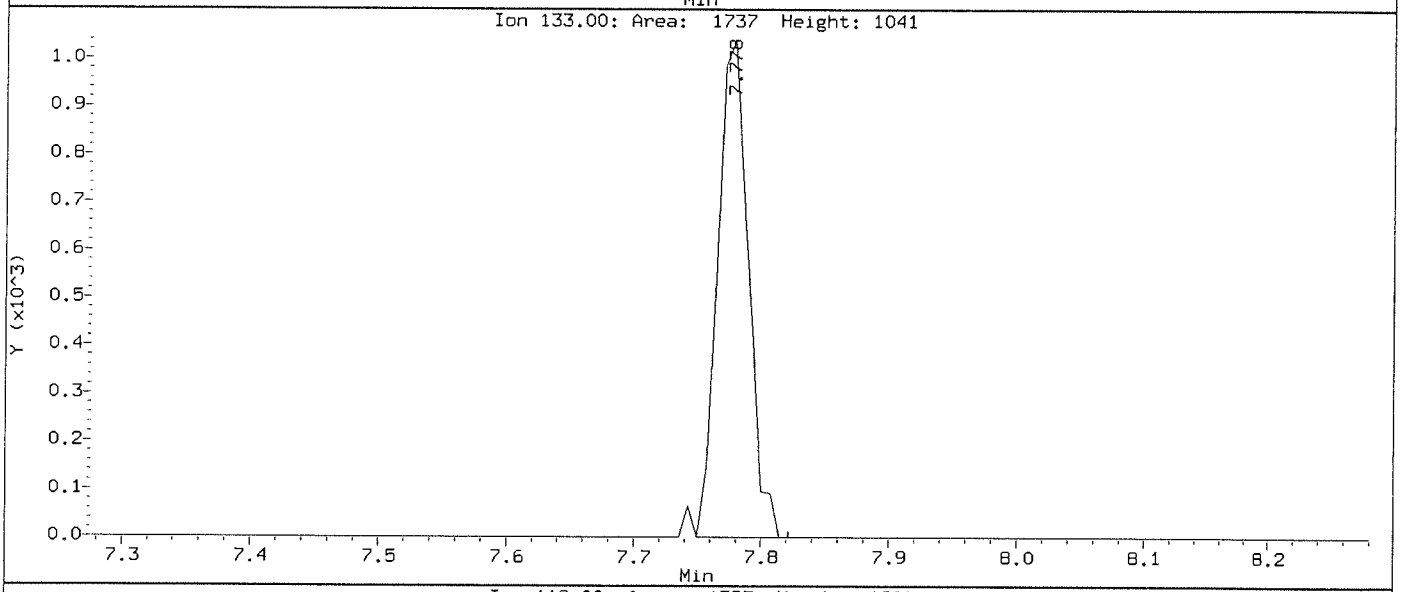
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Date : 03-DEC-2020 11:22
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

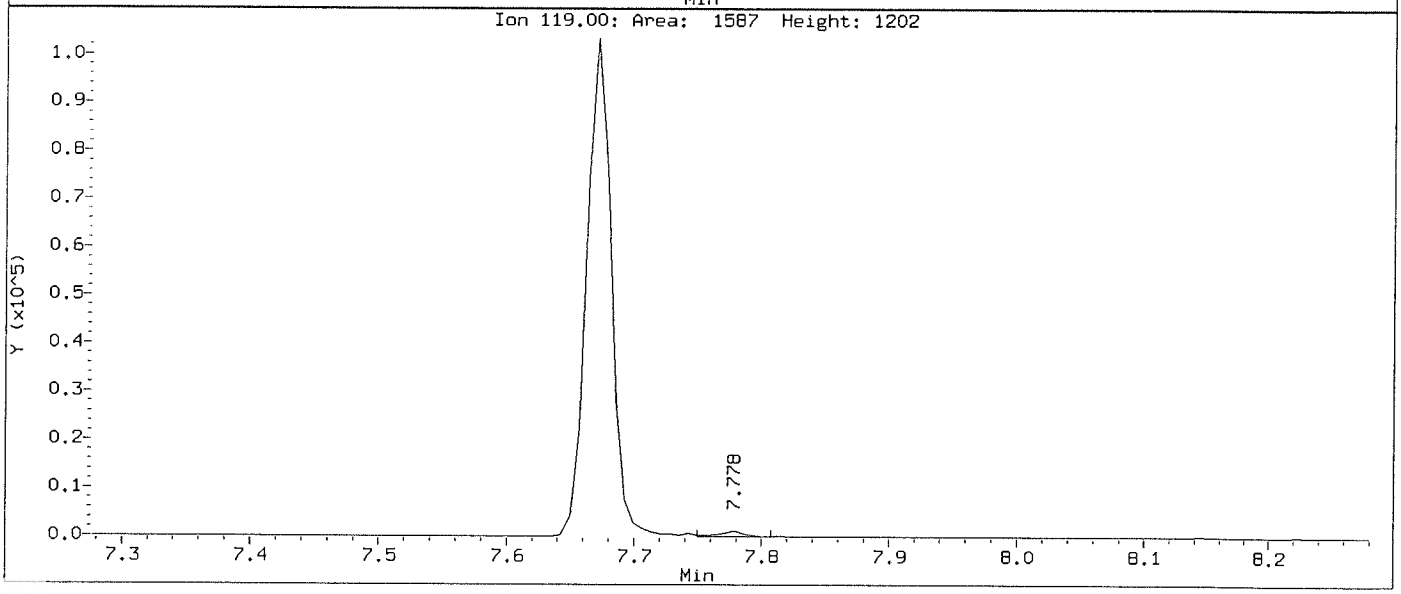
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,1,2-Tetrachloroethane
CAS Number: 630-20-6

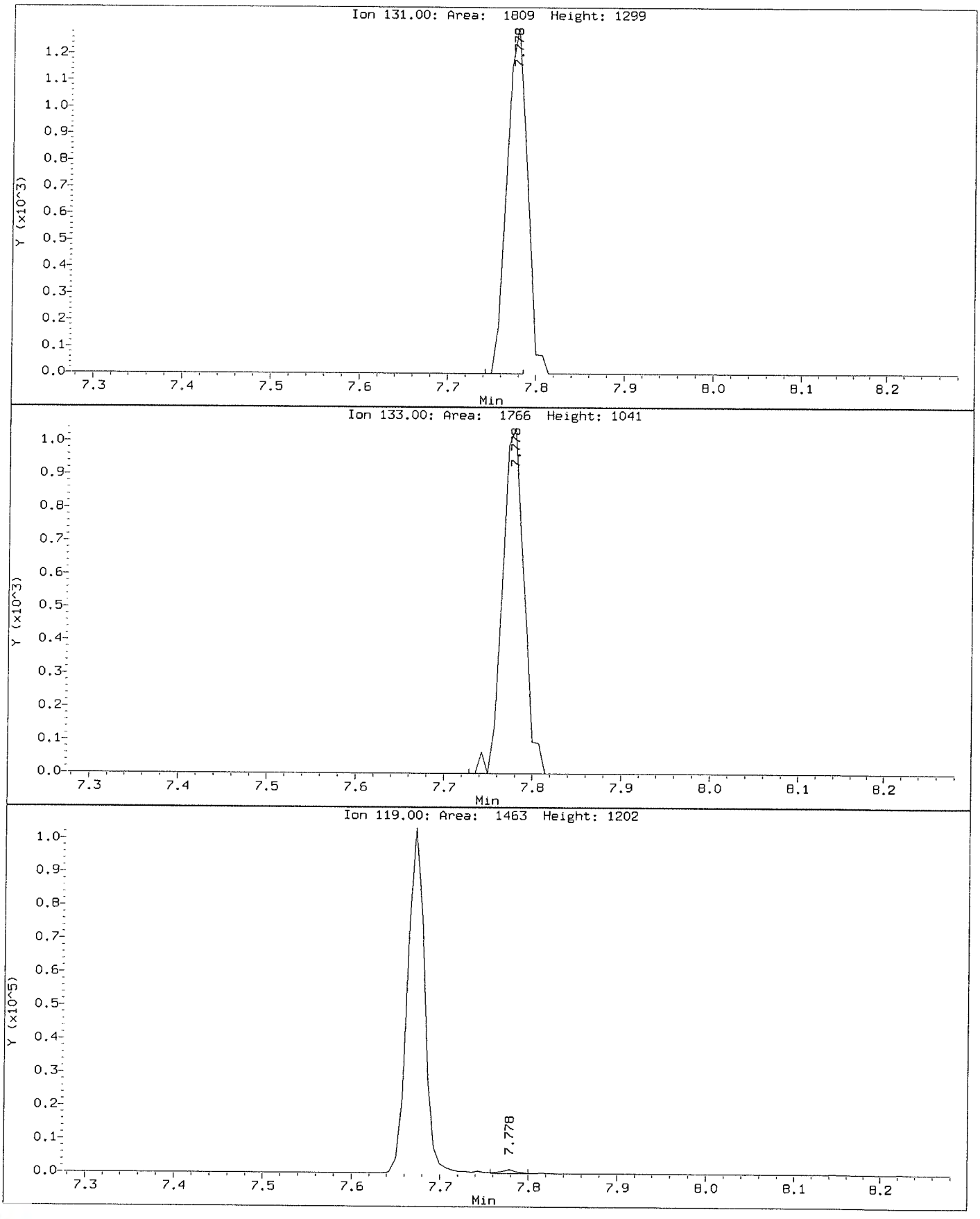






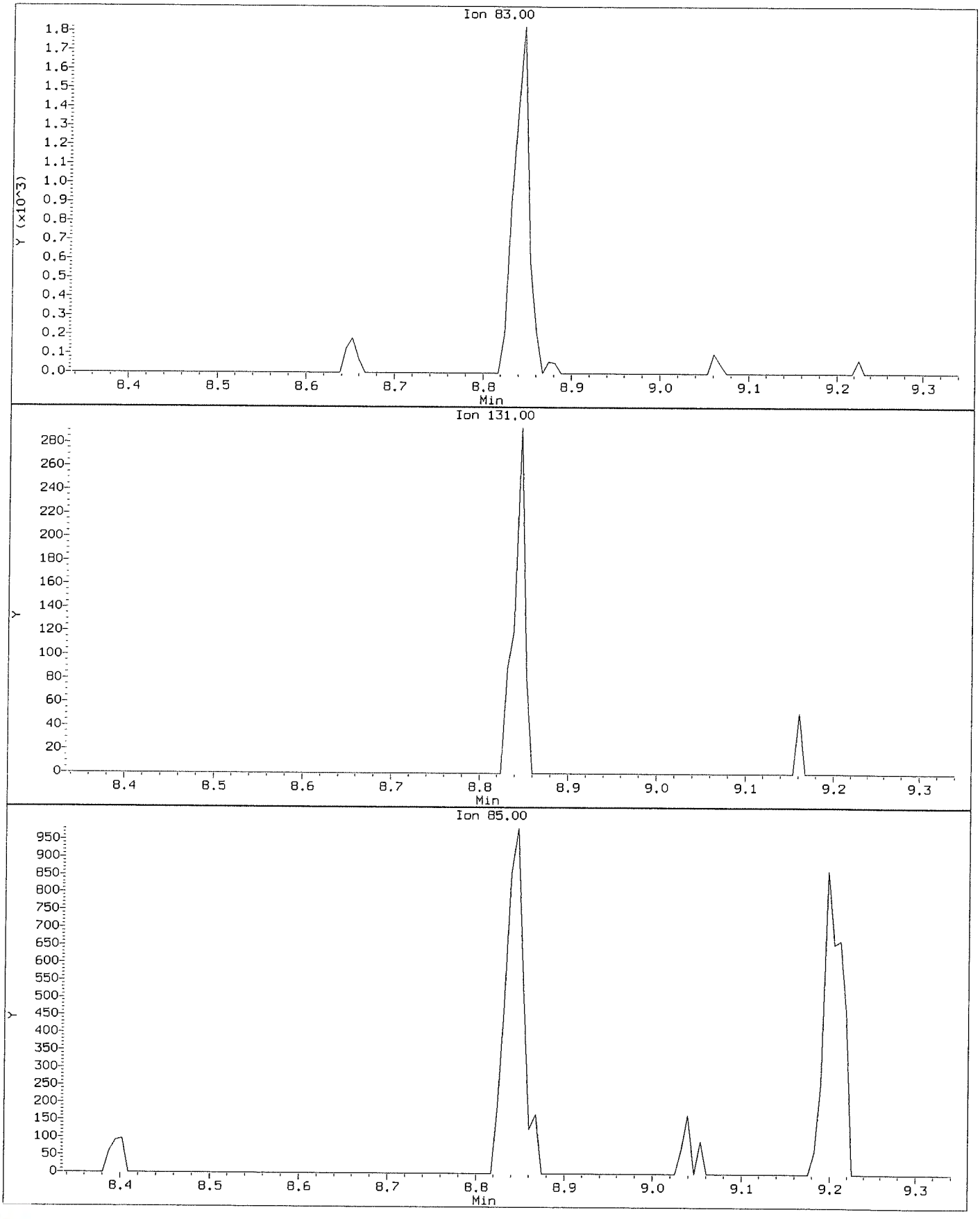
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,1,2-Tetrachloroethane
CAS Number: 630-20-6



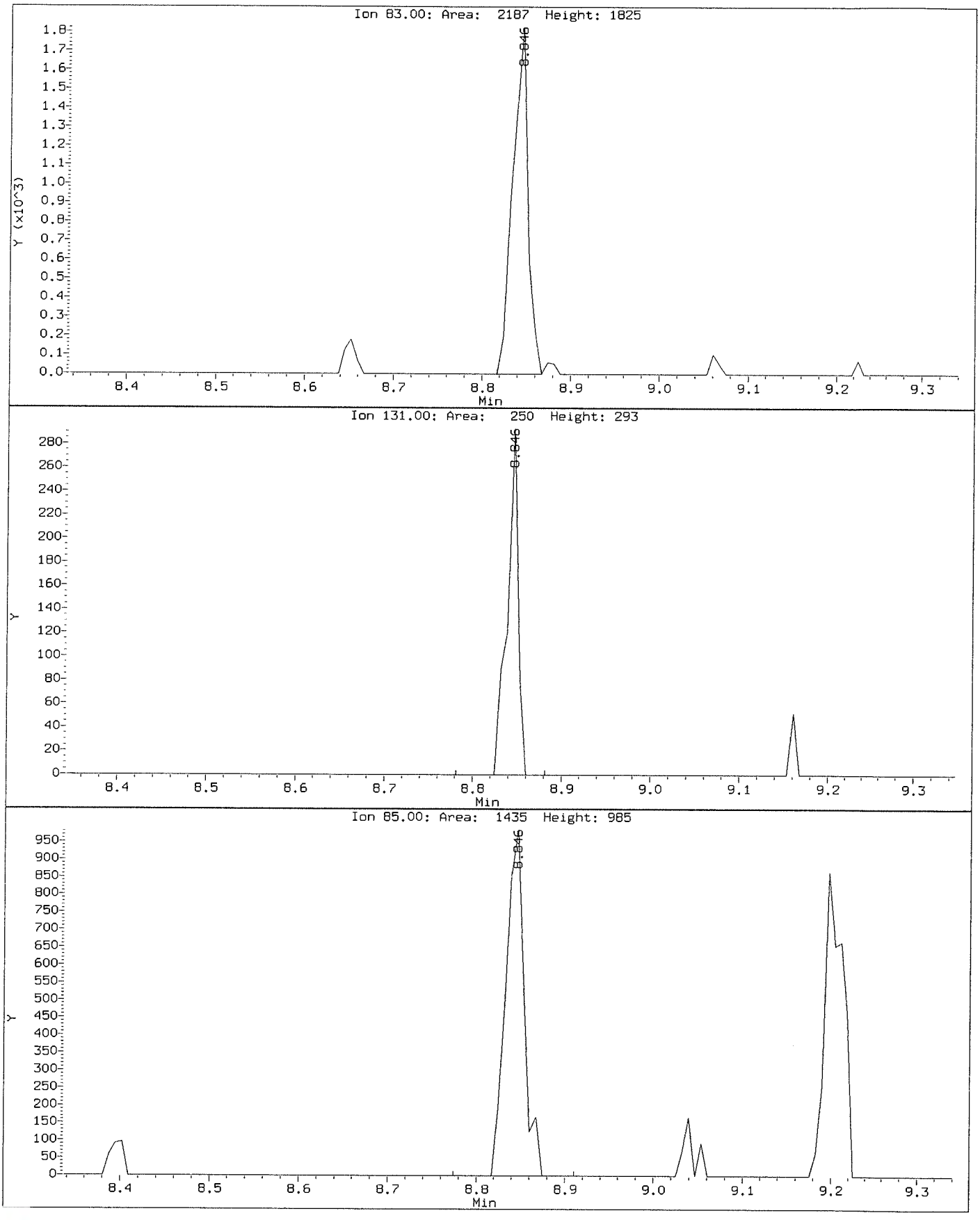
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



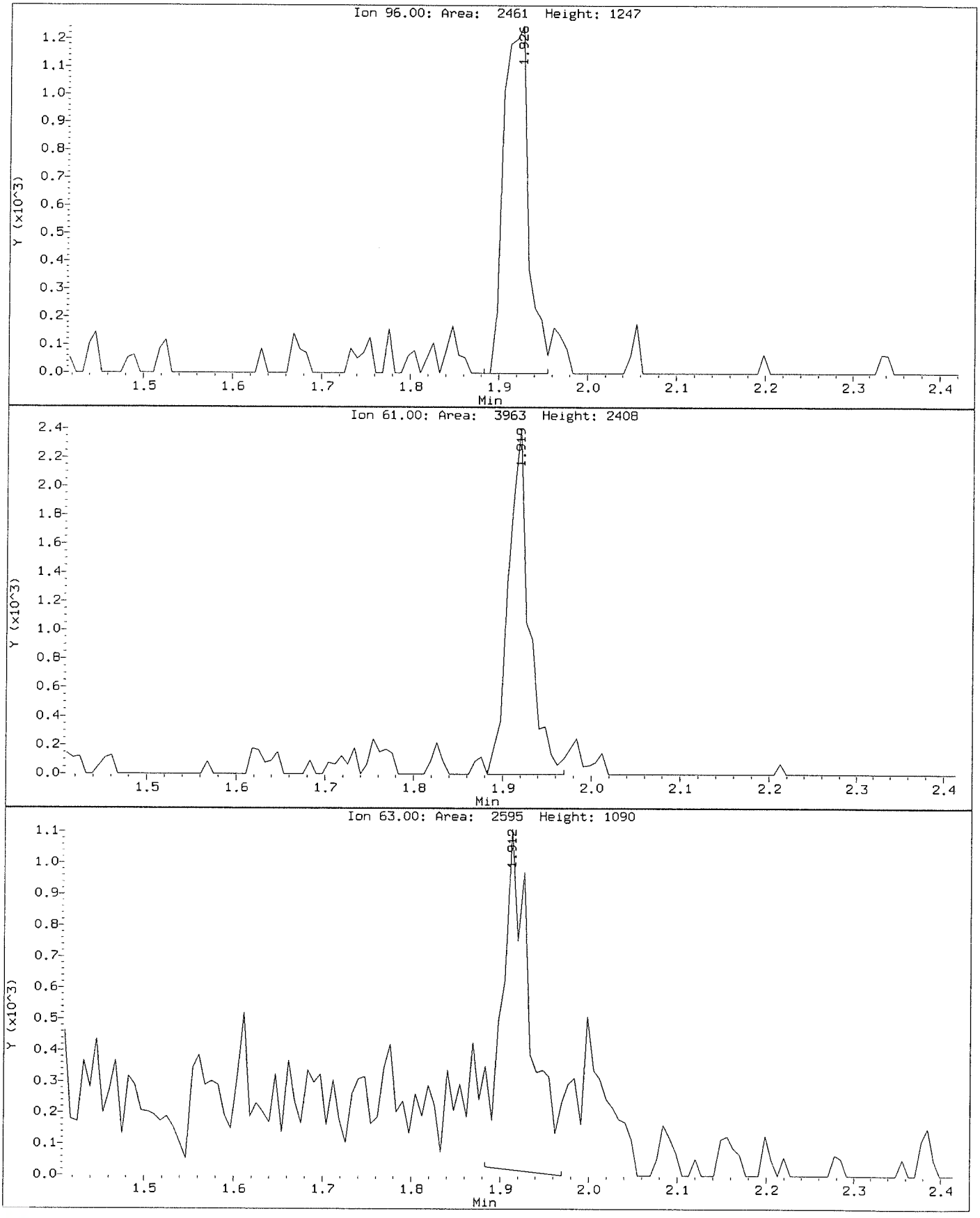
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



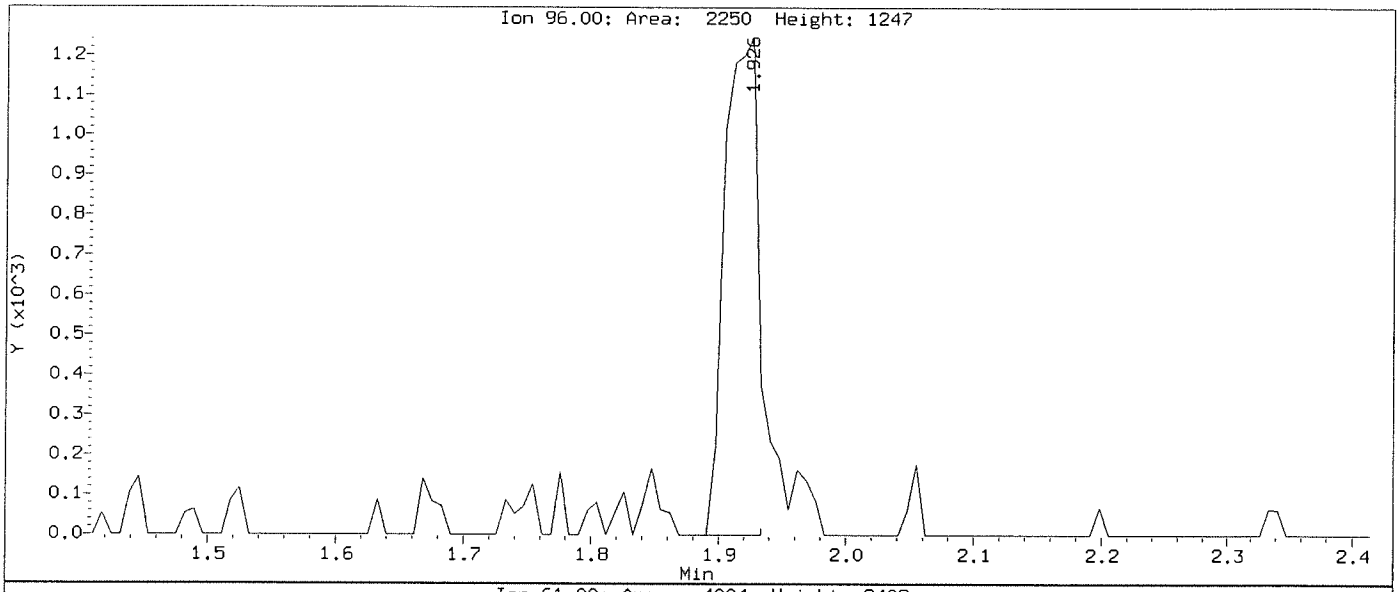
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

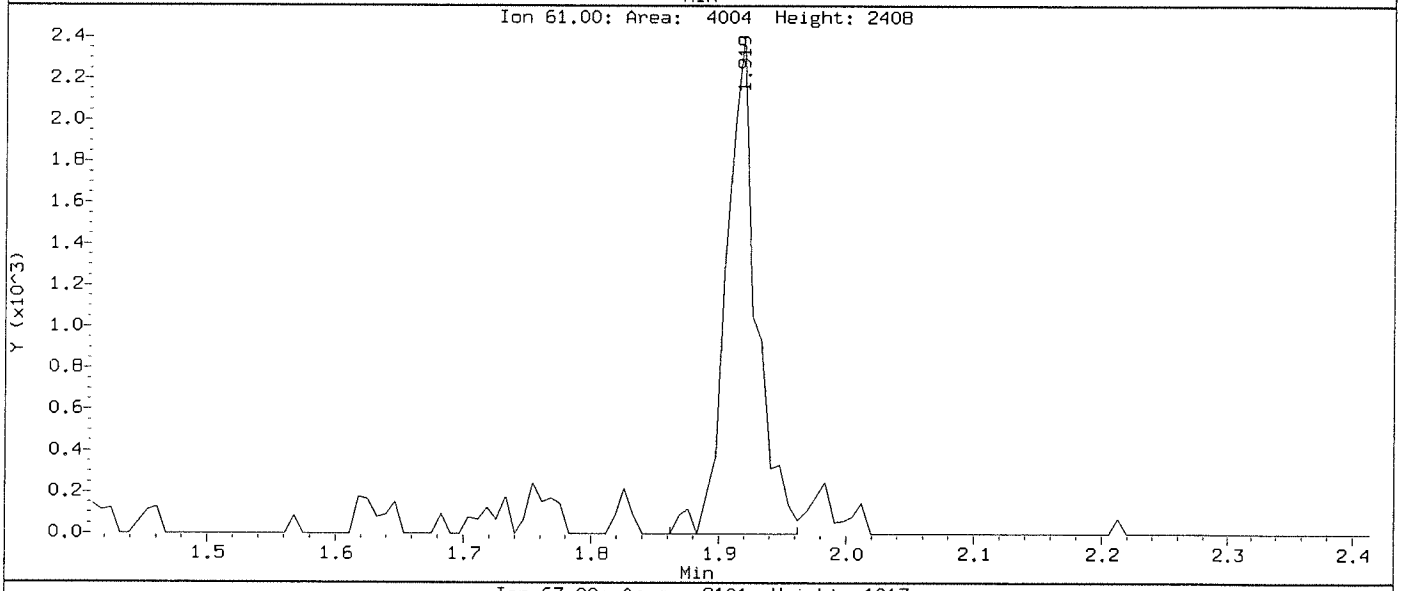
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

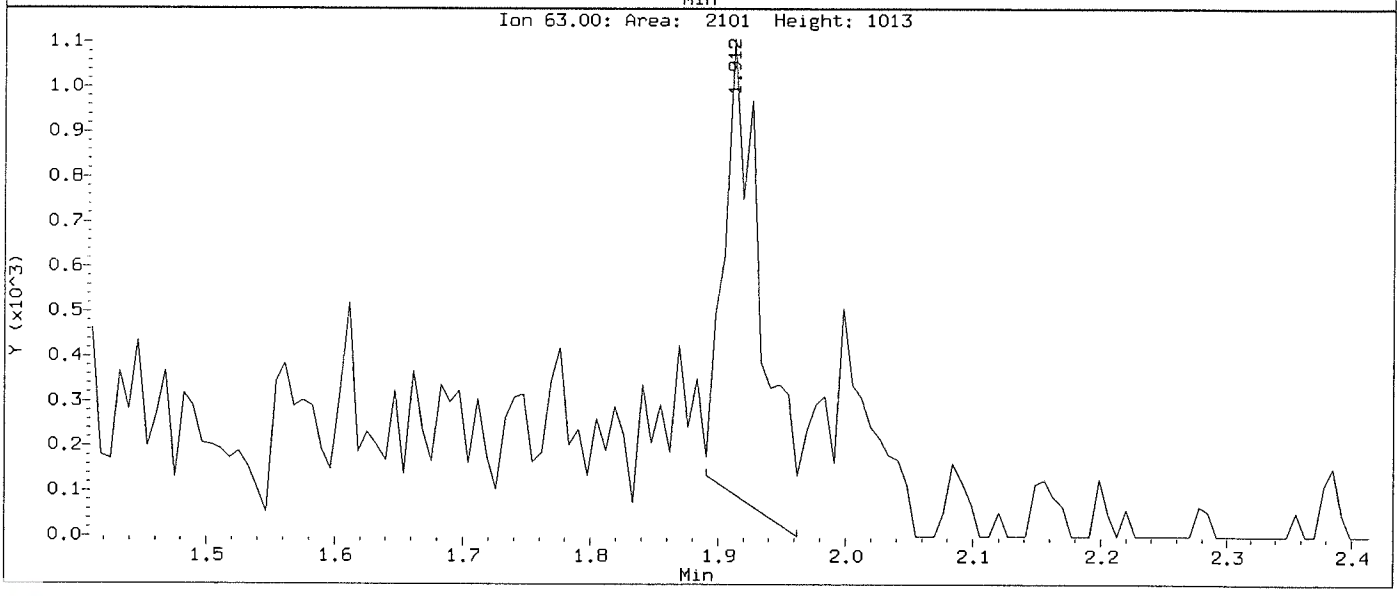


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

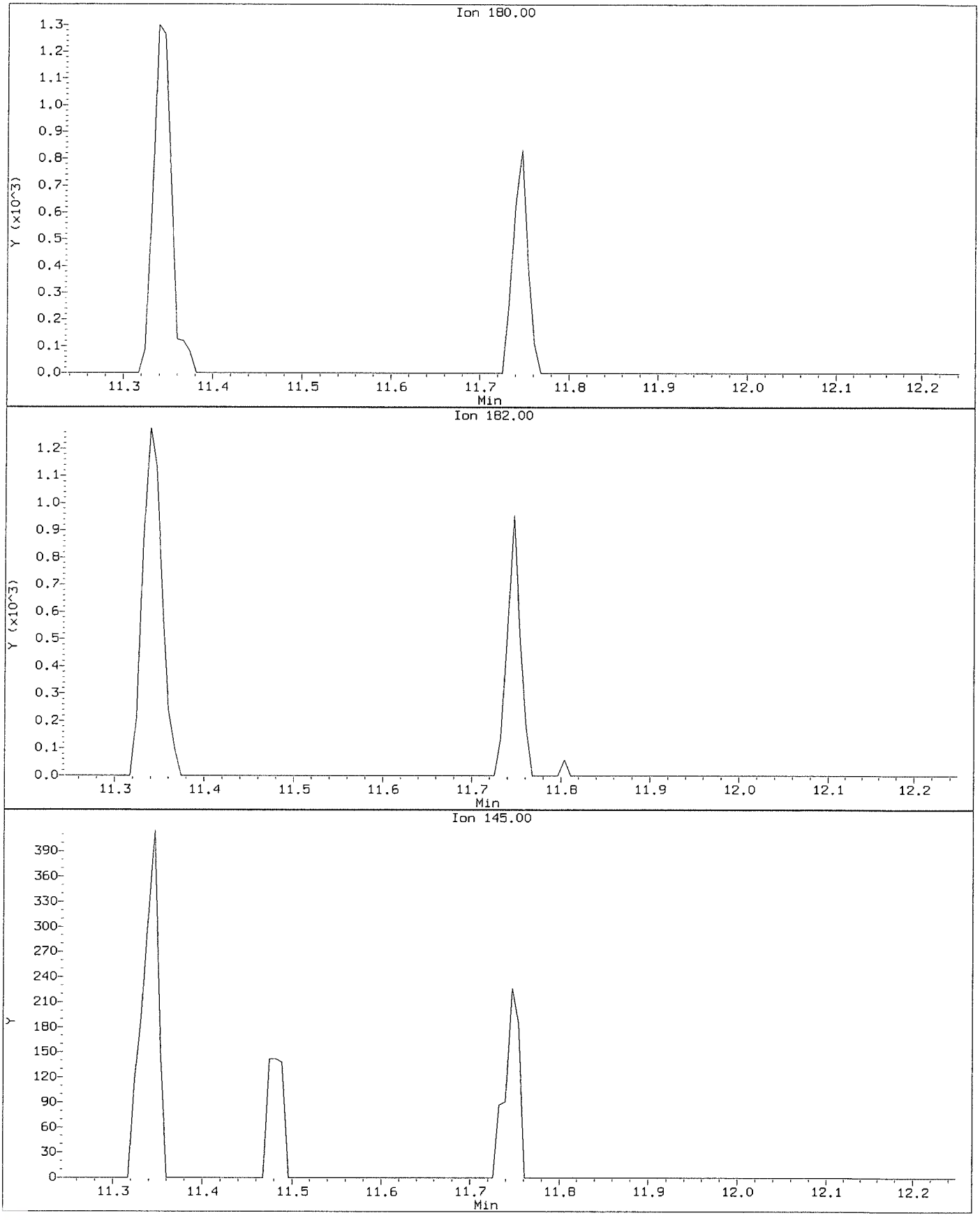






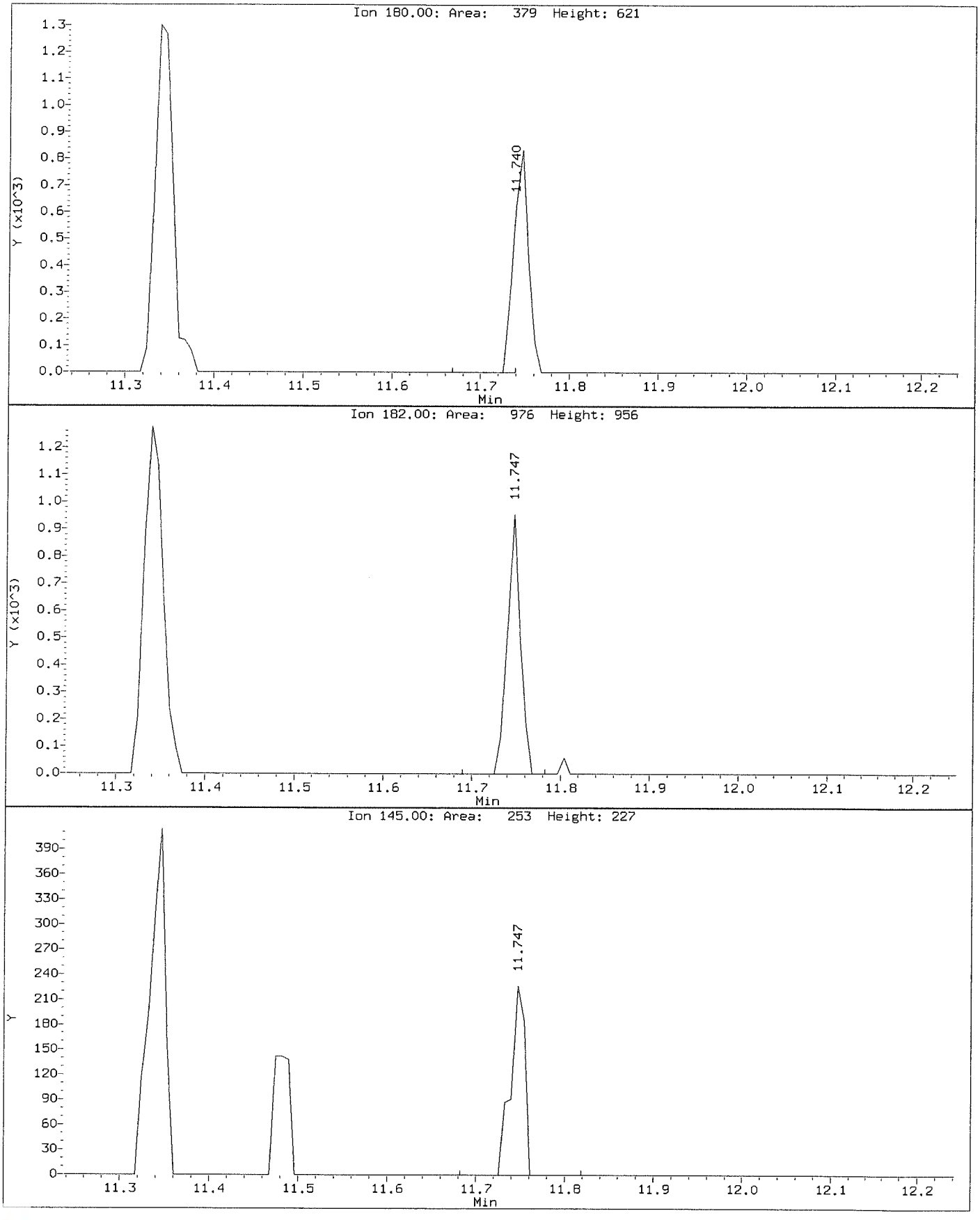
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



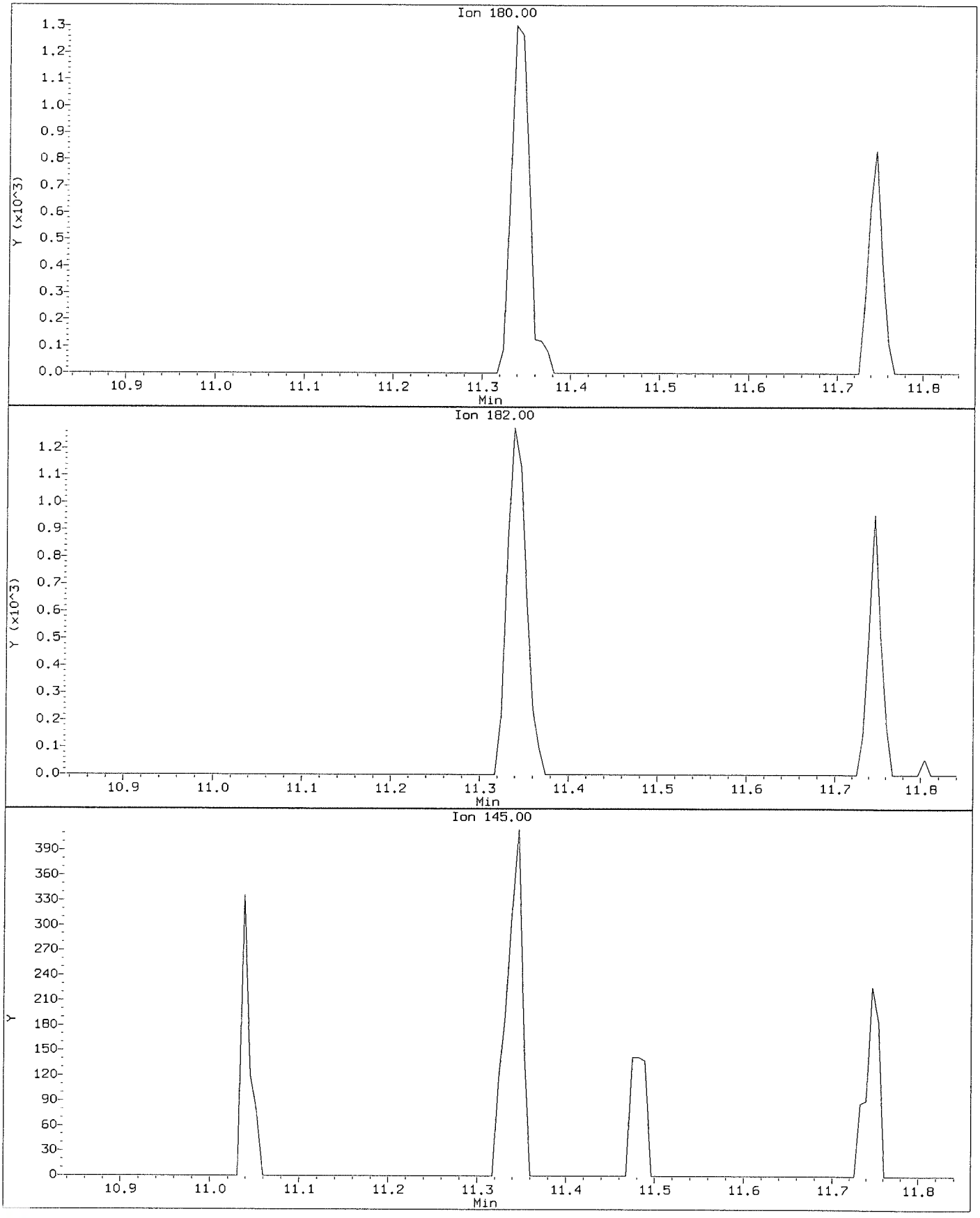
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



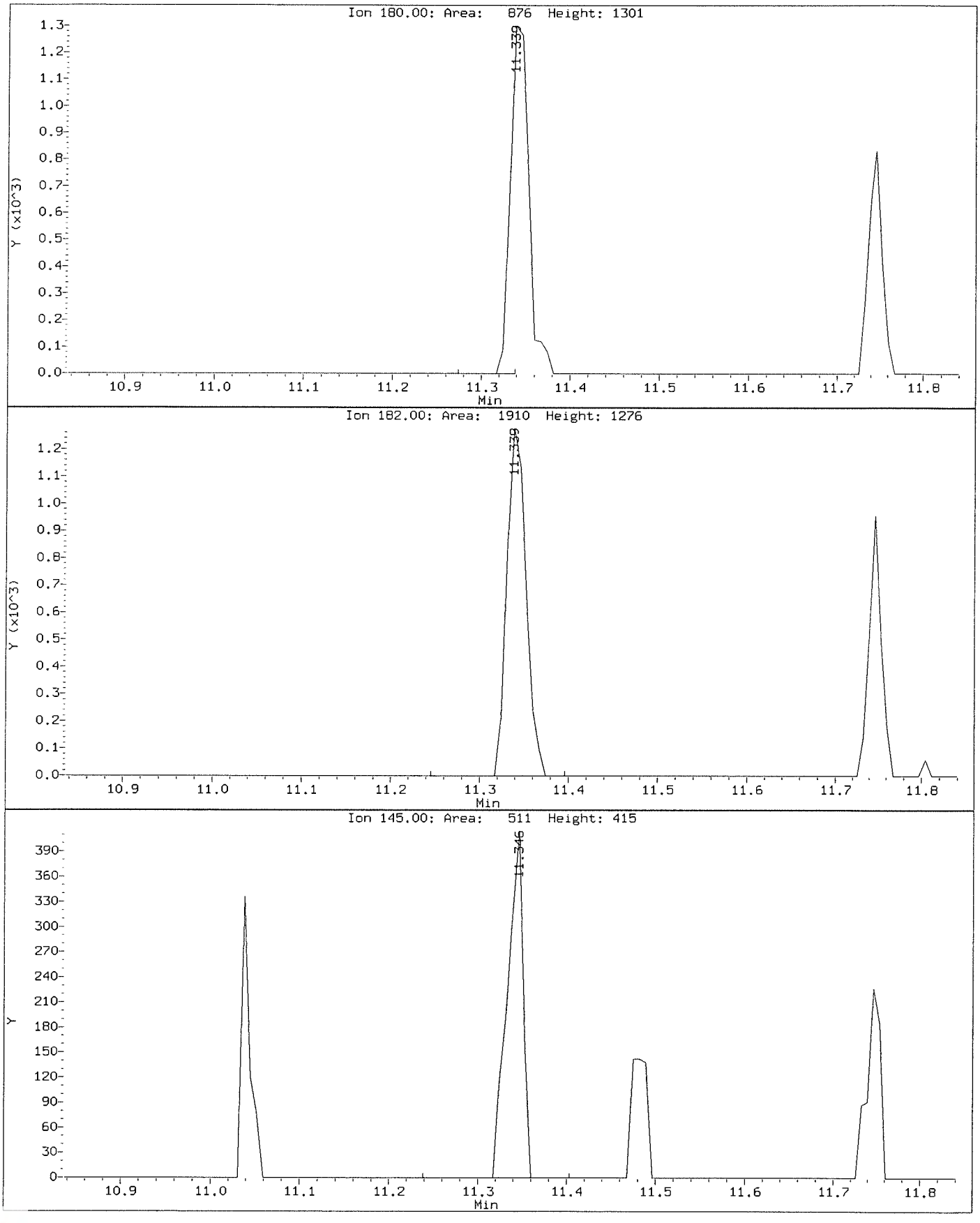
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



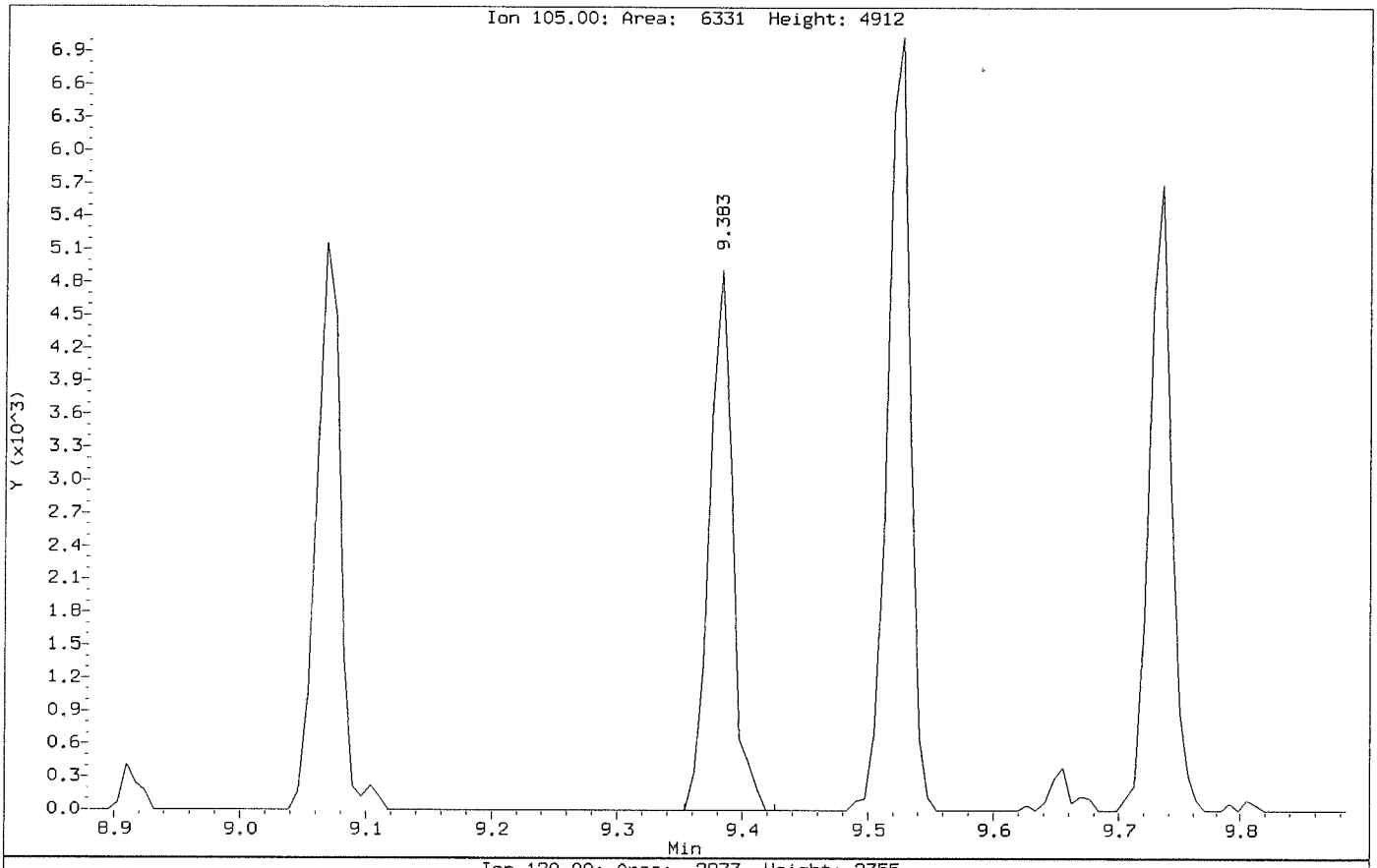
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

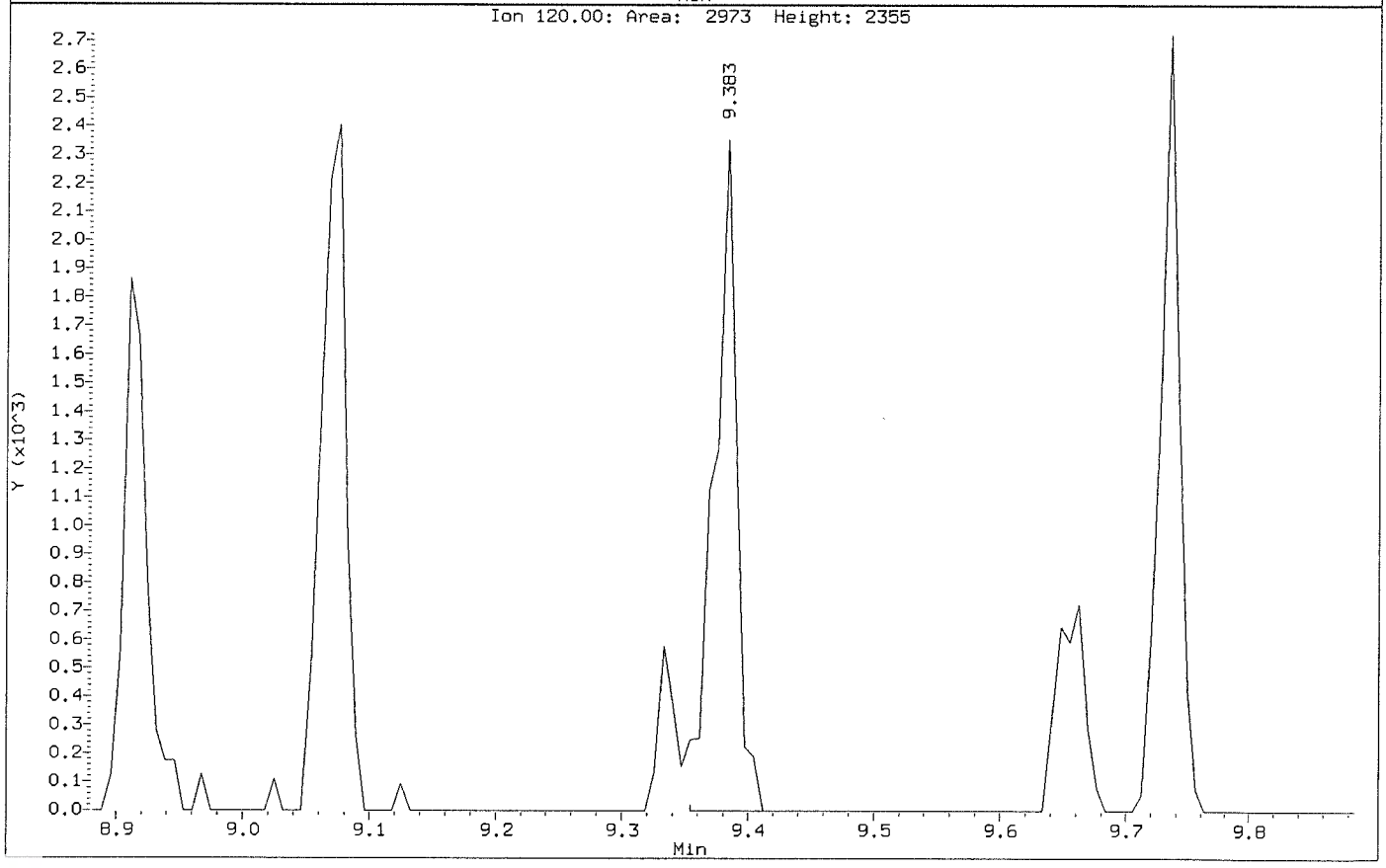
Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

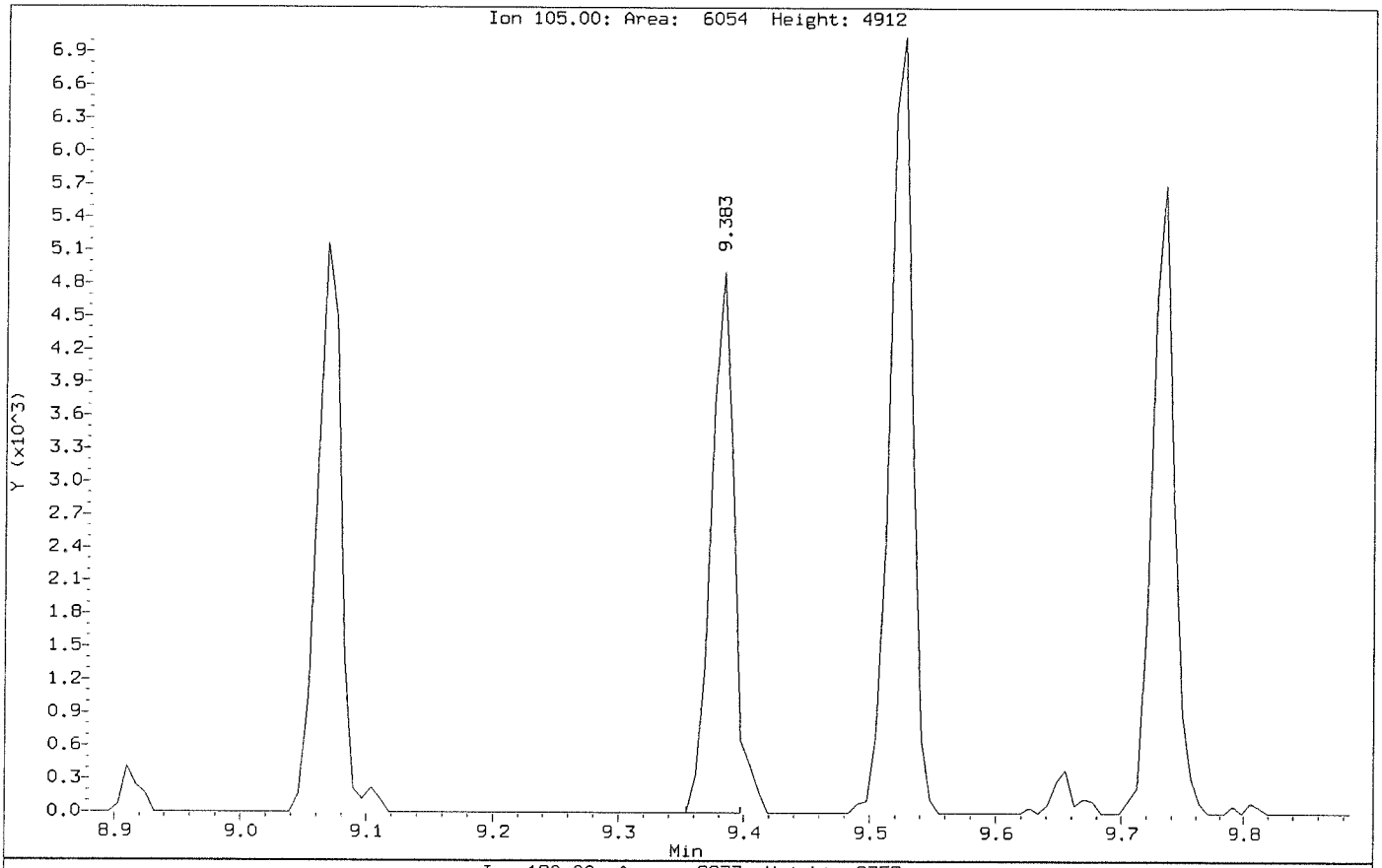
Compound: 1,2,4-Trimethylbenzene
CAS Number: 95-63-6

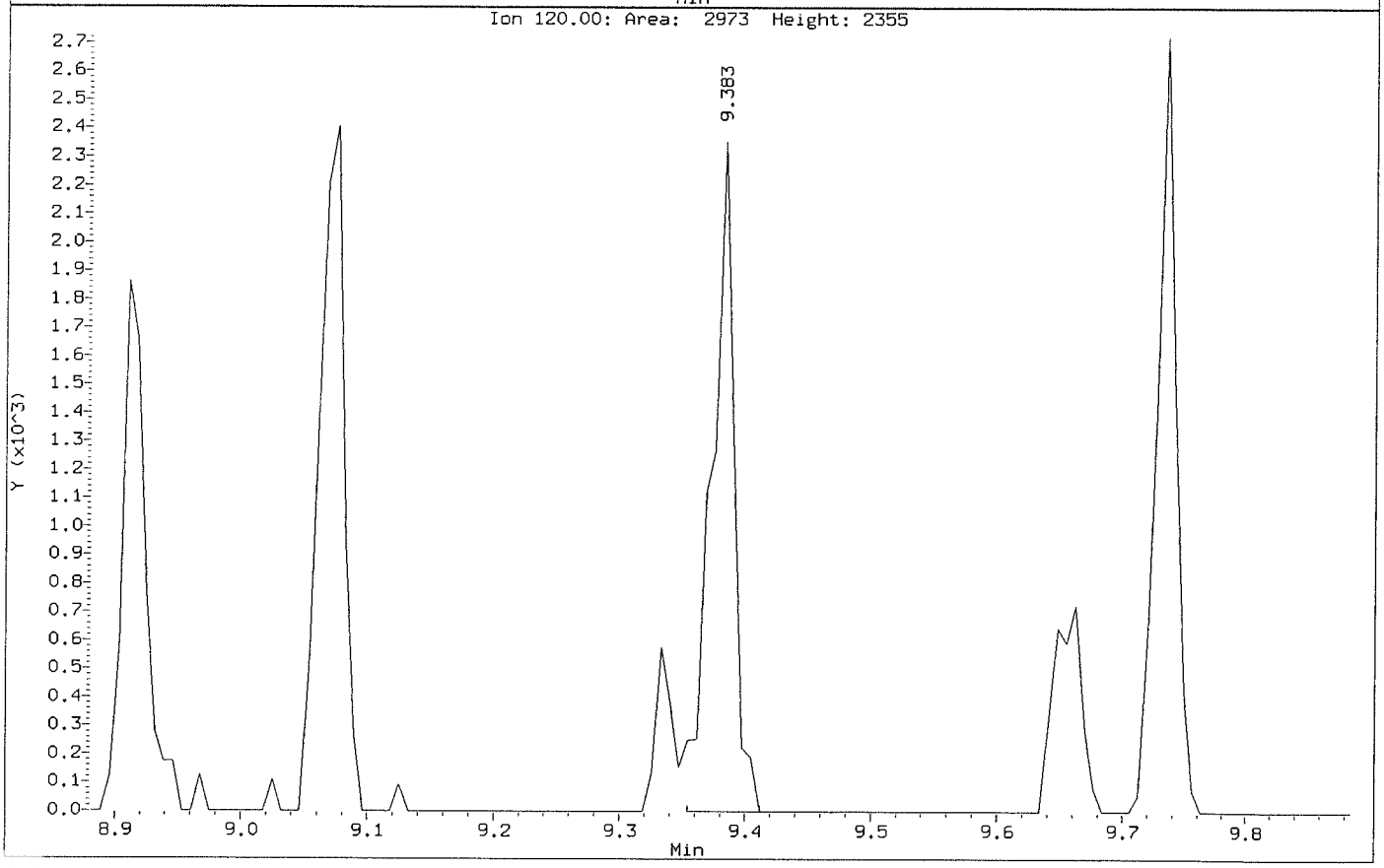




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

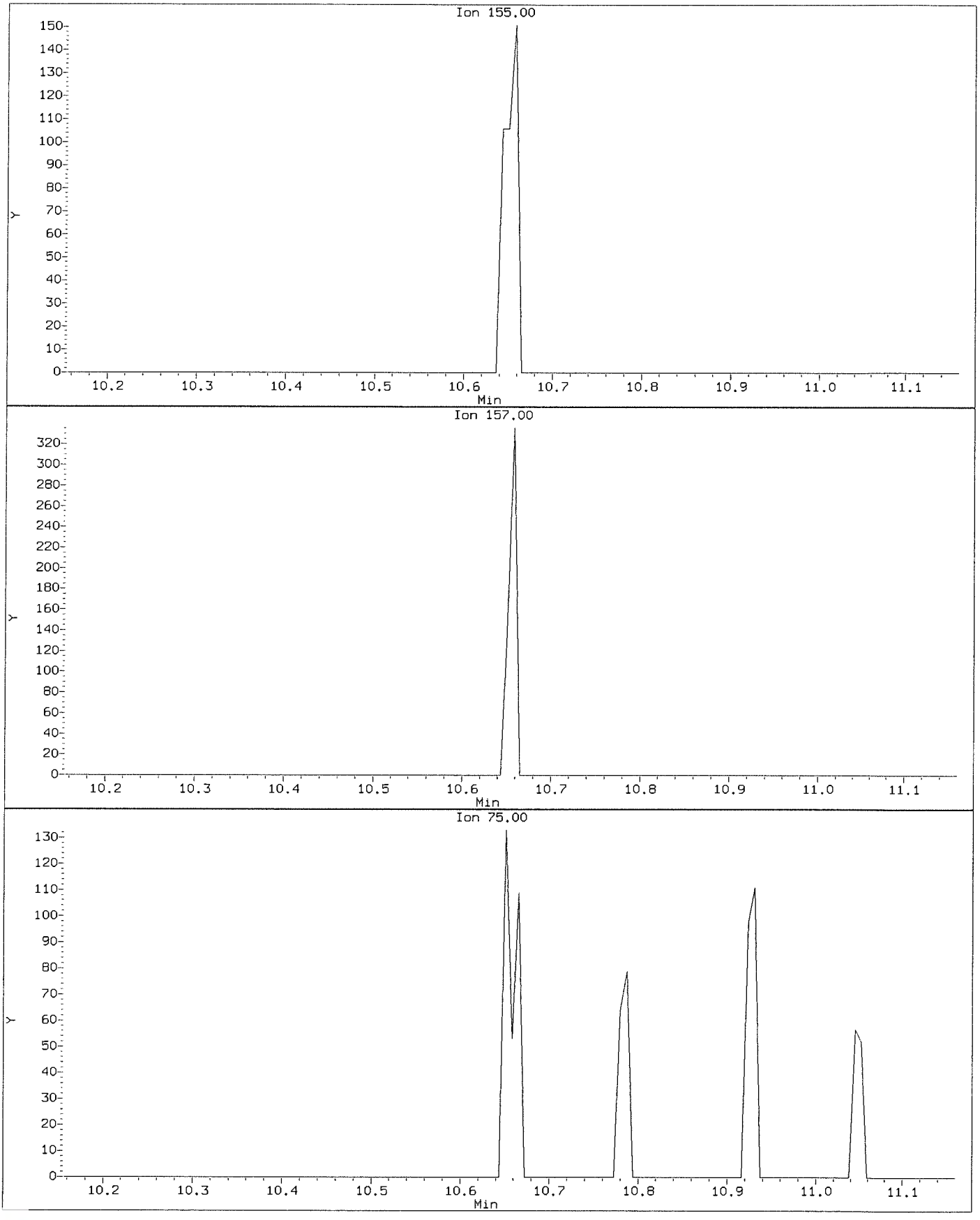
Compound: 1,2,4-Trimethylbenzene
CAS Number: 95-63-6





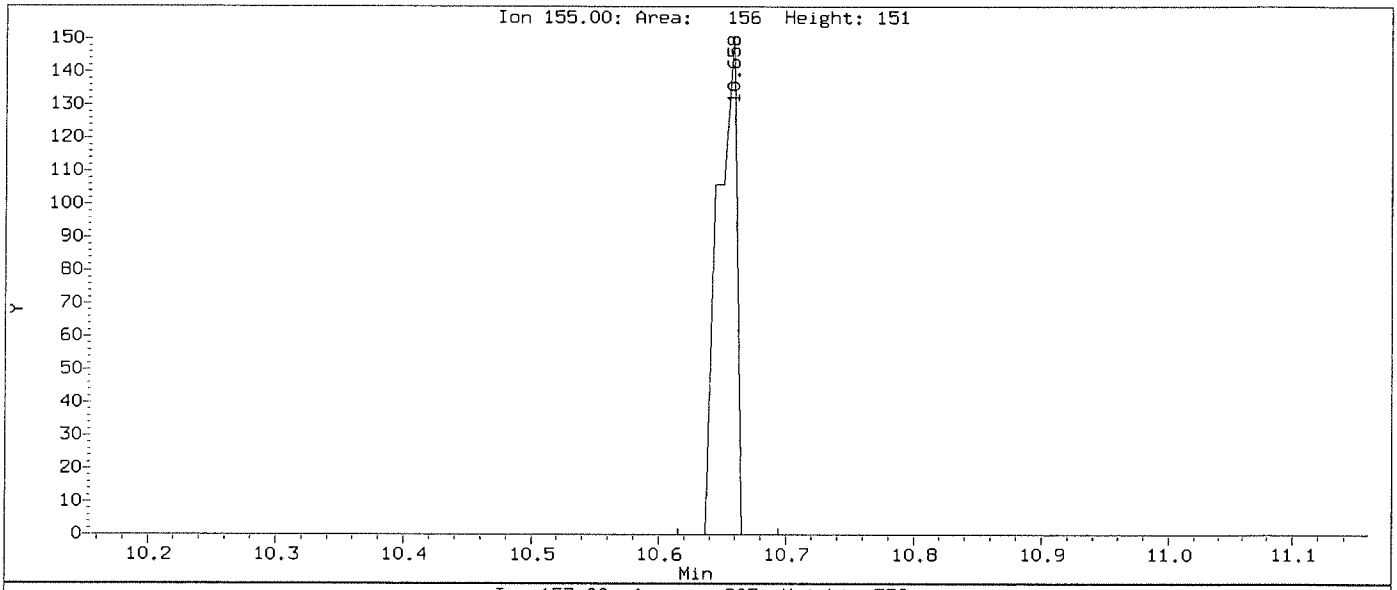
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

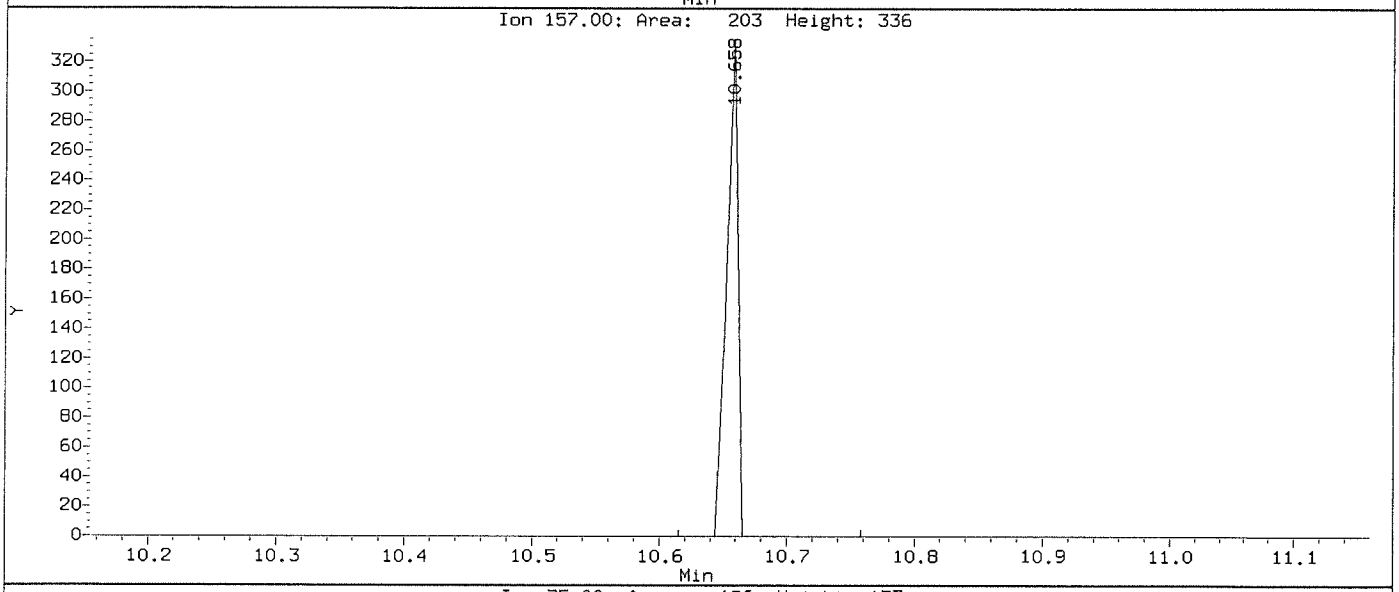
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

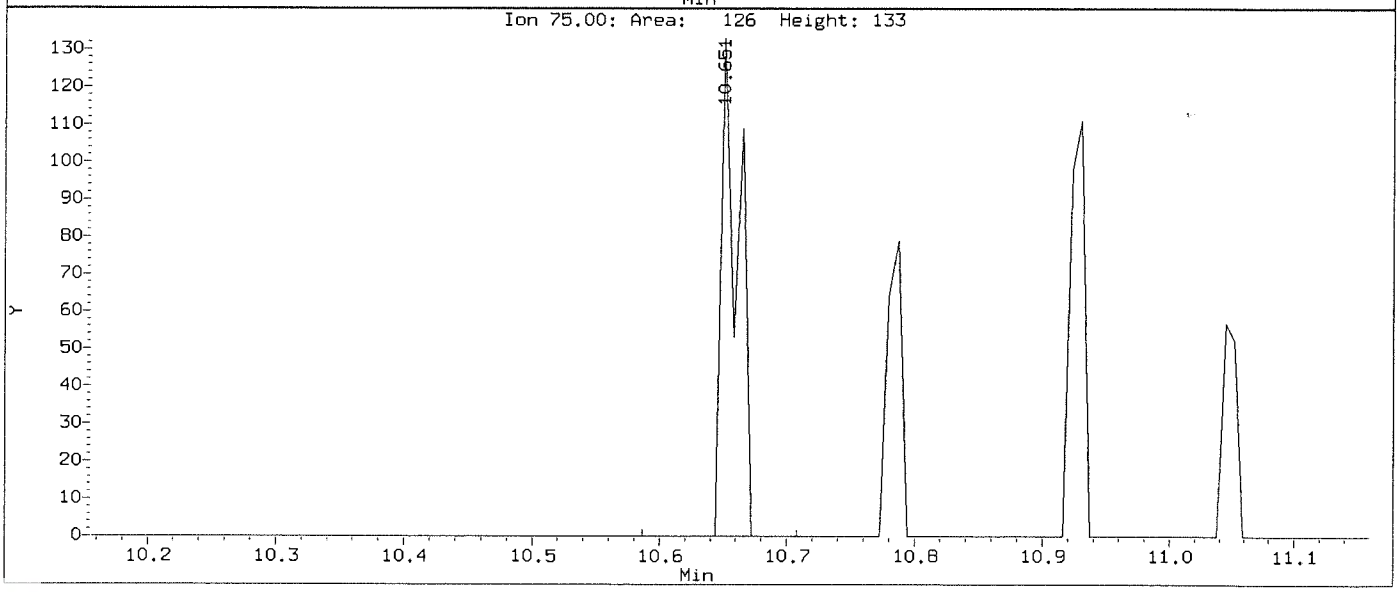


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

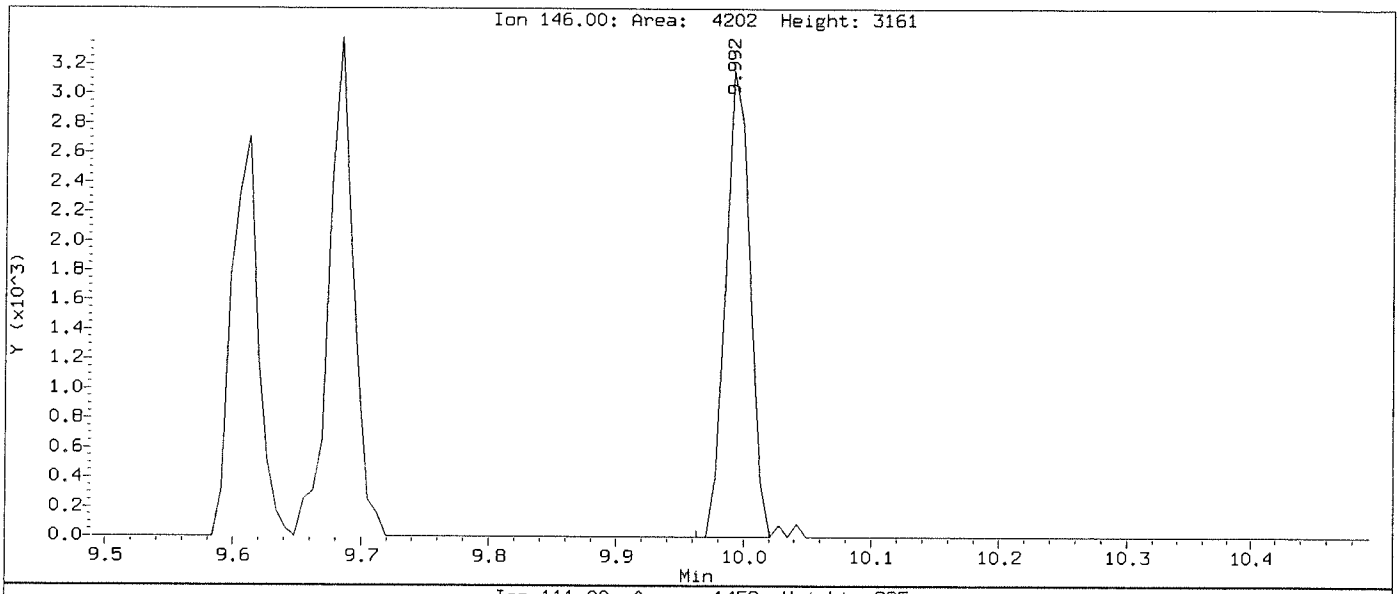


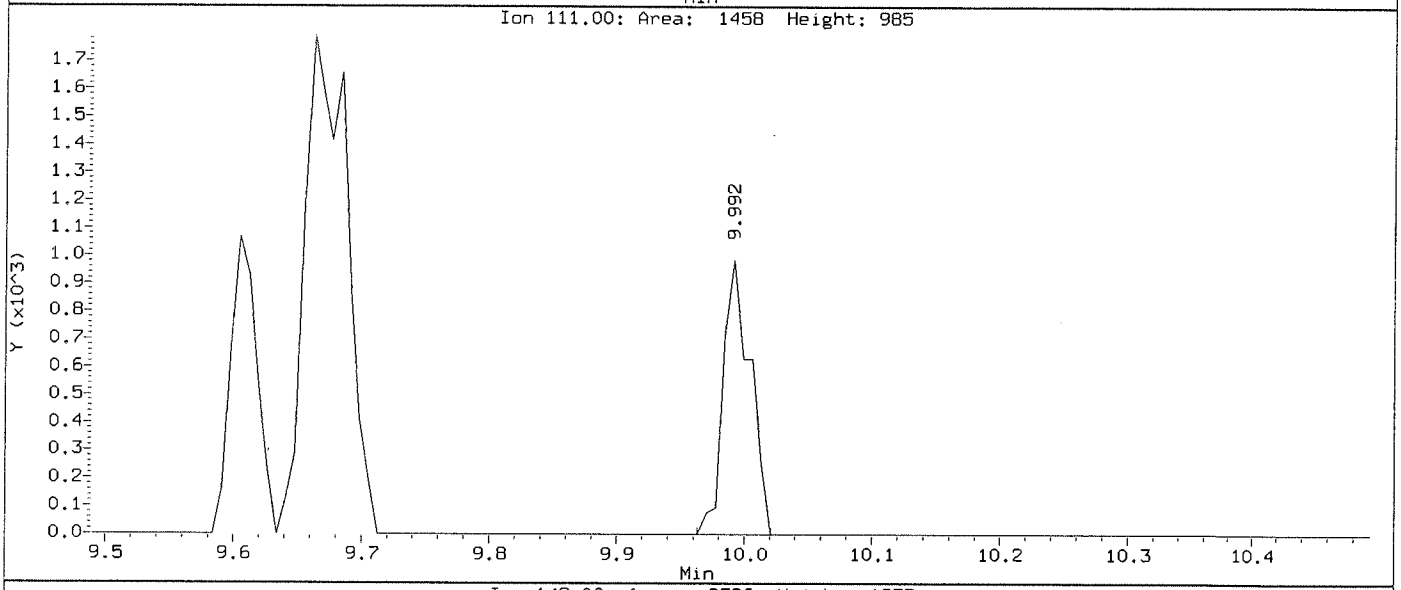


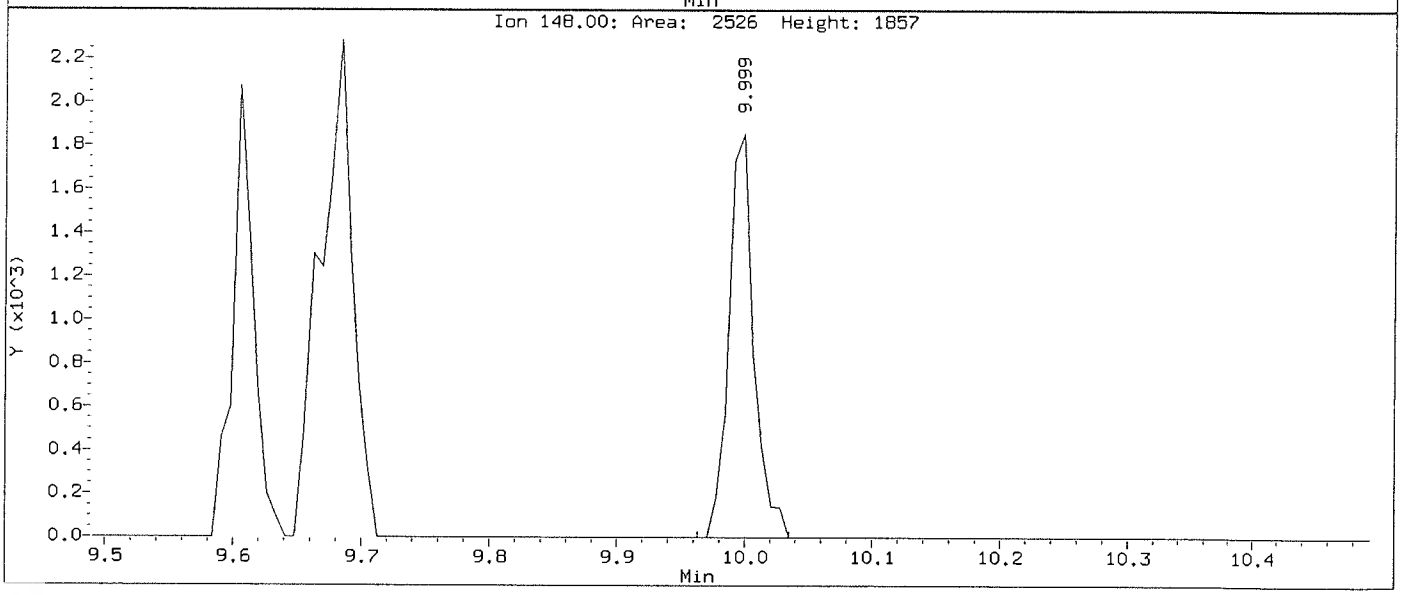


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichlorobenzene
CAS Number: 95-50-1

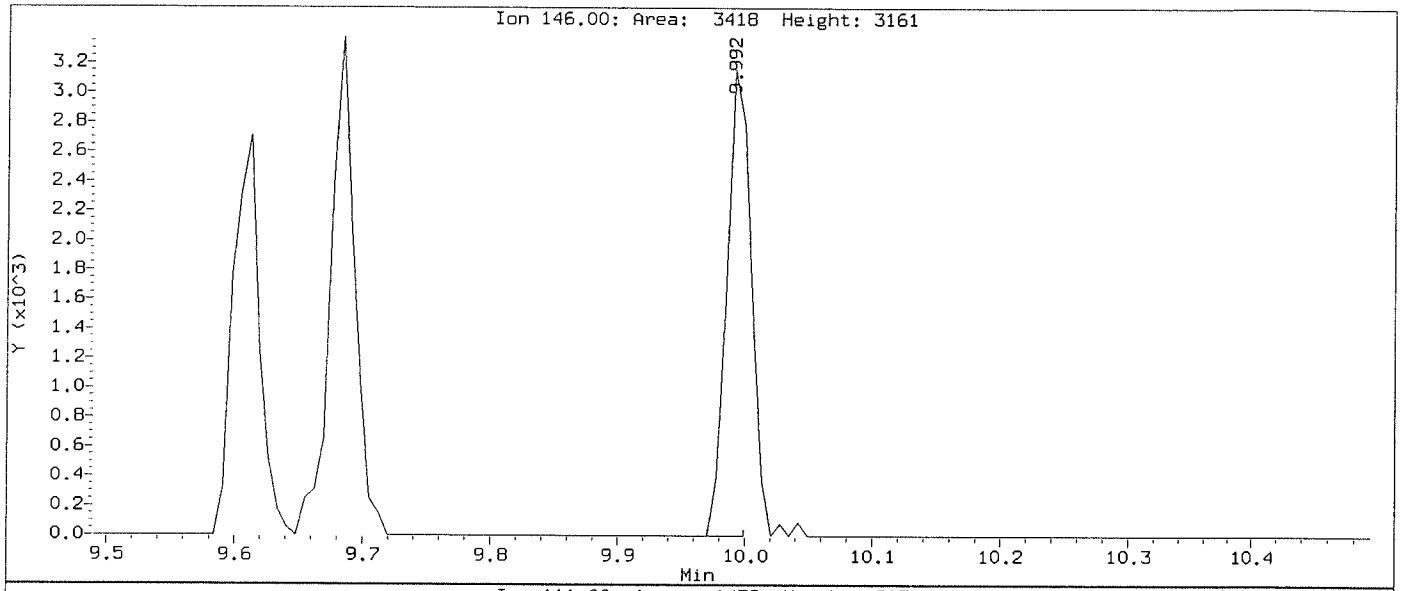


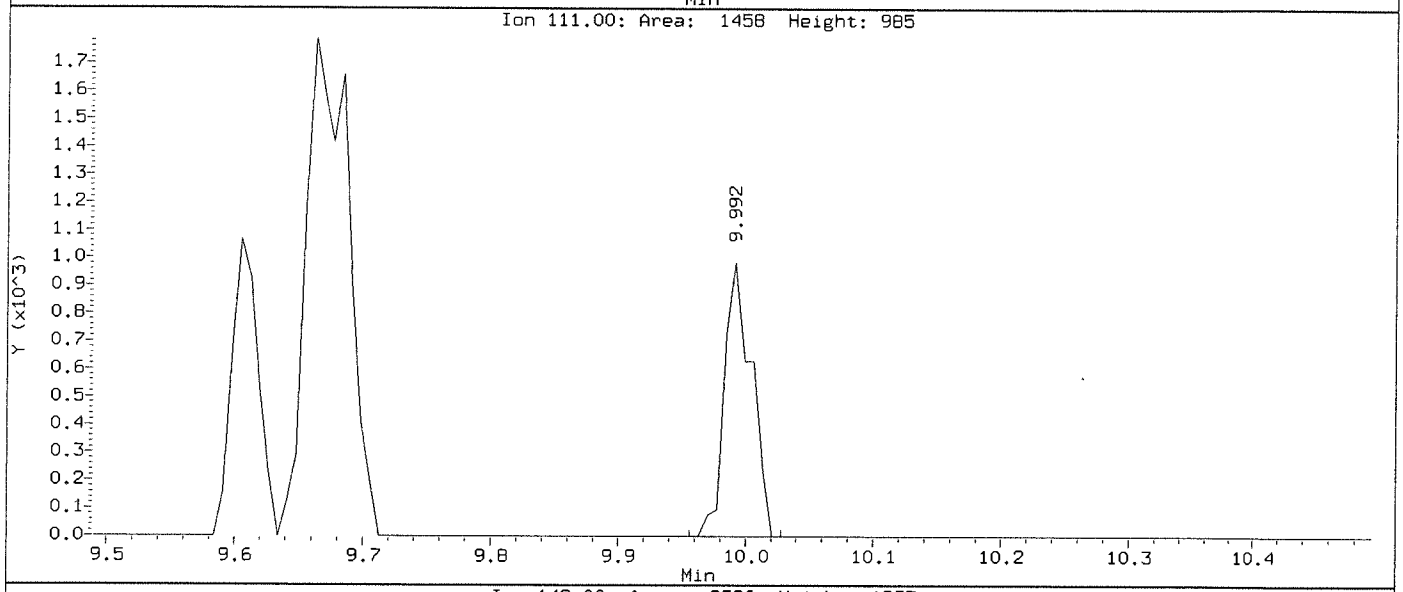


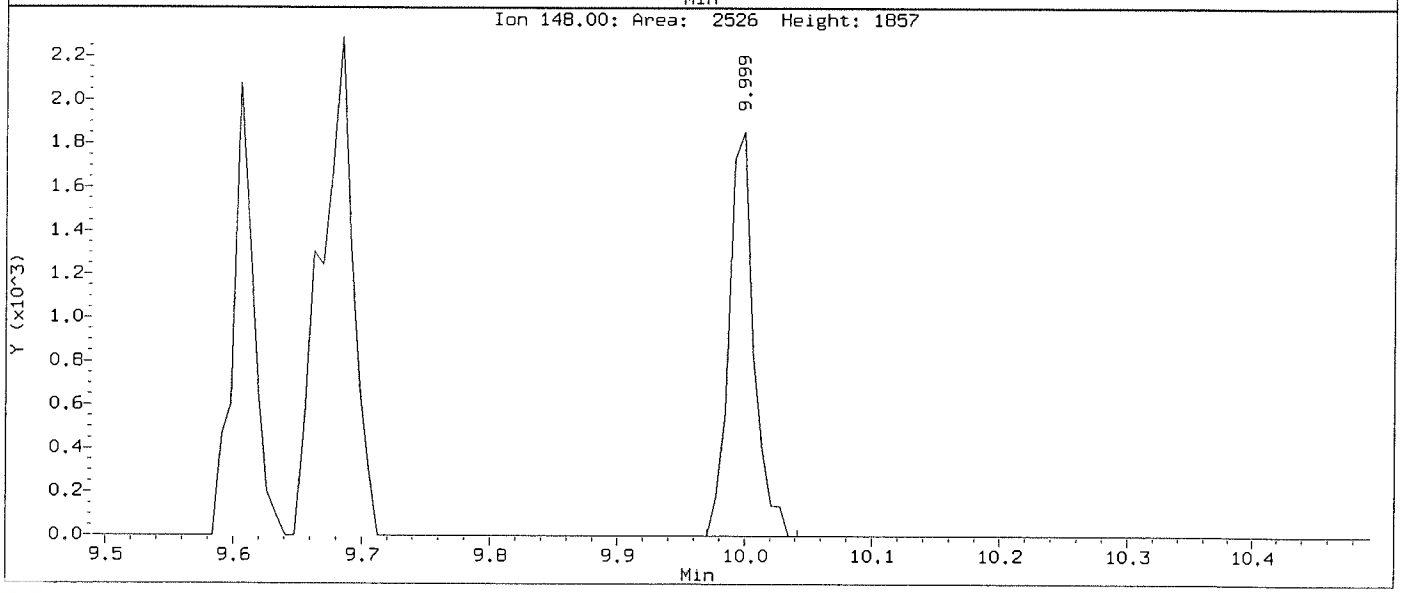


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichlorobenzene
CAS Number: 95-50-1

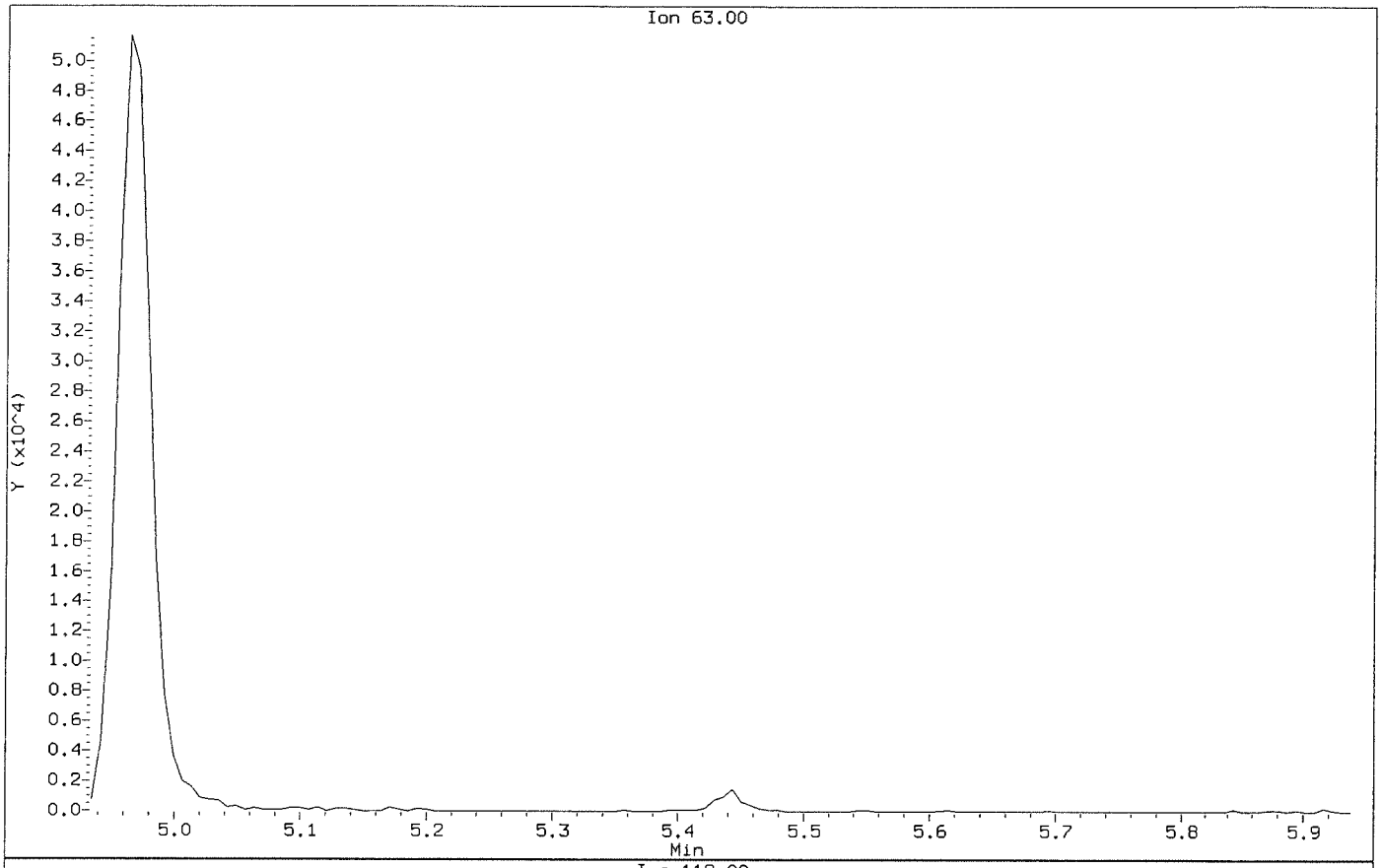


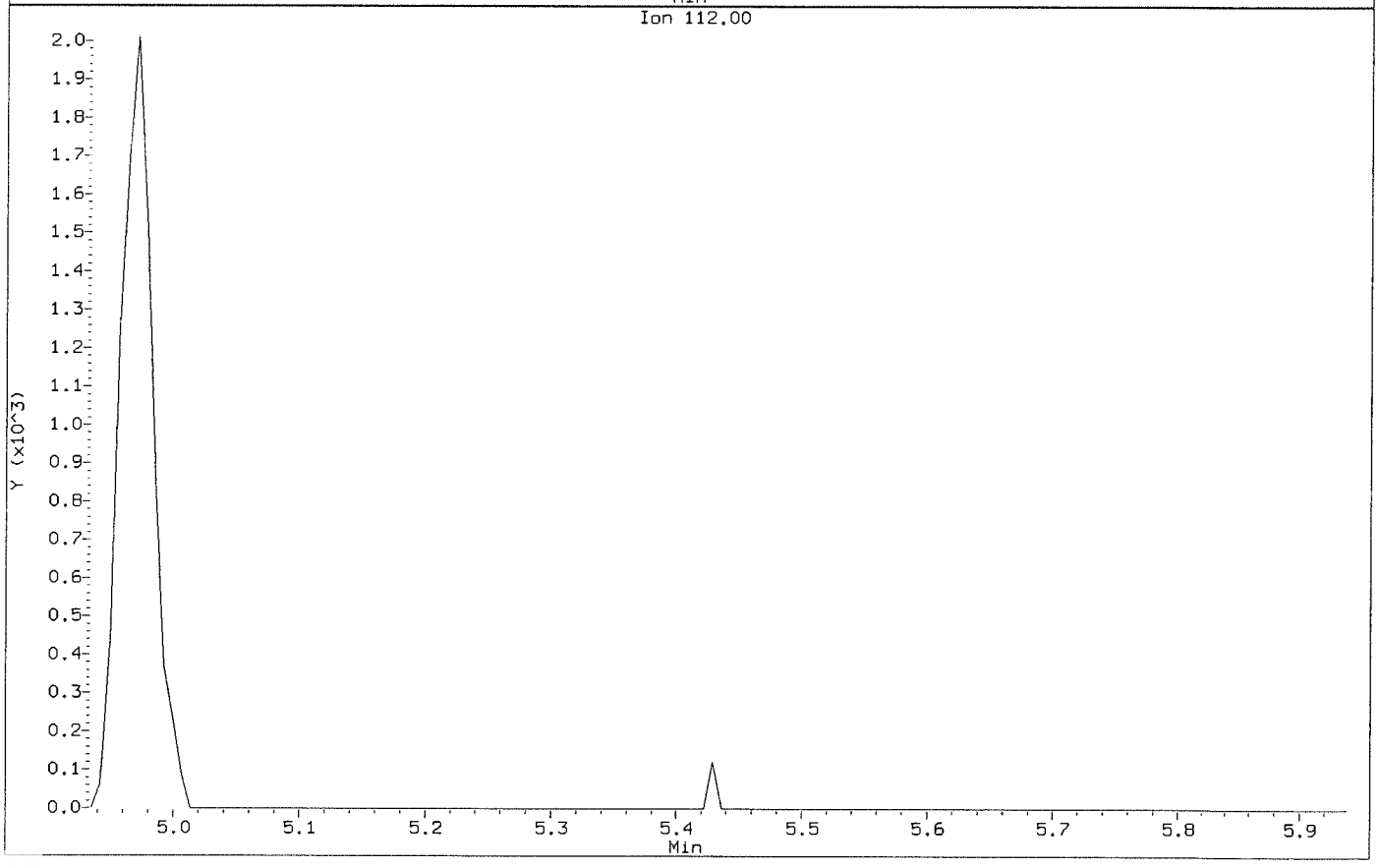




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

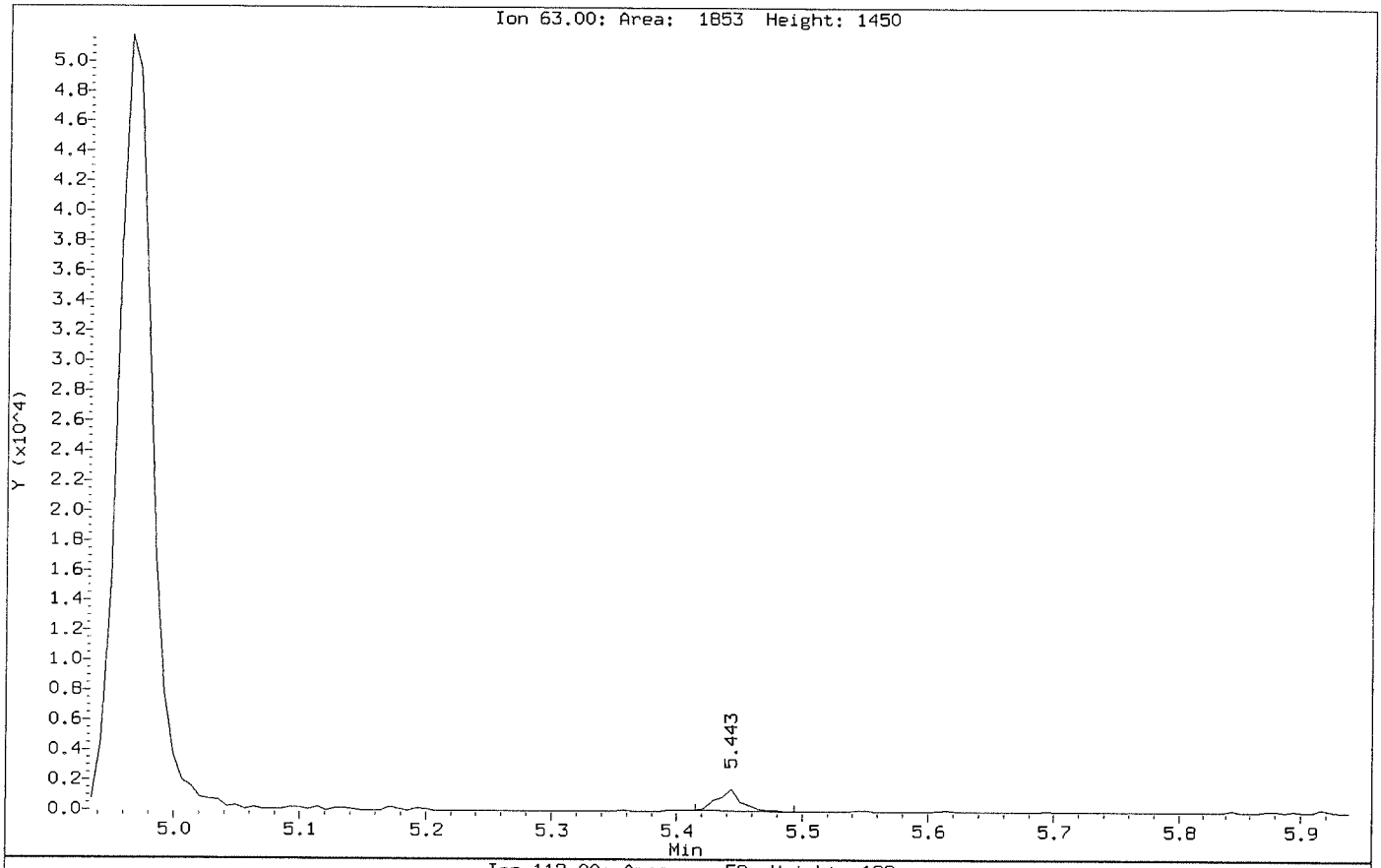
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

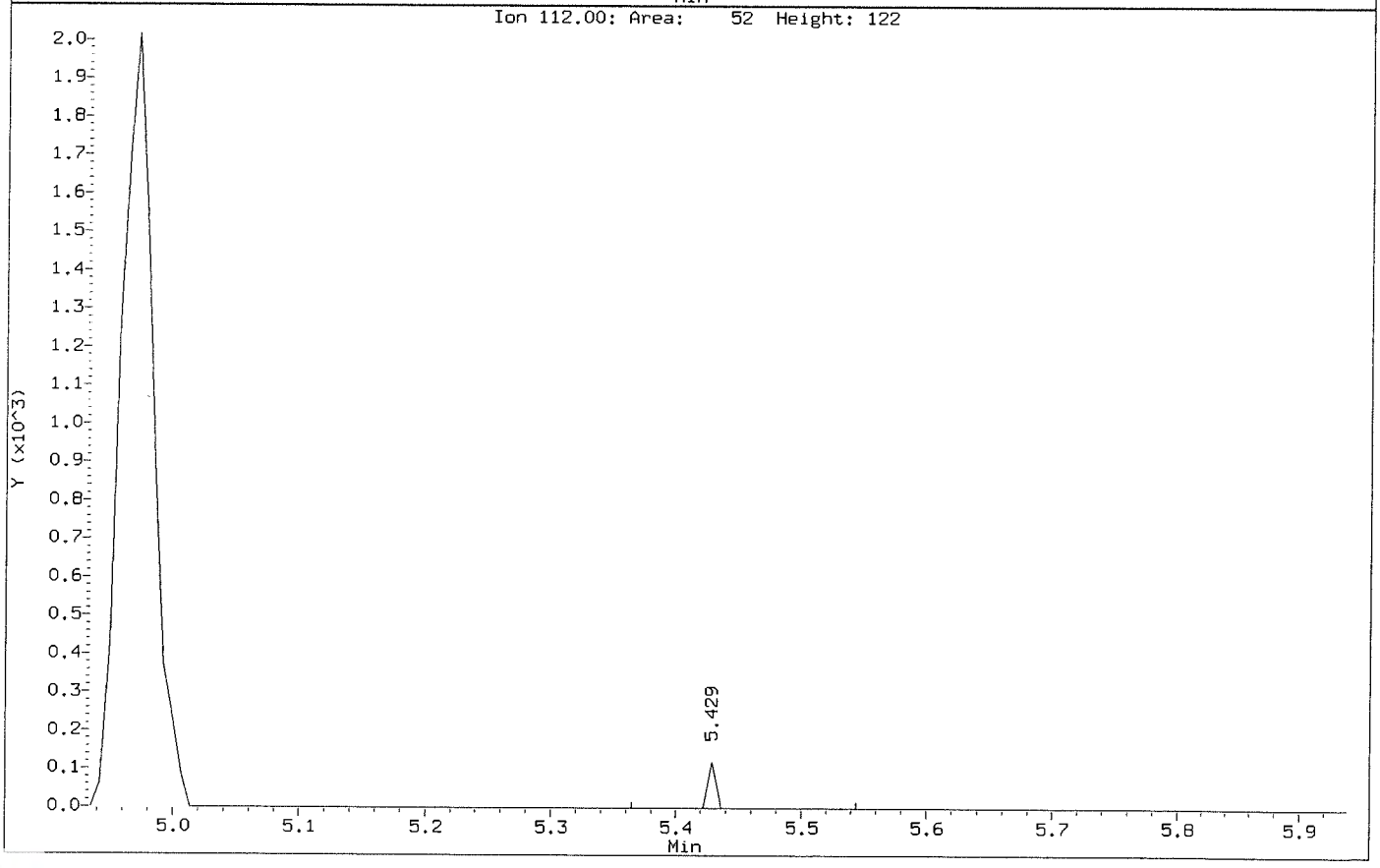




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

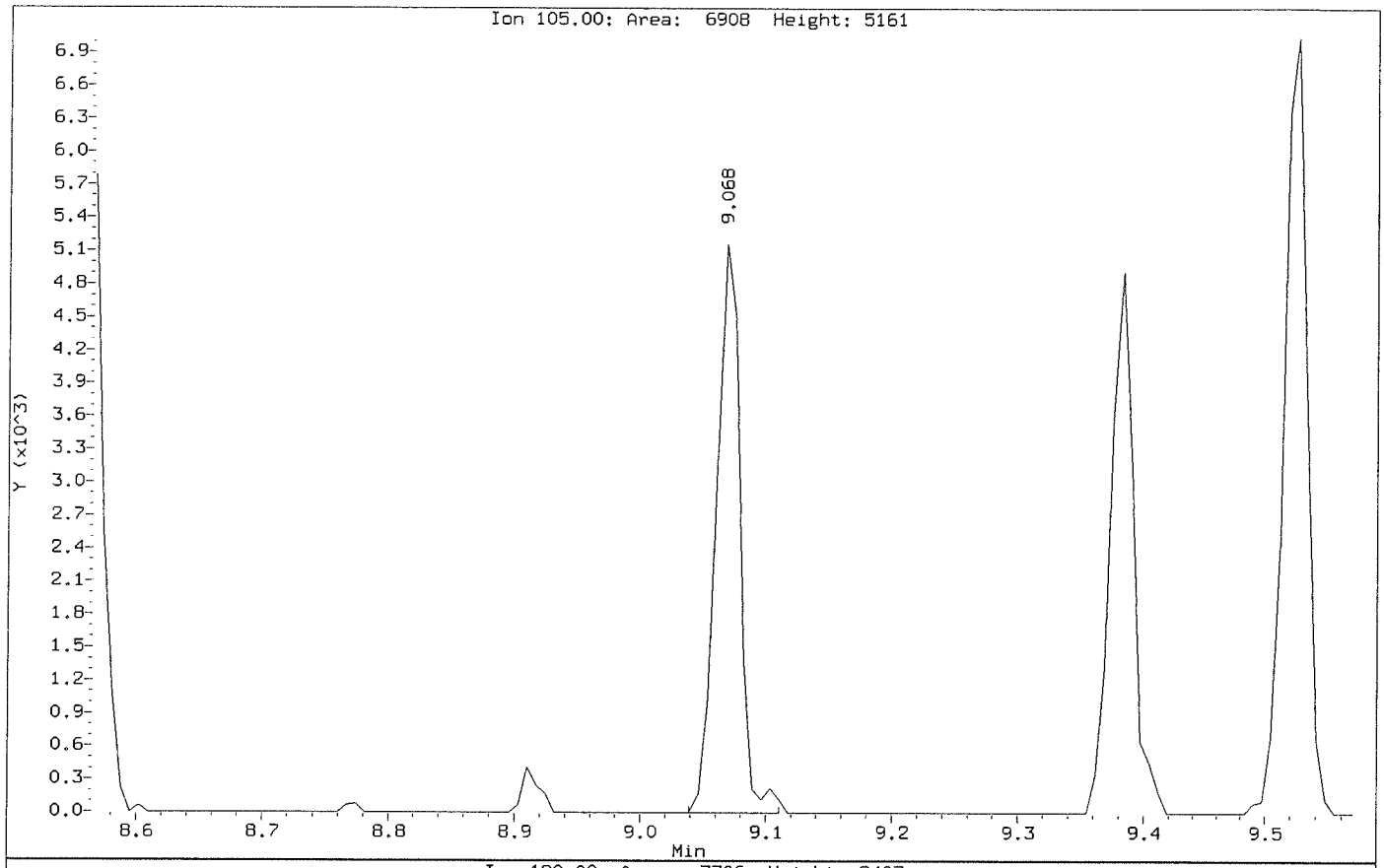
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

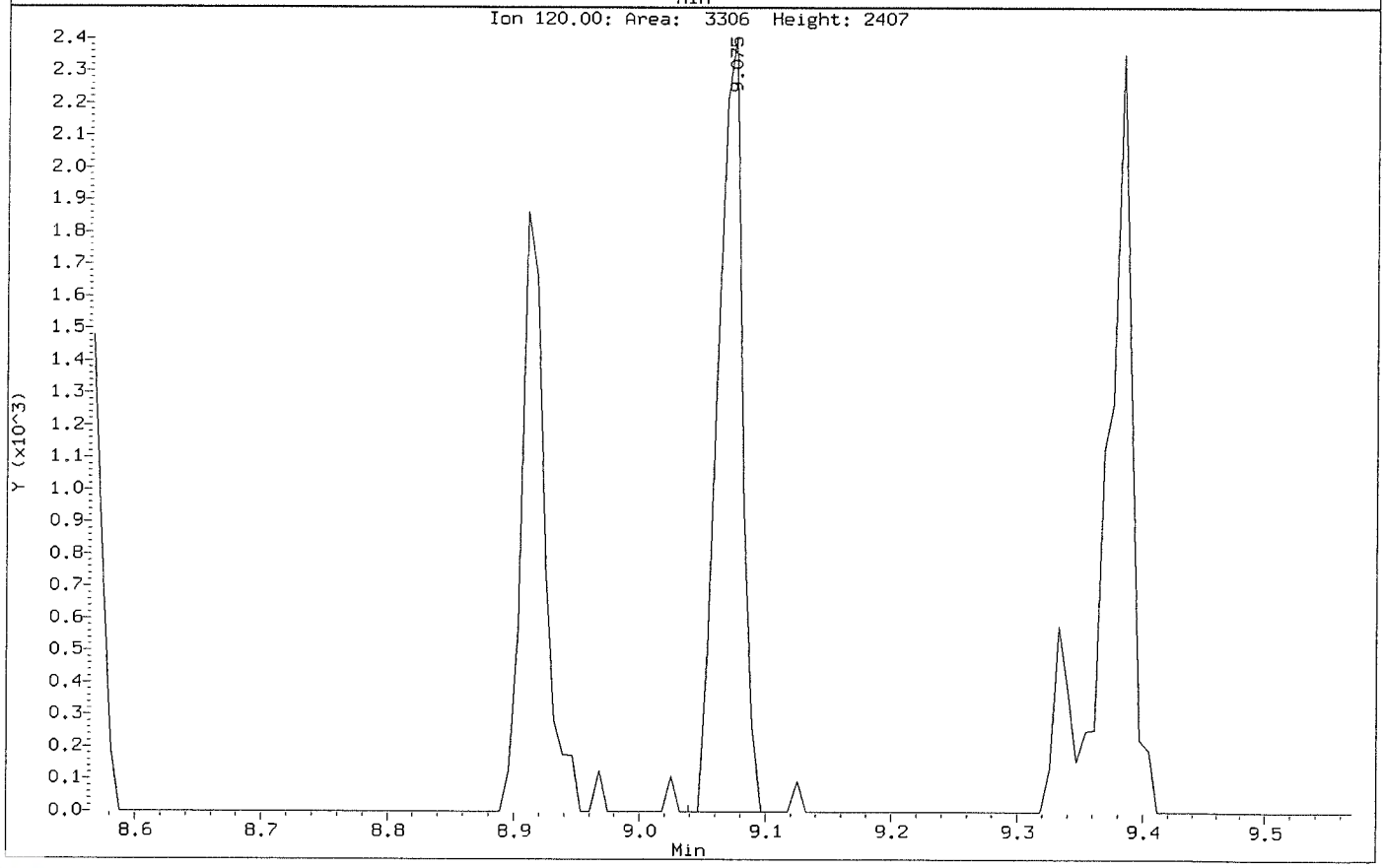




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

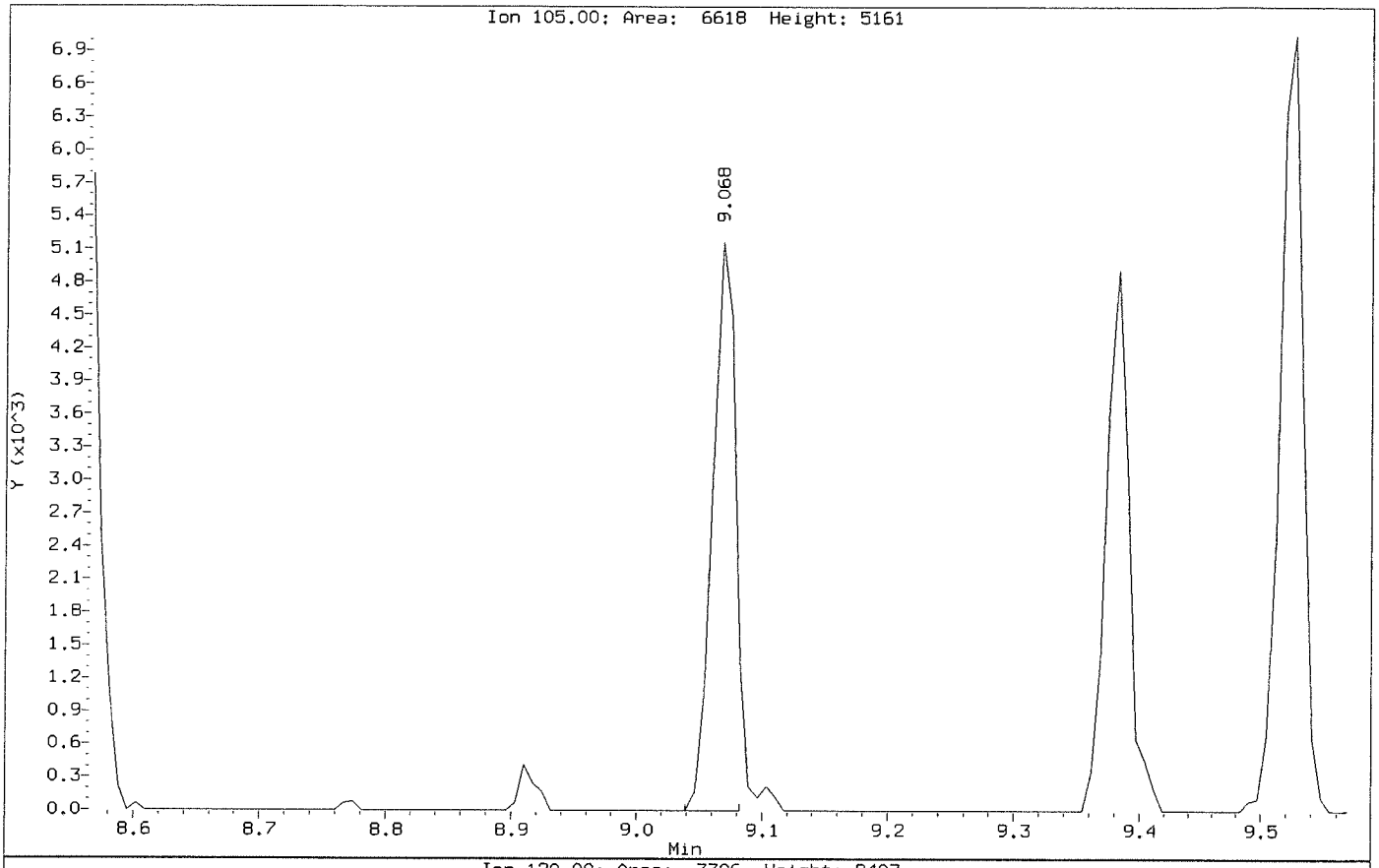
Compound: 1,3,5-Trimethylbenzene
CAS Number: 108-67-8

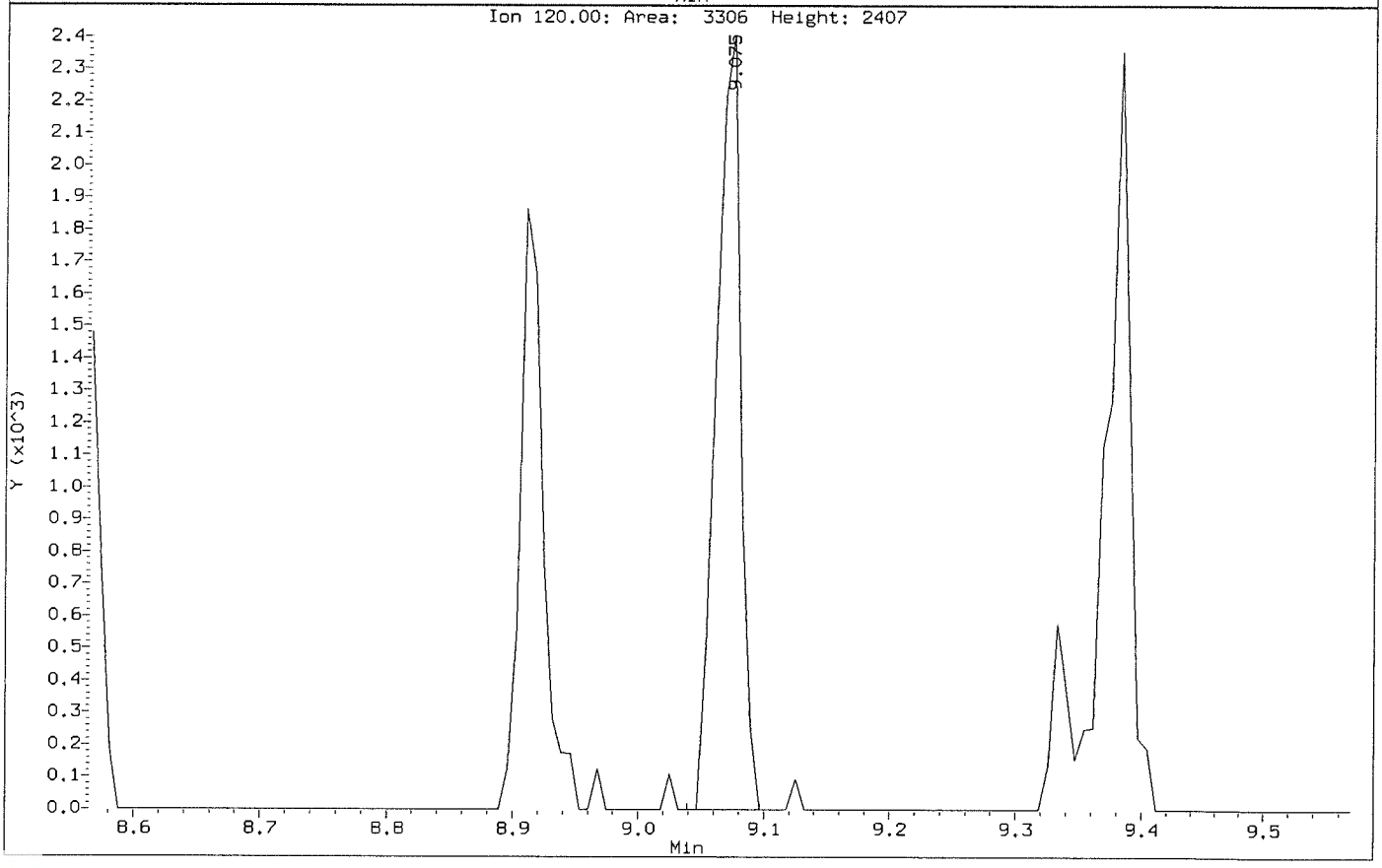




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

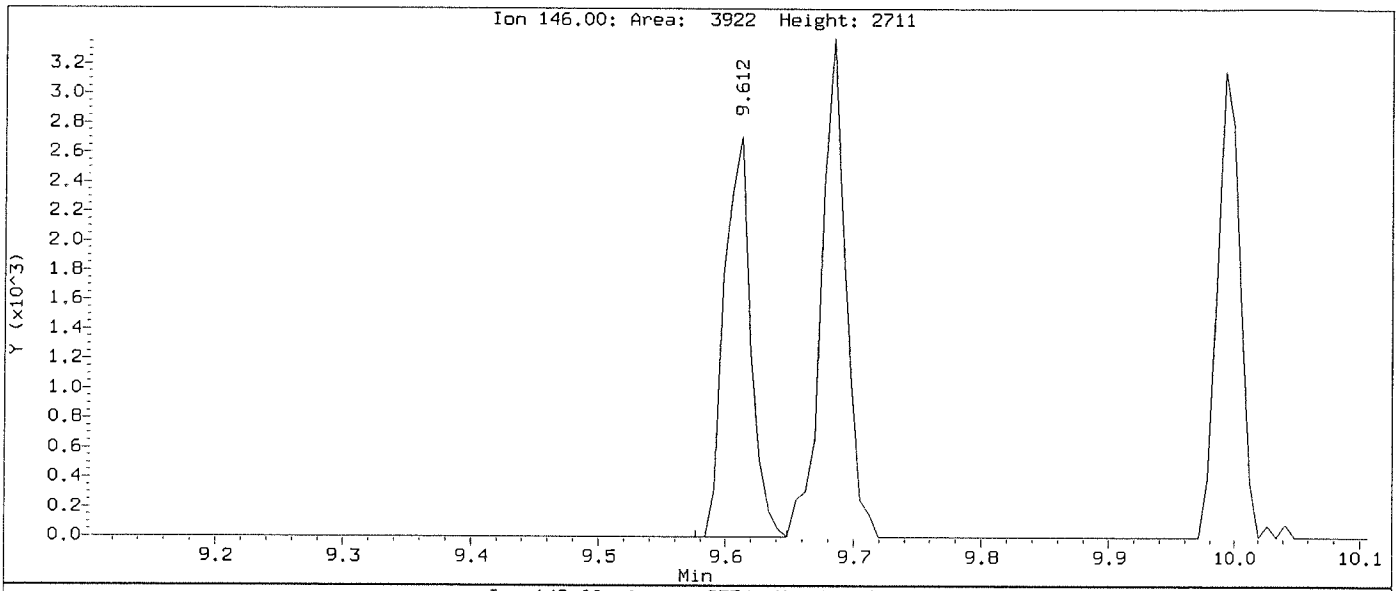
Compound: 1,3,5-Trimethylbenzene
CAS Number: 108-67-8

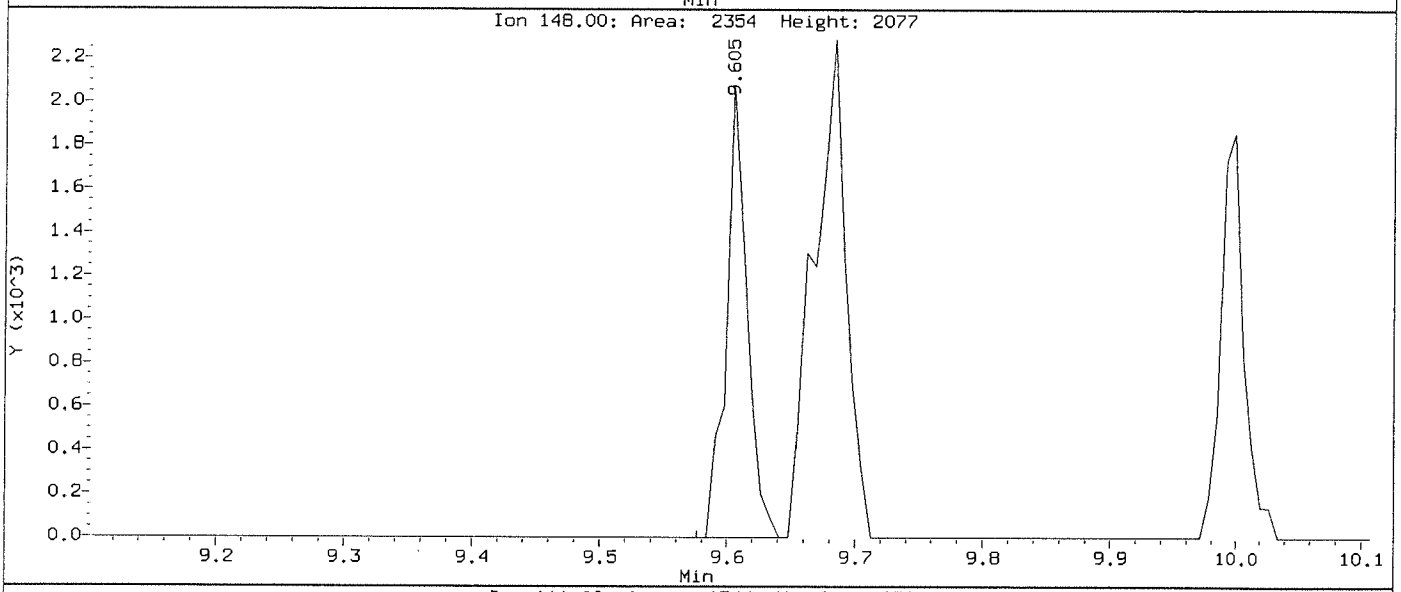


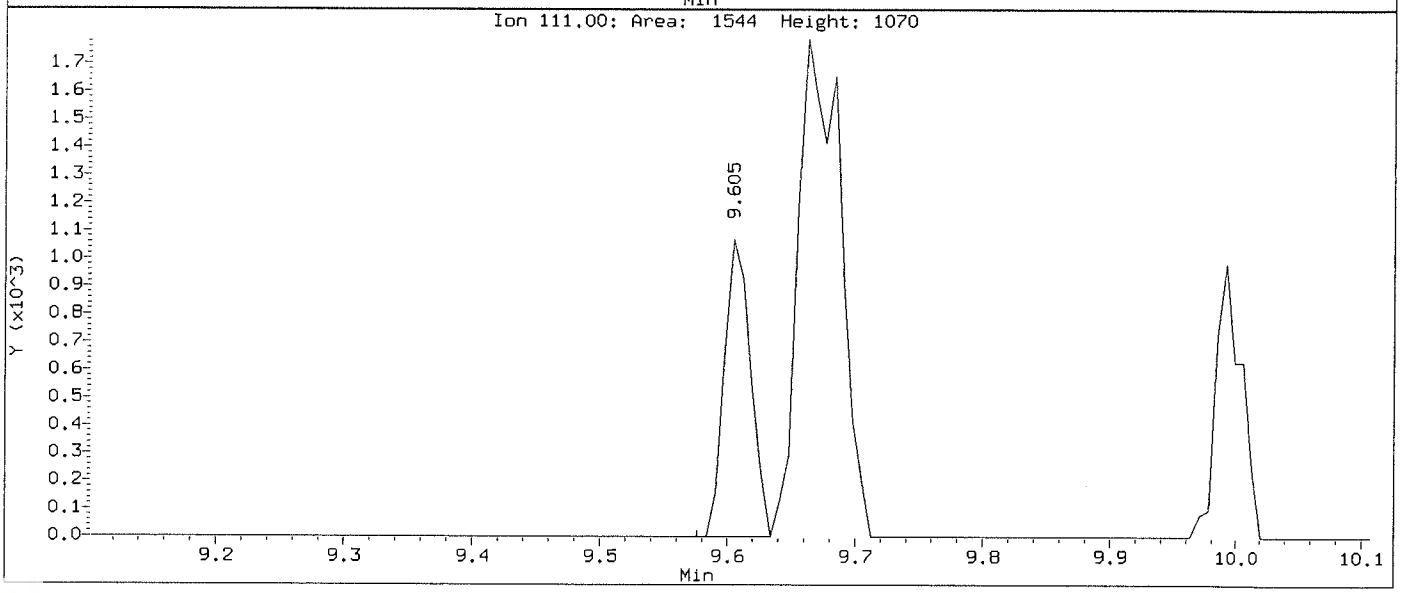


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,3-Dichlorobenzene
CAS Number: 541-73-1

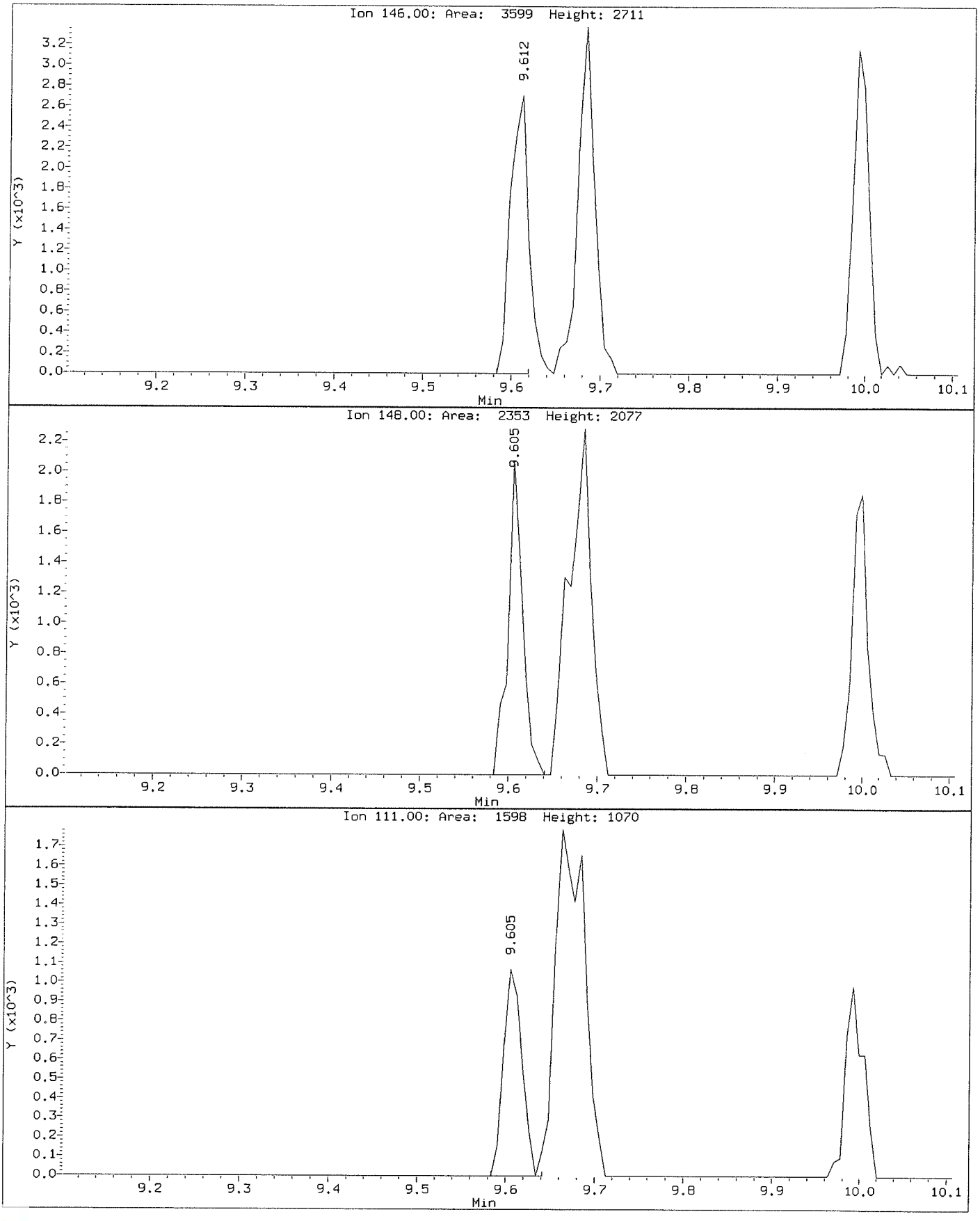






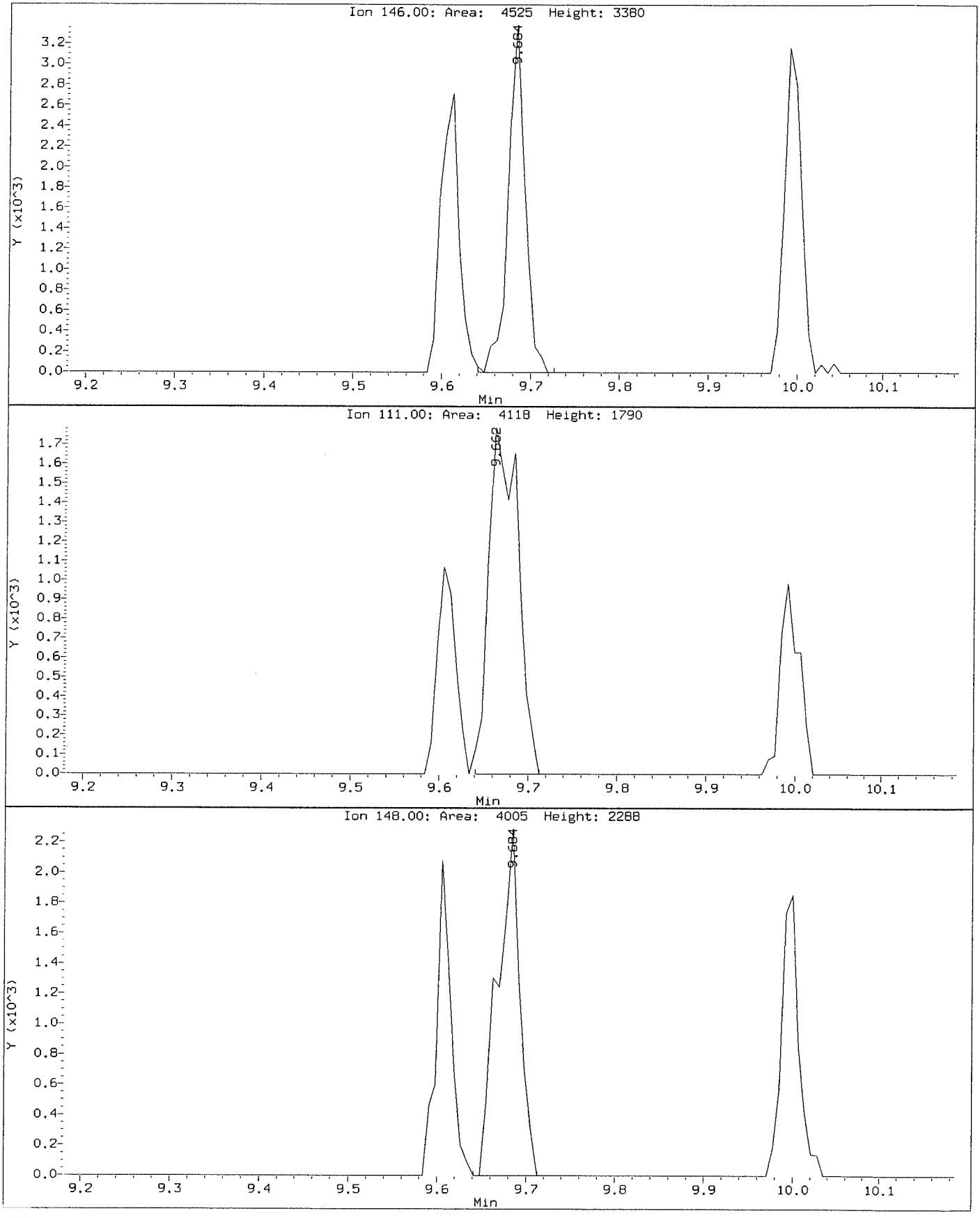
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,3-Dichlorobenzene
CAS Number: 541-73-1



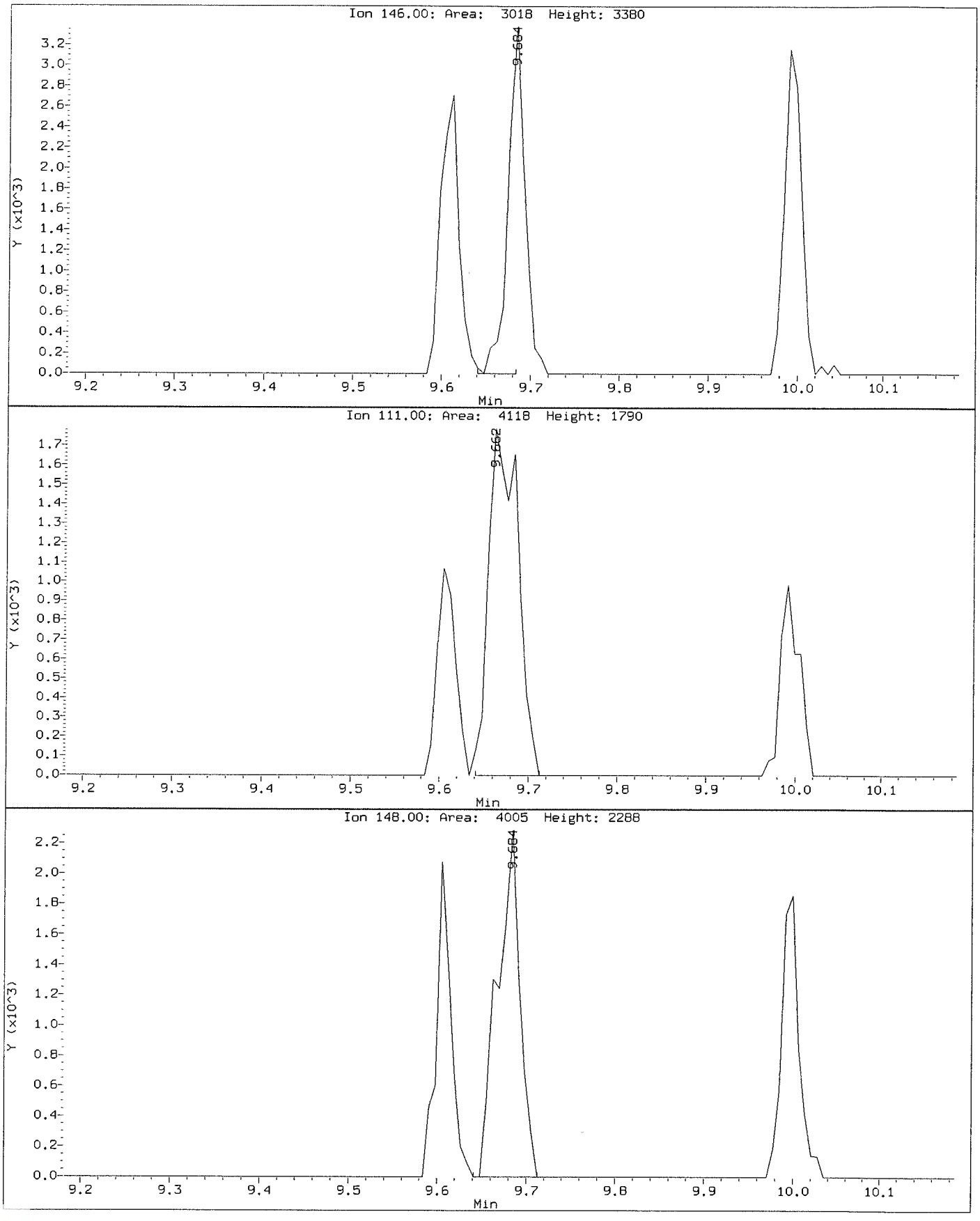
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7



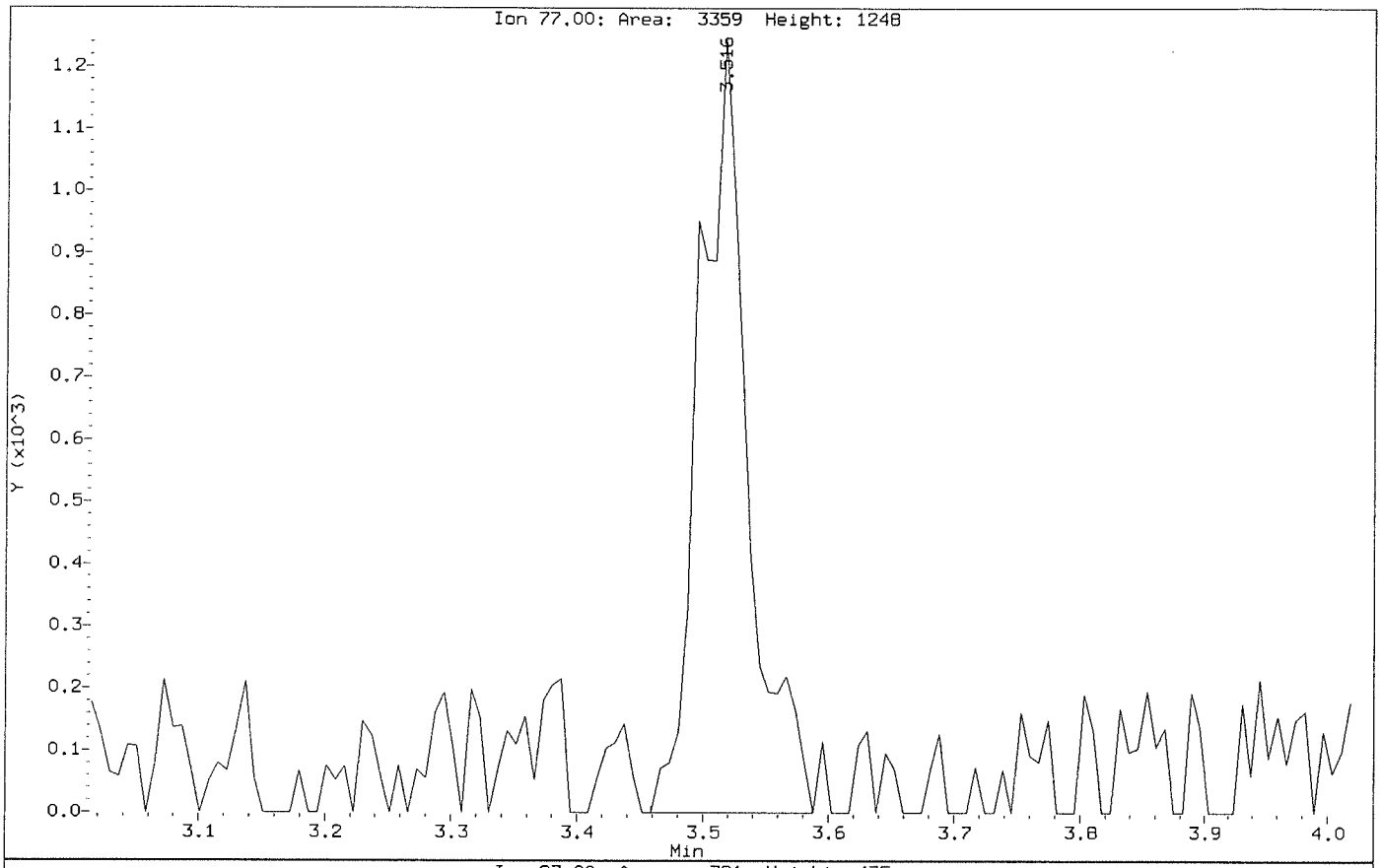
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

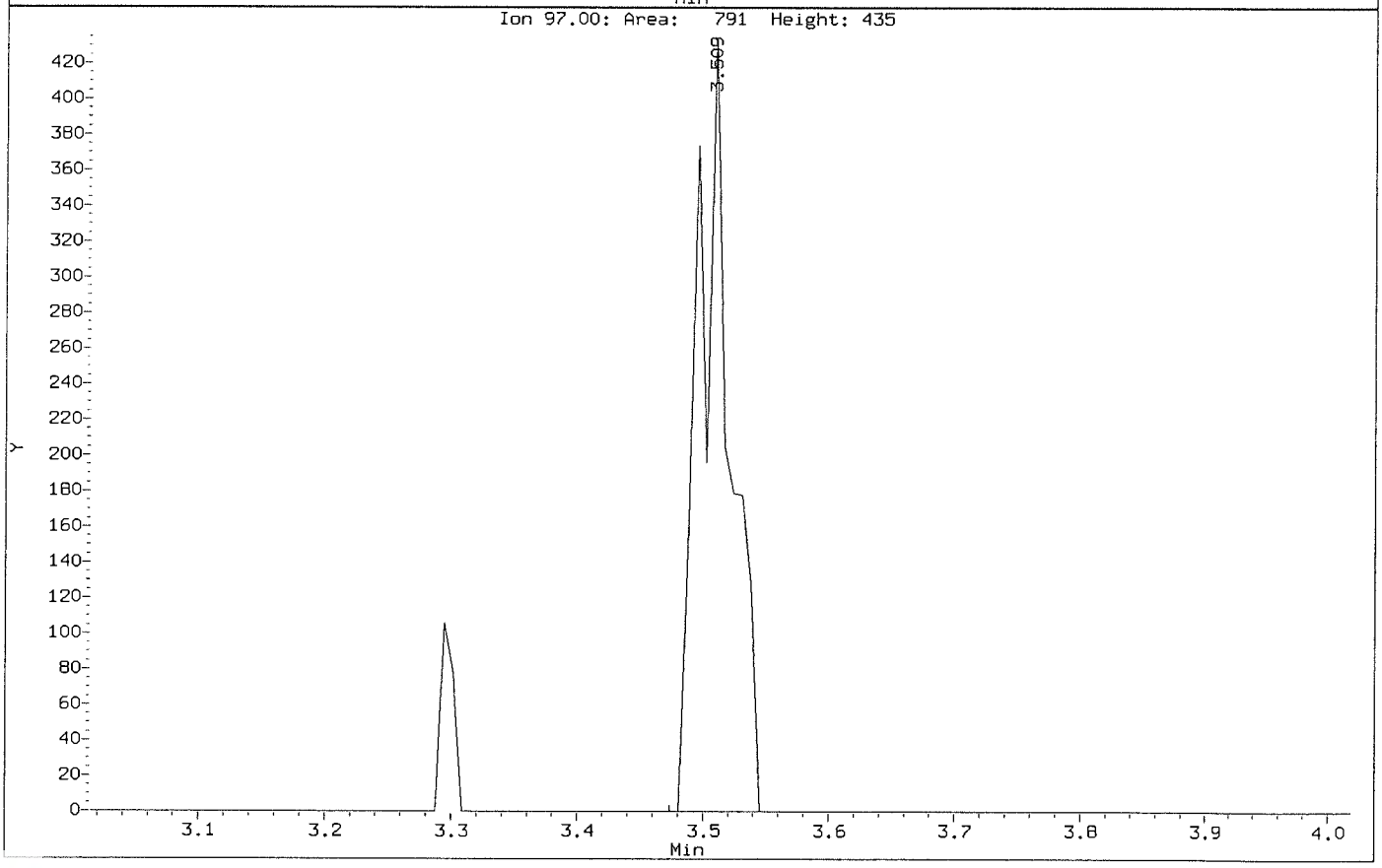
Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

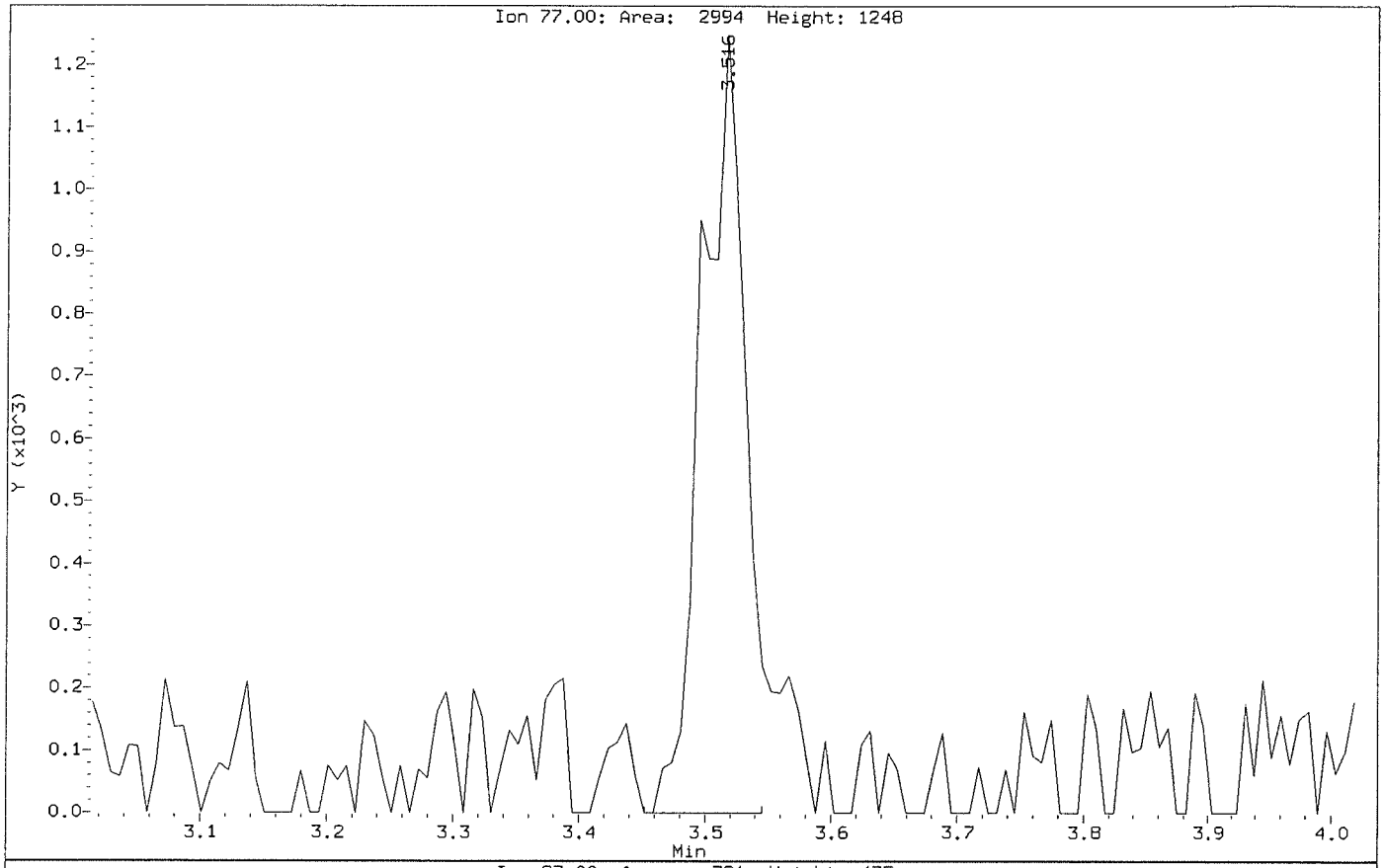
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

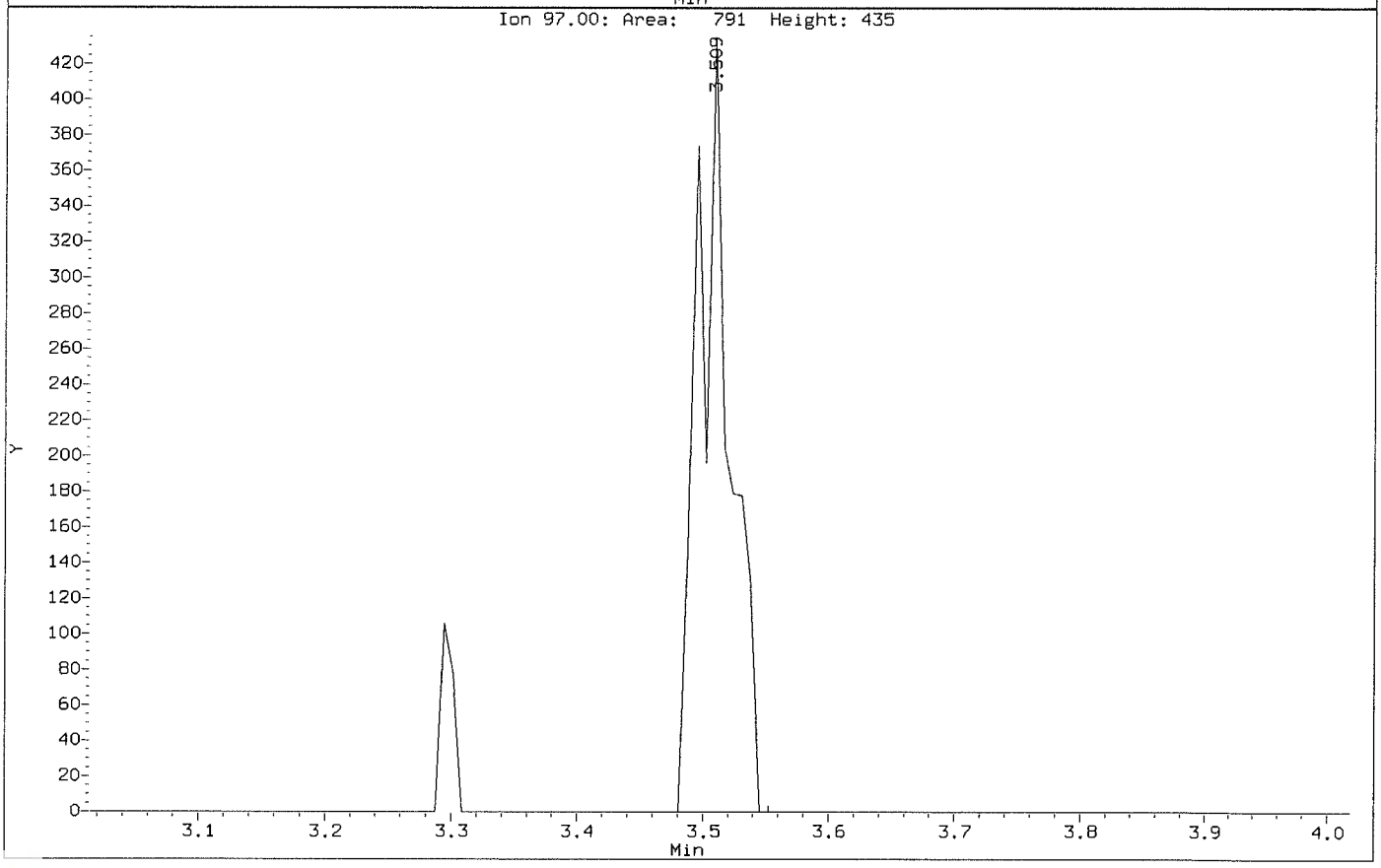




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

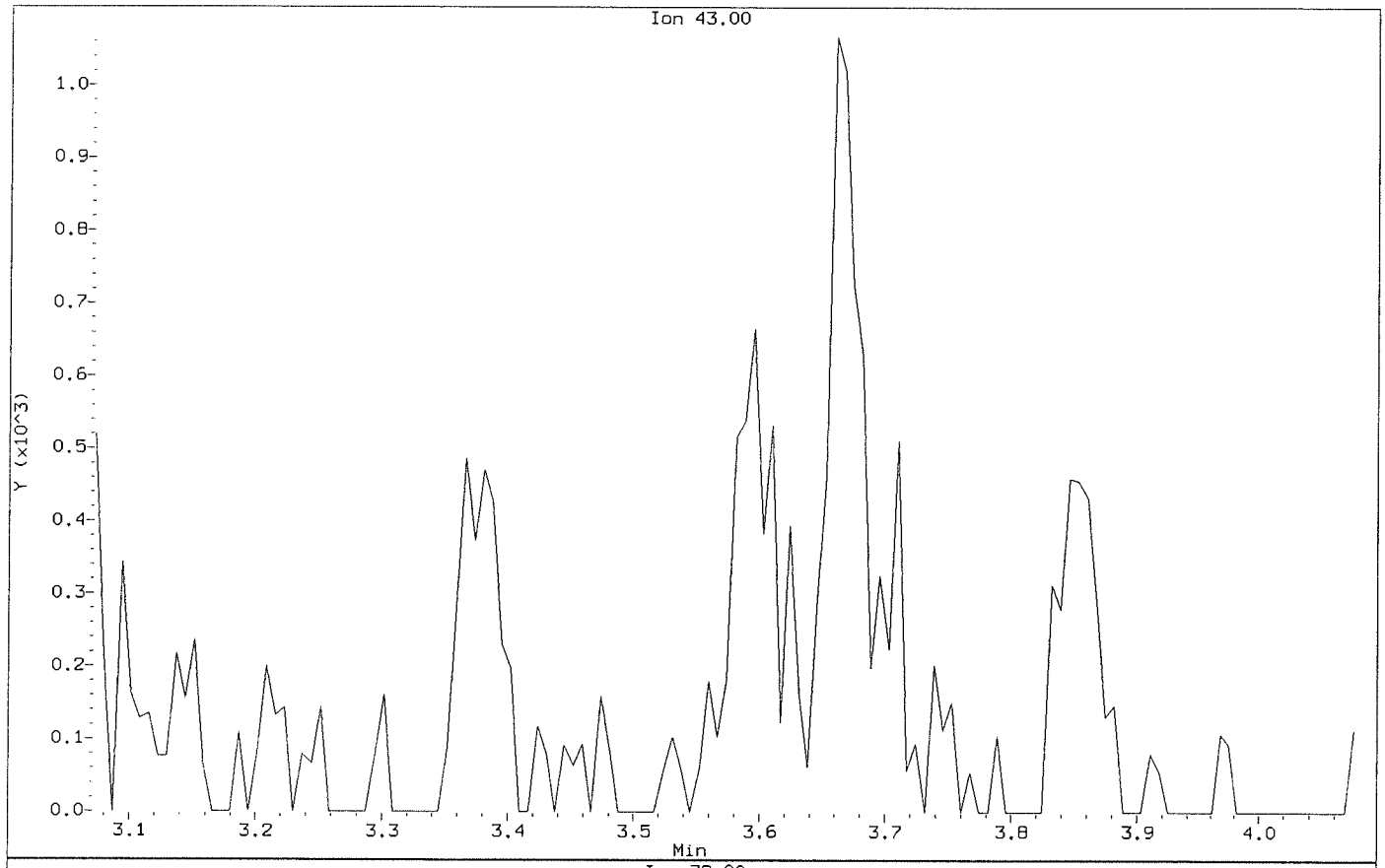
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

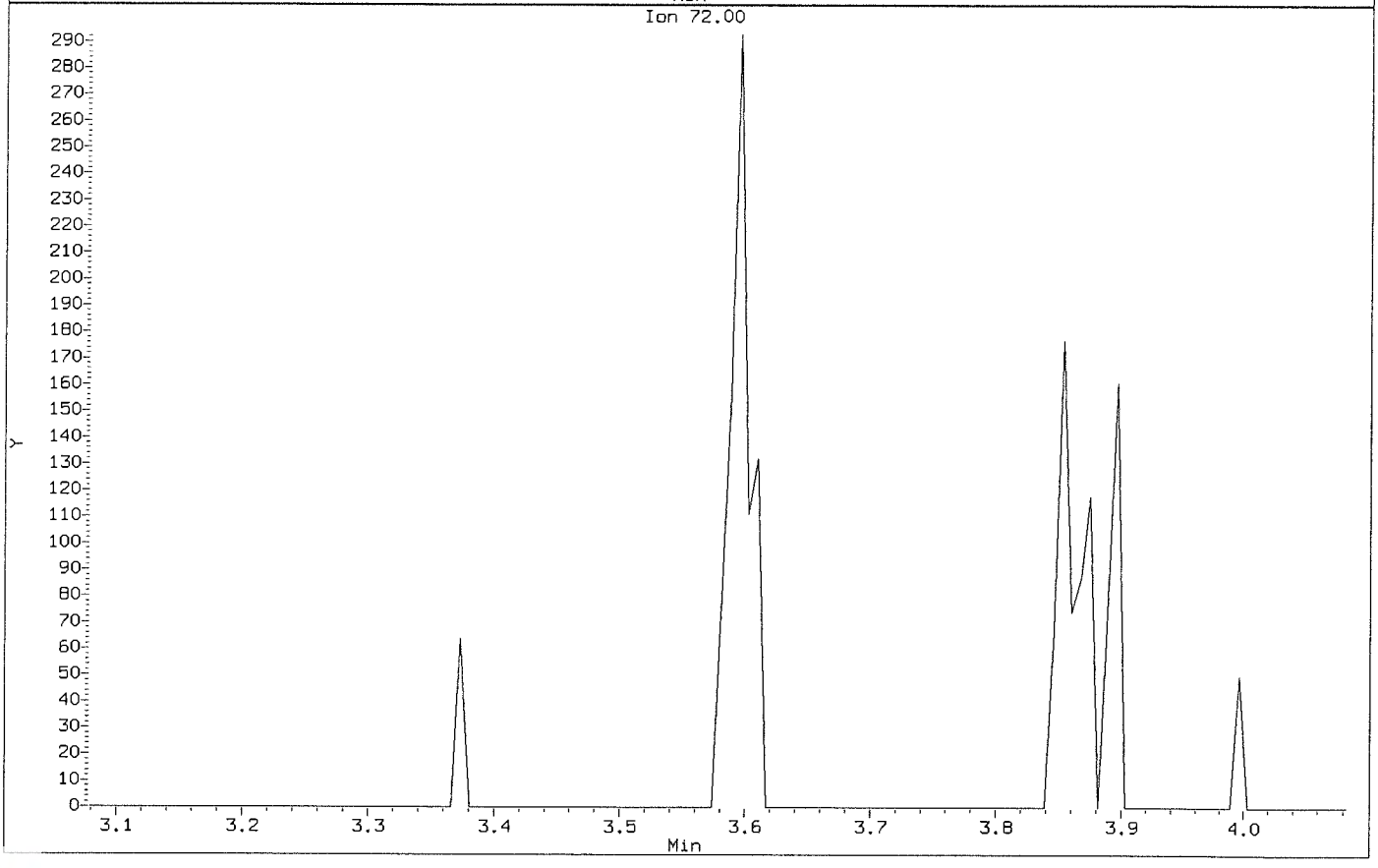




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

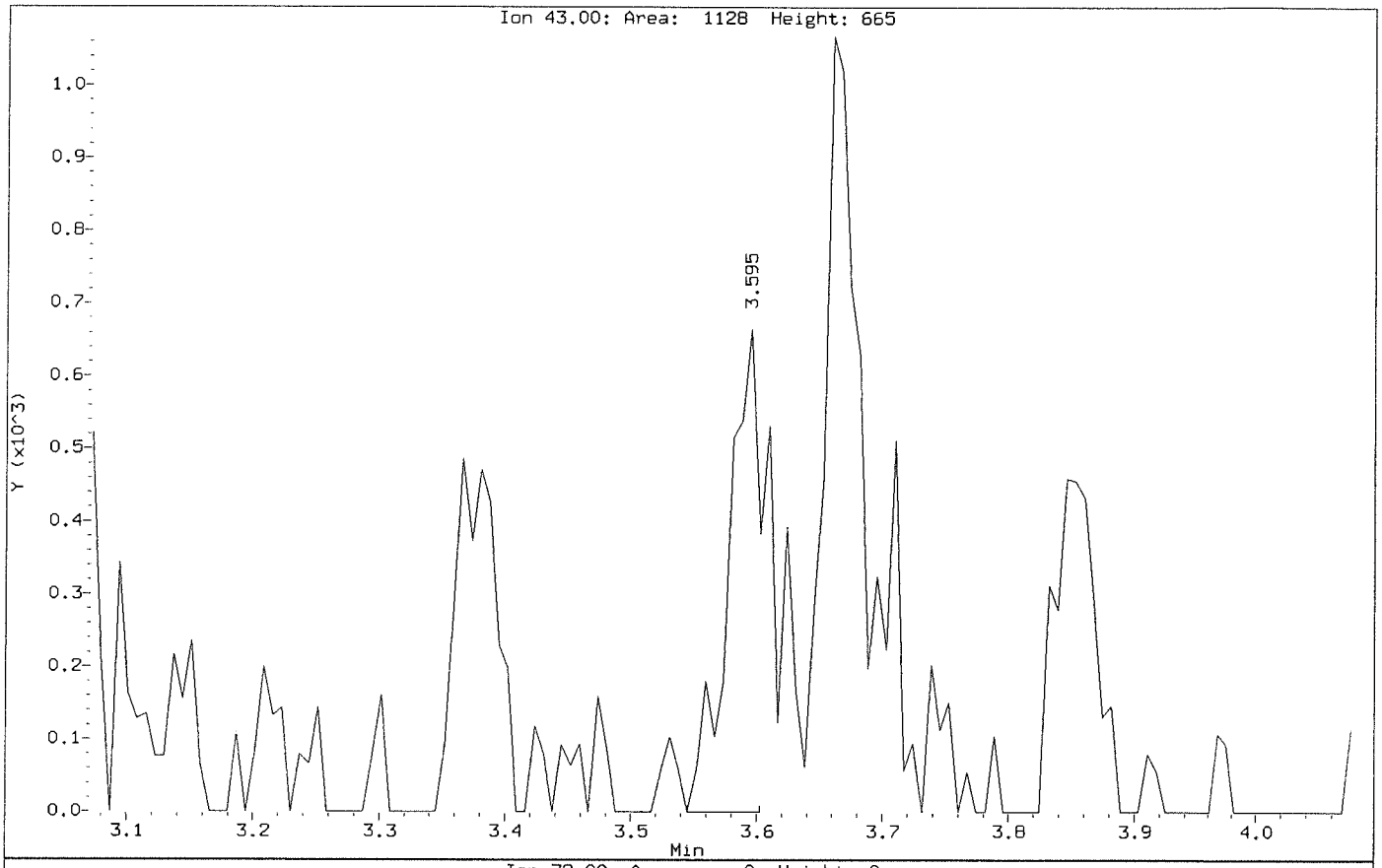
Compound: 2-Butanone
CAS Number: 78-93-3

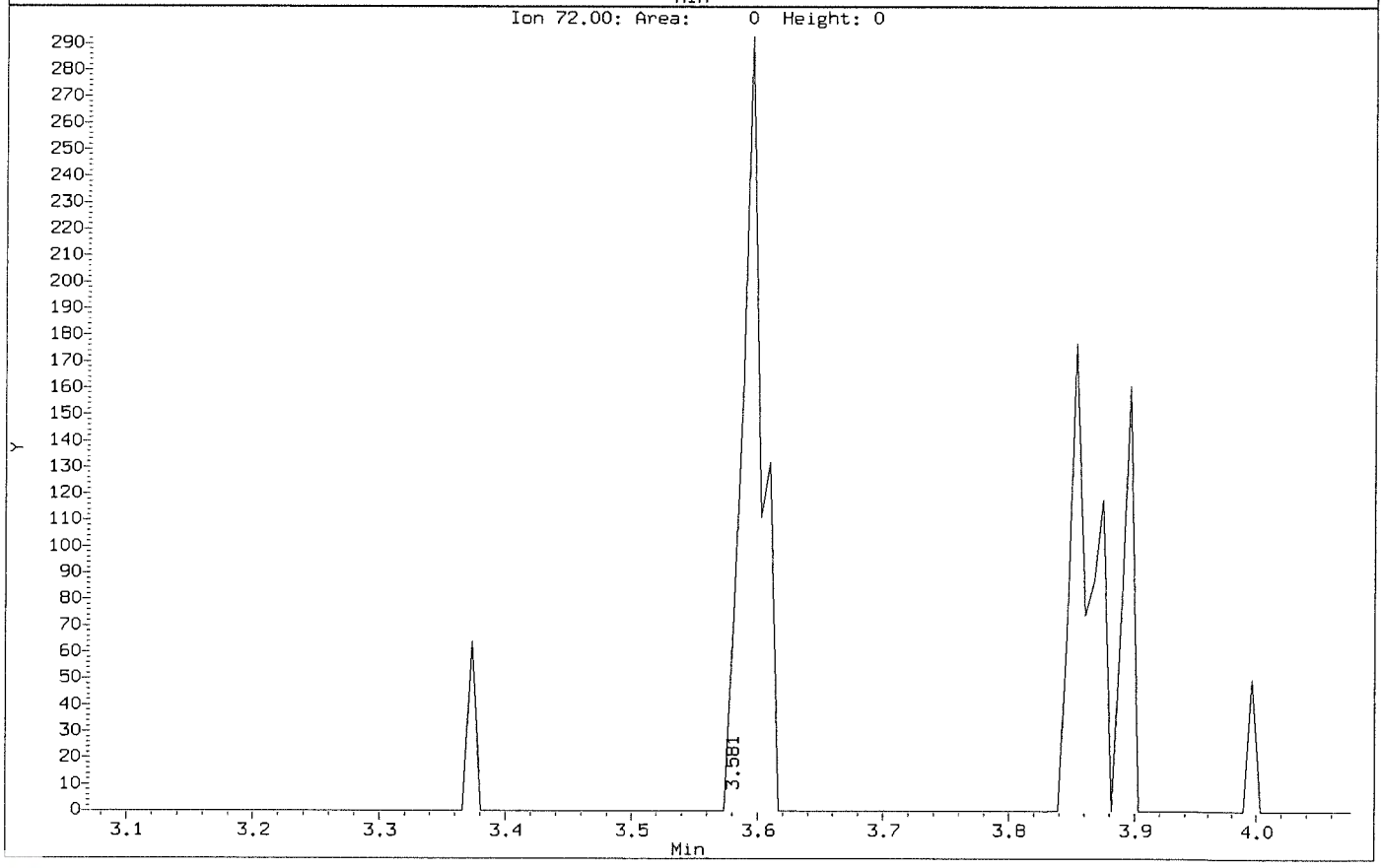




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

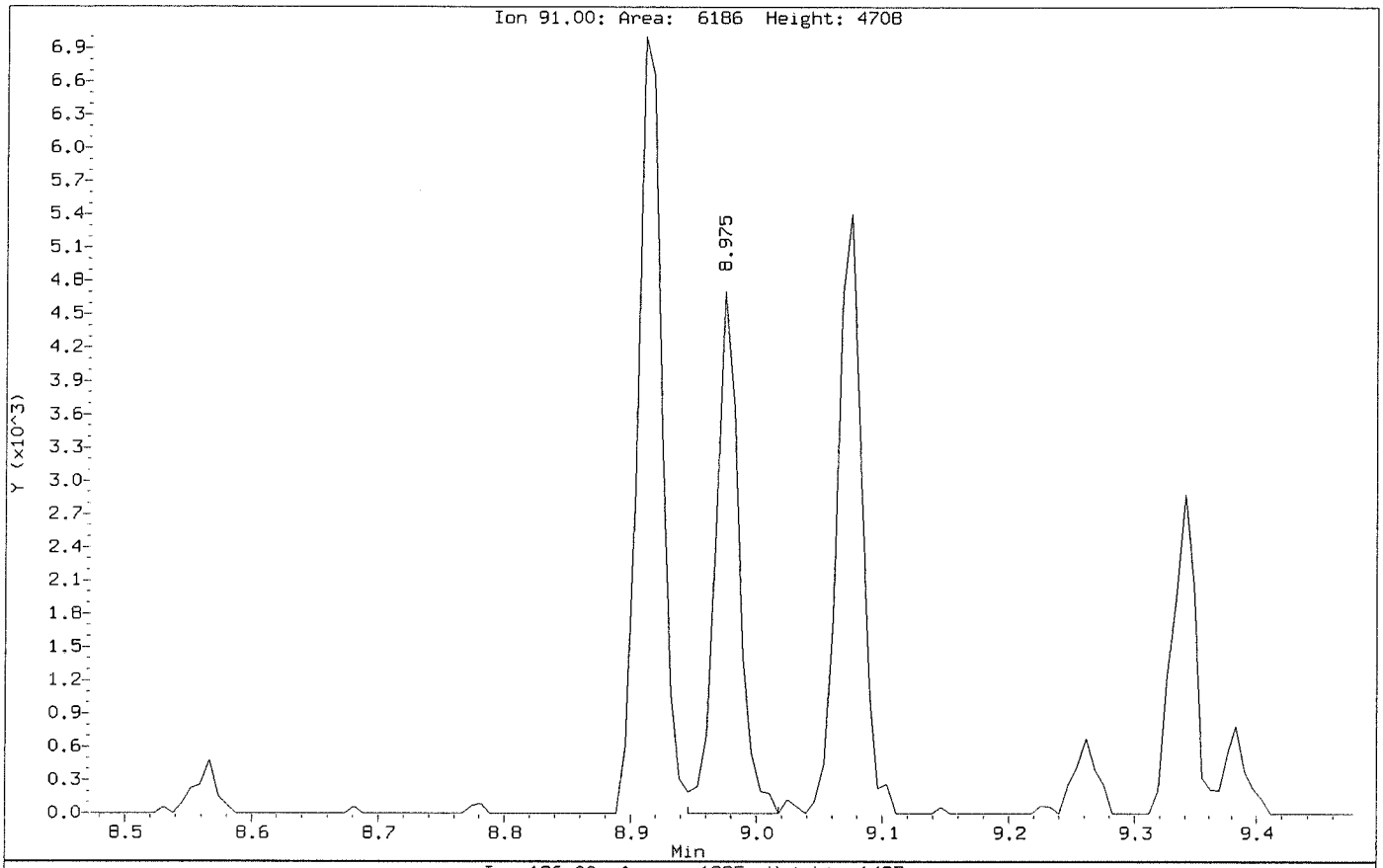
Compound: 2-Butanone
CAS Number: 78-93-3

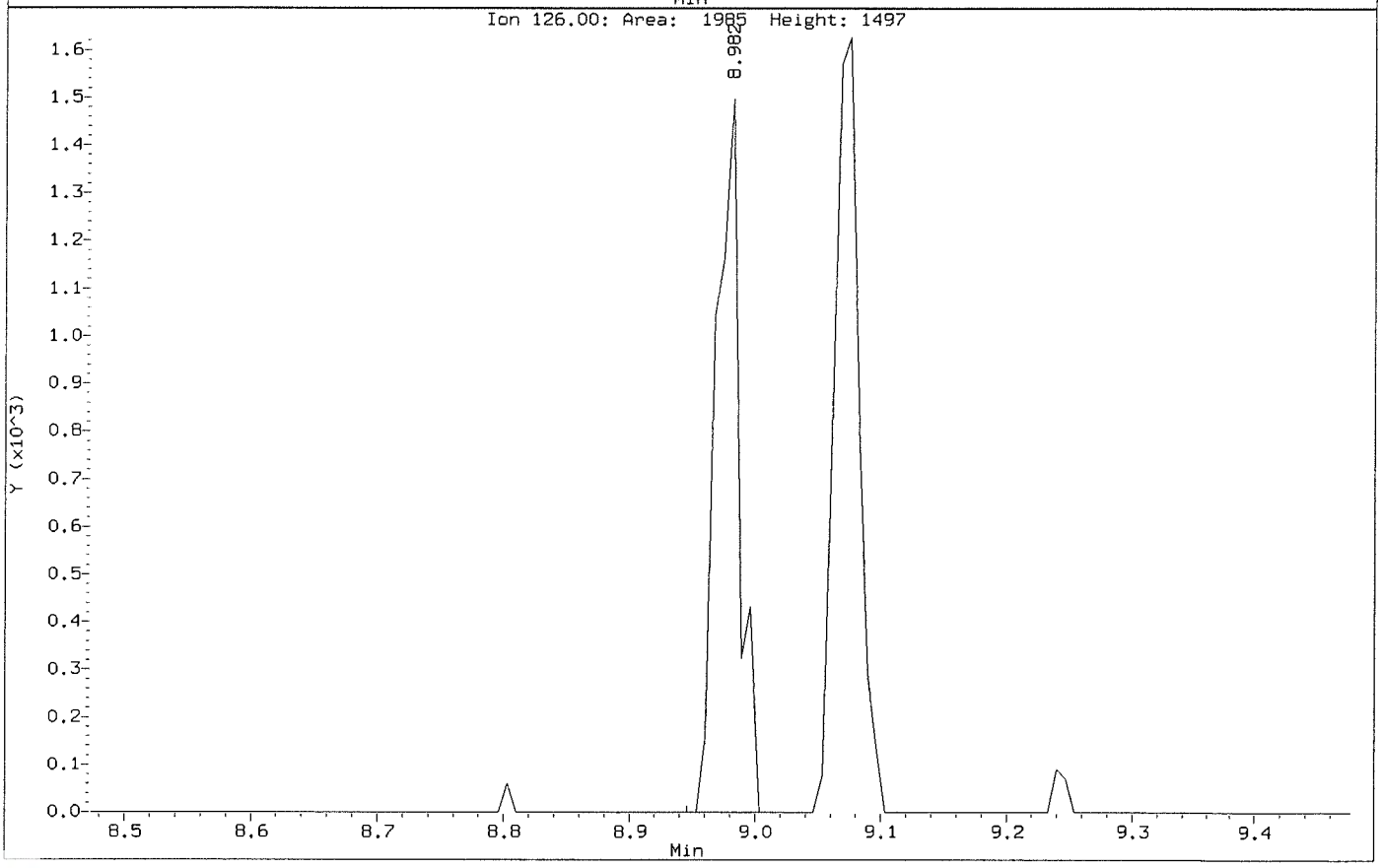




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

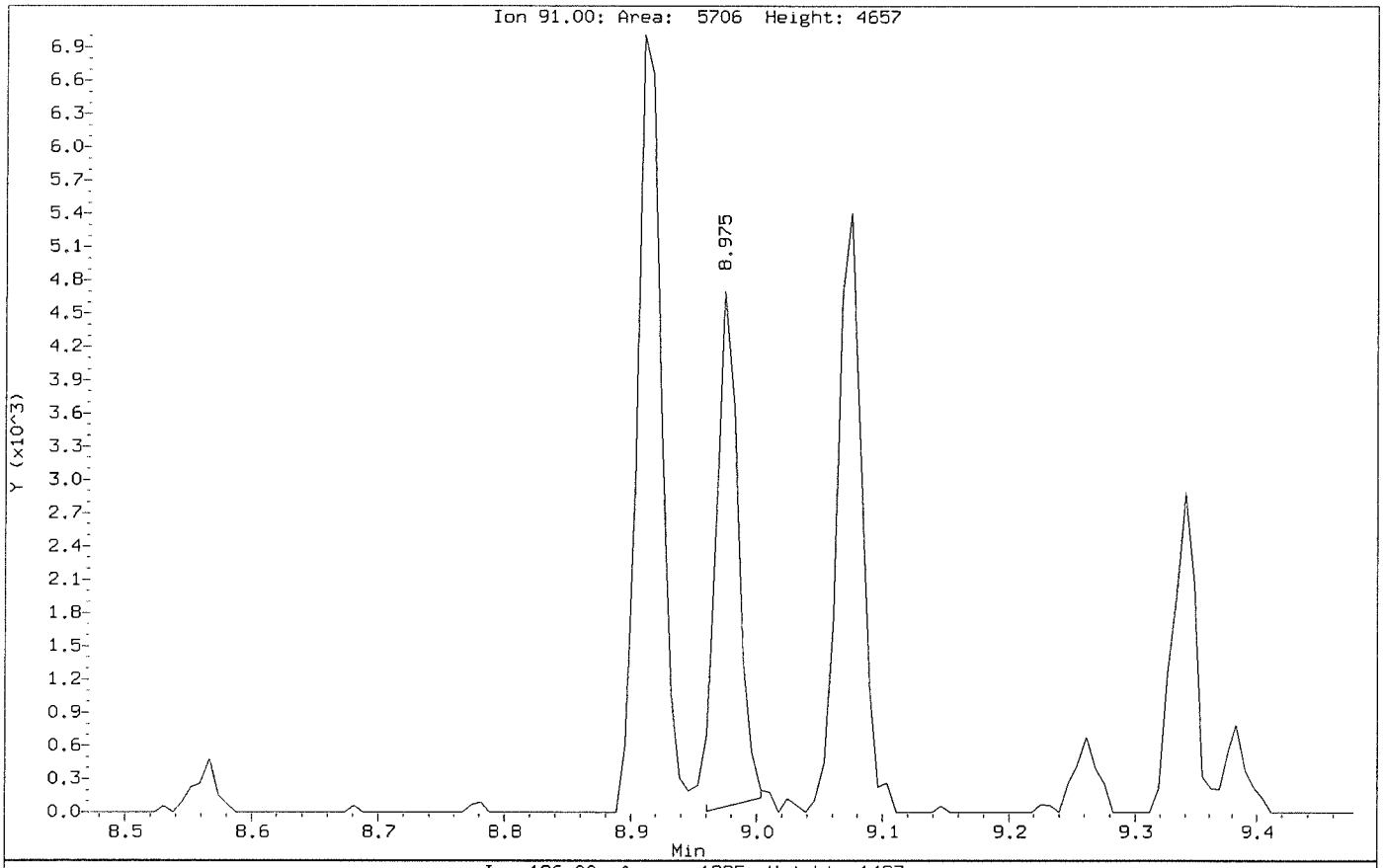
Compound: 2-Chlorotoluene
CAS Number: 95-49-8

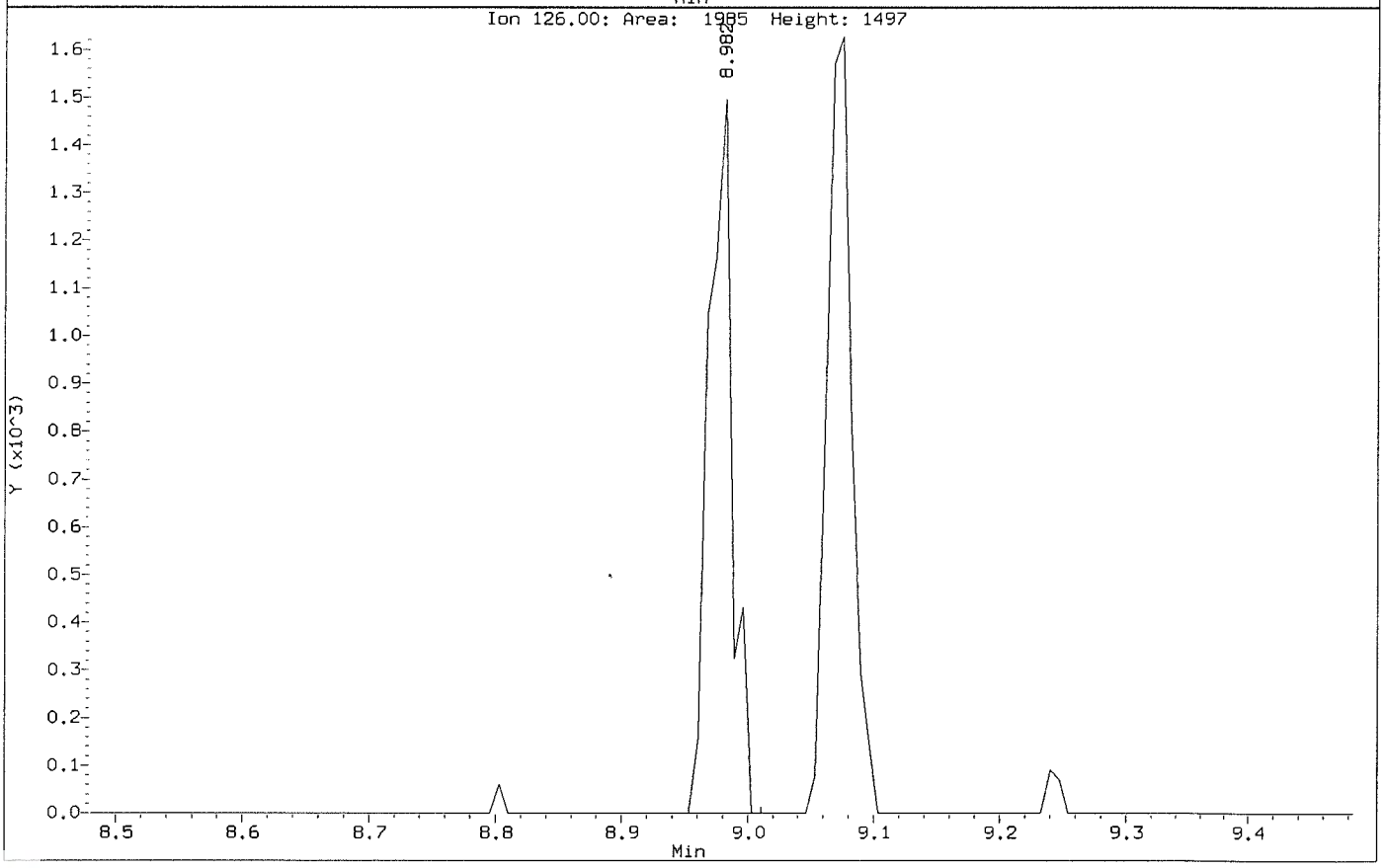




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

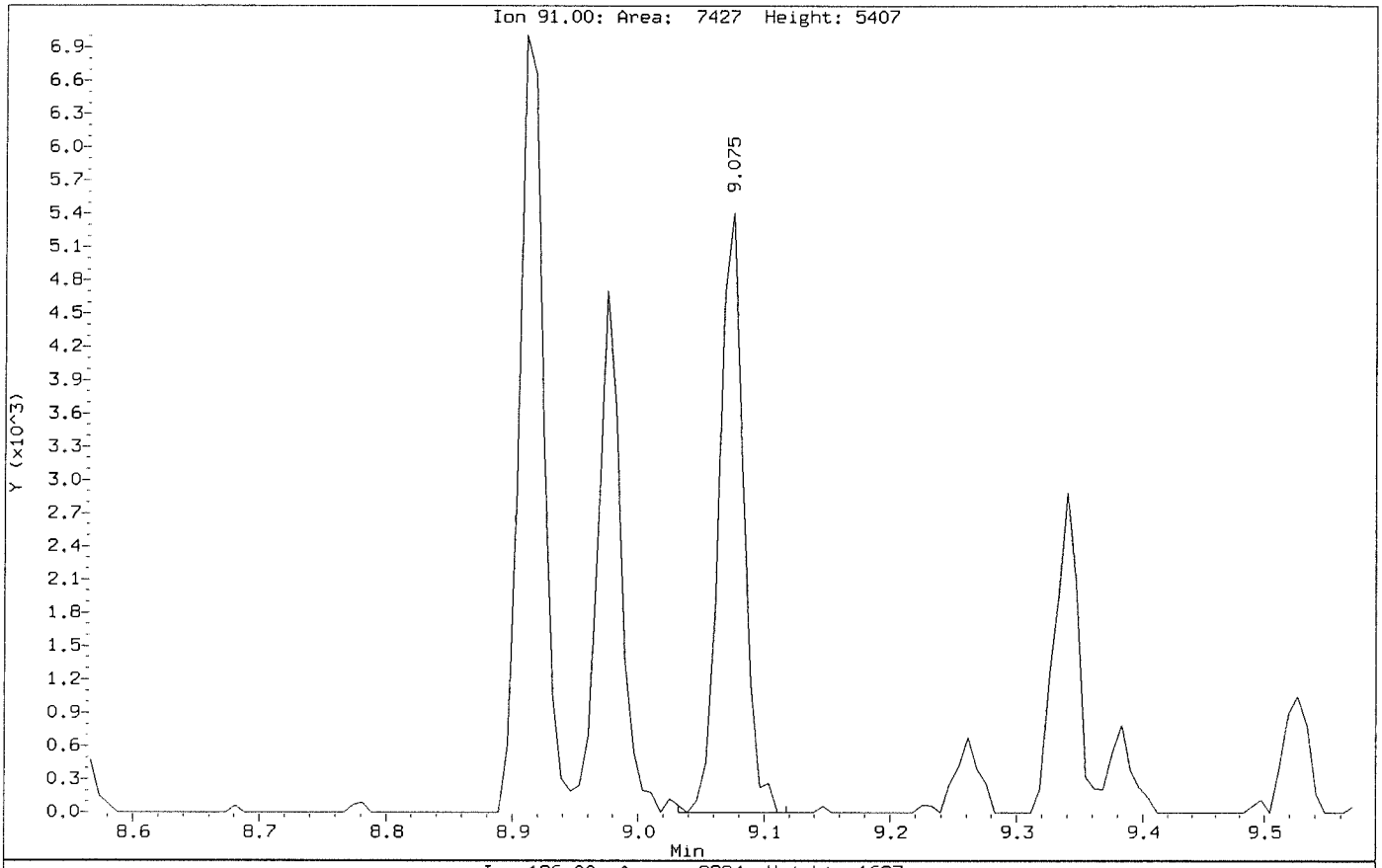
Compound: 2-Chlorotoluene
CAS Number: 95-49-8

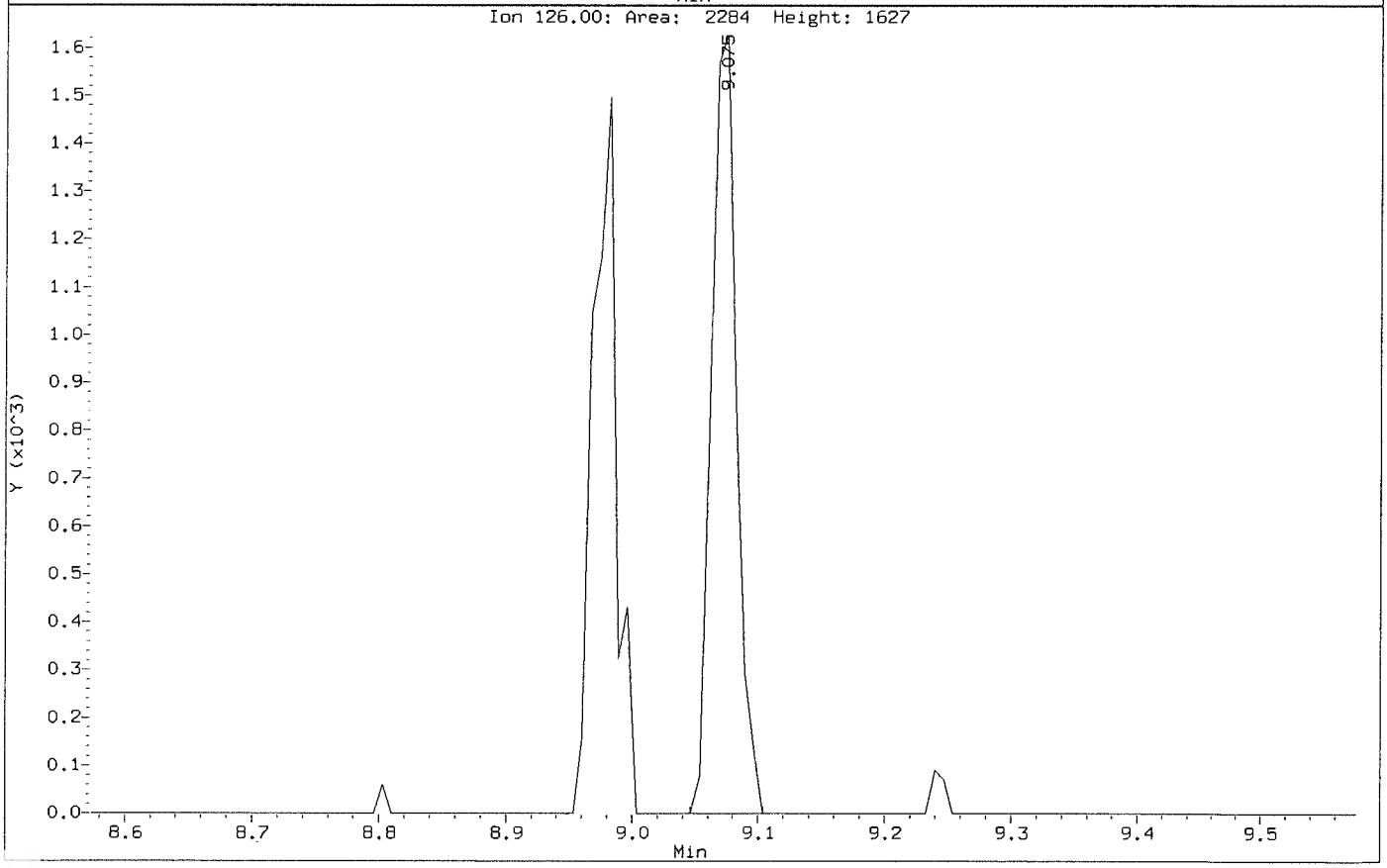




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

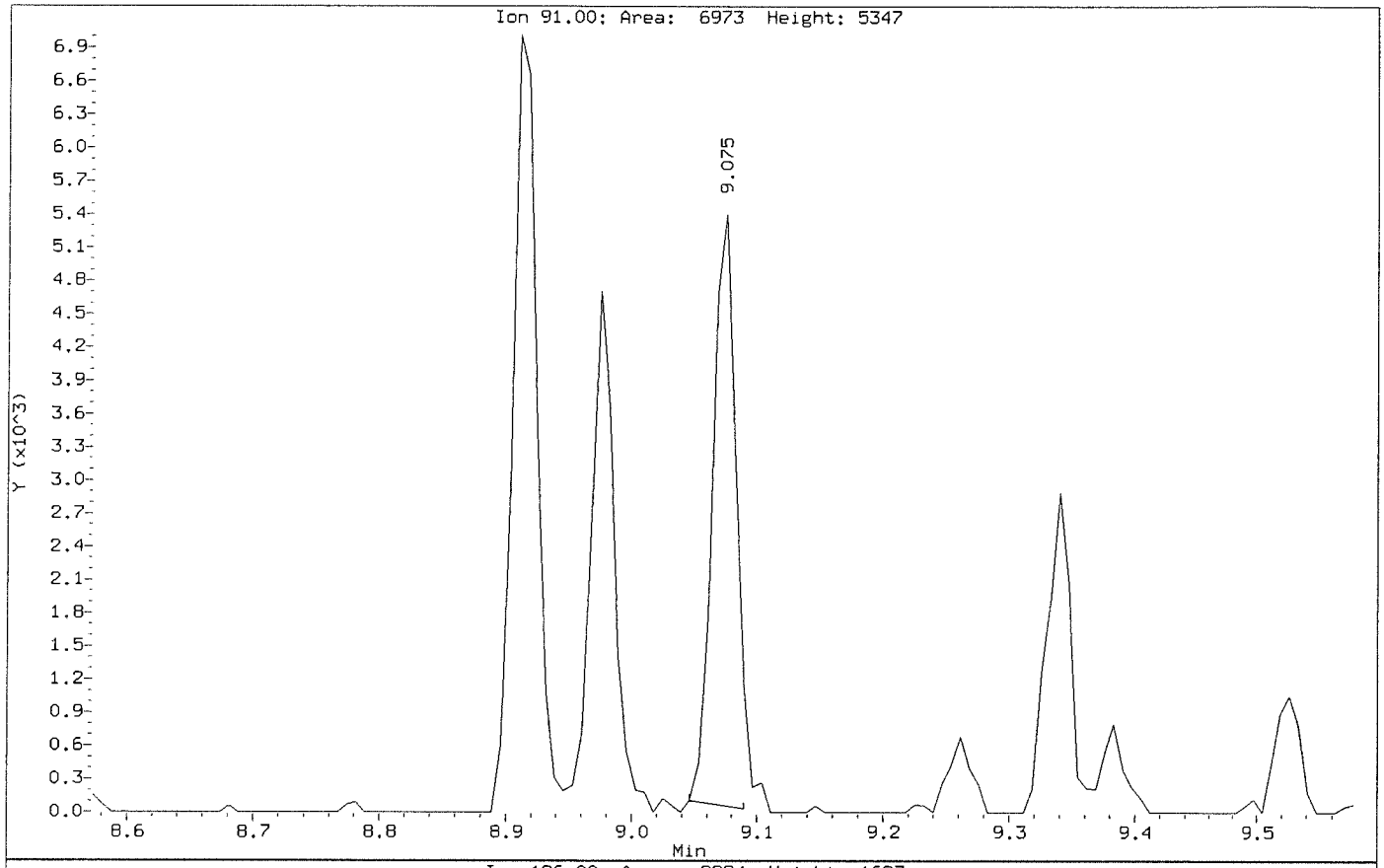
Compound: 4-Chlorotoluene
CAS Number: 106-43-4

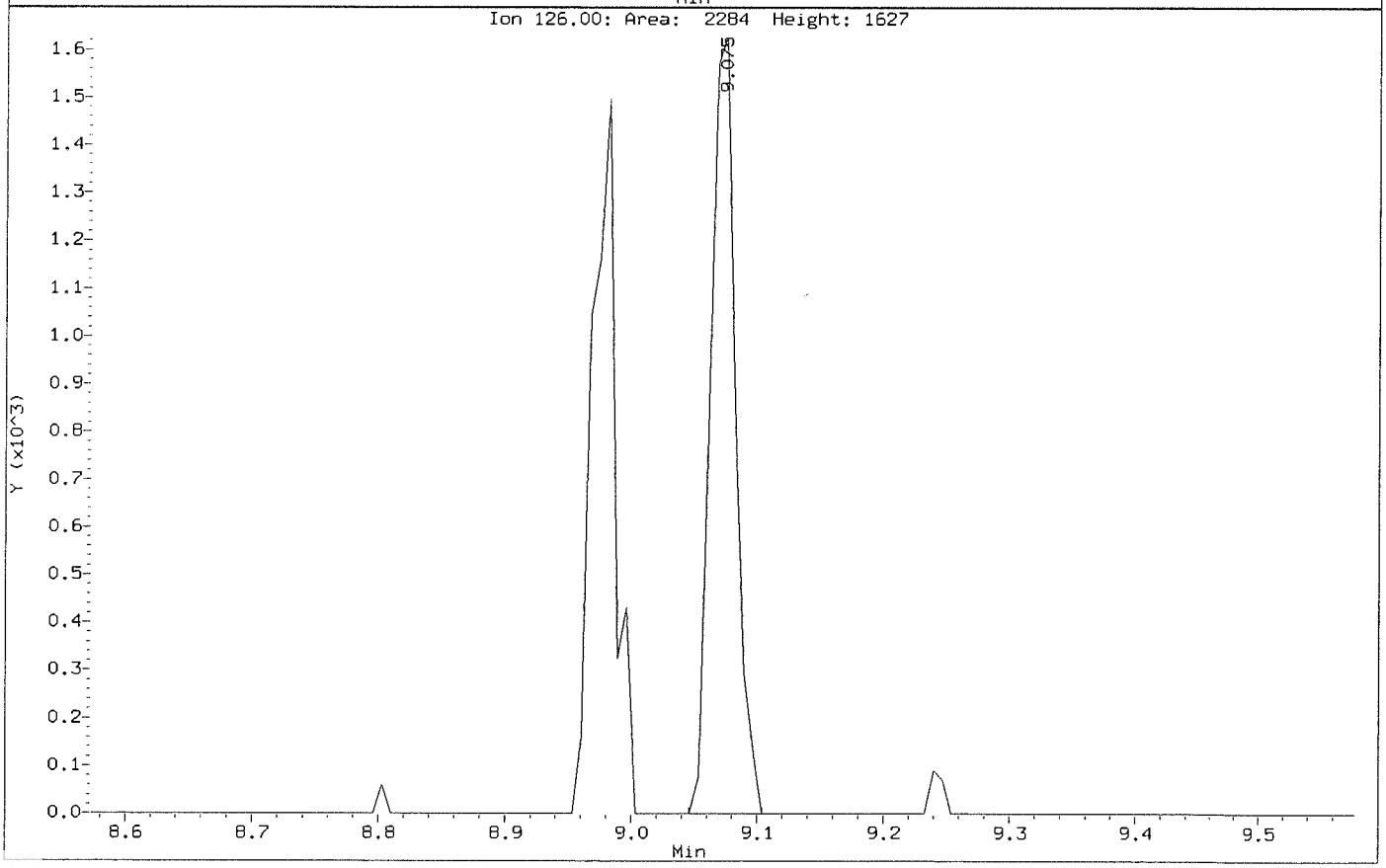




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

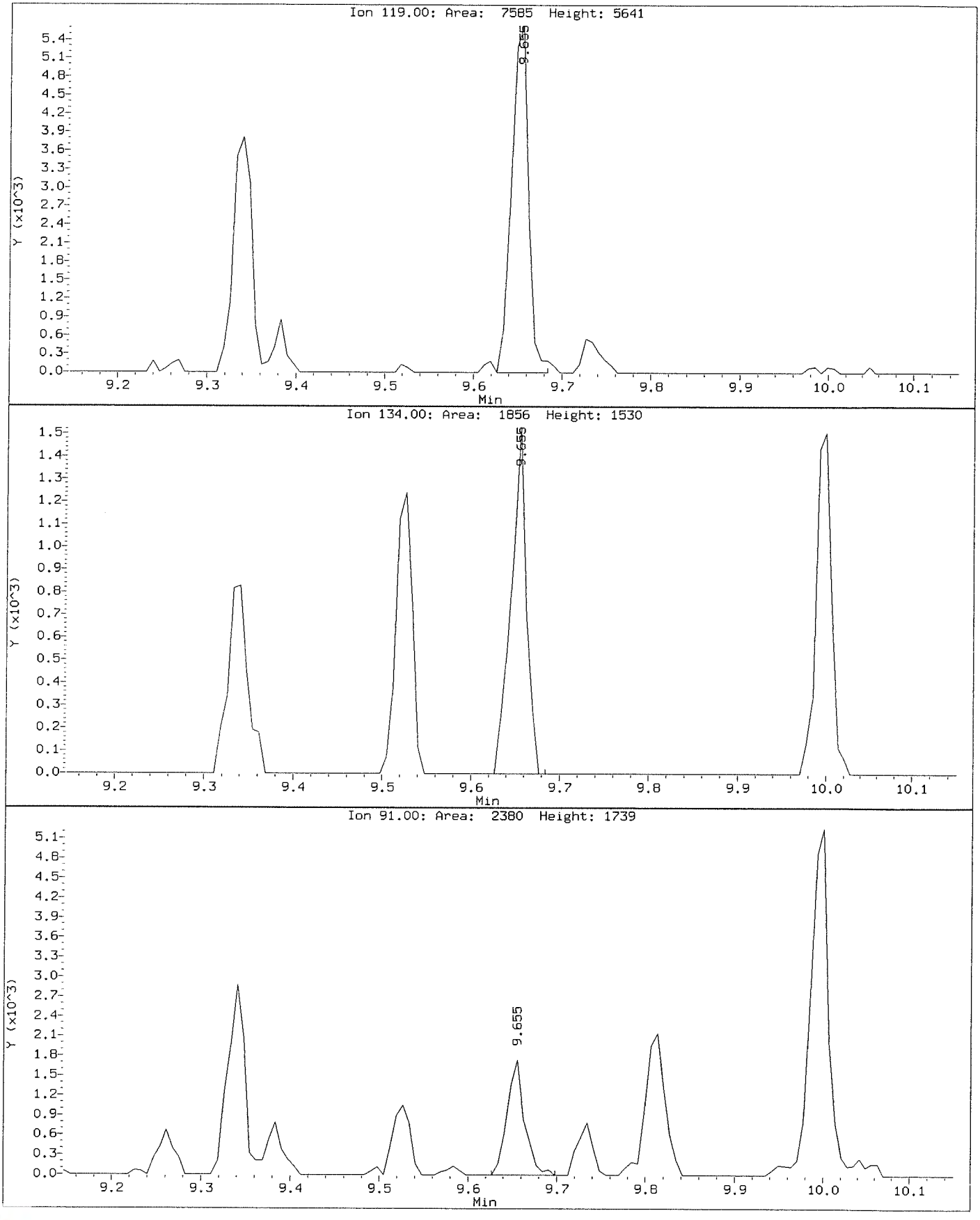
Compound: 4-Chlorotoluene
CAS Number: 106-43-4





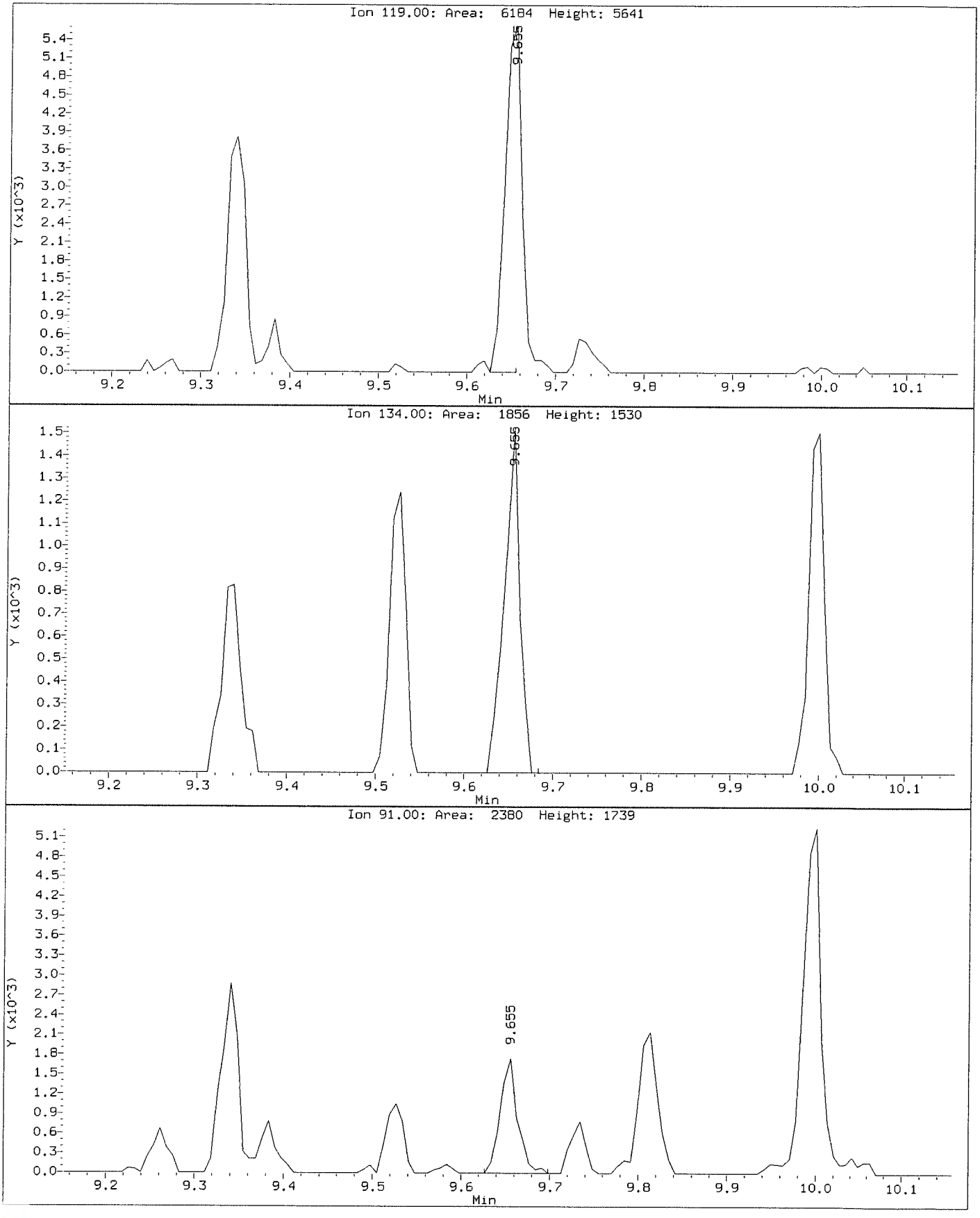
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: p-Isopropyltoluene
CAS Number: 99-87-6



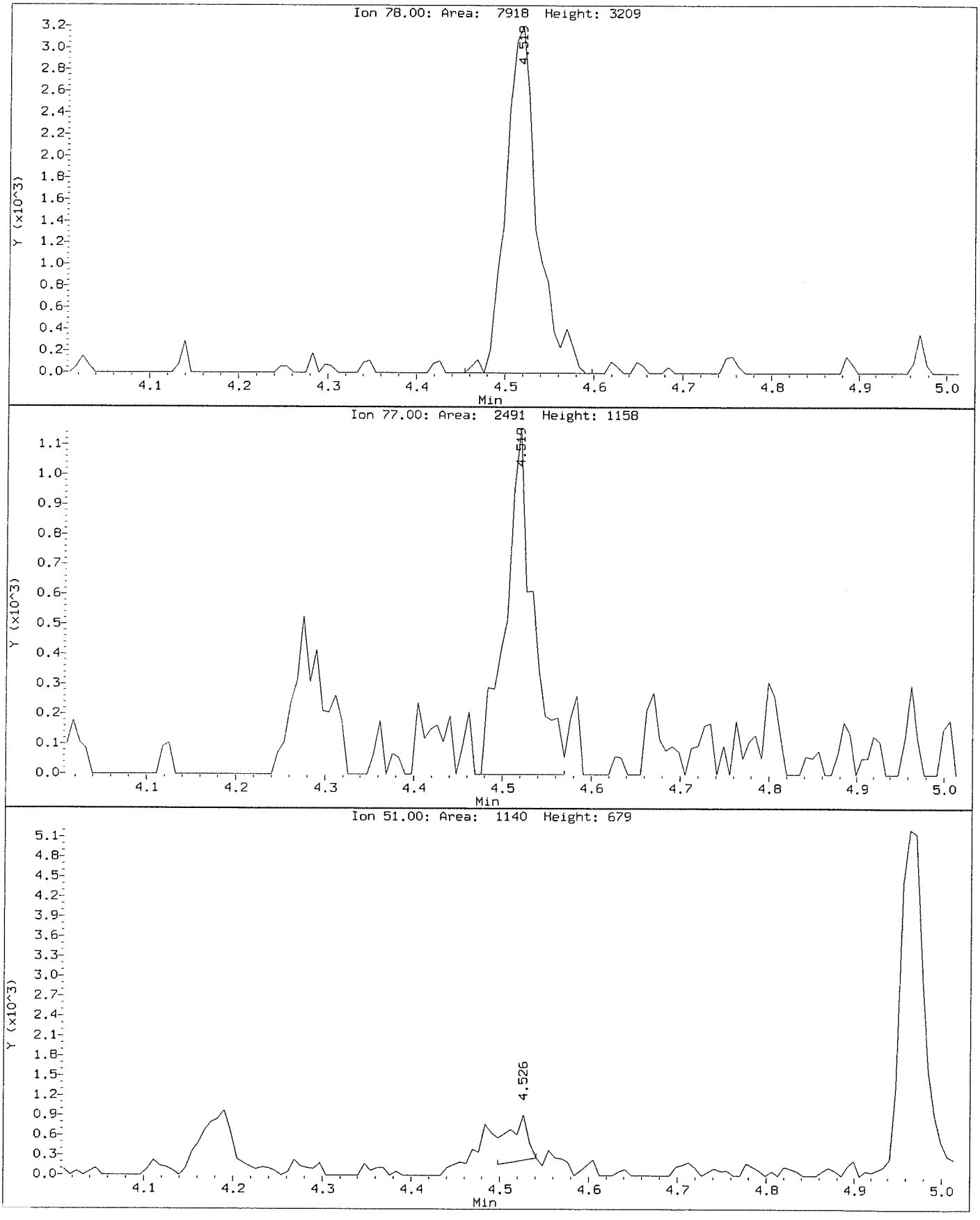
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: p-Isopropyltoluene
CAS Number: 99-87-6



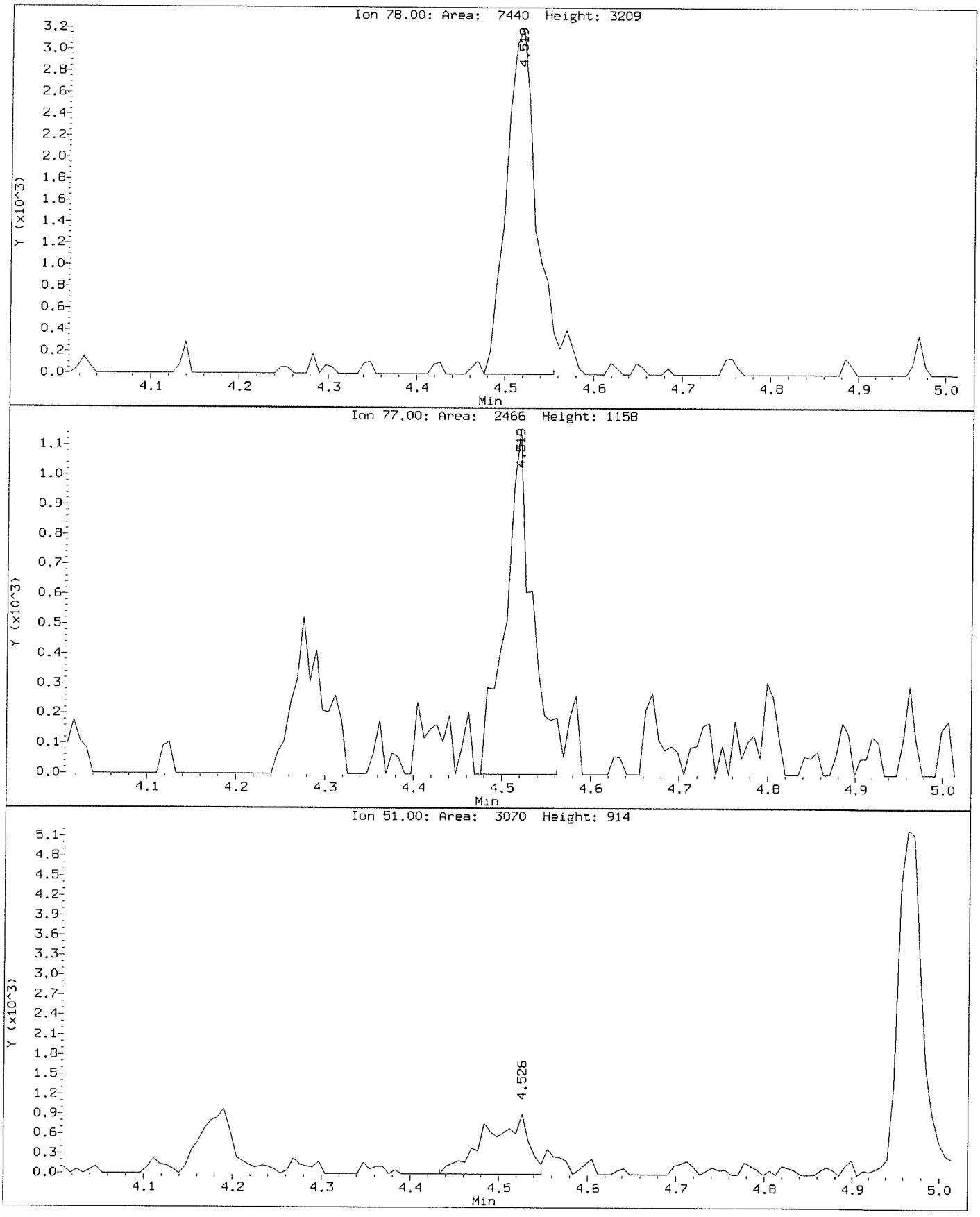
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Benzene
CAS Number: 71-43-2



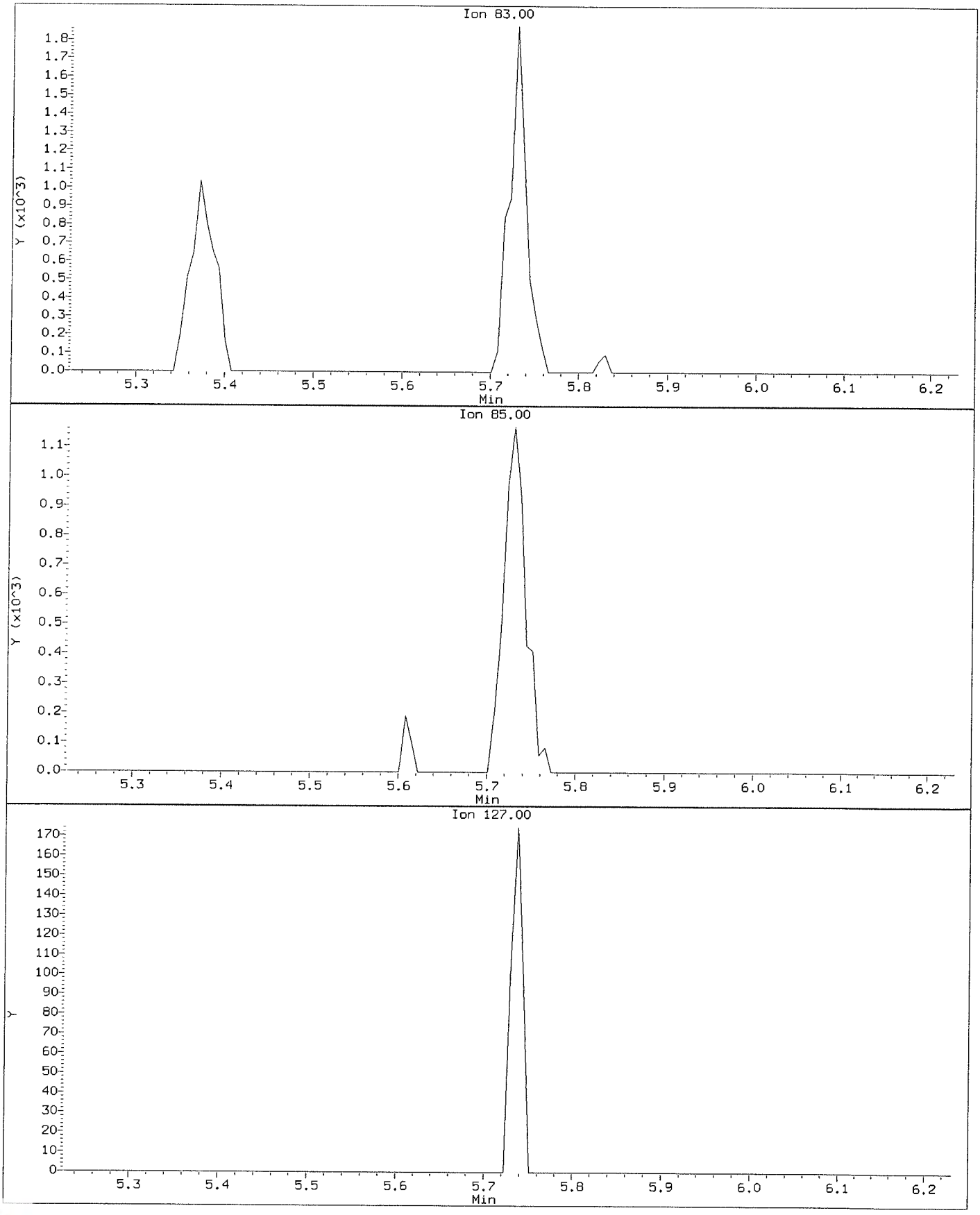
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Benzene
CAS Number: 71-43-2



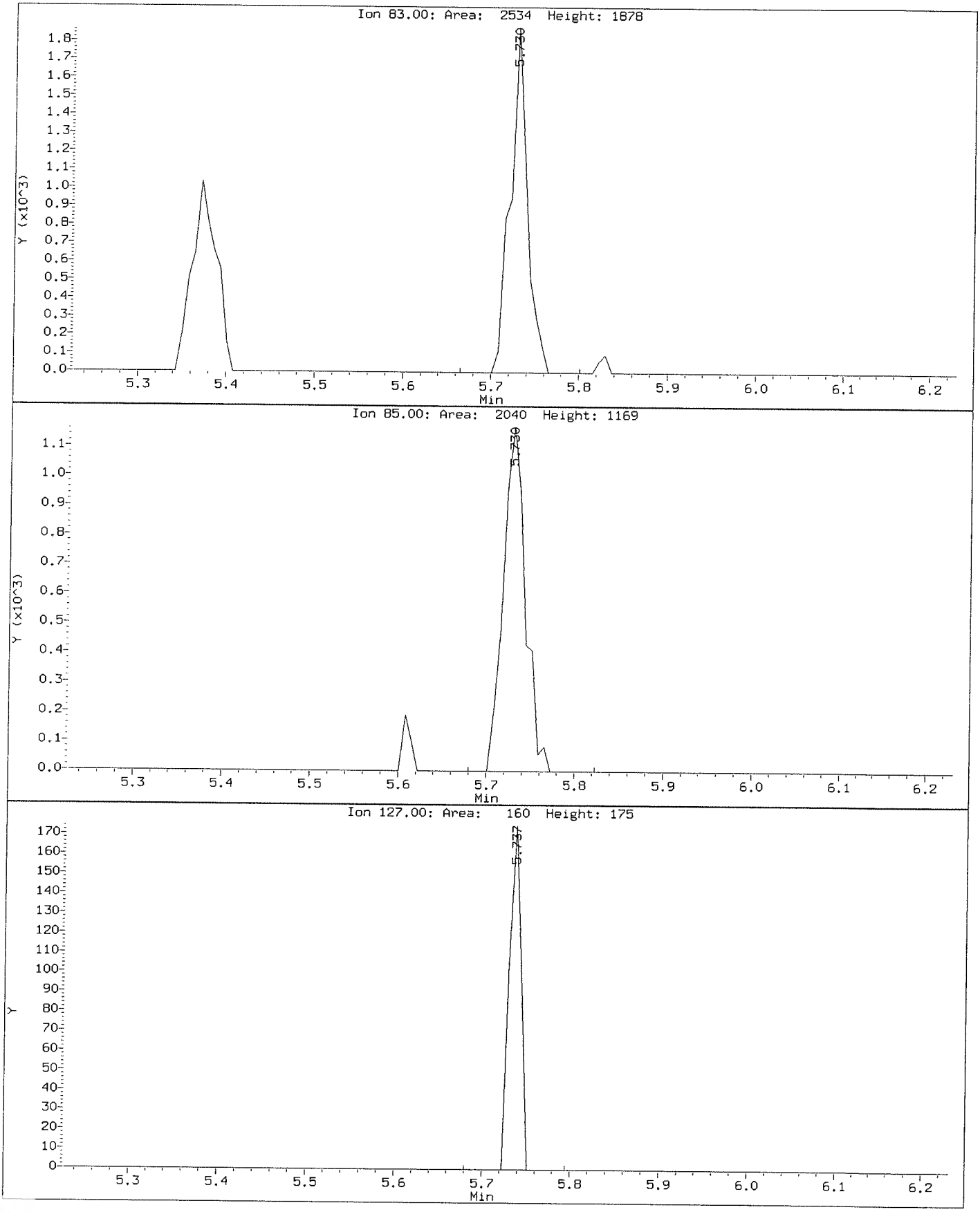
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



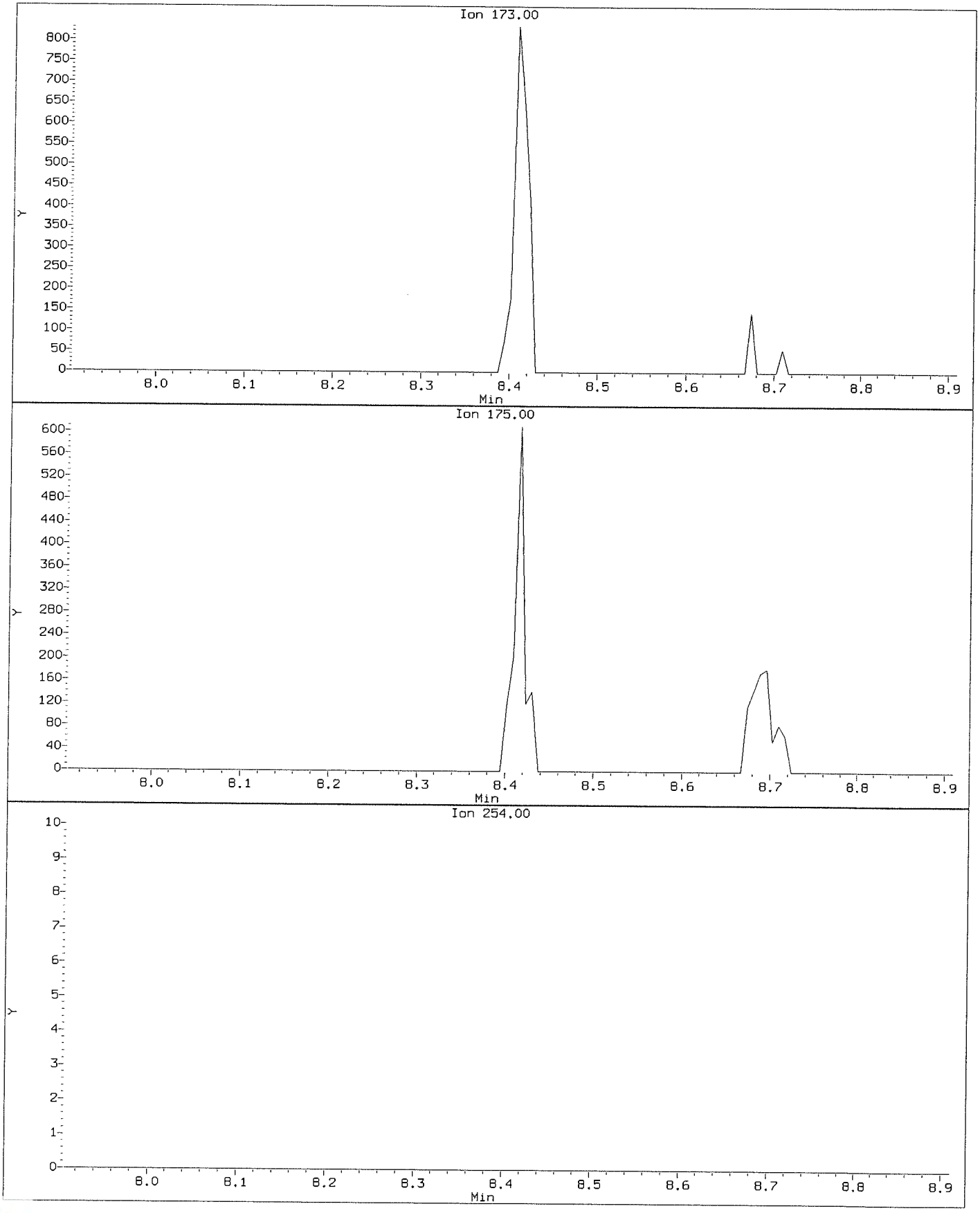
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



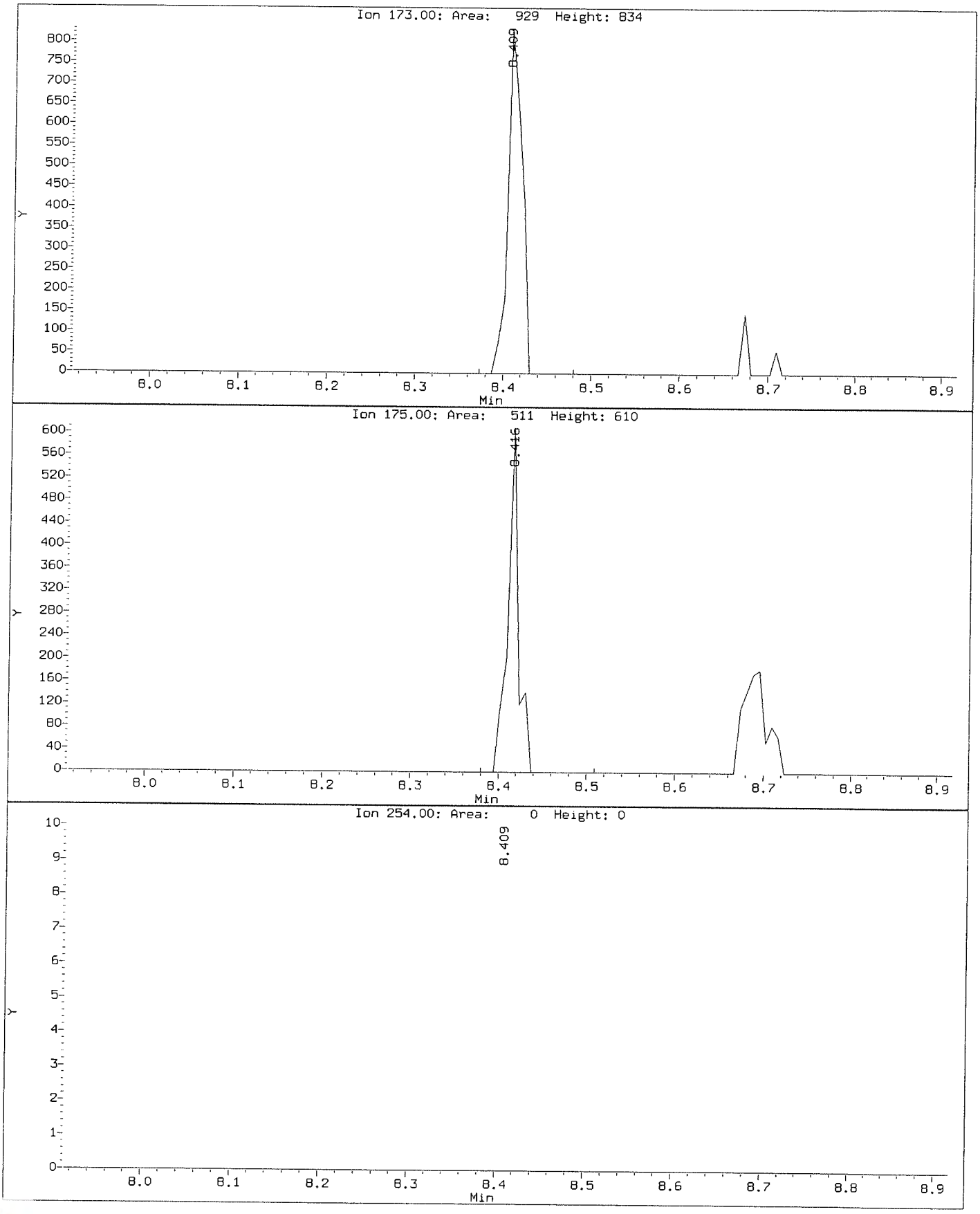
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



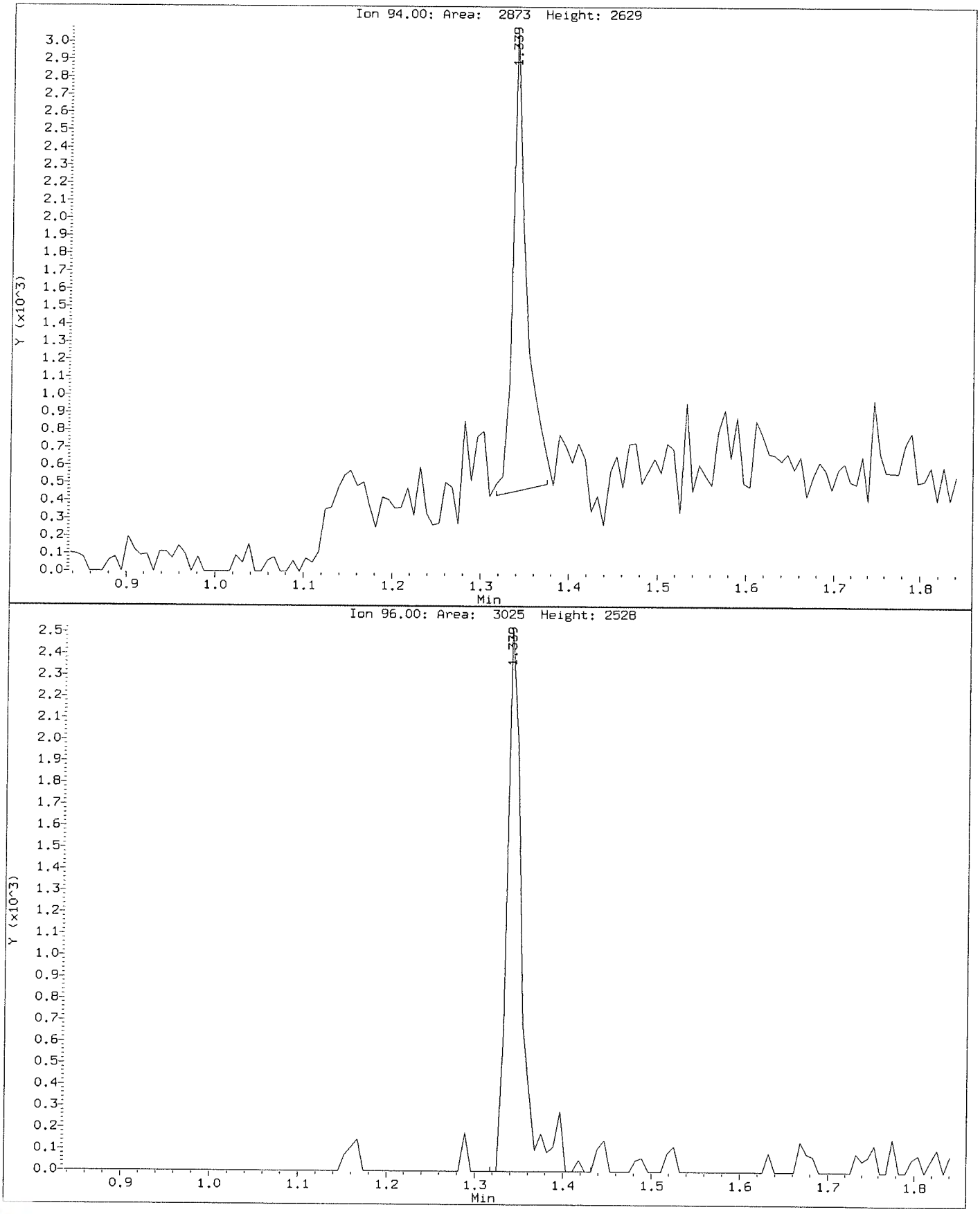
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



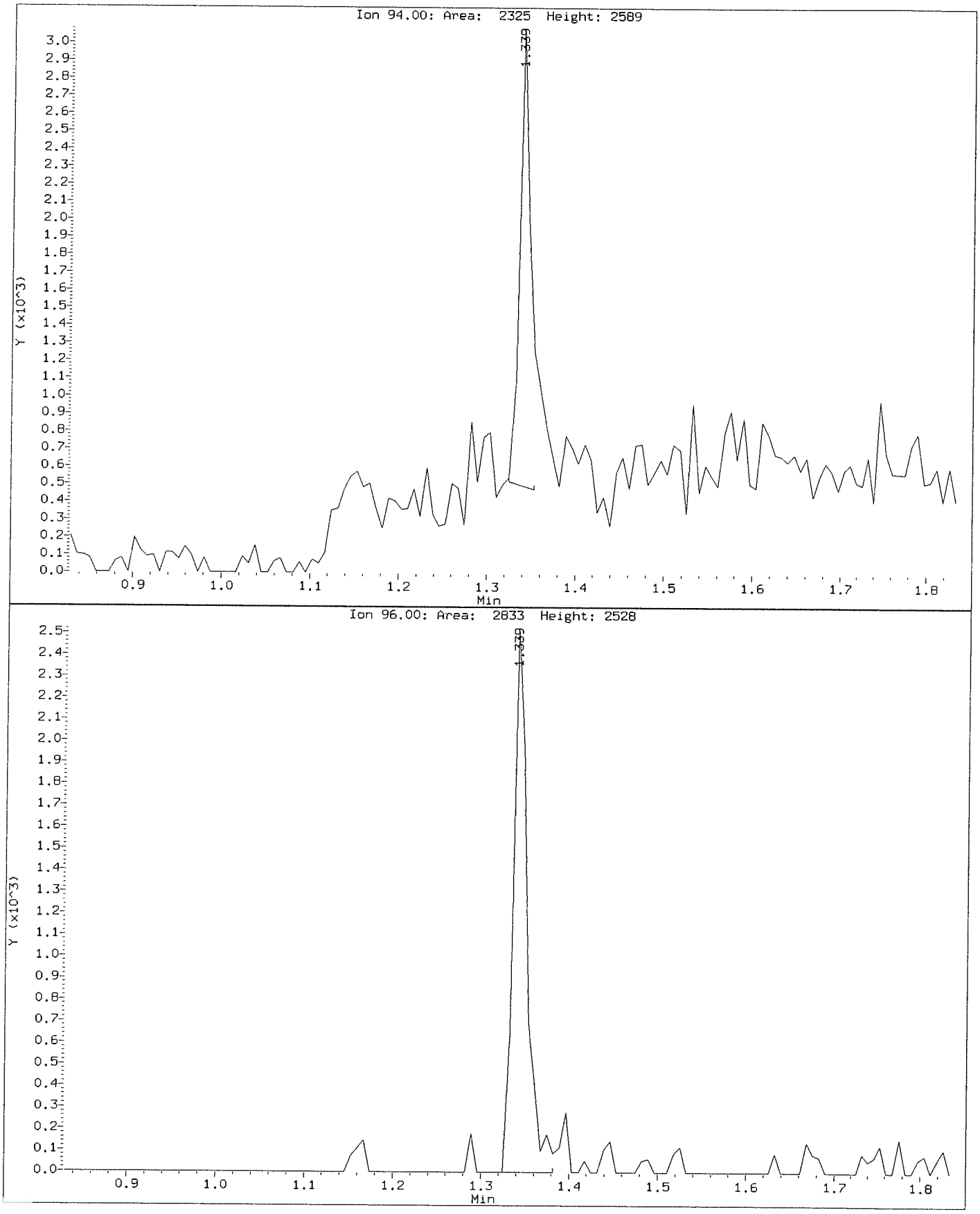
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromomethane
CAS Number: 74-83-9



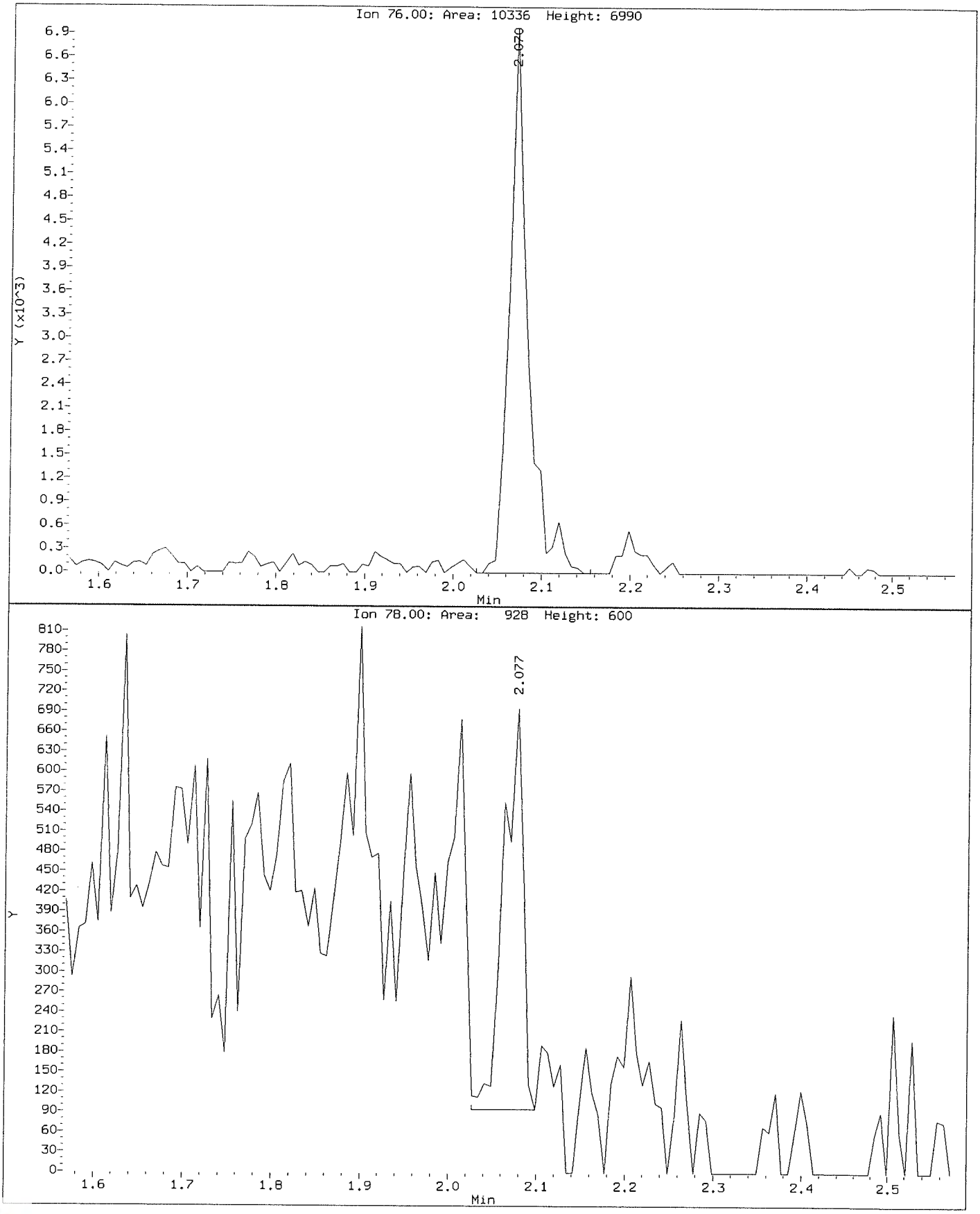
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromomethane
CAS Number: 74-83-9



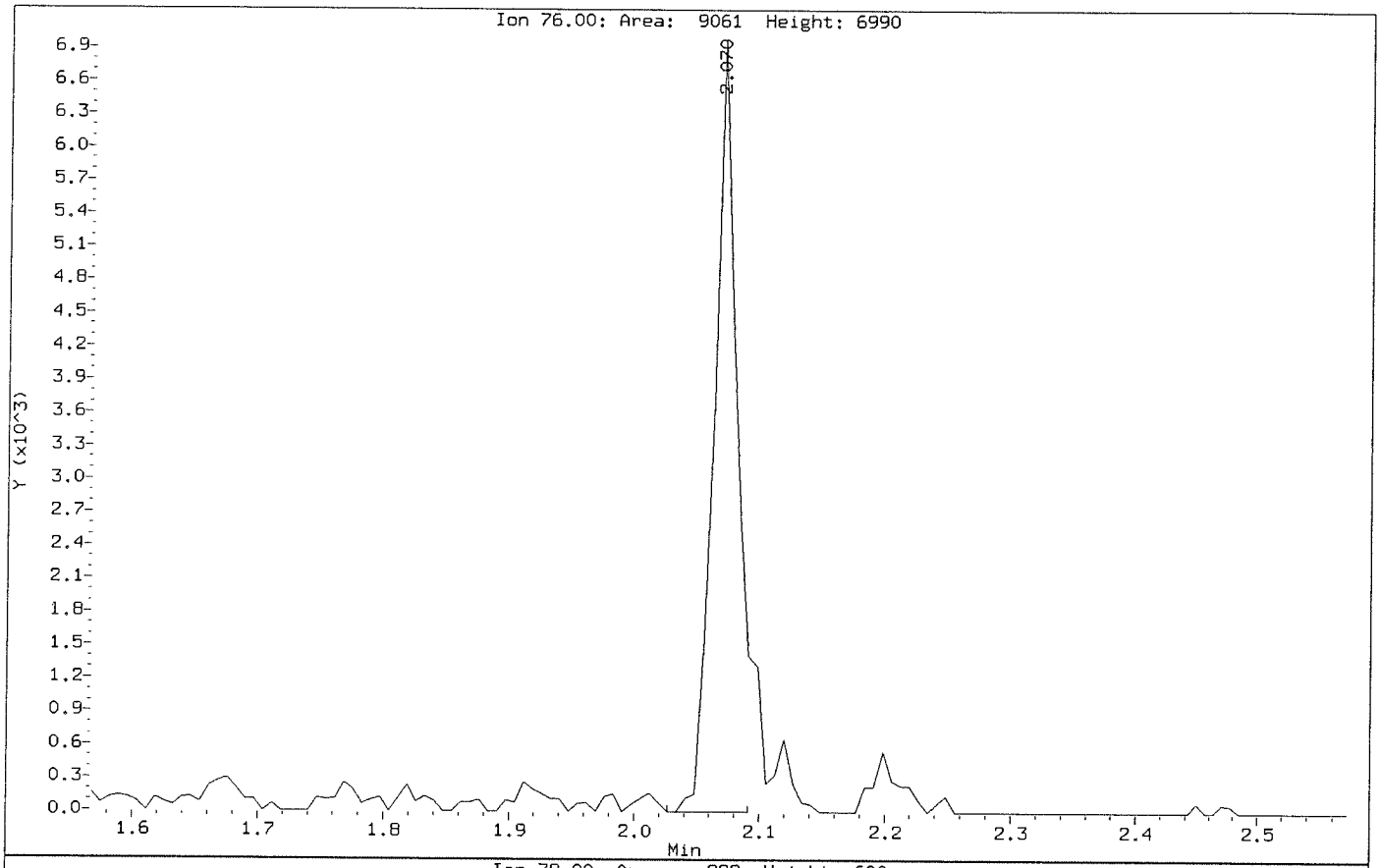
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

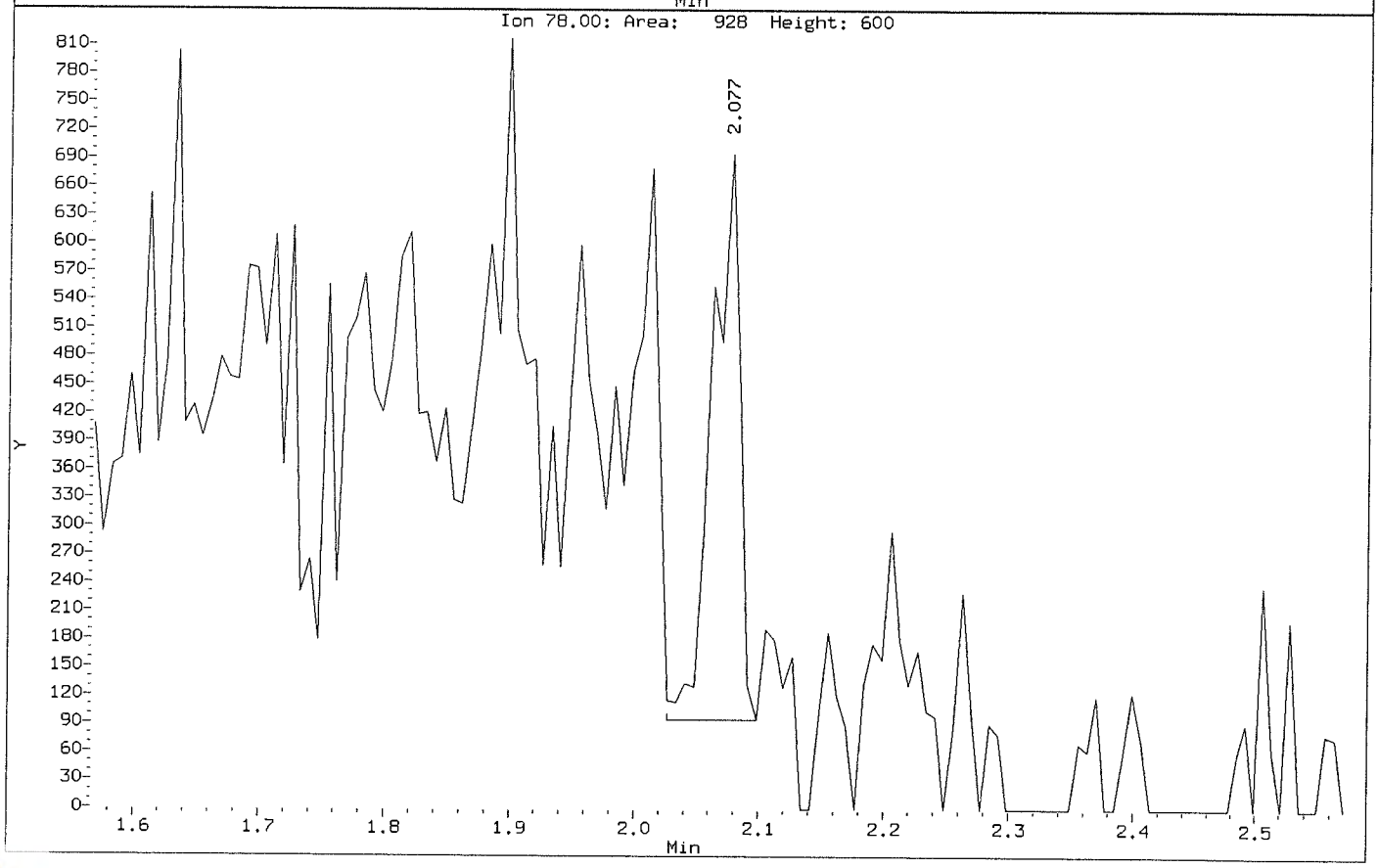
Compound: Carbon Disulfide
CAS Number: 75-15-0



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

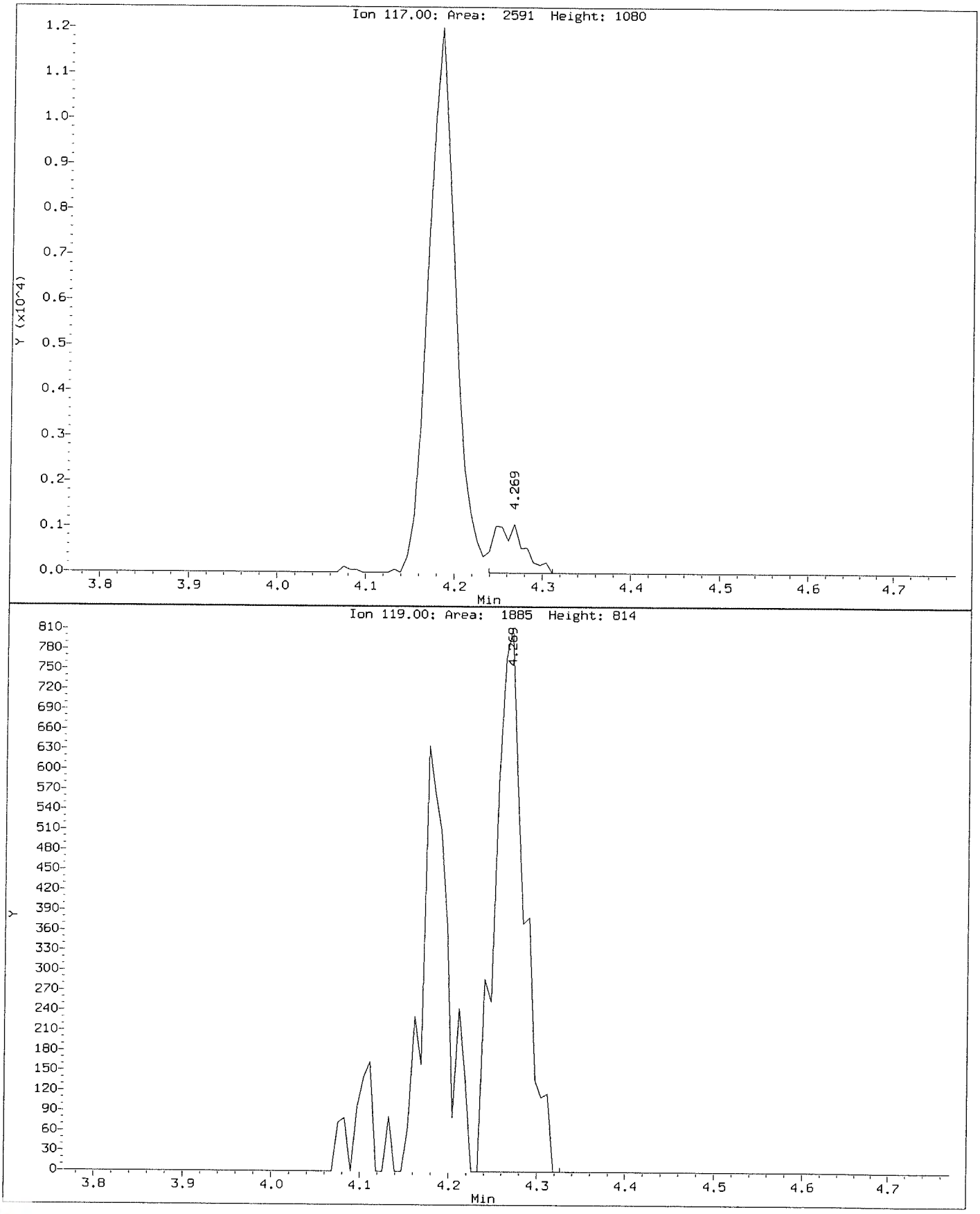
Compound: Carbon Disulfide
CAS Number: 75-15-0





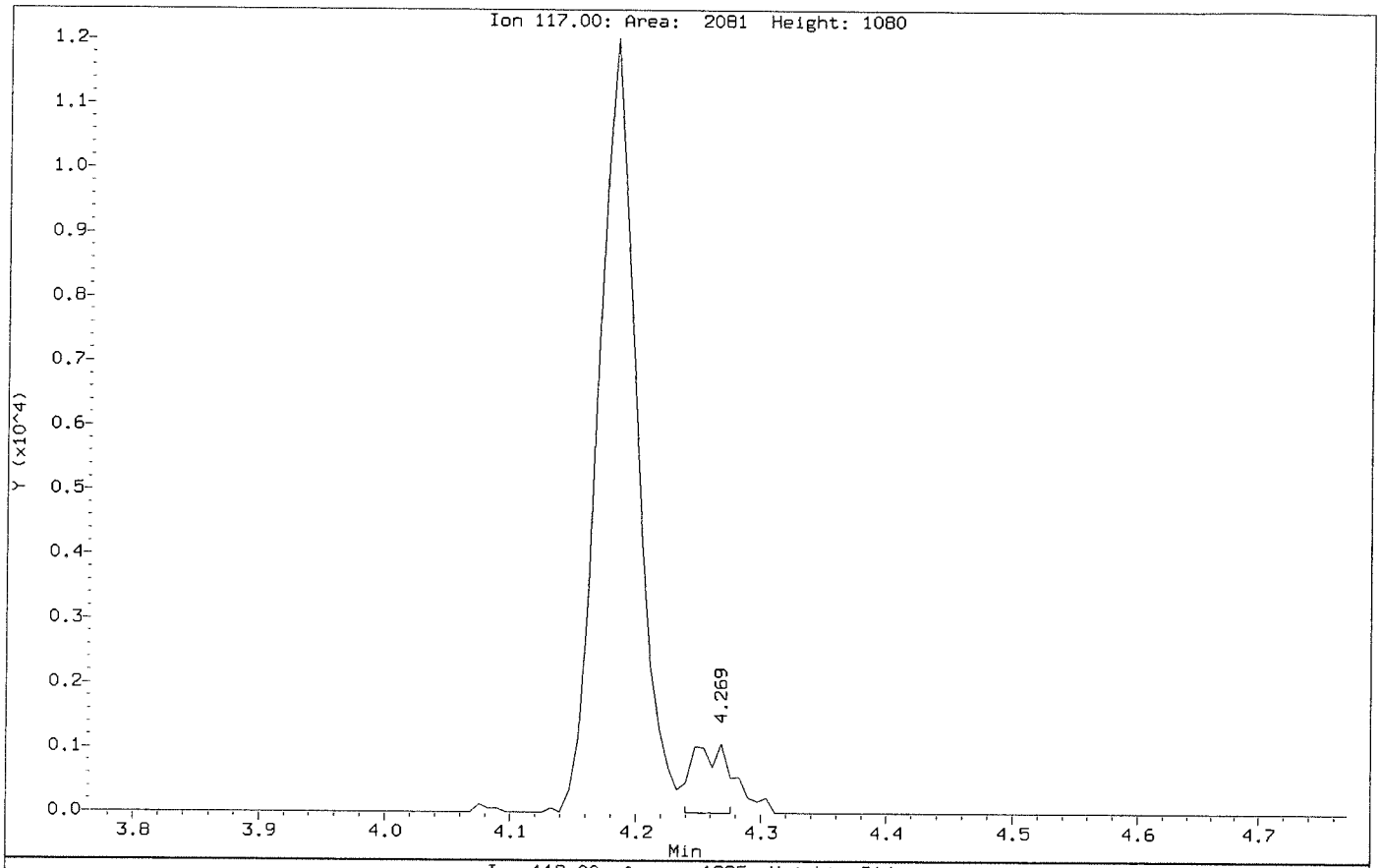
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

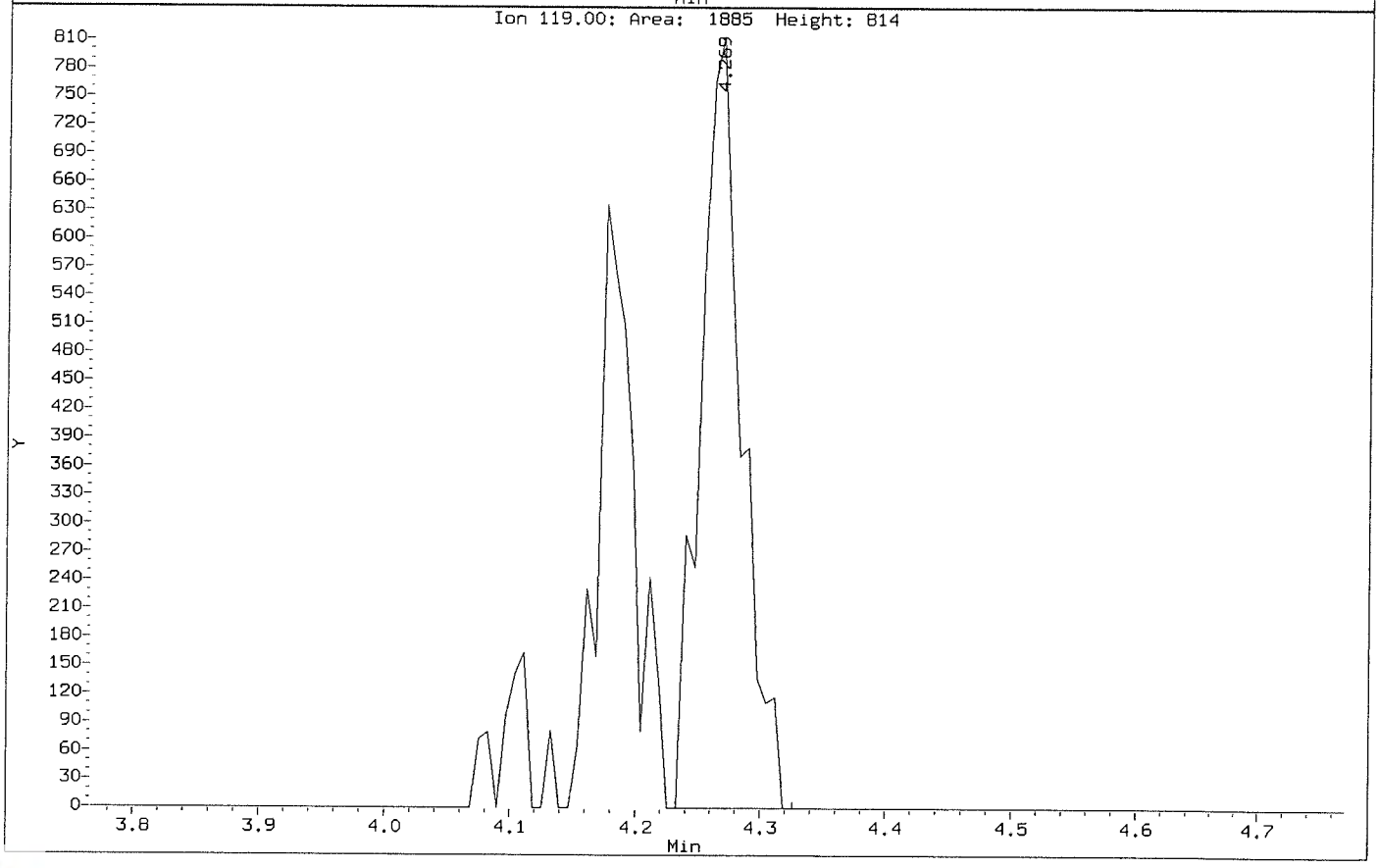
Compound: Carbon Tetrachloride
CAS Number: 56-23-5



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

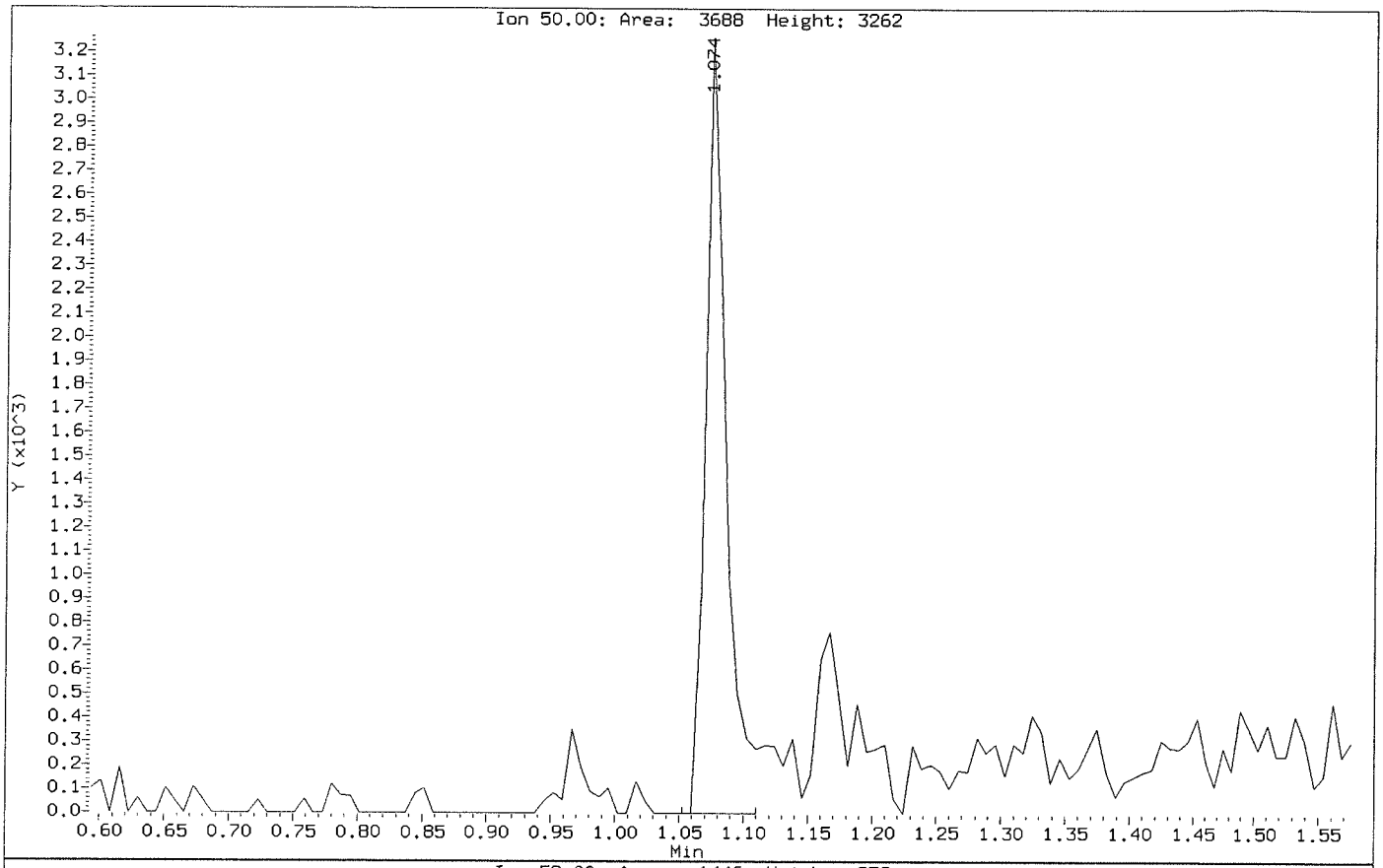
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

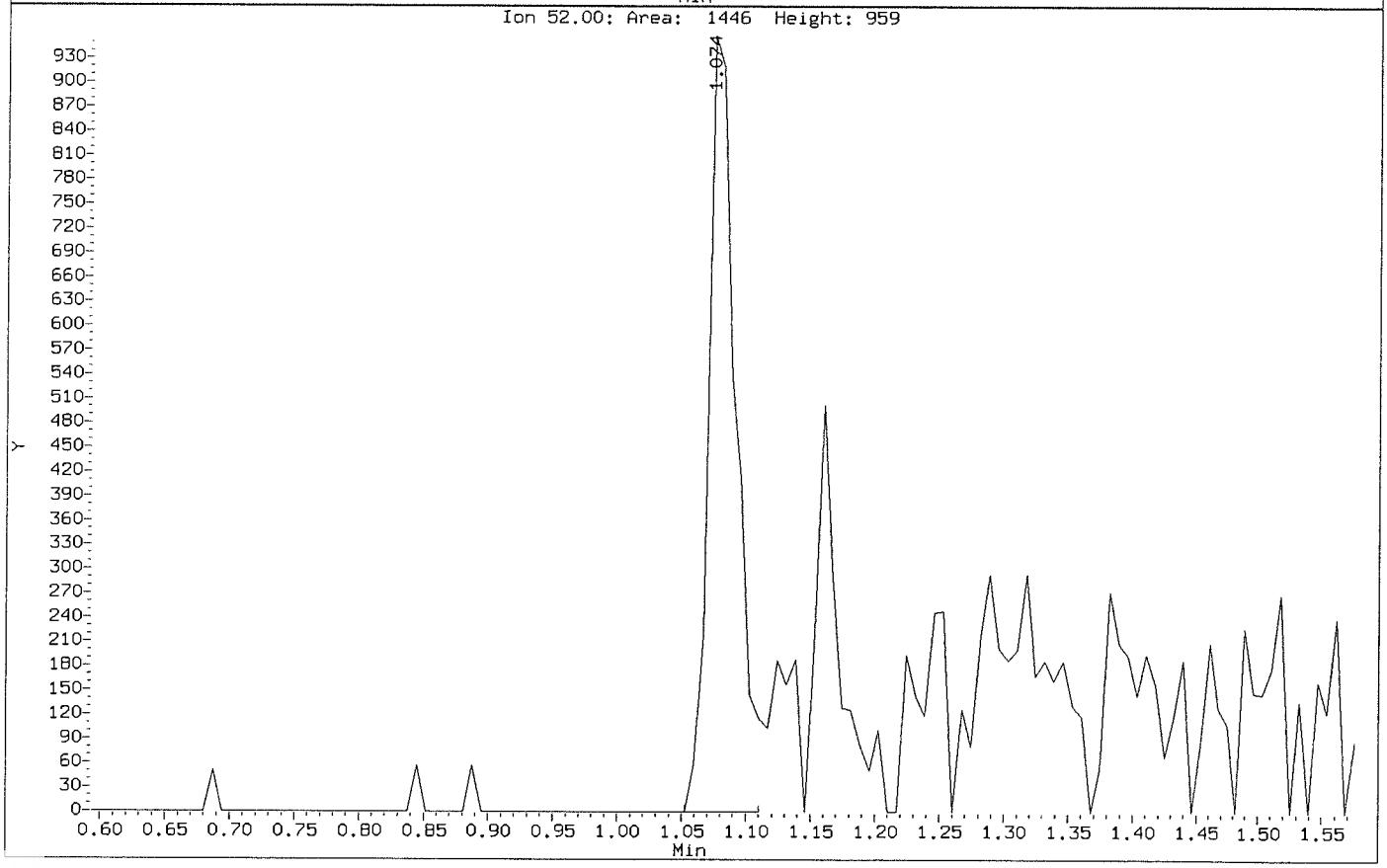




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

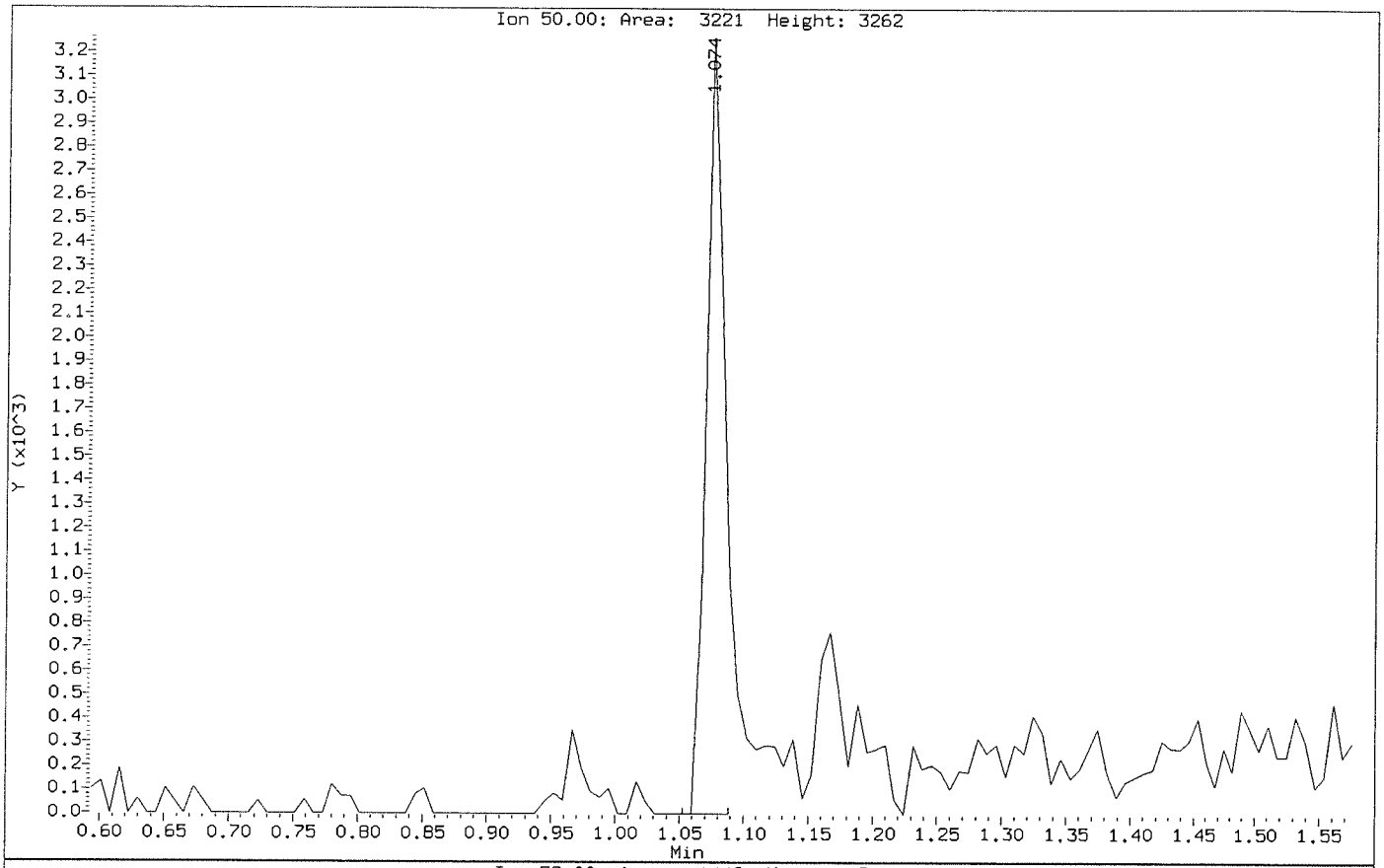
Compound: Chloromethane
CAS Number: 74-87-3

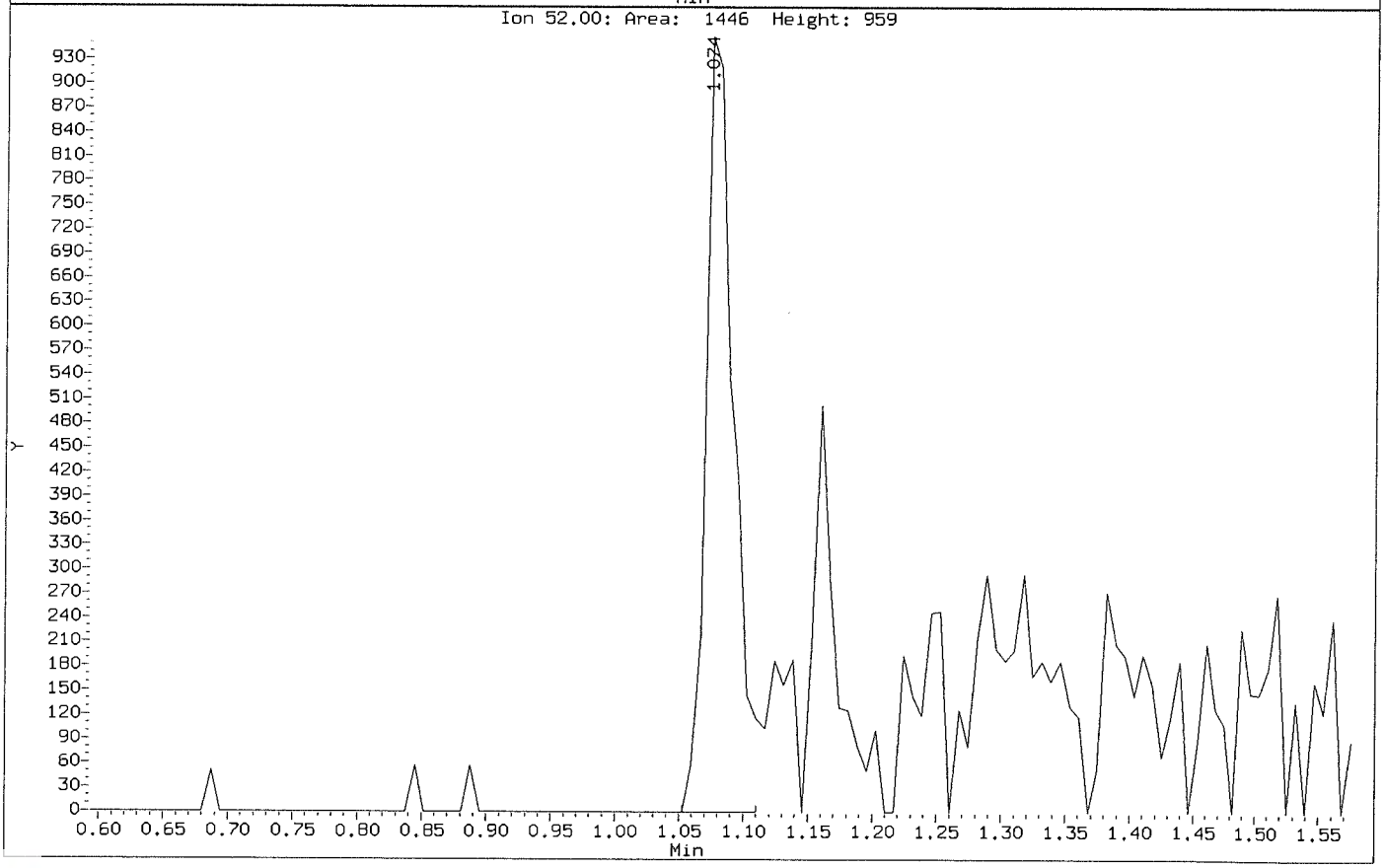




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

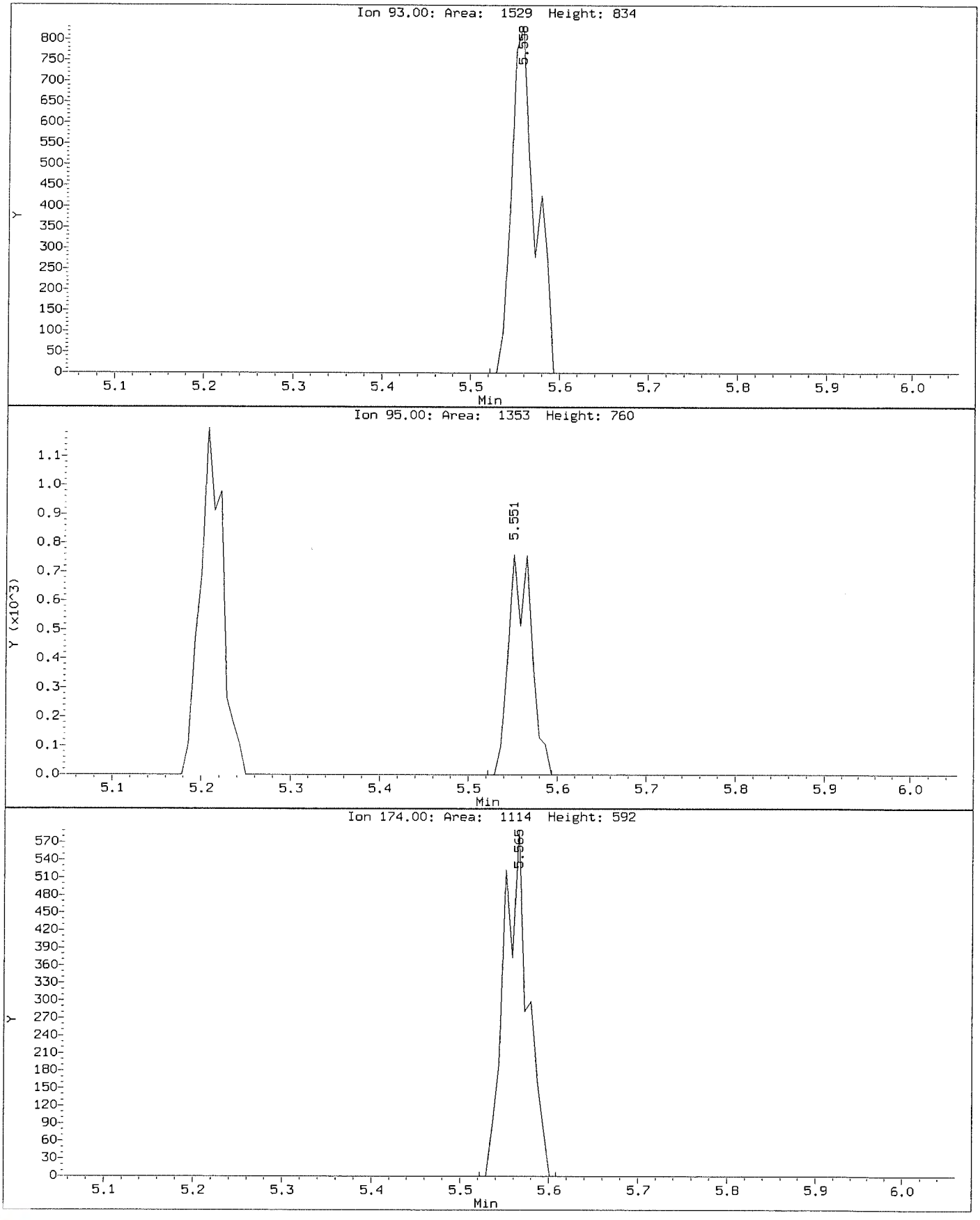
Compound: Chloromethane
CAS Number: 74-87-3





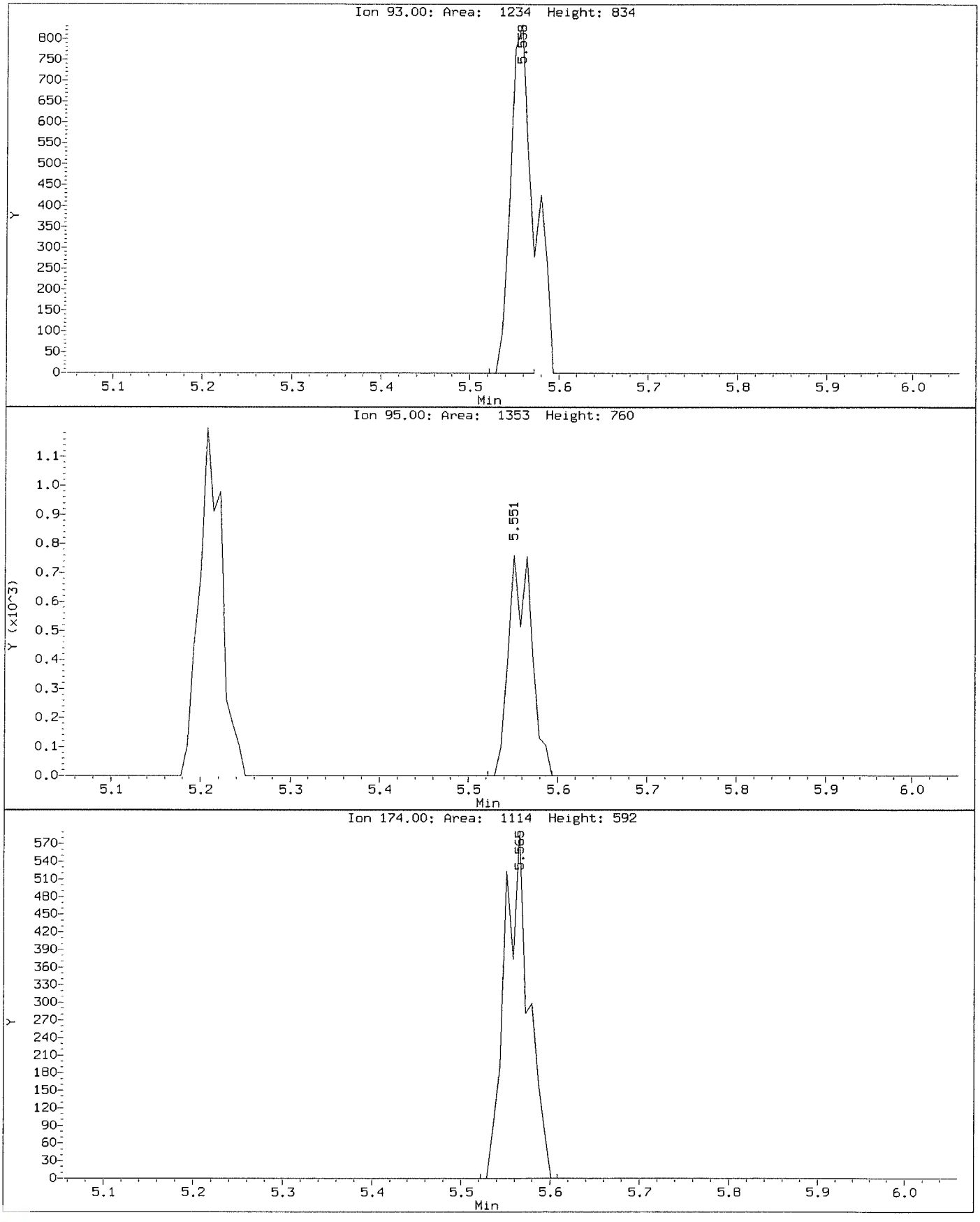
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dibromomethane
CAS Number: 74-95-3



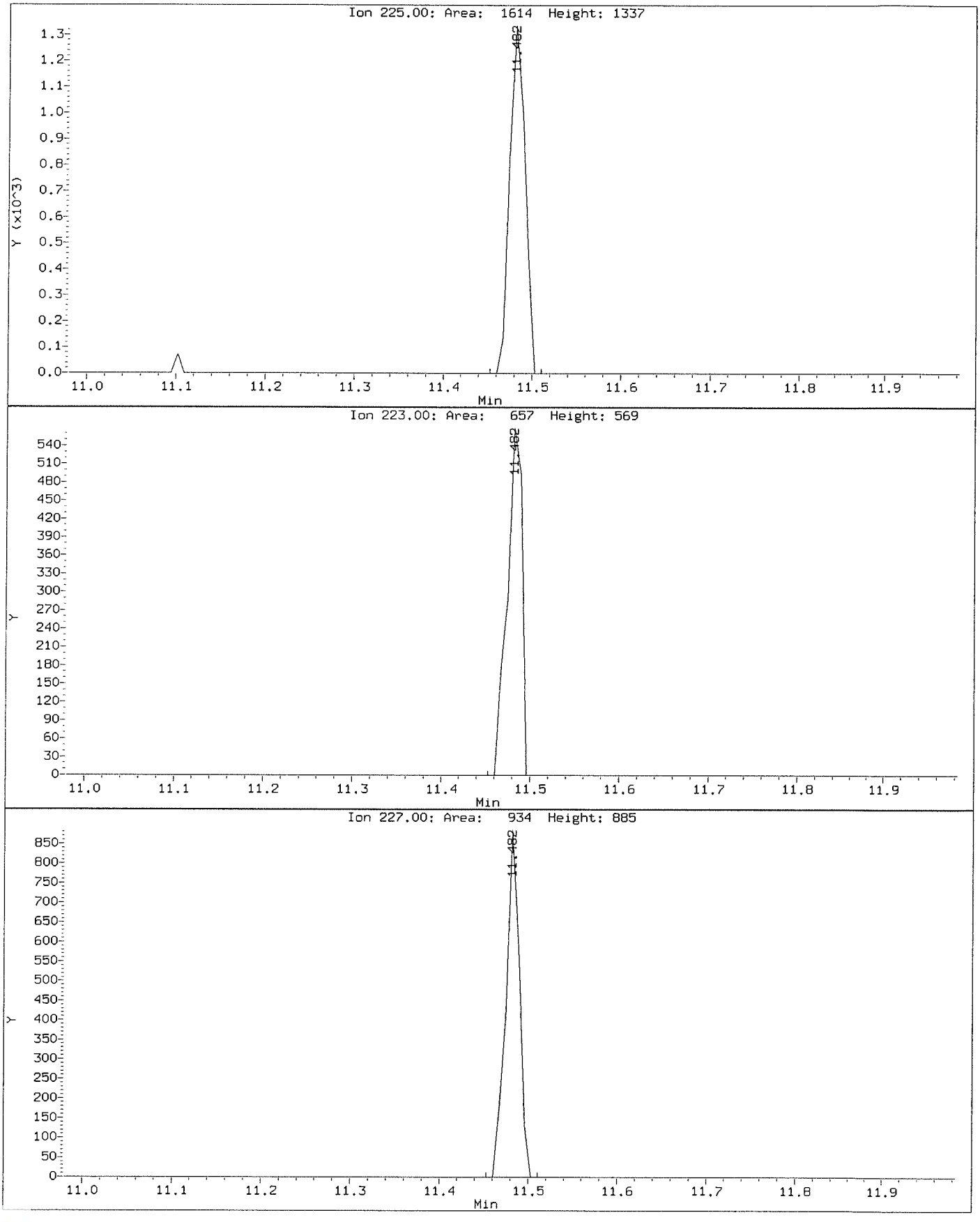
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dibromomethane
CAS Number: 74-95-3



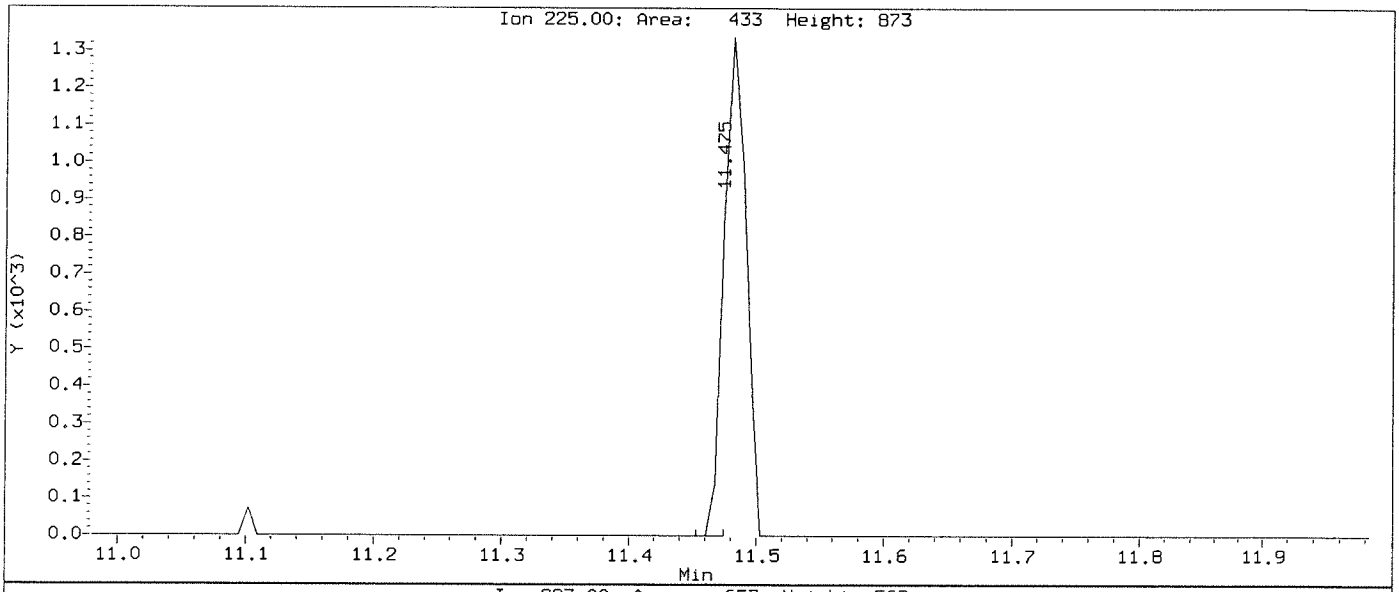
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

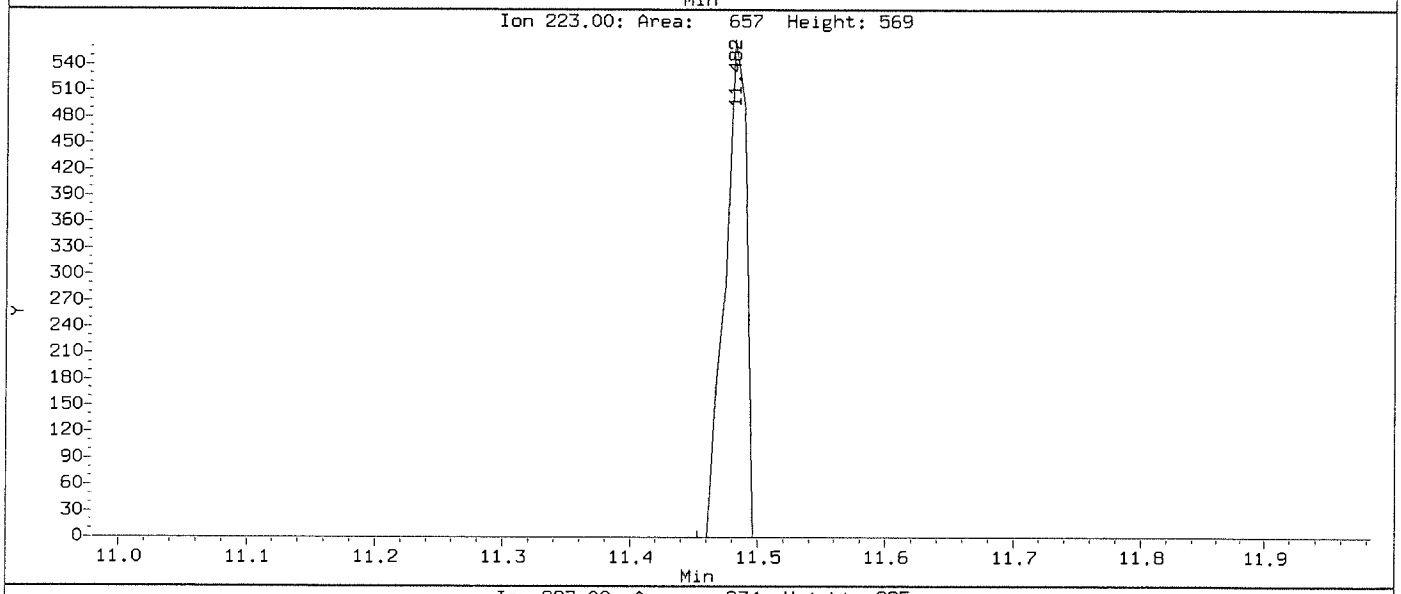
Compound: Hexachlorobutadiene
CAS Number: 87-68-3

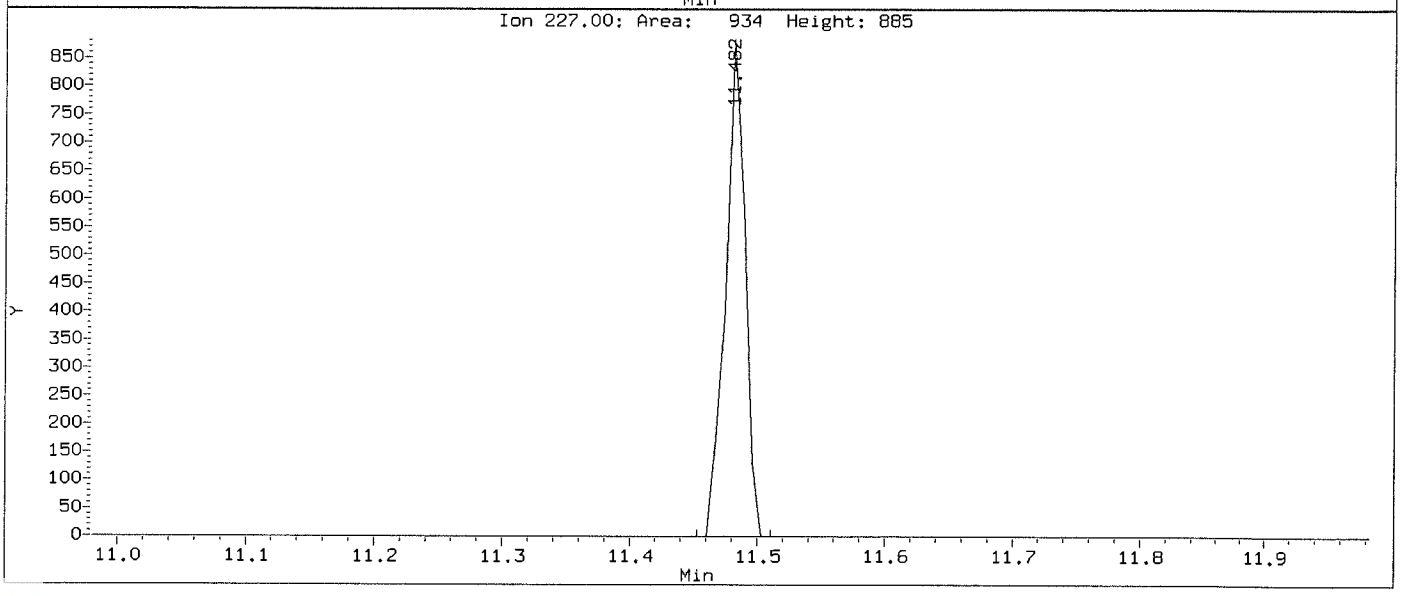


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3

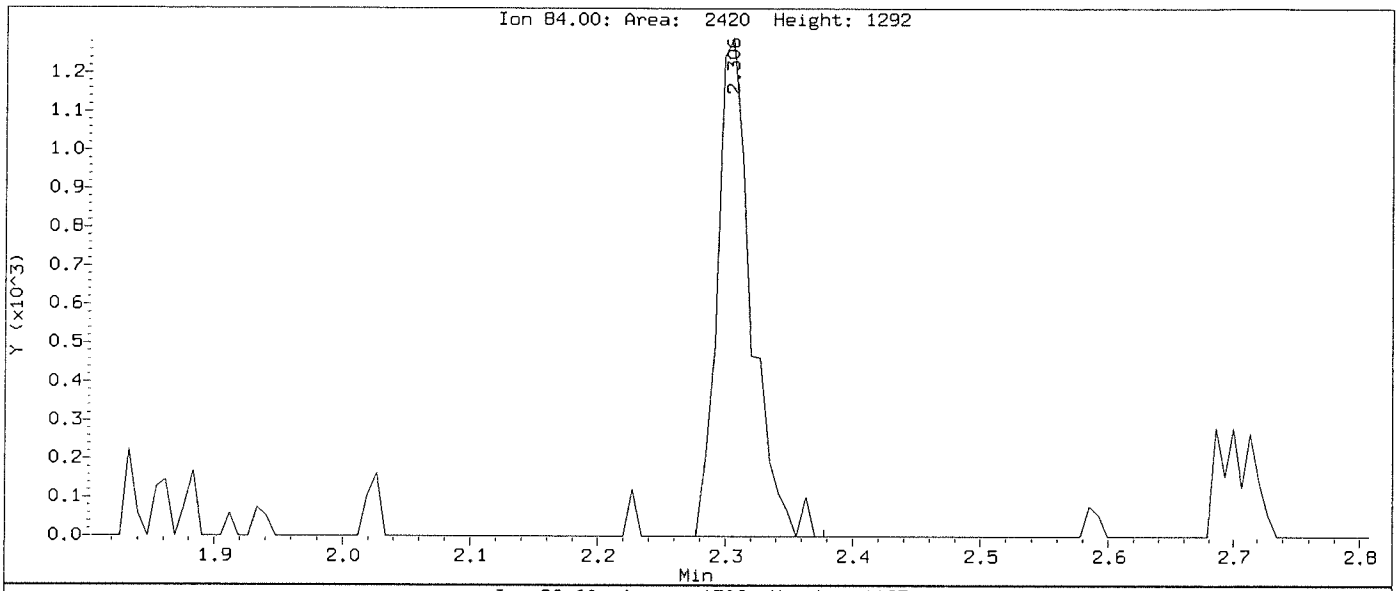


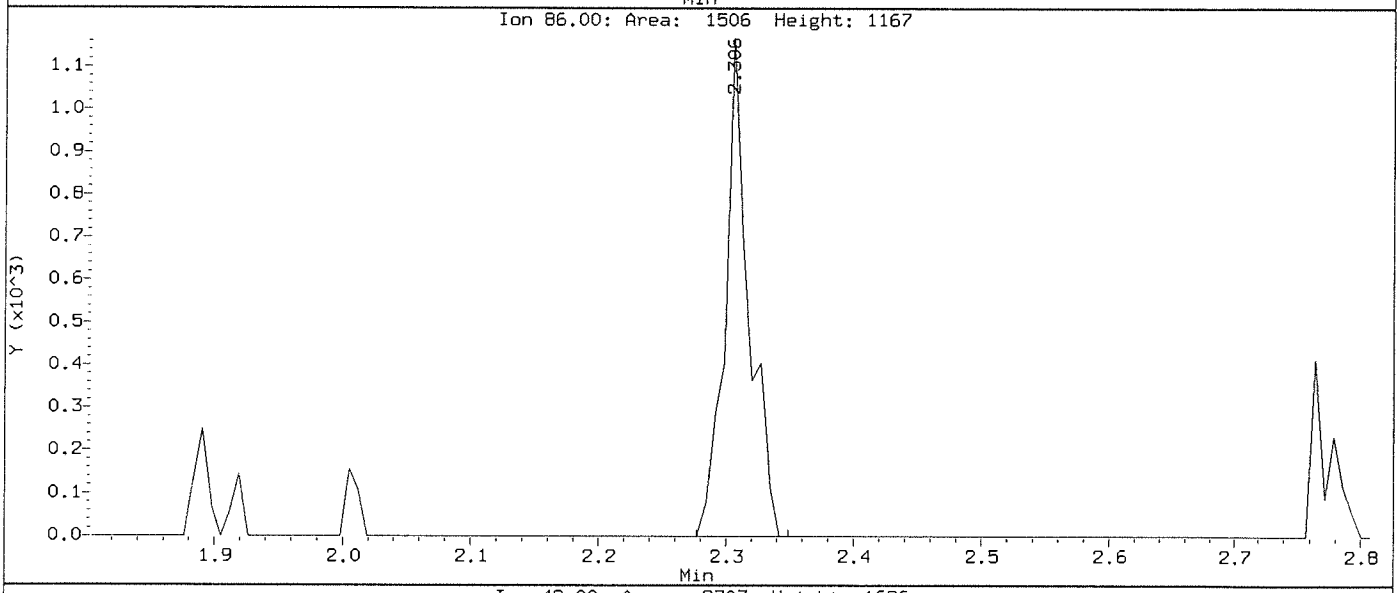


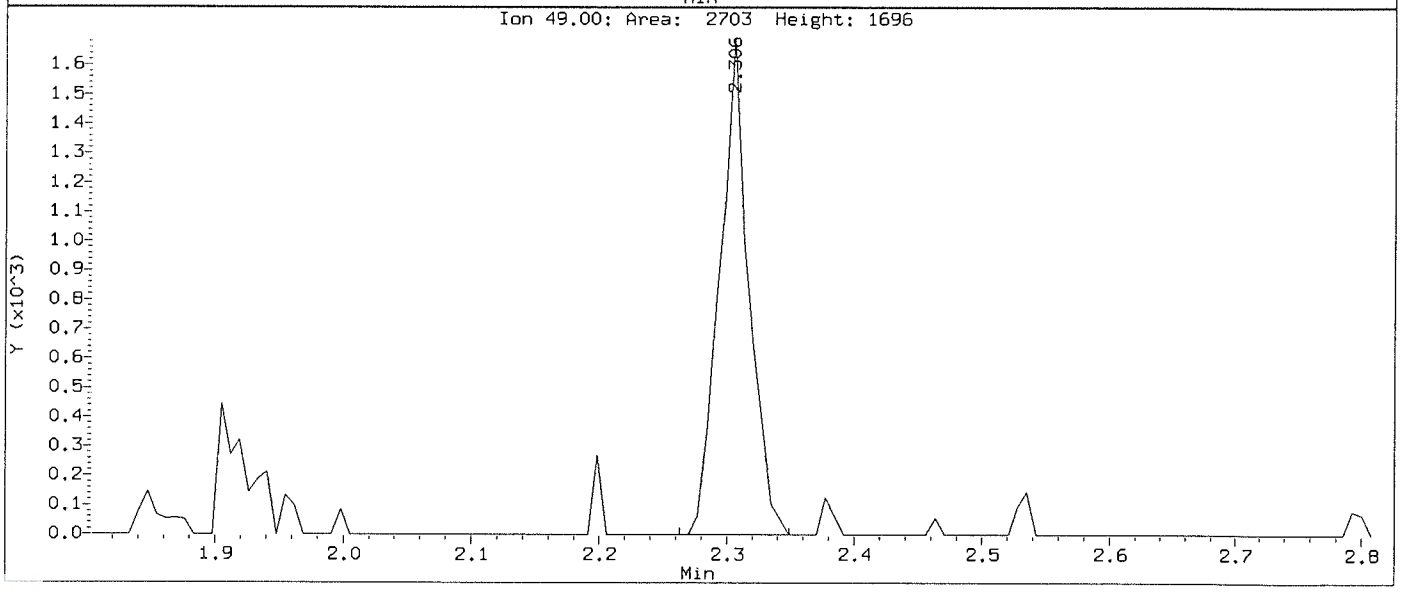


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2

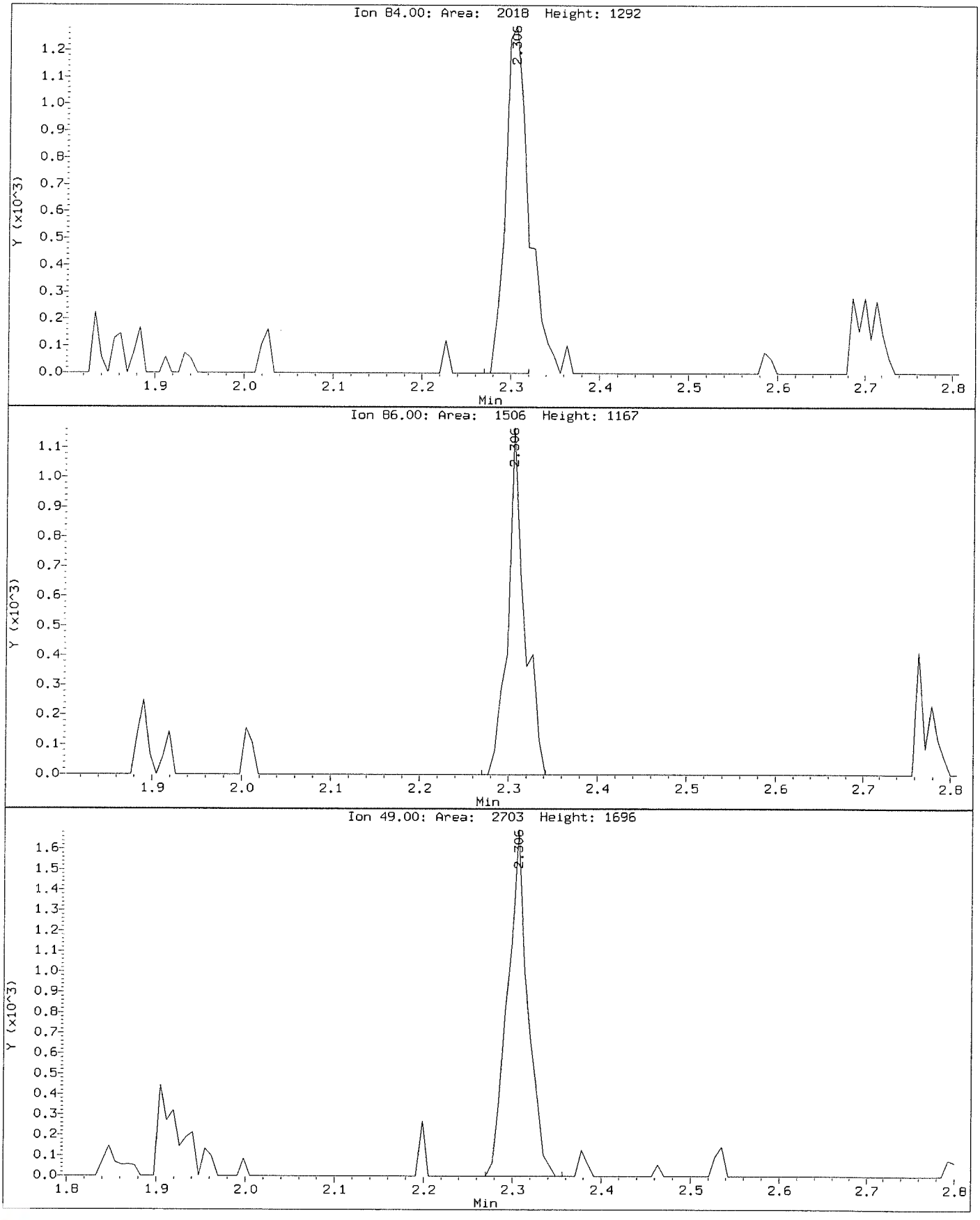






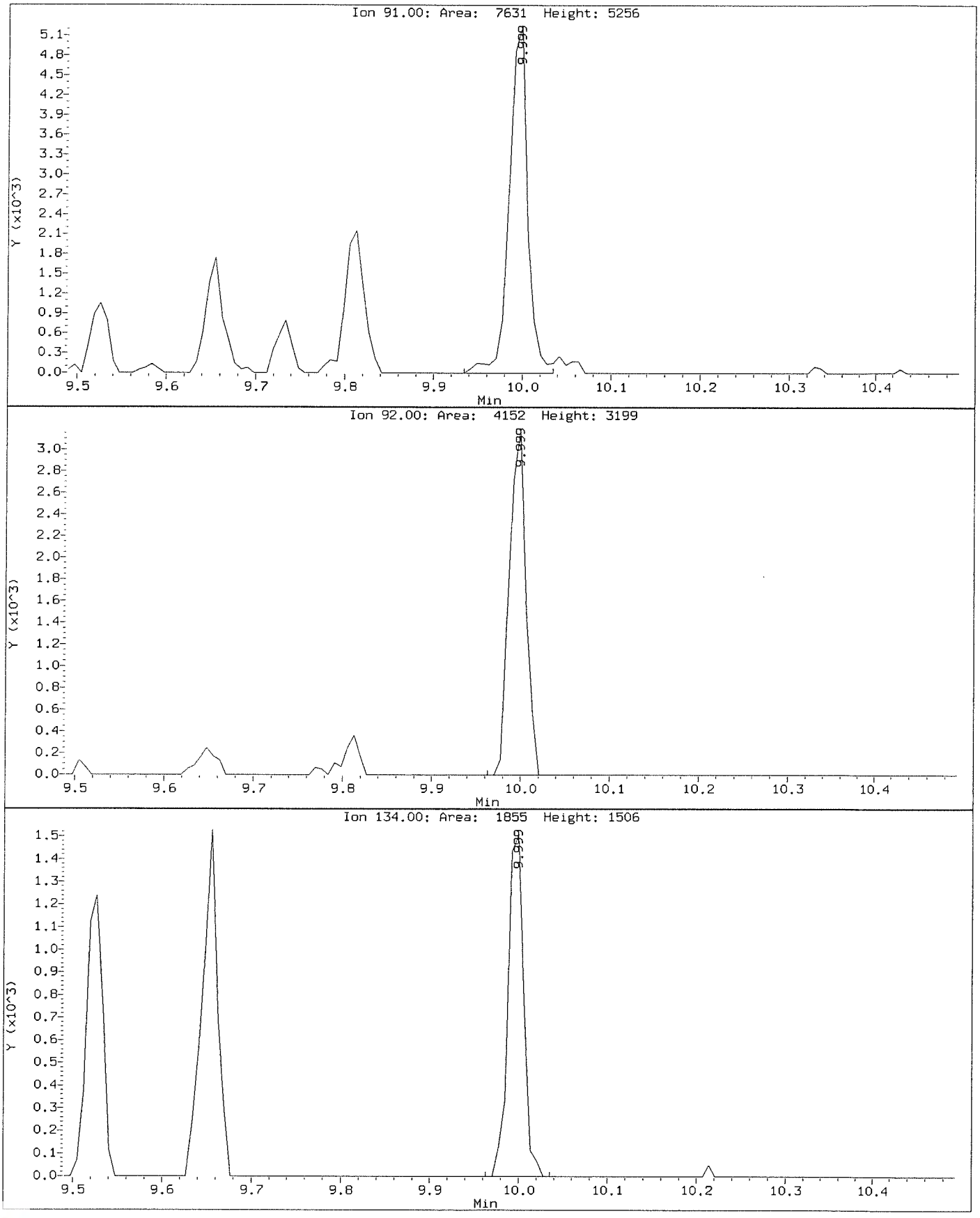
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2



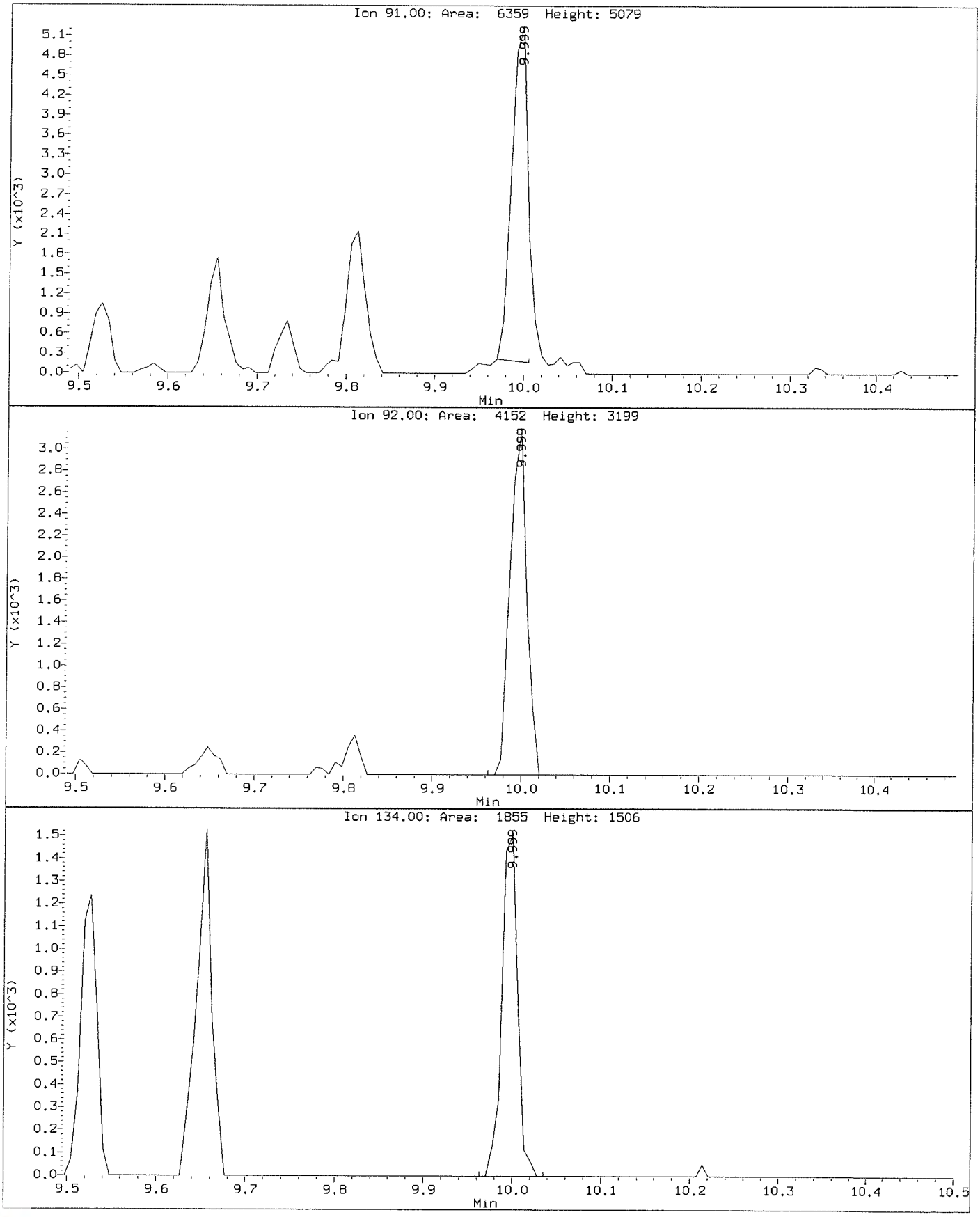
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: n-Butylbenzene
CAS Number: 104-51-8



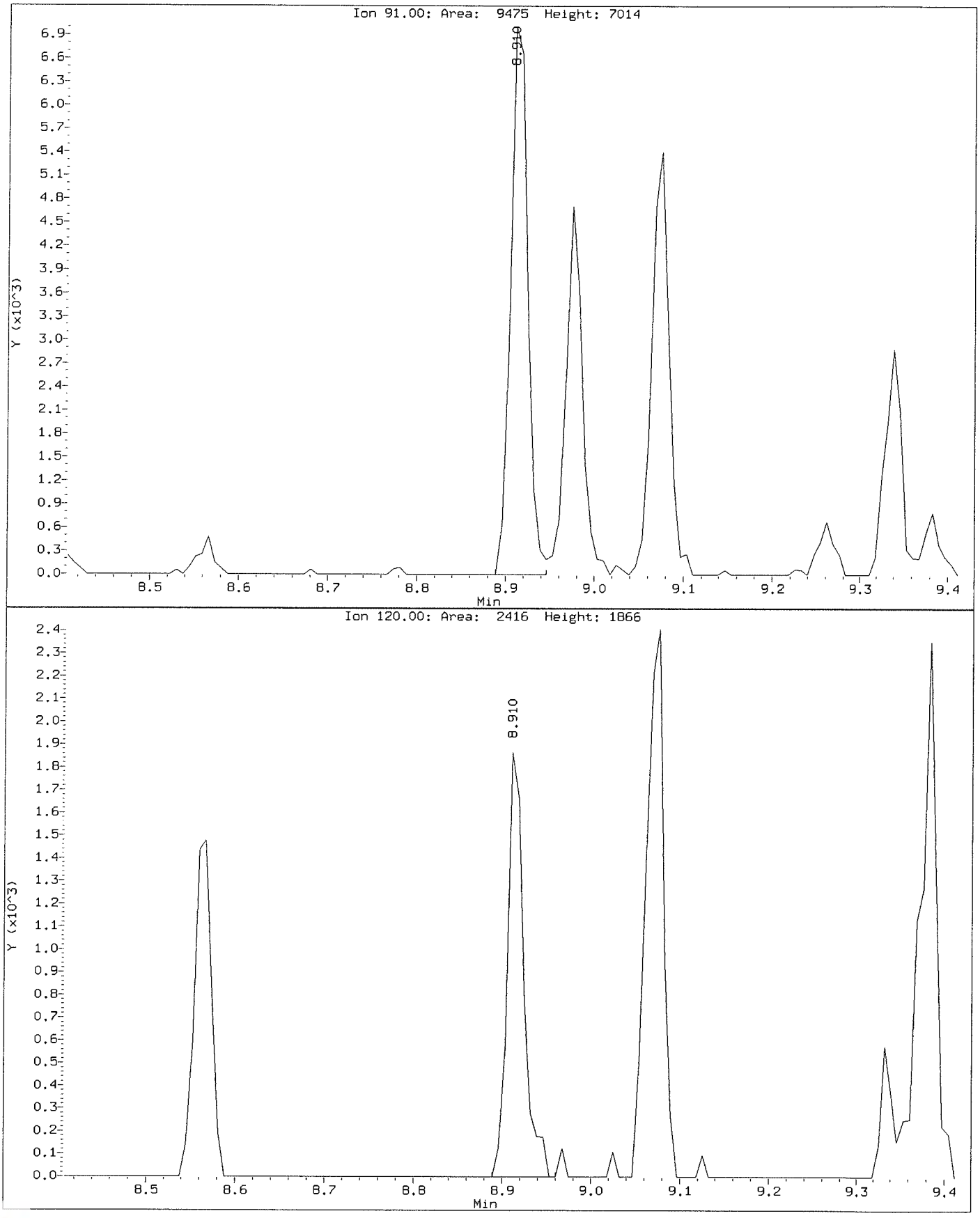
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: n-Butylbenzene
CAS Number: 104-51-8



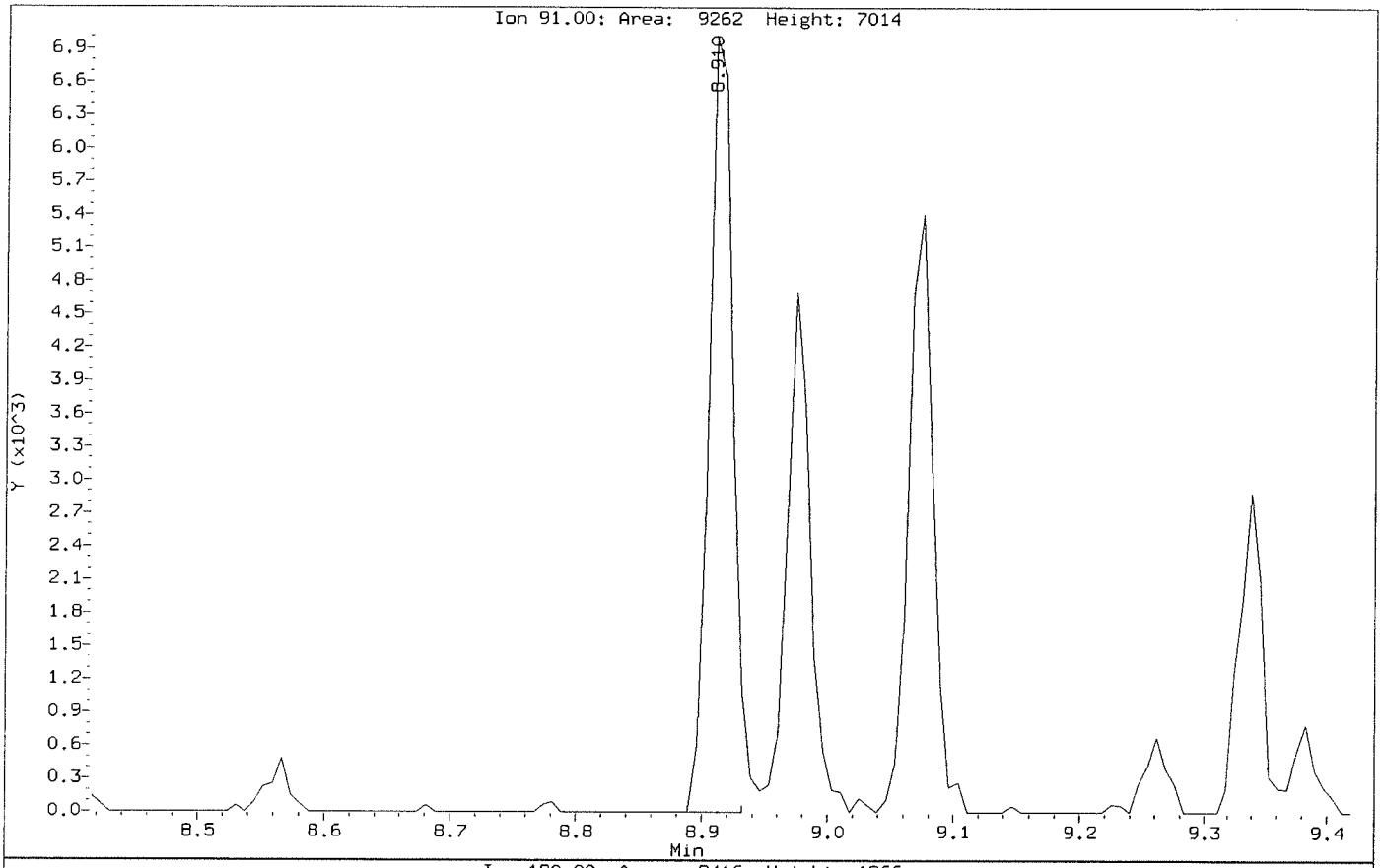
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

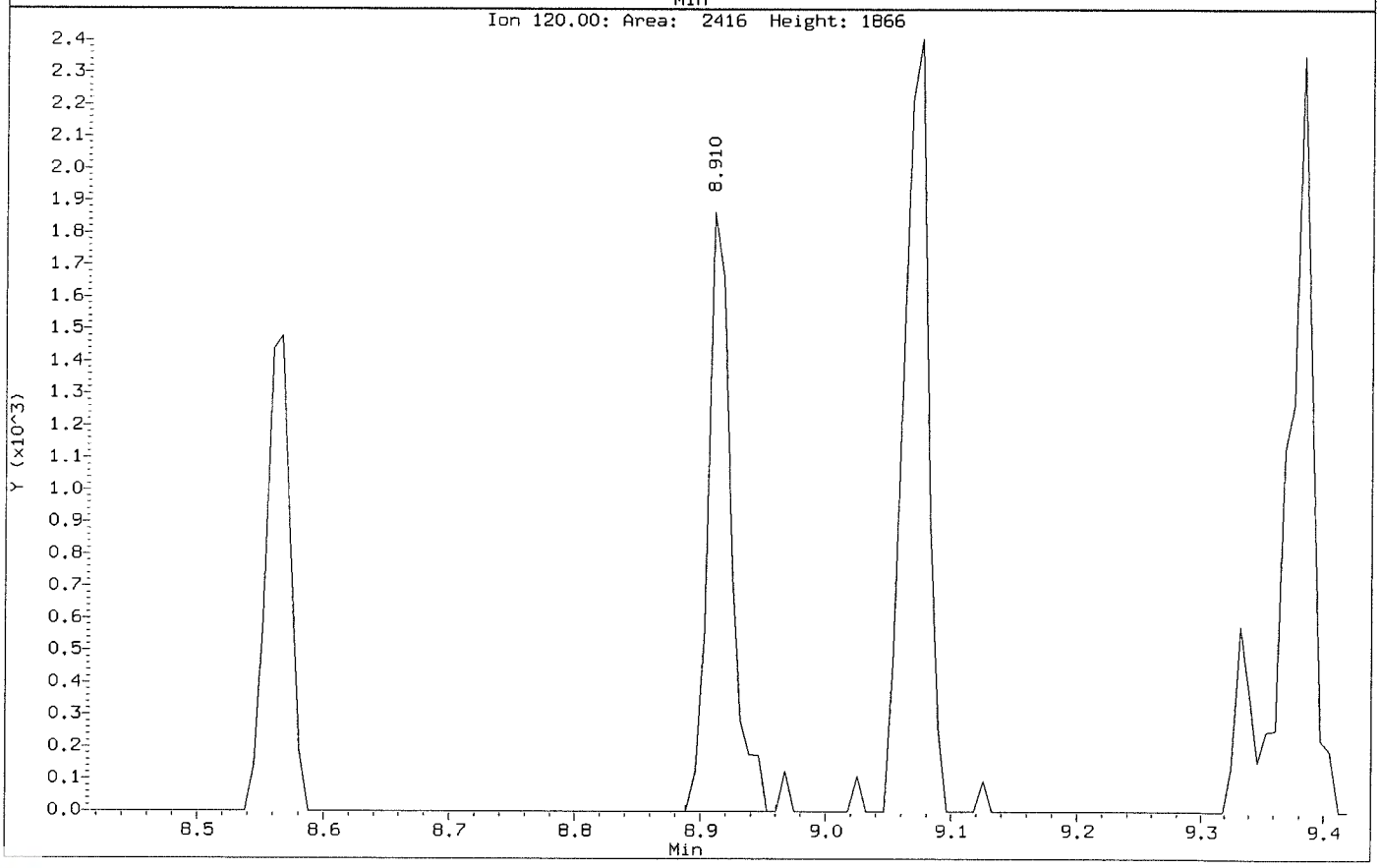
Compound: n-Propylbenzene
CAS Number: 106-65-1



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

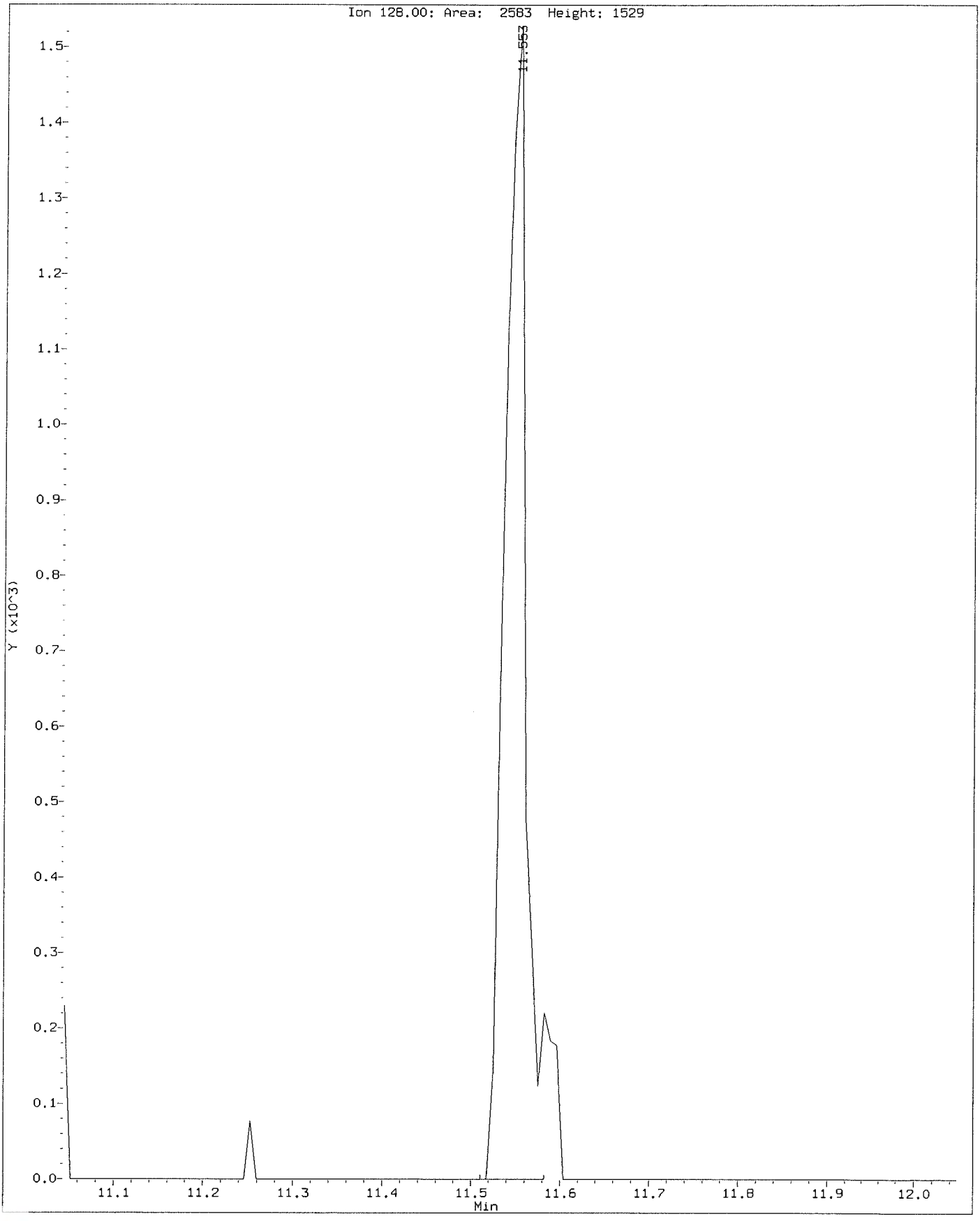
Compound: n-Propylbenzene
CAS Number: 106-65-1





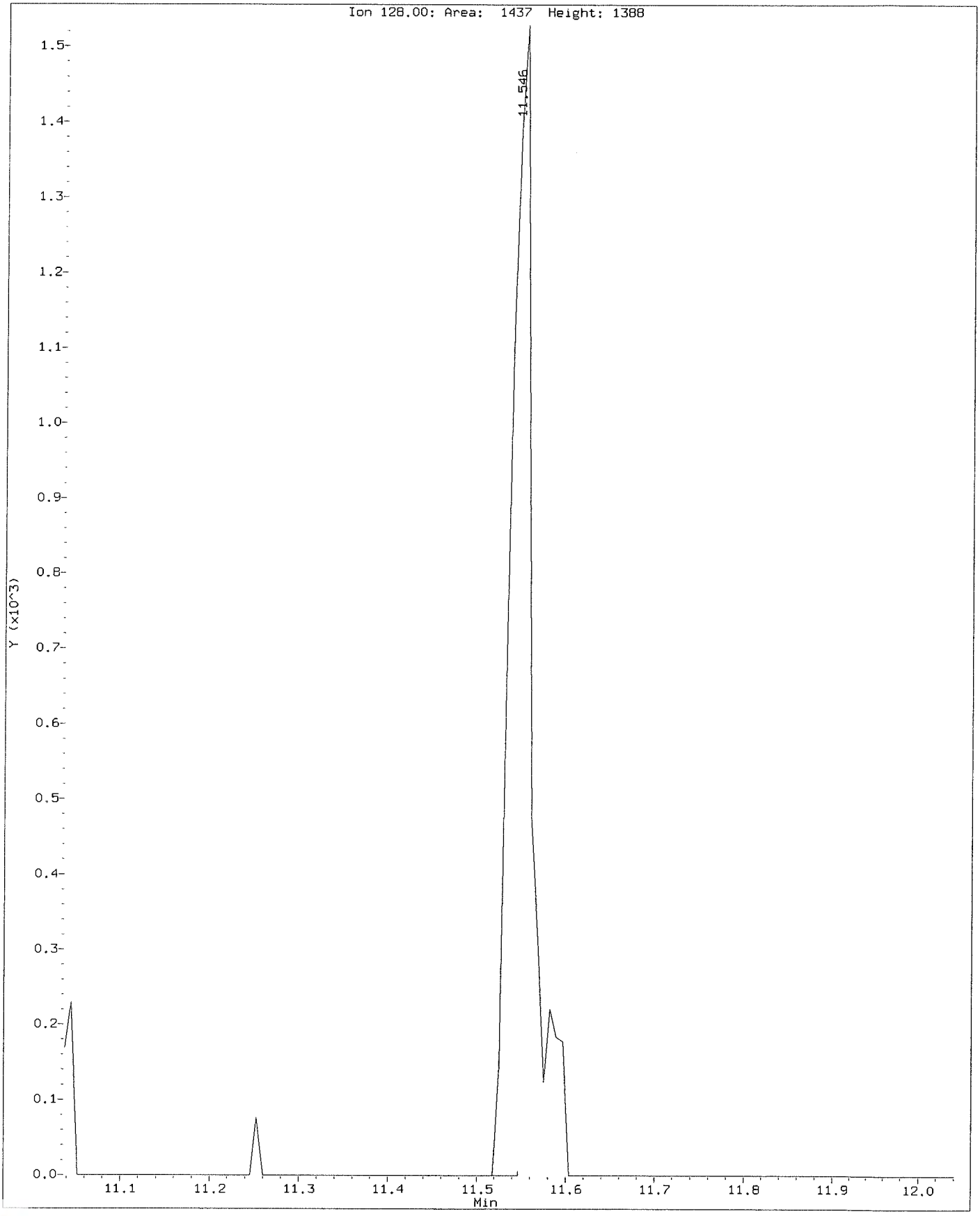
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Naphthalene
CAS Number: 91-20-3



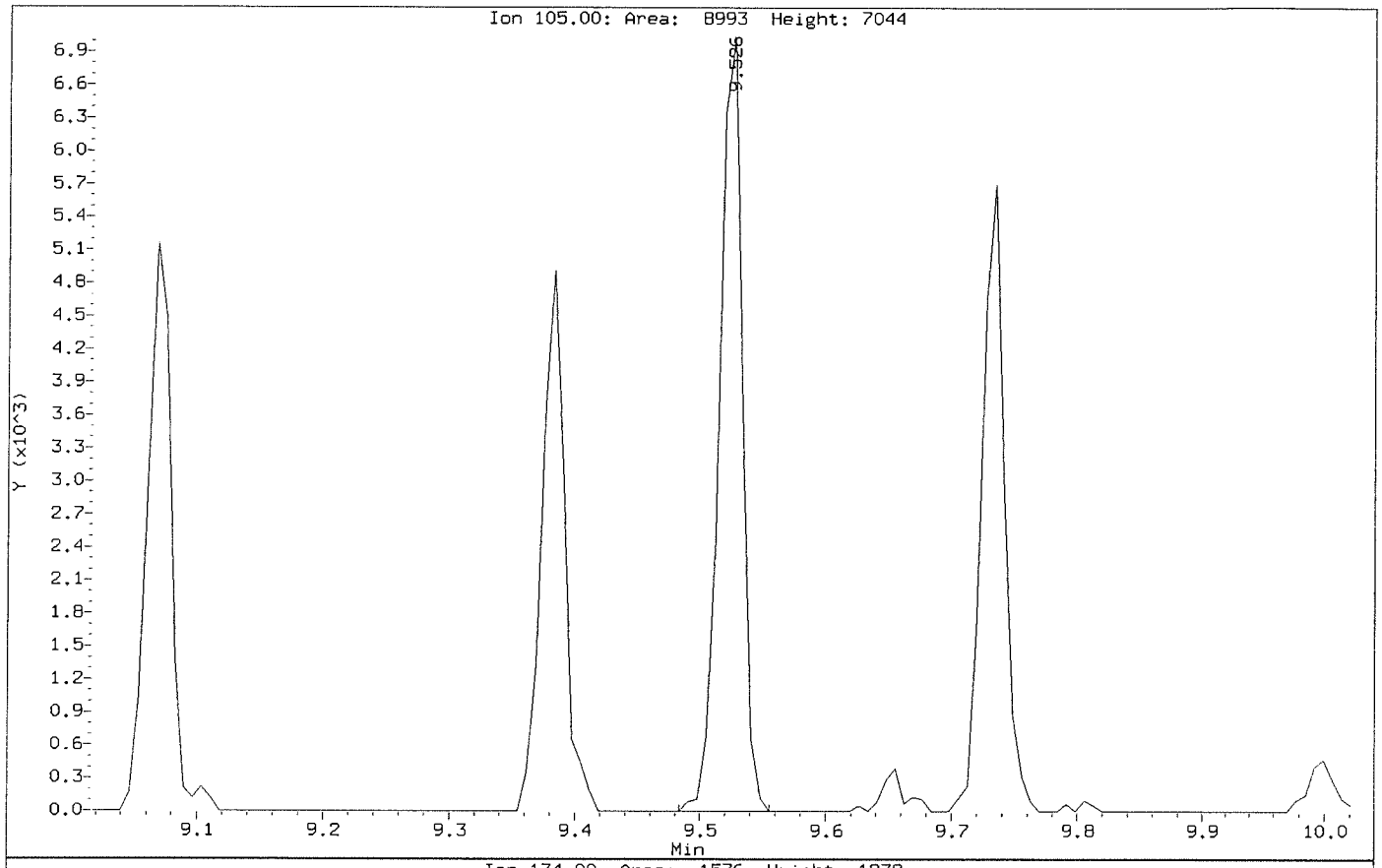
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

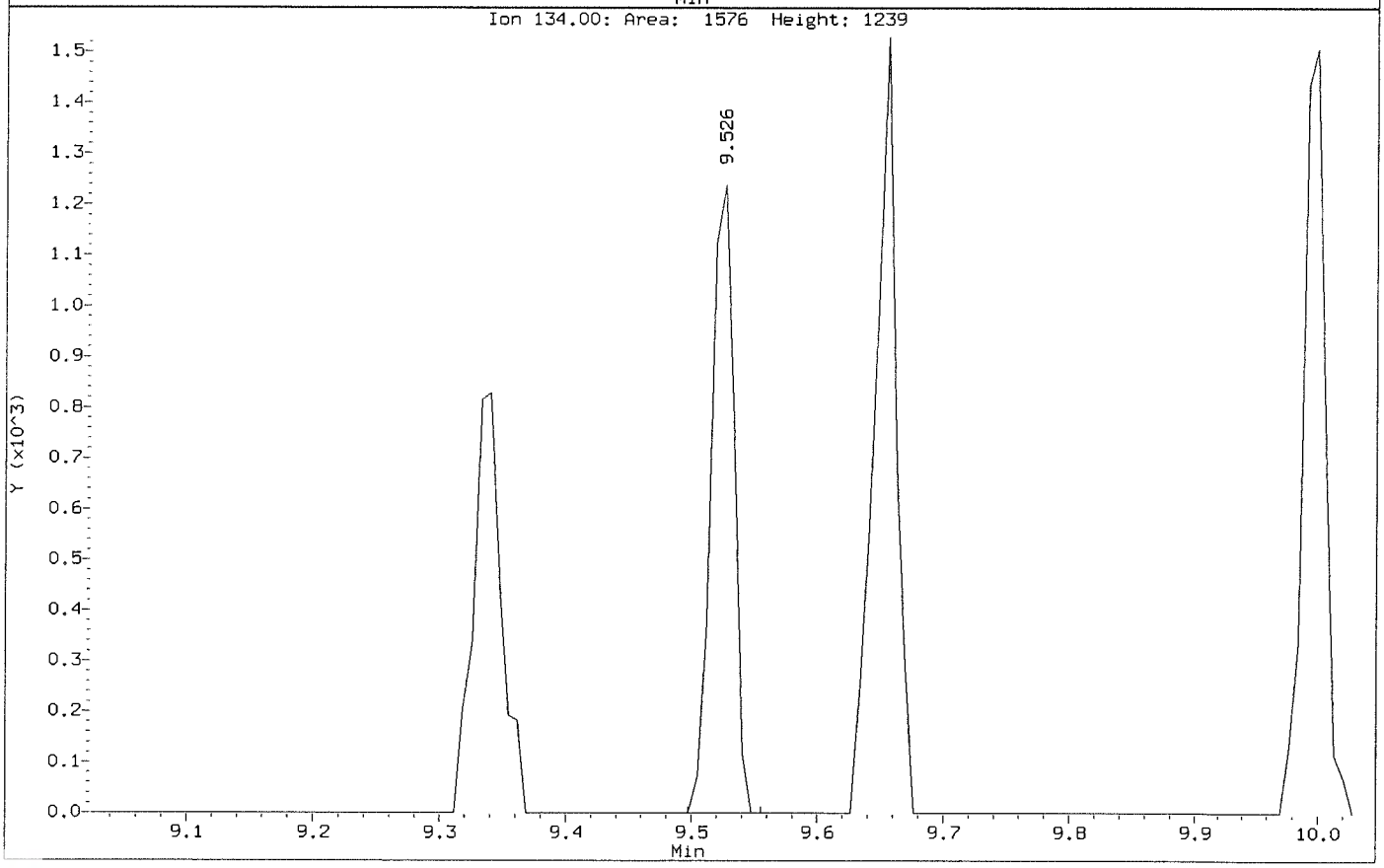
Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

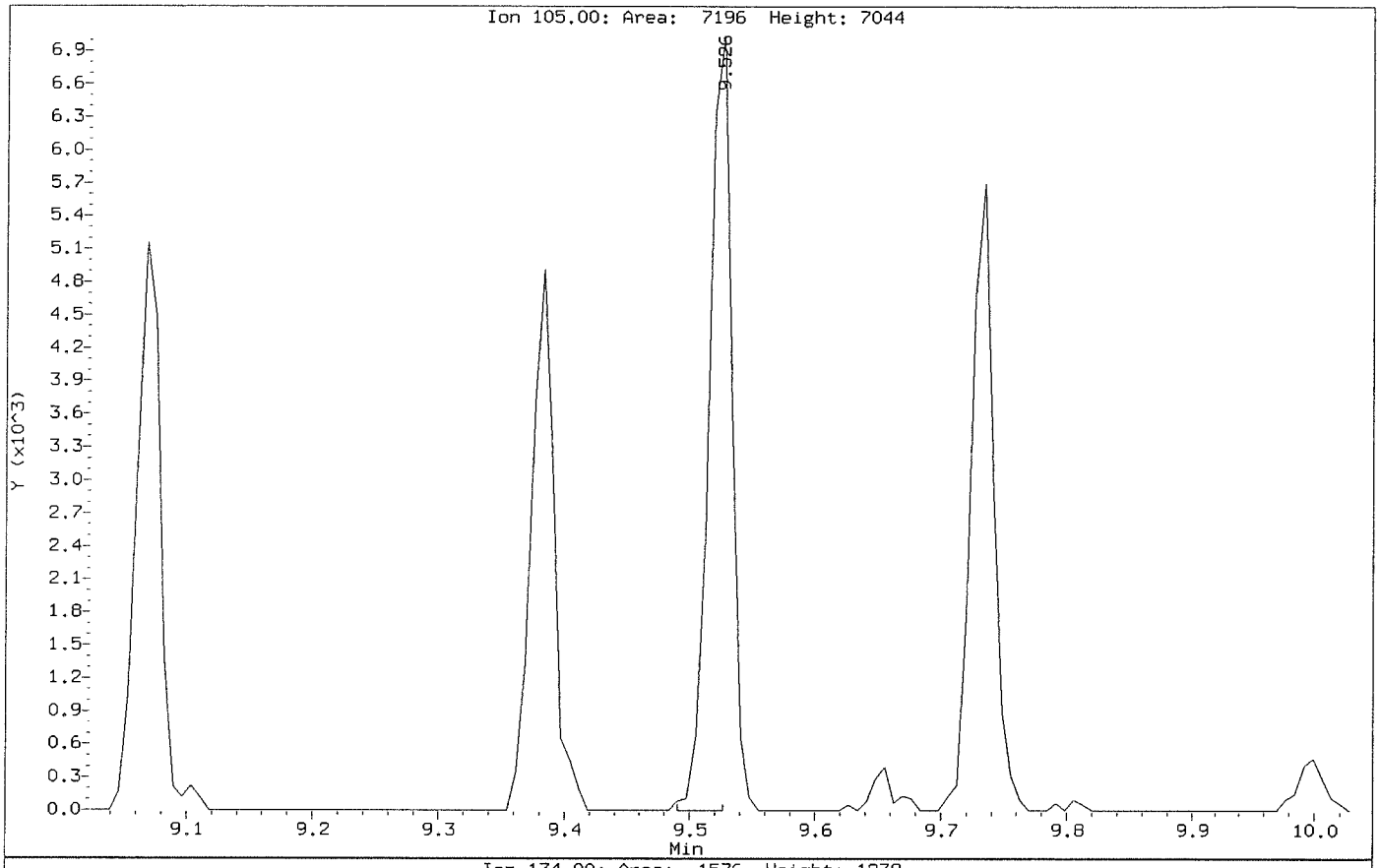
Compound: sec-Butylbenzene
CAS Number: 135-98-8

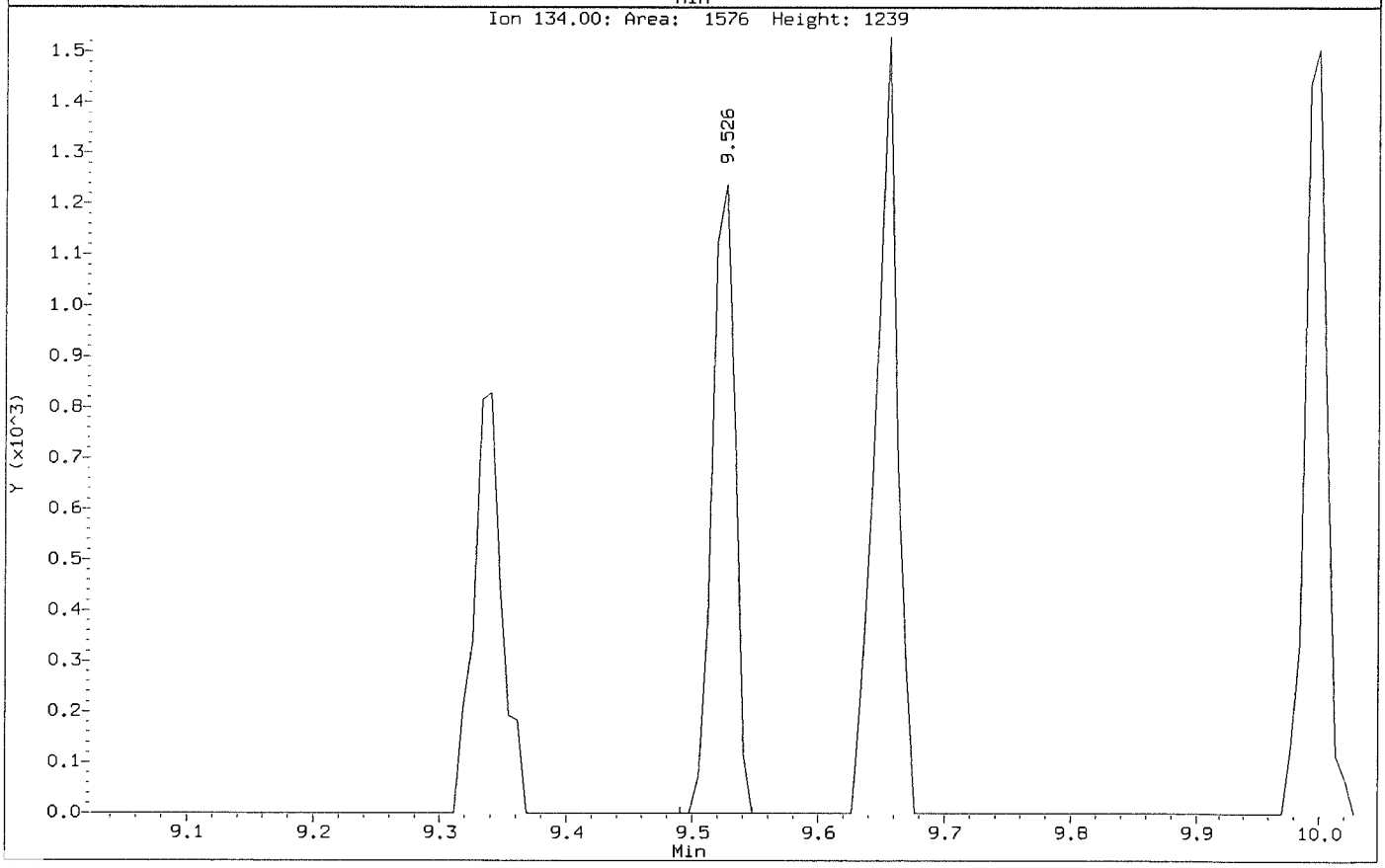




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

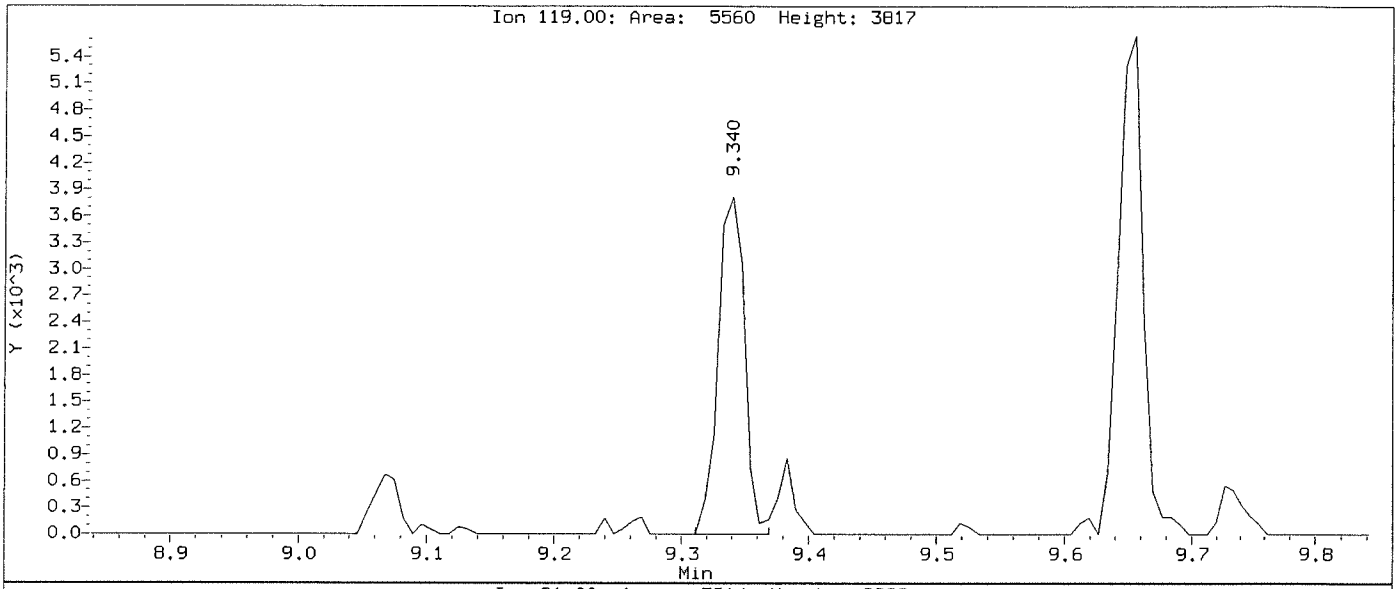
Compound: sec-Butylbenzene
CAS Number: 135-98-8

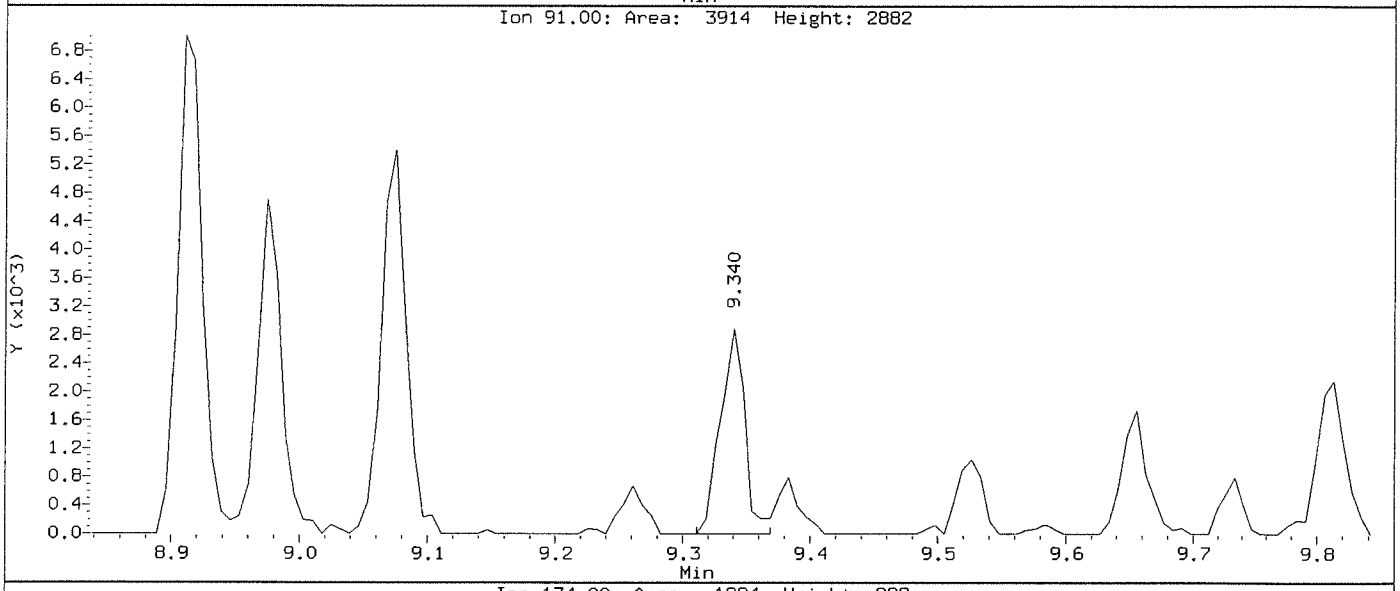


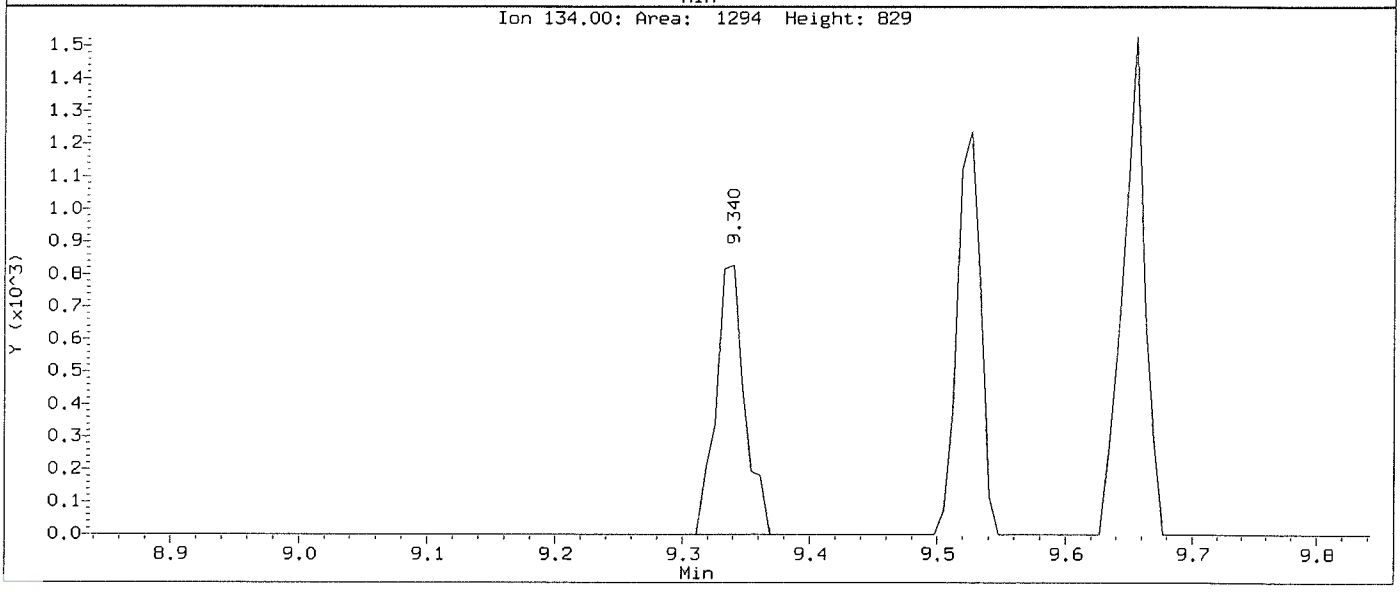


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: tert-Butylbenzene
CAS Number: 98-06-6

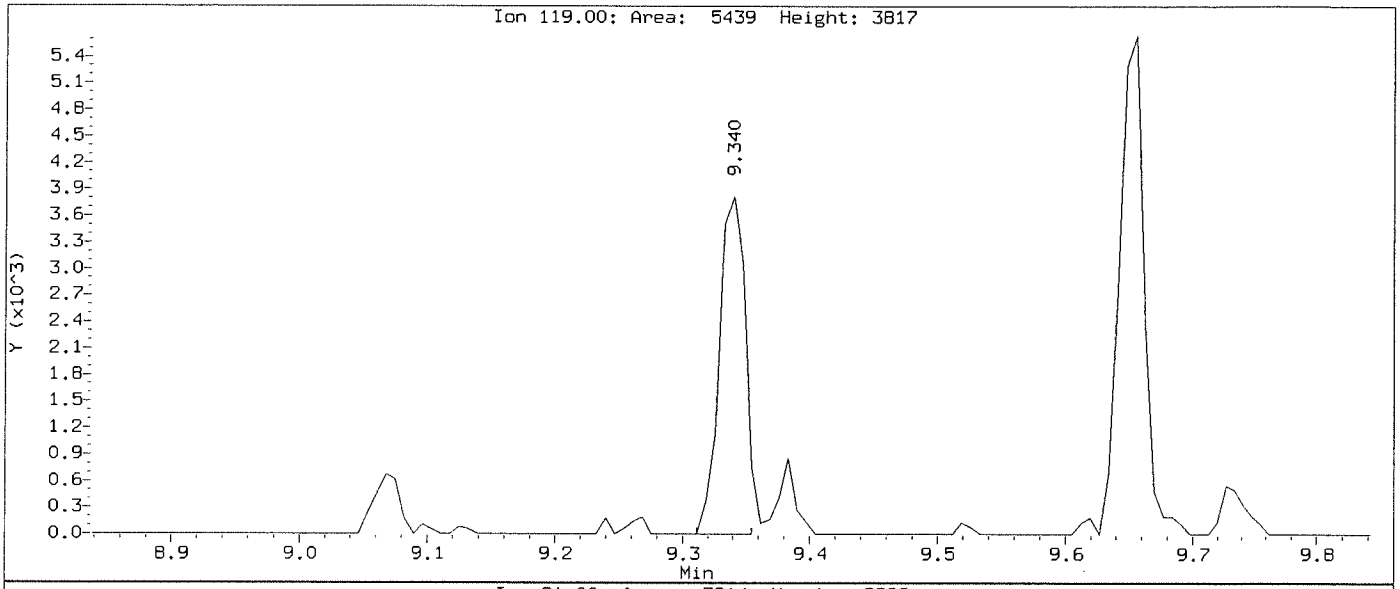


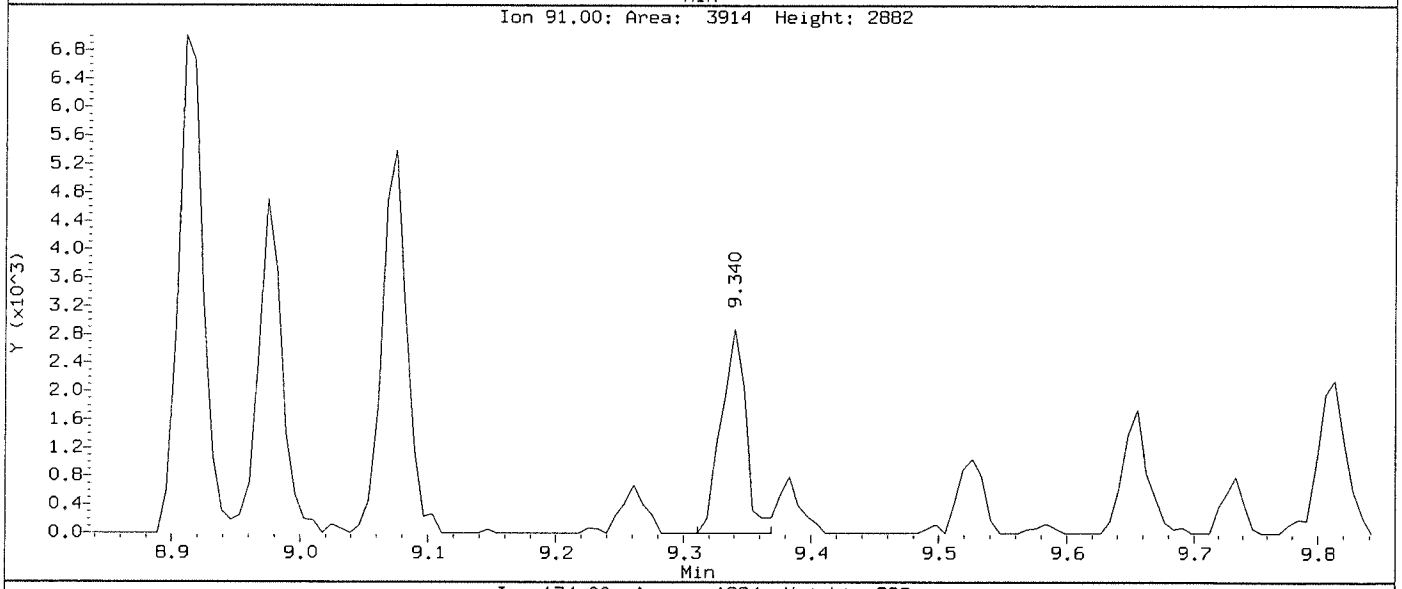


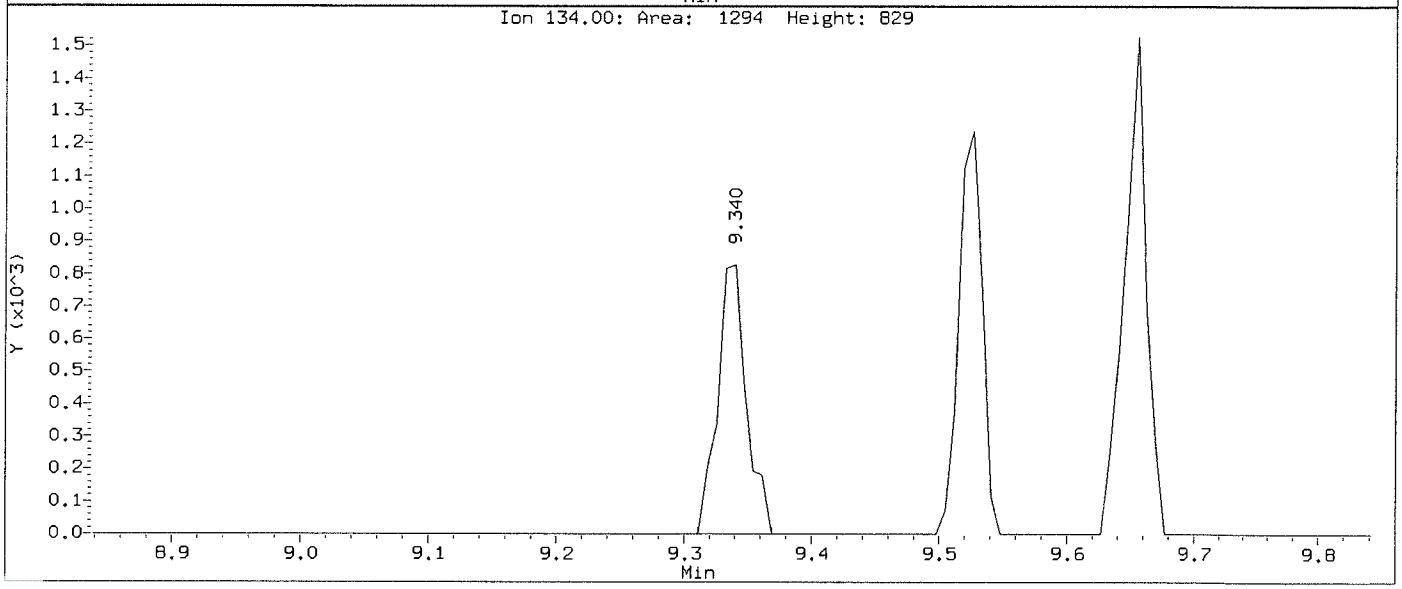


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: tert-Butylbenzene
CAS Number: 98-06-6

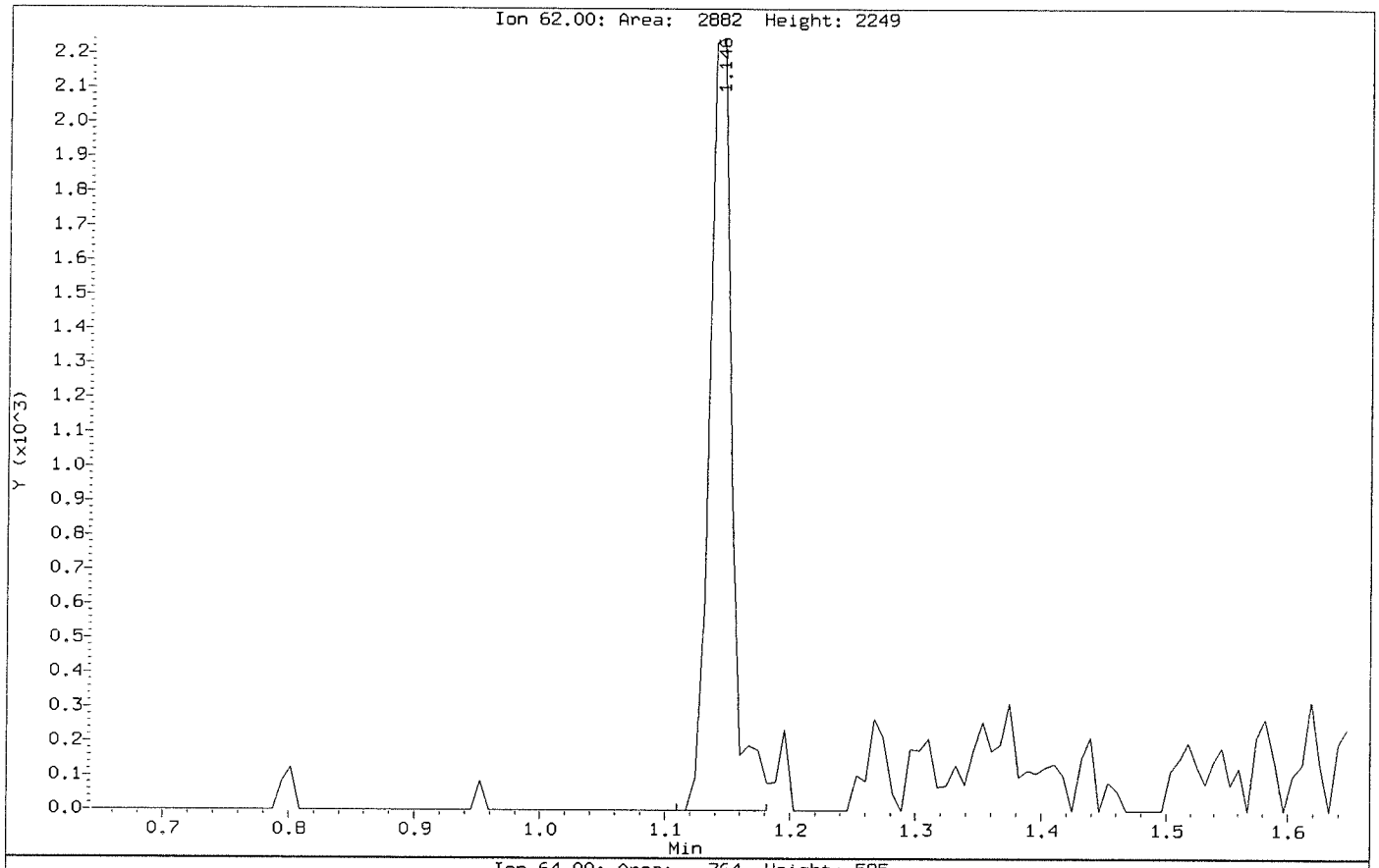


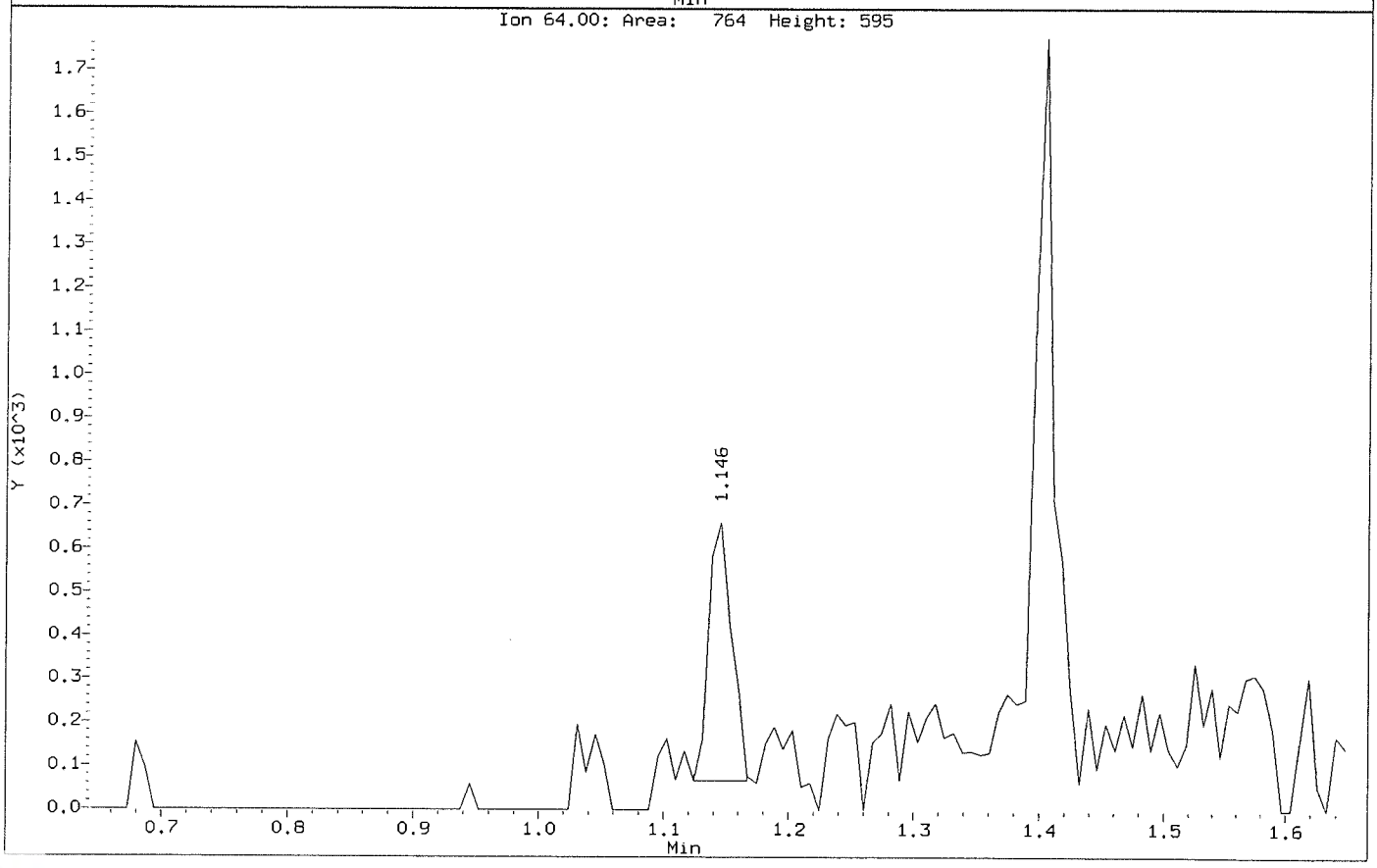




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

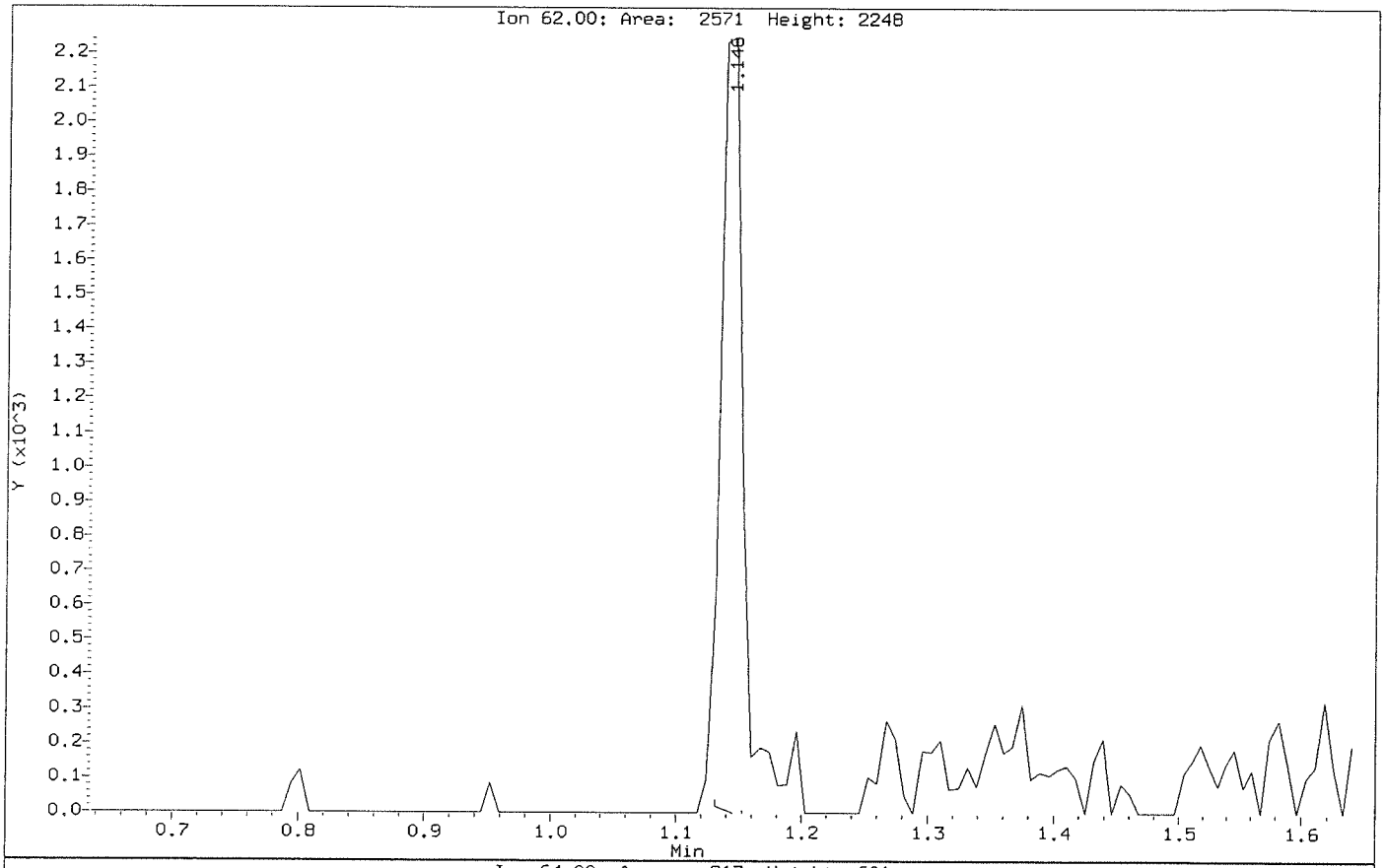
Compound: Vinyl Chloride
CAS Number: 75-01-4

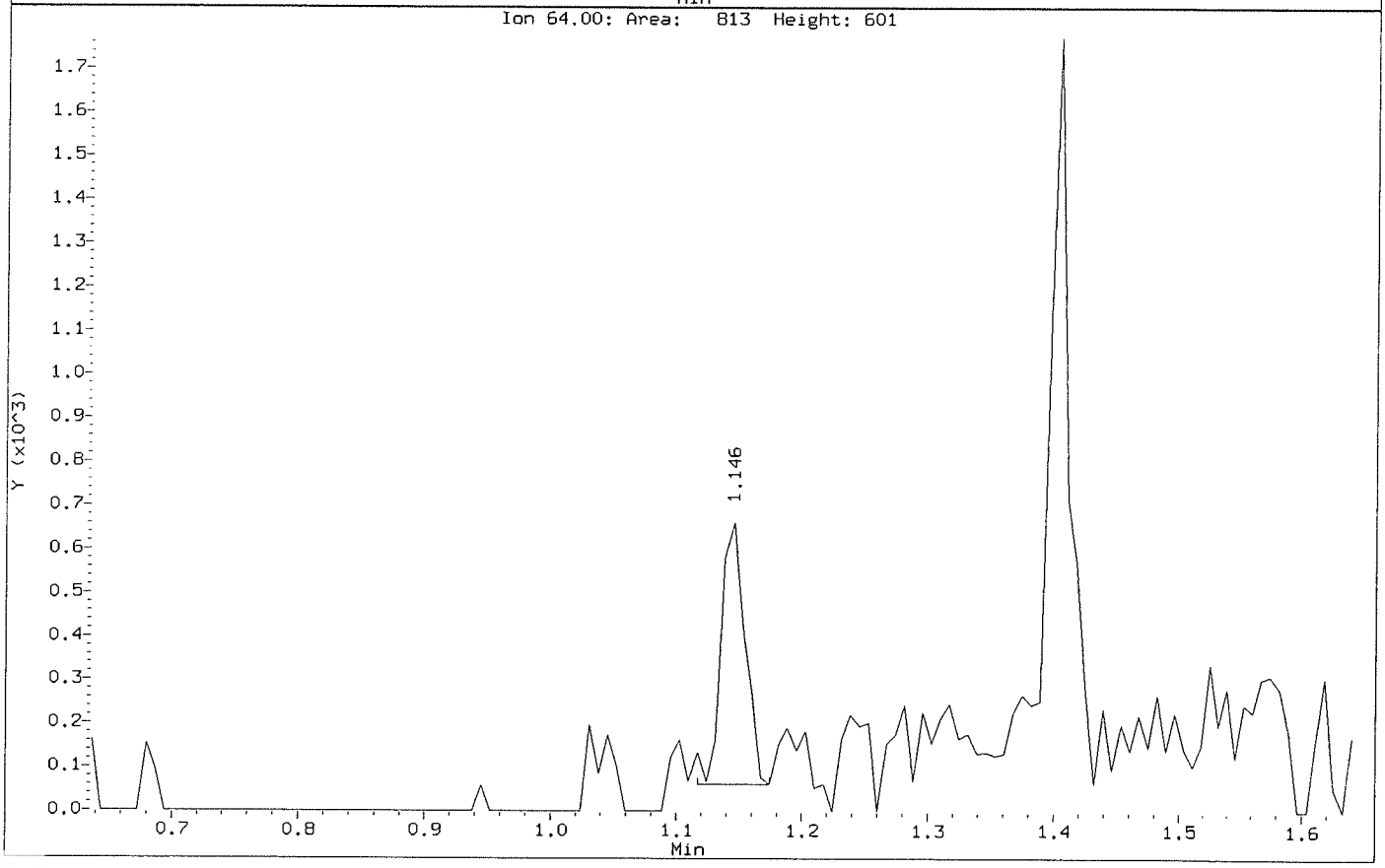




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 03-DEC-2020 12:04
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 11:22 Cal File: X120303.D
Als bottle: 5 Calibration Sample, Level: 3
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

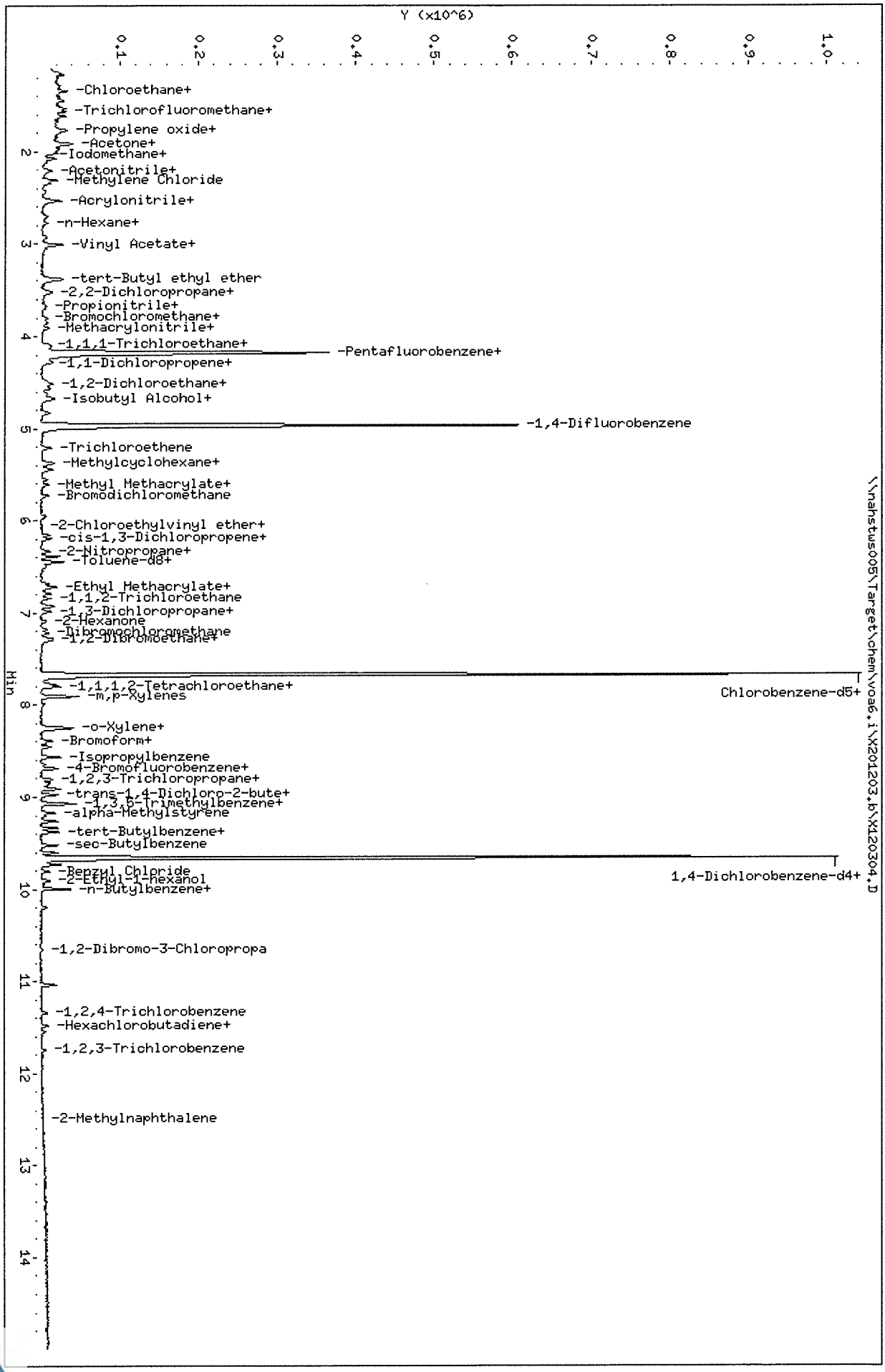
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	261739	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	475546	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	435056	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	197290	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	3334	1.00000	0.78(a)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	5576	1.00000	0.49(a)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	12569	1.00000	1.47(a)
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	5900	1.00000	1.18(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	3416	1.00000	1.08(a)
	31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	4828	1.00000	0.88(a)
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	4259	1.00000	1.06(aM)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	2767	1.00000	0.99(a)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	6721	1.00000	1.06(a)
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	3938	1.00000	0.99(a)
	32 1,1-Dichloropropene	75	4.275	4.275	(0.860)	4817	1.00000	1.04(a)
	93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	1277	1.00000	1.22(a)
	71 1,2,3-Trichloropropane	75	8.860	8.860	(0.917)	4854	1.00000	1.06(a)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	1709	1.00000	0.92(aM)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	10278	1.00000	0.95(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	469	1.00000	0.82(aM)
	57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	3562	1.00000	1.06(a)
	88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	5377	1.00000	0.94(a)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D Page 2
Report Date: 22-Dec-2020 16:32

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	5508	1.00000	1.02(a)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	3986	1.00000	1.11(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	10524	1.00000	0.95(a)
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	6202	1.00000	1.02(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	5222	1.00000	0.95(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	6618	1.00000	1.08(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	5972	1.00000	1.08(a)
24	2-Butanone	43	3.581	3.581	(0.856)	2133	2.00000	1.74(aM)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	9185	1.00000	0.97(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	4327	2.00000	1.98(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	11720	1.00000	1.01(a)
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	10981	1.00000	1.01(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	6518	2.00000	2.04(a)
10	Acetone	43	1.976	1.976	(0.473)	7661	2.00000	(a)
37	Benzene	78	4.519	4.519	(0.909)	13626	1.00000	1.05(a)
74	Bromobenzene	156	8.802	8.802	(0.911)	3517	1.00000	1.00(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	2113	1.00000	1.12(a)
39	Bromodichloromethane	83	5.722	5.722	(1.151)	4922	1.00000	1.00(aM)
66	Bromoform	173	8.416	8.416	(1.097)	1989	1.00000	1.00(Ta)
6	Bromomethane	94	1.338	1.338	(0.320)	4928	1.00000	1.46(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	16756	2.00000	1.93(aM)
34	Carbon Tetrachloride	117	4.261	4.261	(0.857)	2801	1.00000	0.72(a)
59	Chlorobenzene	112	7.692	7.692	(1.003)	9118	1.00000	1.02(a)
7	Chloroethane	64	1.403	1.403	(0.336)	2916	1.00000	0.93(a)
28	Chloroform	83	3.910	3.910	(0.935)	7037	1.00000	1.04(a)
3	Chloromethane	50	1.073	1.073	(0.257)	5480	1.00000	2.23(aM)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	3569	1.00000	0.96(a)
46	cis-1,3-Dichloropropene	75	6.152	6.152	(1.238)	6024	1.00000	0.98(a)
55	Dibromochloromethane	129	7.184	7.184	(0.937)	3496	1.00000	0.99(a)
44	Dibromomethane	93	5.550	5.550	(1.117)	2470	1.00000	1.02(a)
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	3828	1.00000	3.66(a)
61	Ethylbenzene	106	7.800	7.800	(1.017)	4386	1.00000	1.00(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	1259	1.00000	3.17(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	13128	1.00000	0.97(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	10828	2.00000	1.89(a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	3605	1.00000	1.02(a)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	10432	1.00000	2.50(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	14948	1.00000	0.94(a)
92	Naphthalene	128	11.546	11.546	(1.195)	3806	1.00000	1.19(aM)
63	o-Xylene	106	8.244	8.244	(1.075)	5051	1.00000	0.90(a)
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	12535	1.00000	0.98(a)
64	Styrene	104	8.258	8.258	(1.077)	8698	1.00000	0.92(a)
78	tert-Butylbenzene	119	9.332	9.332	(0.966)	8623	1.00000	0.97(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	2879	1.00000	1.18(a)
50	Toluene	91	6.446	6.446	(0.840)	13593	1.00000	1.00(a)
20	trans-1,2-Dichloroethene	96	2.542	2.542	(0.608)	3047	1.00000	0.97(a)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	5081	1.00000	0.95(a)
38	Trichloroethene	130	5.207	5.207	(1.048)	3833	1.00000	1.10(a)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	7812	1.00000	1.03(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	4787	1.00000	1.03(aM)

QC Flag Legend

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

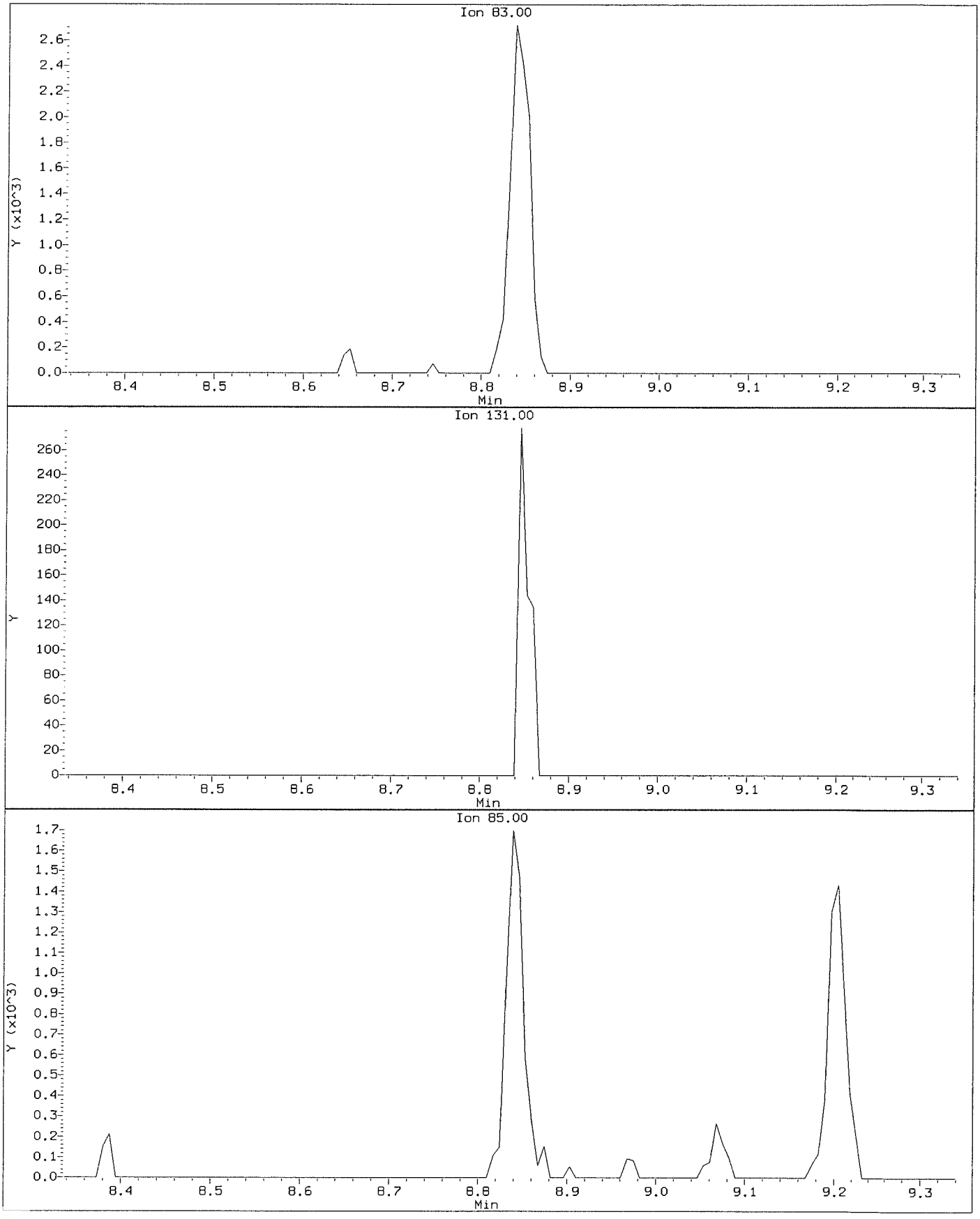


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Date : 03-DEC-2020 12:04
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

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

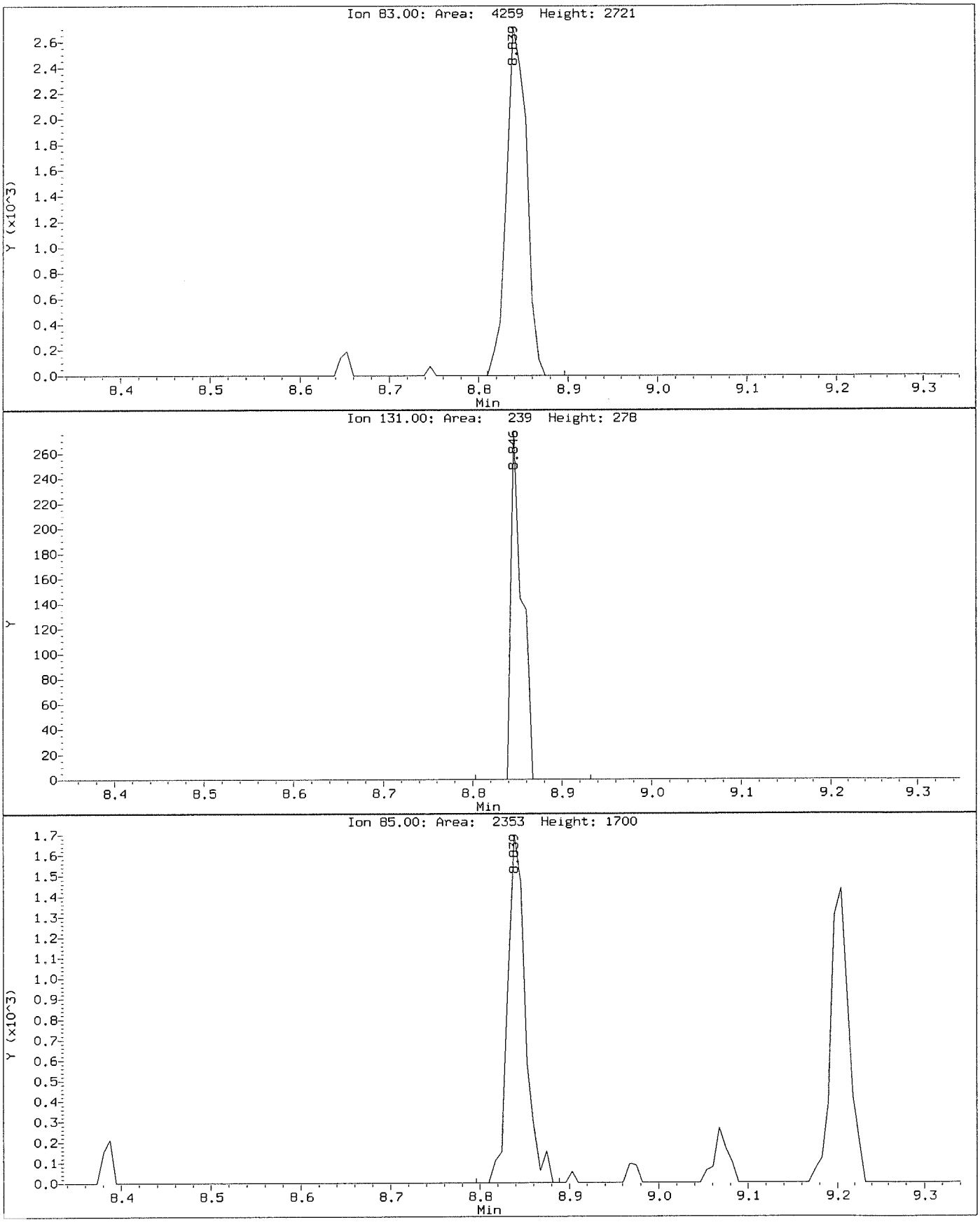
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



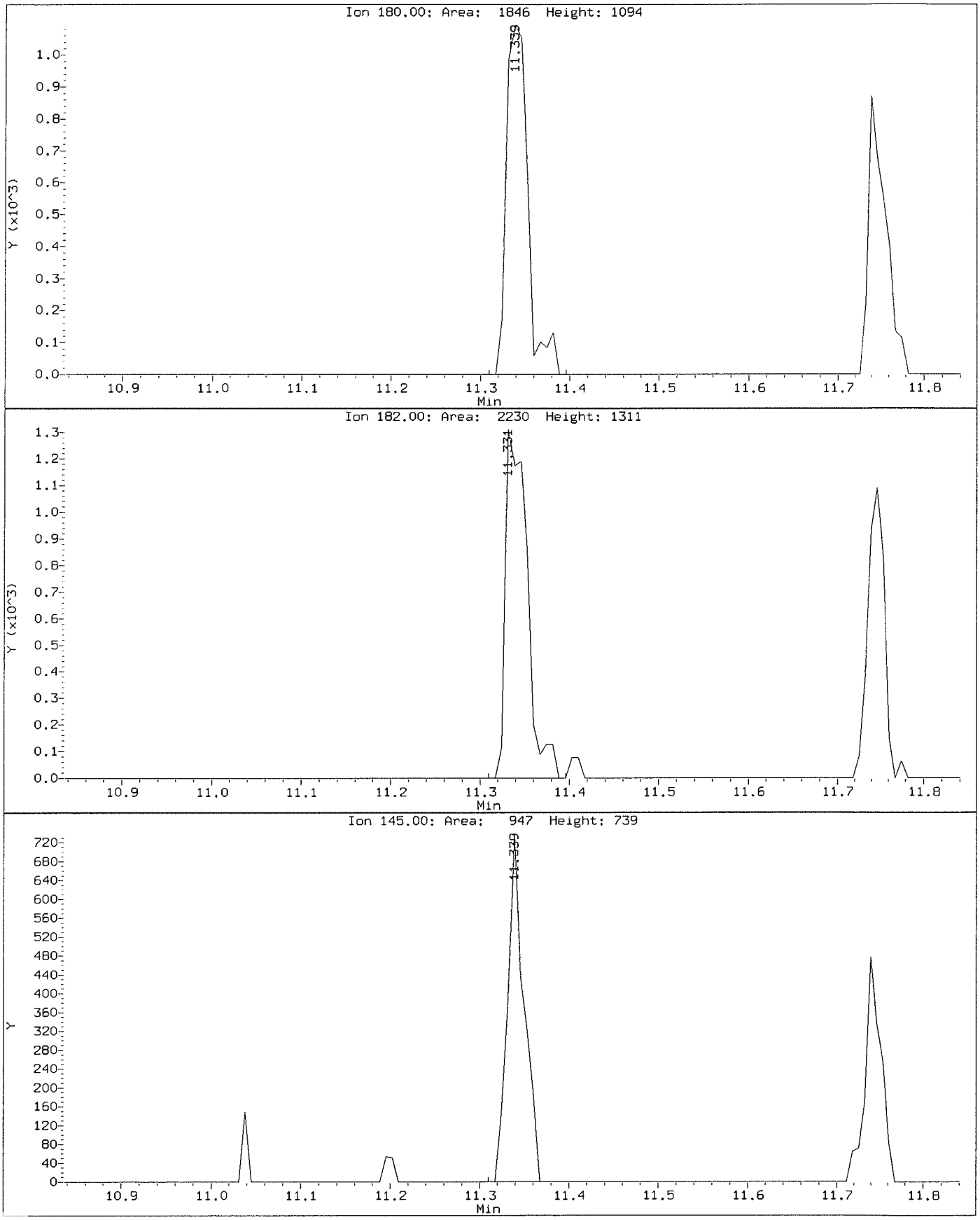
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



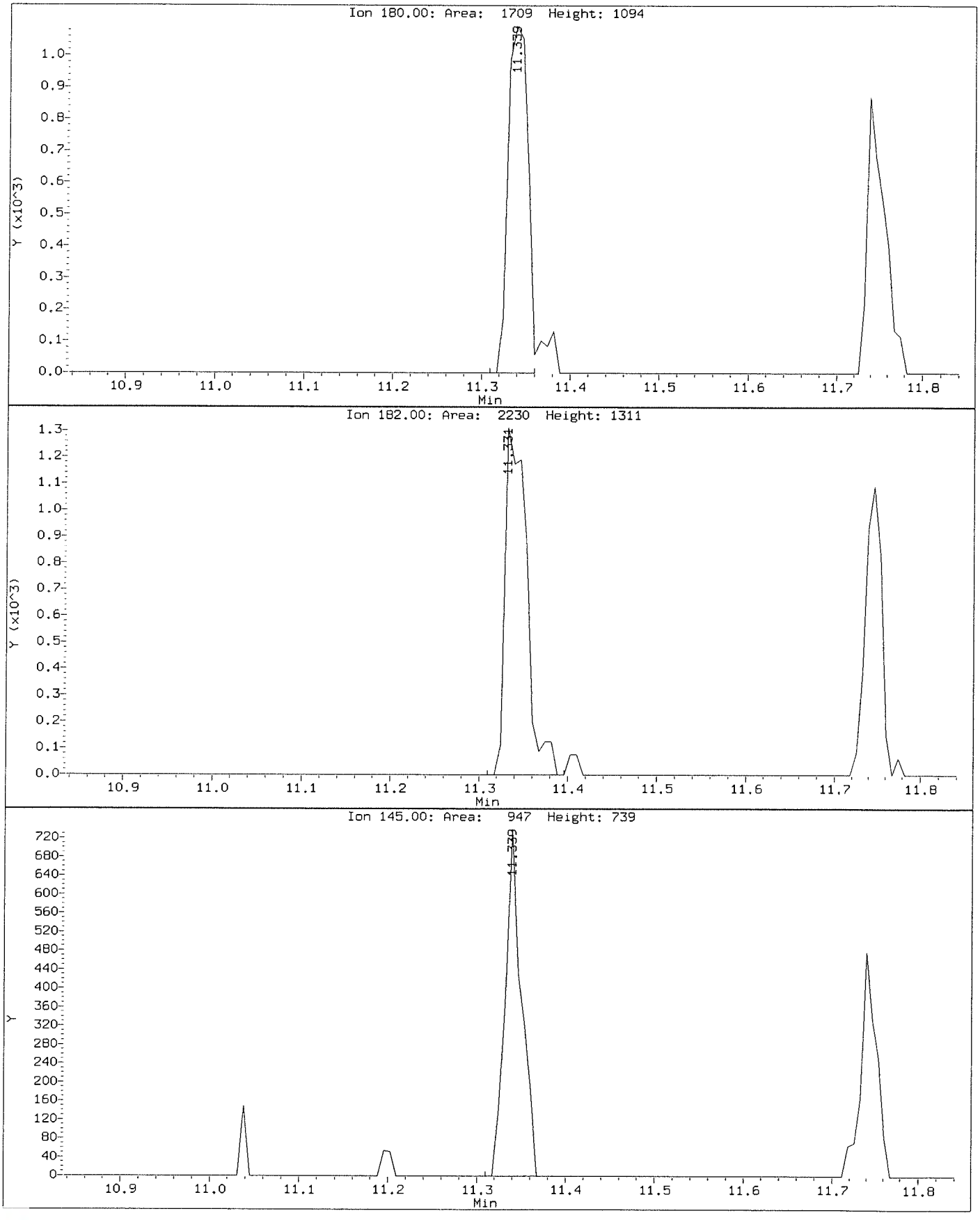
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



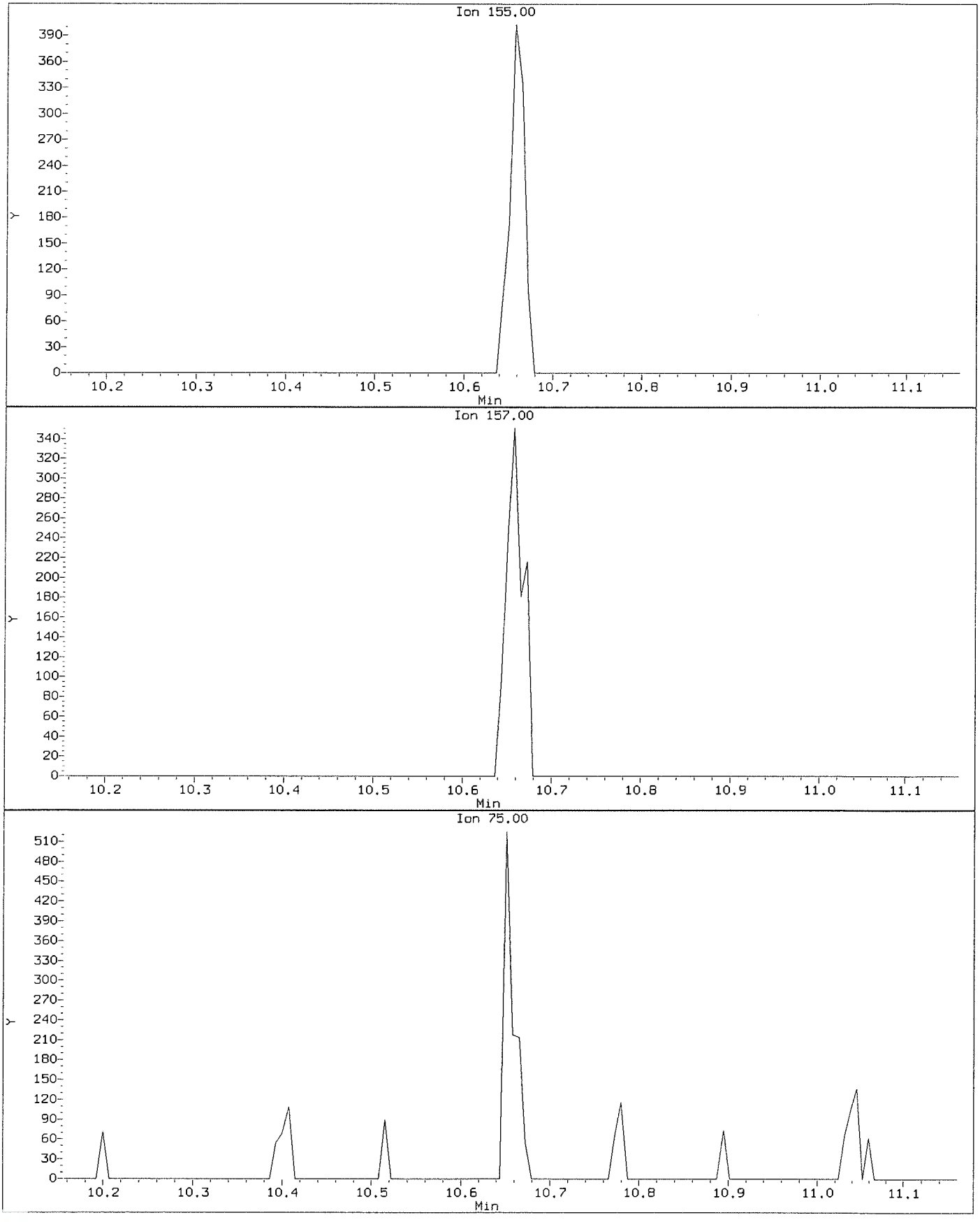
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



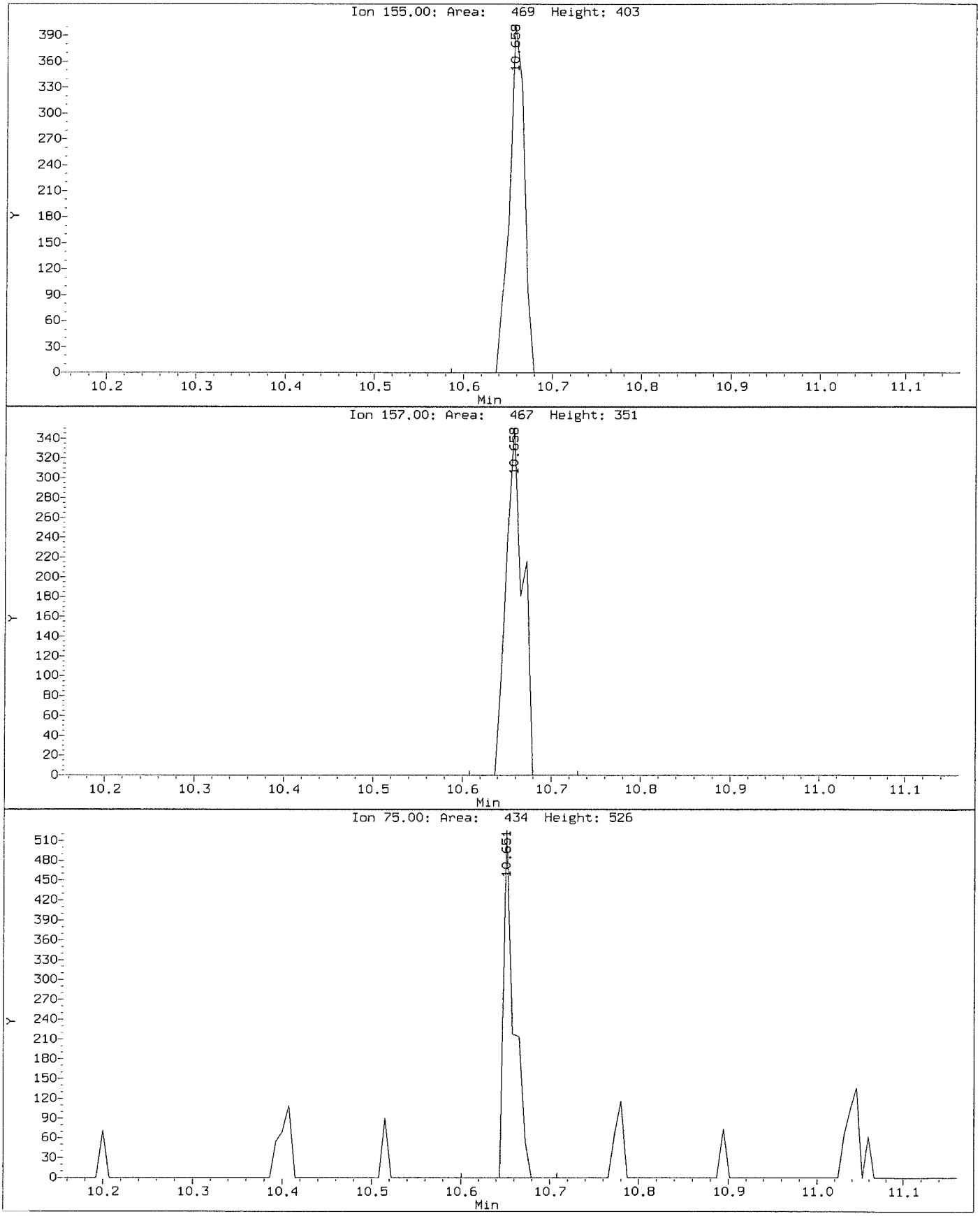
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



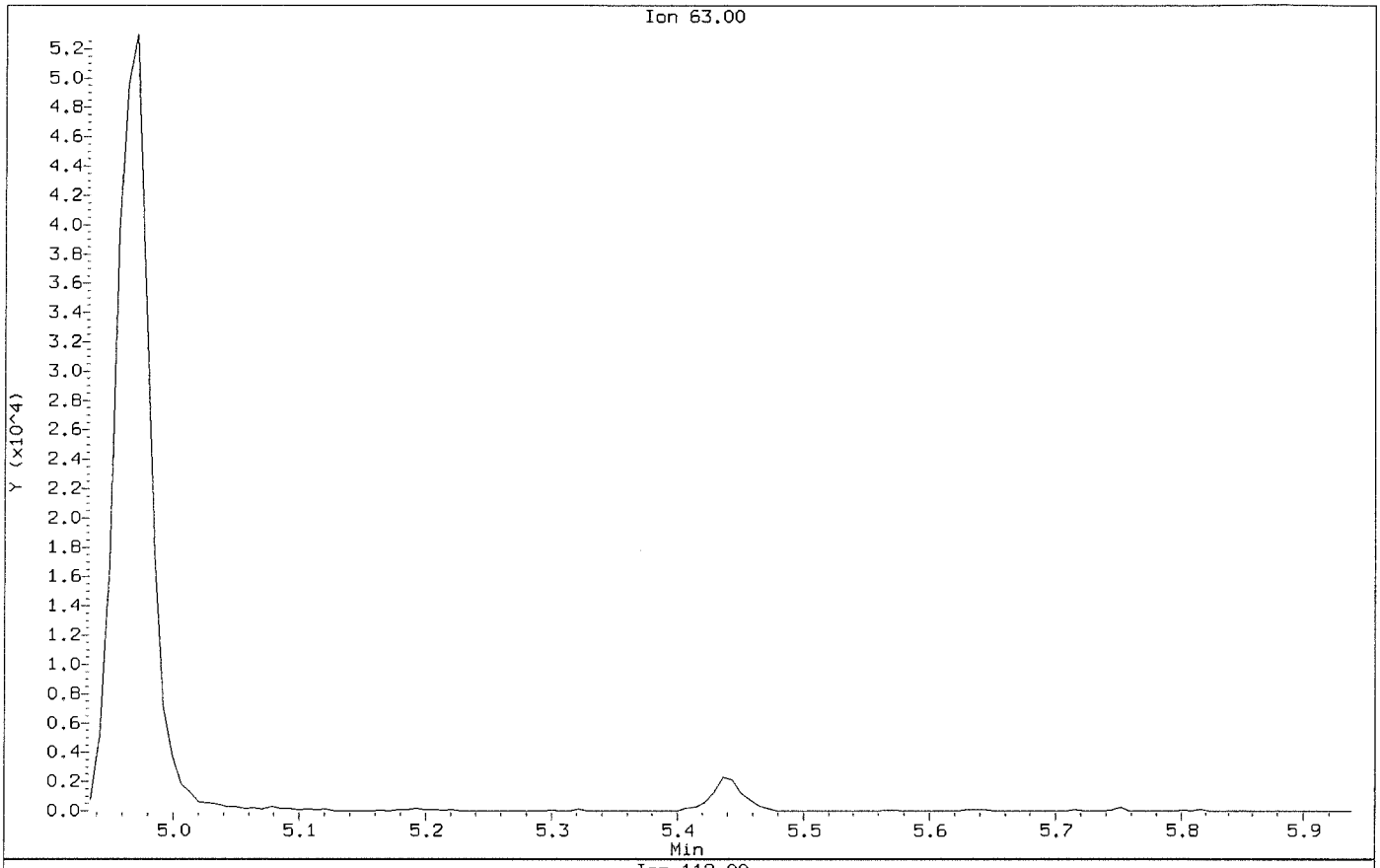
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

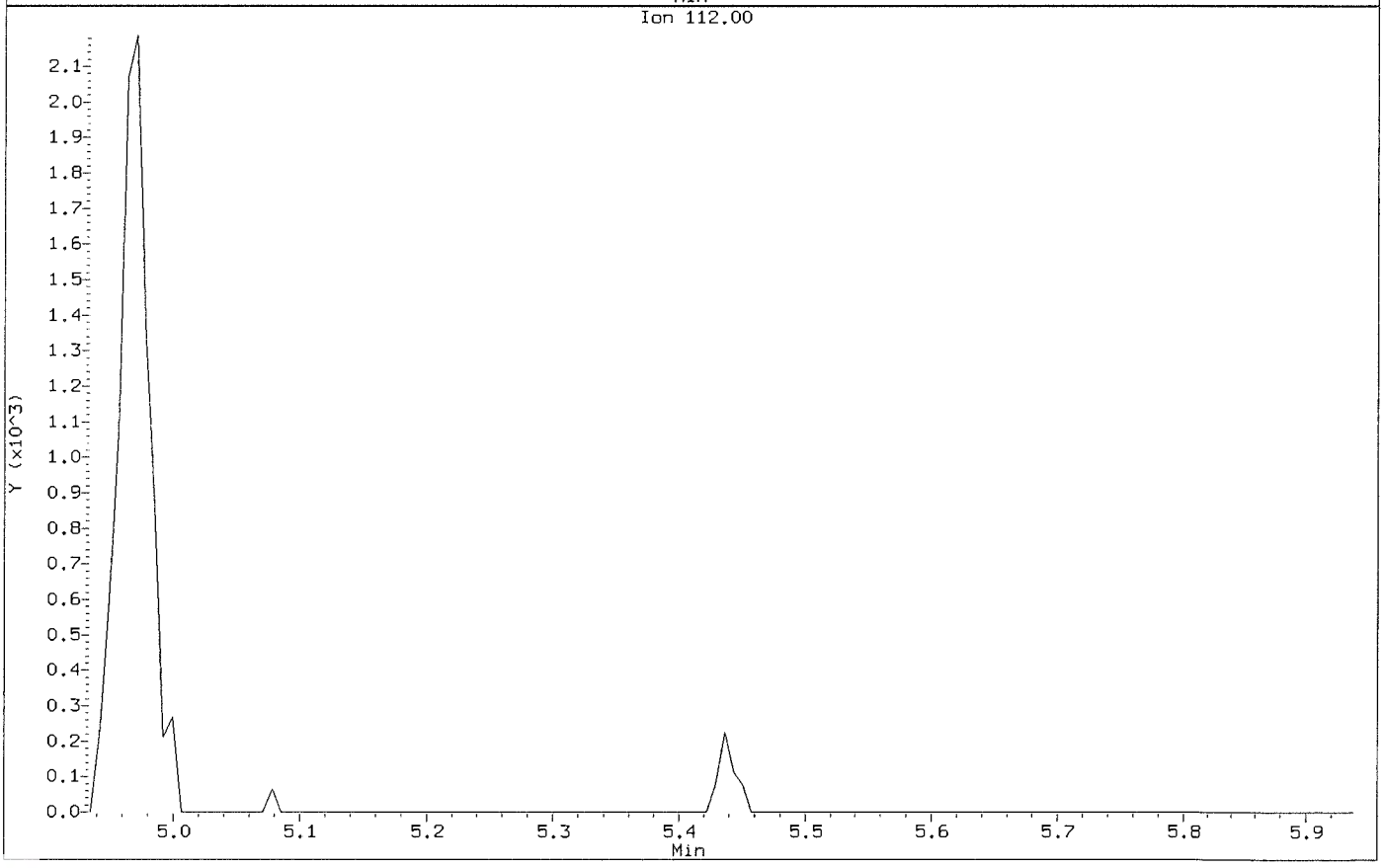
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

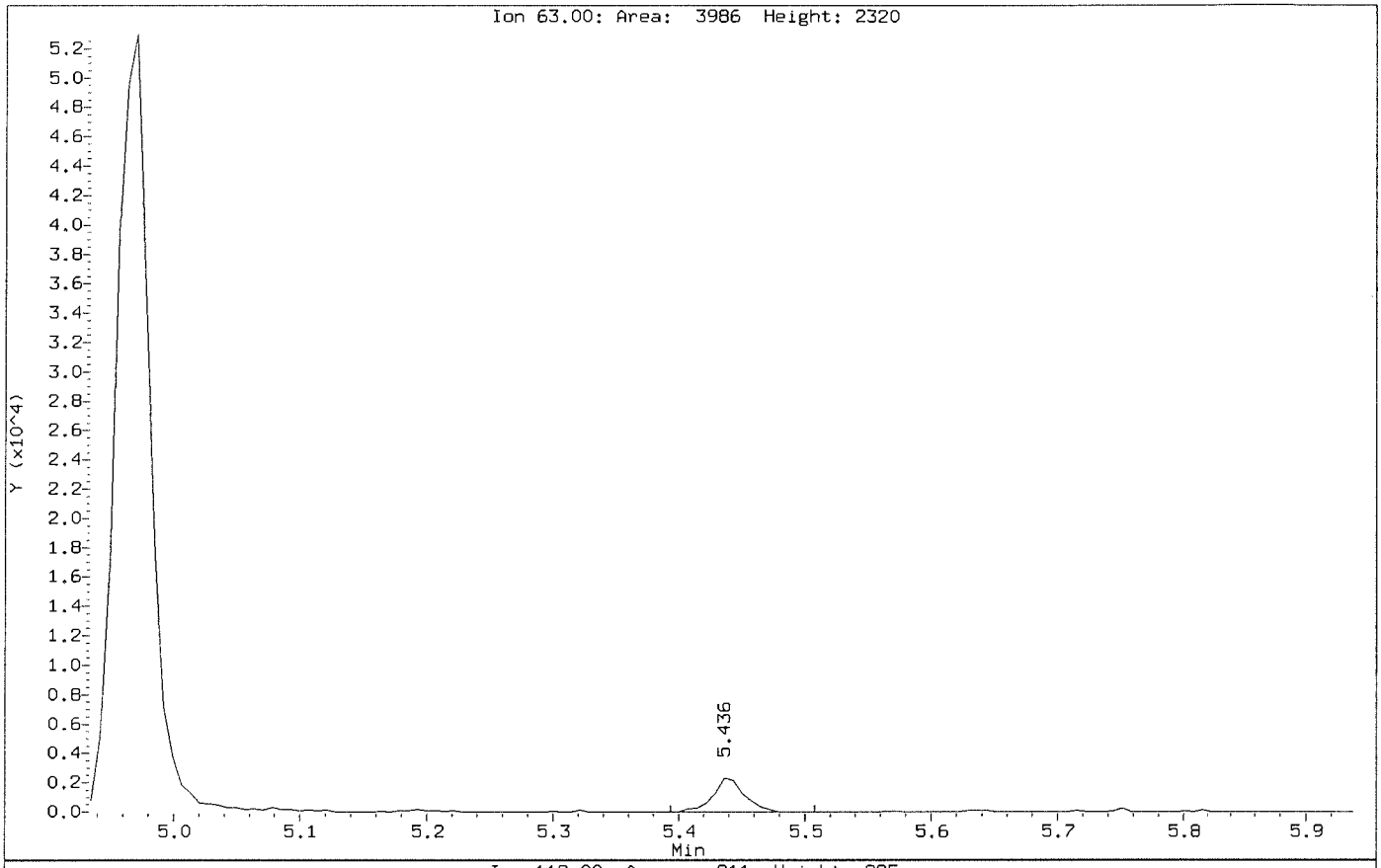
Compound: 1.2-Dichloropropane
CAS Number: 78-87-5

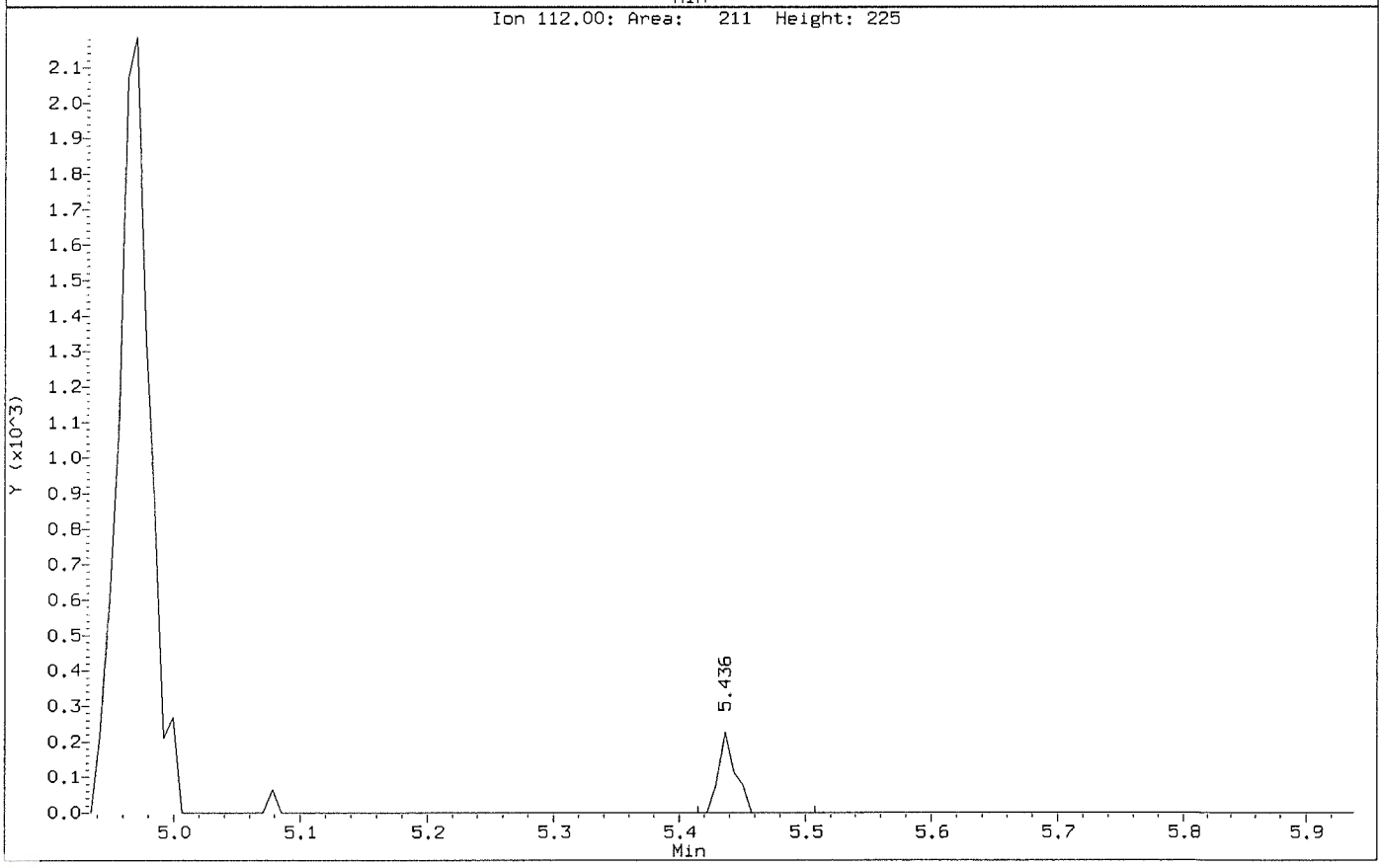




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

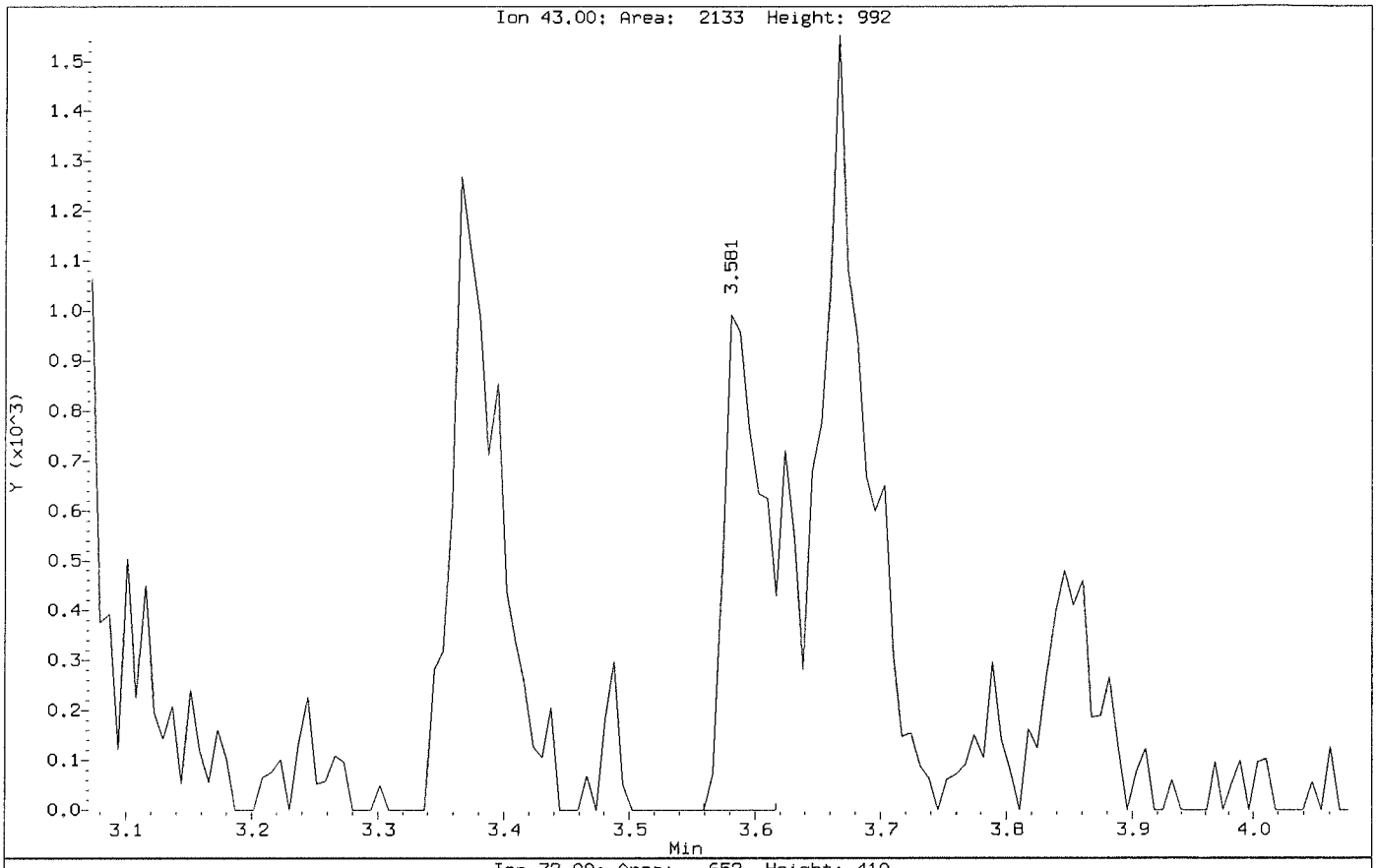
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

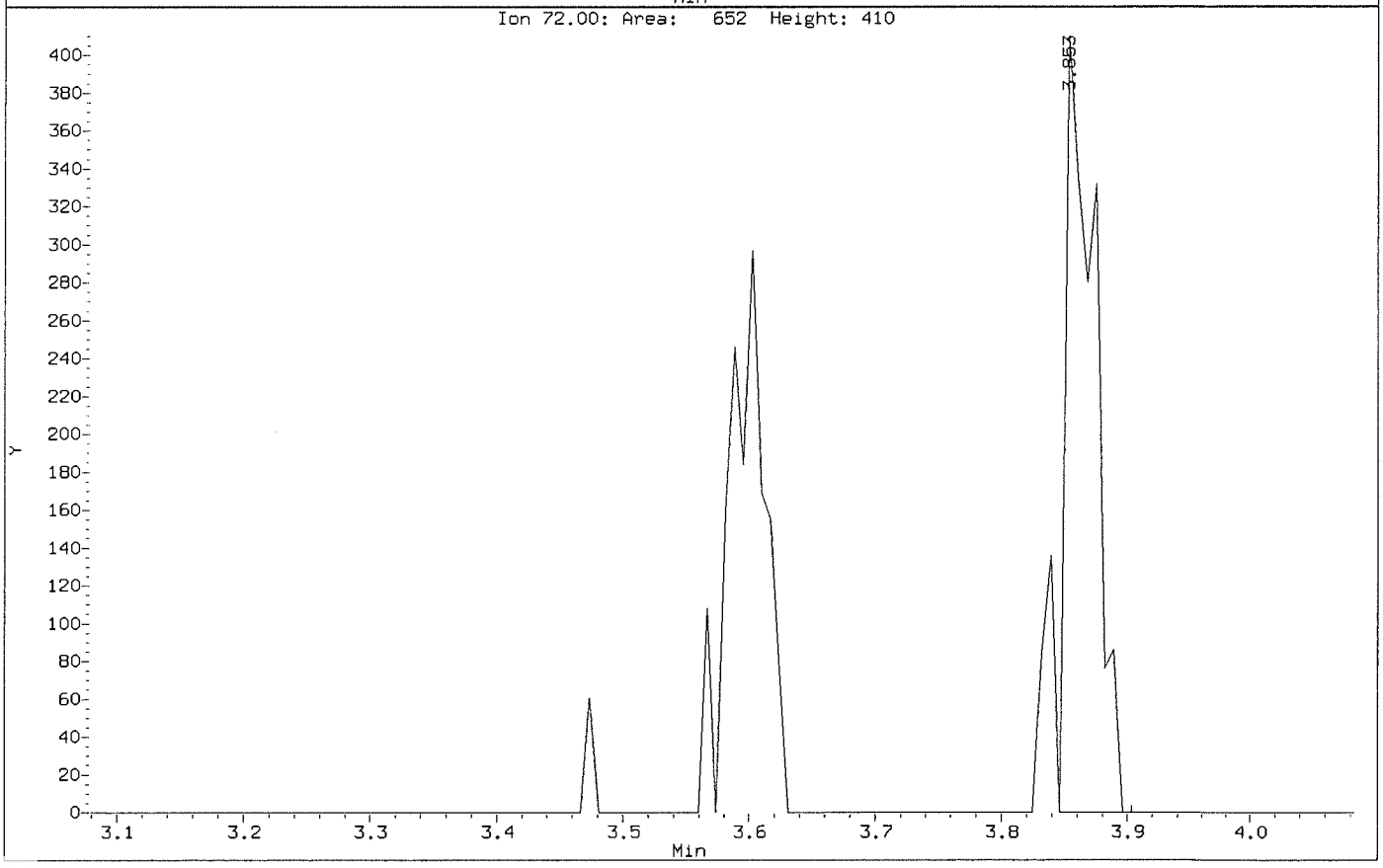




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

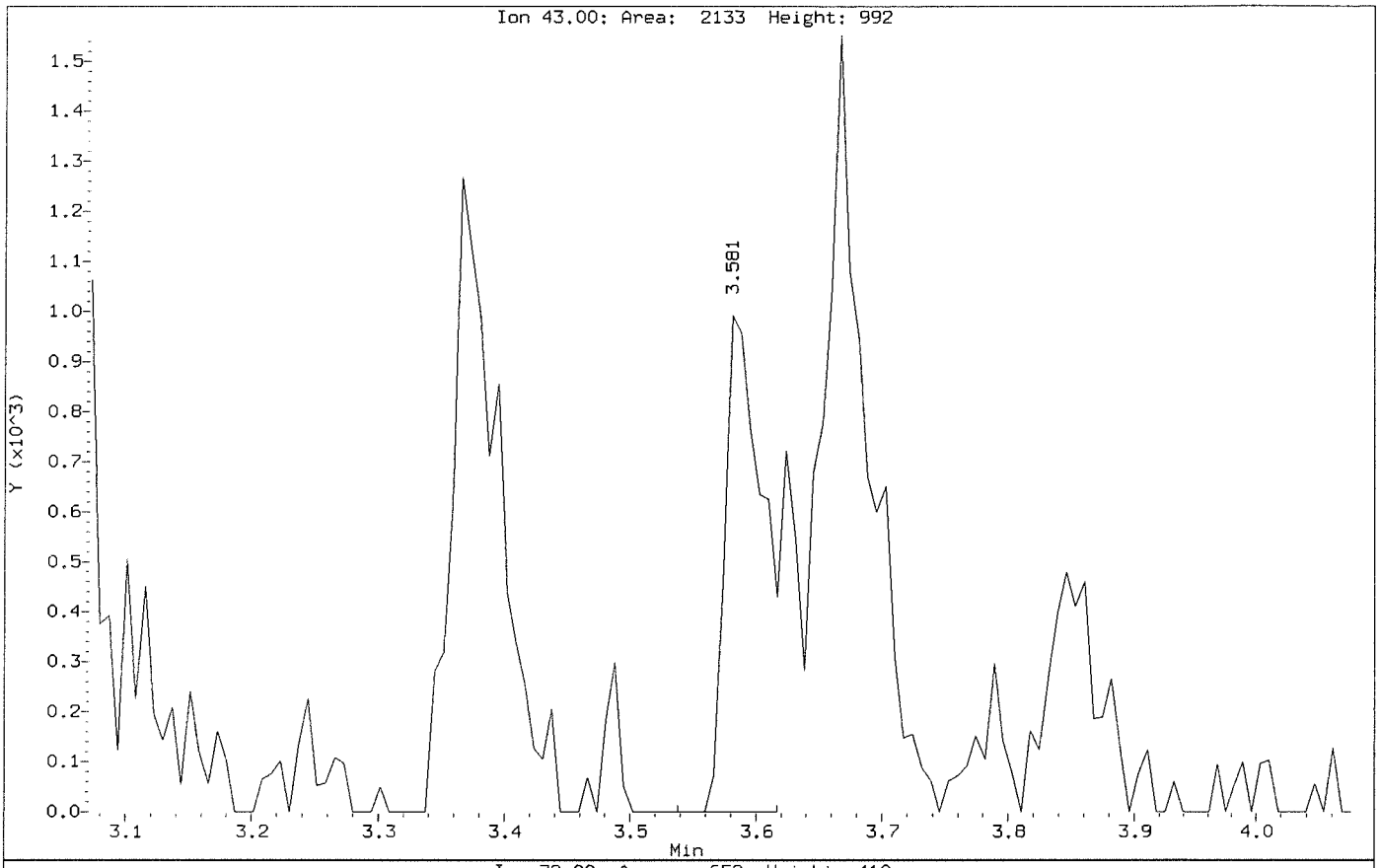
Compound: 2-Butanone
CAS Number: 78-93-3

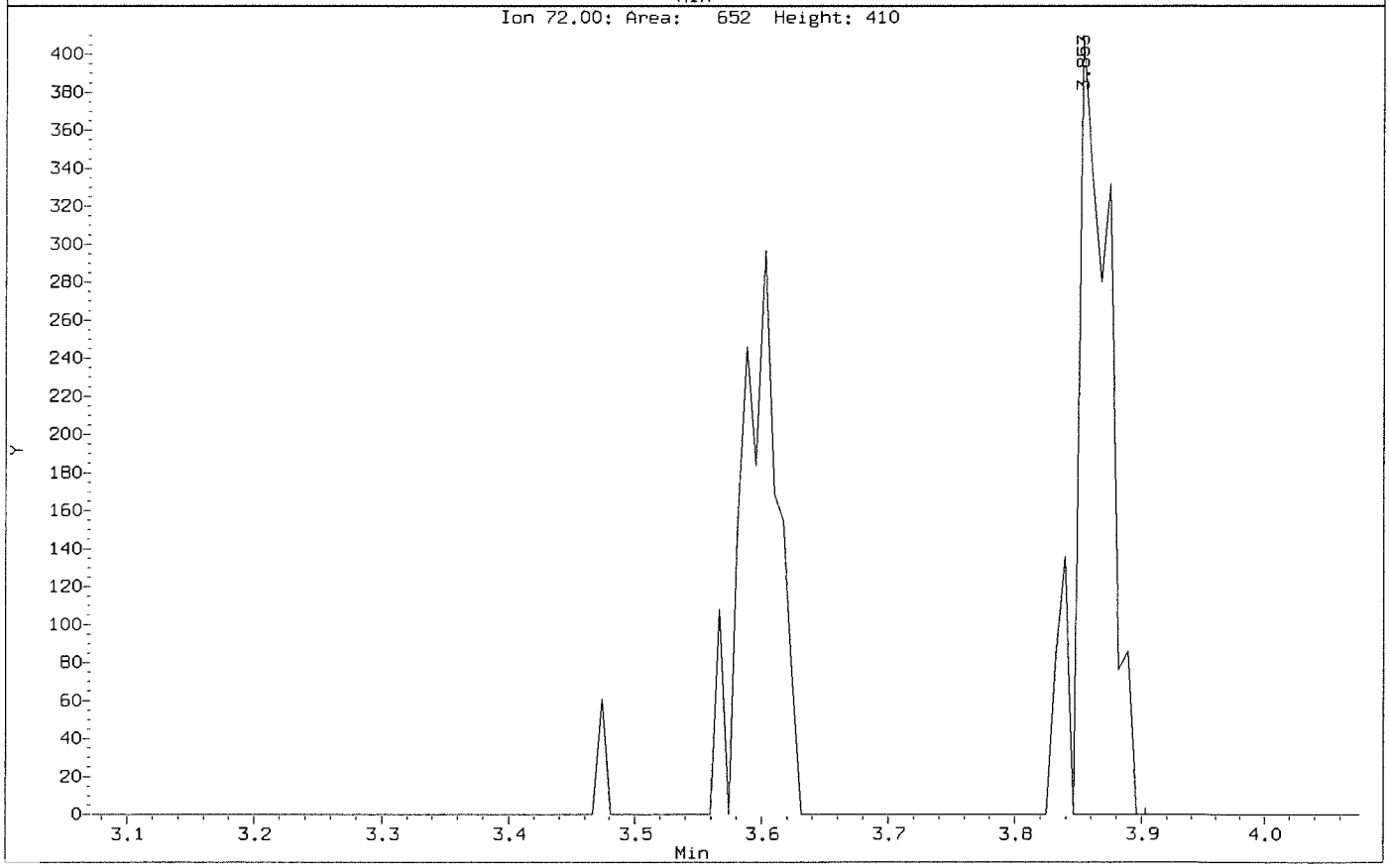




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

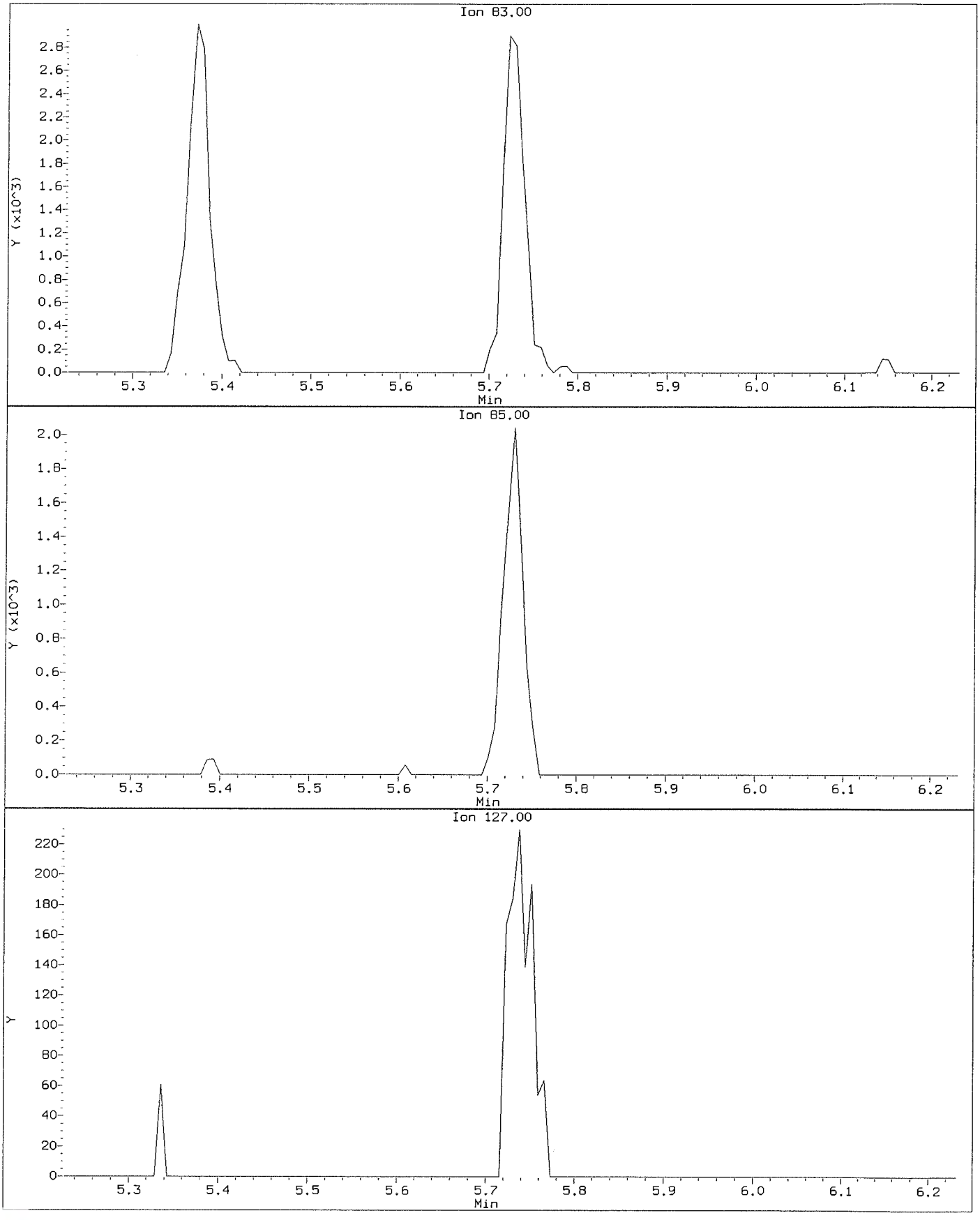
Compound: 2-Butanone
CAS Number: 78-93-3





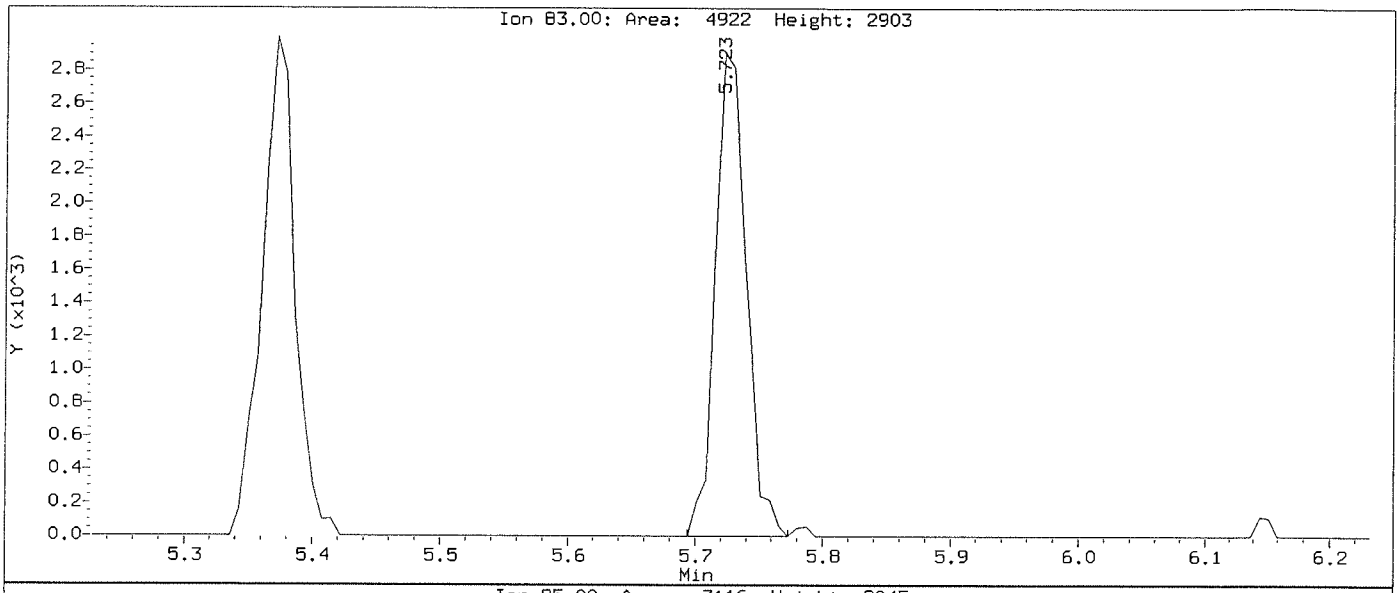
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

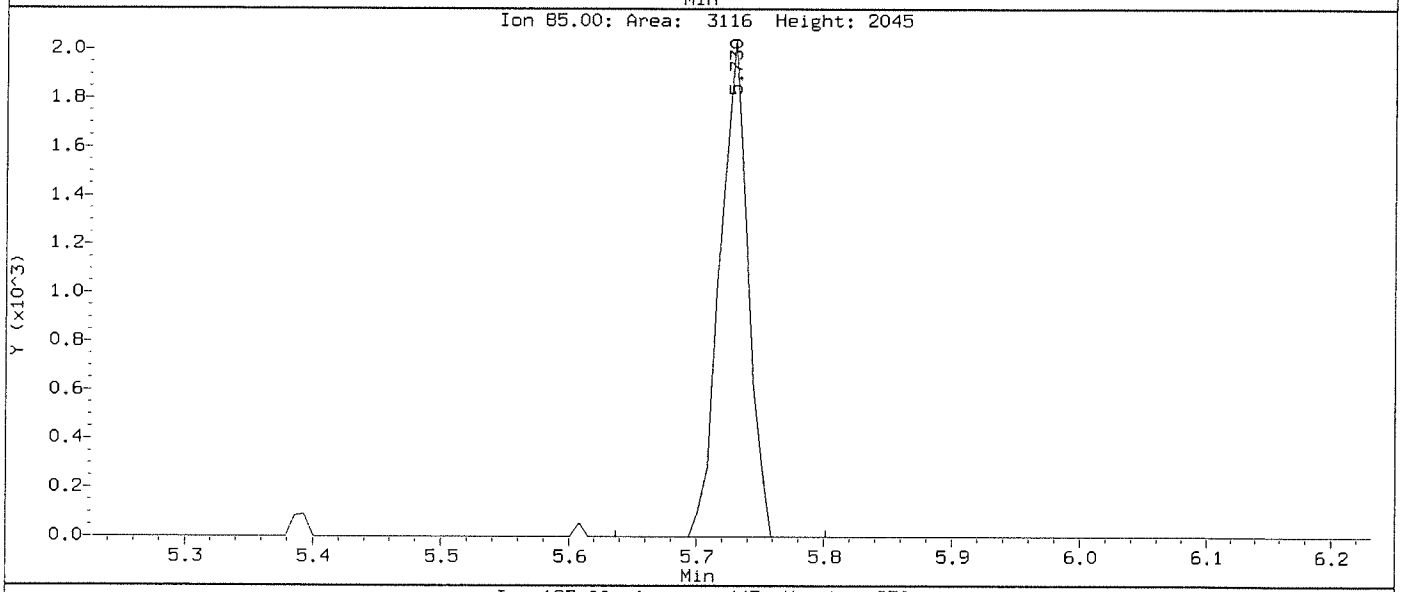
Compound: Bromodichloromethane
CAS Number: 75-27-4

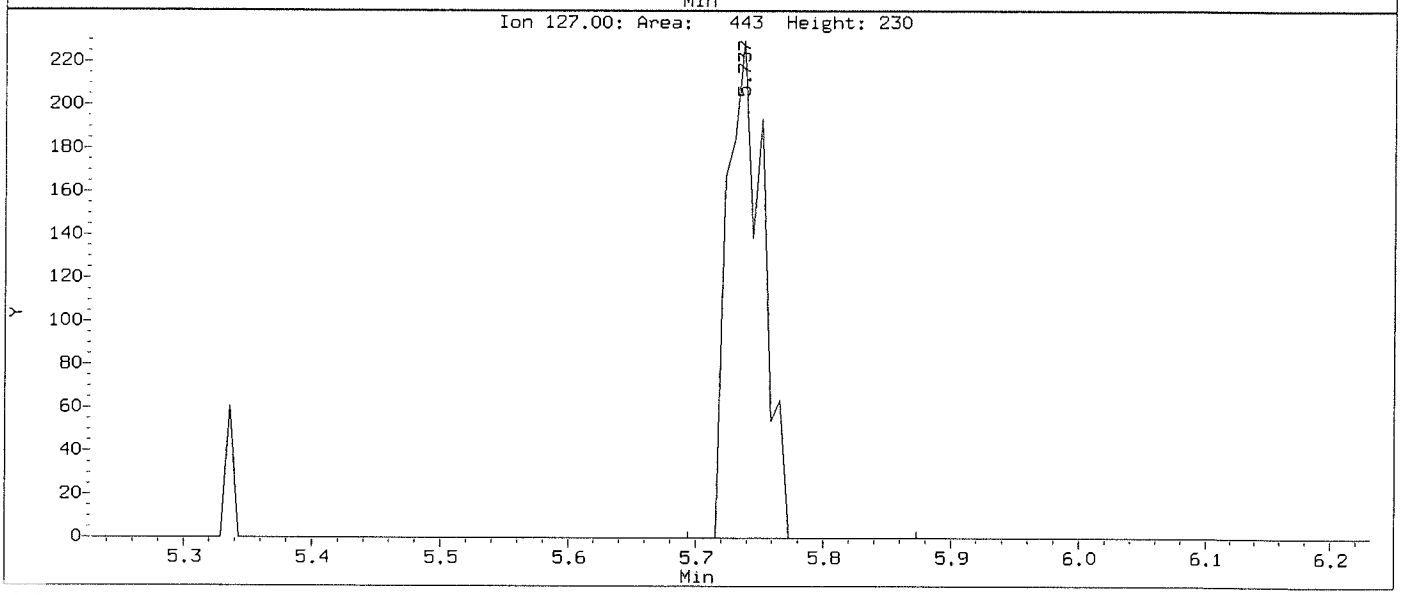


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4

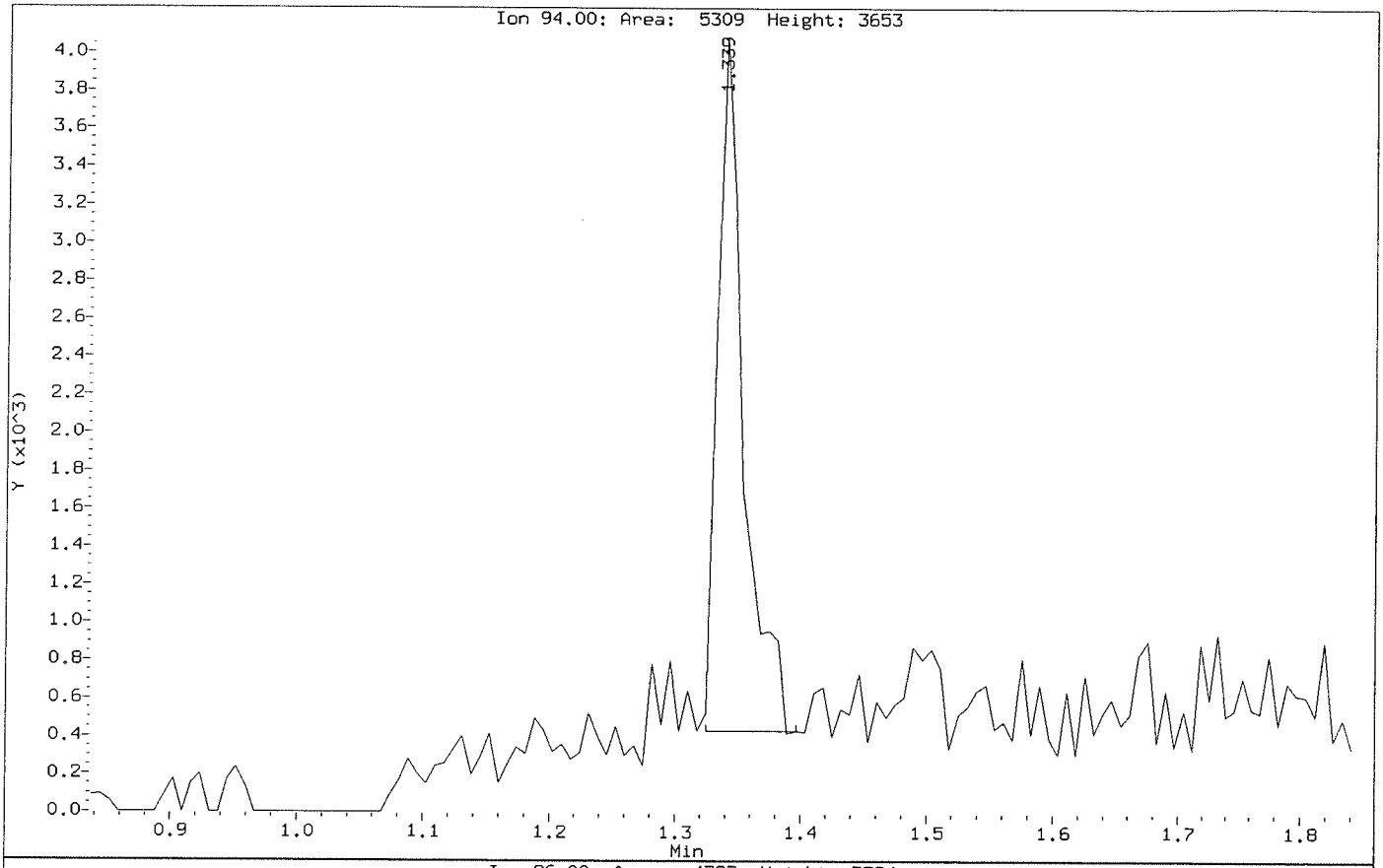


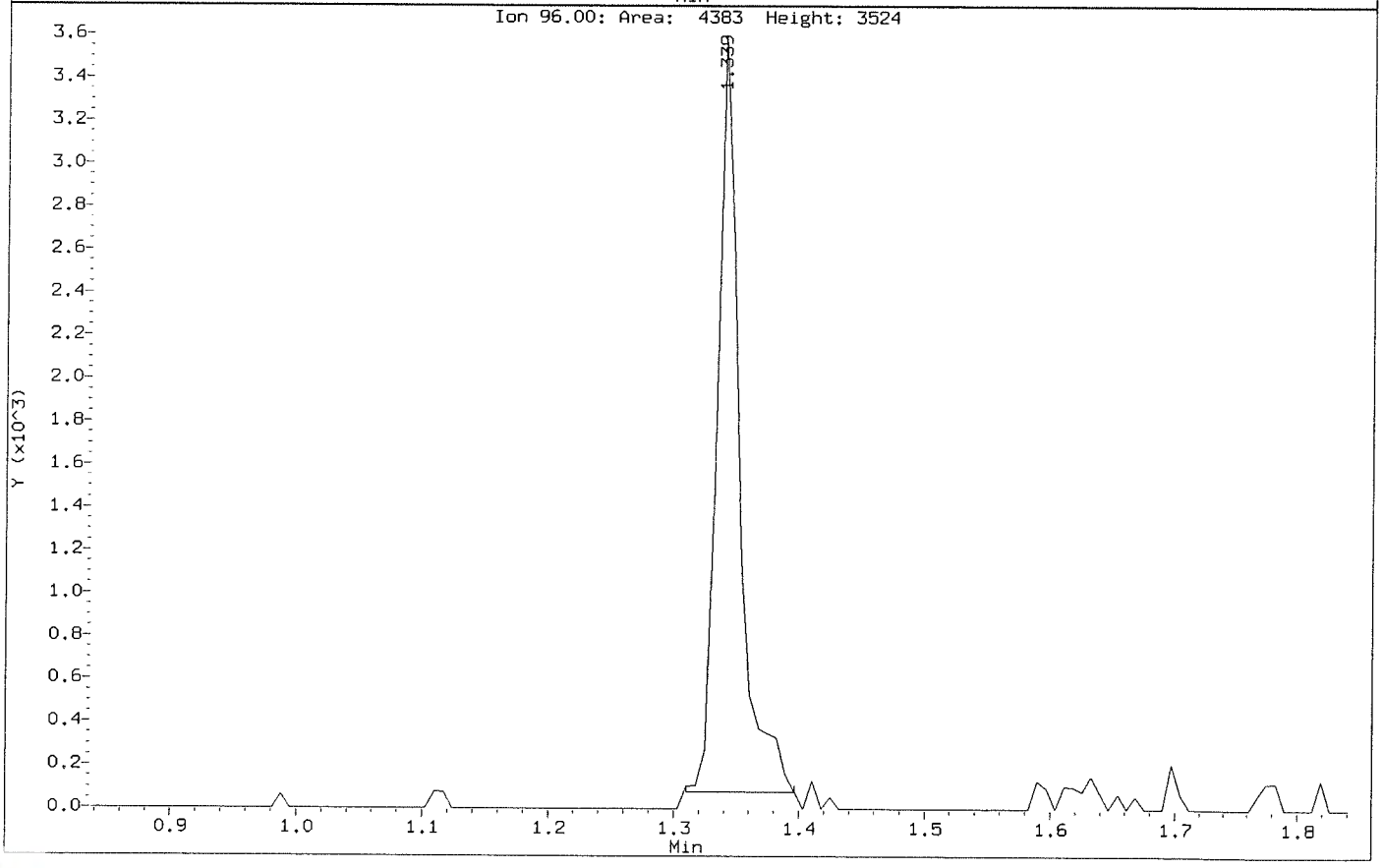




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

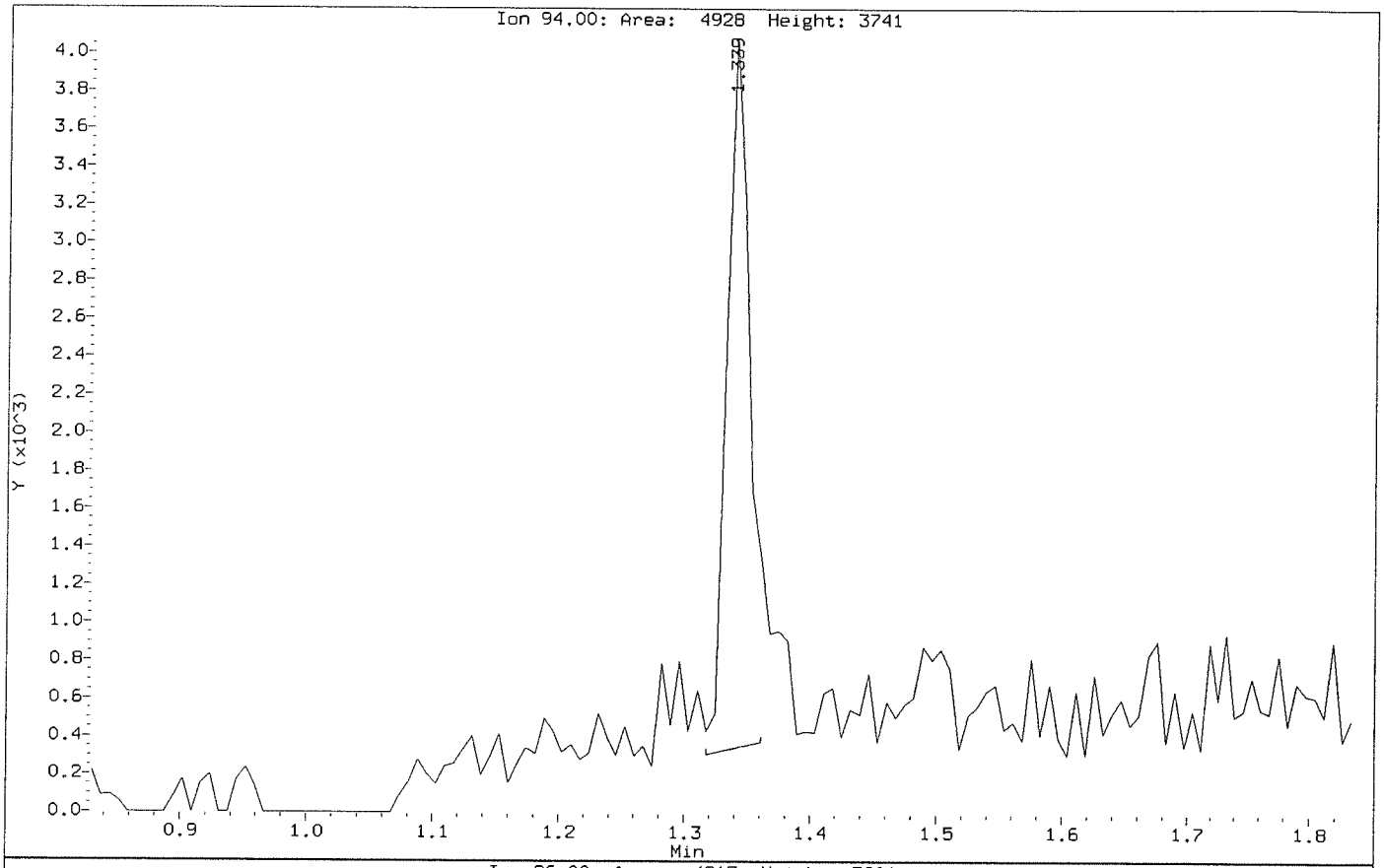
Compound: Bromomethane
CAS Number: 74-83-9

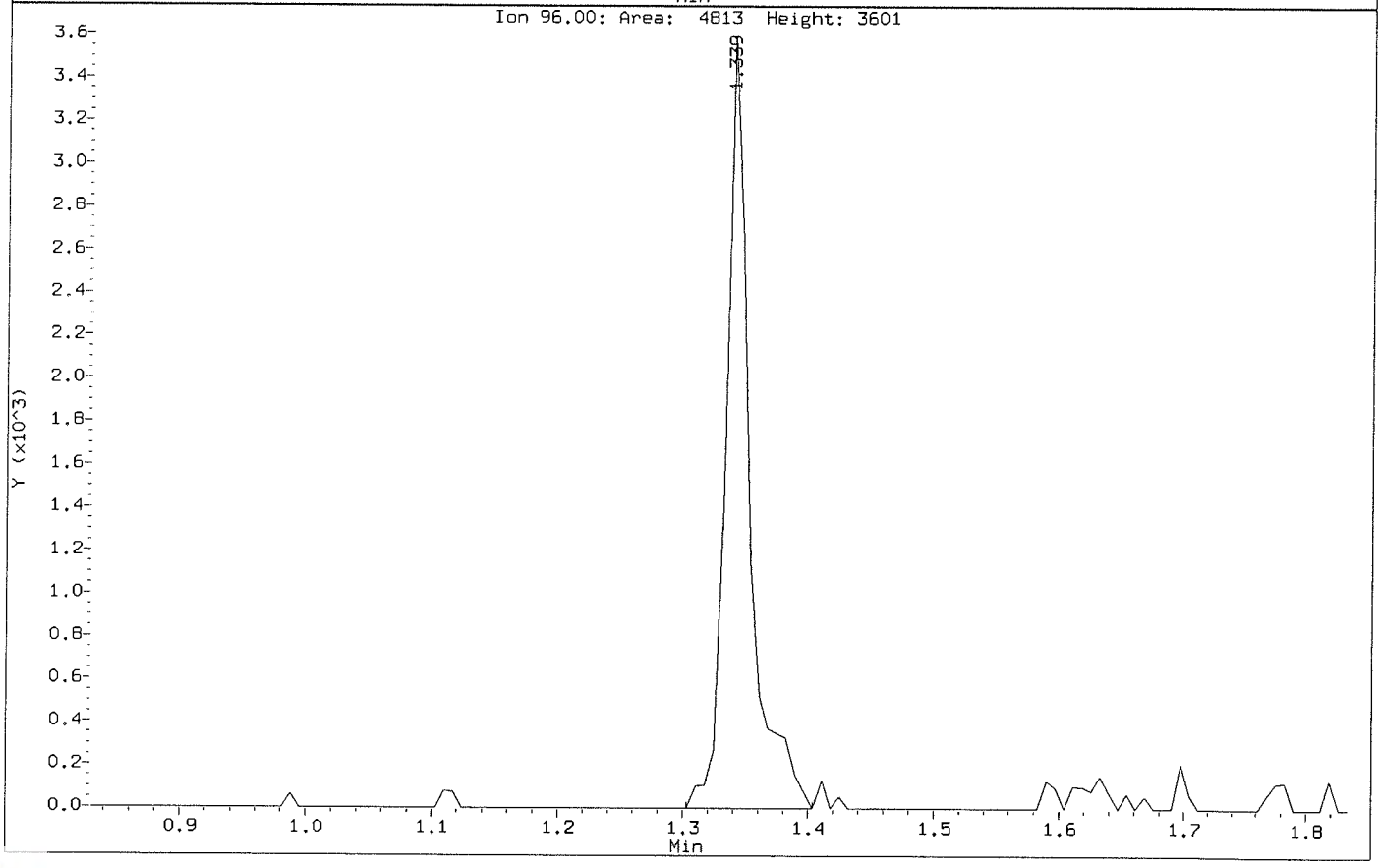




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

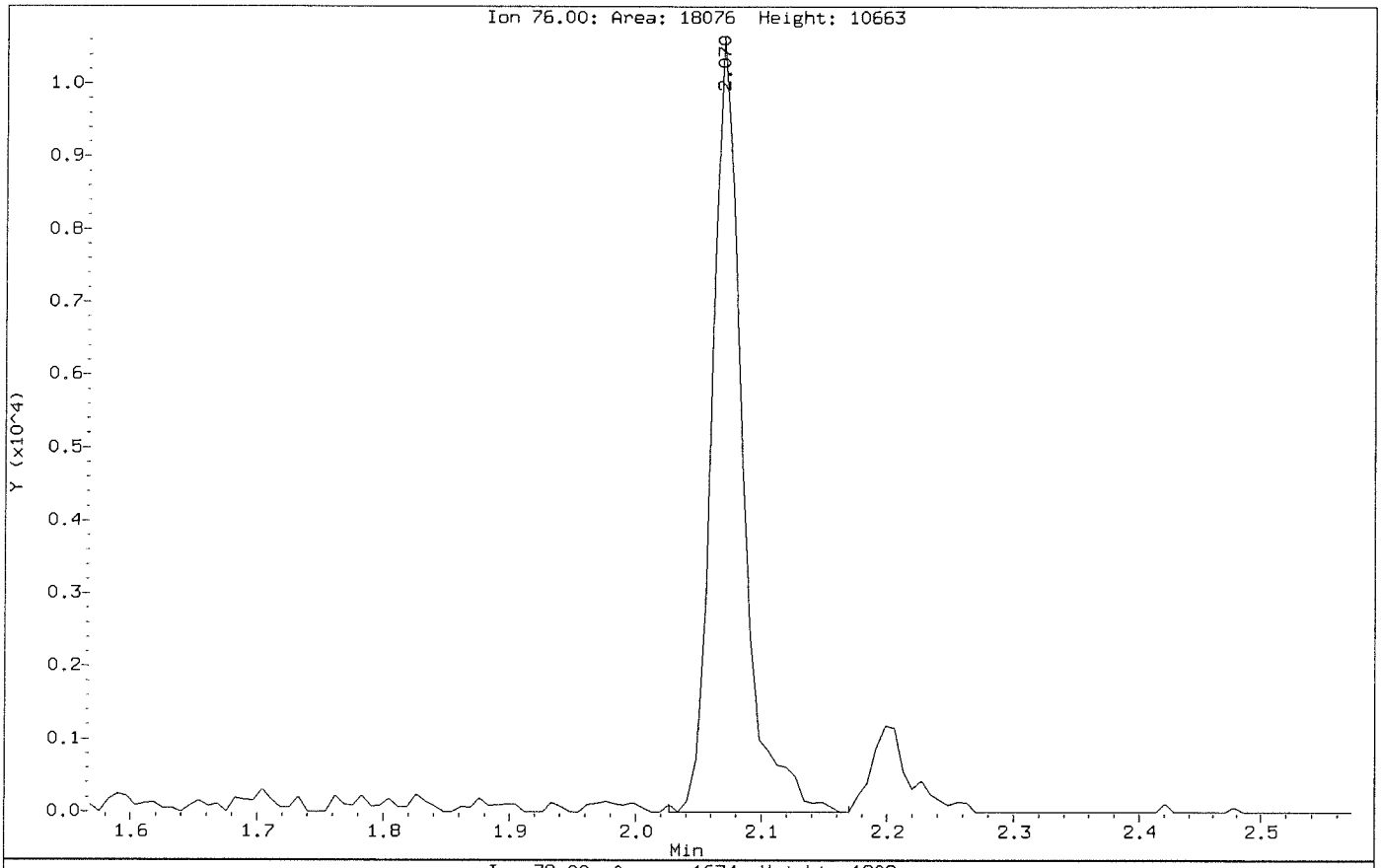
Compound: Bromomethane
CAS Number: 74-83-9

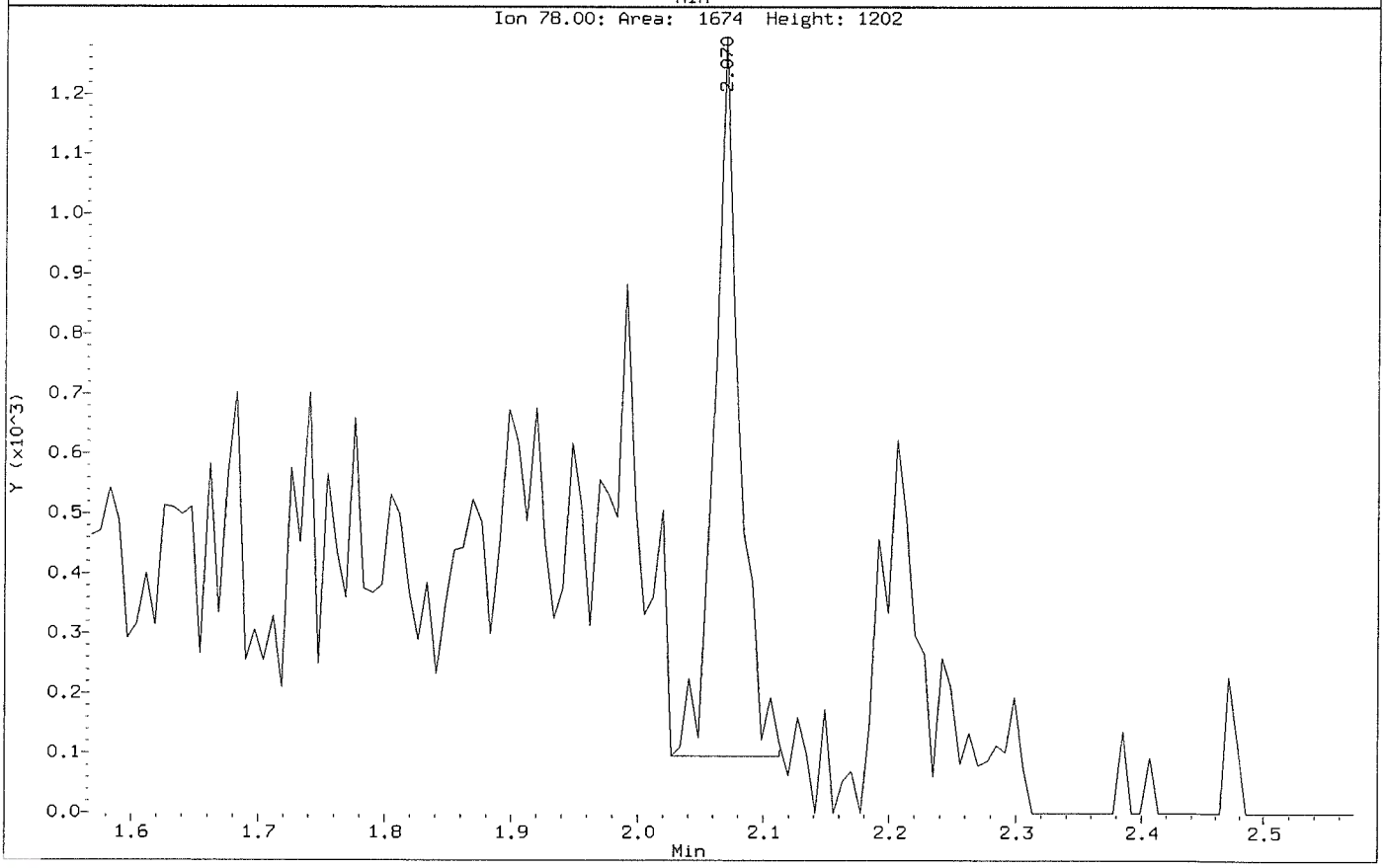




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

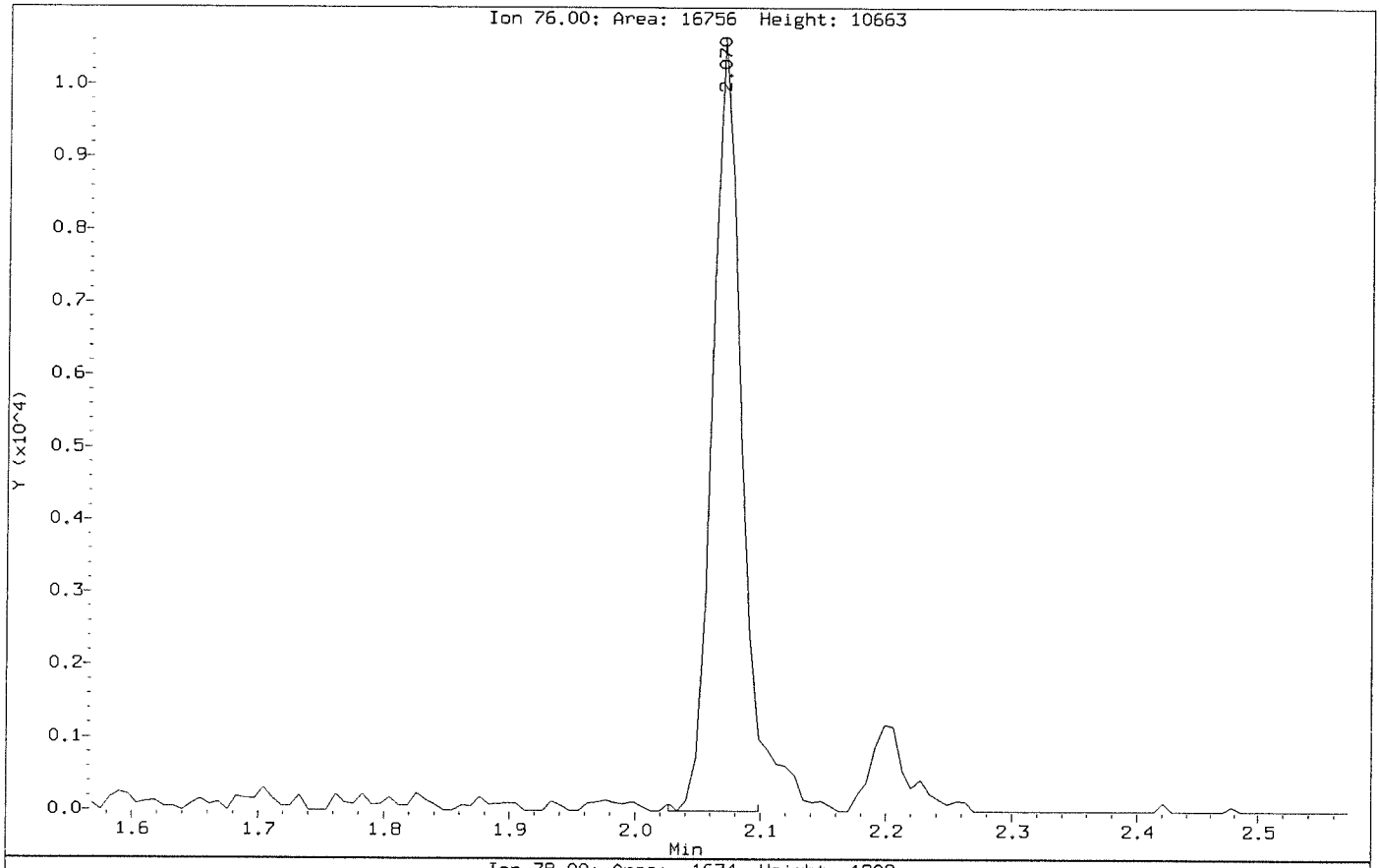
Compound: Carbon Disulfide
CAS Number: 75-15-0

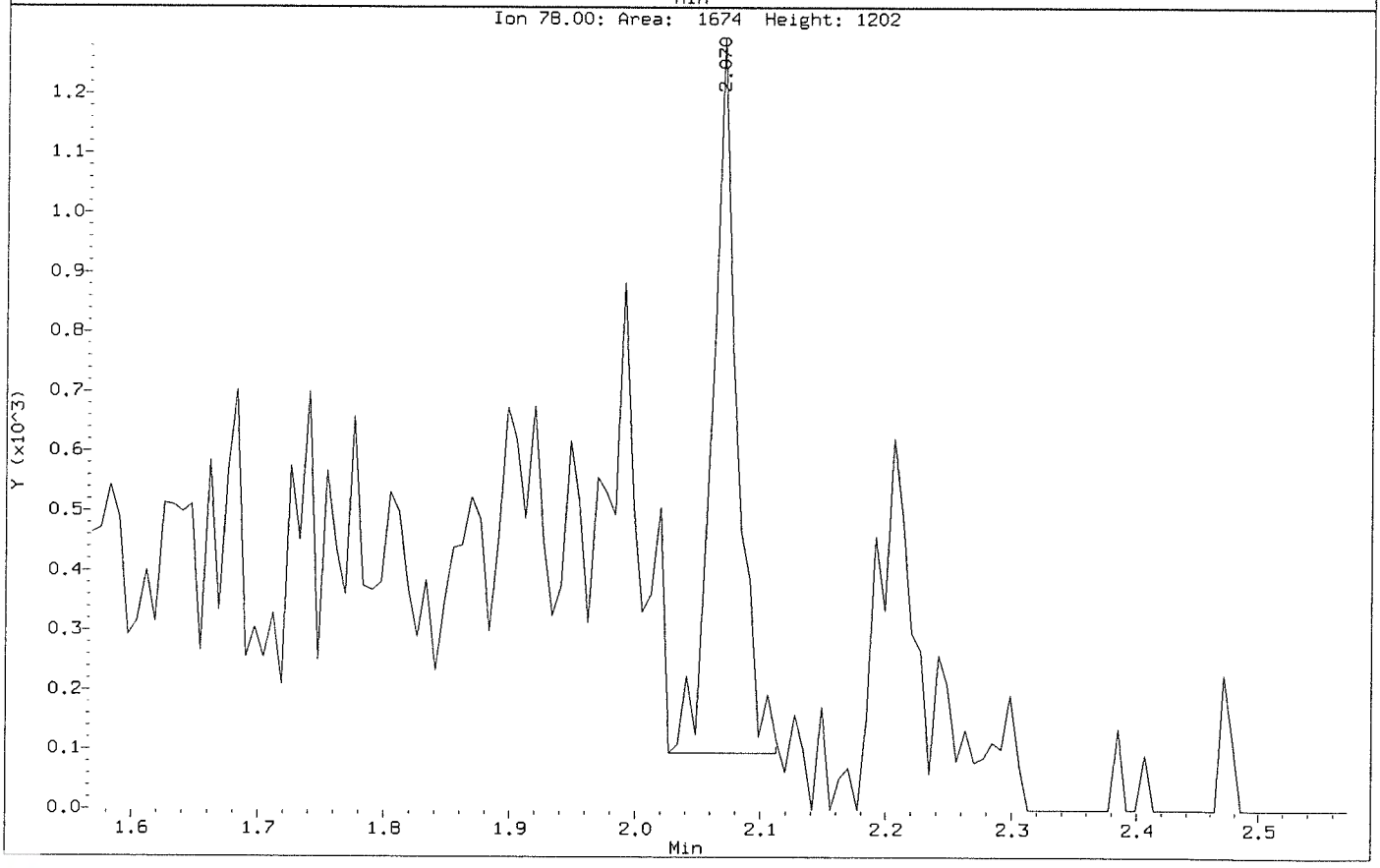




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

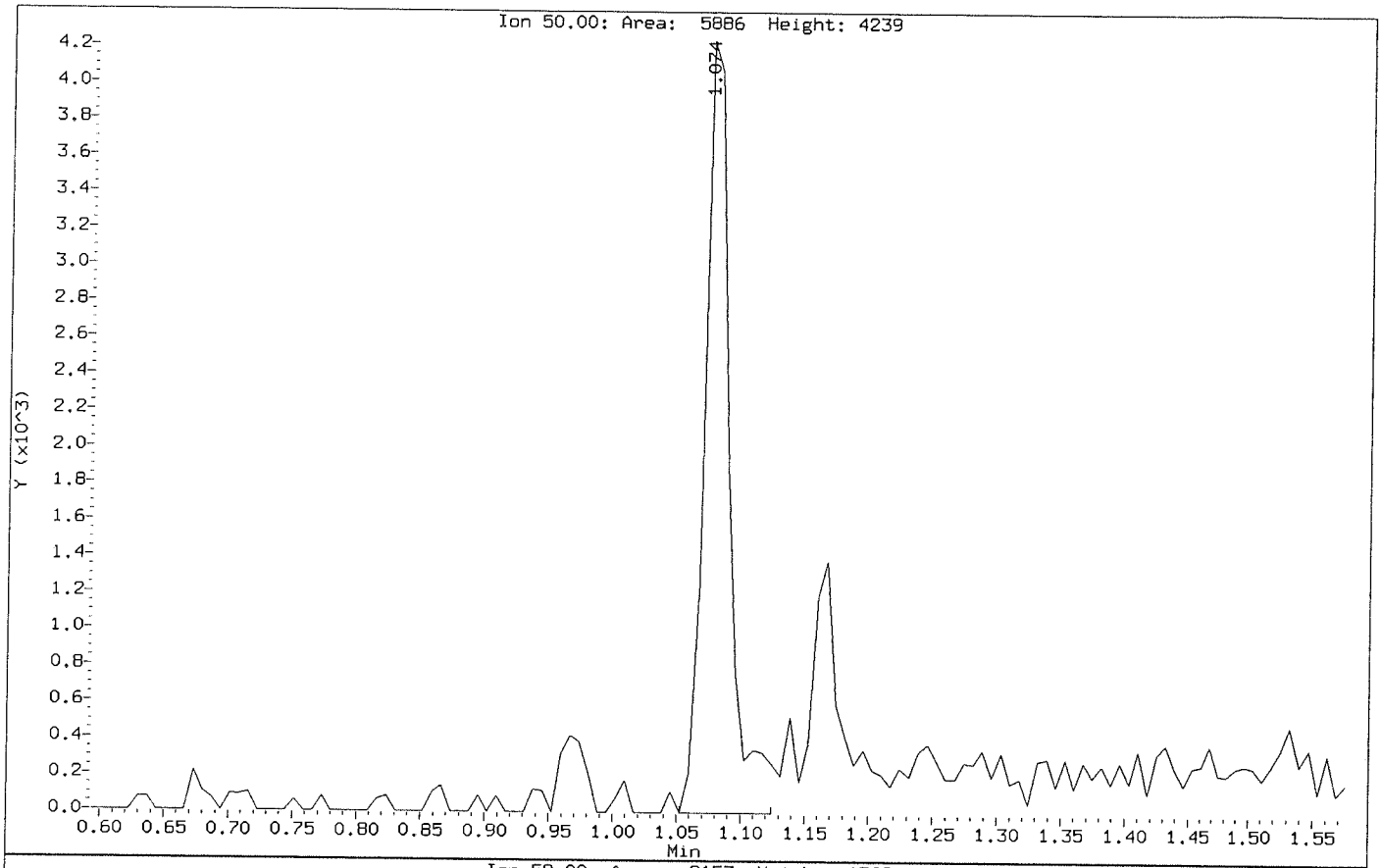
Compound: Carbon Disulfide
CAS Number: 75-15-0

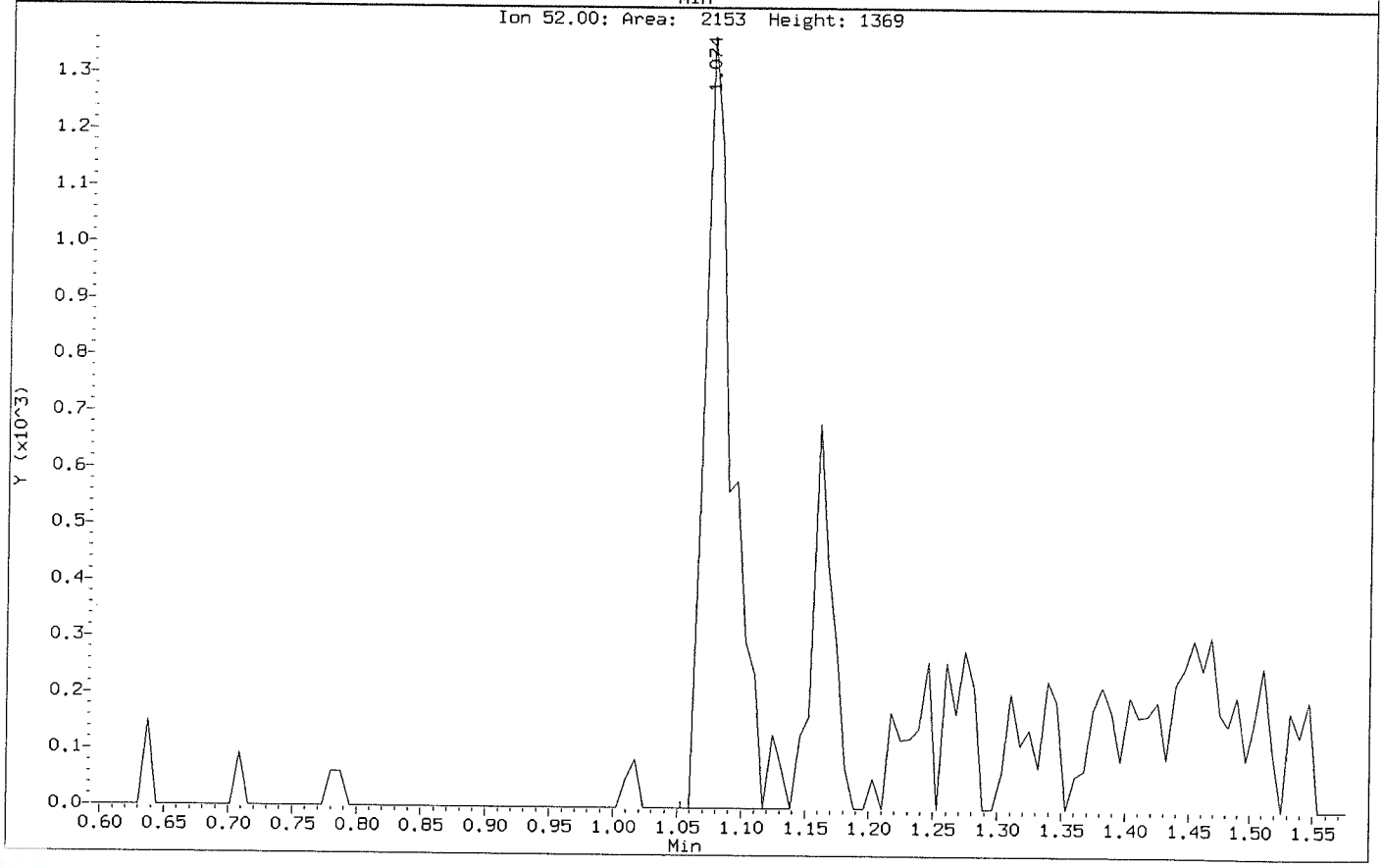




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

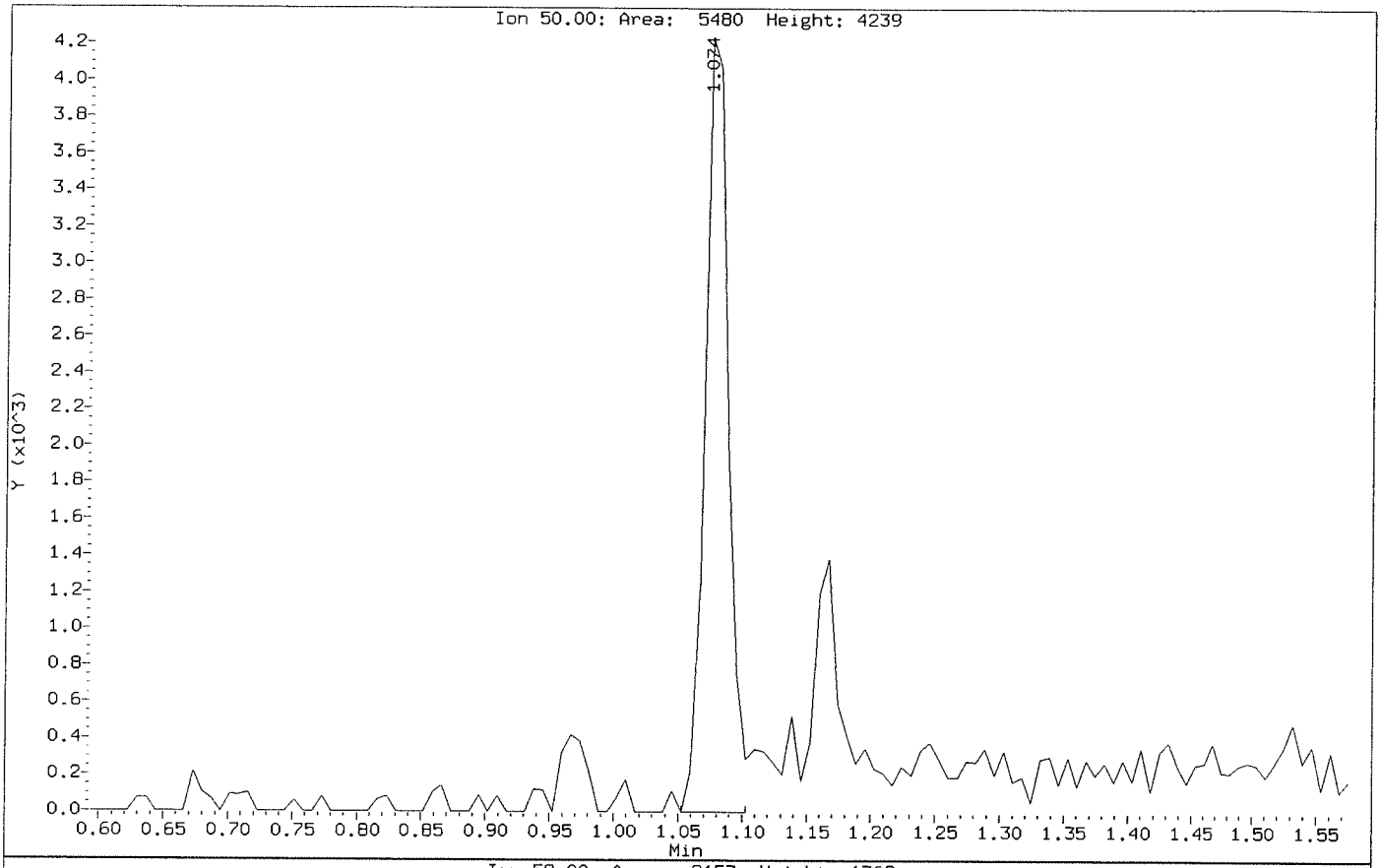
Compound: Chloromethane
CAS Number: 74-87-3

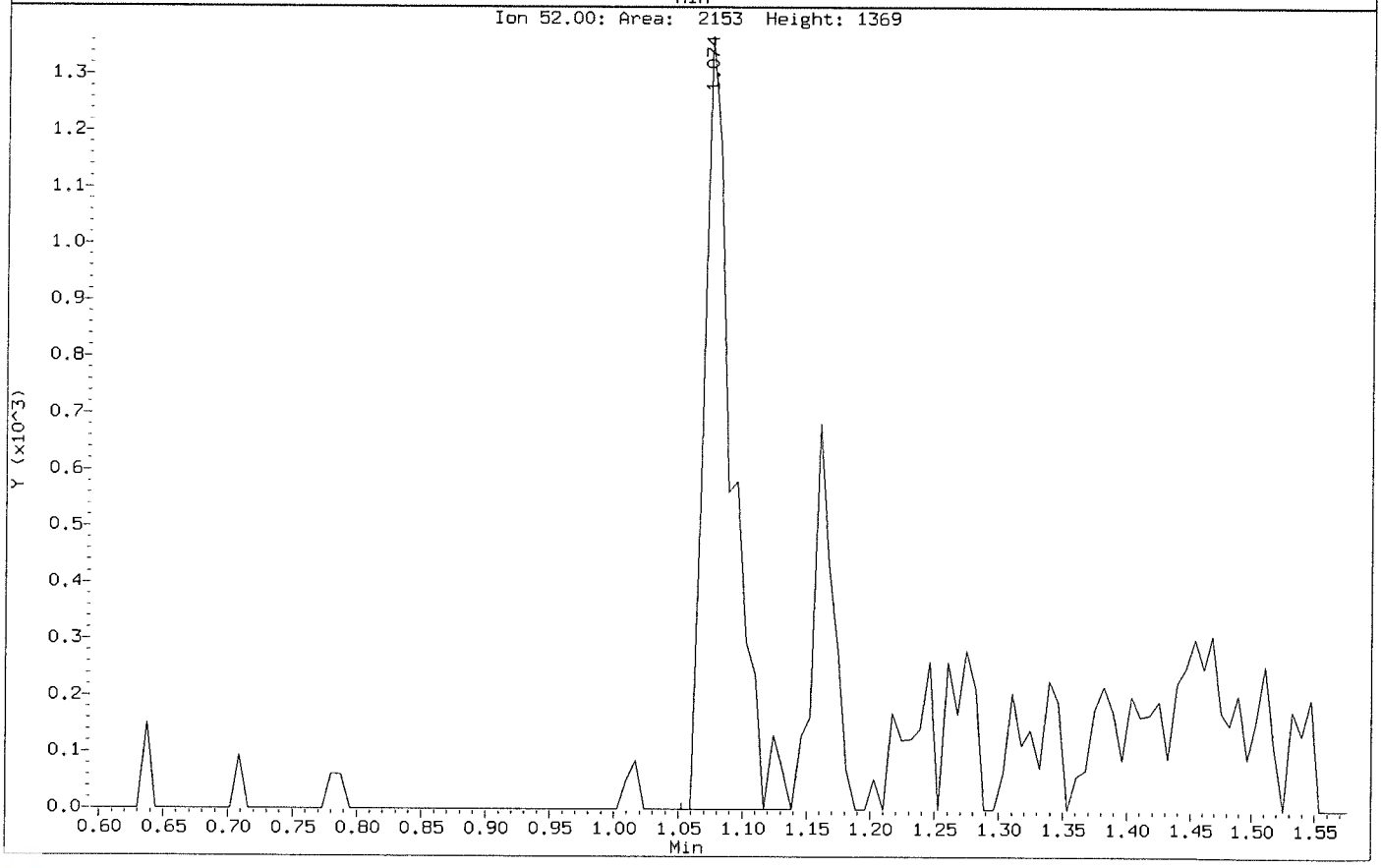




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

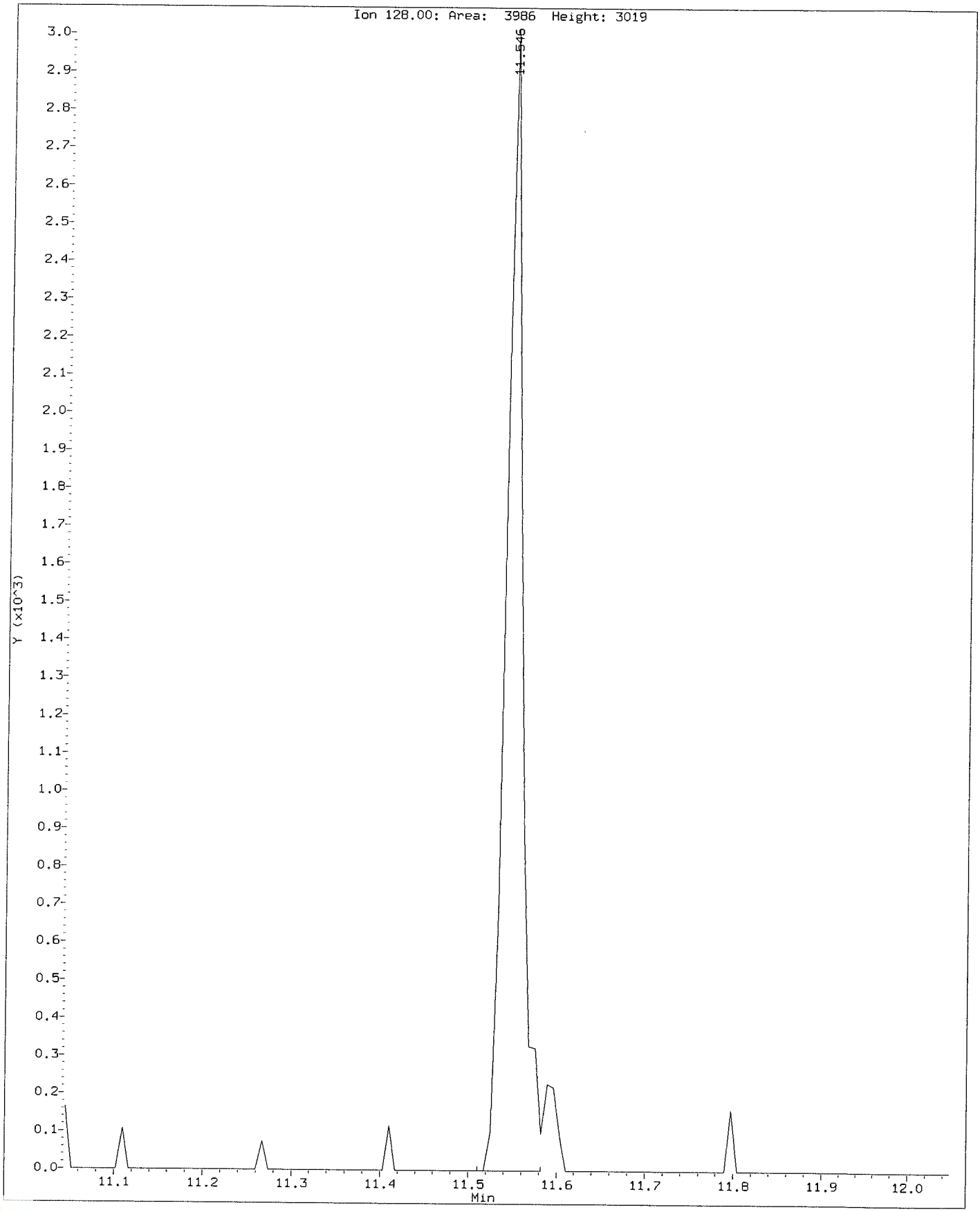
Compound: Chloromethane
CAS Number: 74-87-3





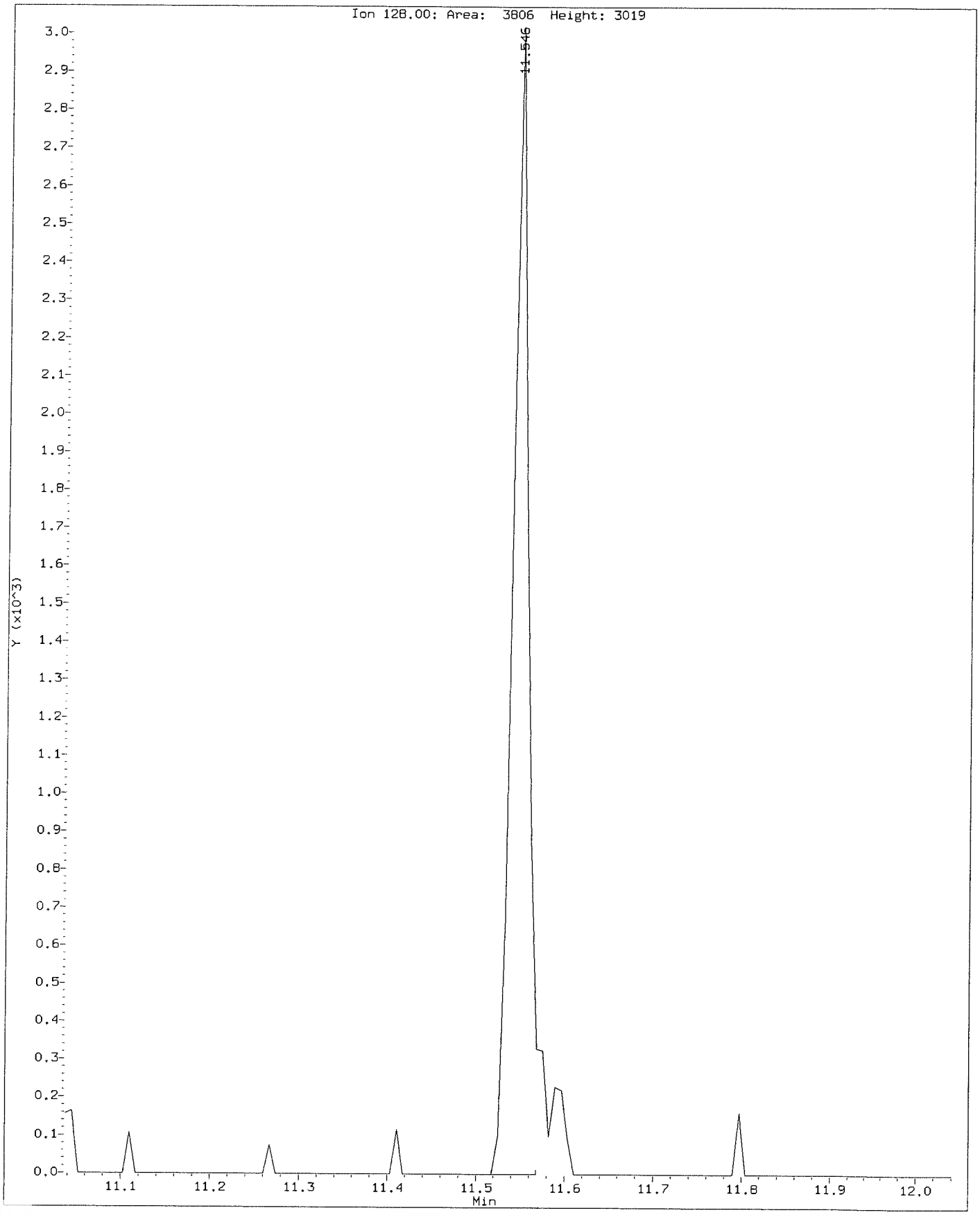
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Naphthalene
CAS Number: 91-20-3



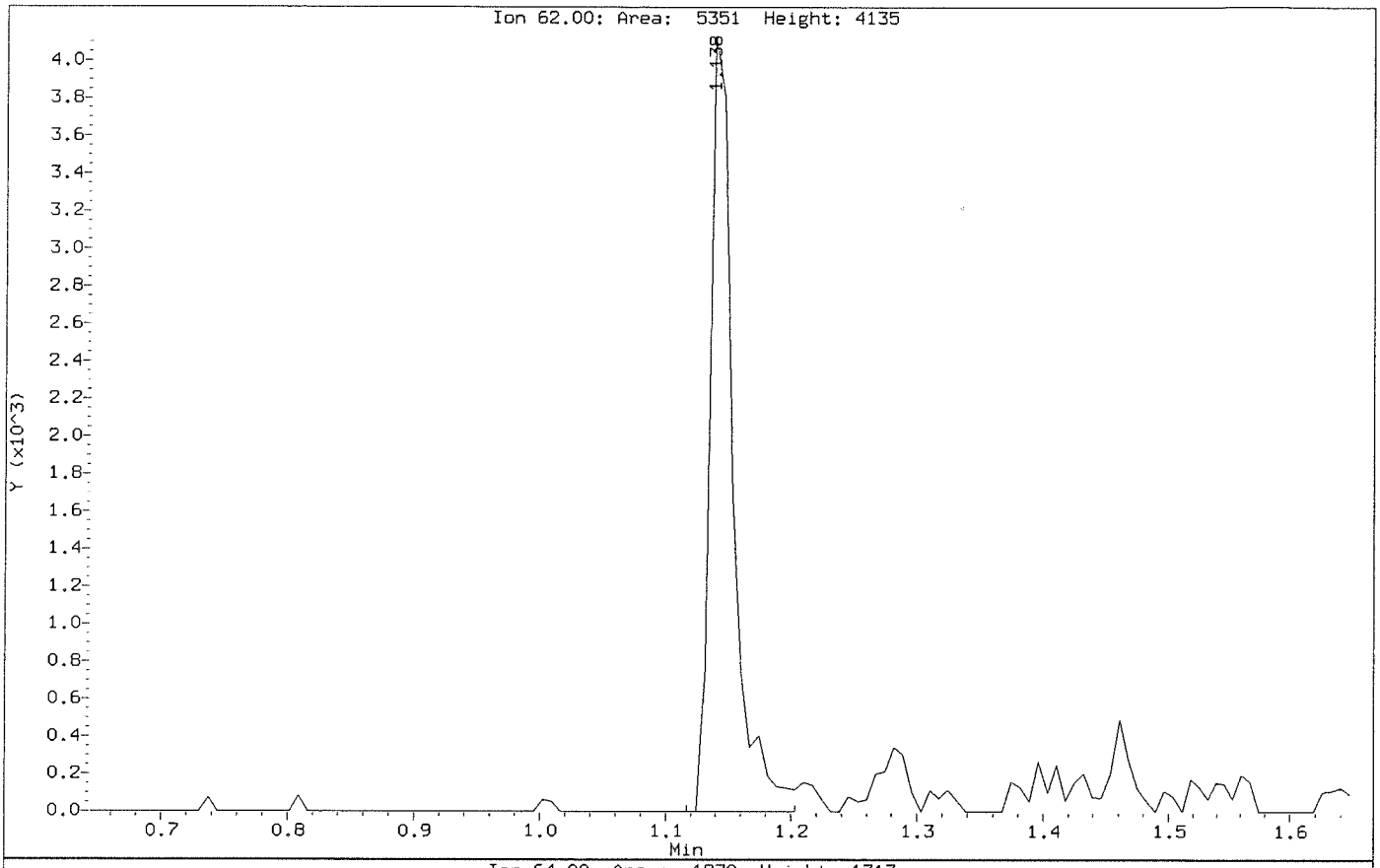
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

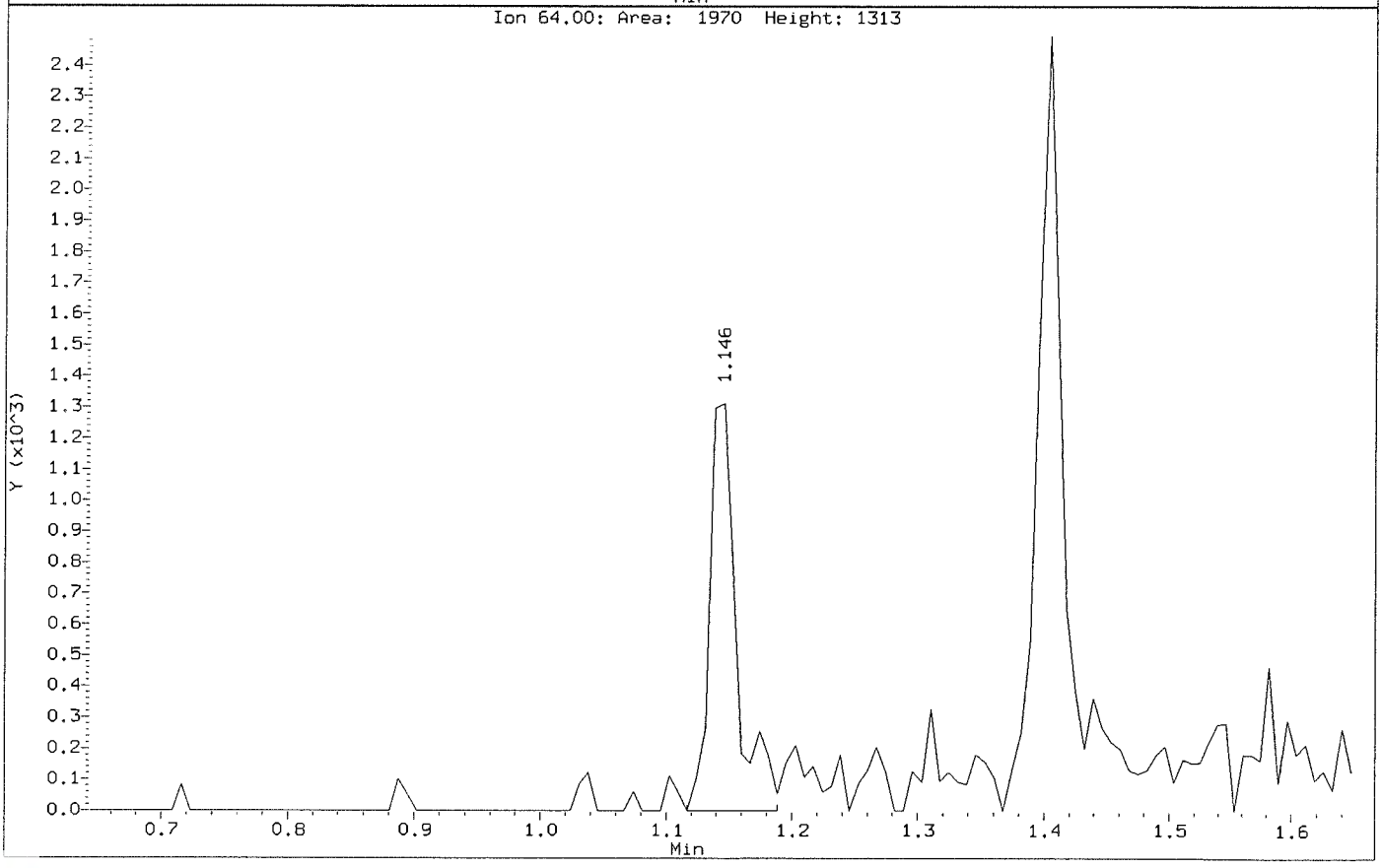
Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

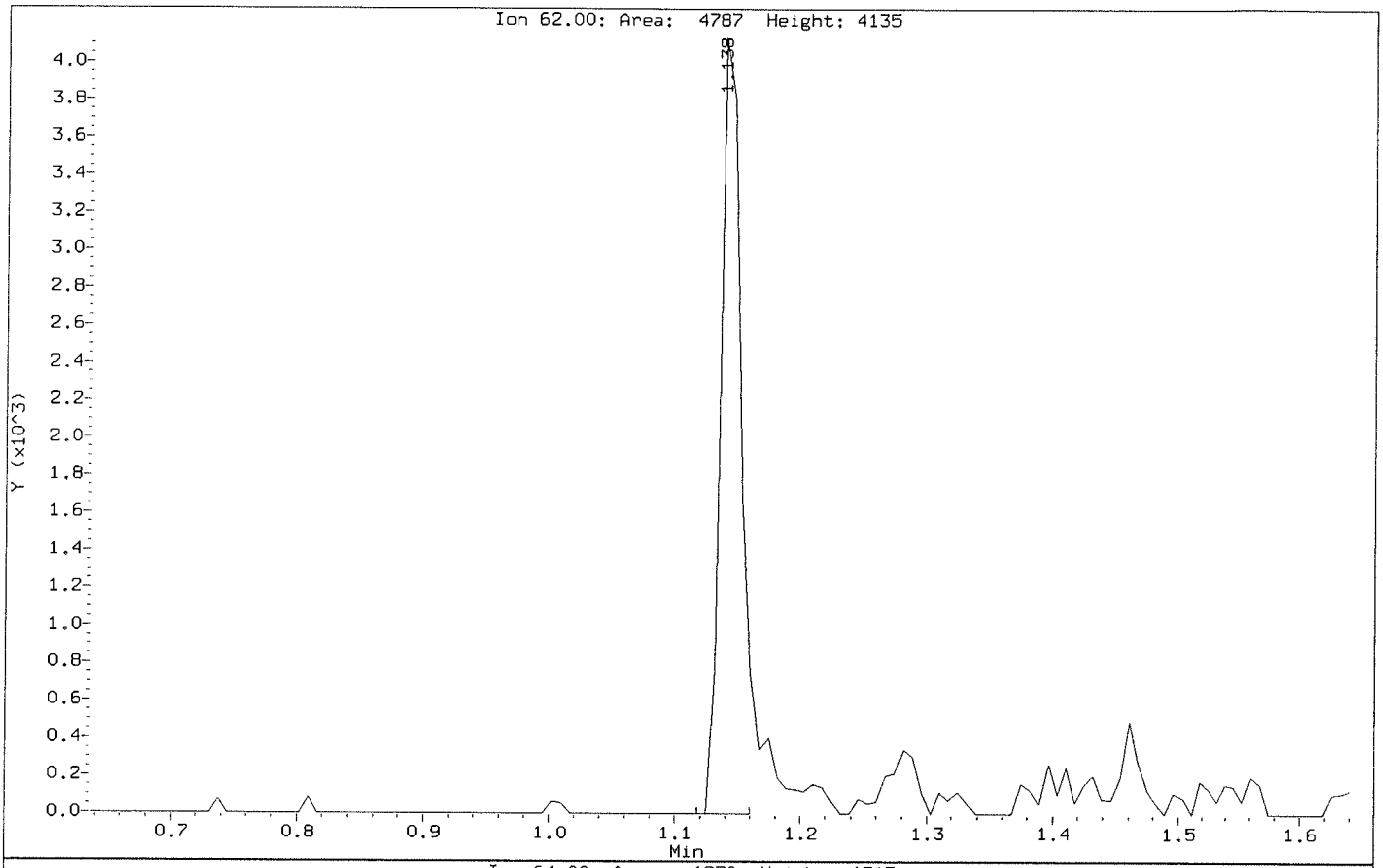
Compound: Vinyl Chloride
CAS Number: 75-01-4

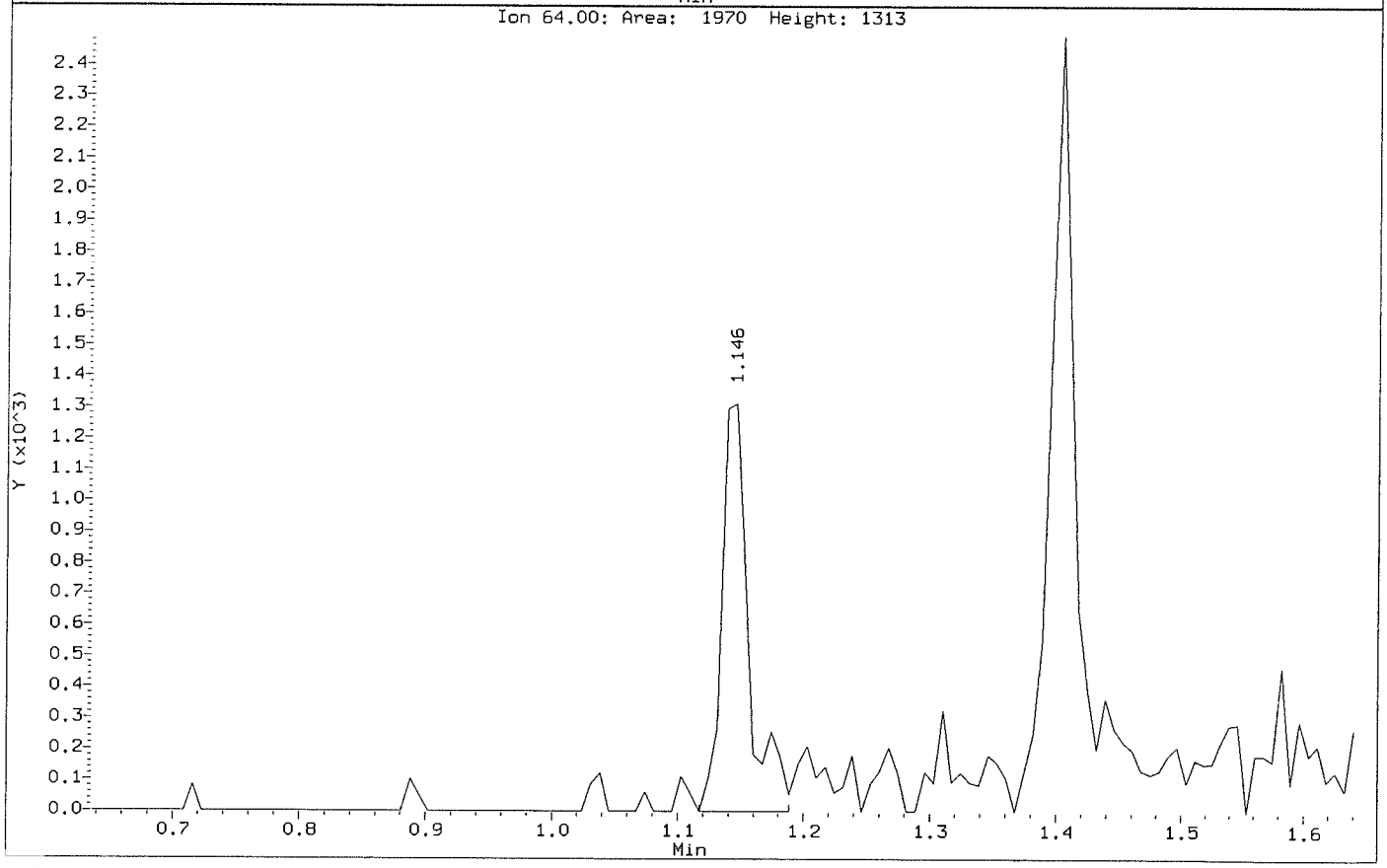




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 03-DEC-2020 12:25
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 12:04 Cal File: X120304.D
Als bottle: 6 Calibration Sample, Level: 4
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

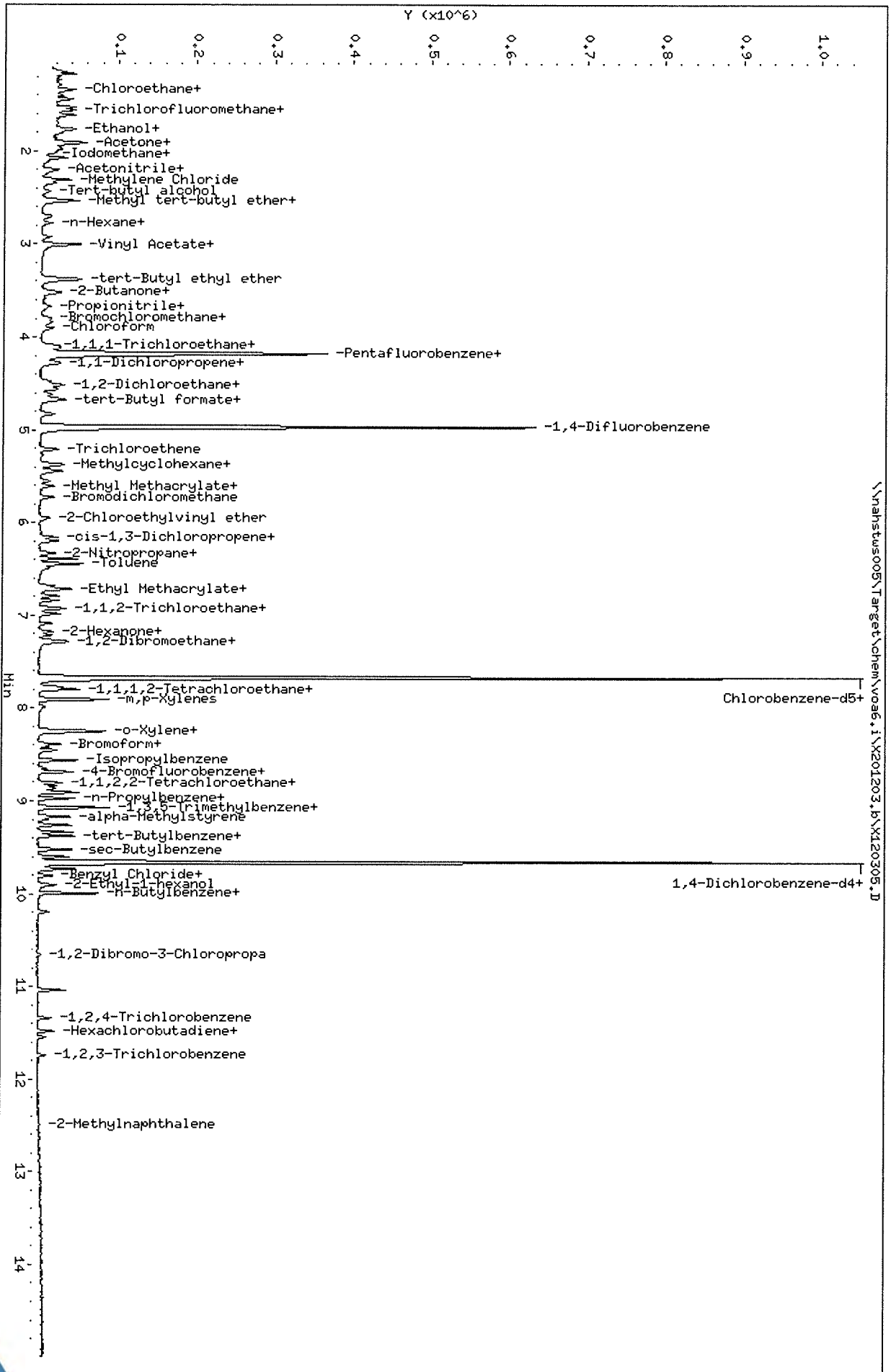
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	266332	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	471771	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	432846	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	198621	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	7182	2.00000	1.85(a)
$	35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	10141	2.00000	1.50(a)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	23817	2.00000	2.45(a)
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	12242	2.00000	2.67(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	5910	2.00000	1.88(a)
	31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	11072	2.00000	1.99(a)
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	8560	2.00000	2.12(a)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	5641	2.00000	2.04(a)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	11965	2.00000	1.87(a)
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	7786	2.00000	1.92(a)
	32 1,1-Dichloropropene	75	4.283	4.283	(0.863)	9379	2.00000	2.05(a)
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	2368	2.00000	2.24(a)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	9130	2.00000	1.99(a)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	4136	2.00000	2.21(a)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	19505	2.00000	1.80(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.651	10.651	(1.102)	853	2.00000	2.04(a)
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	5966	2.00000	1.79(a)
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	11368	2.00000	1.97(a)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D Page 2
Report Date: 22-Dec-2020 16:32

	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	(0.919)	11513	2.00000	2.15(a)
42	1,2-Dichloropropane	63	5.443	5.443	(1.097)	6819	2.00000	1.92(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	20713	2.00000	1.85(a)
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	11987	2.00000	1.95(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	11285	2.00000	2.07(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	13097	2.00000	2.12(a)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	11381	2.00000	2.03(a)
24	2-Butanone	43	3.588	3.588	(0.858)	6004	4.00000	4.84(a)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	18403	2.00000	1.94(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	9842	4.00000	4.54(a)
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	20448	2.00000	1.75(a)
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	21455	2.00000	1.97(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	13373	4.00000	4.22(a)
10	Acetone	43	1.976	1.976	(0.473)	10587	4.00000	2.38(a)
37	Benzene	78	4.512	4.512	(0.909)	25517	2.00000	1.98(a)
74	Bromobenzene	156	8.810	8.810	(0.912)	6765	2.00000	1.92(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	4102	2.00000	2.14(a)
39	Bromodichloromethane	83	5.729	5.729	(1.154)	8831	2.00000	1.81(a)
66	Bromoform	173	8.416	8.416	(1.097)	3608	2.00000	1.82(Ta)
6	Bromomethane	94	1.339	1.339	(0.320)	9968	2.00000	2.65(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	35038	4.00000	3.97(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.860)	7282	2.00000	1.90(a)
59	Chlorobenzene	112	7.692	7.692	(1.003)	18160	2.00000	2.04(a)
7	Chloroethane	64	1.403	1.403	(0.336)	6620	2.00000	2.09(a)
28	Chloroform	83	3.910	3.910	(0.935)	13281	2.00000	1.93(a)
3	Chloromethane	50	1.074	1.074	(0.257)	10331	2.00000	3.11(a)
27	cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	7737	2.00000	2.06(a)
46	cis-1,3-Dichloropropene	75	6.152	6.152	(1.240)	12019	2.00000	1.98(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	7016	2.00000	1.99(a)
44	Dibromomethane	93	5.558	5.558	(1.120)	4395	2.00000	1.83(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	7432	2.00000	4.52(a)
61	Ethylbenzene	106	7.800	7.800	(1.017)	8337	2.00000	1.91(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	2432	2.00000	4.19(a)
67	Isopropylbenzene	105	8.559	8.559	(1.116)	27024	2.00000	2.01(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	21500	4.00000	3.79(a)
17	Methylene Chloride	84	2.306	2.306	(0.551)	7777	2.00000	2.17(aM)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	19960	2.00000	3.38(a)
73	n-Propylbenzene	91	8.910	8.910	(0.922)	31476	2.00000	1.96(a)
92	Naphthalene	128	11.546	11.546	(1.195)	7186	2.00000	2.24(a)
63	o-Xylene	106	8.244	8.244	(1.075)	10391	2.00000	1.88(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	25074	2.00000	1.96(a)
64	Styrene	104	8.258	8.258	(1.077)	16426	2.00000	1.74(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	17004	2.00000	1.90(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	3902	2.00000	1.61(a)
50	Toluene	91	6.446	6.446	(0.840)	26481	2.00000	1.96(a)
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	6106	2.00000	1.91(a)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	10072	2.00000	1.90(a)
38	Trichloroethene	130	5.214	5.214	(1.051)	6932	2.00000	2.01(a)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	15127	2.00000	1.97(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	9480	2.00000	2.00(aM)

QC Flag Legend

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

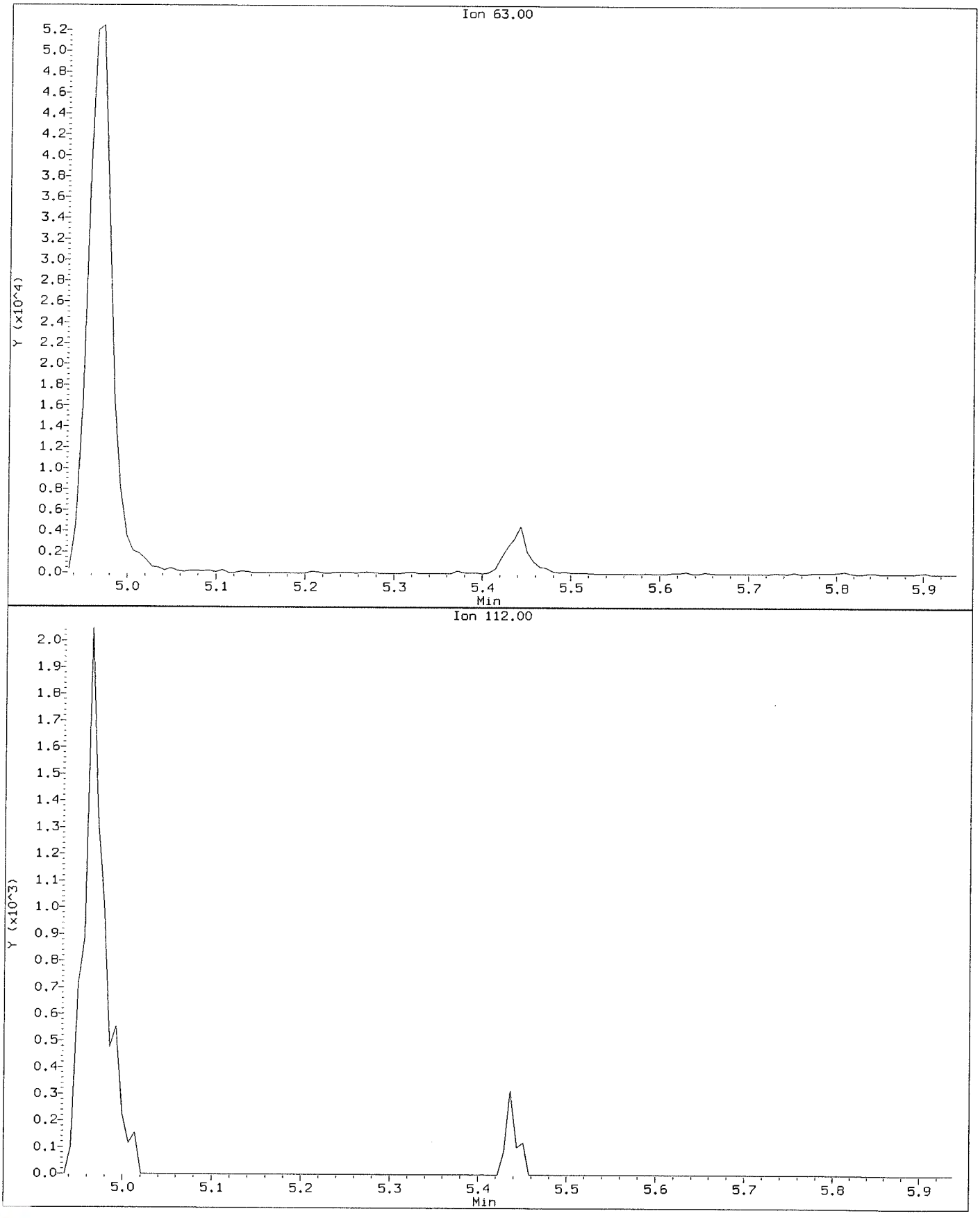


Data File: \\nahstws005\Target\chem\voa6,i\X201203,b\X120305.D
Date : 03-DEC-2020 12:25
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

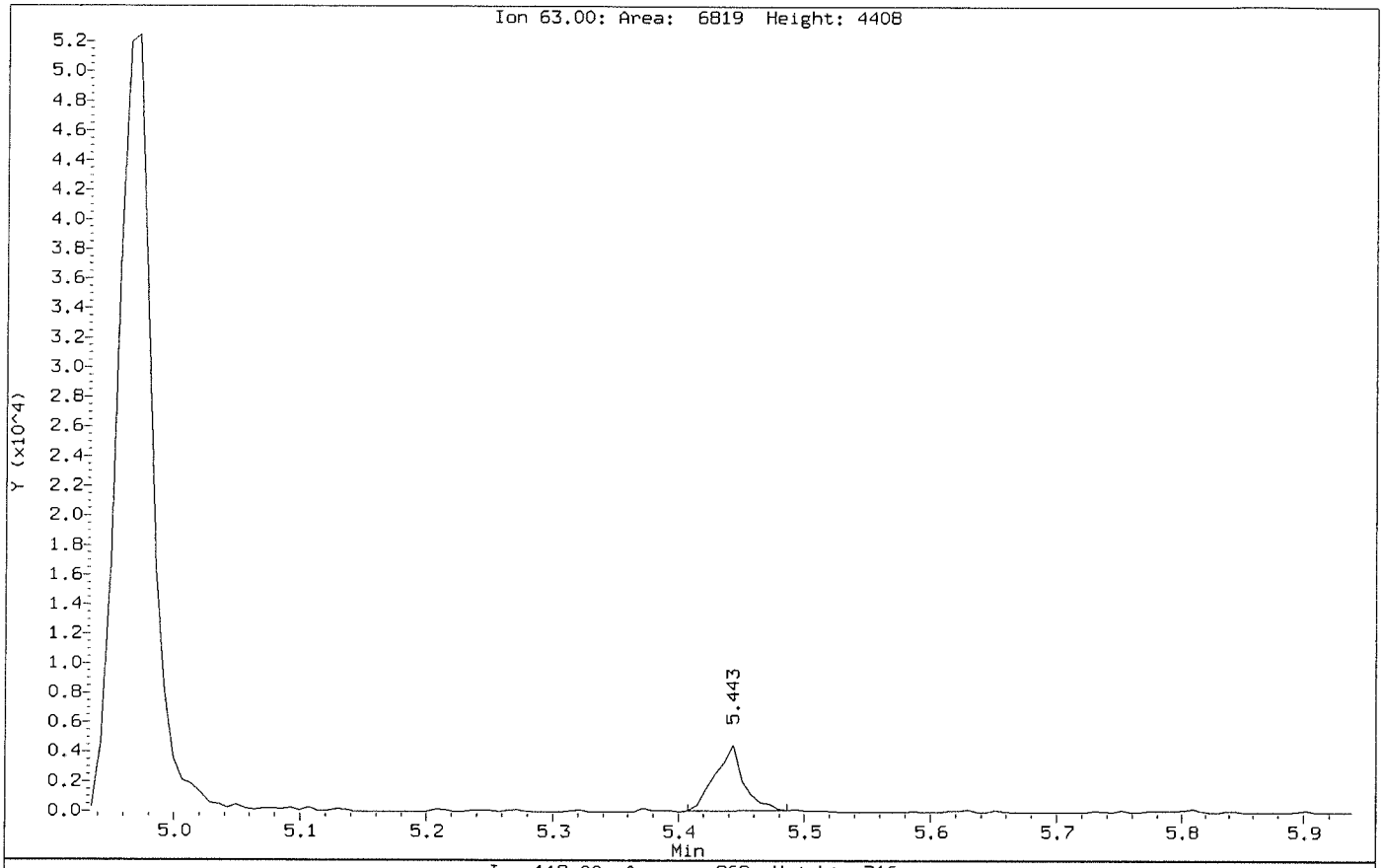
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

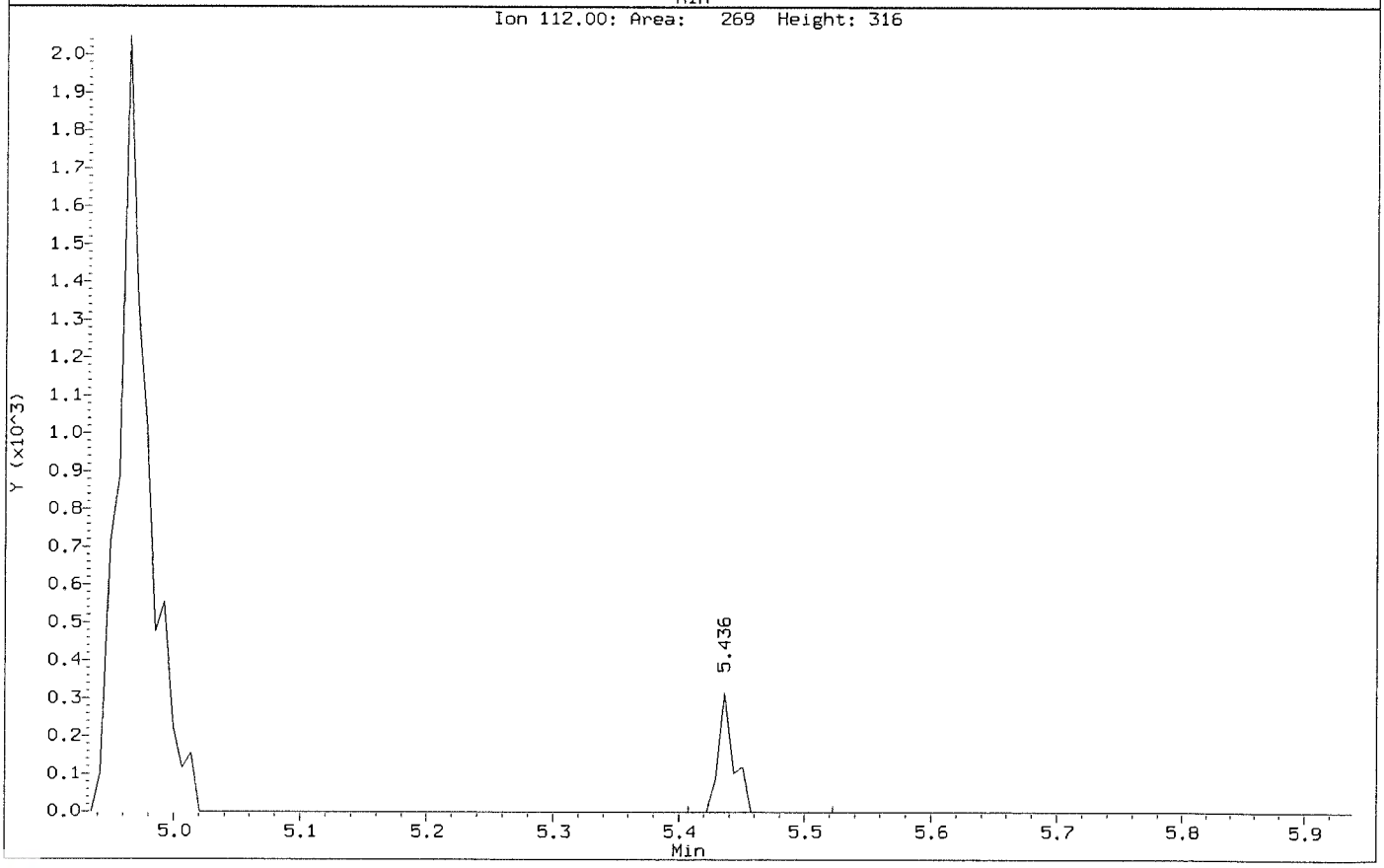
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

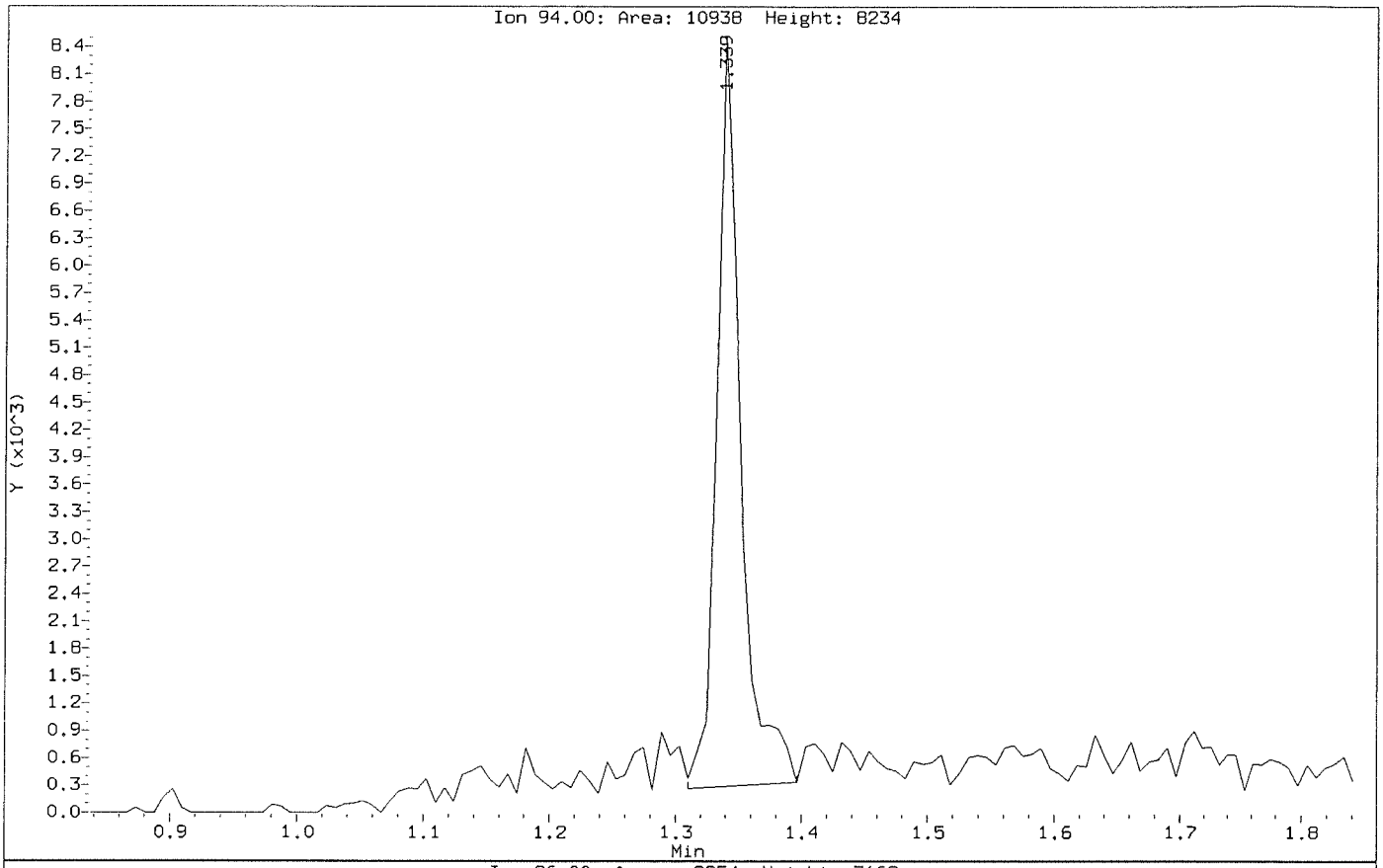
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

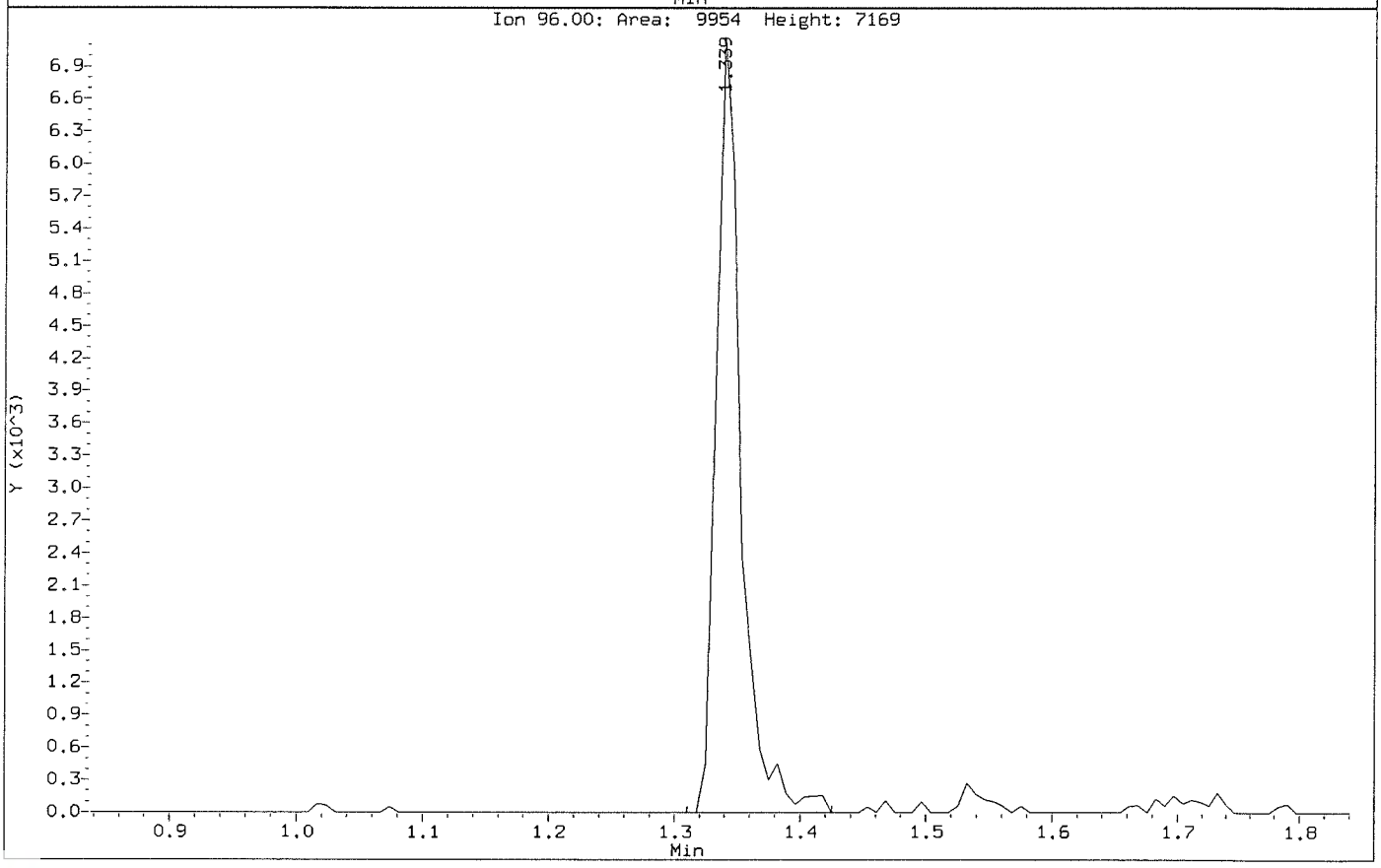




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

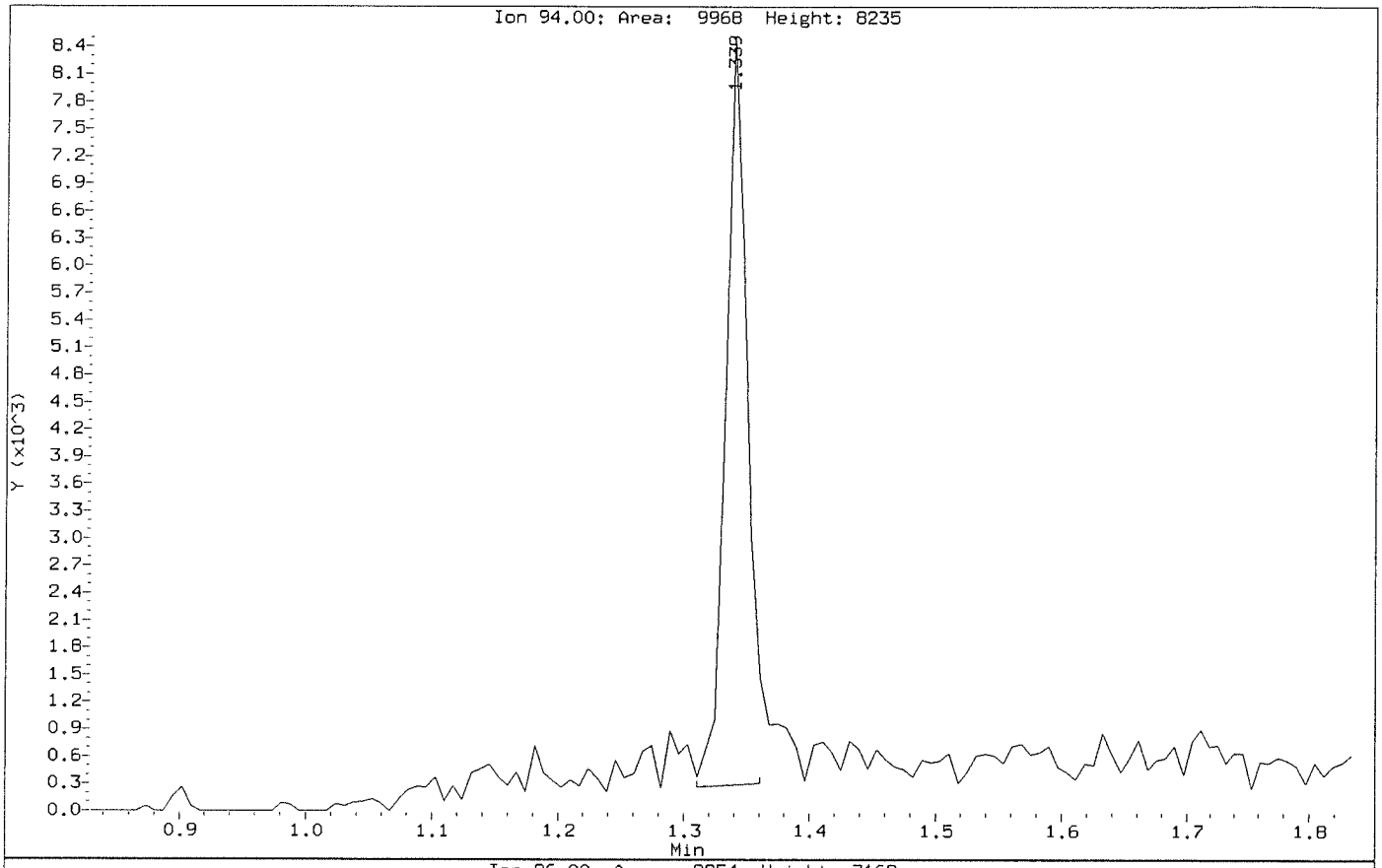
Compound: Bromomethane
CAS Number: 74-83-9

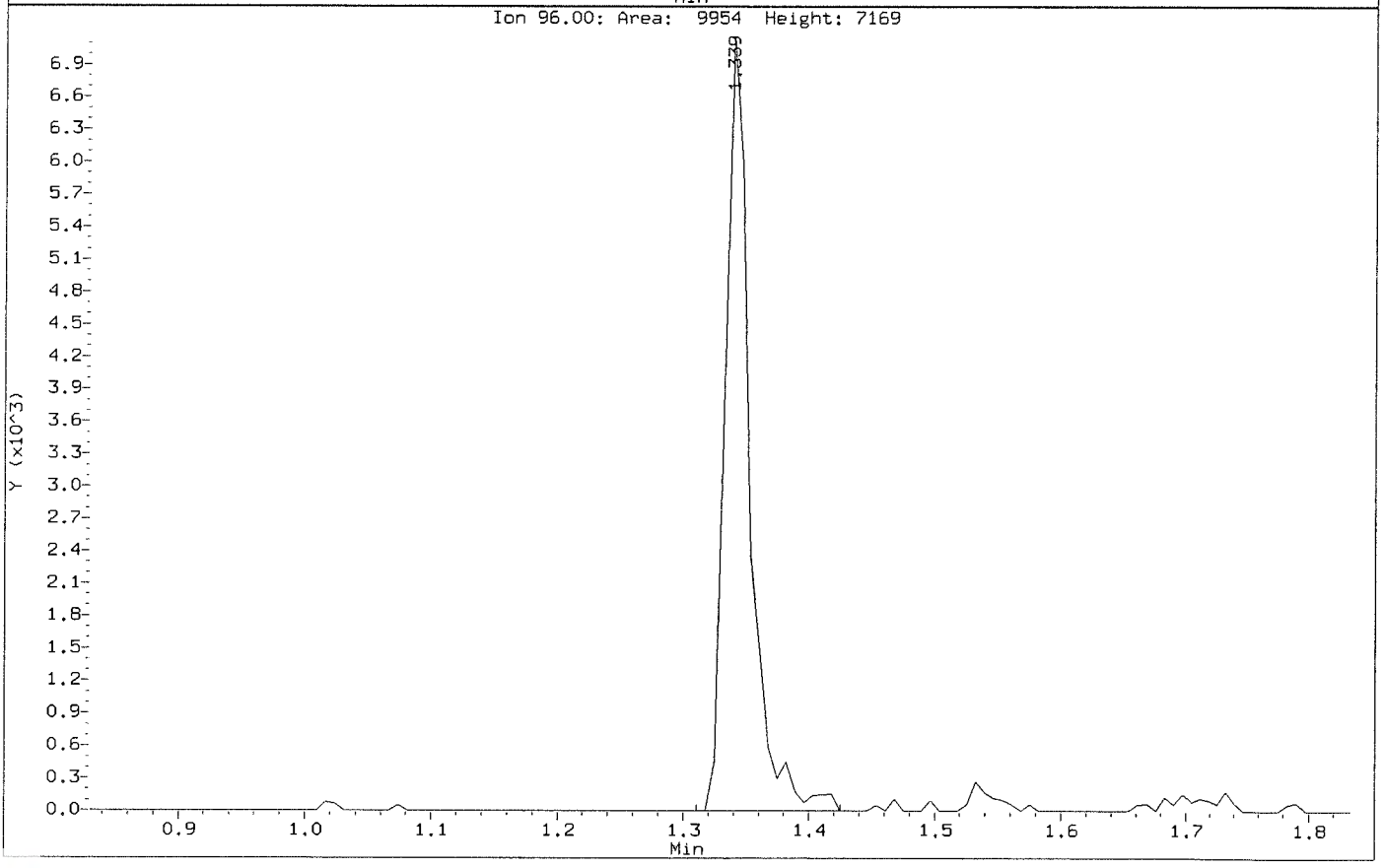




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

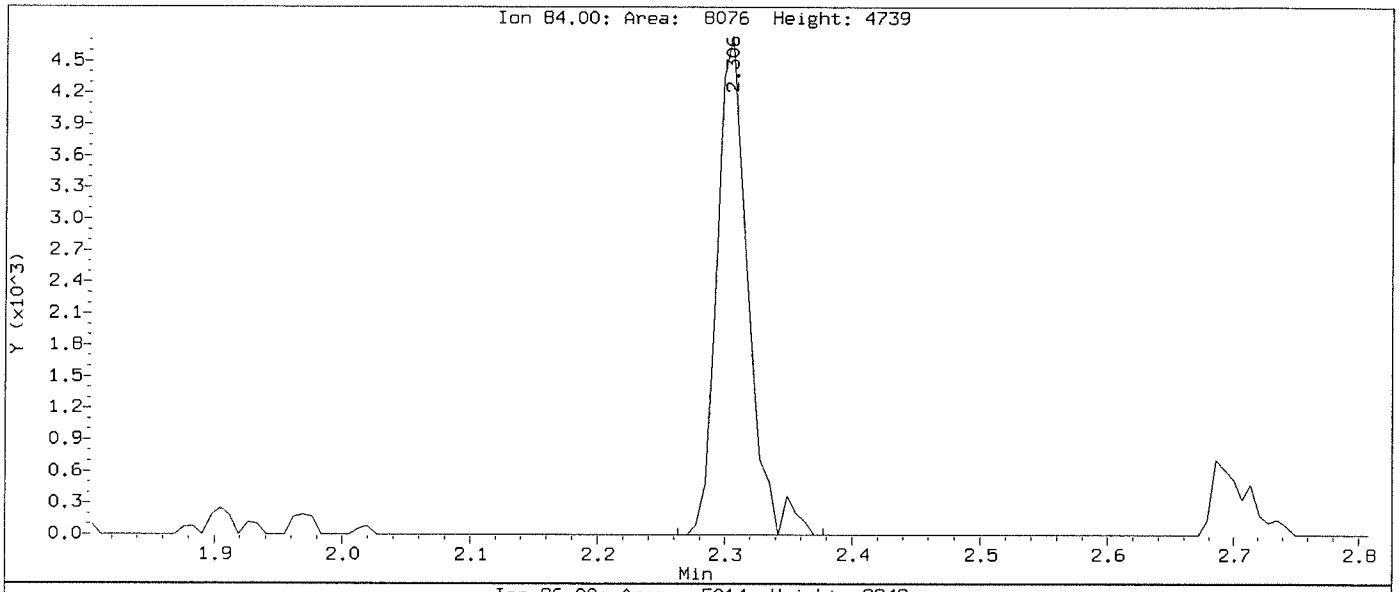
Compound: Bromomethane
CAS Number: 74-83-9

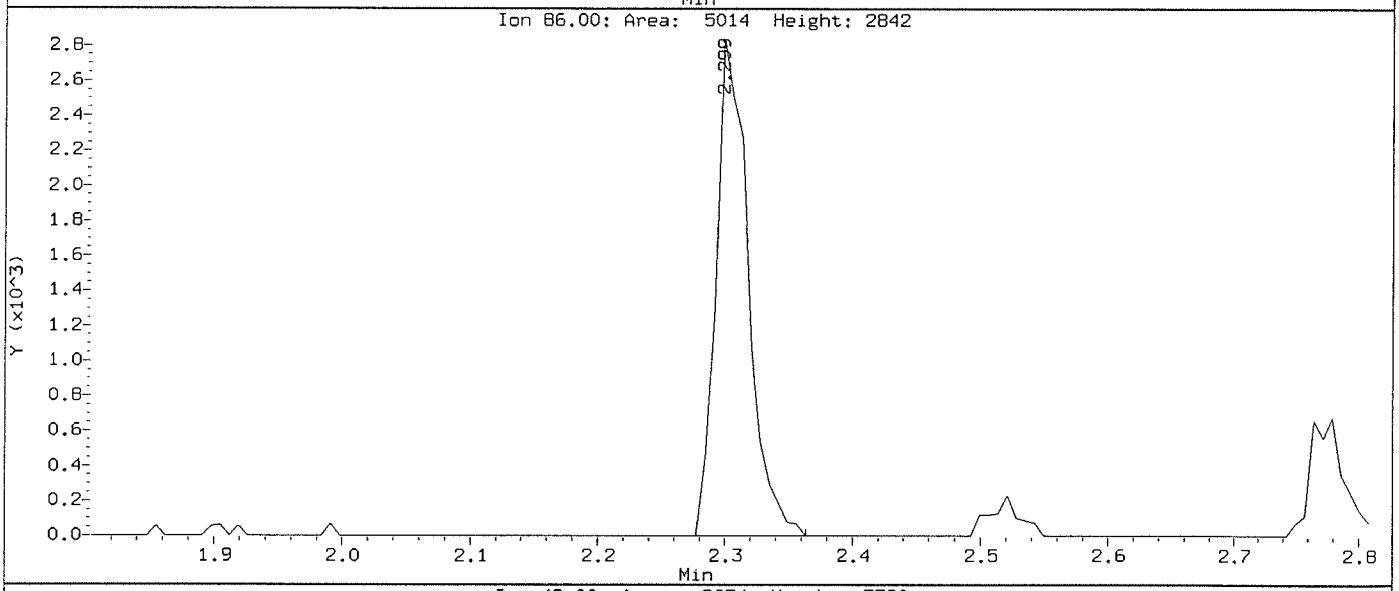


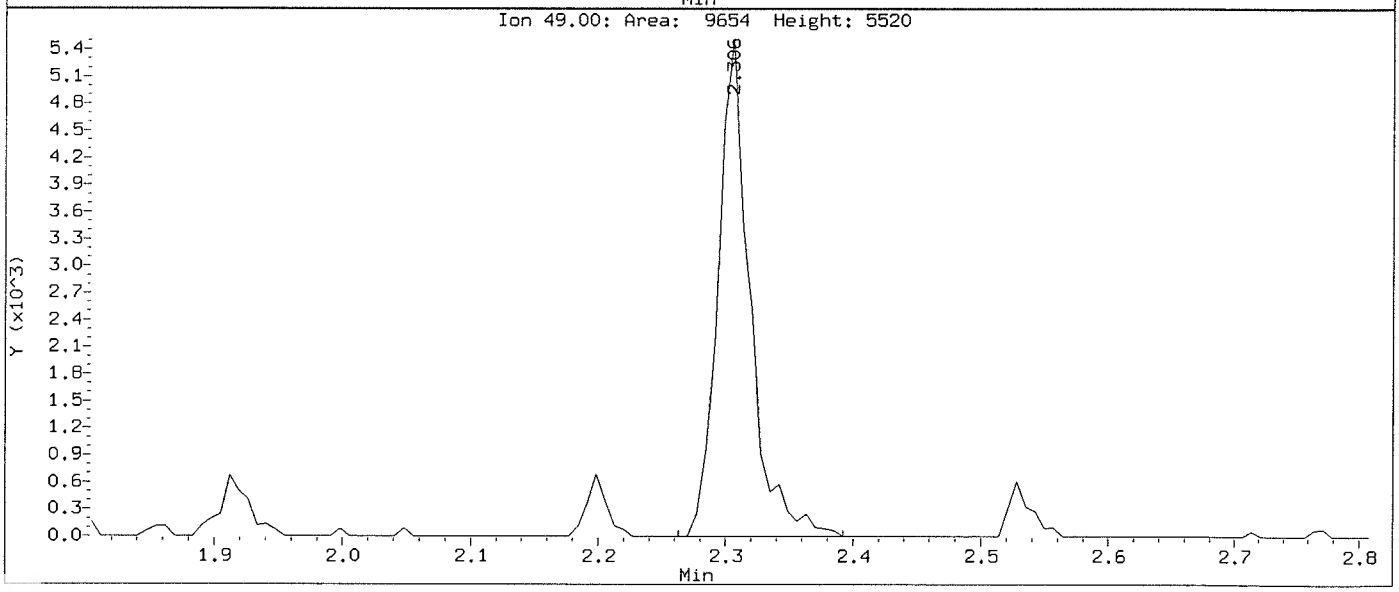


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Methylene Chloride
CAS Number: 75-09-2

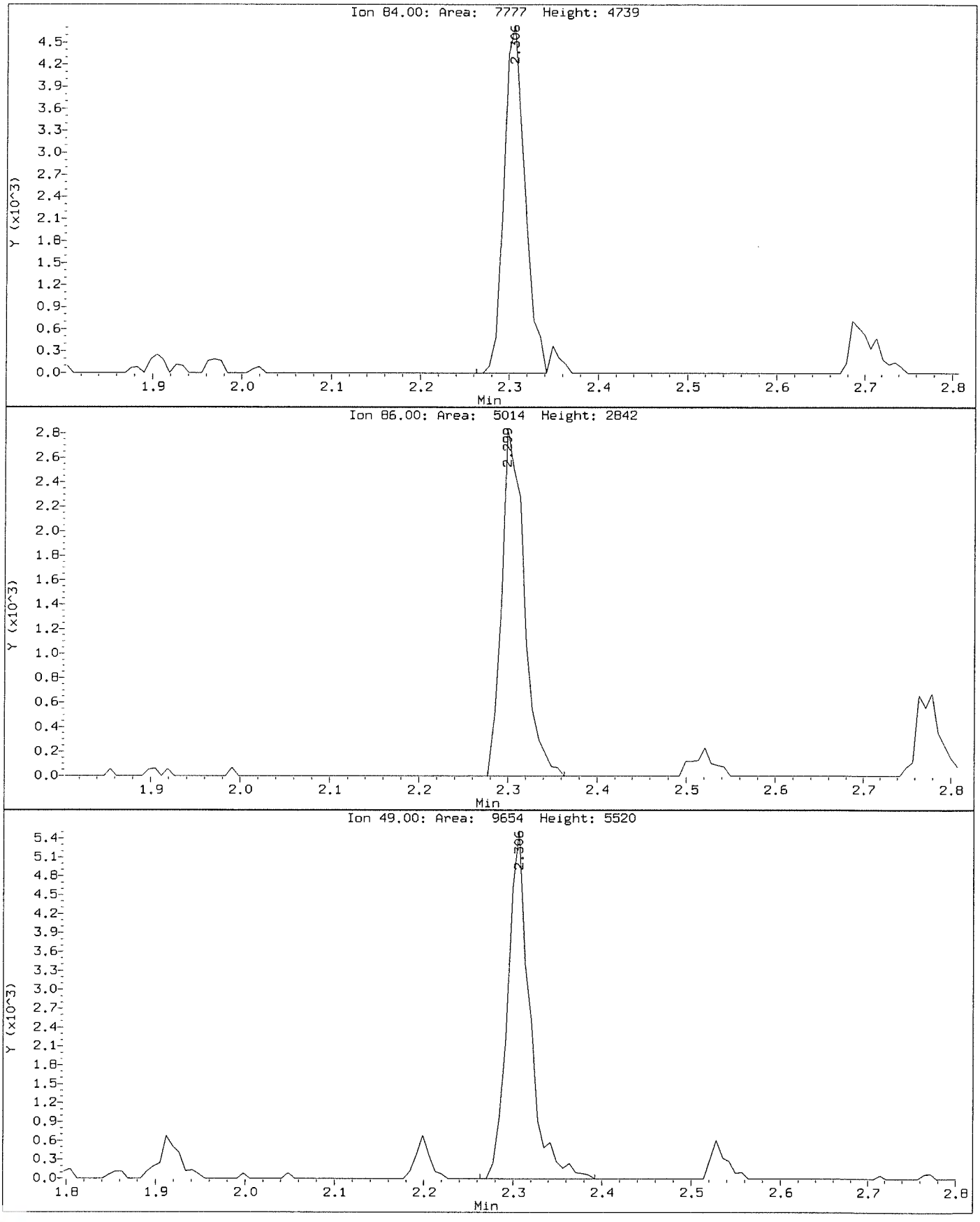






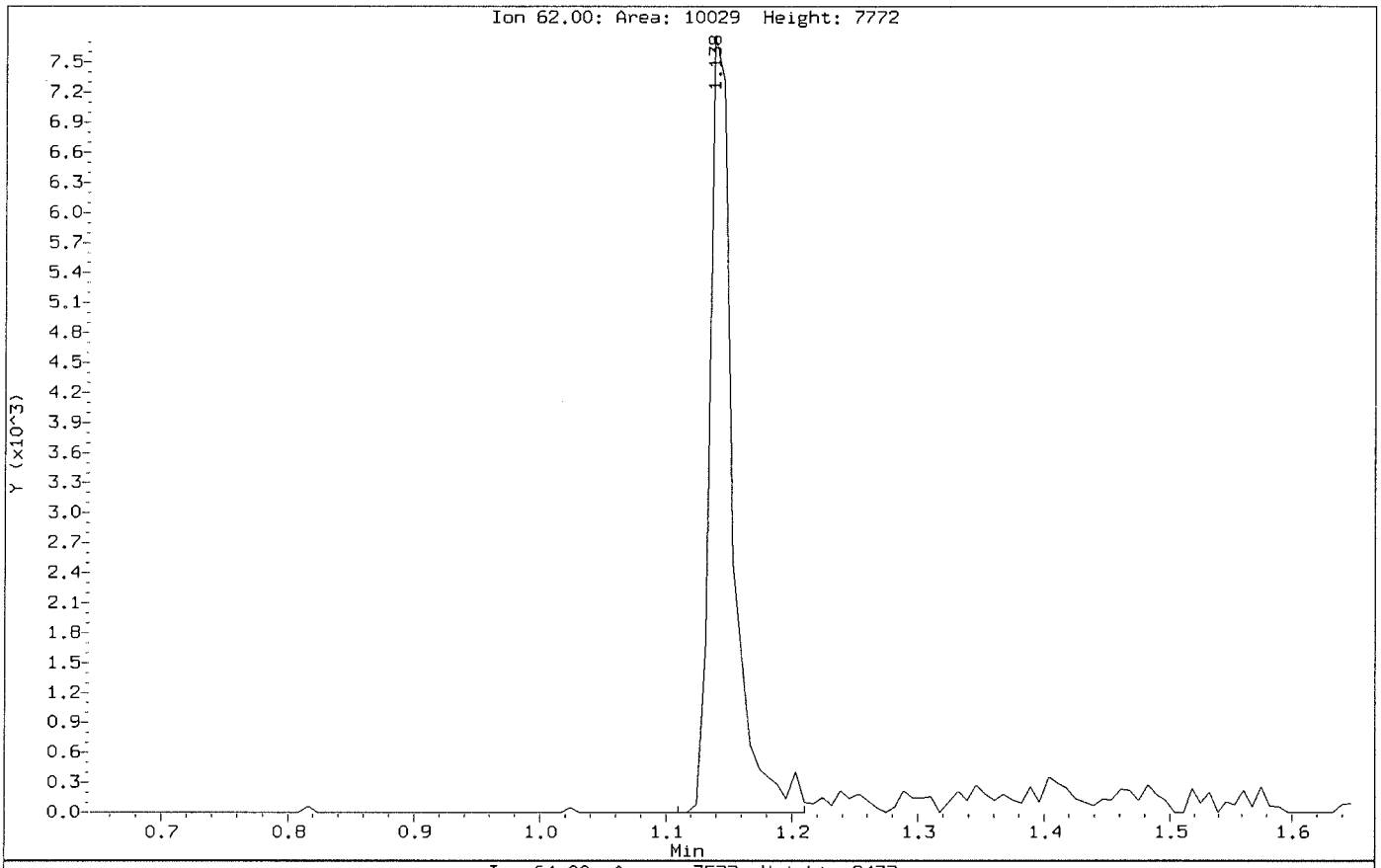
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

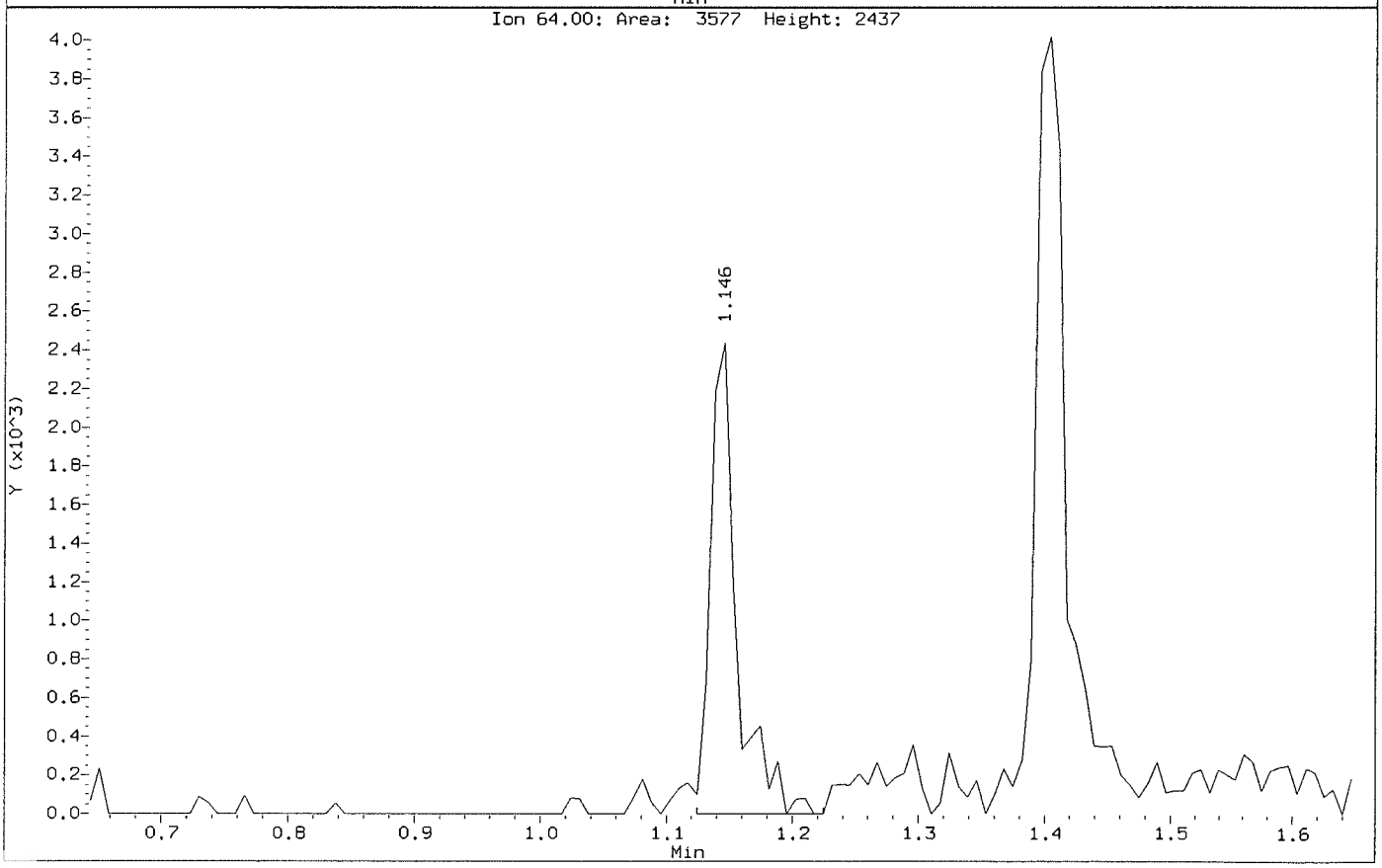
Compound: Methylene Chloride
CAS Number: 75-09-2



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

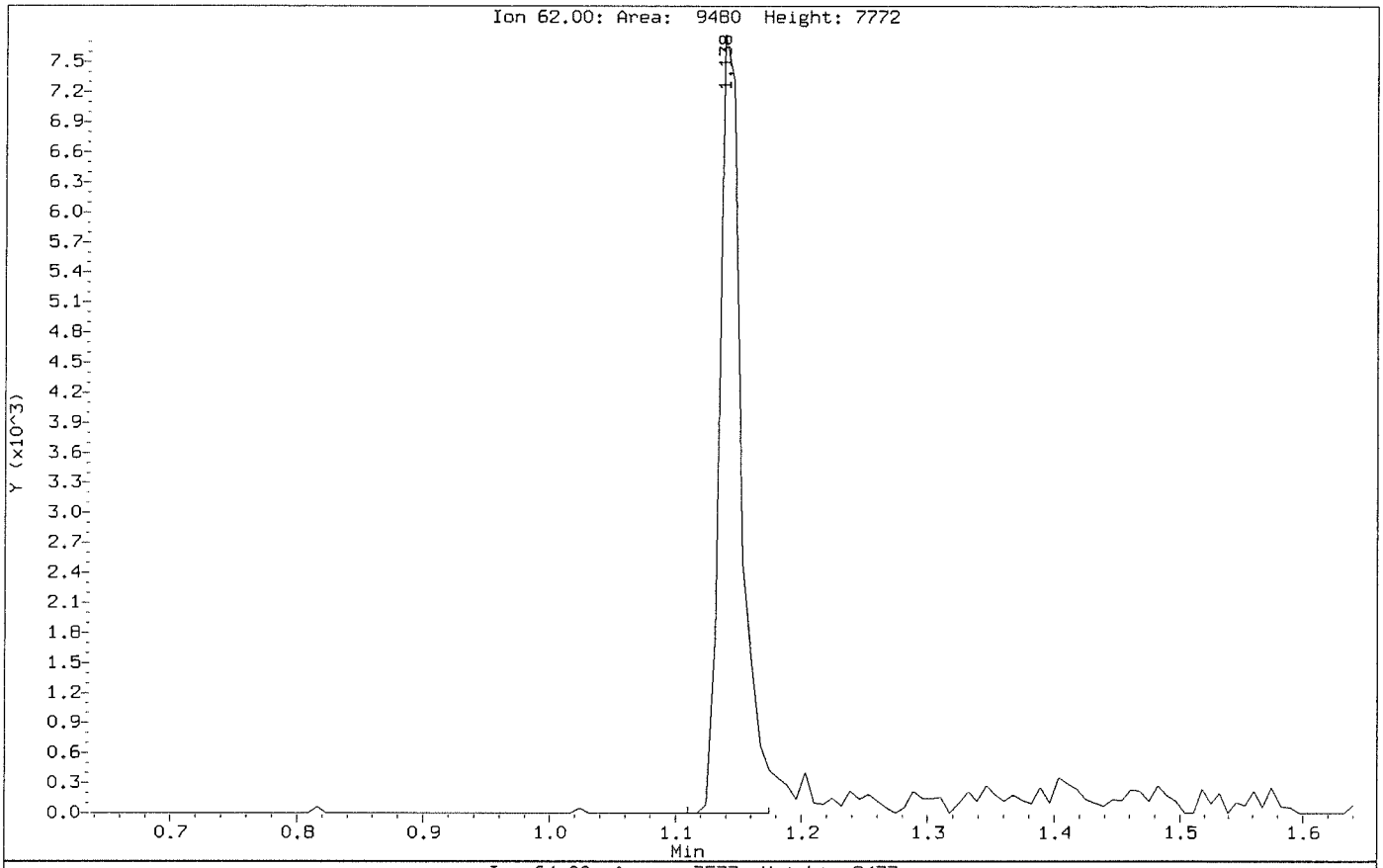
Compound: Vinyl Chloride
CAS Number: 75-01-4

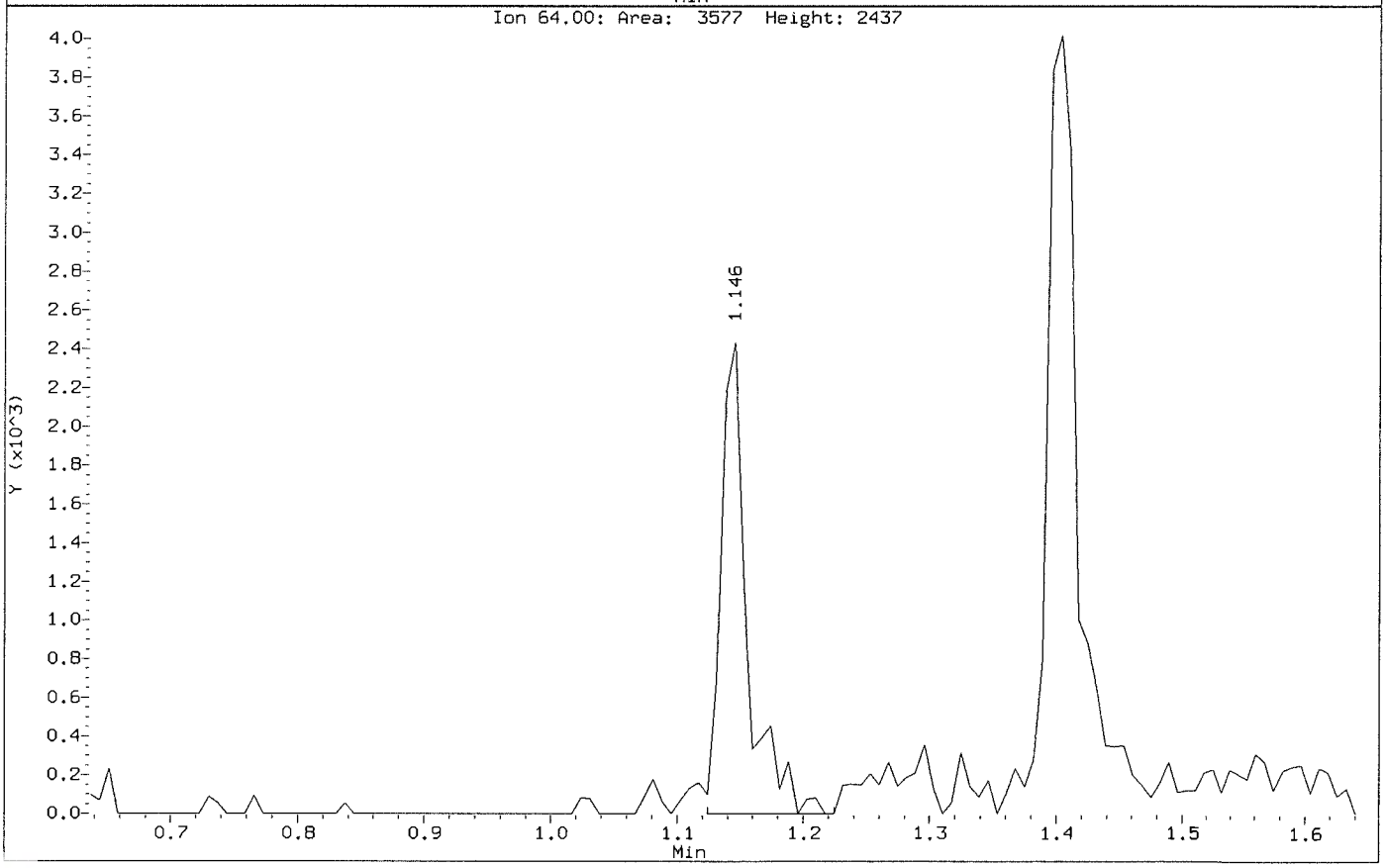




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120306.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120306.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 03-DEC-2020 12:46
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 12:25 Cal File: X120305.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

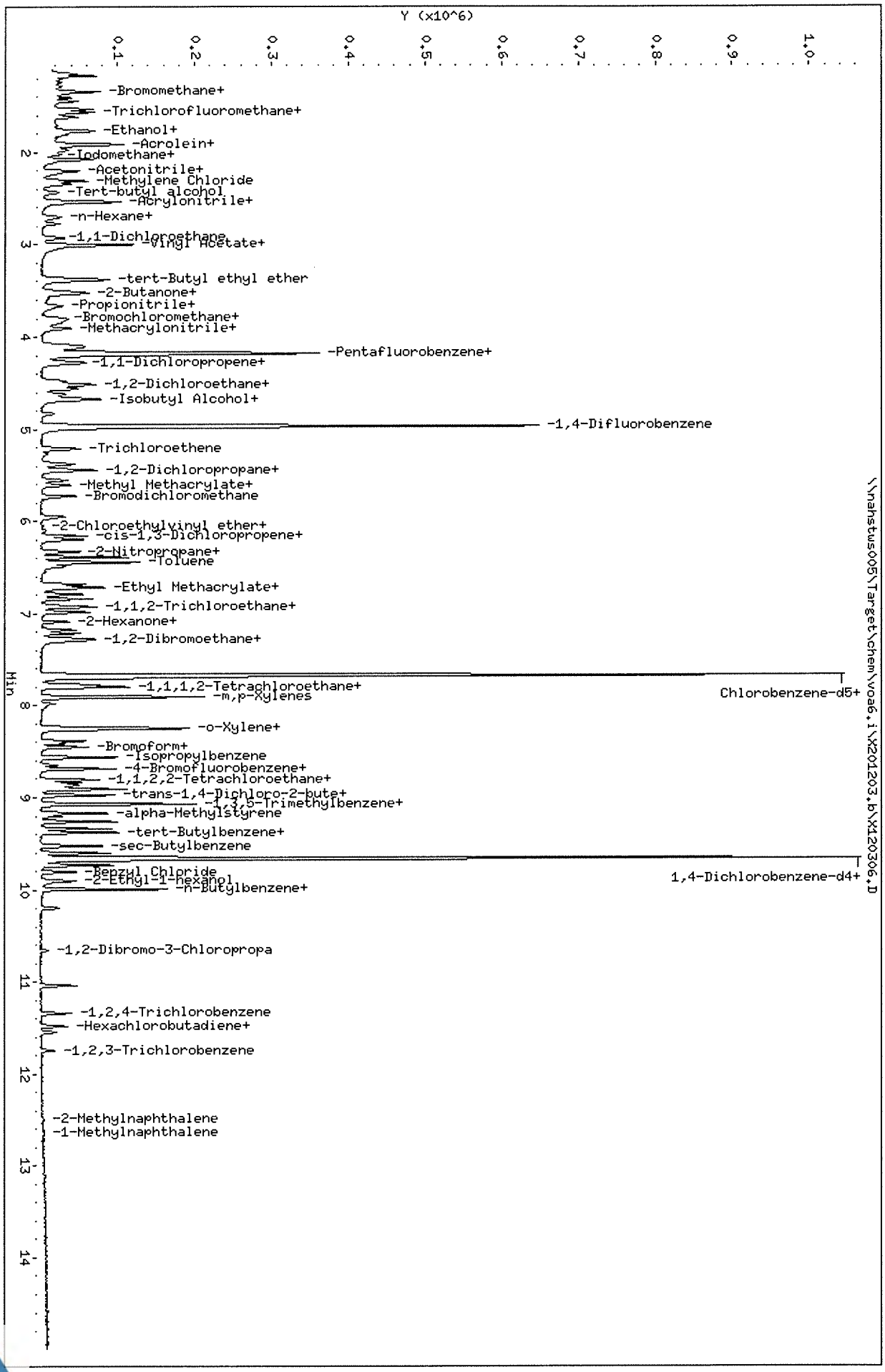
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	258334	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	453298	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	428727	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	192609	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.981)	19795	5.00000	5.57
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	24355	5.00000	4.89(a)
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	60361	5.00000	5.69
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	23638	5.00000	5.39
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	14196	5.00000	4.56(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	22803	5.00000	4.24(a)
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	19313	5.00000	4.94(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	13757	5.00000	5.04
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	31393	5.00000	5.05
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	18189	5.00000	4.63(a)
32 1,1-Dichloropropene	75	4.283	4.283	(0.863)	21853	5.00000	4.98(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	4817	5.00000	4.71(a)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	22365	5.00000	5.04
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	8007	5.00000	4.42(a)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	45469	5.00000	4.34(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	1406	5.00000	3.95(a)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	17060	5.00000	5.16
88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	23973	5.00000	4.29(a)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120306.D Page 2
Report Date: 22-Dec-2020 16:32

	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	(0.919)	26983	5.00000	5.26
42	1,2-Dichloropropane	63	5.436	5.436	(1.095)	17340	5.00000	5.08
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	45077	5.00000	4.17(a)
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	27221	5.00000	4.58(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	27457	5.00000	5.09
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	28791	5.00000	4.82(a)
26	2,2-Dichloropropane	77	3.523	3.523	(0.842)	24332	5.00000	4.48(a)
24	2-Butanone	43	3.588	3.588	(0.858)	12604	10.0000	10.47
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	41036	5.00000	4.46(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	19881	10.0000	9.26
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	48741	5.00000	4.30(a)
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	42796	5.00000	4.06(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	32544	10.0000	10.37
10	Acetone	43	1.976	1.976	(0.473)	17442	10.0000	9.78
37	Benzene	78	4.512	4.512	(0.909)	60140	5.00000	4.87(a)
74	Bromobenzene	156	8.810	8.810	(0.912)	16569	5.00000	4.85(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	9526	5.00000	5.14
39	Bromodichloromethane	83	5.722	5.722	(1.153)	24153	5.00000	5.15
66	Bromoform	173	8.416	8.416	(1.097)	9885	5.00000	5.05
6	Bromomethane	94	1.339	1.339	(0.320)	23460	5.00000	6.07
19	Carbon Disulfide	76	2.069	2.069	(0.495)	80253	10.0000	9.38
34	Carbon Tetrachloride	117	4.268	4.268	(0.860)	16469	5.00000	4.49(a)
59	Chlorobenzene	112	7.692	7.692	(1.003)	41524	5.00000	4.71(a)
7	Chloroethane	64	1.403	1.403	(0.336)	14625	5.00000	4.76(a)
28	Chloroform	83	3.910	3.910	(0.935)	32050	5.00000	4.82(a)
3	Chloromethane	50	1.074	1.074	(0.257)	25288	5.00000	6.03
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	17216	5.00000	4.73(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.241)	27898	5.00000	4.78(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	16616	5.00000	4.77(a)
44	Dibromomethane	93	5.550	5.550	(1.118)	11883	5.00000	5.17
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	15656	5.00000	6.62
61	Ethylbenzene	106	7.800	7.800	(1.017)	20036	5.00000	4.65(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	4266	5.00000	5.90
67	Isopropylbenzene	105	8.559	8.559	(1.116)	52629	5.00000	3.97(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	48191	10.0000	8.57
17	Methylene Chloride	84	2.306	2.306	(0.551)	17300	5.00000	4.98(a)
87	n-Butylbenzene	91	9.992	9.992	(1.034)	36063	5.00000	4.96(a)
73	n-Propylbenzene	91	8.910	8.910	(0.922)	66141	5.00000	4.26(a)
92	Naphthalene	128	11.546	11.546	(1.195)	13718	5.00000	4.42(a)
63	o-Xylene	106	8.244	8.244	(1.075)	24867	5.00000	4.54(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	47181	5.00000	3.81(a)
64	Styrene	104	8.258	8.258	(1.077)	40166	5.00000	4.31(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	34383	5.00000	3.97(a)
56	Tetrachloroethene	164	6.926	6.926	(0.903)	10364	5.00000	4.32(a)
50	Toluene	91	6.446	6.446	(0.840)	63565	5.00000	4.77(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	15015	5.00000	4.84(a)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	24557	5.00000	4.84(a)
38	Trichloroethene	130	5.207	5.207	(1.049)	15581	5.00000	4.70(a)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	32646	5.00000	4.40(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	22007	5.00000	4.79(aM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

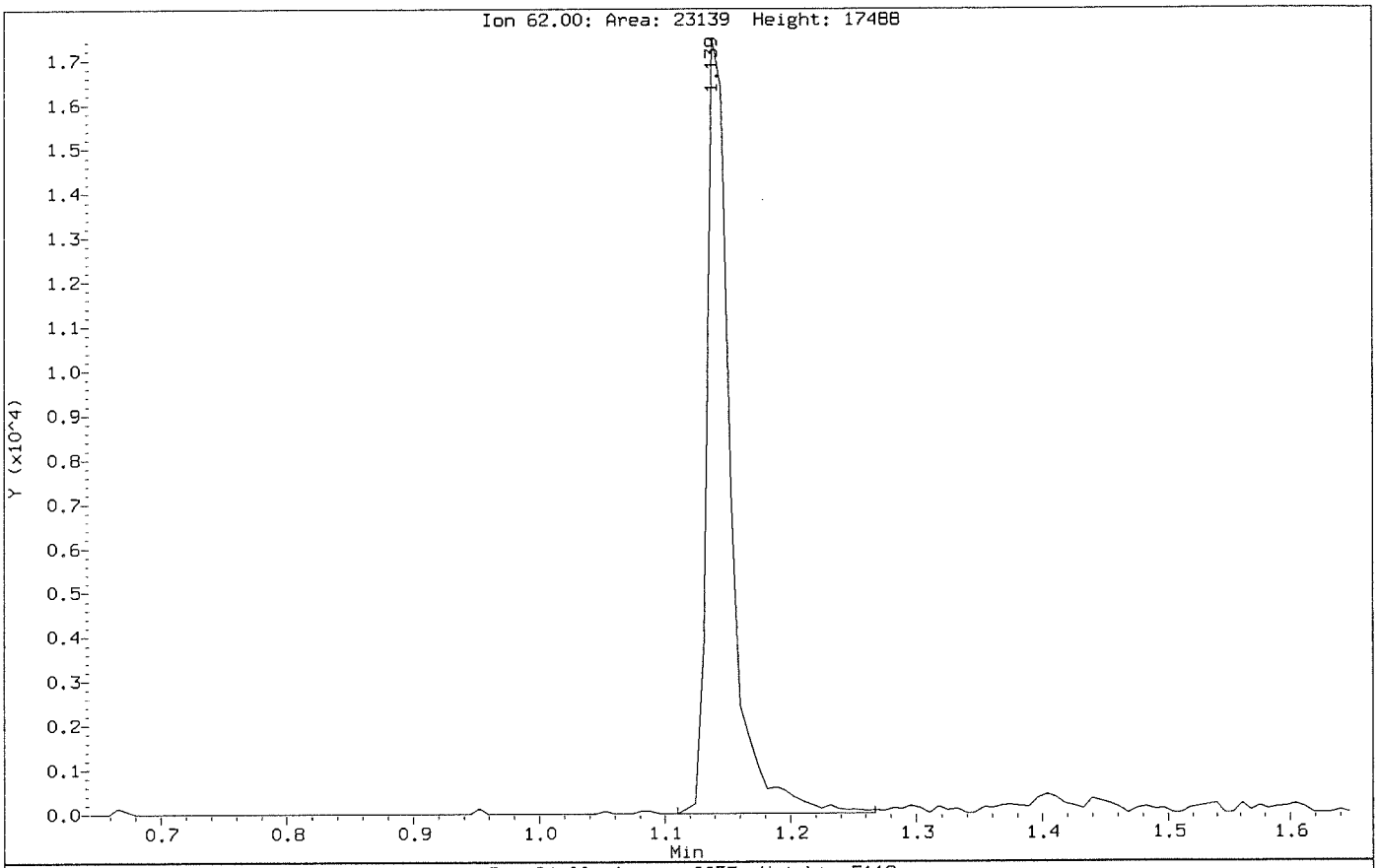


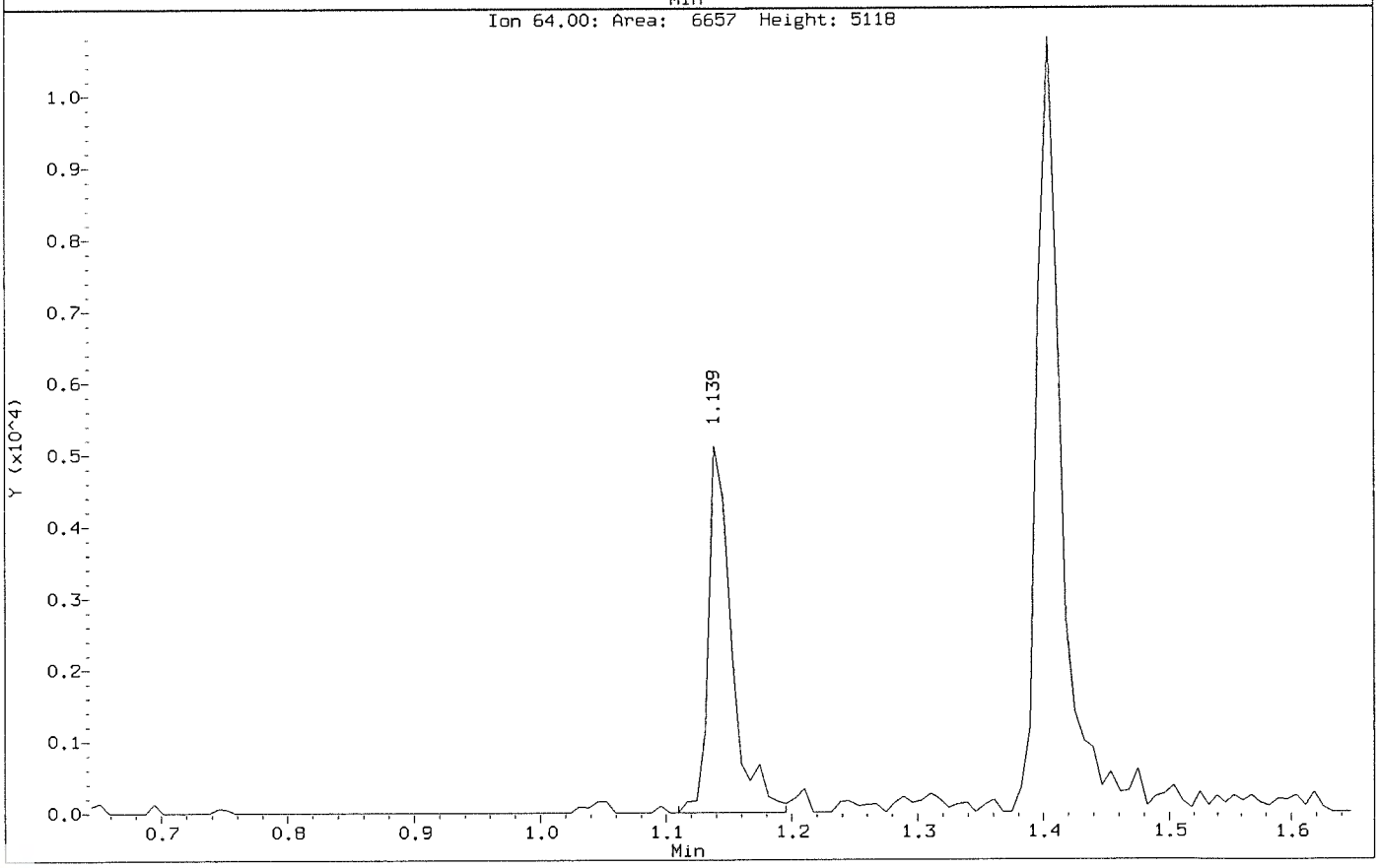
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120306.D
Date : 03-DEC-2020 12:46
Client ID: VSTD005
Sample Info: VSTD005,VSTD005,1,5;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120306.D
Injection Date: 03-DEC-2020 12:46
Instrument: voa6.i
Client Sample ID: VSTD005

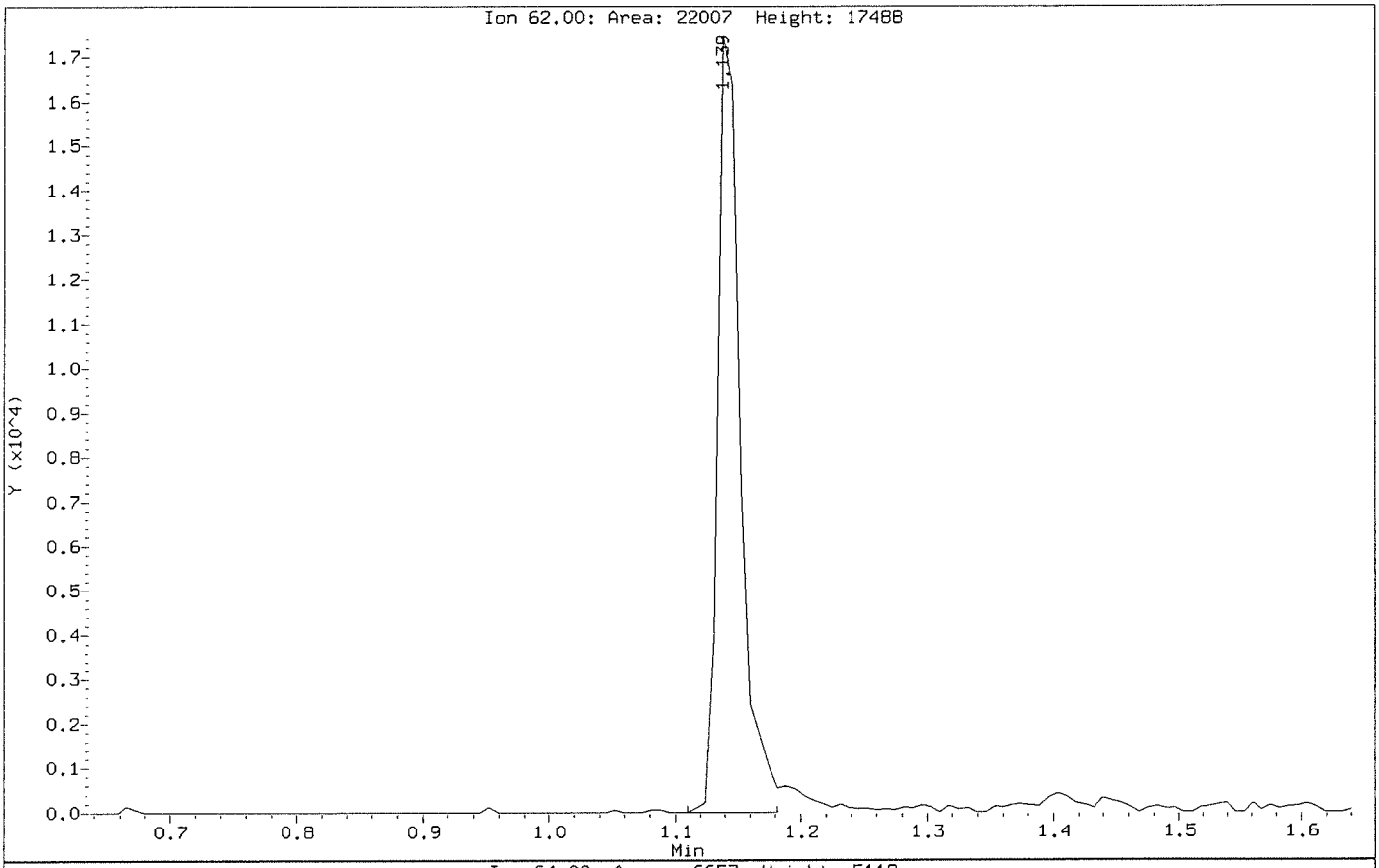
Compound: Vinyl Chloride
CAS Number: 75-01-4

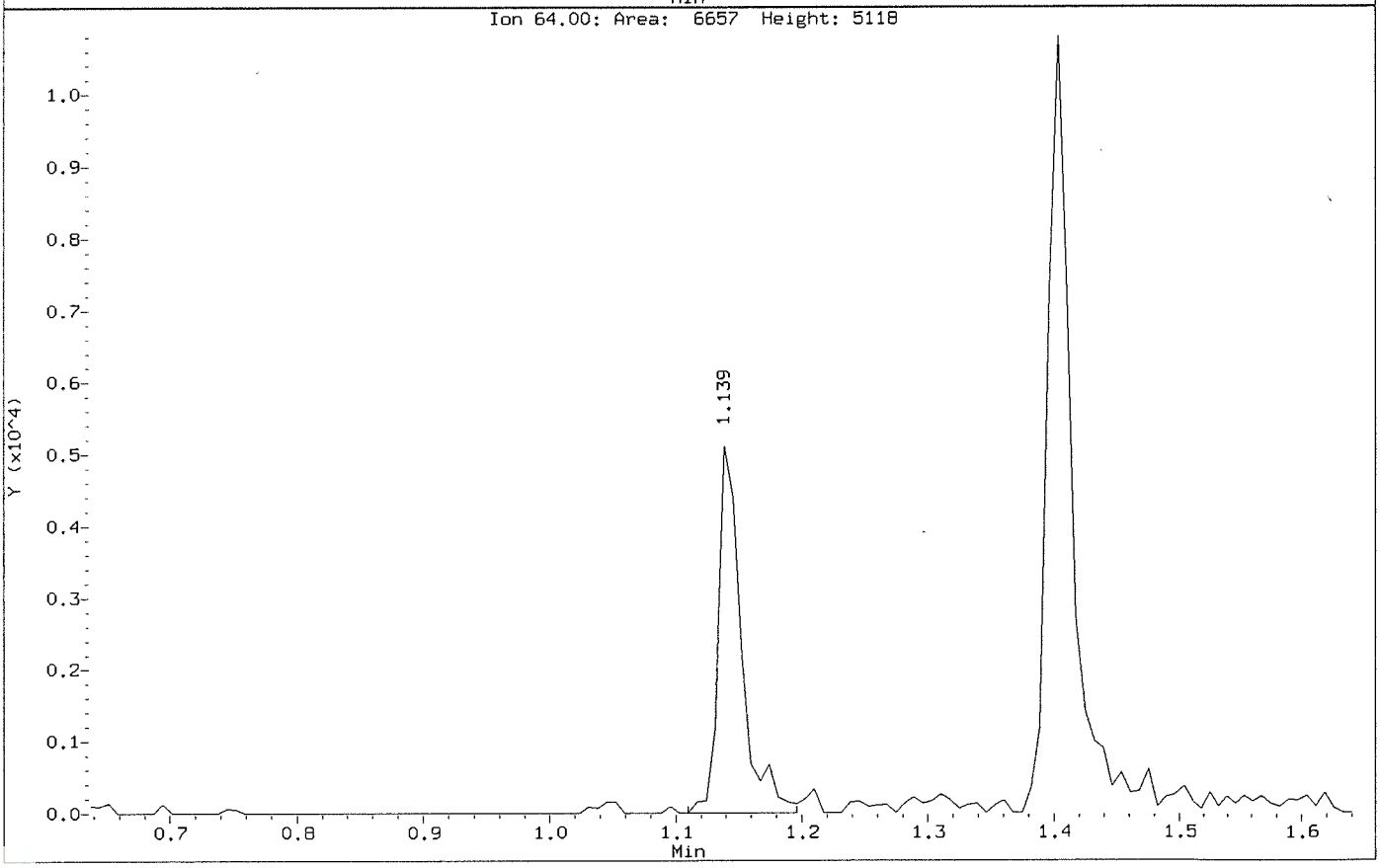




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120306.D
Injection Date: 03-DEC-2020 12:46
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120307.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120307.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 03-DEC-2020 13:07
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 12:46 Cal File: X120306.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

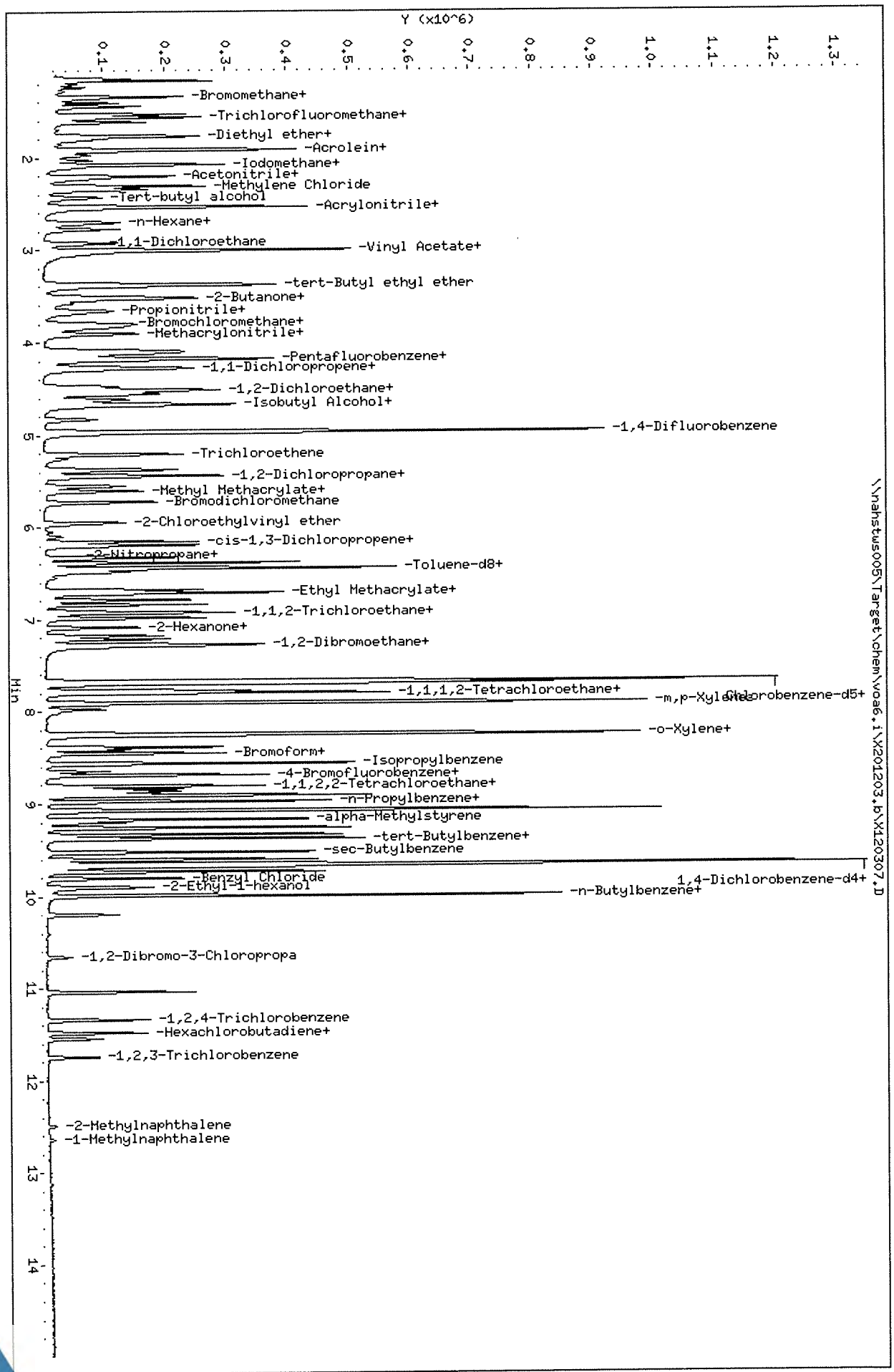
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	268042	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	494246	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	475000	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	215921	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	70849	20.0000	19.63
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	88752	20.0000	19.18
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	223091	20.0000	18.10
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	88172	20.0000	18.58
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	64739	20.0000	18.80
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	107964	20.0000	19.36
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	86416	20.0000	19.74
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	56698	20.0000	18.75
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	124829	20.0000	19.38
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	79569	20.0000	19.56
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	86928	20.0000	18.18
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	20094	20.0000	17.54
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	98190	20.0000	19.73
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	37030	20.0000	18.25
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	225123	20.0000	19.17
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	6806	20.0000	19.32
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	69735	20.0000	19.07
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	119145	20.0000	19.05

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120307.D Page 2
Report Date: 22-Dec-2020 16:32

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	111509	20.0000	19.95
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	68044	20.0000	18.29
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	222261	20.0000	18.35
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	127378	20.0000	19.15
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	114561	20.0000	19.18
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	129656	20.0000	19.36
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	105809	20.0000	18.79
24	2-Butanone	43	3.580	3.580	(0.856)	47289	40.0000	37.88
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	195947	20.0000	19.02
52	2-Hexanone	43	7.090	7.090	(0.924)	84100	40.0000	35.38
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	239940	20.0000	18.91
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	209184	20.0000	17.70
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	127797	40.0000	36.78
10	Acetone	43	1.969	1.969	(0.471)	49369	40.0000	40.85
37	Benzene	78	4.512	4.512	(0.908)	253866	20.0000	18.88
74	Bromobenzene	156	8.810	8.810	(0.912)	72944	20.0000	19.04
29	Bromochloromethane	128	3.795	3.795	(0.908)	38179	20.0000	19.86
39	Bromodichloromethane	83	5.729	5.729	(1.153)	100313	20.0000	19.63
66	Bromoform	173	8.408	8.408	(1.096)	42095	20.0000	19.44
6	Bromomethane	94	1.338	1.338	(0.320)	87980	20.0000	21.28
19	Carbon Disulfide	76	2.069	2.069	(0.495)	347643	40.0000	39.19
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	77278	20.0000	19.33
59	Chlorobenzene	112	7.692	7.692	(1.003)	184247	20.0000	18.88
7	Chloroethane	64	1.403	1.403	(0.336)	62791	20.0000	19.73
28	Chloroform	83	3.910	3.910	(0.935)	133237	20.0000	19.31
3	Chloromethane	50	1.073	1.073	(0.257)	104619	20.0000	20.46
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	72780	20.0000	19.28
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	119648	20.0000	18.83
55	Dibromochloromethane	129	7.176	7.176	(0.936)	72615	20.0000	18.83
44	Dibromomethane	93	5.550	5.550	(1.117)	49578	20.0000	19.80
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	76291	20.0000	21.03
61	Ethylbenzene	106	7.800	7.800	(1.017)	89667	20.0000	18.78
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	20353	20.0000	18.31
67	Isopropylbenzene	105	8.559	8.559	(1.116)	265381	20.0000	18.07
62	m,p-Xylenes	106	7.907	7.907	(1.031)	230027	40.0000	36.96
17	Methylene Chloride	84	2.305	2.305	(0.551)	68607	20.0000	19.05
87	n-Butylbenzene	91	9.991	9.991	(1.034)	206417	20.0000	18.90
73	n-Propylbenzene	91	8.910	8.910	(0.922)	323590	20.0000	18.62
92	Naphthalene	128	11.546	11.546	(1.195)	60734	20.0000	17.46
63	o-Xylene	106	8.244	8.244	(1.075)	113652	20.0000	18.74
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	251293	20.0000	18.10
64	Styrene	104	8.258	8.258	(1.077)	196113	20.0000	19.01
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	181258	20.0000	18.66
56	Tetrachloroethene	164	6.933	6.933	(0.904)	48333	20.0000	18.18
50	Toluene	91	6.446	6.446	(0.840)	276069	20.0000	18.71
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	63377	20.0000	19.71
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	102878	20.0000	18.61
38	Trichloroethene	130	5.206	5.206	(1.048)	66222	20.0000	18.34
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	152303	20.0000	19.79
5	Vinyl Chloride	62	1.145	1.145	(0.274)	92806	20.0000	19.50



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120307.D
Date : 03-DEC-2020 13:07
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\X201203.b\X120308.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120308.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 03-DEC-2020 13:28
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:07 Cal File: X120307.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

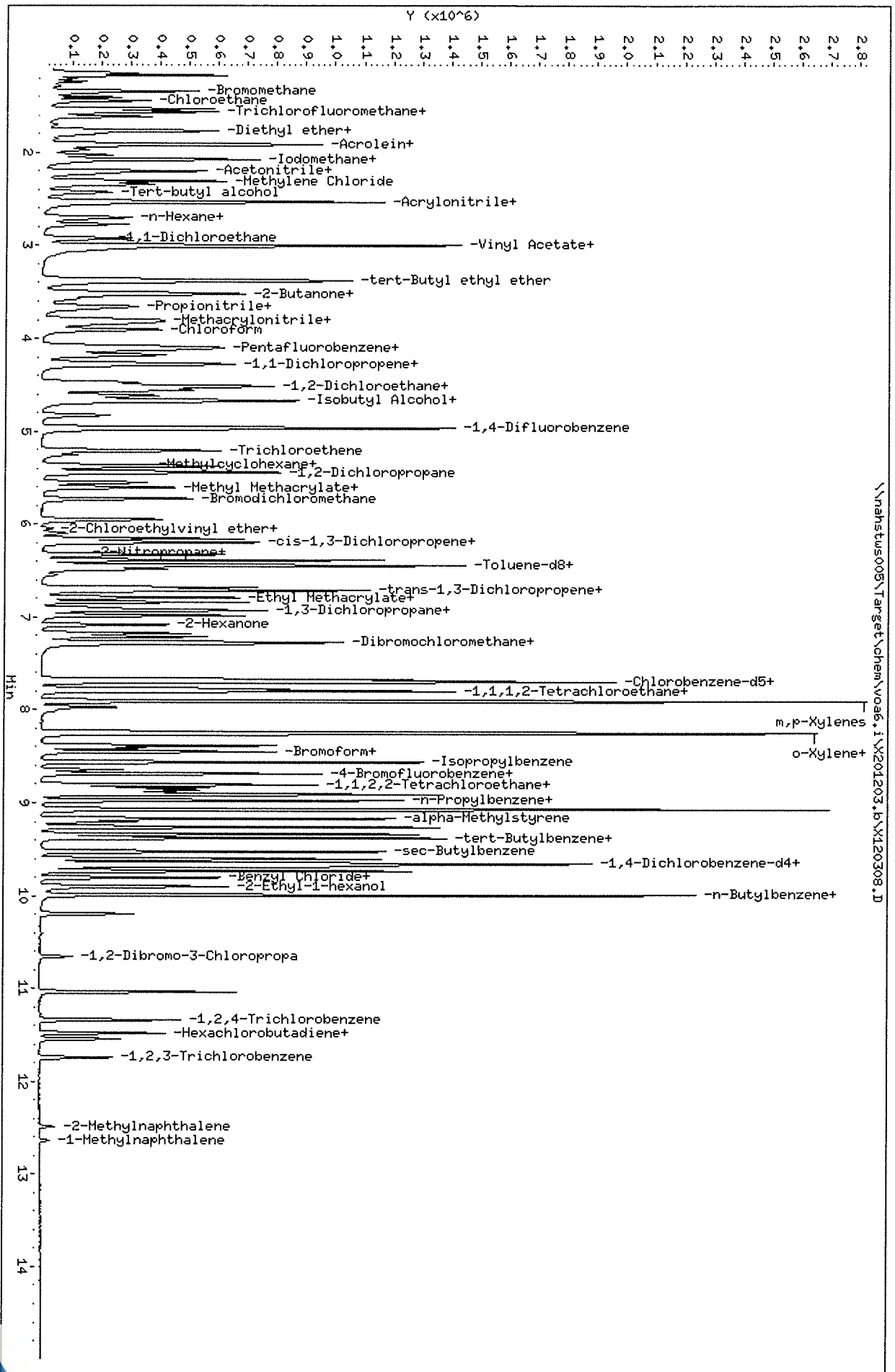
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	286037	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	517329	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	489855	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	233134	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	188739	50.0000	49.26
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	243264	50.0000	50.53
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	636641	50.0000	49.42
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	240109	50.0000	49.38
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	168189	50.0000	47.36
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	282115	50.0000	47.41
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	220656	50.0000	46.69
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	150222	50.0000	48.19
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	302989	50.0000	44.09
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	186937	50.0000	43.06
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	234560	50.0000	46.86
93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	59357	50.0000	47.99
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	246775	50.0000	45.94
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	105810	50.0000	48.30
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	609250	50.0000	48.06
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	18561	50.0000	49.86
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	186475	50.0000	49.45
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	312764	50.0000	46.33

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120308.D Page 2
Report Date: 22-Dec-2020 16:32

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	297379	50.0000	50.84
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	196405	50.0000	50.46
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	593851	50.0000	45.43
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	334245	50.0000	46.55
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	303026	50.0000	49.21
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	341968	50.0000	47.29
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	278595	50.0000	46.37
24	2-Butanone	43	3.573	3.573	(0.854)	130693	100.000	98.11
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	530248	50.0000	47.68
52	2-Hexanone	43	7.083	7.083	(0.923)	242481	100.000	98.92
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	629059	50.0000	45.92
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	566577	50.0000	44.42
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	351963	100.000	98.24
10	Acetone	43	1.969	1.969	(0.471)	115400	100.000	99.24
37	Benzene	78	4.512	4.512	(0.908)	697075	50.0000	49.55
74	Bromobenzene	156	8.810	8.810	(0.912)	195112	50.0000	47.18
29	Bromochloromethane	128	3.795	3.795	(0.908)	94625	50.0000	46.13
39	Bromodichloromethane	83	5.729	5.729	(1.153)	276676	50.0000	51.72
66	Bromoform	173	8.408	8.408	(1.096)	114597	50.0000	51.32
6	Bromomethane	94	1.338	1.338	(0.320)	207664	50.0000	46.77
19	Carbon Disulfide	76	2.069	2.069	(0.495)	834318	100.000	88.15
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	203431	50.0000	48.63
59	Chlorobenzene	112	7.692	7.692	(1.003)	472514	50.0000	46.96
7	Chloroethane	64	1.403	1.403	(0.336)	148185	50.0000	43.63
28	Chloroform	83	3.910	3.910	(0.935)	353473	50.0000	48.01
3	Chloromethane	50	1.073	1.073	(0.257)	263664	50.0000	46.69
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	187854	50.0000	46.65
46	cis-1,3-Dichloropropene	75	6.152	6.152	(1.238)	339775	50.0000	51.10
55	Dibromochloromethane	129	7.176	7.176	(0.936)	195828	50.0000	49.25
44	Dibromomethane	93	5.550	5.550	(1.117)	133518	50.0000	50.94
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	172818	50.0000	41.58
61	Ethylbenzene	106	7.800	7.800	(1.017)	228607	50.0000	46.44
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	52188	50.0000	40.25
67	Isopropylbenzene	105	8.566	8.566	(1.117)	701609	50.0000	46.32
62	m,p-Xylenes	106	7.907	7.907	(1.031)	613426	100.000	95.57
17	Methylene Chloride	84	2.305	2.305	(0.551)	164626	50.0000	42.84
87	n-Butylbenzene	91	9.991	9.991	(1.034)	549126	50.0000	43.67
73	n-Propylbenzene	91	8.910	8.910	(0.922)	843223	50.0000	44.94
92	Naphthalene	128	11.546	11.546	(1.195)	176696	50.0000	47.05
63	o-Xylene	106	8.244	8.244	(1.075)	293054	50.0000	46.85
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	675728	50.0000	45.08
64	Styrene	104	8.258	8.258	(1.077)	532648	50.0000	50.08
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	479164	50.0000	45.71
56	Tetrachloroethene	164	6.926	6.926	(0.903)	126550	50.0000	46.17
50	Toluene	91	6.446	6.446	(0.840)	711286	50.0000	46.74
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	160444	50.0000	46.77
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	294397	50.0000	50.89
38	Trichloroethene	130	5.207	5.207	(1.048)	176022	50.0000	46.59
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	355303	50.0000	43.26
5	Vinyl Chloride	62	1.145	1.145	(0.274)	223036	50.0000	43.91(M)

QC Flag Legend

M - Compound response manually integrated.

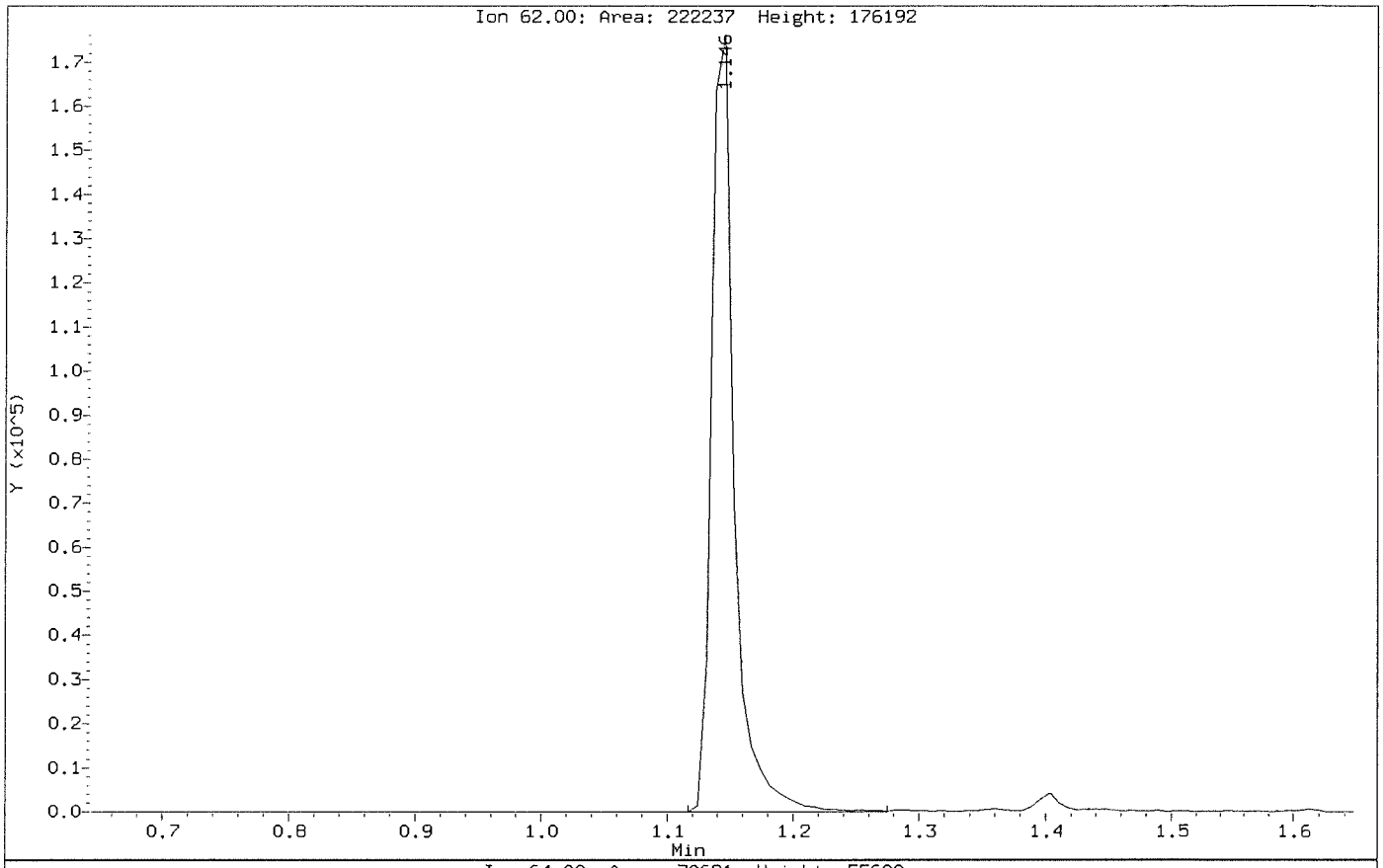


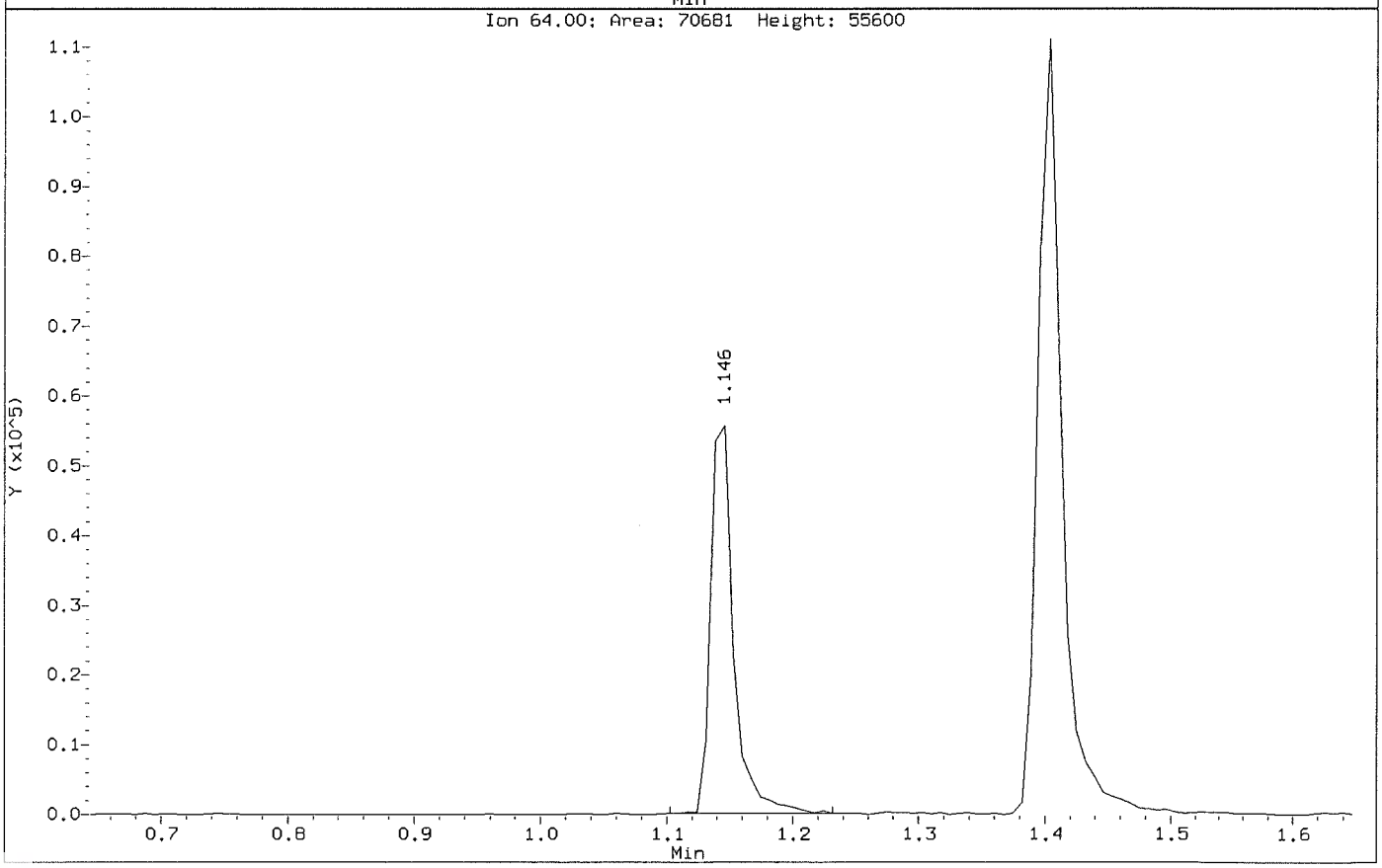
Data File: \\nahstws005\Target\chem\voa6,i\X201203,b\X120308,D
Date : 03-DEC-2020 13:28
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120308.D
Injection Date: 03-DEC-2020 13:28
Instrument: voa6.i
Client Sample ID: VSTD050

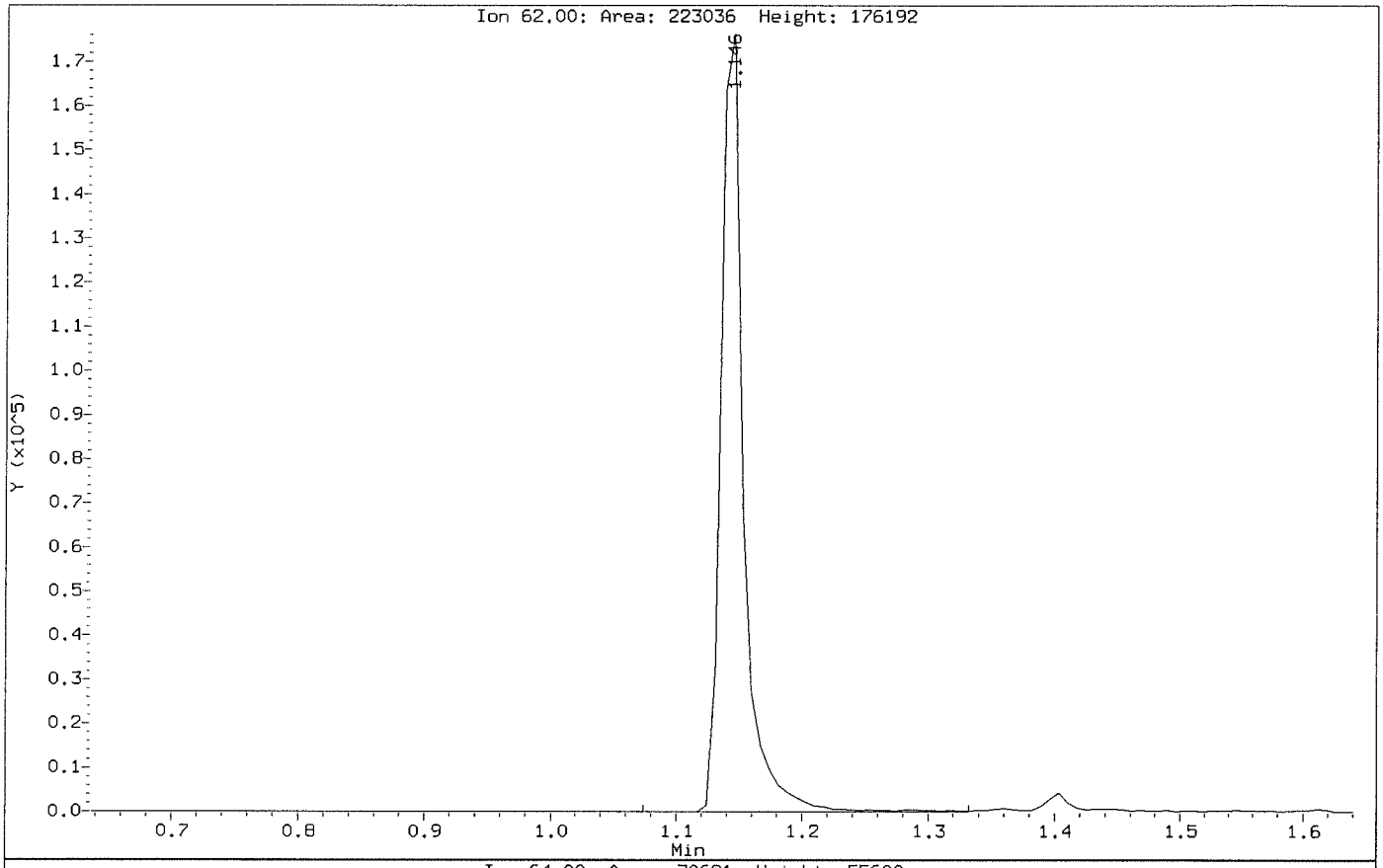
Compound: Vinyl Chloride
CAS Number: 75-01-4

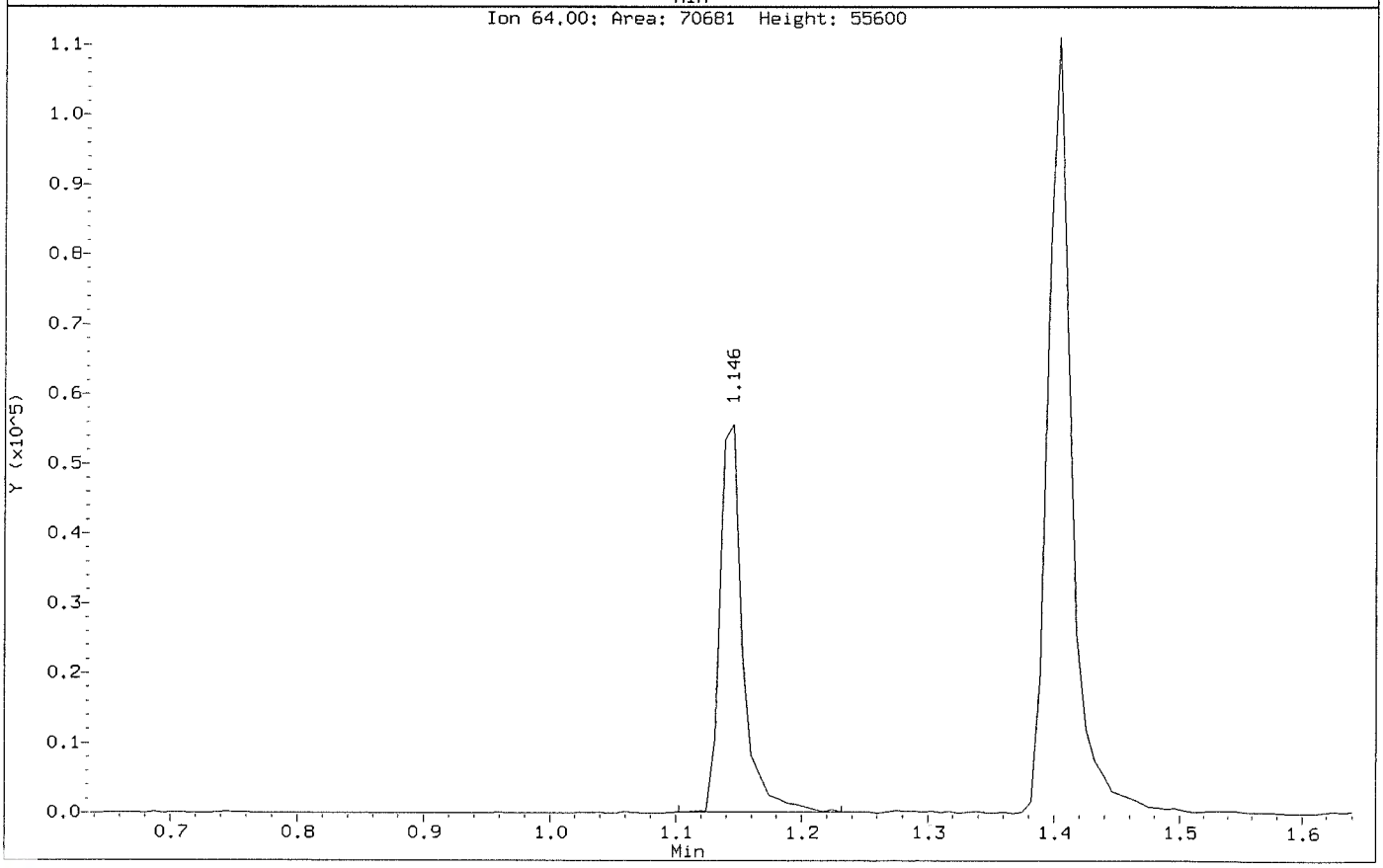




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120308.D
Injection Date: 03-DEC-2020 13:28
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120309.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120309.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 03-DEC-2020 13:49
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

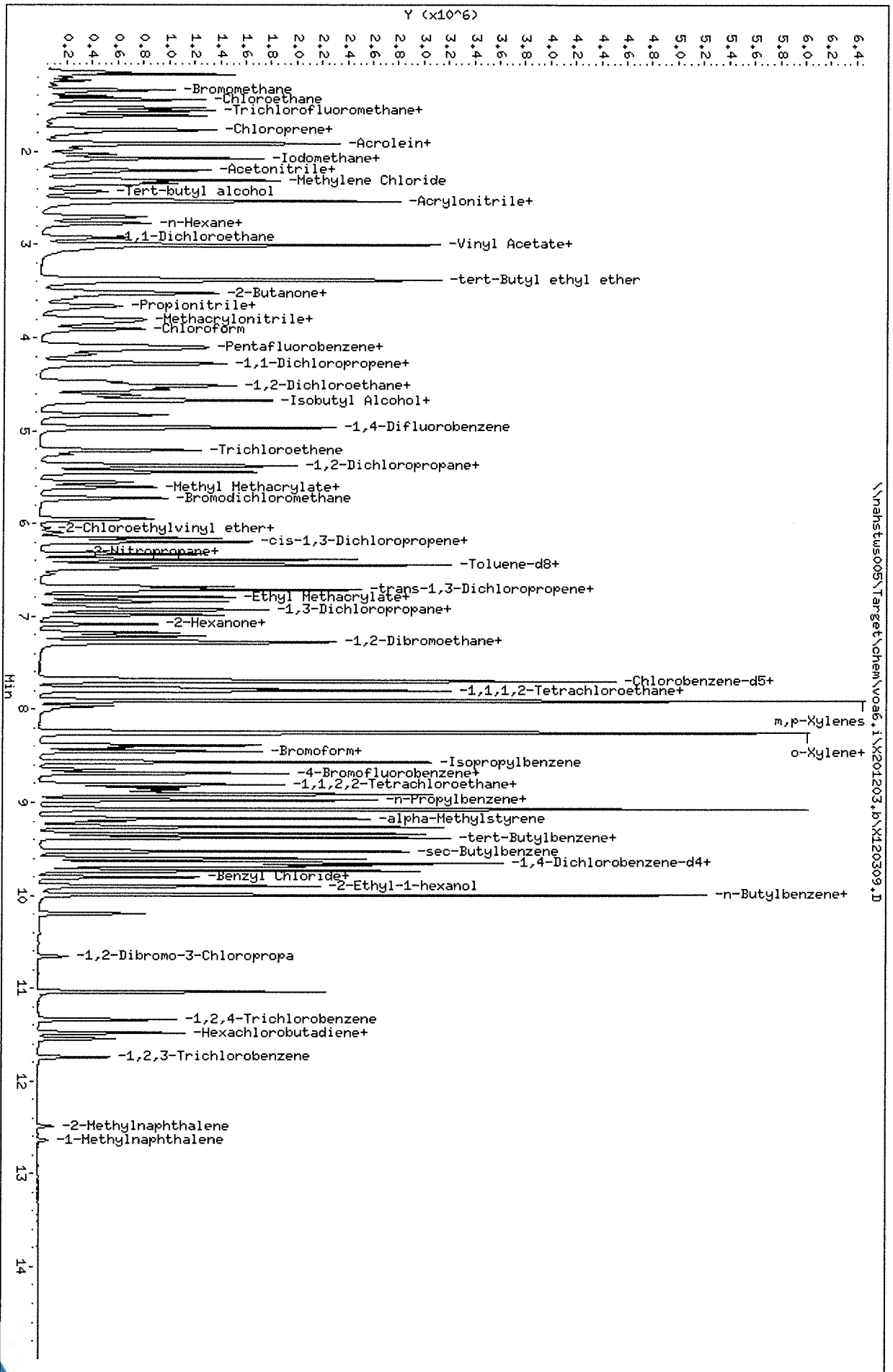
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	283467	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	547943	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	507213	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	237046	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	377139	100.000	99.49
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	493358	100.000	104.24
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1342152	100.000	100.24
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	495764	100.000	98.66
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	363710	100.000	98.91
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	614245	100.000	104.17
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	455859	100.000	94.88
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	320056	100.000	99.17
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	696971	100.000	102.34
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	445263	100.000	103.51
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	515338	100.000	97.22
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	132088	100.000	105.05
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	533393	100.000	97.67
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	235139	100.000	105.57
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	1358876	100.000	105.43
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.103)	37818	100.000	100.60
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	384283	100.000	98.43
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	687877	100.000	100.22

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120309.D Page 2
Report Date: 22-Dec-2020 16:32

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	562223	100.000	90.75
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	393931	100.000	95.55
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1380092	100.000	103.84
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	721411	100.000	98.82
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	637394	100.000	99.98
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	726875	100.000	98.87
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	600523	100.000	100.87
24	2-Butanone	43	3.573	3.573	(0.854)	274521	200.000	207.95(A)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	1117268	100.000	98.80
52	2-Hexanone	43	7.083	7.083	(0.923)	499471	200.000	196.79
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	1421624	100.000	102.08
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1387918	100.000	107.02
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	725187	200.000	195.49
10	Acetone	43	1.969	1.969	(0.471)	230256	200.000	208.12(A)
37	Benzene	78	4.512	4.512	(0.908)	1372410	100.000	92.10
74	Bromobenzene	156	8.809	8.809	(0.912)	413012	100.000	98.23
29	Bromochloromethane	128	3.795	3.795	(0.908)	200750	100.000	98.76
39	Bromodichloromethane	83	5.729	5.729	(1.153)	545535	100.000	96.29
66	Bromoform	173	8.408	8.408	(1.096)	234400	100.000	101.39
6	Bromomethane	94	1.338	1.338	(0.320)	424564	100.000	96.23
19	Carbon Disulfide	76	2.069	2.069	(0.495)	1975733	200.000	210.65(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	485597	100.000	109.60
59	Chlorobenzene	112	7.692	7.692	(1.003)	1031999	100.000	99.05
7	Chloroethane	64	1.403	1.403	(0.336)	330508	100.000	98.20
28	Chloroform	83	3.910	3.910	(0.935)	712222	100.000	97.63
3	Chloromethane	50	1.073	1.073	(0.257)	554456	100.000	97.72
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	390576	100.000	97.88
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	683394	100.000	97.05
55	Dibromochloromethane	129	7.176	7.176	(0.936)	413525	100.000	100.45
44	Dibromomethane	93	5.550	5.550	(1.117)	266252	100.000	95.91
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	402184	100.000	93.97
61	Ethylbenzene	106	7.799	7.799	(1.017)	522676	100.000	102.55
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	143368	100.000	102.10
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1672928	100.000	106.68
62	m,p-Xylenes	106	7.907	7.907	(1.031)	1390257	200.000	209.20(A)
17	Methylene Chloride	84	2.305	2.305	(0.551)	361434	100.000	94.92
87	n-Butylbenzene	91	9.991	9.991	(1.034)	1374517	100.000	101.27
73	n-Propylbenzene	91	8.917	8.917	(0.923)	1989197	100.000	104.27
92	Naphthalene	128	11.546	11.546	(1.195)	392071	100.000	102.69
63	o-Xylene	106	8.244	8.244	(1.075)	658228	100.000	101.64
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	1655898	100.000	108.66
64	Styrene	104	8.258	8.258	(1.077)	1149090	100.000	104.34
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	1137681	100.000	106.73
56	Tetrachloroethene	164	6.933	6.933	(0.904)	304485	100.000	107.30
50	Toluene	91	6.446	6.446	(0.840)	1582464	100.000	100.44
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	348440	100.000	102.49
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	607577	100.000	99.17
38	Trichloroethene	130	5.206	5.206	(1.048)	375393	100.000	93.81
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	829176	100.000	101.88
5	Vinyl Chloride	62	1.145	1.145	(0.274)	497280	100.000	98.80

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120309.D
Date : 03-DEC-2020 13:49
Client ID: WSTD100
Sample Info: WSTD100;WSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120310.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 03-DEC-2020 14:10
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:49 Cal File: X120309.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	289197	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	537724	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	513077	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	237095	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	598380	150.000	154.83
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	721913	150.000	149.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2026860	150.000	149.46
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	783951	150.000	154.33
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	555565	150.000	149.36
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	950505	150.000	158.00
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	697205	150.000	145.08
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	464591	150.000	142.31
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	1017120	150.000	146.39
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	661475	150.000	150.73
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	789910	150.000	151.85
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	205173	150.000	163.14
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	797723	150.000	146.04
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	376815	150.000	169.14
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	2061295	150.000	159.90
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	59701	150.000	159.18
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	591922	150.000	149.88
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	1077662	150.000	156.98

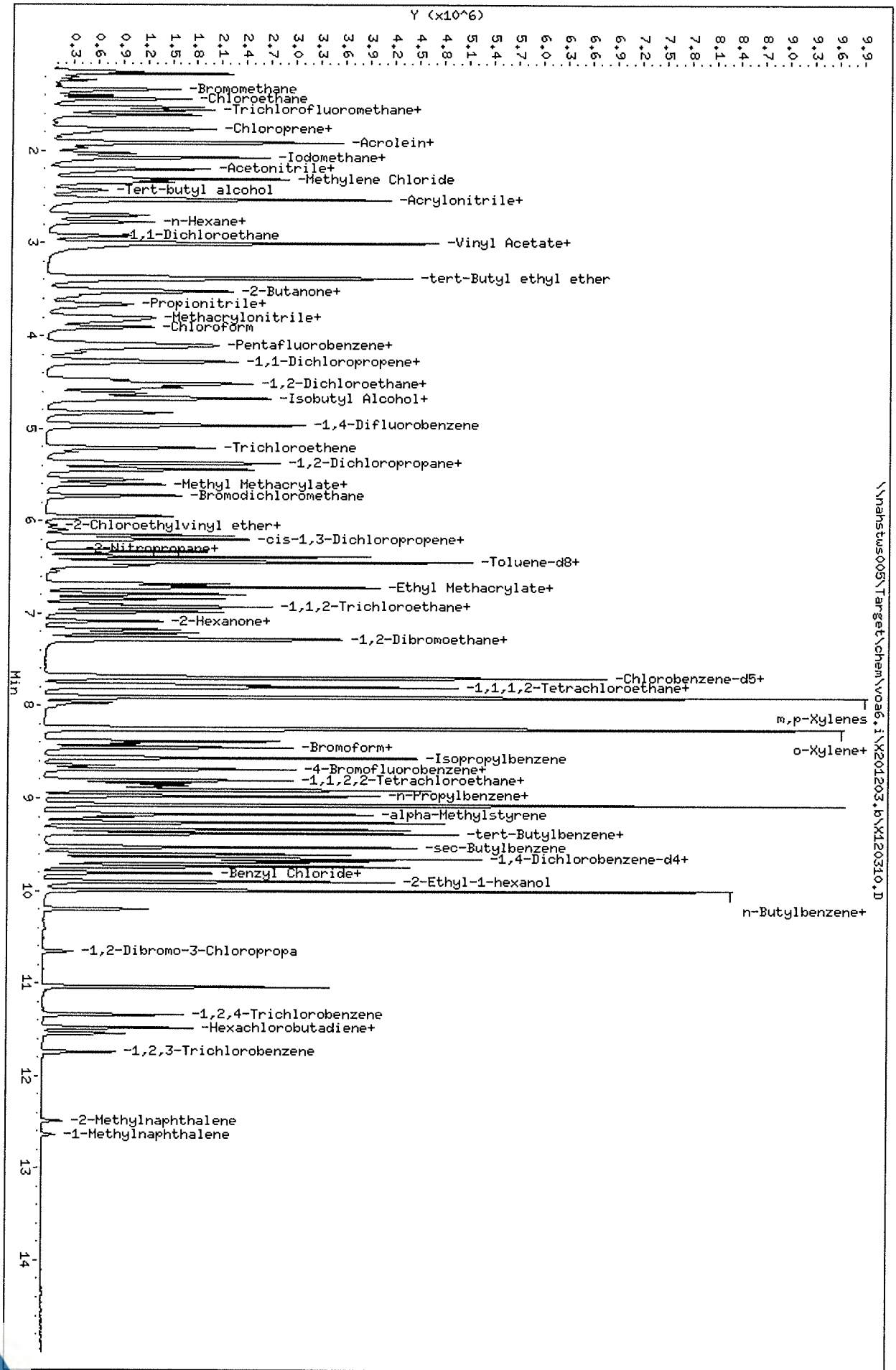
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	916835	150.000	150.80
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	608176	150.000	150.33
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	2142942	150.000	161.20
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	1094260	150.000	149.86
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	931181	150.000	144.39
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	1092843	150.000	148.63
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	916483	150.000	150.90
24	2-Butanone	43	3.573	3.573	(0.854)	396968	300.000	294.75(A)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	1717161	150.000	151.82
52	2-Hexanone	43	7.090	7.090	(0.924)	765599	300.000	298.20(A)
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	2205186	150.000	158.31
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	2083202	150.000	160.60
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	1147911	300.000	305.91(A)
10	Acetone	43	1.969	1.969	(0.471)	345461	300.000	309.92(A)
37	Benzene	78	4.512	4.512	(0.908)	2200140	150.000	150.46
74	Bromobenzene	156	8.809	8.809	(0.912)	641321	150.000	152.51
29	Bromochloromethane	128	3.795	3.795	(0.908)	305856	150.000	147.49
39	Bromodichloromethane	83	5.729	5.729	(1.153)	879987	150.000	158.28
66	Bromoform	173	8.416	8.416	(1.097)	375533	150.000	160.59
6	Bromomethane	94	1.338	1.338	(0.320)	691088	150.000	153.38
19	Carbon Disulfide	76	2.069	2.069	(0.495)	2949325	300.000	308.23(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	742044	150.000	170.67
59	Chlorobenzene	112	7.692	7.692	(1.003)	1592767	150.000	151.13
7	Chloroethane	64	1.403	1.403	(0.336)	503537	150.000	146.64
28	Chloroform	83	3.910	3.910	(0.935)	1121233	150.000	150.65
3	Chloromethane	50	1.073	1.073	(0.257)	845637	150.000	145.50
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	623610	150.000	153.19
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	1085608	150.000	157.10
55	Dibromochloromethane	129	7.176	7.176	(0.936)	631706	150.000	151.69
44	Dibromomethane	93	5.550	5.550	(1.117)	427278	150.000	156.84
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	658231	150.000	149.10
61	Ethylbenzene	106	7.799	7.799	(1.017)	795335	150.000	154.26
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	226530	150.000	155.54
67	Isopropylbenzene	105	8.566	8.566	(1.117)	2497992	150.000	157.47
62	m,p-Xylenes	106	7.907	7.907	(1.031)	2088257	300.000	310.64(A)
17	Methylene Chloride	84	2.305	2.305	(0.551)	574144	150.000	147.79
87	n-Butylbenzene	91	9.991	9.991	(1.034)	2184866	150.000	153.77
73	n-Propylbenzene	91	8.917	8.917	(0.923)	3066146	150.000	160.69
92	Naphthalene	128	11.539	11.539	(1.194)	610430	150.000	159.85
63	o-Xylene	106	8.244	8.244	(1.075)	1022420	150.000	156.07
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	2485474	150.000	163.07
64	Styrene	104	8.258	8.258	(1.077)	1815704	150.000	162.99
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	1661518	150.000	155.85
56	Tetrachloroethene	164	6.933	6.933	(0.904)	458410	150.000	159.70
50	Toluene	91	6.446	6.446	(0.840)	2427255	150.000	152.30
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	536482	150.000	154.68
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	928076	150.000	154.36
38	Trichloroethene	130	5.206	5.206	(1.048)	571917	150.000	145.64
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	1277360	150.000	153.83
5	Vinyl Chloride	62	1.138	1.138	(0.272)	758535	150.000	147.73

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120310.D
Date : 03-DEC-2020 14:10
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\X201203.b\X120311.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120311.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 03-DEC-2020 14:31
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 14:10 Cal File: X120310.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

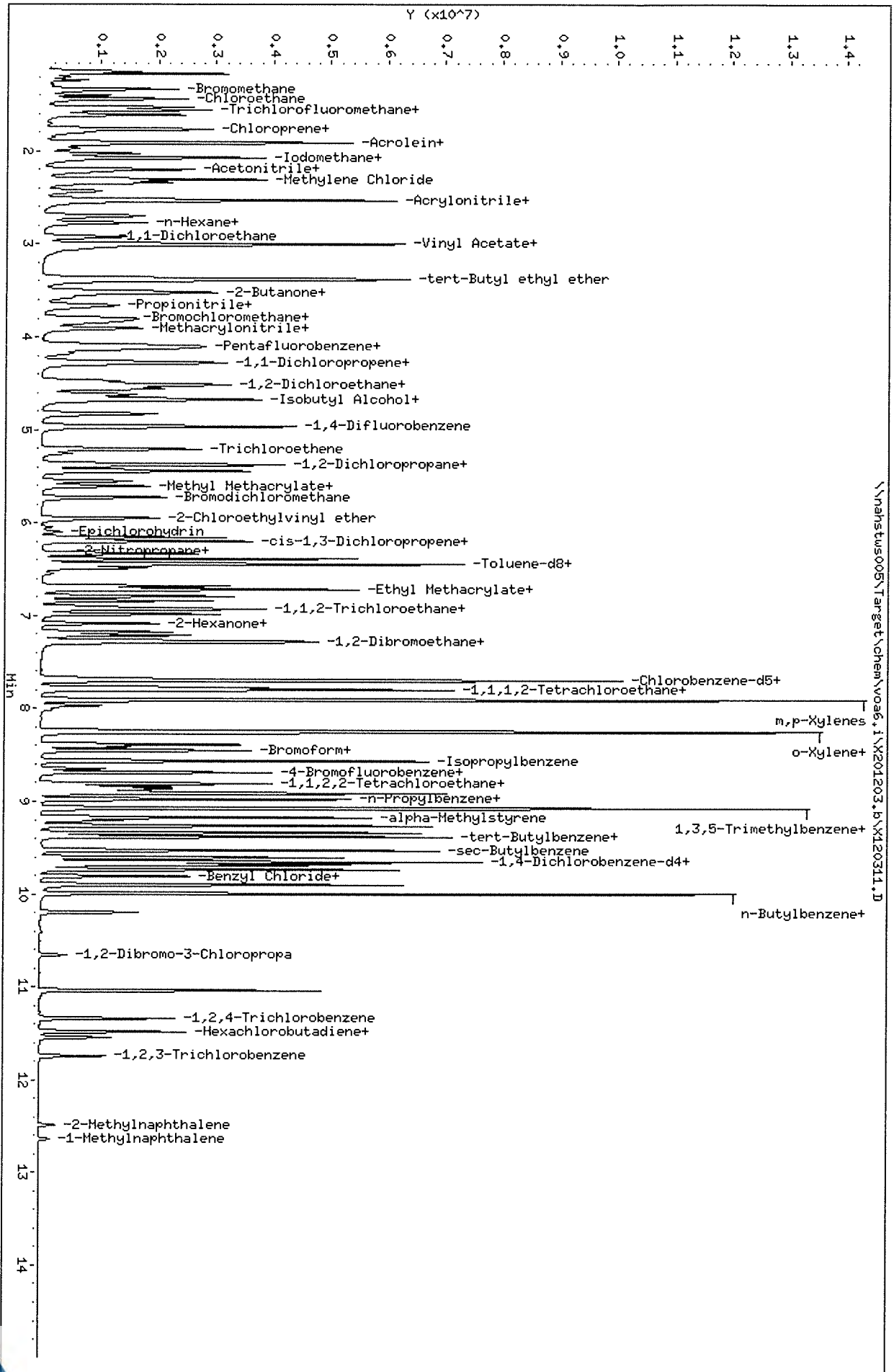
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	306105	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	596621	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	541978	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	255726	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	804284	200.000	196.65
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	1007416	200.000	197.82
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2874805	200.000	200.55(A)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1059650	200.000	197.54
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	789143	200.000	200.85(A)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	1340617	200.000	210.54(A)
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	937362	200.000	180.85
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	654455	200.000	189.78
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	1490593	200.000	202.69(A)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1004927	200.000	216.34(A)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	1125498	200.000	195.00
93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	266478	200.000	196.45
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	1102203	200.000	187.08
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	498469	200.000	207.45(A)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	2927720	200.000	210.56(A)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	77694	200.000	192.20
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	810540	200.000	194.30
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	1531328	200.000	206.82(A)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120311.D Page 2
Report Date: 22-Dec-2020 16:32

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	1170415	200.000	173.51
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	852888	200.000	190.00
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	3143445	200.000	219.24(A)
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	1527812	200.000	193.99
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	1324803	200.000	194.47
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	1536272	200.000	193.71
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	1292752	200.000	201.09(A)
24	2-Butanone	43	3.573	3.573	(0.854)	554486	400.000	388.96(A)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	2415044	200.000	197.97
52	2-Hexanone	43	7.090	7.090	(0.924)	1004981	400.000	370.57(A)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	3172382	200.000	211.15(A)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	3003832	200.000	214.70(A)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	1517167	400.000	382.76(A)
10	Acetone	43	1.969	1.969	(0.471)	455195	400.000	387.82(A)
37	Benzene	78	4.512	4.512	(0.908)	2987274	200.000	184.12
74	Bromobenzene	156	8.810	8.810	(0.912)	869596	200.000	191.73
29	Bromochloromethane	128	3.795	3.795	(0.908)	413644	200.000	188.45
39	Bromodichloromethane	83	5.729	5.729	(1.153)	1181051	200.000	191.46
66	Bromoform	173	8.416	8.416	(1.097)	503465	200.000	203.82(A)
6	Bromomethane	94	1.331	1.331	(0.318)	953139	200.000	199.78
19	Carbon Disulfide	76	2.069	2.069	(0.495)	4414142	400.000	435.84(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	1080380	200.000	223.96(A)
59	Chlorobenzene	112	7.692	7.692	(1.003)	2310543	200.000	207.54(A)
7	Chloroethane	64	1.396	1.396	(0.334)	739367	200.000	203.43(A)
28	Chloroform	83	3.910	3.910	(0.935)	1527593	200.000	193.91
3	Chloromethane	50	1.073	1.073	(0.257)	1263538	200.000	204.90(A)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	862680	200.000	200.21(A)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	1485095	200.000	193.69
55	Dibromochloromethane	129	7.176	7.176	(0.936)	885065	200.000	201.20(A)
44	Dibromomethane	93	5.550	5.550	(1.117)	569599	200.000	188.44
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	961874	200.000	204.81(A)
61	Ethylbenzene	106	7.800	7.800	(1.017)	1126978	200.000	206.93(A)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	317246	200.000	196.53
67	Isopropylbenzene	105	8.566	8.566	(1.117)	3601823	200.000	214.95(A)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	3093791	400.000	435.68(A)
17	Methylene Chloride	84	2.305	2.305	(0.551)	801762	200.000	194.99
87	n-Butylbenzene	91	9.991	9.991	(1.034)	3158558	200.000	197.85
73	n-Propylbenzene	91	8.917	8.917	(0.923)	4361433	200.000	211.93(A)
92	Naphthalene	128	11.539	11.539	(1.194)	778137	200.000	188.92
63	o-Xylene	106	8.244	8.244	(1.075)	1484346	200.000	214.50(A)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	3628118	200.000	220.69(A)
64	Styrene	104	8.258	8.258	(1.077)	2615210	200.000	222.25(A)
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	2412556	200.000	209.81(A)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	661335	200.000	218.11(A)
50	Toluene	91	6.446	6.446	(0.840)	3451579	200.000	205.02(A)
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	789880	200.000	215.17(A)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	1301601	200.000	195.12
38	Trichloroethene	130	5.206	5.206	(1.048)	807486	200.000	185.33
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	1878953	200.000	213.79(A)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	1143721	200.000	210.45(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120311.D
Date : 03-DEC-2020 14:31
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\X201203.b\X120314.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

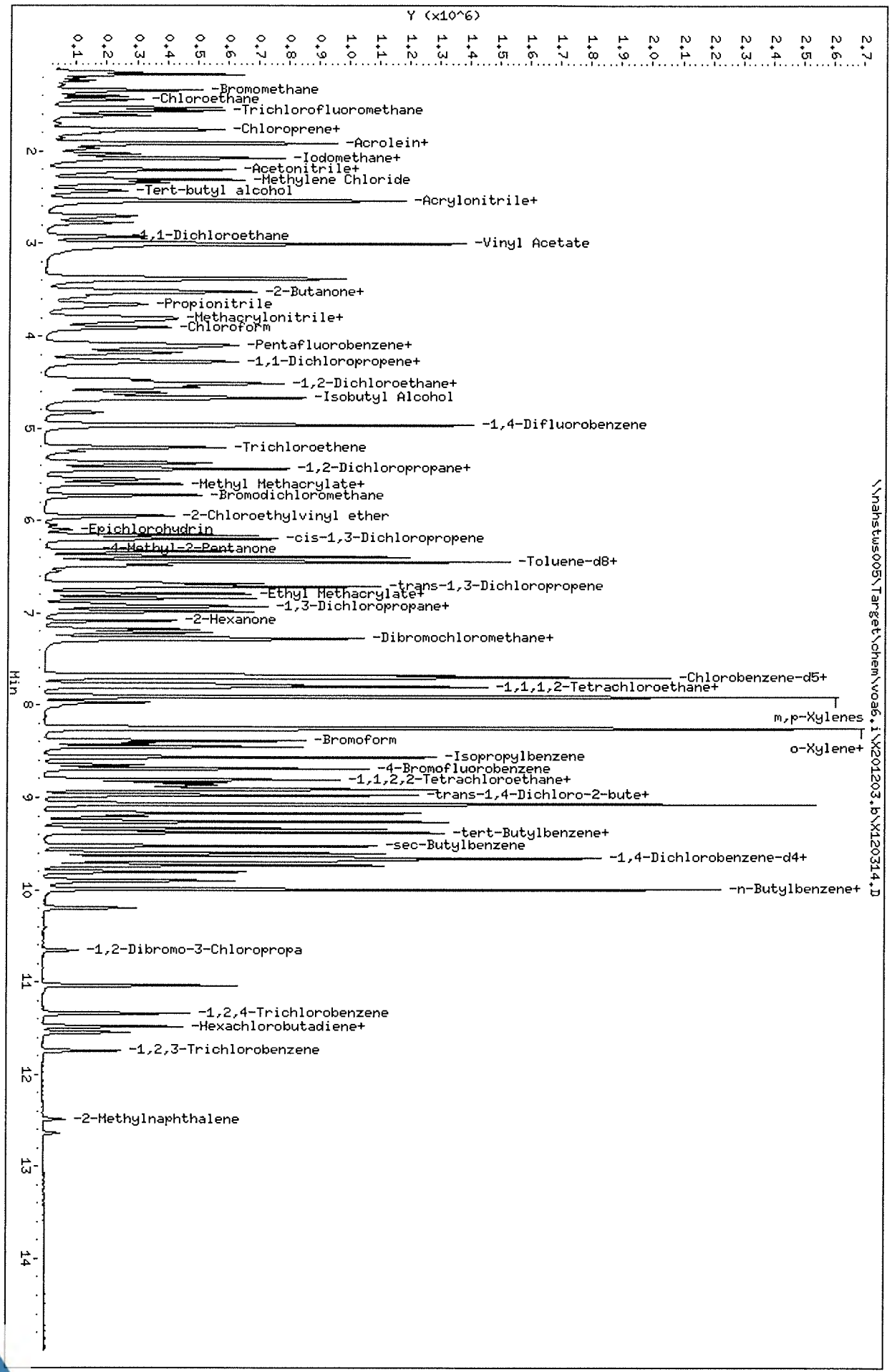
Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120314.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 03-DEC-2020 15:43
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 14:31 Cal File: X120311.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	304048	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	544810	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	515701	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	242690	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	203684	50.0164	50.01
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	262492	51.3086	51.30
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	661665	48.8005	48.80
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	268960	52.5591	52.55
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	174089	46.5667	46.56
31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	275760	43.6015	43.60
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	234084	47.5889	47.58
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	150732	45.9370	45.93
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	340805	46.6580	46.65
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	195703	42.4167	42.41
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	236545	44.8818	44.88
93 1,2,3-Trichlorobenzene	180	11.746	11.739	(1.216)	59144	45.9439	45.94
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	270025	48.2951	48.29
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	108253	47.4738	47.47
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	585084	44.3406	44.34
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	18515	47.7519	47.75
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	192081	48.3923	48.39
88 1,2-Dichlorobenzene	146	9.992	9.991	(1.034)	317183	45.1396	45.13

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	297712	48.3321	48.33
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	197822	48.2624	48.26
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	572312	42.0603	42.06
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	333248	44.5876	44.58
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	301099	46.4531	46.45
84	1,4-Dichlorobenzene	146	9.684	9.683	(1.002)	341216	45.3368	45.33
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	289258	45.3005	45.30
24	2-Butanone	43	3.573	3.573	(0.854)	140356	99.1253	99.12
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	531305	45.8944	45.89
52	2-Hexanone	43	7.083	7.090	(0.923)	236289	91.5686	91.56
77	4-Chlorotoluene	91	9.067	9.075	(0.938)	618009	43.3455	43.34
82	p-Isopropyltoluene	119	9.648	9.655	(0.999)	540658	40.7201	40.72
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	358286	94.9972	94.99
10	Acetone	43	1.969	1.969	(0.471)	121599	98.3098	98.30
37	Benzene	78	4.512	4.512	(0.908)	689807	46.5613	46.56
74	Bromobenzene	156	8.810	8.810	(0.912)	198740	46.1730	46.17
29	Bromochloromethane	128	3.796	3.795	(0.908)	103190	47.3300	47.32
39	Bromodichloromethane	83	5.730	5.729	(1.153)	280467	49.7929	49.79
66	Bromoform	173	8.408	8.416	(1.096)	118599	50.4599	50.45
6	Bromomethane	94	1.339	1.331	(0.320)	202202	42.8712	42.87
19	Carbon Disulfide	76	2.069	2.069	(0.495)	909957	90.4552	90.45
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	200011	45.4061	45.40
59	Chlorobenzene	112	7.692	7.692	(1.003)	491232	46.3736	46.37
7	Chloroethane	64	1.403	1.396	(0.336)	147392	40.8286	40.82
28	Chloroform	83	3.910	3.910	(0.935)	362722	46.3567	46.35
3	Chloromethane	50	1.074	1.073	(0.257)	274829	45.8087	45.80
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	199141	46.5297	46.52
46	cis-1,3-Dichloropropene	75	6.152	6.159	(1.238)	349833	49.9670	49.96
55	Dibromochloromethane	129	7.176	7.176	(0.936)	198097	47.3281	47.32
44	Dibromomethane	93	5.550	5.550	(1.117)	134776	48.8303	48.83
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	180451	40.8970	40.89
61	Ethylbenzene	106	7.800	7.800	(1.017)	230537	44.4880	44.48
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	58852	43.3731	43.37
67	Isopropylbenzene	105	8.559	8.566	(1.116)	680959	42.7105	42.71
62	m,p-Xylenes	106	7.907	7.907	(1.031)	600863	88.9276	88.92
17	Methylene Chloride	84	2.306	2.305	(0.551)	184915	45.2769	45.27
87	n-Butylbenzene	91	9.992	9.991	(1.034)	523194	40.1873	40.18
73	n-Propylbenzene	91	8.917	8.917	(0.923)	842160	43.1204	43.12
92	Naphthalene	128	11.539	11.539	(1.194)	187888	48.0672	48.06
63	o-Xylene	106	8.244	8.244	(1.075)	294614	44.7452	44.74
81	sec-Butylbenzene	105	9.519	9.526	(0.985)	632129	40.5179	40.51
64	Styrene	104	8.258	8.258	(1.077)	533071	47.6111	47.61
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	453400	41.5493	41.54
56	Tetrachloroethene	164	6.933	6.933	(0.904)	124139	43.0289	43.02
50	Toluene	91	6.446	6.446	(0.840)	732531	45.7295	45.72
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	169478	46.4803	46.48
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	297754	48.8808	48.88
38	Trichloroethene	130	5.207	5.206	(1.048)	172842	43.4428	43.44
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	357494	40.9519	40.95
5	Vinyl Chloride	62	1.145	1.138	(0.274)	217893	40.3647	40.36



Data File: \\nahstws005\Target\chem\voa6,i\X201203,b\X120314,D
Date : 03-DEC-2020 15:43
Client ID: ICV
Sample Info: CCV;CCV;2;ICV
Purge Volume: 5.0
Column phase: DB624

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

MSVOA06 -Logbook

Batch: 42591 **Analyst:** Qin Xu

Date: 12-05-2020 **Reviewer:**

Method: 8260_W **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-05-2020 11:14 am	1.00	0.00 mL	0.00 mL	X120501.D	Liquid	Y	NA
2	CCV	CCV	12-05-2020 11:35 am	1.00	5.00 mL	0.00 mL	X120502.D	Liquid	Y	NA
3	CCV	CCV	12-05-2020 11:56 am	1.00	5.00 mL	0.00 mL	X120503.D	Liquid	Y	NA
4	CCB	SAMP	12-05-2020 12:17 pm	1.00	5.00 mL	0.00 mL	X120504.D	Liquid	Y	NA
5	VLCSW-201205	LCS	12-05-2020 12:38 pm	1.00	5.00 mL	0.00 mL	X120505.D	Liquid	Y	NA
6	BLANK	SAMP	12-05-2020 12:59 pm	1.00	5.00 mL	0.00 mL	X120506.D	Liquid	Y	NA
7	VBLKW-201205	MBLK	12-05-2020 01:20 pm	1.00	5.00 mL	0.00 mL	X120507.D	Liquid	Y	NA
8	HS20111258-02	SAMP	12-05-2020 01:41 pm	1.00	5.00 mL	0.00 mL	X120508.D	Liquid	Y	NA
9	HS20111260-03	SAMP	12-05-2020 02:02 pm	1.00	5.00 mL	0.00 mL	X120509.D	Liquid	Y	NA
10	HS20120235-03	SAMP	12-05-2020 02:23 pm	1.00	5.00 mL	0.00 mL	X120510.D	Liquid	Y	NA
11	HS20120235-09	SAMP	12-05-2020 02:44 pm	1.00	5.00 mL	0.00 mL	X120511.D	Liquid	Y	NA
12	HS20120235-06	SAMP	12-05-2020 03:05 pm	1.00	5.00 mL	0.00 mL	X120512.D	Liquid	Y	NA
13	HS20111258-01	SAMP	12-05-2020 03:26 pm	1.00	5.00 mL	0.00 mL	X120513.D	Liquid	Y	NA
14	HS20120235-06MS	MS	12-05-2020 03:47 pm	1.00	5.00 mL	0.00 mL	X120514.D	Liquid	Y	NA
15	HS20120235-06MSD	MSD	12-05-2020 04:08 pm	1.00	5.00 mL	0.00 mL	X120515.D	Liquid	Y	NA
16	BLANK	SAMP	12-05-2020 04:30 pm	1.00	5.00 mL	0.00 mL	X120516.D	Liquid	Y	NA
17	HS20111314-01	SAMP	12-05-2020 04:51 pm	5.00	5.00 mL	0.00 mL	X120517.D	Liquid	Y	NA
18	HS20111260-01	SAMP	12-05-2020 05:12 pm	1.00	5.00 mL	0.00 mL	X120518.D	Liquid	Y	NA
19	HS20120235-04	SAMP	12-05-2020 05:33 pm	1.00	5.00 mL	0.00 mL	X120519.D	Liquid	Y	NA
20	HS20120235-05	SAMP	12-05-2020 05:54 pm	1.00	5.00 mL	0.00 mL	X120520.D	Liquid	Y	NA
21	HS20120235-07	SAMP	12-05-2020 06:15 pm	1.00	5.00 mL	0.00 mL	X120521.D	Liquid	Y	NA
22	HS20120235-08	SAMP	12-05-2020 06:36 pm	1.00	5.00 mL	0.00 mL	X120522.D	Liquid	Y	NA
23	HS20120235-10	SAMP	12-05-2020 06:57 pm	1.00	5.00 mL	0.00 mL	X120523.D	Liquid	Y	NA
24	HS20120235-11	SAMP	12-05-2020 07:18 pm	1.00	5.00 mL	0.00 mL	X120524.D	Liquid	Y	NA
25	HS20120235-12	SAMP	12-05-2020 07:39 pm	1.00	5.00 mL	0.00 mL	X120525.D	Liquid	Y	NA
26	HS20120235-13	SAMP	12-05-2020 08:00 pm	1.00	5.00 mL	0.00 mL	X120526.D	Liquid	Y	NA
27	HS20120235-14	SAMP	12-05-2020 08:21 pm	1.00	5.00 mL	0.00 mL	X120527.D	Liquid	Y	NA
28	HS20120235-15	SAMP	12-05-2020 08:42 pm	1.00	5.00 mL	0.00 mL	X120528.D	Liquid	Y	NA
29	HS20120235-16	SAMP	12-05-2020 09:03 pm	1.00	5.00 mL	0.00 mL	X120529.D	Liquid	Y	NA
30	HS20120235-17	SAMP	12-05-2020 09:24 pm	1.00	5.00 mL	0.00 mL	X120530.D	Liquid	Y	NA
31	CCV-END	CCV	12-05-2020 09:45 pm	1.00	5.00 mL	0.00 mL	X120531.D	Liquid	Y	NA
32	BLANK	SAMP	12-05-2020 10:06 pm	1.00	5.00 mL	0.00 mL	X120532.D	Liquid	Y	NA

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-201205	109	101	100	101	0
02	VBLKW-201205	92	90	104	96	0
03	HS20111260-0	92	90	104	95	0
04	HS20120235-0	93	92	102	100	0
05	HS20120235-0	94	90	101	100	0
06	HS20111260-0	91	88	107	95	0
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(0-130)
SMC2	= Dibromofluoromethane	(0-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER	= 4-Bromofluorobenzene	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-201205

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Lab File ID: X120507 Lab Sample ID: VBLKW-201205

Date Analyzed: 12/05/20 Time Analyzed: 1320

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-201205	VLCSW-201205	X120505	1238
02	HS20111260-0	HS20111260-03	X120509	1402
03	HS20120235-0	HS20120235-06M	X120514	1547
04	HS20120235-0	HS20120235-06M	X120515	1608
05	HS20111260-0	HS20111260-01	X120518	1712
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Lab File ID: X120501 BFB Injection Date: 12/05/20

Instrument ID: VOA6 BFB Injection Time: 1114

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.4
75	30.0 - 60.0% of mass 95	43.9
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	1.8 (1.8)1
174	Greater than 50.0% of mass 95	102.8
175	5.0 - 9.0% of mass 174	7.8 (7.6)1
176	95.0 - 101.0% of mass 174	98.3 (95.6)1
177	5.0 - 9.0% of mass 176	6.5 (6.6)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	X120503	12/05/20	1156
02	VLCSW-201205	VLCSW-201205	X120505	12/05/20	1238
03	VBLKW-201205	VBLKW-201205	X120507	12/05/20	1320
04	HS20111260-0	HS20111260-03	X120509	12/05/20	1402
05	HS20120235-0	HS20120235-06M	X120514	12/05/20	1547
06	HS20120235-0	HS20120235-06M	X120515	12/05/20	1608
07	HS20111260-0	HS20111260-01	X120518	12/05/20	1712
08					
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.: HS20111260

Instrument ID: VOA6 Calibration Date: 12/05/20 Time: 1156

Lab File ID: X120503 Init. Calib. Date(s): 12/03/20 12/03/20

Init. Calib. Times: 1101 1431

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	0.6420000	0.5951062	0.5951062	0.2	7.30	20.00	AVRG
trans-1,3-Dichloropropene	0.5590000	0.5338888	0.5338888	0.1	4.49	20.00	AVRG
1,3-Dichlorobenzene	1.5400000	1.3733151	1.3733151	0.6	10.82	20.00	AVRG
2,2-Dichloropropane	1.0500000	0.9751934	0.9751934	0.1	7.12	20.00	AVRG
1,1-Dichloropropene	0.4840000	0.4287825	0.4287825	0.1	11.41	20.00	AVRG
Dibromomethane	0.2530000	0.2330998	0.2330998	0.1	7.86	20.00	AVRG
1,2-Dibromoethane	0.3850000	0.3617224	0.3617224	0.1	6.05	20.00	AVRG
trans-1,2-Dichloroethene	0.6000000	0.5544494	0.5544494	0.1	7.59	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3620000	0.3440313	0.3440313	0.1	4.96	20.00	AVRG
1,1,1-Trichloroethane	1.0400000	0.9480751	0.9480751	0.1	8.84	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.0130000	0.9761300	0.9761300	0.3	3.64	20.00	AVRG
1,1,2-Trichloroethane	0.3180000	0.2956101	0.2956101	0.1	7.04	20.00	AVRG
1,1-Dichloroethane	1.2010000	1.1057511	1.1057511	0.2	7.93	20.00	AVRG
1,1-Dichloroethene	0.7590000	0.6451414	0.6451414	0.1	15.00	20.00	AVRG
Trichloroethene	0.3650000	0.3198906	0.3198906	0.2	12.36	20.00	AVRG
1,2,3-Trichlorobenzene	0.2650000	0.2352182	0.2352182	0.01	11.24	20.00	AVRG
Trichlorofluoromethane	1.4350000	1.2248109	1.2248109	0.1	14.65	20.00	AVRG
1,2,4-Trichlorobenzene	0.4700000	0.4395273	0.4395273	0.1	6.48	20.00	AVRG
1,2,4-Trimethylbenzene	2.7180000	2.5070106	2.5070106	0.1	7.76	20.00	AVRG
Tetrachloroethene	0.2800000	0.2563806	0.2563806	0.2	8.44	20.00	AVRG
1,2-Dichlorobenzene	1.4480000	1.3034154	1.3034154	0.4	9.98	20.00	AVRG
1,2-Dichloroethane	0.5650000	0.4986690	0.4986690	0.1	11.74	20.00	AVRG
1,2-Dichloropropane	0.3760000	0.3479635	0.3479635	0.1	7.46	20.00	AVRG
1,3,5-Trimethylbenzene	2.8030000	2.5279908	2.5279908	0.1	9.81	20.00	AVRG
1,3-Dichloropropane	0.6280000	0.6028608	0.6028608	0.1	4.00	20.00	AVRG
1,4-Dichlorobenzene	1.5500000	1.4219063	1.4219063	0.4	8.26	20.00	AVRG
Toluene	1.5530000	1.4485112	1.4485112	0.4	6.73	20.00	AVRG
2-Butanone	0.2330000	0.2177461	0.2177461	0.1	6.55	20.00	AVRG
2-Chlorotoluene	2.3850000	2.2614053	2.2614053	0.1	5.18	20.00	AVRG
2-Hexanone	0.2500000	0.2148900	0.2148900	0.1	14.04	20.00	AVRG
4-Chlorotoluene	2.9370000	2.7225083	2.7225083	0.1	7.30	20.00	AVRG
tert-Butylbenzene	2.2480000	1.9684686	1.9684686	0.1	12.43	20.00	AVRG
4-Methyl-2-Pentanone	0.3660000	0.3158332	0.3158332	0.1	13.71	20.00	AVRG
Acetone	96.381572	100.00000	0.1963466	0.1	3.62	20.00	LINR
Benzene	1.3600000	1.2230676	1.2230676	0.5	10.07	20.00	AVRG
Bromobenzene	0.8870000	0.8284516	0.8284516	0.1	6.60	20.00	AVRG
Bromochloromethane	0.3580000	0.3237779	0.3237779	0.1	9.56	20.00	AVRG
Bromodichloromethane	0.5170000	0.4770276	0.4770276	0.2	7.73	20.00	AVRG
Bromoform	0.2280000	0.2200119	0.2200119	0.1	3.50	20.00	AVRG
Bromomethane	44.638654	50.000000	0.6926150	0.1	10.72	20.00	LINR
Carbon Disulfide	1.6540000	1.5310189	1.5310189	0.1	7.44	20.00	AVRG
Carbon Tetrachloride	0.4040000	0.3798445	0.3798445	0.1	5.98	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2011126

Instrument ID: VOA6 Calibration Date: 12/05/20 Time: 1156

Lab File ID: X120503 Init. Calib. Date(s): 12/03/20 12/03/20

Init. Calib. Times: 1101 1431

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	1.0270000	0.9371968	0.9371968	0.5	8.74	20.00	AVRG
Chloroethane	0.5940000	0.4988698	0.4988698	0.1	16.02	20.00	AVRG
Chloroform	1.2870000	1.1690352	1.1690352	0.2	9.16	20.00	AVRG
Chloromethane	44.409052	50.000000	0.8755383	0.1	11.18	20.00	LINR
cis-1,2-Dichloroethene	0.7040000	0.6391148	0.6391148	0.1	9.22	20.00	AVRG
Dibromochloromethane	0.4060000	0.3868572	0.3868572	0.1	4.71	20.00	AVRG
Dichlorodifluoromethane	44.420586	50.000000	0.6482830	0.1	11.16	20.00	LINR
Ethylbenzene	0.5020000	0.4713857	0.4713857	0.1	6.10	20.00	AVRG
Hexachlorobutadiene	43.831968	50.000000	0.2452464	0.1	12.34	20.00	2RDR
Isopropylbenzene	1.5460000	1.3667206	1.3667206	0.1	11.60	20.00	AVRG
m,p-Xylenes	0.6550000	0.5914703	0.5914703	0.1	9.70	20.00	AVRG
Methylene Chloride	0.6720000	0.5911583	0.5911583	0.1	12.03	20.00	AVRG
n-Butylbenzene	43.560481	50.000000	2.3490176	0.5	12.88	20.00	2RDR
n-Propylbenzene	4.0240000	3.6498143	3.6498143	0.1	9.30	20.00	AVRG
Naphthalene	0.8050000	0.7707941	0.7707941	0.2	4.25	20.00	AVRG
o-Xylene	0.6380000	0.5788302	0.5788302	0.3	9.27	20.00	AVRG
sec-Butylbenzene	3.2140000	2.8008100	2.8008100	0.1	12.86	20.00	AVRG
Styrene	1.0860000	0.9908187	0.9908187	0.3	8.76	20.00	AVRG
Vinyl Chloride	0.8880000	0.7940054	0.7940054	0.1	10.58	20.00	AVRG
1,2,3-Trichloropropane	1.1520000	1.1152996	1.1152996	0.1	3.18	20.00	AVRG
p-Isopropyltoluene	2.7350000	2.3927111	2.3927111	0.1	12.52	20.00	AVRG
1,2-Dibromo-3-Chloropropane	48.509973	50.000000	7.75e-002	0.05	2.98	20.00	LINR
1,2-Dichloroethane-d4	47.367221	50.000000	0.7980161	0.1	5.26	20.00	LINR
Dibromofluoromethane	48.154352	50.000000	0.6450509	0.1	3.69	20.00	LINR
Toluene-d8	49.119789	50.000000	1.2915015	0.1	1.76	20.00	LINR
4-Bromofluorobenzene	49.531867	50.000000	0.4916088	0.1	0.94	20.00	LINR

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Instrument ID: VOA6 Calibration Date: 12/05/20 Time: 2145

Lab File ID: X120531 Init. Calib. Date(s): 12/03/20 12/03/20

Init. Calib. Times: 1101 1431

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	0.6420000	0.5778956	0.5778956	0.2	9.98	50.00	AVRG
trans-1,3-Dichloropropene	0.5590000	0.5145142	0.5145142	0.1	7.96	50.00	AVRG
1,3-Dichlorobenzene	1.5400000	1.3172358	1.3172358	0.6	14.46	50.00	AVRG
2,2-Dichloropropane	1.0500000	0.8351527	0.8351527	0.1	20.46	50.00	AVRG
1,1-Dichloropropene	0.4840000	0.4010998	0.4010998	0.1	17.13	50.00	AVRG
Dibromomethane	0.2530000	0.2356243	0.2356243	0.1	6.87	50.00	AVRG
1,2-Dibromoethane	0.3850000	0.3560091	0.3560091	0.1	7.53	50.00	AVRG
trans-1,2-Dichloroethene	0.6000000	0.5360160	0.5360160	0.1	10.66	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3620000	0.3271049	0.3271049	0.1	9.64	50.00	AVRG
1,1,1-Trichloroethane	1.0400000	0.9349257	0.9349257	0.1	10.10	50.00	AVRG
1,1,2,2-Tetrachloroethane	1.0130000	0.9385878	0.9385878	0.3	7.34	50.00	AVRG
1,1,2-Trichloroethane	0.3180000	0.2868053	0.2868053	0.1	9.81	50.00	AVRG
1,1-Dichloroethane	1.2010000	1.1013225	1.1013225	0.2	8.30	50.00	AVRG
1,1-Dichloroethene	0.7590000	0.6546248	0.6546248	0.1	13.75	50.00	AVRG
Trichloroethene	0.3650000	0.2986898	0.2986898	0.2	18.17	50.00	AVRG
1,2,3-Trichlorobenzene	0.2650000	0.2322678	0.2322678	0.01	12.35	50.00	AVRG
Trichlorofluoromethane	1.4350000	1.1933781	1.1933781	0.1	16.84	50.00	AVRG
1,2,4-Trichlorobenzene	0.4700000	0.4200519	0.4200519	0.1	10.63	50.00	AVRG
1,2,4-Trimethylbenzene	2.7180000	2.3784657	2.3784657	0.1	12.49	50.00	AVRG
Tetrachloroethene	0.2800000	0.2291657	0.2291657	0.2	18.16	50.00	AVRG
1,2-Dichlorobenzene	1.4480000	1.2450425	1.2450425	0.4	14.02	50.00	AVRG
1,2-Dichloroethane	0.5650000	0.5120427	0.5120427	0.1	9.37	50.00	AVRG
1,2-Dichloropropane	0.3760000	0.3353711	0.3353711	0.1	10.80	50.00	AVRG
1,3,5-Trimethylbenzene	2.8030000	2.3703641	2.3703641	0.1	15.43	50.00	AVRG
1,3-Dichloropropane	0.6280000	0.5835134	0.5835134	0.1	7.08	50.00	AVRG
1,4-Dichlorobenzene	1.5500000	1.3161141	1.3161141	0.4	15.09	50.00	AVRG
Toluene	1.5530000	1.3841416	1.3841416	0.4	10.87	50.00	AVRG
2-Butanone	0.2330000	0.2276406	0.2276406	0.1	2.30	50.00	AVRG
2-Chlorotoluene	2.3850000	2.1682237	2.1682237	0.1	9.09	50.00	AVRG
2-Hexanone	0.2500000	0.2147553	0.2147553	0.1	14.10	50.00	AVRG
4-Chlorotoluene	2.9370000	2.5814741	2.5814741	0.1	12.10	50.00	AVRG
tert-Butylbenzene	2.2480000	1.8445867	1.8445867	0.1	17.94	50.00	AVRG
4-Methyl-2-Pentanone	0.3660000	0.3183005	0.3183005	0.1	13.03	50.00	AVRG
Acetone	95.699985	100.00000	0.1950669	0.1	4.30	50.00	LINR
Benzene	1.3600000	1.2006189	1.2006189	0.5	11.72	50.00	AVRG
Bromobenzene	0.8870000	0.7836659	0.7836659	0.1	11.65	50.00	AVRG
Bromochloromethane	0.3580000	0.3315063	0.3315063	0.1	7.40	50.00	AVRG
Bromodichloromethane	0.5170000	0.4766749	0.4766749	0.2	7.80	50.00	AVRG
Bromoform	0.2280000	0.2060045	0.2060045	0.1	9.65	50.00	AVRG
Bromomethane	48.698049	50.000000	0.7559640	0.1	2.60	50.00	LINR
Carbon Disulfide	1.6540000	1.4896249	1.4896249	0.1	9.94	50.00	AVRG
Carbon Tetrachloride	0.4040000	0.3400207	0.3400207	0.1	15.84	50.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2011126

Instrument ID: VOA6 Calibration Date: 12/05/20 Time: 2145

Lab File ID: X120531 Init. Calib. Date(s): 12/03/20 12/03/20

Init. Calib. Times: 1101 1431

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	1.0270000	0.8904349	0.8904349	0.5	13.30	50.00	AVRG
Chloroethane	0.5940000	0.5247218	0.5247218	0.1	11.66	50.00	AVRG
Chloroform	1.2870000	1.1856905	1.1856905	0.2	7.87	50.00	AVRG
Chloromethane	41.654442	50.000000	0.8197210	0.1	16.69	50.00	LINR
cis-1,2-Dichloroethene	0.7040000	0.6516089	0.6516089	0.1	7.44	50.00	AVRG
Dibromochloromethane	0.4060000	0.3701280	0.3701280	0.1	8.84	50.00	AVRG
Dichlorodifluoromethane	39.016463	50.000000	0.5642548	0.1	21.97	50.00	LINR
Ethylbenzene	0.5020000	0.4425965	0.4425965	0.1	11.83	50.00	AVRG
Hexachlorobutadiene	38.139511	50.000000	0.2112448	0.1	23.72	50.00	2RDR
Isopropylbenzene	1.5460000	1.2881398	1.2881398	0.1	16.68	50.00	AVRG
m,p-Xylenes	0.6550000	0.5548361	0.5548361	0.1	15.29	50.00	AVRG
Methylene Chloride	0.6720000	0.6246475	0.6246475	0.1	7.05	50.00	AVRG
n-Butylbenzene	38.727219	50.000000	2.0724469	0.5	22.54	50.00	2RDR
n-Propylbenzene	4.0240000	3.3799719	3.3799719	0.1	16.00	50.00	AVRG
Naphthalene	0.8050000	0.6832161	0.6832161	0.2	15.13	50.00	AVRG
o-Xylene	0.6380000	0.5510068	0.5510068	0.3	13.64	50.00	AVRG
sec-Butylbenzene	3.2140000	2.5567213	2.5567213	0.1	20.45	50.00	AVRG
Styrene	1.0860000	0.9489768	0.9489768	0.3	12.62	50.00	AVRG
Vinyl Chloride	0.8880000	0.7384819	0.7384819	0.1	16.84	50.00	AVRG
1,2,3-Trichloropropane	1.1520000	1.0758992	1.0758992	0.1	6.60	50.00	AVRG
p-Isopropyltoluene	2.7350000	2.2032343	2.2032343	0.1	19.44	50.00	AVRG
1,2-Dibromo-3-Chloropropane	47.646756	50.000000	7.61e-002	0.05	4.71	50.00	LINR
1,2-Dichloroethane-d4	50.993439	50.000000	0.8581027	0.1	-1.99	50.00	LINR
Dibromofluoromethane	50.667778	50.000000	0.6786034	0.1	-1.34	50.00	LINR
Toluene-d8	48.859715	50.000000	1.2846101	0.1	2.28	50.00	LINR
4-Bromofluorobenzene	50.973600	50.000000	0.5058647	0.1	-1.95	50.00	LINR

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Lab File ID (Standard): X120503 Date Analyzed: 12/05/20

Instrument ID: VOA6 Time Analyzed: 1156

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	577805	7.67	622094	4.97	261961	9.66
	UPPER LIMIT	1155610	8.17	1244188	5.47	523922	10.16
	LOWER LIMIT	288903	7.17	311047	4.47	130981	9.16
	CLIENT SAMPLE NO.						
01	VLCSW-201205	538207	7.67	572278	4.97	256414	9.66
02	VBLKW-201205	597691	7.67	691039	4.96	252274	9.66
03	HS20111260-0	625102	7.67	711013	4.97	268755	9.66
04	HS20120235-0	602048	7.67	661212	4.96	283707	9.66
05	HS20120235-0	609617	7.67	670251	4.96	278852	9.66
06	HS20111260-0	589627	7.67	691992	4.97	245435	9.66
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Lab File ID (Standard): X120503 Date Analyzed: 12/05/20

Instrument ID: VOA6 Time Analyzed: 1156

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	331363	4.18				
	UPPER LIMIT	662726	4.68				
	LOWER LIMIT	165682	3.68				
	CLIENT SAMPLE NO.						
01	VLCSW-201205	310845	4.18				
02	VBLKW-201205	398986	4.18				
03	HS20111260-0	408470	4.18				
04	HS20120235-0	384847	4.18				
05	HS20120235-0	389883	4.18				
06	HS20111260-0	404810	4.18				
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 = Pentafluorobenzene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120501.D Page 1

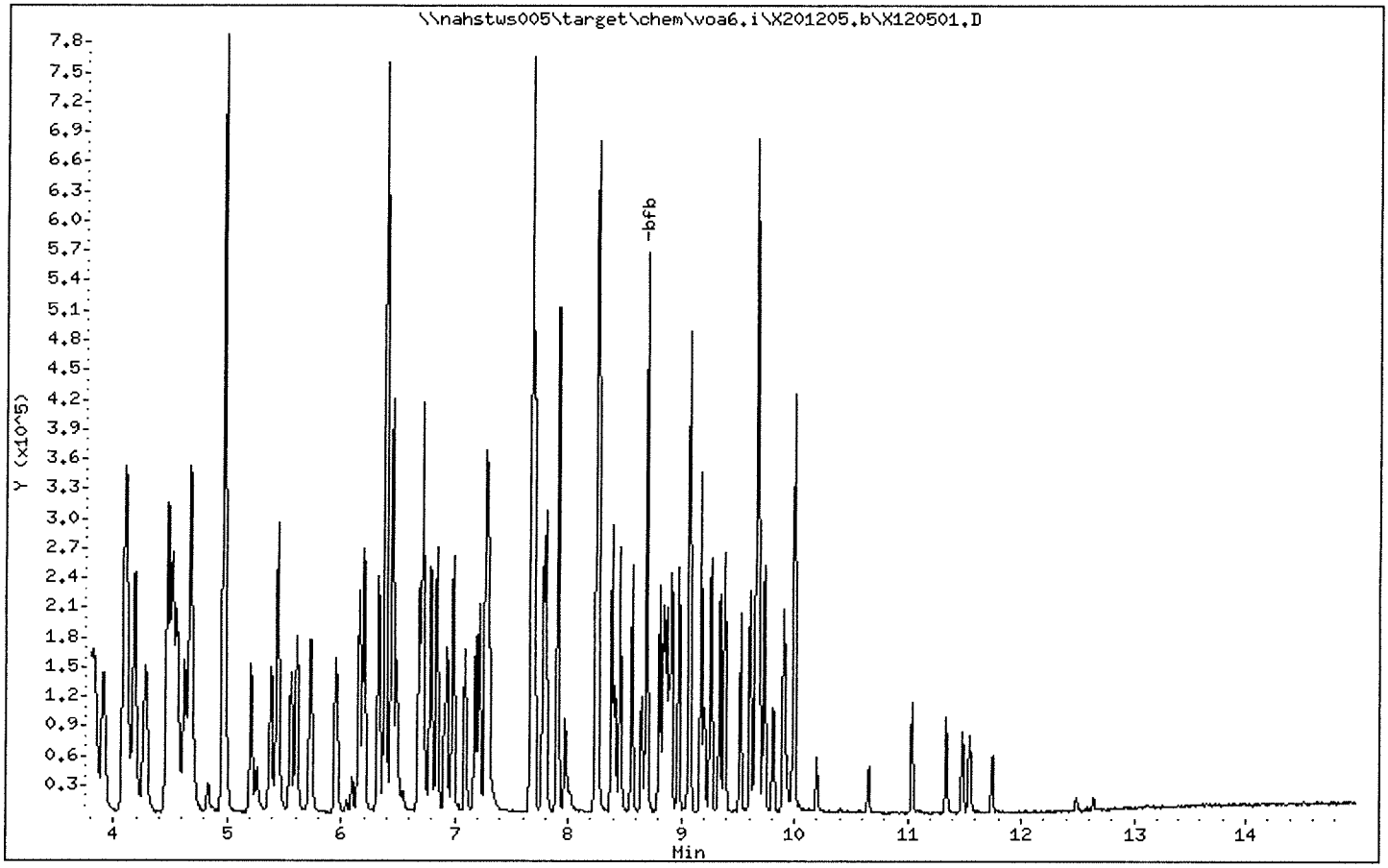
Date : 05-DEC-2020 11:14

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\X201205.b\X120501.D

Date : 05-DEC-2020 11:14

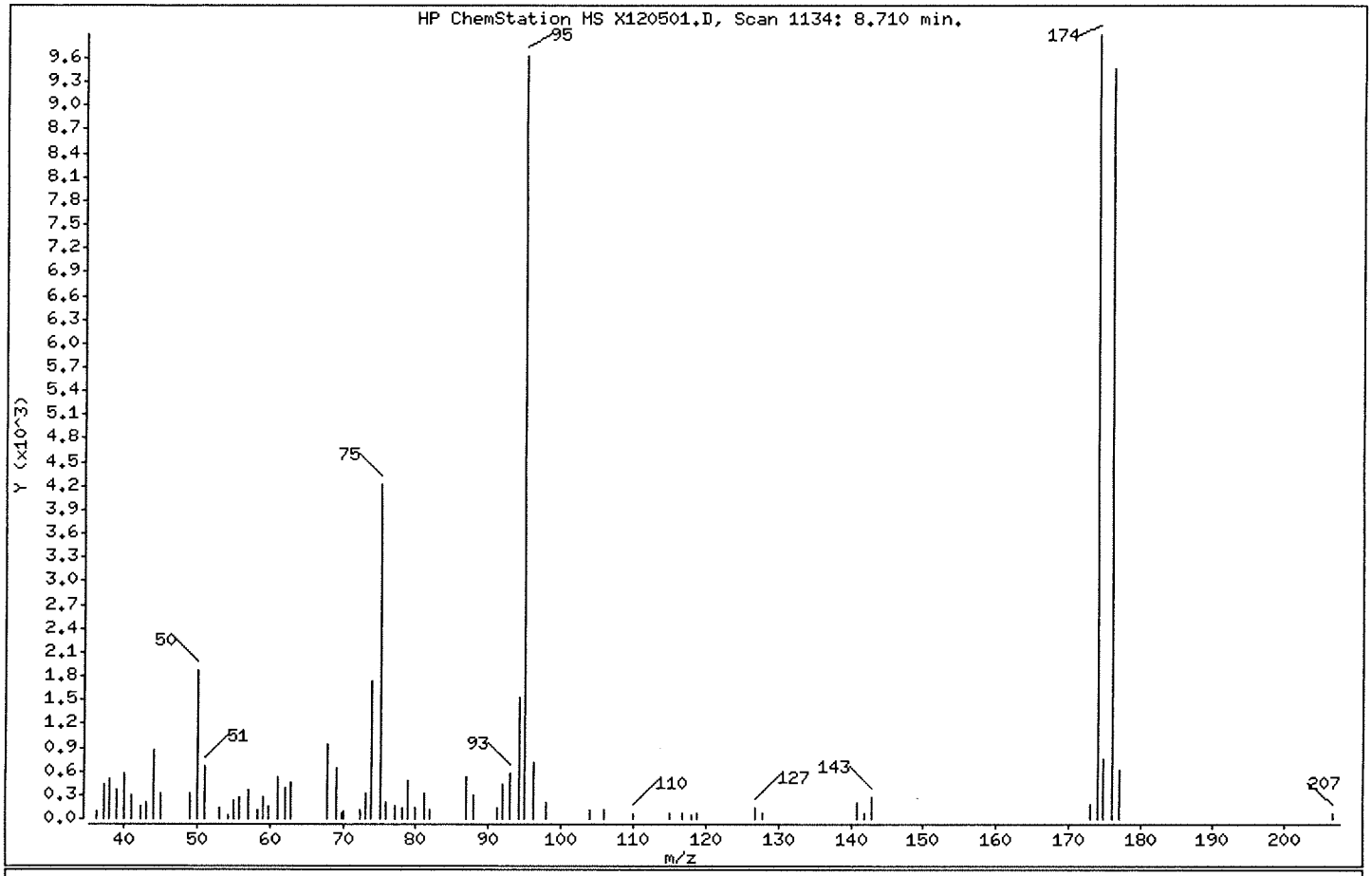
Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.35
75	30.00 - 60.00% of mass 95	43.92
96	5.00 - 9.00% of mass 95	7.42
173	Less than 2.00% of mass 174	1.84 (1.79)
174	Greater than 50.00% of mass 95	102.80
175	5.00 - 9.00% of mass 174	7.80 (7.59)
176	95.00 - 101.00% of mass 174	98.25 (95.57)
177	5.00 - 9.00% of mass 176	6.45 (6.57)

Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120501.D

Date : 05-DEC-2020 11:14

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: X120501.D
Spectrum: HP ChemStation MS X120501.D, Scan 1134: 8.710 min.
Location of Maximum: 173.90
Number of points: 66

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.20	96	57.00	367	78.10	140	114.90	65
37.10	428	58.20	124	78.90	483	116.90	72
38.00	499	59.00	285	79.90	143	118.00	55
38.90	360	59.90	152	81.10	314	118.70	72
40.00	575	61.10	534	81.90	122	126.80	132
41.00	304	62.00	386	86.90	521	127.80	61
42.20	149	62.90	464	87.80	305	141.00	198
43.10	194	67.90	928	91.20	131	141.80	75
43.90	869	69.00	636	92.00	430	142.80	265
44.90	330	69.80	77	93.00	565	173.00	177
49.10	326	70.20	91	94.10	1520	173.90	9896
50.00	1863	72.30	108	95.00	9626	174.80	751
51.00	671	73.20	314	96.10	714	175.90	9458
52.90	146	73.90	1730	98.00	209	176.90	621
54.20	57	75.00	4228	104.10	112	206.90	65
55.00	230	75.80	200	106.00	112		
55.90	266	77.00	163	110.10	72		

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-201205	109	101	100	101	0
02	VBLKW-201205	92	90	104	96	0
03	HS20111260-0	92	90	104	95	0
04	HS20120235-0	93	92	102	100	0
05	HS20120235-0	94	90	101	100	0
06	HS20111260-0	91	88	107	95	0
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(0-130)
SMC2	= Dibromofluoromethane	(0-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER	= 4-Bromofluorobenzene	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

ALS Laboratory Group

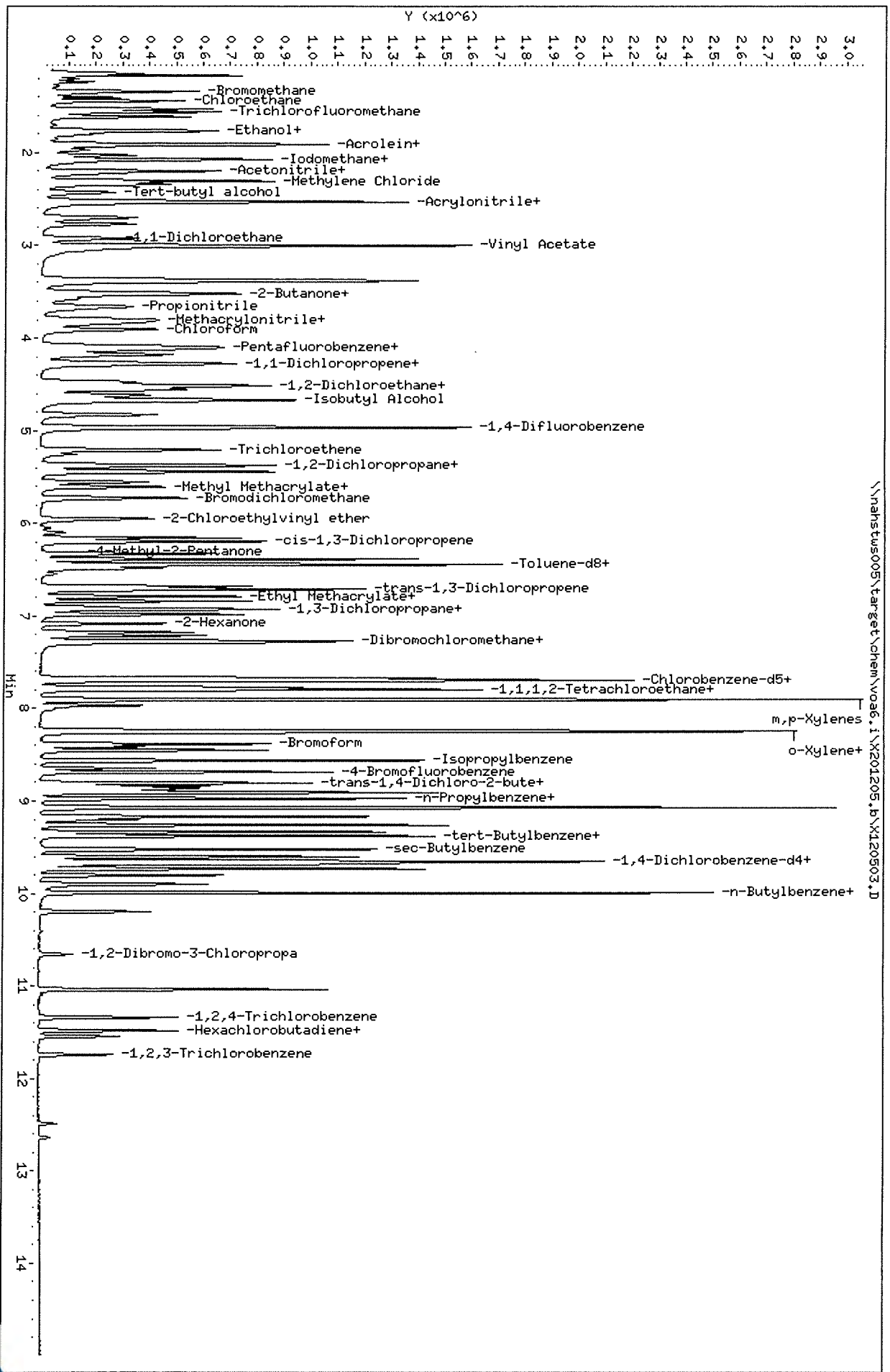
Data file : \\nahstws005\target\chem\voa6.i\X201205.b\X120503.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 05-DEC-2020 11:56
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201205.b\8260W.m
Meth Date : 13-Jan-2021 10:52 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	331363	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	622094	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	577805	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	261961	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	213746	50.0000	48.15
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	264433	50.0000	47.36
$	48 Toluene-d8	98	6.388	6.388	(0.833)	746236	50.0000	49.11
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	284054	50.0000	49.53
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	198783	50.0000	47.45
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	314157	50.0000	45.57
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	255708	50.0000	48.16
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	170805	50.0000	46.45
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	366405	50.0000	46.02
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	213776	50.0000	42.51
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	266743	50.0000	44.32
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	61618	50.0000	44.34
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	292165	50.0000	48.41
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	115139	50.0000	46.77
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	656739	50.0000	46.10
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	20298	50.0000	48.50
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	209005	50.0000	46.99
	88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	341444	50.0000	45.01

						AMOUNTS	
	QUANT SIG					CAL-AMT	ON-COL
Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	310219	50.0000	44.10
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	216466	50.0000	46.25
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	662235	50.0000	45.08
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	359755	50.0000	44.59
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	348336	50.0000	47.96
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	372484	50.0000	45.85
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	323143	50.0000	46.43
24 2-Butanone	43	3.573	3.573	(0.854)	144306	100.000	93.51
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	592400	50.0000	47.40
52 2-Hexanone	43	7.083	7.083	(0.923)	248329	100.000	85.89
77 4-Chlorotoluene	91	9.067	9.067	(0.938)	713191	50.0000	46.34
82 p-Isopropyltoluene	119	9.648	9.648	(0.999)	626797	50.0000	43.73
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	364980	100.000	86.37
10 Acetone	43	1.969	1.969	(0.471)	130124	100.000	96.38
37 Benzene	78	4.512	4.512	(0.908)	760863	50.0000	44.97
74 Bromobenzene	156	8.809	8.809	(0.912)	217022	50.0000	46.71
29 Bromochloromethane	128	3.795	3.795	(0.908)	107288	50.0000	45.15
39 Bromodichloromethane	83	5.729	5.729	(1.153)	296756	50.0000	46.13
66 Bromoform	173	8.408	8.408	(1.096)	127124	50.0000	48.27
6 Bromomethane	94	1.338	1.338	(0.320)	229507	50.0000	44.63
19 Carbon Disulfide	76	2.069	2.069	(0.495)	1014646	100.000	92.54
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	236299	50.0000	46.97
59 Chlorobenzene	112	7.692	7.692	(1.003)	541517	50.0000	45.62
7 Chloroethane	64	1.403	1.403	(0.336)	165307	50.0000	42.01
28 Chloroform	83	3.910	3.910	(0.935)	387375	50.0000	45.42
3 Chloromethane	50	1.073	1.073	(0.257)	290121	50.0000	44.40
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	211779	50.0000	45.40
46 cis-1,3-Dichloropropene	75	6.152	6.152	(1.238)	370212	50.0000	46.30
55 Dibromochloromethane	129	7.176	7.176	(0.936)	223528	50.0000	47.66
44 Dibromomethane	93	5.557	5.557	(1.118)	145010	50.0000	46.01
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	214817	50.0000	44.42
61 Ethylbenzene	106	7.799	7.799	(1.017)	272369	50.0000	46.91
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	64245	50.0000	43.83
67 Isopropylbenzene	105	8.566	8.566	(1.117)	789698	50.0000	44.20
62 m,p-Xylenes	106	7.907	7.907	(1.031)	683509	100.000	90.28
17 Methylene Chloride	84	2.305	2.305	(0.551)	195888	50.0000	44.00
87 n-Butylbenzene	91	9.991	9.991	(1.034)	615351	50.0000	43.56
73 n-Propylbenzene	91	8.910	8.910	(0.922)	956109	50.0000	45.35
92 Naphthalene	128	11.539	11.539	(1.194)	201918	50.0000	47.85
63 o-Xylene	106	8.244	8.244	(1.075)	334451	50.0000	45.33
81 sec-Butylbenzene	105	9.519	9.519	(0.985)	733703	50.0000	43.56
64 Styrene	104	8.258	8.258	(1.077)	572500	50.0000	45.63
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	515662	50.0000	43.77
56 Tetrachloroethene	164	6.933	6.933	(0.904)	148138	50.0000	45.82
50 Toluene	91	6.446	6.446	(0.840)	836957	50.0000	46.63
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	183724	50.0000	46.23
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	332129	50.0000	47.75
38 Trichloroethene	130	5.206	5.206	(1.048)	199002	50.0000	43.80
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	405857	50.0000	42.65
5 Vinyl Chloride	62	1.138	1.138	(0.272)	263104	50.0000	44.72



Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120503.D
Date : 05-DEC-2020 11:56
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120505.D Page 1
Report Date: 13-Jan-2021 10:52

ALS Laboratory Group

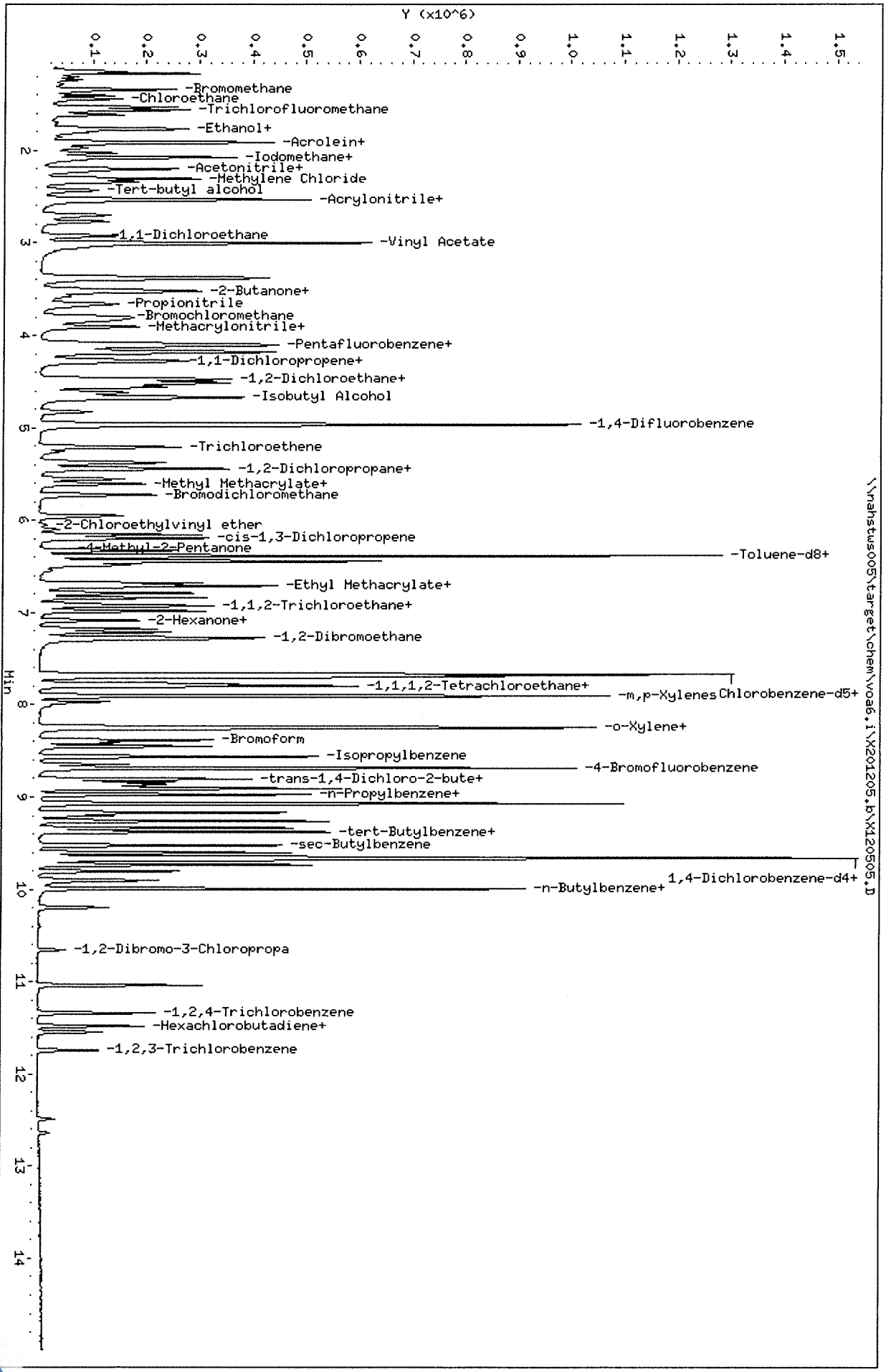
Data file : \\nahstws005\target\chem\voa6.i\X201205.b\X120505.D
Lab Smp Id: VLCSW-201205 Client Smp ID: VLCSW-201205
Inj Date : 05-DEC-2020 12:38
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-201205;VLCSW-201205;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201205.b\8260W.m
Meth Date : 13-Jan-2021 10:52 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	310845	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	572278	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	538207	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	256414	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	210198	50.4888	50.48
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	284060	54.3567	54.35
$	48 Toluene-d8	98	6.388	6.388	(0.833)	708545	50.0629	50.06
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	269654	50.4839	50.48
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	75449	19.3378	19.33
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	124168	19.2034	19.20
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	97802	18.8188	18.81
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	68289	19.9414	19.94
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	150345	20.1329	20.13
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	86259	18.2870	18.28
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	105960	19.1398	19.13
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	28746	21.1351	21.13
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	113687	19.2451	19.24
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	47275	19.6226	19.62
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	250312	17.9546	17.95
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.658	(1.103)	8274	19.8026	19.80
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	82790	19.9857	19.98
	88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	133073	17.9245	17.92

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	132847	20.5319	20.53
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	90173	20.9435	20.94
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	244214	16.9871	16.98
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	140661	17.8127	17.81
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	138983	20.5454	20.54
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	144794	18.2088	18.20
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	130987	20.0652	20.06
24	2-Butanone	43	3.580	3.573	(0.856)	58963	40.7316	40.73
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	224039	18.3168	18.31
52	2-Hexanone	43	7.090	7.083	(0.924)	107795	40.0268	40.02
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	267723	17.7723	17.77
82	p-Isopropyltoluene	119	9.647	9.648	(0.999)	232765	16.5926	16.59
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	154761	39.3180	39.31
10	Acetone	43	1.969	1.969	(0.471)	61658	44.6275	44.62
37	Benzene	78	4.512	4.512	(0.908)	308975	19.8545	19.85
74	Bromobenzene	156	8.809	8.809	(0.912)	84675	18.6195	18.61
29	Bromochloromethane	128	3.795	3.795	(0.908)	41568	18.6490	18.64
39	Bromodichloromethane	83	5.729	5.729	(1.153)	122700	20.7381	20.73
66	Bromoform	173	8.415	8.408	(1.097)	47461	19.3487	19.34
6	Bromomethane	94	1.338	1.338	(0.320)	98302	20.5206	20.52
19	Carbon Disulfide	76	2.069	2.069	(0.495)	426329	41.4530	41.45
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	85623	18.5050	18.50
59	Chlorobenzene	112	7.692	7.692	(1.003)	208013	18.8158	18.81
7	Chloroethane	64	1.403	1.403	(0.336)	68413	18.5365	18.53
28	Chloroform	83	3.910	3.910	(0.935)	158322	19.7915	19.79
3	Chloromethane	50	1.073	1.073	(0.257)	114384	19.3607	19.36
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	86665	19.8067	19.80
46	cis-1,3-Dichloropropene	75	6.159	6.152	(1.239)	150910	20.5201	20.52
55	Dibromochloromethane	129	7.176	7.176	(0.936)	85698	19.6183	19.61
44	Dibromomethane	93	5.557	5.557	(1.118)	58753	20.2649	20.26
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	81380	19.5648	19.56
61	Ethylbenzene	106	7.799	7.799	(1.017)	101750	18.8142	18.81
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	25512	19.2093	19.20
67	Isopropylbenzene	105	8.559	8.566	(1.116)	284148	17.0768	17.07
62	m,p-Xylenes	106	7.907	7.907	(1.031)	250306	35.4961	35.49
17	Methylene Chloride	84	2.305	2.305	(0.551)	81595	19.5419	19.54
87	n-Butylbenzene	91	9.991	9.991	(1.034)	220938	17.2085	17.20
73	n-Propylbenzene	91	8.910	8.910	(0.922)	340562	16.5042	16.50
92	Naphthalene	128	11.546	11.539	(1.195)	83585	20.2390	20.23
63	o-Xylene	106	8.244	8.244	(1.075)	125069	18.2008	18.20
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	263605	15.9921	15.99
64	Styrene	104	8.258	8.258	(1.077)	220364	18.8587	18.85
78	tert-Butylbenzene	119	9.339	9.340	(0.967)	190333	16.5085	16.50
56	Tetrachloroethene	164	6.933	6.933	(0.904)	53159	17.6554	17.65
50	Toluene	91	6.446	6.446	(0.840)	314919	18.8373	18.83
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	74375	19.9517	19.95
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	130481	20.3923	20.39
38	Trichloroethene	130	5.206	5.206	(1.048)	75919	18.1659	18.16
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	159237	17.8422	17.84
5	Vinyl Chloride	62	1.145	1.138	(0.274)	102363	18.5481	18.54



Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120505.D
Date : 05-DEC-2020 12:38
Client ID: VLCSW-201205
Sample Info: VLCSW-201205;VLCSW-201205;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120507.D Page 1
Report Date: 13-Jan-2021 10:52

ALS Laboratory Group

Data file : \\nahstws005\target\chem\voa6.i\X201205.b\X120507.D
Lab Smp Id: VBLKW-201205 Client Smp ID: VBLKW-201205
Inj Date : 05-DEC-2020 13:20
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-201205;VBLKW-201205;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201205.b\8260W.m
Meth Date : 13-Jan-2021 10:52 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

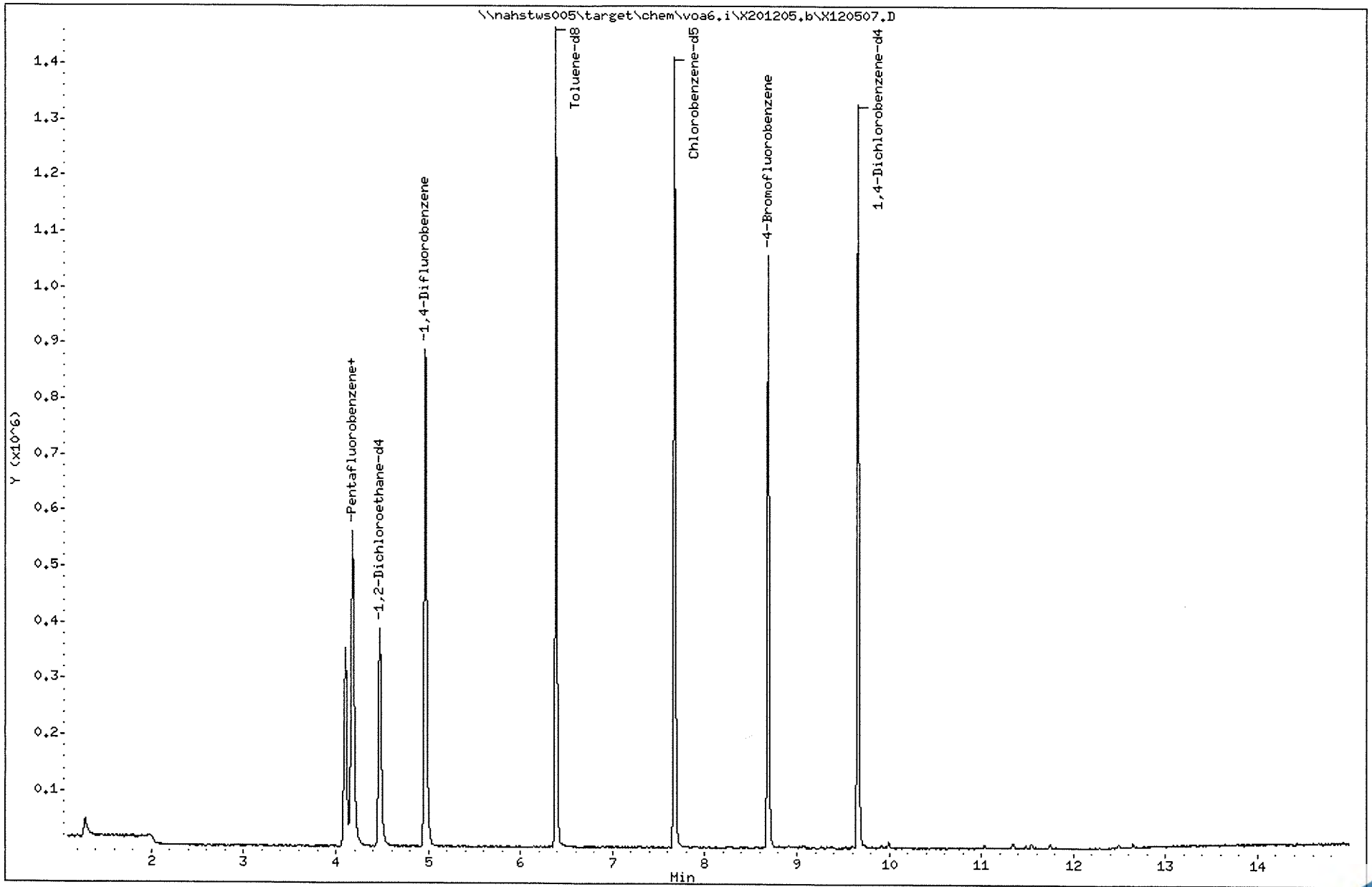
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	398986	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	691039	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	597691	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	252274	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	240033	44.9000	44.90
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	308419	45.8579	45.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	821734	52.2652	52.26
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	283632	47.8063	47.80

Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120507.D
Date : 05-DEC-2020 13:20
Client ID: VBLKW-201205
Sample Info: VBLKW-201205;VBLKW-201205;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120509.D Page 1
Report Date: 13-Jan-2021 10:13

ALS Laboratory Group

Data file : \\nahstws005\target\chem\voa6.i\X201205.b\X120509.D
Lab Smp Id: HS20111260-03 Client Smp ID: HS20111260-03
Inj Date : 05-DEC-2020 14:02
Operator : PC Inst ID: voa6.i
Smp Info : HS20111260-03;HS20111260-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201205.b\8260W.m
Meth Date : 13-Jan-2021 10:10 Genoveva.R Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

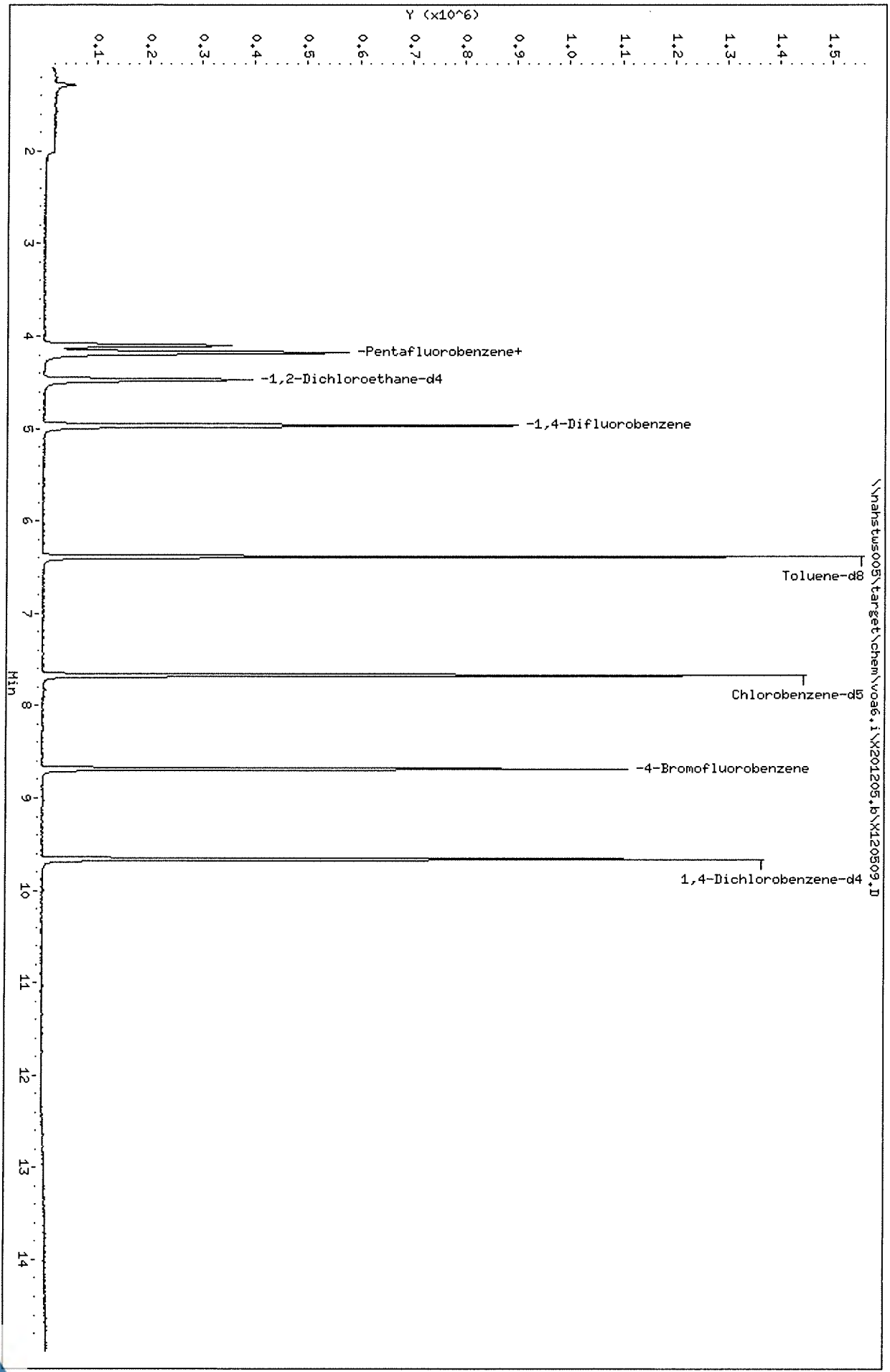
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	408470	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	711013	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	625102	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	268755	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	246060	44.9589	44.95
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	318543	46.2706	46.27
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	851666	51.7971	51.79
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	295763	47.6644	47.66

Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120509.D
Date : 05-DEC-2020 14:02
Client ID: HS20111260-03
Sample Info: HS20111260-03;HS20111260-03;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120514.D Page 1
Report Date: 13-Jan-2021 10:52

ALS Laboratory Group

Data file : \\nahstws005\target\chem\voa6.i\X201205.b\X120514.D
Lab Smp Id: HS20120235-06MS Client Smp ID: HS20120235-06MS
Inj Date : 05-DEC-2020 15:47
Operator : PC Inst ID: voa6.i
Smp Info : HS20120235-06MS;HS20120235-06MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201205.b\8260W.m
Meth Date : 13-Jan-2021 10:52 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 14 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

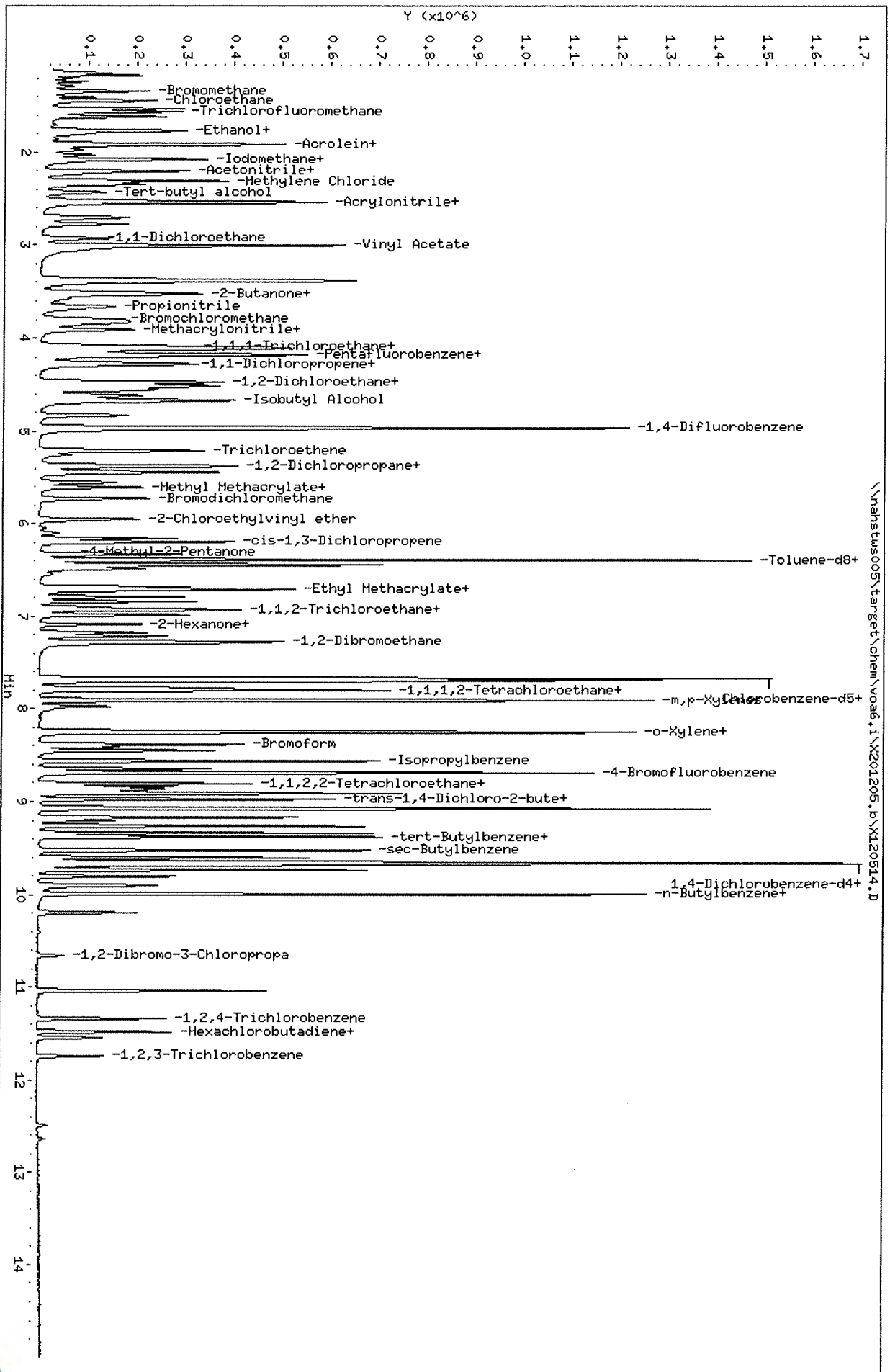
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	384847	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	661212	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	602048	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	283707	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	238267	46.2120	46.21
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	303022	46.7255	46.72
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	807003	50.9663	50.96
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	298519	49.9597	49.95
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	80707	18.4919	18.49
31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	140163	17.5089	17.50
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	110030	19.1349	19.13
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	71914	18.7732	18.77
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	152484	16.4929	16.49
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	86020	14.7297	14.72
32 1,1-Dichloropropene	75	4.283	4.282	(0.863)	121424	18.9830	18.98
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	32268	21.4423	21.44
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	126443	19.3453	19.34
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	57953	21.7406	21.74
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.971)	326854	21.1894	21.18
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	8584	18.5255	18.52
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	86192	18.6006	18.60
88 1,2-Dichlorobenzene	146	9.992	9.991	(1.034)	158776	19.3292	19.32

Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120514.D Page 2
Report Date: 13-Jan-2021 10:52

	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	4.555	(0.919)	128628	17.2060	17.20
42	1,2-Dichloropropane	63	5.436	5.436	(1.095)	88766	17.8437	17.84
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	323223	20.3200	20.31
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	166774	19.0878	19.08
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	143354	18.9444	18.94
84	1,4-Dichlorobenzene	146	9.684	9.683	(1.002)	168980	19.2061	19.20
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	138685	17.1593	17.15
24	2-Butanone	43	3.573	3.573	(0.854)	60040	33.5003	33.50
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	264812	19.5675	19.56
52	2-Hexanone	43	7.083	7.083	(0.923)	119562	39.6884	39.68
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	326906	19.6134	19.61
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	328137	21.1409	21.14
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	167758	38.1005	38.10
10	Acetone	43	1.969	1.969	(0.471)	51190	27.2262	27.22
37	Benzene	78	4.512	4.512	(0.909)	324813	18.0649	18.06
74	Bromobenzene	156	8.810	8.809	(0.912)	94996	18.8795	18.87
29	Bromochloromethane	128	3.795	3.795	(0.908)	40918	14.8275	14.82
39	Bromodichloromethane	83	5.730	5.729	(1.154)	127002	18.5781	18.57
66	Bromoform	173	8.408	8.408	(1.096)	55106	20.0831	20.08
6	Bromomethane	94	1.339	1.338	(0.320)	87558	14.8350	14.83
19	Carbon Disulfide	76	2.069	2.069	(0.495)	394952	31.0178	31.01
34	Carbon Tetrachloride	117	4.268	4.268	(0.860)	106901	19.9961	19.99
59	Chlorobenzene	112	7.692	7.692	(1.003)	225501	18.2347	18.23
7	Chloroethane	64	1.403	1.403	(0.336)	63341	13.8621	13.86
28	Chloroform	83	3.910	3.910	(0.935)	167806	16.9434	16.94
3	Chloromethane	50	1.074	1.073	(0.257)	91981	12.9959	12.99
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	98930	18.2621	18.26
46	cis-1,3-Dichloropropene	75	6.159	6.152	(1.241)	144722	17.0318	17.03
55	Dibromochloromethane	129	7.176	7.176	(0.936)	84552	17.3034	17.30
44	Dibromomethane	93	5.558	5.557	(1.120)	61024	18.2172	18.21
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	46096	10.4307	10.43
61	Ethylbenzene	106	7.800	7.799	(1.017)	123183	20.3620	20.36
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	33113	22.1485	22.14
67	Isopropylbenzene	105	8.559	8.566	(1.116)	378387	20.3290	20.32
62	m,p-Xylenes	106	7.907	7.907	(1.031)	299198	37.9303	37.93
17	Methylene Chloride	84	2.306	2.305	(0.551)	81857	15.8349	15.83
87	n-Butylbenzene	91	9.992	9.991	(1.034)	324842	22.2966	22.29
73	n-Propylbenzene	91	8.910	8.910	(0.922)	458769	20.0939	20.09
92	Naphthalene	128	11.539	11.539	(1.194)	86329	18.8925	18.89
63	o-Xylene	106	8.244	8.244	(1.075)	143353	18.6495	18.64
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	390643	21.4192	21.41
64	Styrene	104	8.258	8.258	(1.077)	244274	18.6882	18.68
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	266077	20.8579	20.85
56	Tetrachloroethene	164	6.933	6.933	(0.904)	68551	20.3532	20.35
50	Toluene	91	6.446	6.446	(0.840)	345960	18.4996	18.49
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	72246	15.6539	15.65
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	131363	17.7688	17.76
38	Trichloroethene	130	5.207	5.206	(1.049)	100753	20.8656	20.86
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	173117	15.6675	15.66
5	Vinyl Chloride	62	1.138	1.138	(0.272)	89884	13.1551	13.15



Data File: \\nahstus005\target\chem\voa6.i\X201205.b\X120514.D
Date : 05-DEC-2020 15:47
Client ID: HS20120235-06HS
Sample Info: HS20120235-06HS;HS20120235-06HS;3;;HS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120515.D Page 1
Report Date: 13-Jan-2021 10:52

ALS Laboratory Group

Data file : \\nahstws005\target\chem\voa6.i\X201205.b\X120515.D
Lab Smp Id: HS20120235-06MSD Client Smp ID: HS20120235-06MSD
Inj Date : 05-DEC-2020 16:08
Operator : PC Inst ID: voa6.i
Smp Info : HS20120235-06MSD;HS20120235-06MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\target\chem\voa6.i\X201205.b\8260W.m
Meth Date : 13-Jan-2021 10:52 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 14 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

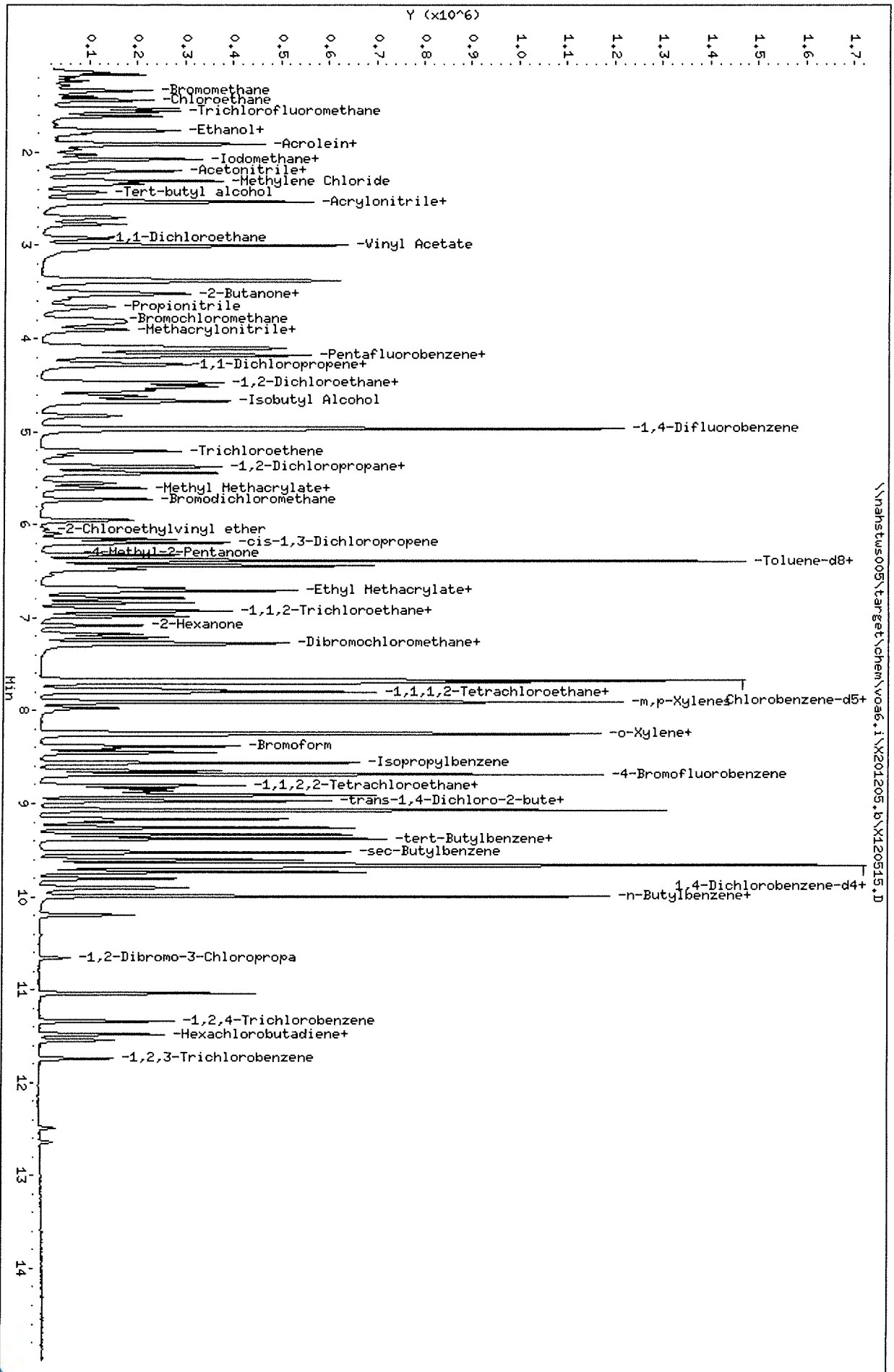
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	389883	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	670251	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	609617	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	278852	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	234353	44.8609	44.86
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	309878	47.1730	47.17
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	813639	50.7490	50.74
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	304259	50.2893	50.28
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	79816	18.0607	18.06
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	136794	16.8673	16.86
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	112106	19.8354	19.83
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	70960	18.2941	18.29
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	150113	16.0268	16.02
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	82983	14.0261	14.02
32 1,1-Dichloropropene	75	4.283	4.282	(0.863)	113765	17.5458	17.54
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	36133	24.4286	24.42
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	127498	19.8464	19.84
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	61152	23.3401	23.34
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.971)	318735	21.0228	21.02
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	10399	22.9923	22.99
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	84998	18.1151	18.11
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	153892	19.0609	19.06

Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120515.D Page 2
Report Date: 13-Jan-2021 10:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.918)	129005	17.0237	17.02
42	1,2-Dichloropropane	63	5.436	5.436	(1.095)	88261	17.5029	17.50
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	312175	19.9671	19.96
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	161082	18.7574	18.75
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	139403	18.1936	18.19
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	164944	19.0738	19.07
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	135468	16.5448	16.54
24	2-Butanone	43	3.581	3.573	(0.856)	61346	33.7868	33.78
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	254524	19.1347	19.13
52	2-Hexanone	43	7.083	7.083	(0.923)	120414	39.4749	39.47
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	317866	19.4031	19.40
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	323428	21.2003	21.20
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	167750	37.6257	37.62
10	Acetone	43	1.976	1.969	(0.473)	53090	28.0664	28.06
37	Benzene	78	4.512	4.512	(0.909)	311497	17.0907	17.09
74	Bromobenzene	156	8.810	8.809	(0.912)	93230	18.8511	18.85
29	Bromochloromethane	128	3.795	3.795	(0.908)	42523	15.2100	15.21
39	Bromodichloromethane	83	5.729	5.729	(1.154)	127683	18.4258	18.42
66	Bromoform	173	8.416	8.408	(1.097)	53474	19.2464	19.24
6	Bromomethane	94	1.339	1.338	(0.320)	89724	15.0027	15.00
19	Carbon Disulfide	76	2.069	2.069	(0.495)	389734	30.2126	30.21
34	Carbon Tetrachloride	117	4.268	4.268	(0.860)	102352	18.8870	18.88
59	Chlorobenzene	112	7.692	7.692	(1.003)	219520	17.5307	17.53
7	Chloroethane	64	1.403	1.403	(0.336)	57288	12.3755	12.37
28	Chloroform	83	3.910	3.910	(0.935)	162229	16.1687	16.16
3	Chloromethane	50	1.073	1.073	(0.257)	84865	11.9428	11.94
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	90177	16.4313	16.43
46	cis-1,3-Dichloropropene	75	6.159	6.152	(1.241)	142310	16.5221	16.52
55	Dibromochloromethane	129	7.176	7.176	(0.936)	84182	17.0138	17.01
44	Dibromomethane	93	5.550	5.557	(1.118)	60232	17.7383	17.73
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	45353	10.2087	10.20
61	Ethylbenzene	106	7.800	7.799	(1.017)	117913	19.2488	19.24
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	34368	23.2614	23.26
67	Isopropylbenzene	105	8.559	8.566	(1.116)	361506	19.1810	19.18
62	m,p-Xylenes	106	7.907	7.907	(1.031)	283964	35.5521	35.55
17	Methylene Chloride	84	2.306	2.305	(0.551)	78750	15.0370	15.03
87	n-Butylbenzene	91	9.991	9.991	(1.034)	320631	22.3831	22.38
73	n-Propylbenzene	91	8.910	8.910	(0.922)	436468	19.4500	19.44
92	Naphthalene	128	11.546	11.539	(1.195)	103246	22.9880	22.98
63	o-Xylene	106	8.244	8.244	(1.075)	138883	17.8436	17.84
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	373829	20.8542	20.85
64	Styrene	104	8.258	8.258	(1.077)	238461	18.0170	18.01
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	253091	20.1854	20.18
56	Tetrachloroethene	164	6.933	6.933	(0.904)	65323	19.1540	19.15
50	Toluene	91	6.446	6.446	(0.840)	341880	18.0545	18.05
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	70428	15.0629	15.06
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	128154	17.1010	17.10
38	Trichloroethene	130	5.207	5.206	(1.049)	85634	17.4953	17.49
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	170184	15.2031	15.20
5	Vinyl Chloride	62	1.138	1.138	(0.272)	85311	12.3246	12.32



Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120515.D
Date : 05-DEC-2020 16:08
Client ID: HS20120235-06MSD
Sample Info: HS20120235-06MSD;HS20120235-06MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120518.D Page 1
Report Date: 13-Jan-2021 10:13

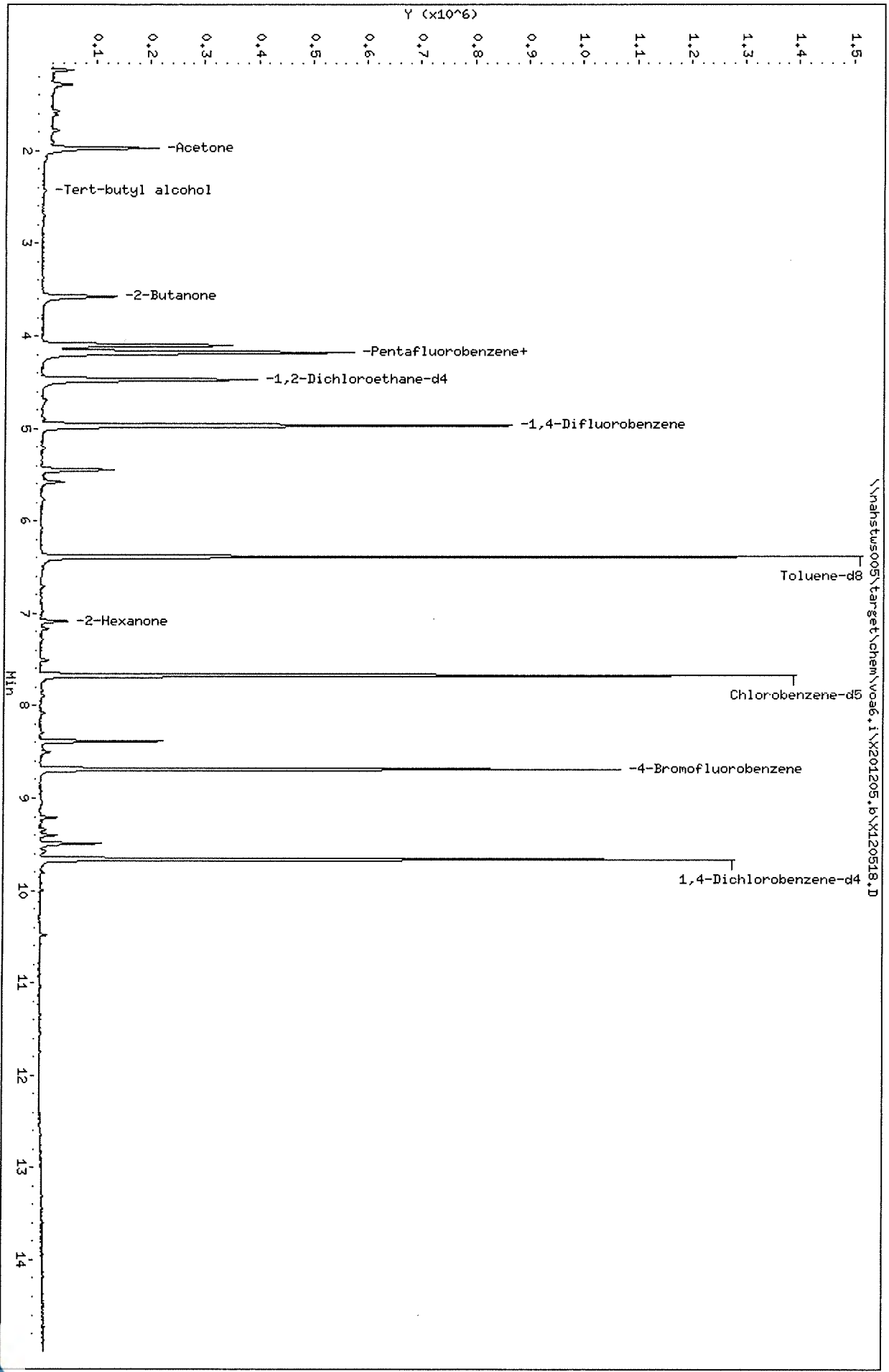
ALS Laboratory Group

Data file : \\nahstws005\target\chem\voa6.i\X201205.b\X120518.D
Lab Smp Id: HS20111260-01 Client Smp ID: HS20111260-01
Inj Date : 05-DEC-2020 17:12
Operator : PC Inst ID: voa6.i
Smp Info : HS20111260-01;HS20111260-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201205.b\8260W.m
Meth Date : 13-Jan-2021 10:10 Genoveva.R Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	404810	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	691992	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	589627	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	245435	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.103	(0.979)	239571	44.1661	44.16
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	311551	45.6537	45.65
$	48 Toluene-d8	98	6.388	6.388	(0.833)	828812	53.4278	53.42
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	277912	47.4816	47.48
	24 2-Butanone	43	3.573	3.573	(0.854)	198625	105.361	105.36
	52 2-Hexanone	43	7.090	7.090	(0.924)	28669	9.71709	9.71
	10 Acetone	43	1.969	1.976	(0.471)	218974	135.859	135.85



Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120518.D
Date : 05-DEC-2020 17:12
Client ID: HS20111260-01
Sample Info: HS20111260-01;HS20111260-01;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120518.D

Date : 05-DEC-2020 17:12

Client ID: HS20111260-01

Instrument: voa6.i

Sample Info: HS20111260-01;HS20111260-01;;;

Purge Volume: 5.0

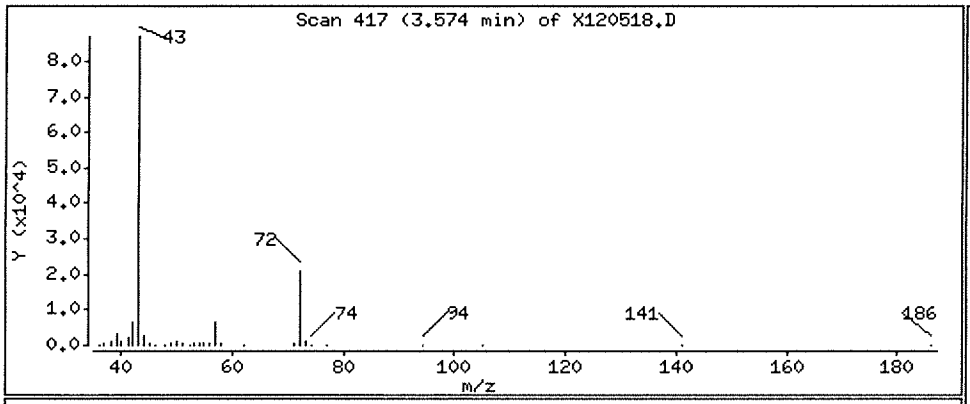
Operator: PC

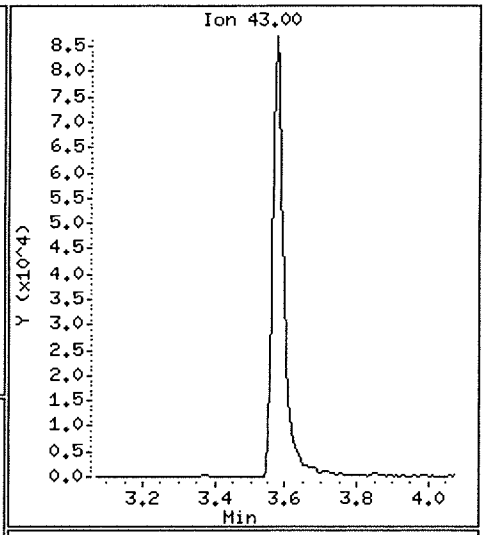
Column phase: DB624

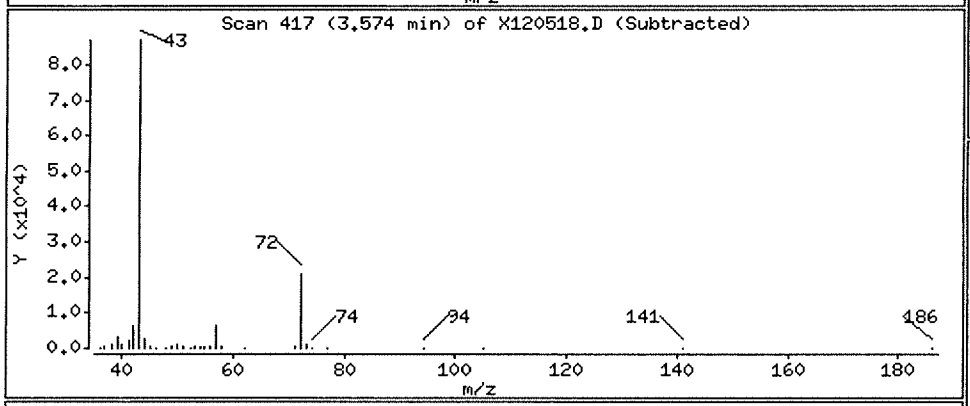
Column diameter: 0.18

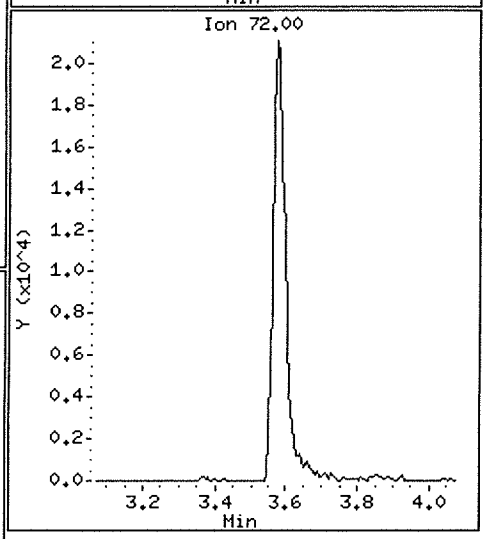
24 2-Butanone

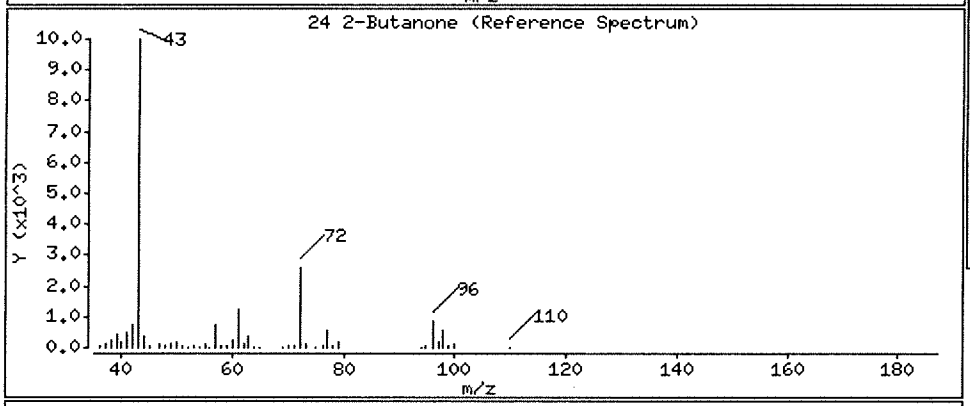
Concentration: 105.36 ug/l

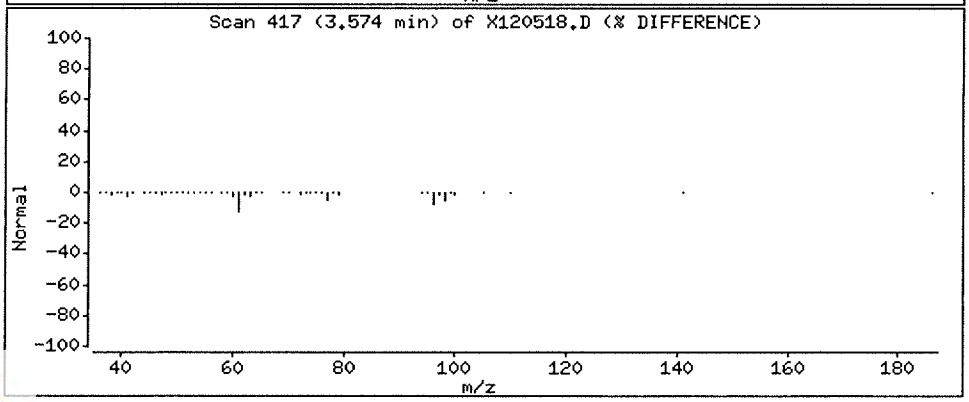












Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120518.D

Date : 05-DEC-2020 17:12

Client ID: HS20111260-01

Instrument: voa6.i

Sample Info: HS20111260-01;HS20111260-01;;;

Purge Volume: 5.0

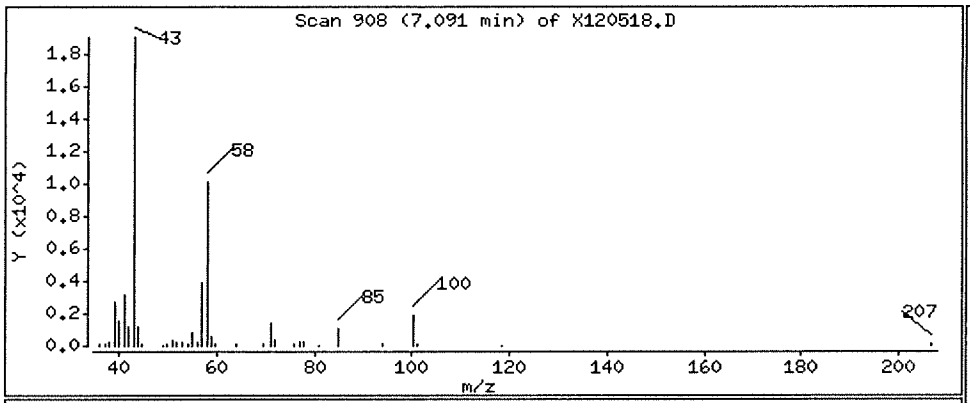
Operator: PC

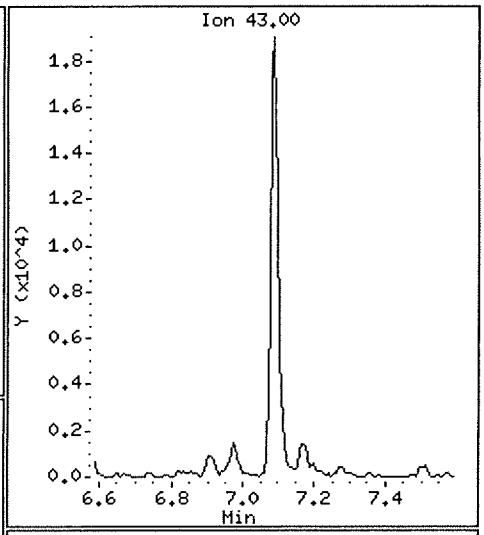
Column phase: DB624

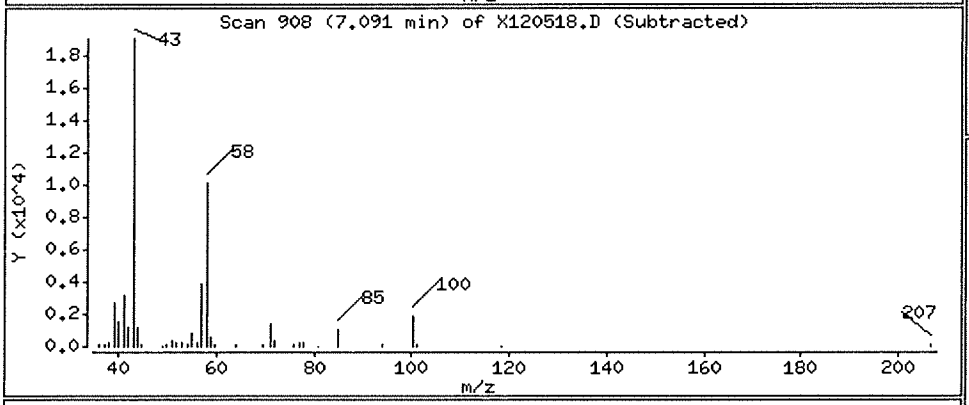
Column diameter: 0.18

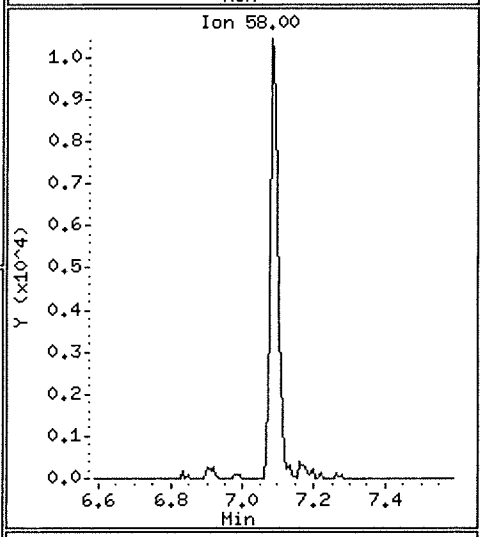
52 2-Hexanone

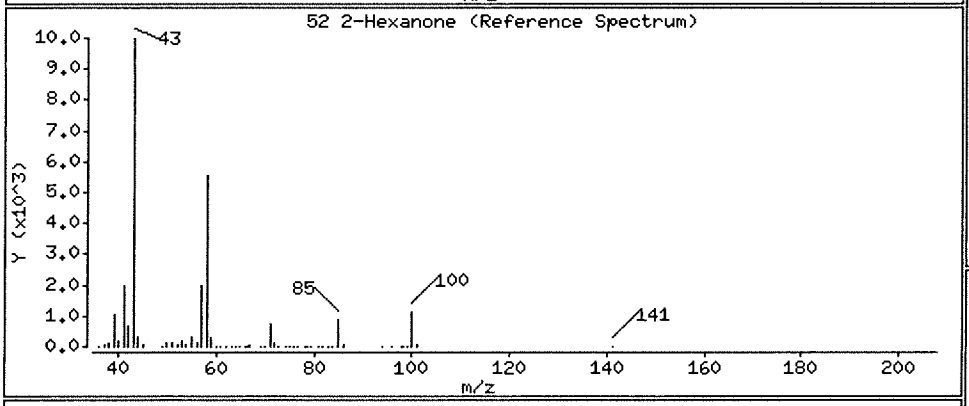
Concentration: 9.71 ug/l

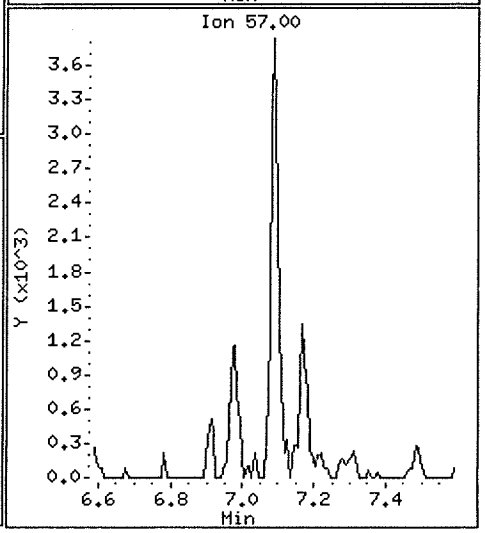


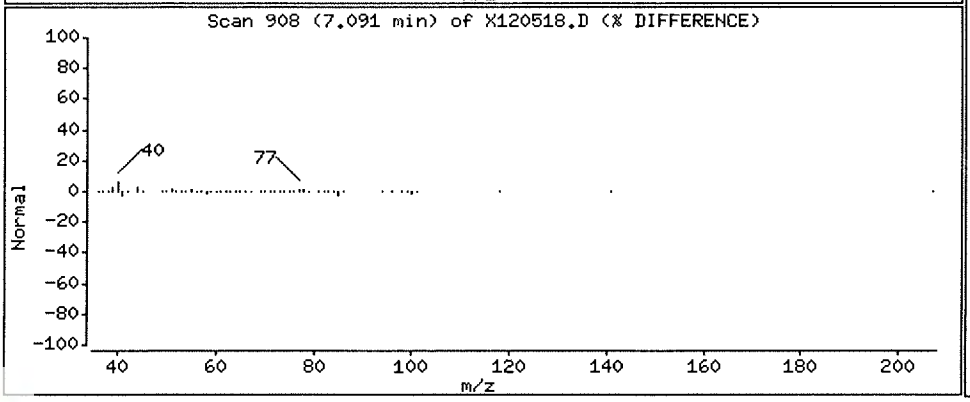












Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120518.D

Date : 05-DEC-2020 17:12

Client ID: HS20111260-01

Instrument: voa6.i

Sample Info: HS20111260-01;HS20111260-01;;;

Purge Volume: 5.0

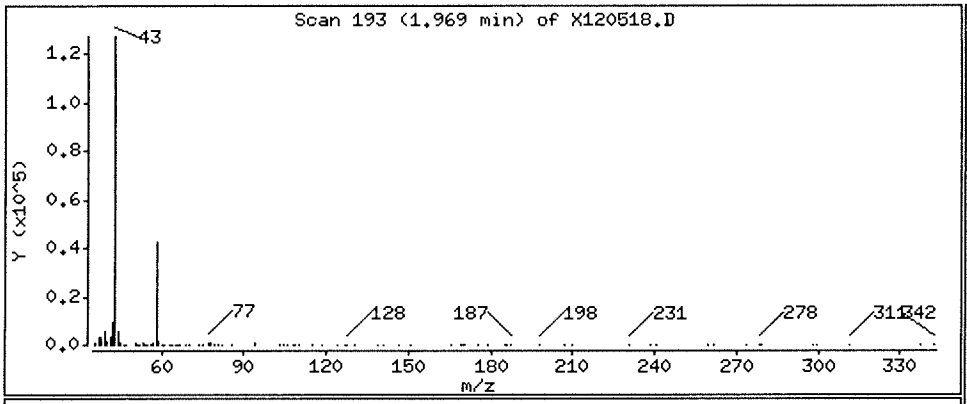
Operator: PC

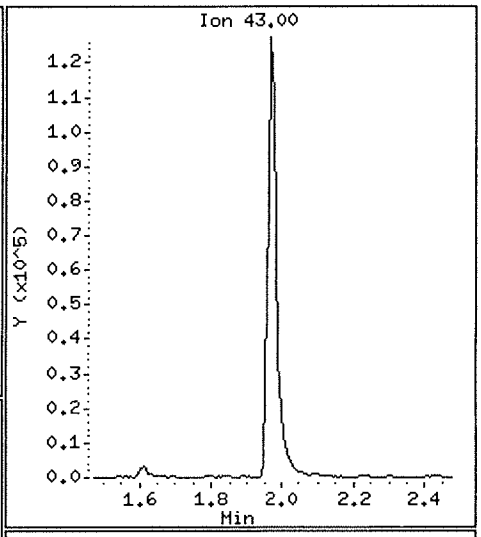
Column phase: DB624

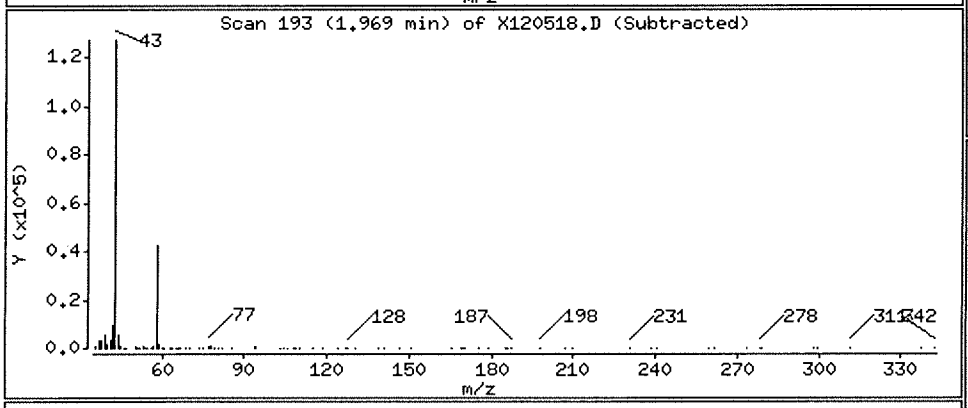
Column diameter: 0.18

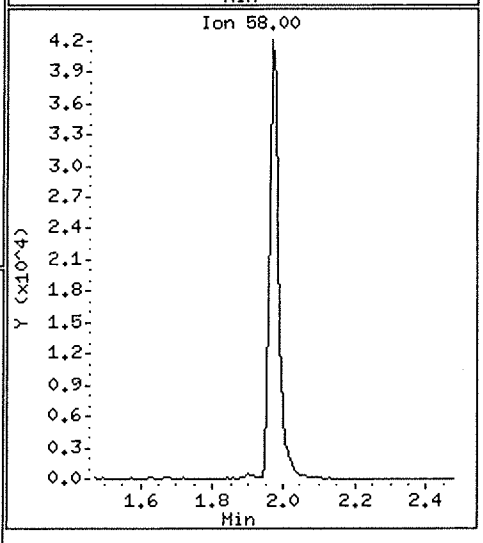
10 Acetone

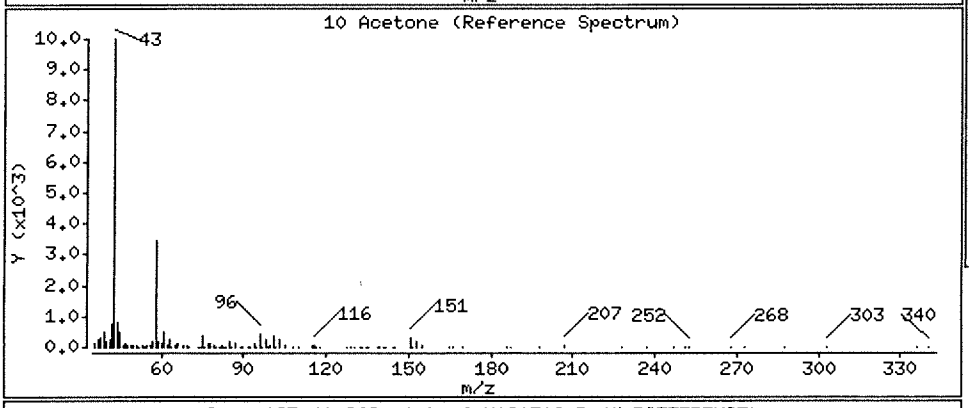
Concentration: 135.85 ug/l

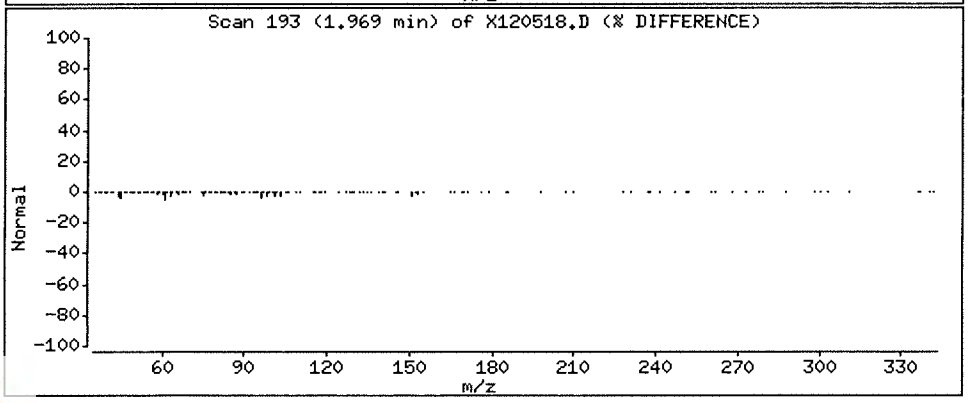












Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120531.D Page 1
Report Date: 13-Jan-2021 10:56

ALS Laboratory Group

Data file : \\nahstws005\target\chem\voa6.i\X201205.b\X120531.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 05-DEC-2020 21:45
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\X201205.b\8260W.m
Meth Date : 13-Jan-2021 10:56 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

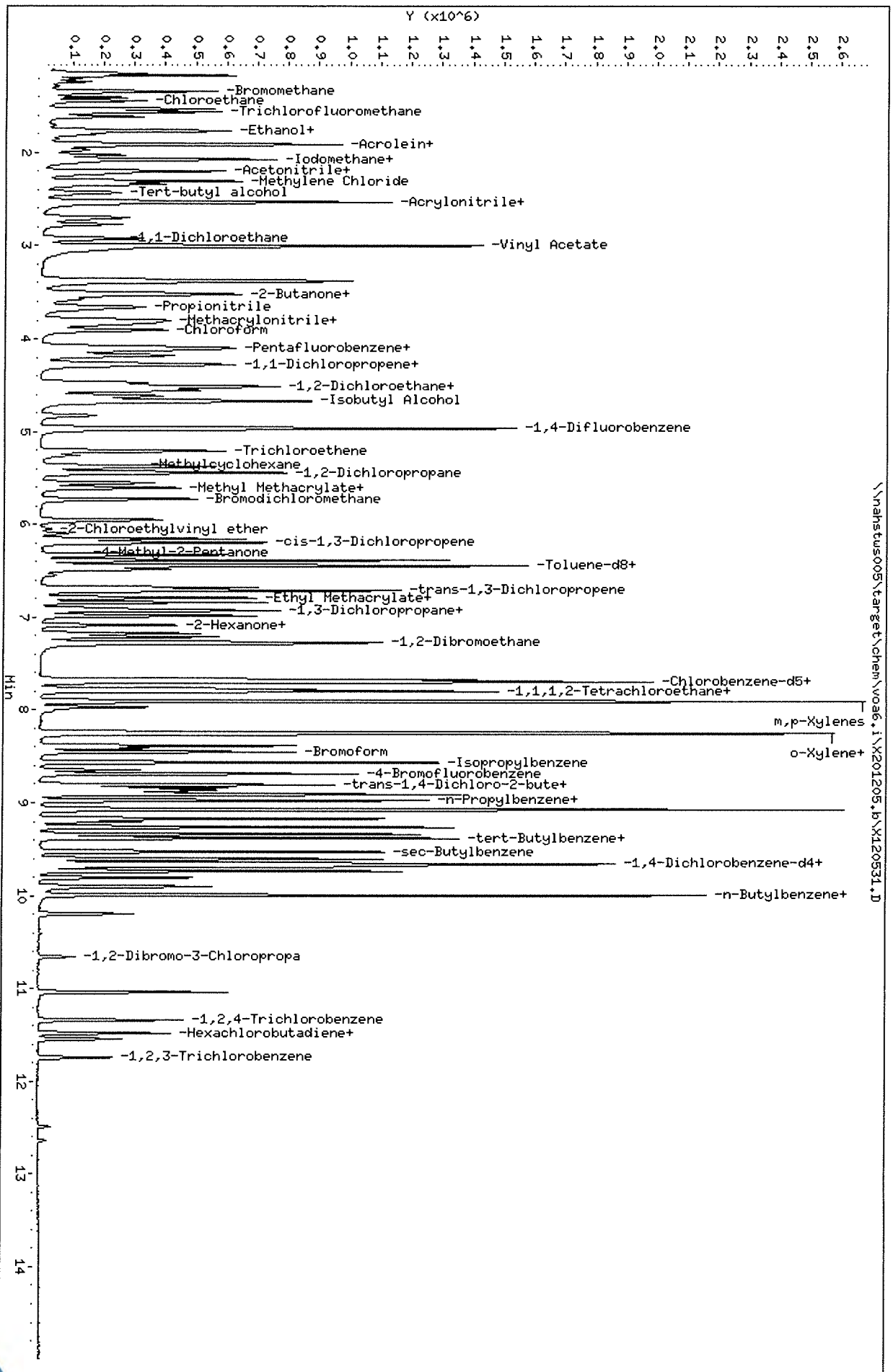
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	301394	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	579397	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	550750	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	252295	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	204527	50.0000	50.66
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	258627	50.0000	50.99
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	707499	50.0000	48.85
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	278605	50.0000	50.97
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	180153	50.0000	45.12
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	281781	50.0000	44.94
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	236801	50.0000	46.30
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	157958	50.0000	45.07
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	331932	50.0000	45.84
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	197300	50.0000	43.13
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	232396	50.0000	41.46
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	58600	50.0000	43.78
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	271444	50.0000	46.70
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	105977	50.0000	44.70
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	600075	50.0000	43.74
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	19206	50.0000	47.64
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	196072	50.0000	46.25
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	314118	50.0000	43.00

Data File: \\nahstws005\target\chem\voa6.i\X201205.b\X120531.D Page 2
Report Date: 13-Jan-2021 10:56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	296676	50.0000	45.28
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	194313	50.0000	44.57
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	598031	50.0000	42.27
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	332332	50.0000	42.77
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	321370	50.0000	46.42
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	332049	50.0000	42.43
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	251710	50.0000	39.76
24	2-Butanone	43	3.573	3.573	(0.854)	137219	100.000	97.76
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	547032	50.0000	45.45
52	2-Hexanone	43	7.090	7.090	(0.924)	236553	100.000	85.83
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	651293	50.0000	43.94
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	555865	50.0000	40.27
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	350608	100.000	87.04
10	Acetone	43	1.976	1.976	(0.473)	117584	100.000	95.69
37	Benzene	78	4.512	4.512	(0.908)	695635	50.0000	44.15
74	Bromobenzene	156	8.810	8.810	(0.912)	197715	50.0000	44.18
29	Bromochloromethane	128	3.795	3.795	(0.908)	99914	50.0000	46.23
39	Bromodichloromethane	83	5.729	5.729	(1.153)	276184	50.0000	46.10
66	Bromoform	173	8.408	8.408	(1.096)	113457	50.0000	45.20
6	Bromomethane	94	1.338	1.338	(0.320)	227843	50.0000	48.69
19	Carbon Disulfide	76	2.069	2.069	(0.495)	897928	100.000	90.04
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	197007	50.0000	42.05
59	Chlorobenzene	112	7.692	7.692	(1.003)	490407	50.0000	43.34
7	Chloroethane	64	1.403	1.403	(0.336)	158148	50.0000	44.19
28	Chloroform	83	3.910	3.910	(0.935)	357360	50.0000	46.07
3	Chloromethane	50	1.073	1.073	(0.257)	247059	50.0000	41.65
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	196391	50.0000	46.29
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	334831	50.0000	44.96
55	Dibromochloromethane	129	7.176	7.176	(0.936)	203848	50.0000	45.60
44	Dibromomethane	93	5.557	5.557	(1.118)	136520	50.0000	46.50
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	170063	50.0000	39.01
61	Ethylbenzene	106	7.800	7.800	(1.017)	243760	50.0000	44.04
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	53296	50.0000	38.13
67	Isopropylbenzene	105	8.566	8.566	(1.117)	709443	50.0000	41.66
62	m,p-Xylenes	106	7.907	7.907	(1.031)	611152	100.000	84.69
17	Methylene Chloride	84	2.298	2.298	(0.550)	188265	50.0000	46.50
87	n-Butylbenzene	91	9.991	9.991	(1.034)	522868	50.0000	38.72
73	n-Propylbenzene	91	8.910	8.910	(0.922)	852750	50.0000	42.00
92	Naphthalene	128	11.539	11.539	(1.194)	172372	50.0000	42.41
63	o-Xylene	106	8.244	8.244	(1.075)	303467	50.0000	43.15
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	645048	50.0000	39.77
64	Styrene	104	8.258	8.258	(1.077)	522649	50.0000	43.70
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	465380	50.0000	41.02
56	Tetrachloroethene	164	6.933	6.933	(0.904)	126213	50.0000	40.96
50	Toluene	91	6.446	6.446	(0.840)	762316	50.0000	44.56
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	161552	50.0000	44.69
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	298108	50.0000	46.01
38	Trichloroethene	130	5.207	5.207	(1.048)	173060	50.0000	40.90
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	359677	50.0000	41.56
5	Vinyl Chloride	62	1.138	1.138	(0.272)	222574	50.0000	41.59



Data File: \\nahstus005\target\chem\voa6.i\X201205.b\X120531.D
Date : 05-DEC-2020 21:45
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

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

HS20111260 8270SIM_W Raw Data

ALS WO# HS20111260

Prep Batch Report

Batch ID: 160215
Prep Code: 3510_B_SIM
Start Date: 01 Dec 2020 07:59 AM
End Date: 01 Dec 2020 02:30 PM
Technician: Todi Lala

Init Sample Weight / Volume: 1000
Final Sample Volume: 1
Original Factor: 0.001
Prep Unit Factor: 1
Prep Unit: mL

Sample ID	Fraction	Matrix	pH	Initial Weight / Volume	Final Volume	Prep Factor	Spike Factor	Fail Safe	Due Date	Comments
HS20110860-01	A	Water		1000	1	0.001	1	04 Dec 2020	10 Dec 2020	Out of Hold
HS20111258-01	E	Water	7	1000	1	0.001	1	14 Dec 2020	18 Dec 2020	ph adj 1/13
HS20111260-01	E	Water	7	1000	1	0.001	1	14 Dec 2020	18 Dec 2020	ph adj 1/13
LCS-160215	A		5	1000	1	0.001	1			ph adj 1/13
LCSD-160215	A		5	1000	1	0.001	1			ph adj 1/13
MBLK-160215	A		5	1000	1	0.001	1			ph adj 1/13

SV06 -Logbook

Batch: 41634 **Analyst:** Andrew Neir

Date: 09-01-2020 **Reviewer:**

Method: 8270DLL **Laboratory:** Houston

Comments: MSSV003

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	DFTPP	TUNE	09-01-2020 01:52 pm	1.00			001.D		Y	NA
2	SLSTD-2.5	CCV	09-01-2020 02:04 pm	1.00			002.D		Y	NA
3	DXSIM-0.08	SAMP	09-01-2020 02:41 pm	1.00			003.D		Y	NA
4	DXSIM-0.01	SAMP	09-01-2020 03:03 pm	1.00			004.D		Y	NA
5	DXSIM-0.03	SAMP	09-01-2020 03:22 pm	1.00			005.D		Y	NA
6	DXSIM-0.05	SAMP	09-01-2020 03:41 pm	1.00			006.D		Y	NA
7	DXSIM-0.10	SAMP	09-01-2020 04:00 pm	1.00			007.D		Y	NA
8	DXSIM-0.15	SAMP	09-01-2020 04:19 pm	1.00			008.D		Y	NA
9	DXSIM-0.2	SAMP	09-01-2020 04:38 pm	1.00			009.D		Y	NA
10	DXSIM-0.5	SAMP	09-01-2020 04:57 pm	1.00			010.D		Y	NA
11	DXSIM-ICV	SAMP	09-01-2020 05:16 pm	1.00			011.D		Y	NA
12	MBLK-156910	MBLK	09-01-2020 05:36 pm	1.00	1000.00 mL	1.00 mL	012.D	Liquid	Y	NA
13	LCS-156910	LCS	09-01-2020 05:55 pm	1.00	1000.00 mL	1.00 mL	013.D	Liquid	Y	NA
14	LCSD-156910	LCSD	09-01-2020 06:15 pm	1.00	1000.00 mL	1.00 mL	014.D	Liquid	Y	NA
15	HS20090012-01	SAMP	09-01-2020 06:34 pm	1.00	1000.00 mL	1.00 mL	015.D	Liquid	Y	NA
16	HS20070585-01	SAMP	09-01-2020 06:53 pm	1.00	1000.00 mL	1.00 mL	016.D	Liquid	Y	NA
17	HS20070585-02	SAMP	09-01-2020 07:13 pm	1.00	1000.00 mL	1.00 mL	017.D	Liquid	Y	NA
18	HS20070585-09	SAMP	09-01-2020 07:33 pm	1.00	1000.00 mL	1.00 mL	018.D	Liquid	Y	NA
19	HS20070585-10	SAMP	09-01-2020 07:52 pm	1.00	1000.00 mL	1.00 mL	019.D	Liquid	Y	NA
20	HS20070586-01	SAMP	09-01-2020 08:11 pm	1.00	30.00 gm	1.00 mL	020.D	Solid	Y	NA
21	HS20070586-02	SAMP	09-01-2020 08:31 pm	1.00	30.00 gm	1.00 mL	021.D	Solid	Y	NA
22	HS20070586-05	SAMP	09-01-2020 08:50 pm	1.00	30.00 gm	1.00 mL	022.D	Solid	Y	NA
23	HS20070586-06	SAMP	09-01-2020 09:10 pm	1.00	30.00 gm	1.00 mL	023.D	Solid	Y	NA
24	MBLK-156817	MBLK	09-01-2020 09:29 pm	1.00	1000.00 mL	1.00 mL	024.D	Liquid	Y	NA
25	LCS-156817	LCS	09-01-2020 09:48 pm	1.00	1000.00 mL	1.00 mL	025.D	Liquid	Y	NA
26	LCSD-156817	LCSD	09-01-2020 10:07 pm	1.00	1000.00 mL	1.00 mL	026.D	Liquid	Y	NA
27	HS20081150-01	SAMP	09-01-2020 10:26 pm	1.00	1000.00 mL	1.00 mL	027.D	Liquid	Y	NA
28	HS20081150-01	SAMP	09-01-2020 10:45 pm	100.0(	1000.00 mL	1.00 mL	028.D	Liquid	Y	NA
29	HS20081151-01	SAMP	09-01-2020 11:04 pm	1.00	1000.00 mL	1.00 mL	029.D	Liquid	Y	NA
30	HS20081151-01	SAMP	09-01-2020 11:23 pm	100.0(	1000.00 mL	1.00 mL	030.D	Liquid	Y	NA
31	DXSIM-0.08	SAMP	09-01-2020 11:42 pm	100.0(	1000.00 mL	1.00 mL	031.D	Liquid	Y	NA
32	HS20081309-03	SAMP	09-02-2020 12:02 am	1.00	1000.00 mL	1.00 mL	032.D	Liquid	Y	NA
33	HS20081238-01	SAMP	09-02-2020 12:21 am	1.00	1000.00 mL	1.00 mL	033.D	Liquid	Y	NA
34	HS20081238-02	SAMP	09-02-2020 12:40 am	1.00	1000.00 mL	1.00 mL	034.D	Liquid	Y	NA
35	HS20081238-03	SAMP	09-02-2020 01:00 am	1.00	1000.00 mL	1.00 mL	035.D	Liquid	Y	NA
36	HS20081238-04	SAMP	09-02-2020 01:19 am	1.00	1000.00 mL	1.00 mL	036.D	Liquid	Y	NA
37	HS20081238-05	SAMP	09-02-2020 01:39 am	1.00	1000.00 mL	1.00 mL	037.D	Liquid	Y	NA
38	HS20081238-06	SAMP	09-02-2020 01:58 am	1.00	1000.00 mL	1.00 mL	038.D	Liquid	Y	NA
39	HS20081238-07	SAMP	09-02-2020 02:18 am	1.00	1000.00 mL	1.00 mL	039.D	Liquid	Y	NA
40	HS20081238-08	SAMP	09-02-2020 02:37 am	1.00	1000.00 mL	1.00 mL	040.D	Liquid	Y	NA
41	HS20081238-09	SAMP	09-02-2020 02:57 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	HS20081238-10	SAMP	09-02-2020 03:16 am	1.00	1000.00 mL	1.00 mL	042.D	Liquid	Y	NA
43	HS20081238-11	SAMP	09-02-2020 03:35 am	1.00	1000.00 mL	1.00 mL	043.D	Liquid	Y	NA
44	HS20081238-12	SAMP	09-02-2020 03:55 am	1.00	1000.00 mL	1.00 mL	044.D	Liquid	Y	NA
45	HS20081238-13	SAMP	09-02-2020 04:14 am	1.00	1000.00 mL	1.00 mL	045.D	Liquid	Y	NA
46	HS20081238-14	SAMP	09-02-2020 04:34 am	1.00	1000.00 mL	1.00 mL	046.D	Liquid	Y	NA
47	HS20081238-15	SAMP	09-02-2020 04:53 am	1.00	1000.00 mL	1.00 mL	047.D	Liquid	Y	NA
48	HS20081238-16	SAMP	09-02-2020 05:13 am	1.00	1000.00 mL	1.00 mL	048.D	Liquid	Y	NA
49	HS20081238-17	SAMP	09-02-2020 05:32 am	1.00	1000.00 mL	1.00 mL	049.D	Liquid	Y	NA
50	HS20081238-18	SAMP	09-02-2020 05:52 am	1.00	1000.00 mL	1.00 mL	050.D	Liquid	Y	NA

Chemical	Value
IS ID	3111842-01
CAL STD ID	3111832-06
DFTPP ID	3111843-07
PCP Tailing	0.82
Benz. Tailing	0.78
Routine SOP Maintenance	ACN

FORM 3
WATER SEMIVOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Matrix Spike - Sample No.: DXSIM-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	% REC #	QC. LIMITS REC.
1,4-Dioxane	0.08000	0.07779	97	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.: HS20111260

Lab File ID: 001 DFTPP Injection Date: 09/01/20

Instrument ID: SV6 DFTPP Injection Time: 1352

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	46.9
68	Less than 2.0% of mass 69	0.5 (0.9)1
69	Mass 69 relative abundance	50.7
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	10.0 - 80.0% of mass 198	57.0
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	25.7
365	1.0 - 100.0% of mass 198	4.0
441	Present, but less than mass 443	14.5
442	50.0 - 150.0% of mass 198	97.1
443	15.0 - 24.0% of mass 442	18.6 (19.1)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DXSIM-0.08	DXSIM-0.08	003	09/01/20	1441
02	DXSIM-0.01	DXSIM-0.01	004	09/01/20	1503
03	DXSIM-0.03	DXSIM-0.03	005	09/01/20	1522
04	DXSIM-0.05	DXSIM-0.05	006	09/01/20	1541
05	DXSIM-0.10	DXSIM-0.10	007	09/01/20	1600
06	DXSIM-0.15	DXSIM-0.15	008	09/01/20	1619
07	DXSIM-0.2	DXSIM-0.2	009	09/01/20	1638
08	DXSIM-0.5	DXSIM-0.5	010	09/01/20	1657
09	DXSIM-ICV	DXSIM-ICV	011	09/01/20	1716
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM V SV

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Instrument ID: SV6 Calibration Date(s): 09/01/20 09/01/20

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1441 1657

LAB FILE ID: RF0.01: 004 RF0.03: 005 RF0.05: 006
RF0.08: 003 RF0.1: 007 RF0.15: 008

COMPOUND	RF0.01	RF0.03	RF0.05	RF0.08	RF0.1	RF0.15
1,4-Dioxane	0.301	0.225	0.233	0.205	0.272	0.298
Nitrobenzene-d5	0.475	0.356	0.285	0.364	0.296	0.373
4-Terphenyl-d14	0.997	0.901	0.769	0.929	0.708	0.713
2-Fluorobiphenyl	1.354	1.207	1.318	1.119	1.138	1.054

FORM VI SV

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2011126

Instrument ID: SV6 Calibration Date(s): 09/01/20 09/01/20

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1441 1657

LAB FILE ID: RF0.2: 009 RF0.5: 010

COMPOUND	RF0.2	RF0.5	CURVE	COEFFICENT A1	%RSD OR R^2	MAX %RSD OR R^2
1,4-Dioxane	0.332	0.280	AVRG	0.26820713	16.222	20.000
Nitrobenzene-d5	0.330	0.356	AVRG	0.35440929	16.461	20.000
4-Terphenyl-d14	0.774	0.841	AVRG	0.82891532	12.765	20.000
2-Fluorobiphenyl	1.123	1.017	AVRG	1.16642898	10.235	20.000

FORM VI SV

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\001.D

Date : 01-SEP-2020 13:52

Client ID: DFTPP

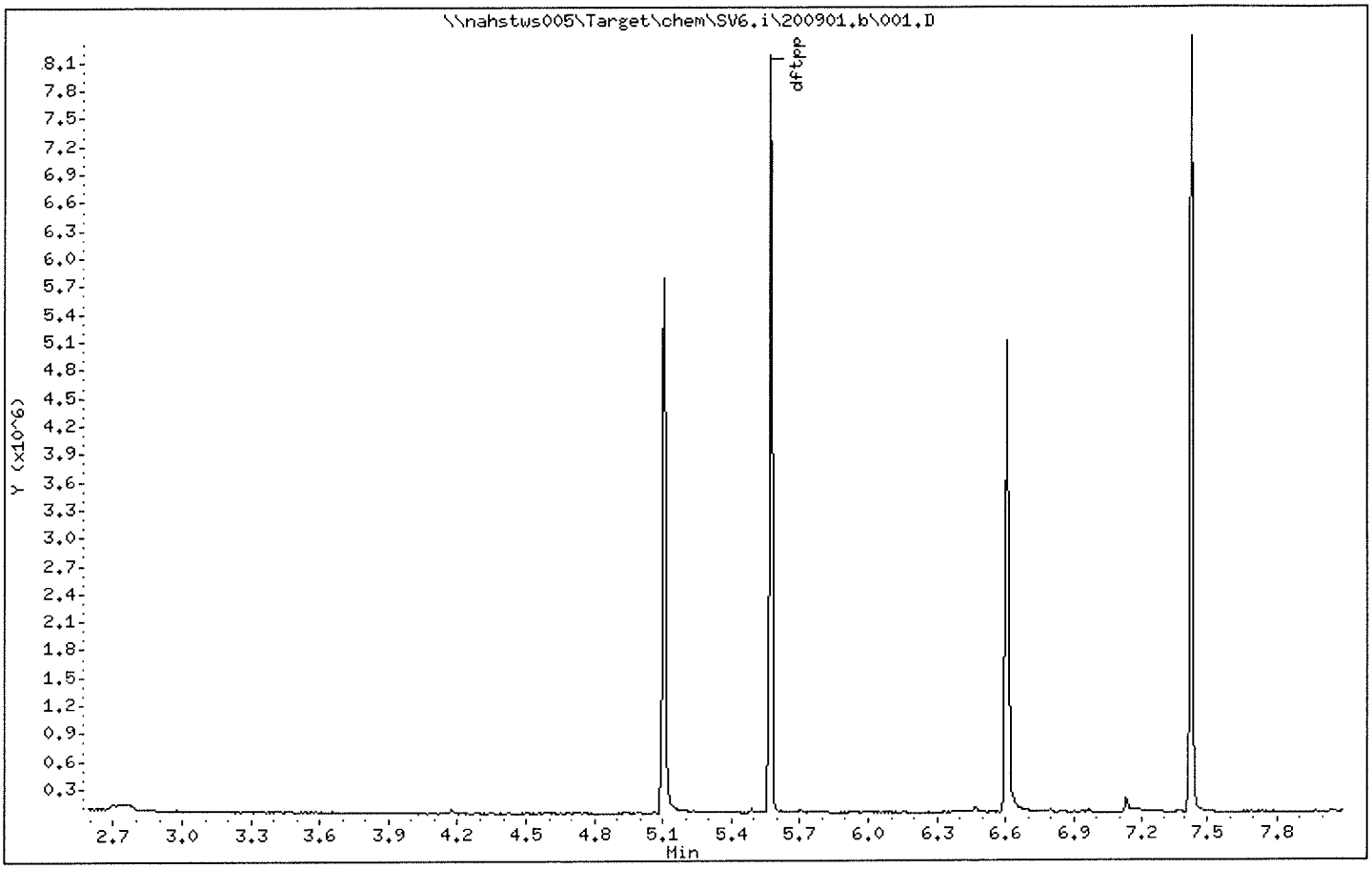
Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\SV6.i\200901.b\001.D

Date : 01-SEP-2020 13:52

Client ID: DFTPP

Instrument: SV6.i

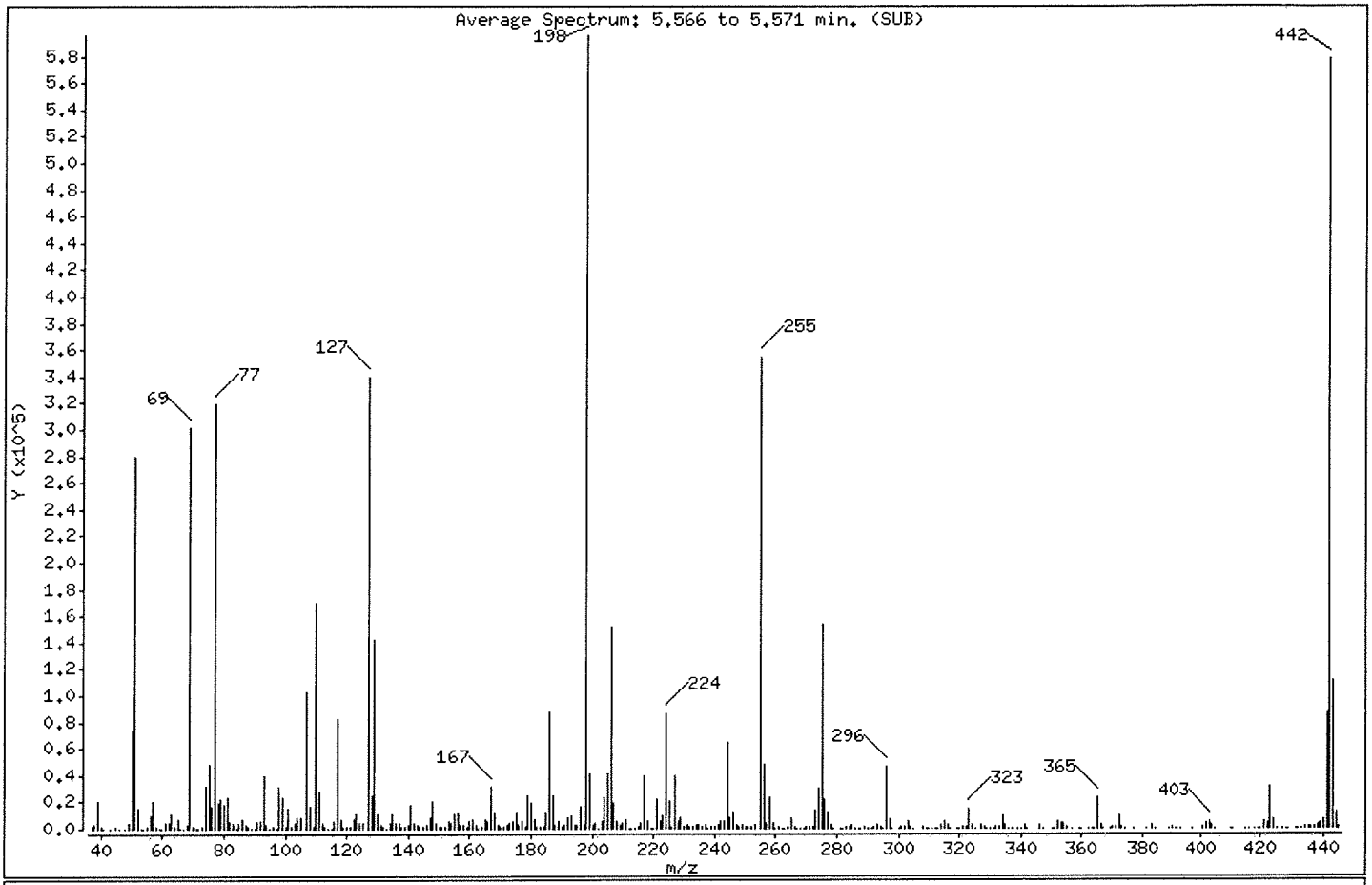
Sample Info: DFTPP;DFTPP;3;;DFTPP

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	46.88
68	Less than 2.00% of mass 69	0.48 (0.94)
69	Mass 69 relative abundance	50.68
70	Less than 2.00% of mass 69	0.31 (0.60)
127	10.00 - 80.00% of mass 198	56.99
197	Less than 2.00% of mass 198	0.41
199	5.00 - 9.00% of mass 198	6.84
275	10.00 - 60.00% of mass 198	25.68
365	1.00 - 100.00% of mass 198	4.01
441	Present, but less than mass 443	14.46
442	50.00 - 150.00% of mass 198	97.09
443	15.00 - 24.00% of mass 442	18.56 (19.12)

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\001.D

Date : 01-SEP-2020 13:52

Client ID: DFTPP

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.566 to 5.571 min. (SUB)
Location of Maximum: 198.00
Number of points: 361

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	1132	133.00	523	224.00	85920	321.00	1936
38.00	3168	134.00	3567	225.00	20560	322.00	1358
39.00	20240	135.00	10509	226.00	1905	323.00	14582
40.00	847	136.00	4080	227.00	40272	324.00	3093
41.00	359	137.00	4659	228.00	6109	325.00	247
43.00	637	138.00	1176	229.00	8104	327.00	2927
45.00	726	139.00	691	230.00	865	328.00	1591
46.00	246	140.00	2173	231.00	3342	329.00	359
48.00	286	141.00	17232	232.00	803	330.00	103
49.00	3524	142.00	4786	233.00	880	331.00	218
50.00	74392	143.00	3273	234.00	2655	332.00	1451
51.00	279360	144.00	1143	235.00	3054	333.00	1368
52.00	14715	145.00	1076	236.00	1716	334.00	9177
53.00	159	146.00	3257	237.00	2356	335.00	2757
54.00	143	147.00	8842	238.00	432	336.00	112
55.00	1240	148.00	20160	239.00	1632	337.00	81
56.00	9103	149.00	3787	240.00	840	339.00	506
57.00	20872	150.00	1314	241.00	2253	340.00	133
58.00	1121	151.00	1875	242.00	5114	341.00	2506
59.00	664	152.00	1877	243.00	5015	342.00	537
60.00	26	153.00	5718	244.00	65016	346.00	3406
61.00	3531	154.00	4312	245.00	8277	347.00	505
62.00	3772	155.00	11251	246.00	11826	350.00	102
63.00	11375	156.00	12646	247.00	2935	351.00	344
64.00	1278	157.00	2476	248.00	921	352.00	5264
65.00	6226	158.00	2412	249.00	3014	353.00	3632
66.00	463	159.00	1824	250.00	749	354.00	4465
67.00	118	160.00	5511	251.00	954	355.00	955
68.00	2831	161.00	7151	252.00	1849	357.00	279
69.00	302016	162.00	2988	253.00	2849	359.00	276
70.00	1818	163.00	269	255.00	355200	360.00	121
71.00	296	164.00	816	256.00	47456	362.00	107
72.00	314	165.00	7317	257.00	3953	363.00	617
73.00	1963	166.00	5545	258.00	23384	364.00	541
74.00	30928	167.00	31856	259.00	3869	365.00	23912

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\001.D

Date : 01-SEP-2020 13:52

Client ID: DFTPP

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.566 to 5.571 min. (SUB)
Location of Maximum: 198.00
Number of points: 361

m/z	Y	m/z	Y	m/z	Y	m/z	Y
75.00	48584	168.00	12438	260.00	547	366.00	2559
76.00	16219	169.00	2506	261.00	696	367.00	373
77.00	318912	170.00	1228	262.00	171	369.00	84
78.00	19664	171.00	1246	263.00	152	370.00	770
79.00	21776	172.00	2840	264.00	715	371.00	1471
80.00	17632	173.00	4122	265.00	8690	372.00	10099
81.00	23216	174.00	5776	266.00	1098	373.00	1794
82.00	5569	175.00	12113	267.00	359	374.00	159
83.00	4711	176.00	3068	268.00	471	377.00	136
84.00	622	177.00	5288	269.00	197	381.00	77
85.00	4731	178.00	1999	270.00	890	383.00	2249
86.00	7005	179.00	24752	271.00	1141	384.00	683
87.00	3268	180.00	18880	272.00	1967	389.00	169
88.00	1411	181.00	6948	273.00	13049	390.00	1414
89.00	683	182.00	2055	274.00	30776	391.00	520
90.00	327	183.00	718	275.00	152960	392.00	477
91.00	5418	184.00	1986	276.00	21272	393.00	139
92.00	5846	185.00	11921	277.00	12978	397.00	447
93.00	39760	186.00	87664	278.00	2659	401.00	836
94.00	2446	187.00	24008	279.00	628	402.00	4295
95.00	461	188.00	3104	281.00	567	403.00	5624
96.00	1877	189.00	5095	282.00	547	404.00	2205
97.00	570	190.00	857	283.00	1874	405.00	159
98.00	31608	191.00	2656	284.00	1318	410.00	82
99.00	22912	192.00	7627	285.00	3378	411.00	82
100.00	2053	193.00	9015	286.00	376	415.00	105
101.00	14676	194.00	2583	287.00	107	416.00	235
102.00	994	195.00	2733	288.00	123	418.00	200
103.00	3962	196.00	16172	289.00	862	419.00	258
104.00	8895	197.00	2436	290.00	416	420.00	272
105.00	7876	198.00	595968	291.00	335	421.00	5352
107.00	102624	199.00	40792	292.00	773	422.00	4268
108.00	16204	200.00	3416	293.00	2950	423.00	31088
109.00	1647	201.00	4505	294.00	931	424.00	6308
110.00	170432	202.00	32	295.00	485	425.00	681

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\001.D

Date : 01-SEP-2020 13:52

Client ID: DFTPP

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.566 to 5.571 min. (SUB)
Location of Maximum: 198.00
Number of points: 361

m/z	Y	m/z	Y	m/z	Y	m/z	Y
111.00	27200	203.00	5754	296.00	46784	427.00	276
112.00	4383	204.00	23032	297.00	6214	428.00	255
113.00	1212	205.00	41664	298.00	580	429.00	278
114.00	601	206.00	152320	300.00	320	431.00	536
115.00	615	207.00	19016	301.00	981	432.00	96
116.00	5674	208.00	5811	302.00	1252	433.00	459
117.00	81968	209.00	2446	303.00	5202	434.00	1073
118.00	6322	210.00	3435	304.00	1503	435.00	1536
119.00	751	211.00	6291	305.00	88	436.00	1880
120.00	1445	212.00	214	308.00	1015	437.00	1700
121.00	773	213.00	353	309.00	672	438.00	3309
122.00	6206	214.00	404	310.00	442	439.00	4207
123.00	10790	215.00	1996	311.00	195	440.00	6195
124.00	4730	216.00	3882	312.00	263	441.00	86192
125.00	4622	217.00	40296	313.00	551	442.00	578624
127.00	339648	218.00	5802	314.00	2613	443.00	110608
128.00	24424	219.00	597	315.00	5016	444.00	12237
129.00	142400	220.00	249	316.00	2249	445.00	721
130.00	10696	221.00	21896	317.00	530		
131.00	2236	222.00	5339	319.00	175		
132.00	1119	223.00	9504	320.00	160		

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\003.D Page 1
Report Date: 14-Oct-2020 17:04

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\003.D
Lab Smp Id: DXSIM-0.08 Client Smp ID: DXSIM-0.08
Inj Date : 01-SEP-2020 14:41 MS Autotune Date: 31-JUL-2020 09:35
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\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 16:57 Cal File: 010.D
Als bottle: 3 Calibration Sample, Level: 4
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

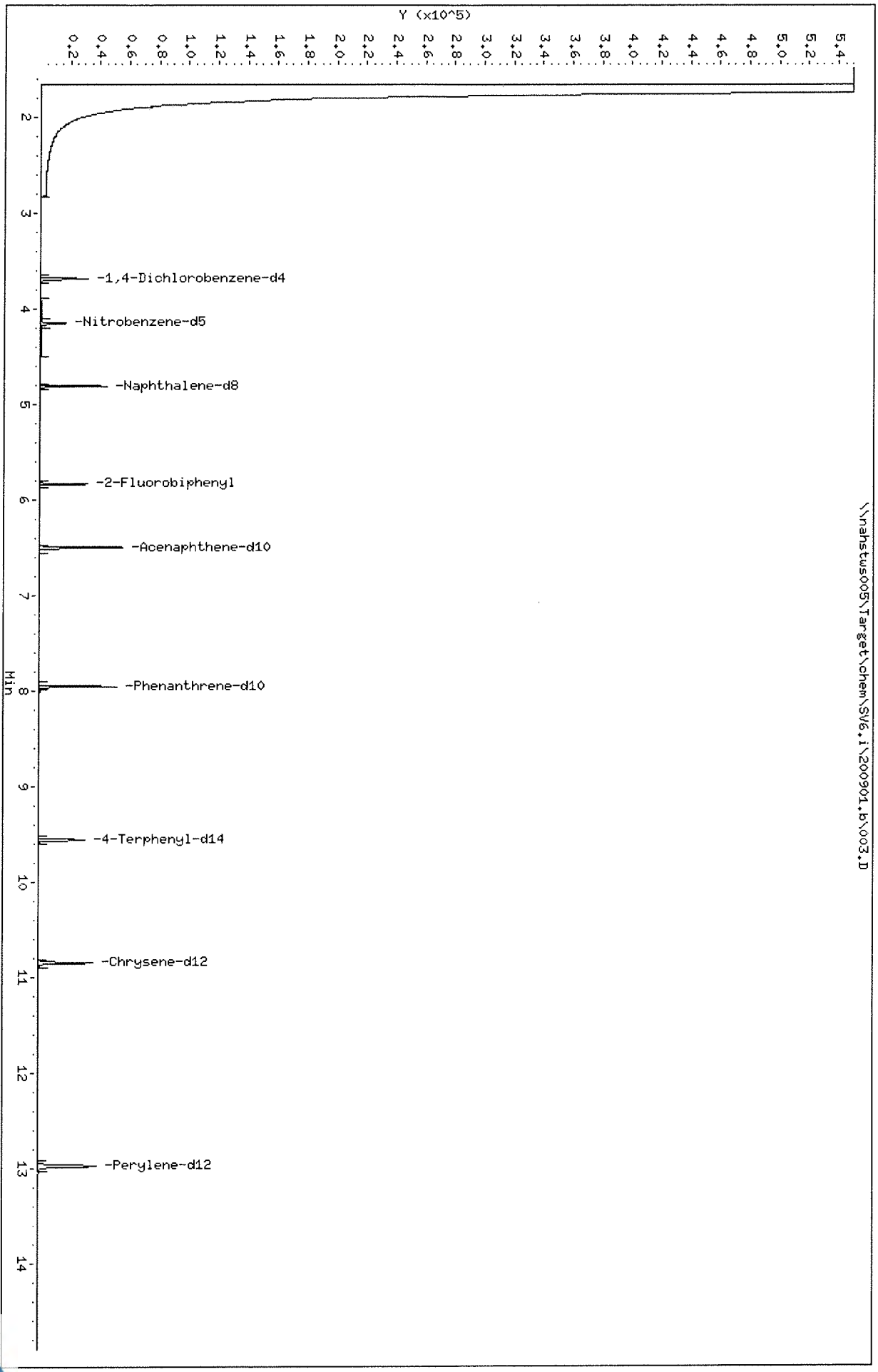
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.683	3.683	(1.000)	8895	0.10000		(aH)
* 45 Naphthalene-d8	136	4.809	4.809	(1.000)	35367	0.10000		(H)
$ 33 Nitrobenzene-d5	82	4.155	4.155	(0.902)	10301	0.08000	0.08218	(QH)
* 86 Acenaphthene-d10	164	6.496	6.496	(1.000)	22159	0.10000		(H)
$ 69 2-Fluorobiphenyl	172	5.834	5.834	(0.945)	19840	0.08000	0.07676	(QH)
* 126 Phenanthrene-d10	188	7.951	7.951	(1.000)	43559	0.10000		(H)
* 182 Chrysene-d12	240	10.845	10.845	(1.000)	35410	0.10000		(M)
$ 158 4-Terphenyl-d14	244	9.554	9.554	(0.937)	26311	0.08000	0.08964	
* 198 Perylene-d12	264	12.972	12.972	(1.000)	41042	0.10000		
1 1,4-Dioxane	58	1.895	1.895	(0.583)	1458	0.08000	0.06111	(aQH)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\003.D
Date : 01-SEP-2020 14:41
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



Data File: \\nahstws005\Target\chem\SV6.i\200901.b\004.D Page 1
Report Date: 14-Oct-2020 17:04

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\004.D
Lab Smp Id: DXSIM-0.01 Client Smp ID: DXSIM-0.01
Inj Date : 01-SEP-2020 15:03 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.01;DXSIM-0.01
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.D
Als bottle: 4 Calibration Sample, Level: 1
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

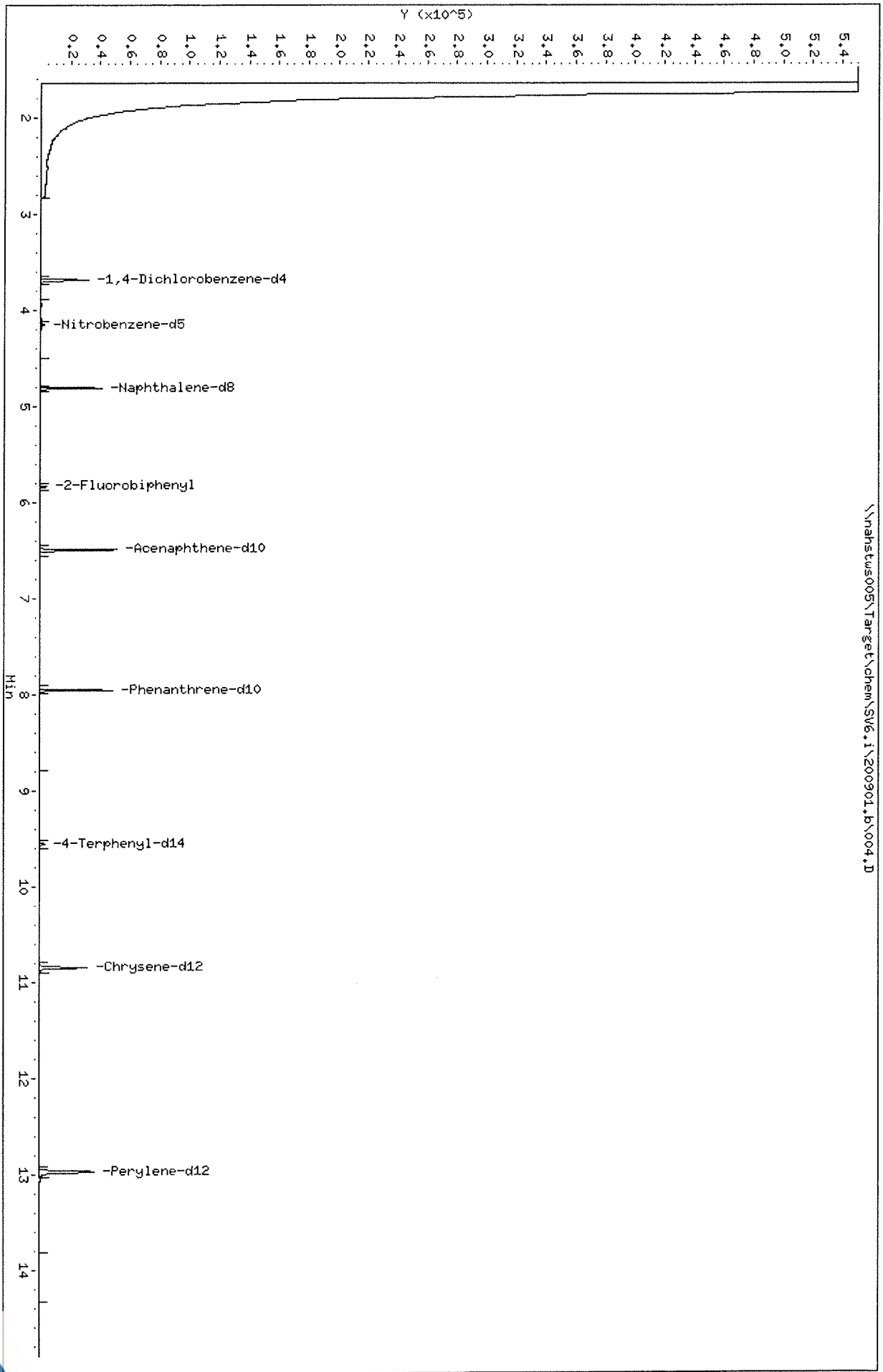
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.683	3.683	(1.000)	8796	0.10000		(a)
* 45 Naphthalene-d8	136	4.809	4.809	(1.000)	32119	0.10000		(H)
$ 33 Nitrobenzene-d5	82	4.155	4.155	(0.864)	1526	0.01000	0.01340	(QM)
* 86 Acenaphthene-d10	164	6.496	6.496	(1.000)	19919	0.10000		
$ 69 2-Fluorobiphenyl	172	5.834	5.834	(0.898)	2697	0.01000	0.01161	(M)
* 126 Phenanthrene-d10	188	7.951	7.951	(1.000)	38069	0.10000		
* 182 Chrysene-d12	240	10.845	10.845	(1.000)	32361	0.10000		(M)
$ 158 4-Terphenyl-d14	244	9.554	9.554	(0.881)	3227	0.01000	0.01203	(M)
* 198 Perylene-d12	264	12.967	12.967	(1.000)	42122	0.10000		(M)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\004.D
Date : 01-SEP-2020 15:03
Client ID: DXSIM-0.01
Sample Info: DXSIM-0.01;DXSIM-0.01
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\200901.b\005.D Page 1
Report Date: 14-Oct-2020 17:04

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\005.D
Lab Smp Id: DXSIM-0.03 Client Smp ID: DXSIM-0.03
Inj Date : 01-SEP-2020 15:22 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.03;DXSIM-0.03
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 15:03 Cal File: 004.D
Als bottle: 5 Calibration Sample, Level: 2
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

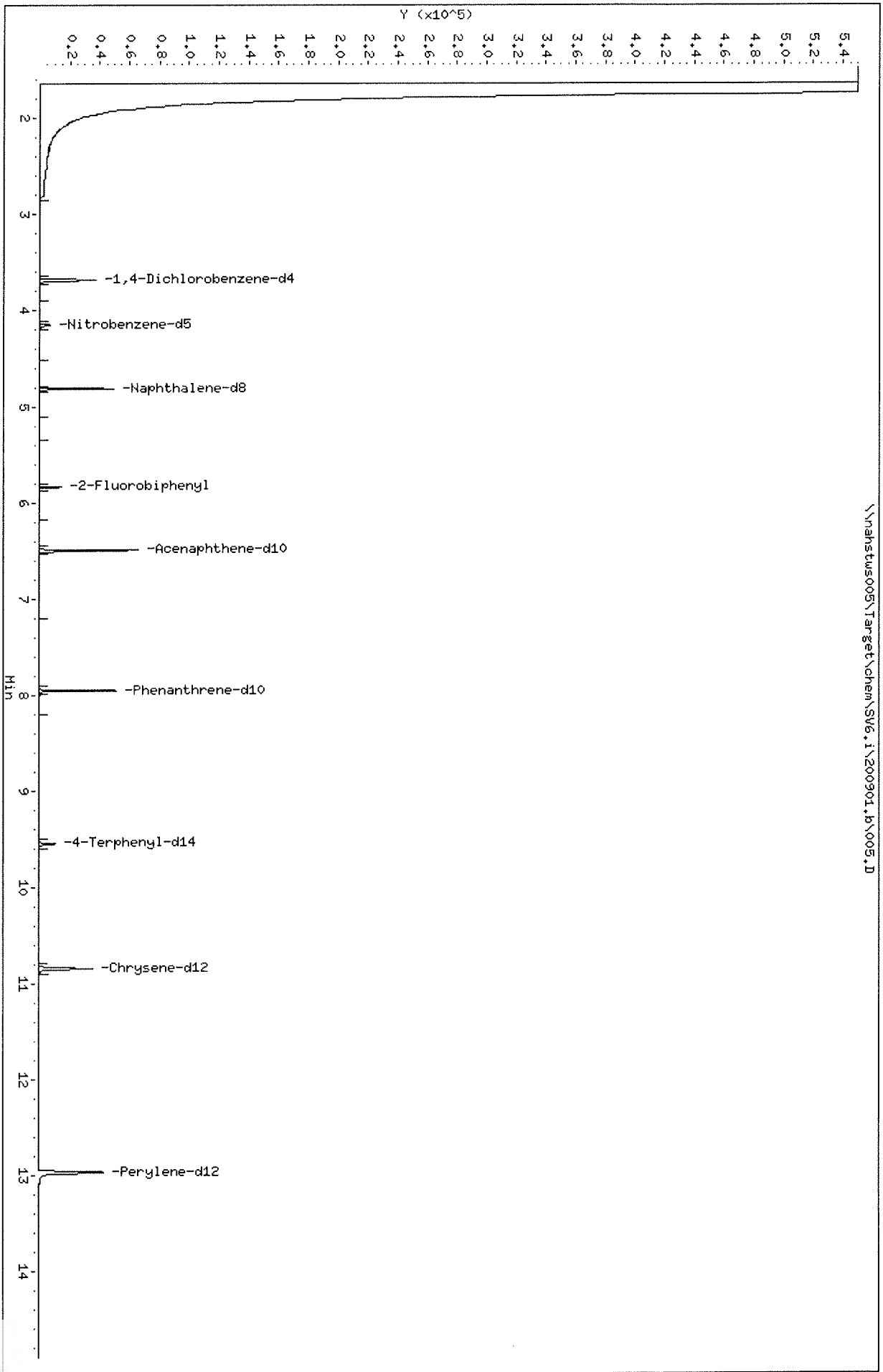
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.688	3.688	(1.000)	11206	0.10000		(aQ)
* 45 Naphthalene-d8	136	4.809	4.809	(1.000)	37822	0.10000		
$ 33 Nitrobenzene-d5	82	4.155	4.155	(0.864)	4046	0.03000	0.03018	(QM)
* 86 Acenaphthene-d10	164	6.491	6.491	(1.000)	24426	0.10000		(M)
$ 69 2-Fluorobiphenyl	172	5.834	5.834	(0.899)	8846	0.03000	0.03105	(QM)
* 126 Phenanthrene-d10	188	7.951	7.951	(1.000)	45805	0.10000		(M)
* 182 Chrysene-d12	240	10.840	10.840	(1.000)	35939	0.10000		(M)
$ 158 4-Terphenyl-d14	244	9.549	9.549	(0.927)	9716	0.03000	0.03261	
* 198 Perylene-d12	264	12.967	12.967	(1.000)	49371	0.10000		

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\200901.b\005.D
Date : 01-SEP-2020 15:22
Client ID: DXSIH-0.03
Sample Info: DXSIH-0.03;DXSIH-0.03
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

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



Data File: \\nahstws005\Target\chem\SV6.i\200901.b\006.D Page 1
Report Date: 14-Oct-2020 17:04

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\006.D
Lab Smp Id: DXSIM-0.05 Client Smp ID: DXSIM-0.05
Inj Date : 01-SEP-2020 15:41 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.05;DXSIM-0.05
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 15:22 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
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

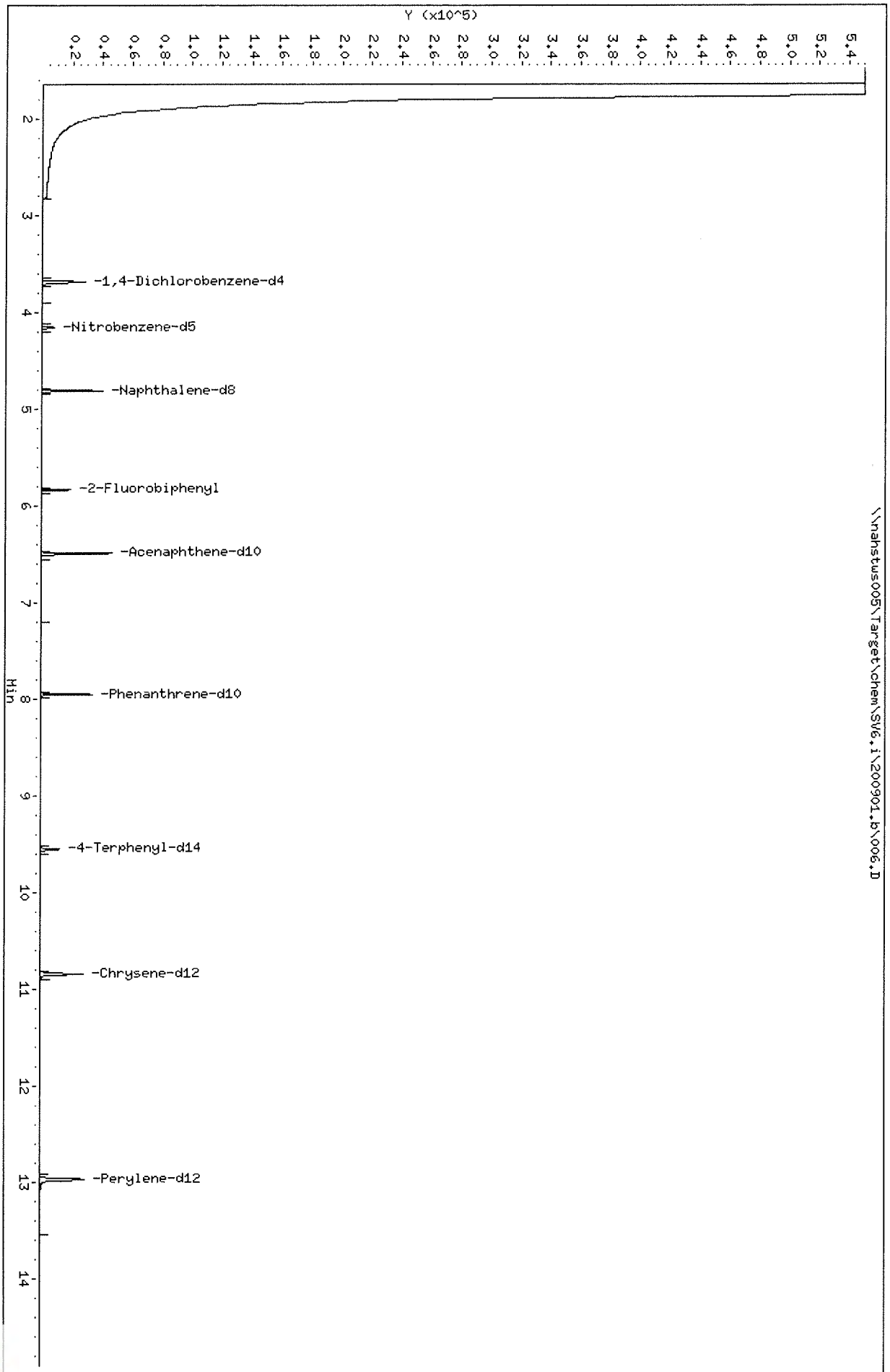
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.688	3.688	(1.000)	8859	0.10000		(aQ)
* 45 Naphthalene-d8	136	4.809	4.809	(1.000)	32258	0.10000		(M)
$ 33 Nitrobenzene-d5	82	4.155	4.155	(0.864)	4593	0.05000	0.04017	(M)
* 86 Acenaphthene-d10	164	6.496	6.496	(1.000)	17615	0.10000		(M)
$ 69 2-Fluorobiphenyl	172	5.834	5.834	(0.898)	11613	0.05000	0.05652	(QM)
* 126 Phenanthrene-d10	188	7.951	7.951	(1.000)	28977	0.10000		
* 182 Chrysene-d12	240	10.840	10.840	(1.000)	28714	0.10000		(M)
$ 158 4-Terphenyl-d14	244	9.549	9.549	(0.934)	11038	0.05000	0.04638	
* 198 Perylene-d12	264	12.967	12.967	(1.000)	33234	0.10000		

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\200901.b\006.D
Date : 01-SEP-2020 15:41
Client ID: DXSIM-0.05
Sample Info: DXSIM-0.05;DXSIM-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\200901.b\007.D
Lab Smp Id: DXSIM-0.10 Client Smp ID: DXSIM-0.10
Inj Date : 01-SEP-2020 16:00 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.10;DXSIM-0.10
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 15:41 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 5
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)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.688	3.688	(1.000)	11640	0.10000	(aM)
* 45 Naphthalene-d8	136	4.809	4.809	(1.000)	55315	0.10000	
$ 33 Nitrobenzene-d5	82	4.155	4.155	(0.864)	16389	0.10000	0.08360(M)
* 86 Acenaphthene-d10	164	6.491	6.491	(1.000)	27614	0.10000	(QM)
$ 69 2-Fluorobiphenyl	172	5.834	5.834	(0.899)	31424	0.10000	0.09756(M)
* 126 Phenanthrene-d10	188	7.946	7.946	(1.000)	55479	0.10000	
* 182 Chrysene-d12	240	10.840	10.840	(1.000)	48676	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.549	9.549	(1.000)	34456	0.10000	0.08540
* 198 Perylene-d12	264	12.962	12.962	(1.000)	53866	0.10000	
1 1,4-Dioxane	58	1.918	1.918	(0.567)	3169	0.10000	0.1015(aQH)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\007.D

Date : 01-SEP-2020 16:00

Client ID: DXSIM-0.10

Instrument: SV6.i

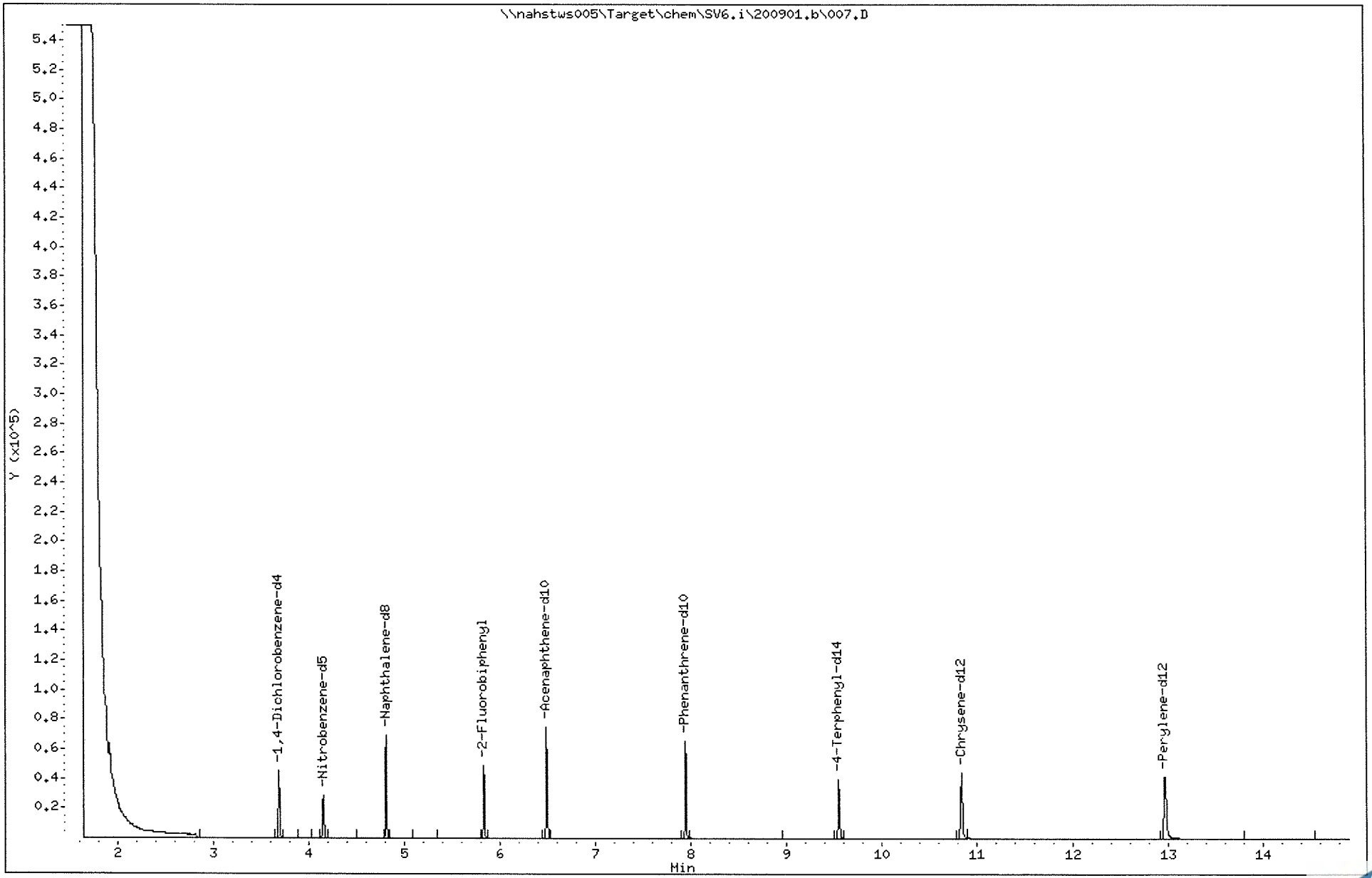
Sample Info: DXSIM-0.10;DXSIM-0.10

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\nahstws005\Target\chem\SV6.i\200901.b\008.D Page 1
Report Date: 14-Oct-2020 17:04

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\008.D
Lab Smp Id: DXSIM-0.15 Client Smp ID: DXSIM-0.15
Inj Date : 01-SEP-2020 16:19 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.15;DXSIM-0.15
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 16:00 Cal File: 007.D
Als bottle: 8 Calibration Sample, Level: 6
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

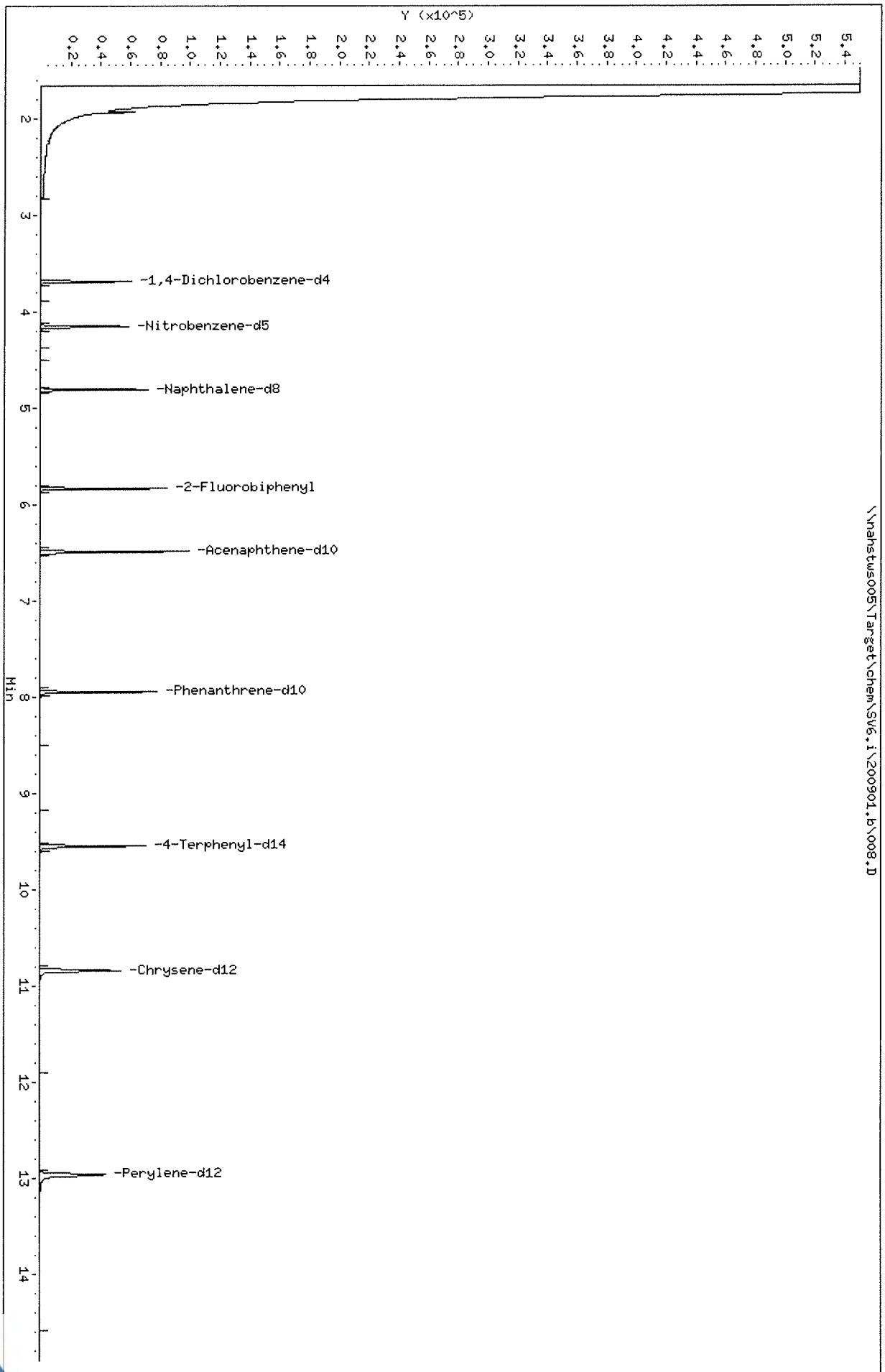
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.688	3.688	(1.000)	15270	0.10000		(aQM)
* 45 Naphthalene-d8	136	4.809	4.809	(1.000)	61912	0.10000		
$ 33 Nitrobenzene-d5	82	4.155	4.155	(0.864)	34608	0.15000	0.1577	(AM)
* 86 Acenaphthene-d10	164	6.491	6.491	(1.000)	37191	0.10000		(M)
$ 69 2-Fluorobiphenyl	172	5.834	5.834	(0.899)	58798	0.15000	0.1355	(M)
* 126 Phenanthrene-d10	188	7.946	7.946	(1.000)	72506	0.10000		
* 182 Chrysene-d12	240	10.840	10.840	(1.000)	63837	0.10000		(M)
$ 158 4-Terphenyl-d14	244	9.549	9.549	(0.881)	68288	0.15000	0.1290	(M)
* 198 Perylene-d12	264	12.961	12.961	(1.000)	62319	0.10000		(M)
1 1,4-Dioxane	58	1.932	1.932	(0.555)	6821	0.15000	0.1665	(aQH)

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.
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\200901.b\008.D
Date : 01-SEP-2020 16:19
Client ID: DXSIM-0.15
Sample Info: DXSIM-0.15;DXSIM-0.15
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\200901.b\009.D Page 1
Report Date: 14-Oct-2020 17:04

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\009.D
Lab Smp Id: DXSIM-0.2 Client Smp ID: DXSIM-0.2
Inj Date : 01-SEP-2020 16:38 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.2;DXSIM-0.2
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 16:19 Cal File: 008.D
Als bottle: 9 Calibration Sample, Level: 7
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

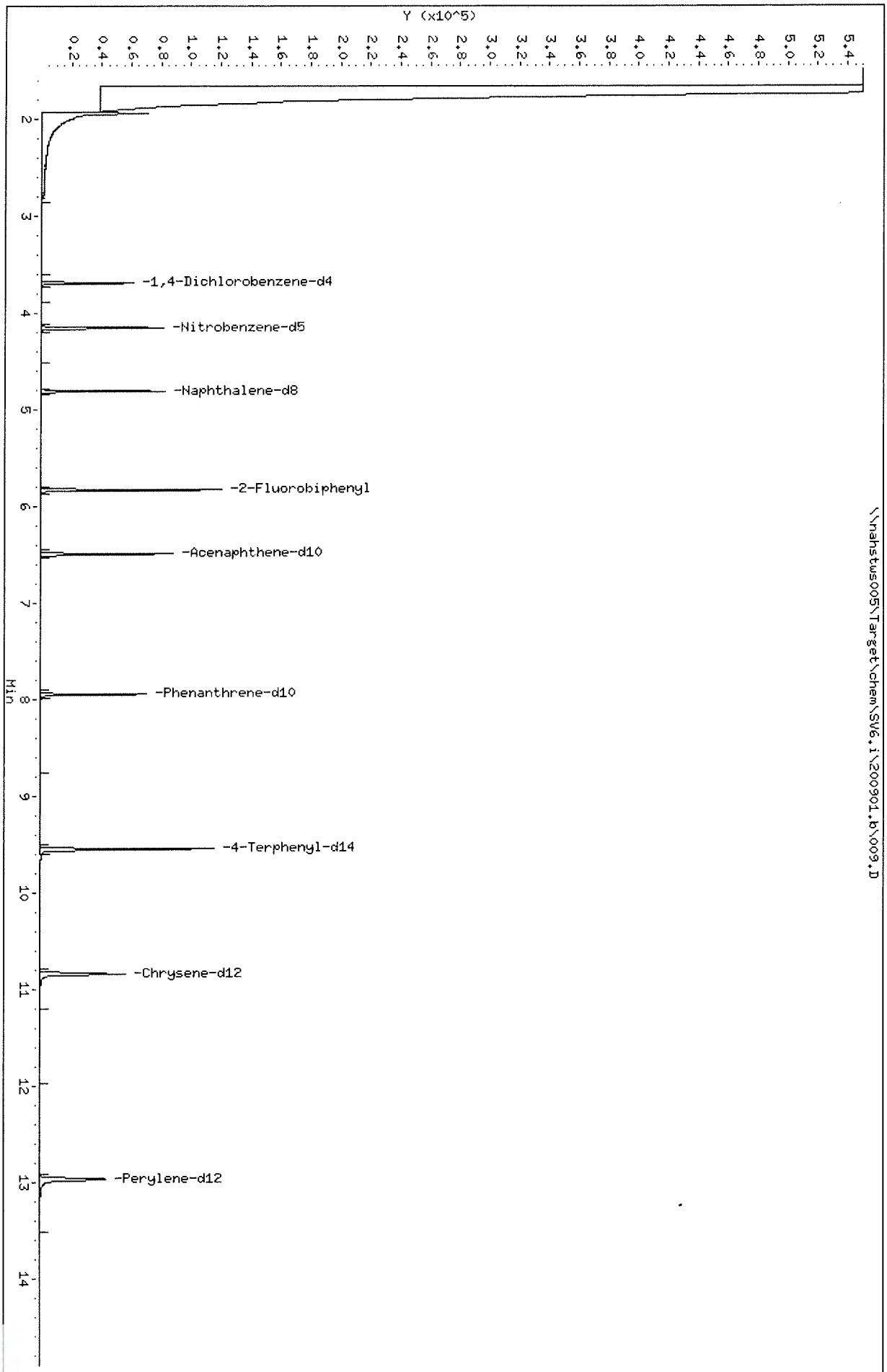
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.694	3.694	(1.000)	16191	0.10000	(aQ)
* 45 Naphthalene-d8	136	4.809	4.809	(1.000)	71876	0.10000	
$ 33 Nitrobenzene-d5	82	4.155	4.155	(0.864)	47444	0.20000	0.1862(AM)
* 86 Acenaphthene-d10	164	6.491	6.491	(1.000)	37058	0.10000	(Q)
$ 69 2-Fluorobiphenyl	172	5.834	5.834	(0.899)	83257	0.20000	0.1926(A)
* 126 Phenanthrene-d10	188	7.946	7.946	(1.000)	66839	0.10000	
* 182 Chrysene-d12	240	10.840	10.840	(1.000)	69577	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.549	9.549	(0.933)	107656	0.20000	0.1867(A)
* 198 Perylene-d12	264	12.967	12.967	(1.000)	67389	0.10000	(M)
1 1,4-Dioxane	58	1.943	1.943	(0.526)	10742	0.20000	0.2474(QM)

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.
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\009.D
Date : 01-SEP-2020 16:38
Client ID: DXSIM-0.2
Sample Info: DXSIM-0.2;DXSIM-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\200901.b\010.D
Lab Smp Id: DXSIM-0.5 Client Smp ID: DXSIM-0.5
Inj Date : 01-SEP-2020 16:57 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.5;DXSIM-0.5
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 16:38 Cal File: 009.D
Als bottle: 10 Calibration Sample, Level: 8
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

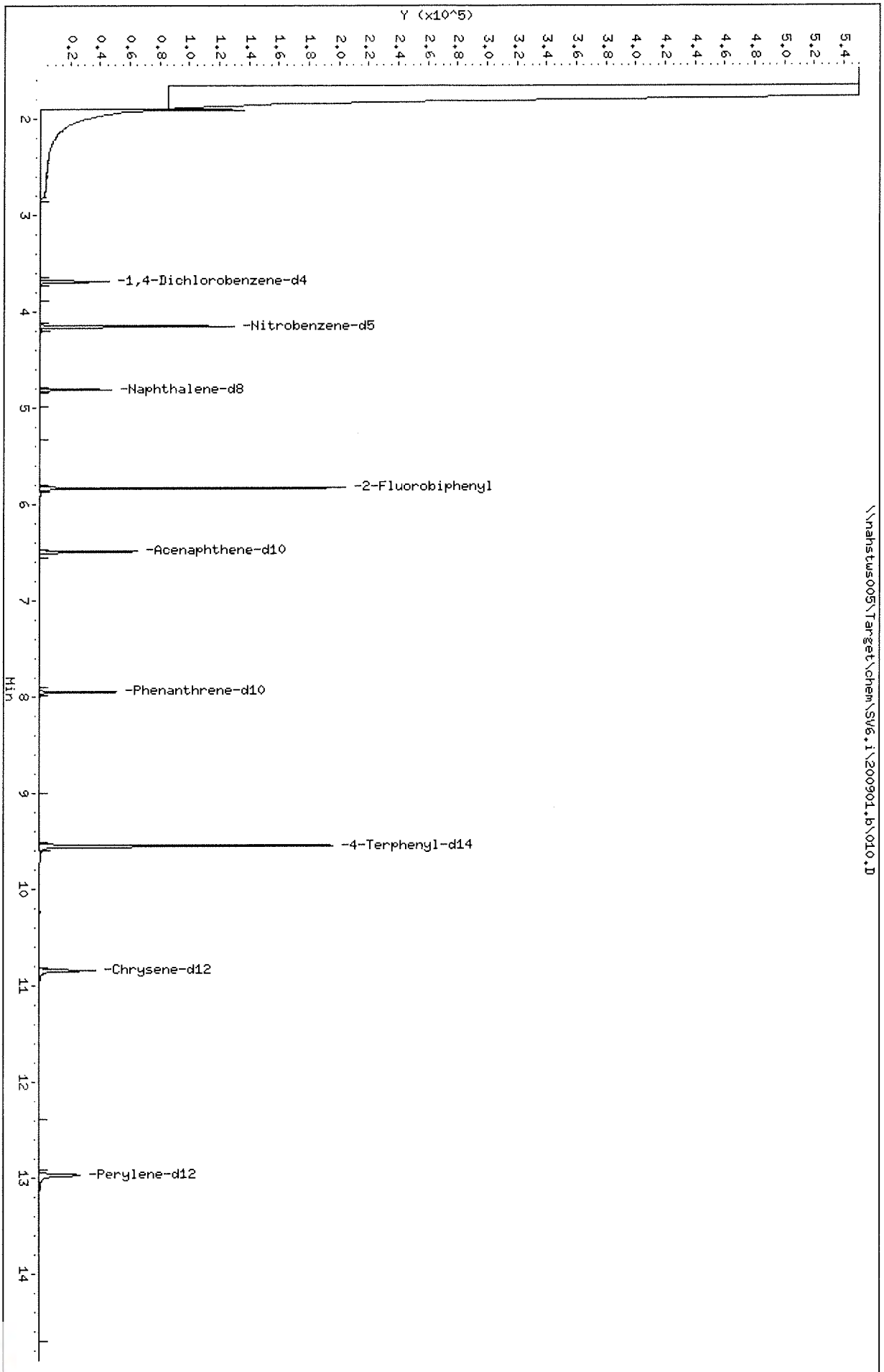
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.688	3.688	(1.000)	12162	0.10000	(a)
* 45 Naphthalene-d8	136	4.809	4.809	(1.000)	42331	0.10000	(M)
$ 33 Nitrobenzene-d5	82	4.155	4.155	(0.864)	75298	0.50000	0.5019(AM)
* 86 Acenaphthene-d10	164	6.496	6.496	(1.000)	25766	0.10000	
$ 69 2-Fluorobiphenyl	172	5.834	5.834	(0.898)	131053	0.50000	0.4360(AQM)
* 126 Phenanthrene-d10	188	7.951	7.951	(1.000)	46874	0.10000	
* 182 Chrysene-d12	240	10.840	10.840	(1.000)	42265	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.554	9.554	(0.934)	177660	0.50000	0.5071(A)
* 198 Perylene-d12	264	12.967	12.967	(1.000)	40372	0.10000	(M)
1 1,4-Dioxane	58	1.910	1.910	(0.518)	17000	0.50000	0.5212(AQH)

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.
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\200901.b\010.D
Date : 01-SEP-2020 16:57
Client ID: DXSIM-0.5
Sample Info: DXSIM-0.5;DXSIM-0.5
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\200901.b\011.D Page 1
Report Date: 14-Oct-2020 17:04

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\011.D
Lab Smp Id: DXSIM-ICV Client Smp ID: DXSIM-ICV
Inj Date : 01-SEP-2020 17:16 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-ICV;DXSIM-ICV
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 16:57 Cal File: 010.D
Als bottle: 11 QC Sample: METHSPIKE
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	3.688	3.688	(1.000)	8963	0.10000		(a)
* 45 Naphthalene-d8	136	4.809	4.809	(1.000)	36304	0.10000		(M)
$ 33 Nitrobenzene-d5	82	4.155	4.155	(0.864)	1344	0.01045	0.01044	(RM)
* 86 Acenaphthene-d10	164	6.496	6.496	(1.000)	20841	0.10000		
$ 69 2-Fluorobiphenyl	172	5.834	5.834	(0.898)	2375	0.00977	0.009770	(RM)
* 126 Phenanthrene-d10	188	7.951	7.951	(1.000)	29957	0.10000		
* 182 Chrysene-d12	240	10.840	10.840	(1.000)	32572	0.10000		(M)
$ 158 4-Terphenyl-d14	244	9.549	9.554	(0.881)	3102	0.01149	0.01149	(RM)
* 198 Perylene-d12	264	12.967	12.967	(1.000)	29891	0.10000		(M)
1 1,4-Dioxane	58	1.906	1.910	(0.517)	1870	0.07779	0.07779	(aQH)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\011.D

Date : 01-SEP-2020 17:16

Client ID: DXSIM-ICV

Instrument: SV6.i

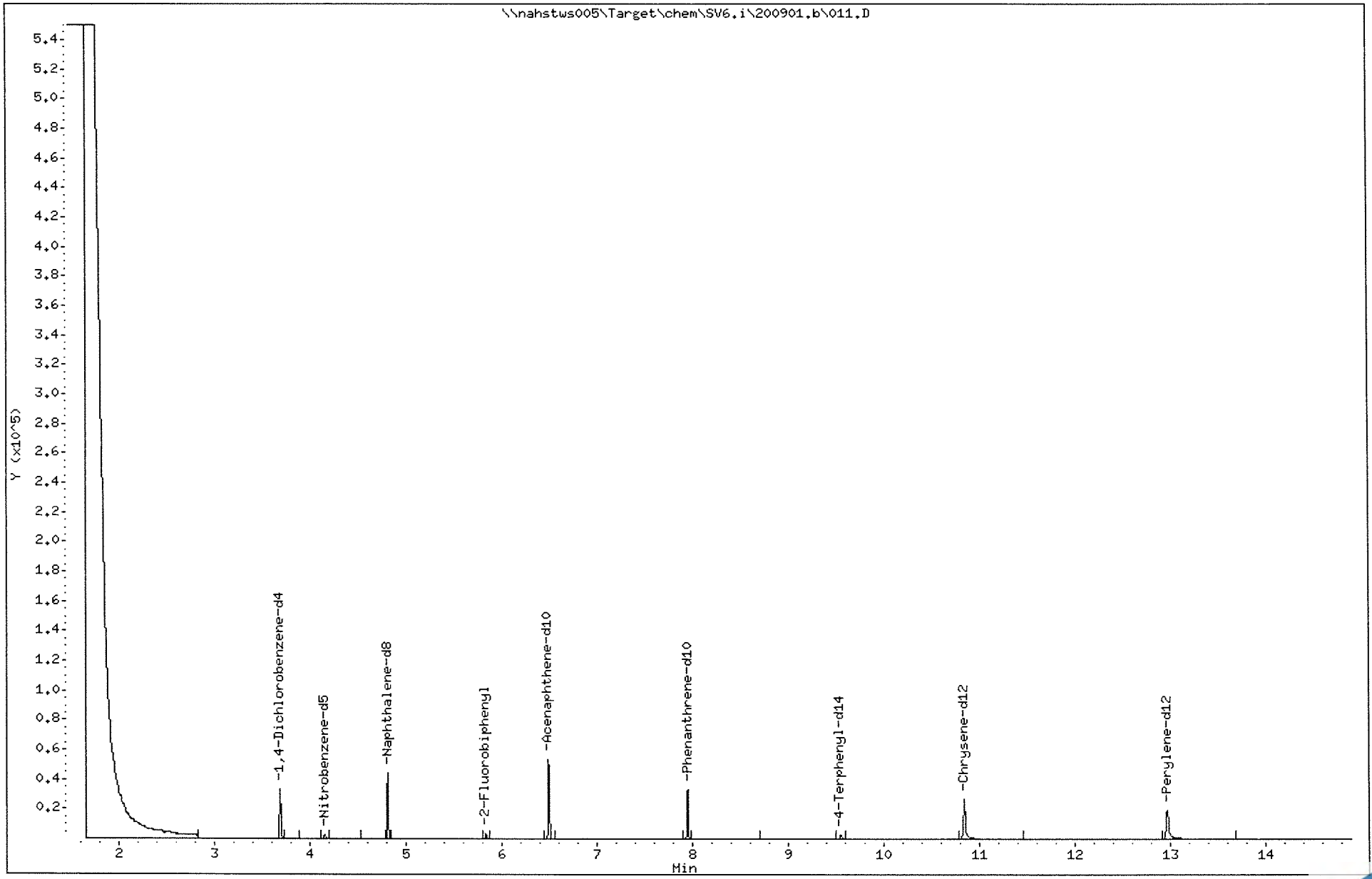
Sample Info: DXSIM-ICV;DXSIM-ICV

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



SV06 -Logbook

Batch: 42672 **Analyst:** Andrew Neir

Date: 12-11-2020 **Reviewer:**

Method: 8270DLL **Laboratory:** Houston

Comments: MSSV003

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	DFTPP	TUNE	12-11-2020 09:43 am	1.00			001.D		Y	NA
2	SLSTD-2.5	SAMP	12-11-2020 09:54 am	1.00			002.D		Y	NA
3	DXSIM-0.08	CCV	12-11-2020 10:20 am	1.00			003.D		Y	NA
4	CCB	SAMP	12-11-2020 10:42 am	1.00			004.D		Y	NA
5	CCB	SAMP	12-11-2020 11:00 am	1.00			005.D		Y	NA
6	MBLK-160215	MBLK	12-11-2020 11:19 am	1.00	1000.00 mL	1.00 mL	006.D	Liquid	Y	NA
7	LCS-160215	LCS	12-11-2020 11:37 am	1.00	1000.00 mL	1.00 mL	007.D	Liquid	Y	NA
8	LCSD-160215	LCSD	12-11-2020 11:55 am	1.00	1000.00 mL	1.00 mL	008.D	Liquid	Y	NA
9	MBLK-160571	MBLK	12-11-2020 12:13 pm	1.00	1000.00 mL	1.00 mL	009.D	Liquid	Y	NA
10	LCS-160571	LCS	12-11-2020 12:31 pm	1.00	1000.00 mL	1.00 mL	010.D	Liquid	Y	NA
11	LCSD-160571	LCSD	12-11-2020 12:49 pm	1.00	1000.00 mL	1.00 mL	011.D	Liquid	Y	NA
12	14DX-DCS	SAMP	12-11-2020 01:08 pm	1.00	1000.00 mL	1.00 mL	012.D	Liquid	Y	NA
13	LCS-160215	LCS	12-11-2020 01:26 pm	1.00	1000.00 mL	1.00 mL	013.D	Liquid	Y	NA
14	LCSD-160215	LCSD	12-11-2020 01:44 pm	1.00	1000.00 mL	1.00 mL	014.D	Liquid	Y	NA
15	HS20111258-01	SAMP	12-11-2020 02:02 pm	100.0(	1000.00 mL	1.00 mL	015.D	Liquid	Y	NA
16	HS20111260-01	SAMP	12-11-2020 02:20 pm	100.0(	1000.00 mL	1.00 mL	016.D	Liquid	Y	NA
17	HS20120455-01	SAMP	12-11-2020 02:38 pm	1.00	1000.00 mL	1.00 mL	017.D	Liquid	Y	NA
18	HS20120486-01	SAMP	12-11-2020 02:56 pm	1.00	1000.00 mL	1.00 mL	018.D	Liquid	Y	NA
19	HS20120486-02	SAMP	12-11-2020 03:14 pm	1.00	1000.00 mL	1.00 mL	019.D	Liquid	Y	NA
20	HS20120486-03	SAMP	12-11-2020 03:32 pm	1.00	1000.00 mL	1.00 mL	020.D	Liquid	Y	NA
21	HS20120486-04	SAMP	12-11-2020 03:50 pm	1.00	1000.00 mL	1.00 mL	021.D	Liquid	Y	NA
22	HS20120486-06	SAMP	12-11-2020 04:08 pm	1.00	1000.00 mL	1.00 mL	022.D	Liquid	Y	NA
23	HS20120486-07	SAMP	12-11-2020 04:26 pm	1.00	1000.00 mL	1.00 mL	023.D	Liquid	Y	NA
24	HS20120486-09	SAMP	12-11-2020 04:44 pm	1.00	1000.00 mL	1.00 mL	024.D	Liquid	Y	NA
25	HS20120556-01	SAMP	12-11-2020 05:02 pm	1.00	1000.00 mL	1.00 mL	025.D	Liquid	Y	NA
26	HS20120556-02	SAMP	12-11-2020 05:20 pm	1.00	1000.00 mL	1.00 mL	026.D	Liquid	Y	NA
27	HS20120556-05	SAMP	12-11-2020 05:38 pm	1.00	1000.00 mL	1.00 mL	027.D	Liquid	Y	NA
28	HS20120556-06	SAMP	12-11-2020 05:57 pm	1.00	1000.00 mL	1.00 mL	028.D	Liquid	Y	NA
29	HS20120556-07	SAMP	12-11-2020 06:15 pm	1.00	1000.00 mL	1.00 mL	029.D	Liquid	Y	NA
30	HS20120556-08	SAMP	12-11-2020 06:33 pm	1.00	1000.00 mL	1.00 mL	030.D	Liquid	Y	NA
31	DXSIM-0.08	SAMP	12-11-2020 06:51 pm	1.00	1000.00 mL	1.00 mL	031.D	Liquid	Y	NA
32	HS20120220-04	SAMP	12-11-2020 07:09 pm	1000.0	1000.00 mL	1.00 mL	032.D	Liquid	Y	NA
33	HS20120220-05	SAMP	12-11-2020 07:28 pm	1000.0	1000.00 mL	1.00 mL	033.D	Liquid	Y	NA
34	HS20120220-05	SAMP	12-11-2020 07:48 pm	10000.(	1000.00 mL	1.00 mL	034.D	Liquid	Y	NA
35	HS20120220-09	SAMP	12-11-2020 08:07 pm	10000.(	1000.00 mL	1.00 mL	035.D	Liquid	Y	NA
36	HS20120220-09	SAMP	12-11-2020 08:27 pm	100000.	1000.00 mL	1.00 mL	036.D	Liquid	Y	NA

SV06 -Logbook

Chemical	Value
IS ID	3111864-03
CAL STD ID	3111854-06
DFTPP ID	3111859-10
Routine SOP Maintenance	ACN

FORM 2
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

	CLIENT SAMPLE NO.	S1 (NBZ)#	S2 #	S3 (FBP)#	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	MBLK-160215	96	97	94						0
02	LCS-160215	83	79	121						0
03	LCSD-160215	85	78	90						0
04	HS20111260-01	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 4
SEMIVOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MBLK-160215

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Lab File ID: 006 Lab Sample ID: MBLK-160215

Instrument ID: SV6 Date Extracted:

Matrix: (soil/water) WATER Date Analyzed: 12/11/20

Level: (low/med) LOW Time Analyzed: 1119

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	LCS-160215	LCS-160215	007	12/11/20
02	LCSD-160215	LCSD-160215	008	12/11/20
03	HS20111260-0	HS20111260-01	016	12/11/20
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Lab File ID: 001 DFTPP Injection Date: 12/11/20

Instrument ID: SV6 DFTPP Injection Time: 0943

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	26.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	28.2
70	Less than 2.0% of mass 69	0.2 (0.6)1
127	10.0 - 80.0% of mass 198	39.5
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	6.3
275	10.0 - 60.0% of mass 198	30.6
365	1.0 - 100.0% of mass 198	4.8
441	Present, but less than mass 443	23.2
442	50.0 - 150.0% of mass 198	139.0
443	15.0 - 24.0% of mass 442	26.7 (19.2)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	12/11/20	1020
02	MBLK-160215	MBLK-160215	006	12/11/20	1119
03	LCS-160215	LCS-160215	007	12/11/20	1137
04	LCSD-160215	LCSD-160215	008	12/11/20	1155
05	HS20111260-0	HS20111260-01	016	12/11/20	1420
06	DXSIM-0.08	DXSIM-0.08	031	12/11/20	1851
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.: HS20111260

Instrument ID: SV6 Calibration Date: 12/11/20 Time: 1020

Lab File ID: 003 Init. Calib. Date(s): 09/01/20 09/01/20

Init. Calib. Times: 1441 1657

GC Column: RTX-5SIL MS ID: 0.28 (mm)

COMPOUND	RRF or AMOUNT	RRF8e-002 or AMOUNT	CCAL RRF8e-002	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
1,4-Dioxane	6.56e-002	8.e-002	0.2239652	0.01	-18.00	20.00	2RDR
Nitrobenzene-d5	0.3540000	0.3083269	0.3083269	0.01	-12.90	20.00	AVRG
4-Terphenyl-d14	0.8290000	0.8444684	0.8444684	0.01	1.86	20.00	AVRG
2-Fluorobiphenyl	1.1660000	1.0781232	1.0781232	0.01	-7.54	20.00	AVRG

FORM VII SV

FORM 7B
SEMIVOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Instrument ID: SV6 Calibration Date: 12/11/20 Time: 1851

Lab File ID: 031 Init. Calib. Date(s): 09/01/20 09/01/20

Init. Calib. Times: 1441 1657

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	0.2680000	0.1618647	0.01	-39.60	50.00	AVRG
Nitrobenzene-d5	0.3540000	0.2676061	0.01	-24.40	50.00	AVRG
4-Terphenyl-d14	0.8290000	0.7924675	0.01	-4.41	50.00	AVRG
2-Fluorobiphenyl	1.1660000	1.0997968	0.01	-5.68	50.00	AVRG

FORM VII SV

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Lab File ID (Standard): 003 Date Analyzed: 12/11/20

Instrument ID: SV6 Time Analyzed: 1020

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	15873	3.18	65150	4.28	44625	5.94
	UPPER LIMIT	31746	3.68	130300	4.78	89250	6.44
	LOWER LIMIT	7937	2.68	32575	3.78	22313	5.44
	CLIENT SAMPLE NO.						
01	MBLK-160215	16268	3.18	55521	4.28	38342	5.94
02	LCS-160215	15955	3.16	60712	4.23	32426	5.94
03	LCSD-160215	11088	3.17	44665	4.25	27095	5.94
04	HS20111260-01	13863	3.17	52523	4.20	34556	5.92
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20111260

Lab File ID (Standard): 003 Date Analyzed: 12/11/20

Instrument ID: SV6 Time Analyzed: 1020

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	89148	7.38	83520	10.09	94706	12.04
	UPPER LIMIT	178296	7.88	167040	10.59	189412	12.54
	LOWER LIMIT	44574	6.88	41760	9.59	47353	11.54
	CLIENT SAMPLE NO.						
01	MBLK-160215	75319	7.38	74489	10.09	75839	12.04
02	LCS-160215	72168	7.38	75150	10.09	68303	12.04
03	LCSD-160215	54099	7.38	59705	10.09	45572*	12.04
04	HS20111260-01	64023	7.35	65670	10.10	69580	12.05
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.

Data File: \\nahstws005\Target\chem\SV6.i\201211.b\001.D

Date : 11-DEC-2020 09:43

Client ID: DFTPP

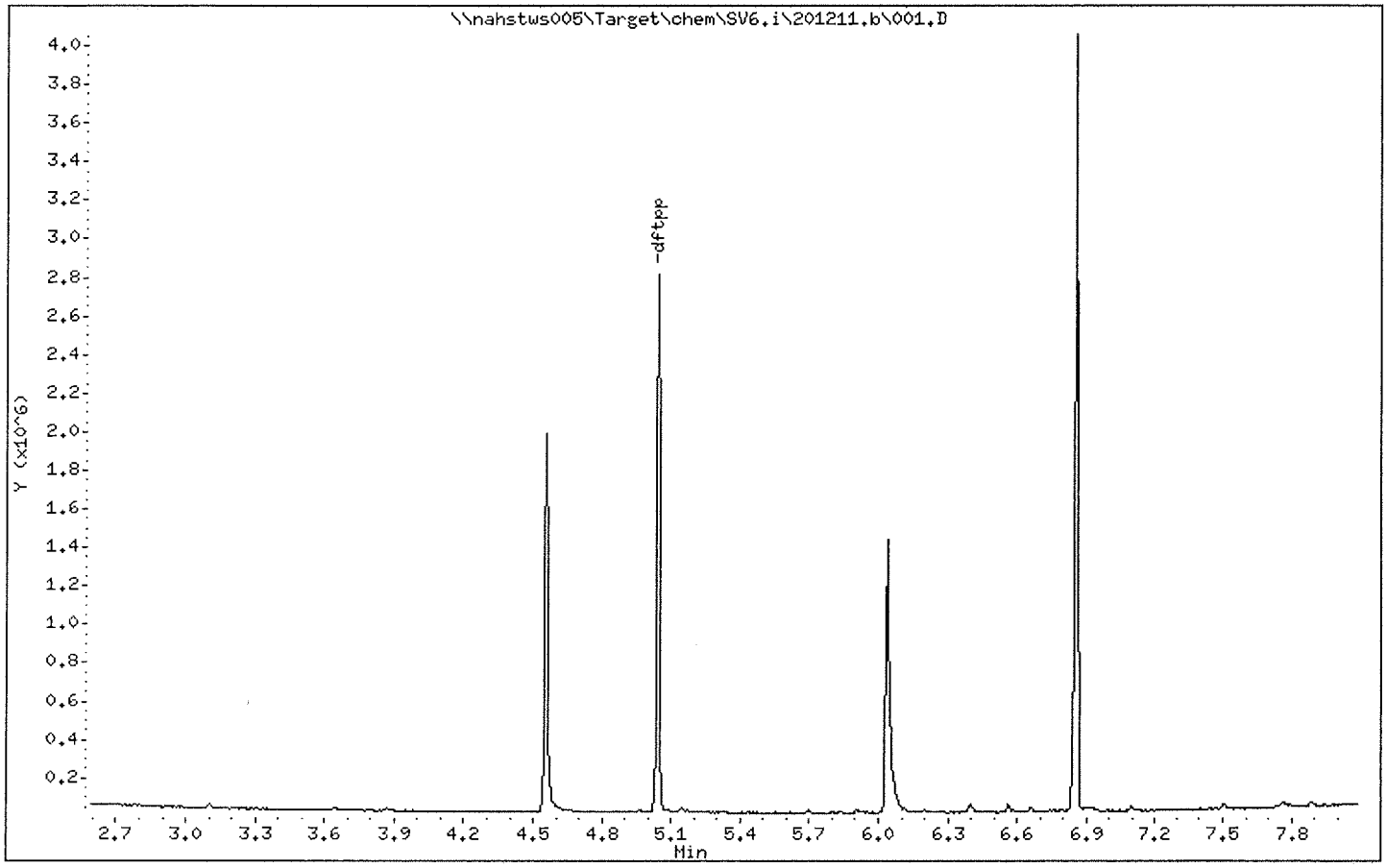
Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\SV6.i\201211.b\001.D

Date : 11-DEC-2020 09:43

Client ID: DFTPP

Instrument: SV6.i

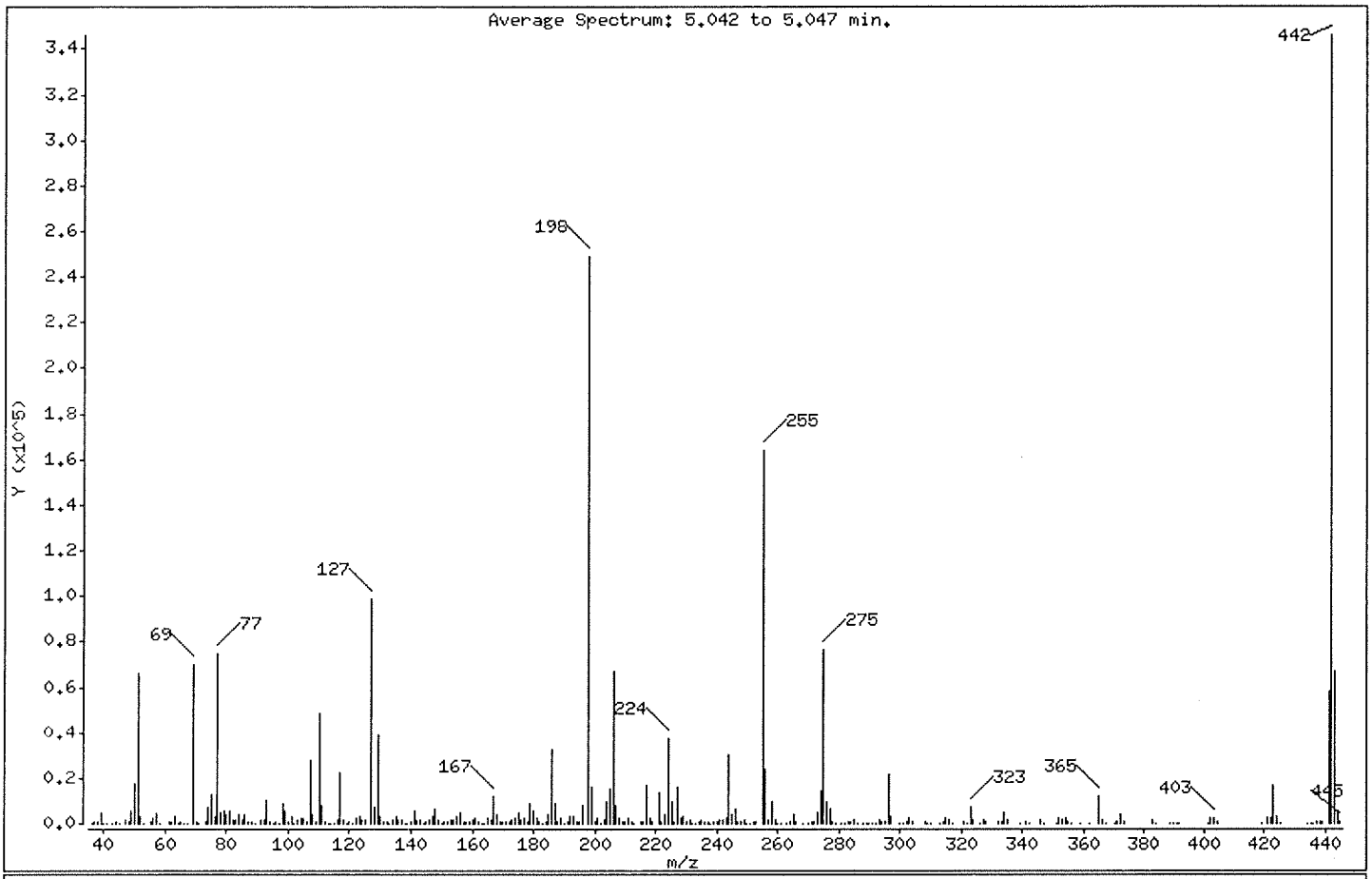
Sample Info: DFTPP;DFTPP;3;;DFTPP

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	26.57
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	28.15
70	Less than 2.00% of mass 69	0.18 (0.63)
127	10.00 - 80.00% of mass 198	39.46
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.29
275	10.00 - 60.00% of mass 198	30.59
365	1.00 - 100.00% of mass 198	4.82
441	Present, but less than mass 443	23.20
442	50.00 - 150.00% of mass 198	138.96
443	15.00 - 24.00% of mass 442	26.72 (19.23)

Data File: \\nahstws005\Target\chem\SV6.i\201211.b\001.D

Date : 11-DEC-2020 09:43

Client ID: DFTPP 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: 5.042 to 5.047 min.
Location of Maximum: 442.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	361	123.00	3297	204.00	9276	291.00	152
37.00	599	124.00	1466	205.00	14916	292.00	154
38.00	907	125.00	1476	206.00	67064	293.00	1405
39.00	4484	127.00	98224	207.00	7965	294.00	547
40.00	303	128.00	7376	208.00	2335	295.00	725
41.00	394	129.00	39200	209.00	719	296.00	21600
43.00	228	130.00	3229	210.00	1135	297.00	3089
44.00	565	131.00	773	211.00	2528	300.00	89
45.00	285	132.00	618	212.00	546	301.00	373
47.00	1257	133.00	141	213.00	126	302.00	453
48.00	509	134.00	1228	215.00	860	303.00	2604
49.00	5177	135.00	3333	216.00	497	304.00	797
50.00	17400	136.00	1453	217.00	16912	308.00	479
51.00	66128	137.00	1799	218.00	2217	309.00	101
52.00	3276	138.00	221	219.00	448	310.00	326
53.00	204	139.00	291	221.00	13712	313.00	210
55.00	672	140.00	460	222.00	949	314.00	1056
56.00	2370	141.00	5623	223.00	4134	315.00	2546
57.00	4508	142.00	1662	224.00	37520	316.00	1653
58.00	286	143.00	1416	225.00	9275	317.00	119
61.00	802	144.00	290	226.00	430	321.00	1025
62.00	1045	145.00	458	227.00	16111	322.00	306
63.00	2902	146.00	1349	228.00	2327	323.00	7378
64.00	185	147.00	2996	229.00	3162	324.00	1424
65.00	1165	148.00	5986	230.00	529	326.00	76
66.00	119	149.00	1526	231.00	1549	327.00	1365
67.00	388	150.00	285	232.00	156	328.00	787
69.00	70064	151.00	710	233.00	324	332.00	721
70.00	438	152.00	493	234.00	1137	333.00	738
71.00	201	153.00	1943	235.00	1236	334.00	4886
73.00	1123	154.00	1503	236.00	789	335.00	1203
74.00	7003	155.00	3515	237.00	1082	339.00	114
75.00	12383	156.00	5017	238.00	102	341.00	979
76.00	3554	157.00	879	239.00	729	342.00	166
77.00	74832	158.00	974	240.00	645	346.00	1544

Data File: \\nahstws005\Target\chem\SV6.i\201211.b\001.D

Date : 11-DEC-2020 09:43

Client ID: DFTPP

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: 5.042 to 5.047 min.
Location of Maximum: 442.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
78.00	4865	159.00	796	241.00	1258	347.00	162
79.00	5674	160.00	1886	242.00	1980	351.00	147
80.00	4136	161.00	2600	243.00	2362	352.00	2196
81.00	5632	162.00	835	244.00	30240	353.00	1808
82.00	1563	163.00	355	245.00	3796	354.00	2647
83.00	1678	164.00	157	246.00	5982	355.00	727
84.00	4036	165.00	2225	247.00	1072	356.00	84
85.00	1549	166.00	1902	248.00	411	359.00	164
86.00	4303	167.00	11767	249.00	1366	362.00	76
87.00	829	168.00	4178	250.00	236	365.00	11985
88.00	715	169.00	967	251.00	261	366.00	1358
89.00	252	170.00	617	252.00	512	367.00	79
91.00	1338	171.00	568	253.00	1013	370.00	325
92.00	1605	172.00	1046	255.00	163968	371.00	802
93.00	10036	173.00	1321	256.00	24024	372.00	4336
94.00	772	174.00	2623	257.00	1750	373.00	1076
95.00	332	175.00	4586	258.00	9154	383.00	1295
96.00	500	176.00	1330	259.00	1518	384.00	323
97.00	313	177.00	2451	260.00	142	389.00	146
98.00	8417	178.00	1087	261.00	345	390.00	389
99.00	5851	179.00	8991	263.00	388	391.00	378
100.00	505	180.00	5599	264.00	446	392.00	338
101.00	3230	181.00	2674	265.00	4307	401.00	369
102.00	151	182.00	547	266.00	904	402.00	2174
103.00	1216	183.00	345	268.00	218	403.00	2591
104.00	2332	184.00	980	270.00	330	404.00	876
105.00	2272	185.00	4251	271.00	572	419.00	79
106.00	899	186.00	32688	272.00	750	421.00	2592
107.00	27504	187.00	9048	273.00	5045	422.00	2511
108.00	3847	188.00	863	274.00	14357	423.00	17088
109.00	651	189.00	2316	275.00	76144	424.00	3463
110.00	48112	190.00	338	276.00	9888	425.00	320
111.00	7969	191.00	864	277.00	6164	434.00	79
112.00	708	192.00	3102	278.00	912	435.00	300
113.00	276	193.00	3201	279.00	373	436.00	269

Data File: \\nahstws005\Target\chem\SV6.i\201211.b\001.D

Date : 11-DEC-2020 09:43

Client ID: DFTPP 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: 5.042 to 5.047 min.
Location of Maximum: 442.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
114.00	89	194.00	819	281.00	397	437.00	424
115.00	206	195.00	812	282.00	306	438.00	1073
116.00	1671	196.00	7690	283.00	771	439.00	559
117.00	22296	198.00	248896	284.00	701	441.00	57752
118.00	1484	199.00	15659	285.00	1259	442.00	345856
119.00	319	200.00	1166	286.00	350	443.00	66512
120.00	518	201.00	2014	288.00	99	444.00	5842
121.00	143	202.00	178	289.00	265	445.00	475
122.00	2125	203.00	1938	290.00	85		

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\201211.b\003.D
Lab Smp Id: DXSIM-0.08 Client Smp ID: DXSIM-0.08
Inj Date : 11-DEC-2020 10:20 MS Autotune Date: 05-NOV-2020 13:02
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\201211.b\DXSIM.m
Meth Date : 18-Jan-2021 14:20 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.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

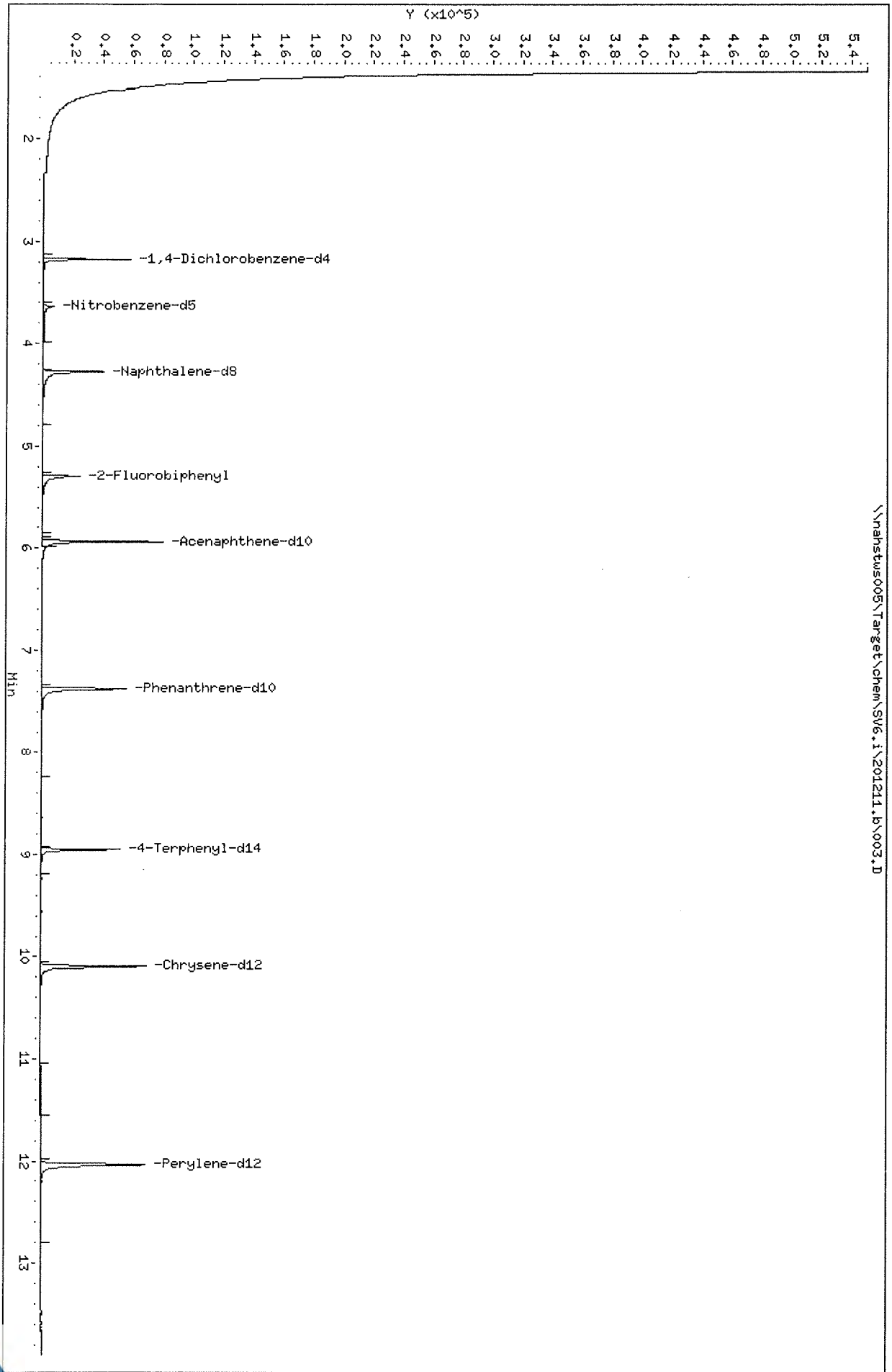
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.178	3.178	(1.000)	15873	0.10000		(a)
* 45 Naphthalene-d8	136	4.275	4.275	(1.000)	65150	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.639	3.639	(0.851)	16070	0.08000	0.06960	(M)
* 86 Acenaphthene-d10	164	5.936	5.936	(1.000)	44625	0.10000		
$ 69 2-Fluorobiphenyl	172	5.296	5.296	(0.892)	38489	0.08000	0.07394	
* 126 Phenanthrene-d10	188	7.381	7.381	(1.000)	89148	0.10000		
* 182 Chrysene-d12	240	10.092	10.092	(1.000)	83520	0.10000		(M)
$ 158 4-Terphenyl-d14	244	8.951	8.951	(1.000)	56424	0.08000	0.08150	
* 198 Perylene-d12	264	12.036	12.036	(1.000)	94706	0.10000		(M)
1 1,4-Dioxane	58	1.515	1.515	(0.477)	2844	0.08000	0.06558	(aQM)

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\201211.b\003.D
Date : 11-DEC-2020 10:20
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\201211.b\006.D
Lab Smp Id: MBLK-160215 Client Smp ID: MBLK-160215
Inj Date : 11-DEC-2020 11:19 MS Autotune Date: 05-NOV-2020 13:02
Operator : LG Inst ID: SV6.i
Smp Info : MBLK-160215;MBLK-160215;3;;BLANK
Misc Info : HS20111258;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\201211.b\DXSIM.m
Meth Date : 18-Jan-2021 14:20 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.D
Als bottle: 6 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

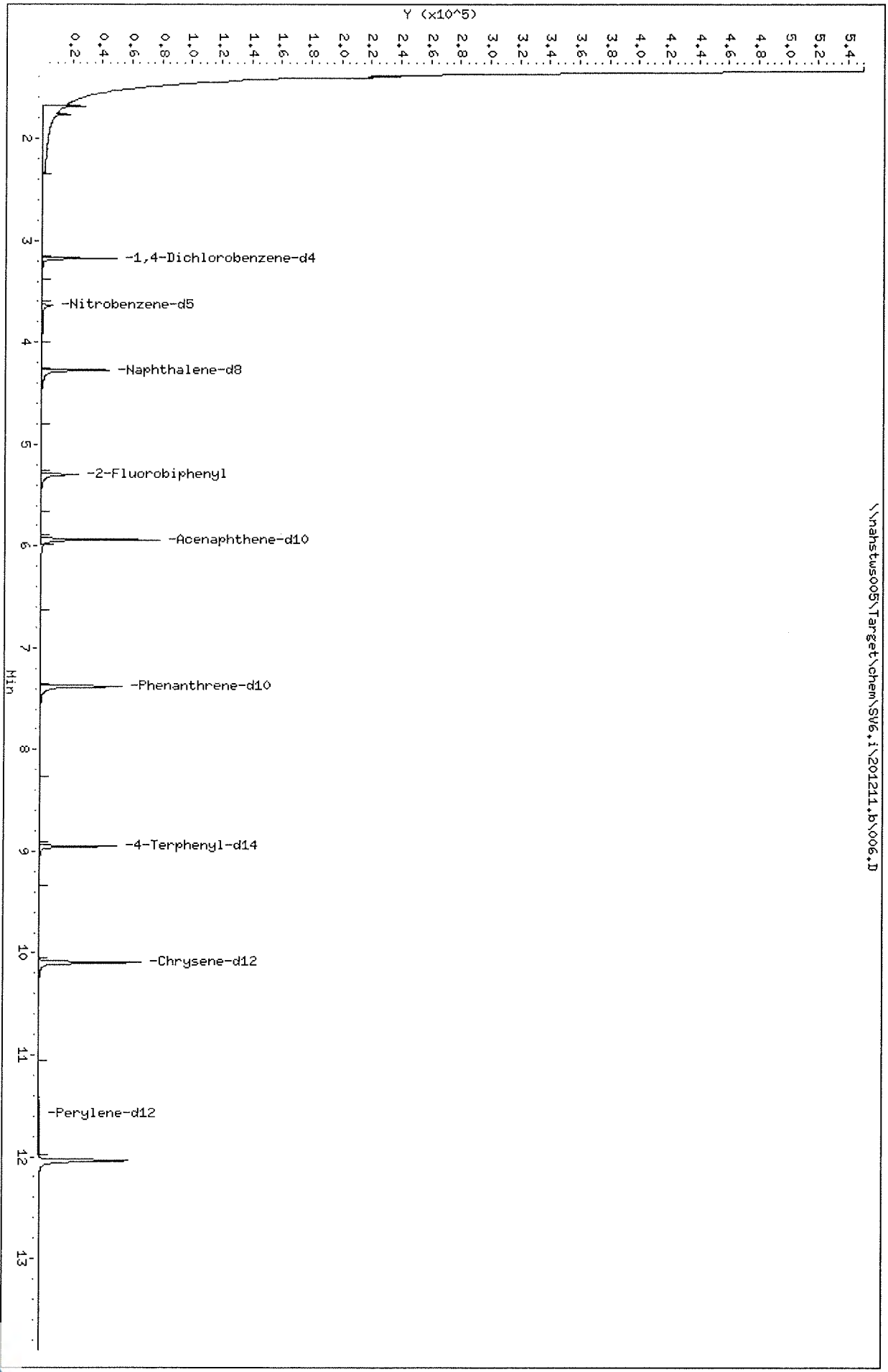
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.178	3.178	(1.000)	16268	0.10000		(a)
* 45 Naphthalene-d8	136	4.275	4.275	(1.000)	55521	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.639	3.639	(0.857)	15081	0.07664	0.07664	
* 86 Acenaphthene-d10	164	5.936	5.936	(1.000)	38342	0.10000		(QM)
$ 69 2-Fluorobiphenyl	172	5.300	5.296	(1.000)	33671	0.07529	0.07529	
* 126 Phenanthrene-d10	188	7.381	7.381	(1.000)	75319	0.10000		
* 182 Chrysene-d12	240	10.092	10.092	(1.000)	74489	0.10000		(M)
$ 158 4-Terphenyl-d14	244	8.951	8.951	(0.887)	48096	0.07789	0.07789	(M)
* 198 Perylene-d12	264	12.036	12.036	(1.000)	75839	0.10000		

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\201211.b\006.D
Date : 11-DEC-2020 11:19
Client ID: MBLK-160215
Sample Info: MBLK-160215;MBLK-160215;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\201211.b\007.D
Lab Smp Id: LCS-160215 Client Smp ID: LCS-160215
Inj Date : 11-DEC-2020 11:37 MS Autotune Date: 05-NOV-2020 13:02
Operator : LG Inst ID: SV6.i
Smp Info : LCS-160215;LCS-160215;3;;LCS
Misc Info : HS20111258;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\201211.b\DXSIM.m
Meth Date : 18-Jan-2021 14:20 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.D
Als bottle: 7 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

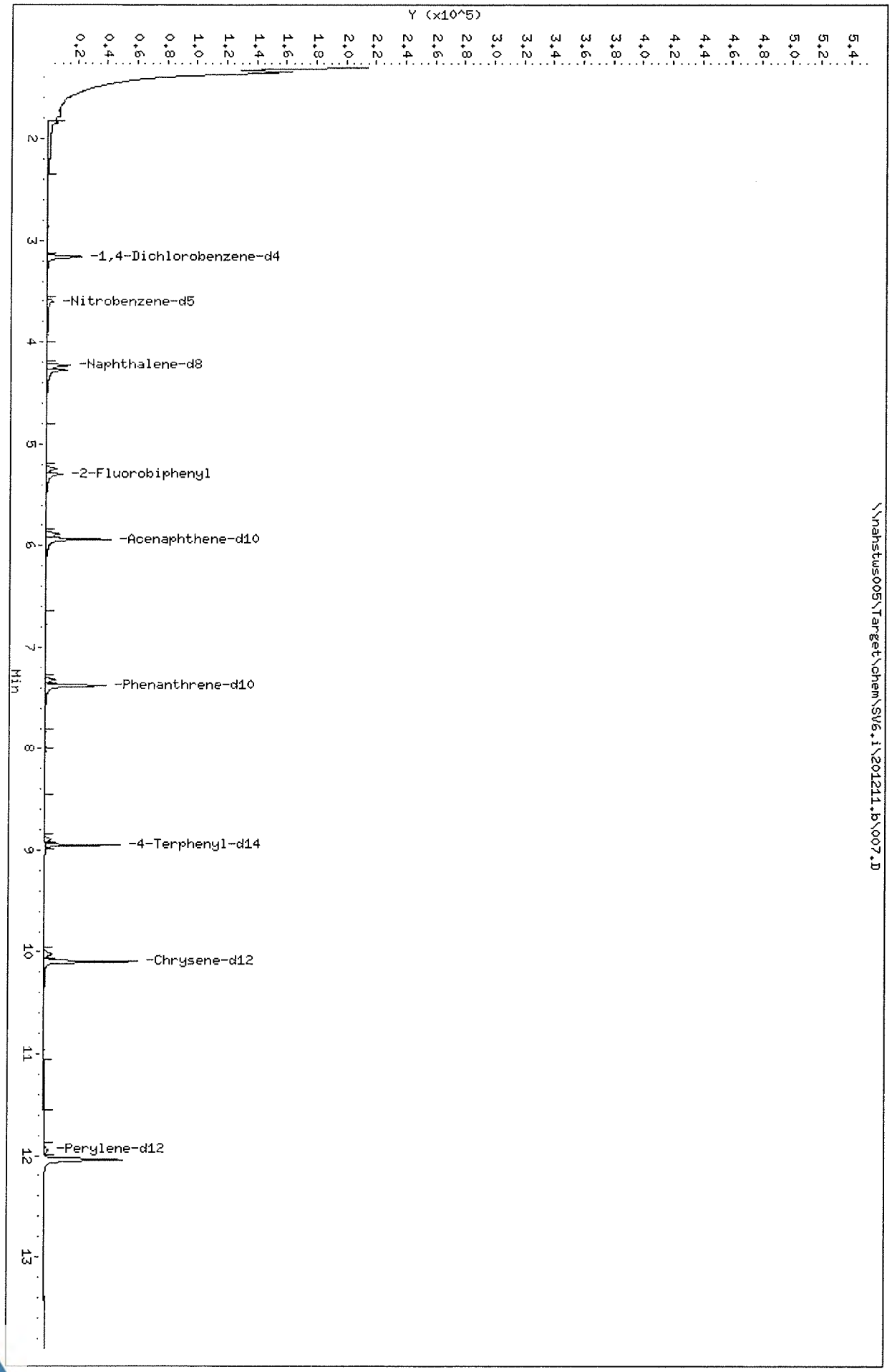
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.161	3.178	(1.000)	15955	0.10000		(a)
* 45 Naphthalene-d8	136	4.230	4.275	(1.000)	60712	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.602	3.639	(0.851)	14277	0.06635	0.06635	
* 86 Acenaphthene-d10	164	5.936	5.936	(1.000)	32426	0.10000		(QM)
$ 69 2-Fluorobiphenyl	172	5.296	5.296	(0.892)	36670	0.09695	0.09695	(M)
* 126 Phenanthrene-d10	188	7.381	7.381	(1.000)	72168	0.10000		(M)
* 182 Chrysene-d12	240	10.092	10.092	(1.000)	75150	0.10000		(M)
$ 158 4-Terphenyl-d14	244	8.951	8.951	(0.894)	39231	0.06298	0.06298	
* 198 Perylene-d12	264	12.041	12.036	(1.000)	68303	0.10000		

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\201211.b\007.D
Date : 11-DEC-2020 11:37
Client ID: LCS-160215
Sample Info: LCS-160215;LCS-160215;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\201211.b\008.D
Lab Smp Id: LCSD-160215 Client Smp ID: LCSD-160215
Inj Date : 11-DEC-2020 11:55 MS Autotune Date: 05-NOV-2020 13:02
Operator : LG Inst ID: SV6.i
Smp Info : LCSD-160215;LCSD-160215;3;;LCSD
Misc Info : HS20111258;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\201211.b\DXSIM.m
Meth Date : 18-Jan-2021 14:20 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.D
Als bottle: 8 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

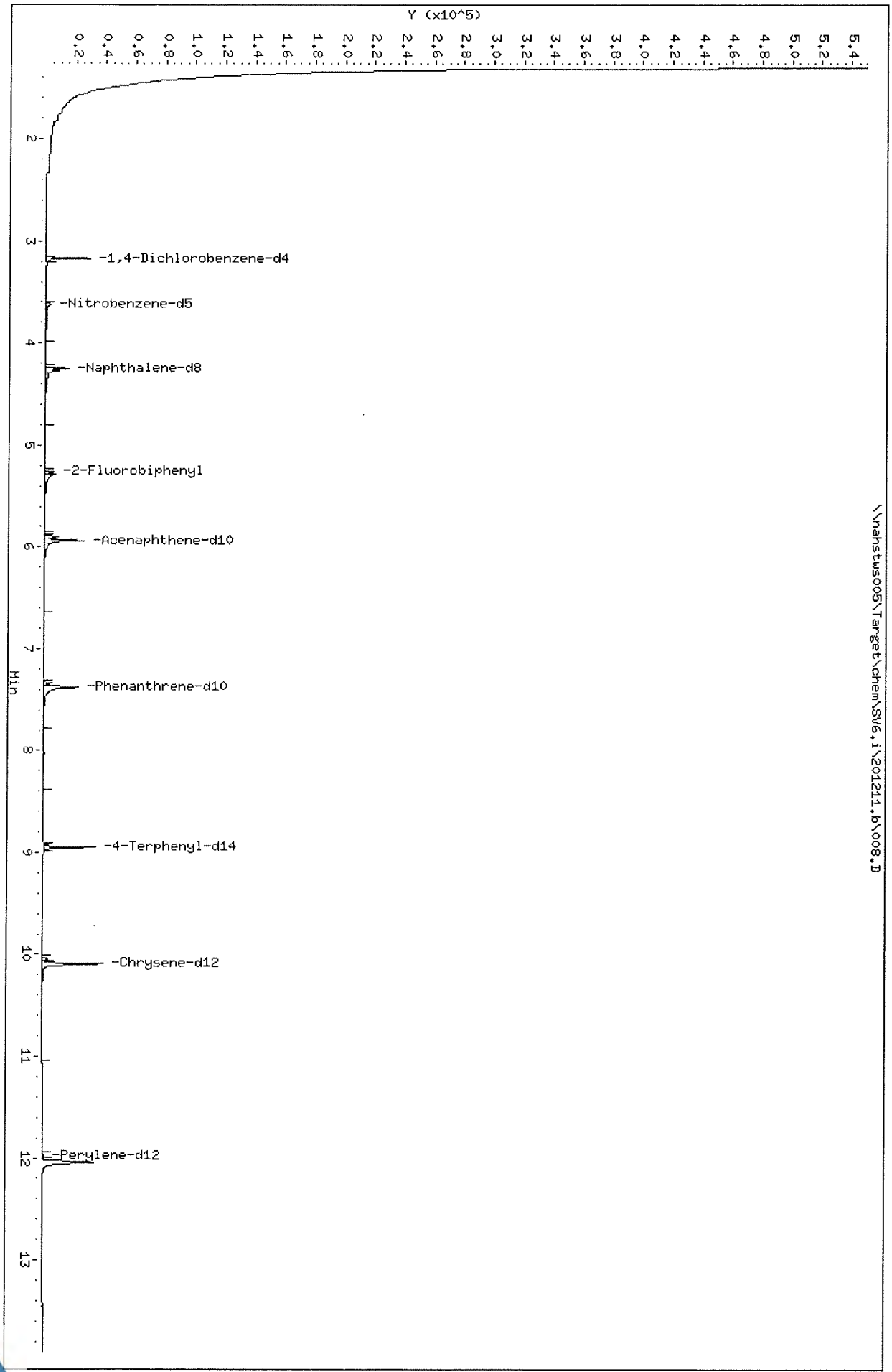
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.172	3.178	(1.000)	11088	0.10000		(aQ)
* 45 Naphthalene-d8	136	4.245	4.275	(1.000)	44665	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.618	3.639	(0.852)	10714	0.06768	0.06768	
* 86 Acenaphthene-d10	164	5.936	5.936	(1.000)	27095	0.10000		(QM)
$ 69 2-Fluorobiphenyl	172	5.263	5.296	(0.887)	22802	0.07215	0.07215	(M)
* 126 Phenanthrene-d10	188	7.381	7.381	(1.000)	54099	0.10000		(M)
* 182 Chrysene-d12	240	10.092	10.092	(1.000)	59705	0.10000		(M)
$ 158 4-Terphenyl-d14	244	8.951	8.951	(0.887)	31100	0.06284	0.06284	(M)
* 198 Perylene-d12	264	12.042	12.036	(1.000)	45572	0.10000		

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\201211.b\008.D
Date : 11-DEC-2020 11:55
Client ID: LCSD-160215
Sample Info: LCSD-160215;LCSD-160215;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\201211.b\016.D
Lab Smp Id: HS20111260-01 Client Smp ID: HS20111260-01
Inj Date : 11-DEC-2020 14:20 MS Autotune Date: 05-NOV-2020 13:02
Operator : LG Inst ID: SV6.i
Smp Info : HS20111260-01;HS20111260-01
Misc Info : HS20111260;1;0;100
Comment :
Method : \\nahstws005\Target\chem\SV6.i\201211.b\DXSIM.m
Meth Date : 18-Jan-2021 14:03 devak.giga Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.D
Als bottle: 16
Dil Factor: 100.00000
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	100.000	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

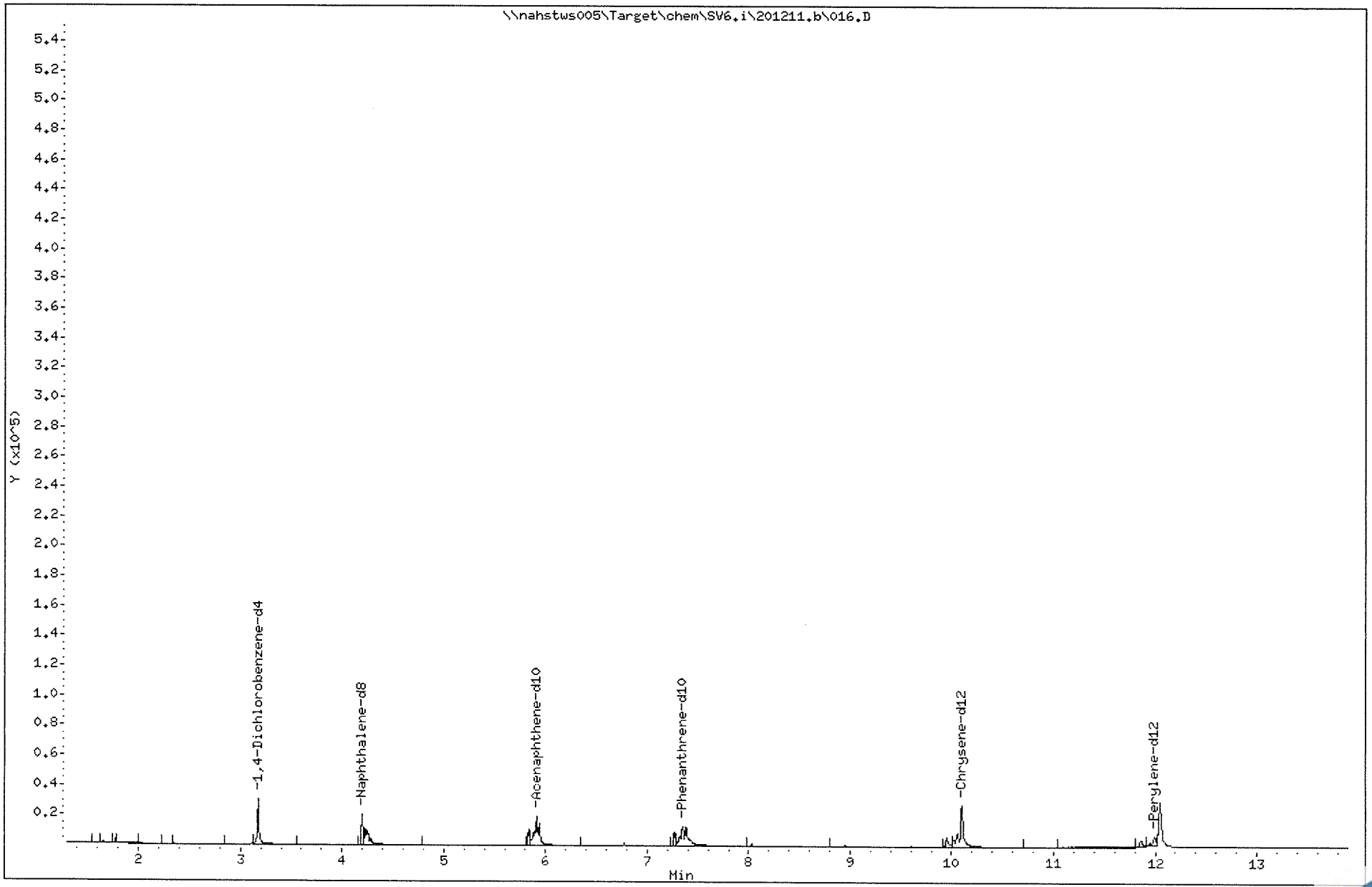
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.172	3.178	(1.000)	13863	0.10000		(a)
* 45 Naphthalene-d8	136	4.197	4.275	(1.000)	52523	0.10000		(M)
* 86 Acenaphthene-d10	164	5.915	5.936	(1.000)	34556	0.10000		(QM)
* 126 Phenanthrene-d10	188	7.354	7.381	(1.000)	64023	0.10000		(M)
* 182 Chrysene-d12	240	10.097	10.092	(1.000)	65670	0.10000		(M)
* 198 Perylene-d12	264	12.047	12.036	(1.000)	69580	0.10000		(M)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\SV6.i\201211.b\016.D
Date : 11-DEC-2020 14:20
Client ID: HS20111260-01
Sample Info: HS20111260-01;HS20111260-01
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\201211.b\031.D Page 1
Report Date: 18-Jan-2021 14:26

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\201211.b\031.D
Lab Smp Id: DXSIM-0.08 Client Smp ID: DXSIM-0.08
Inj Date : 11-DEC-2020 18:51 MS Autotune Date: 05-NOV-2020 13:02
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\201211.b\DXSIMEND.m
Meth Date : 18-Jan-2021 14:26 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 16:57 Cal File: 010.D
Als bottle: 31 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

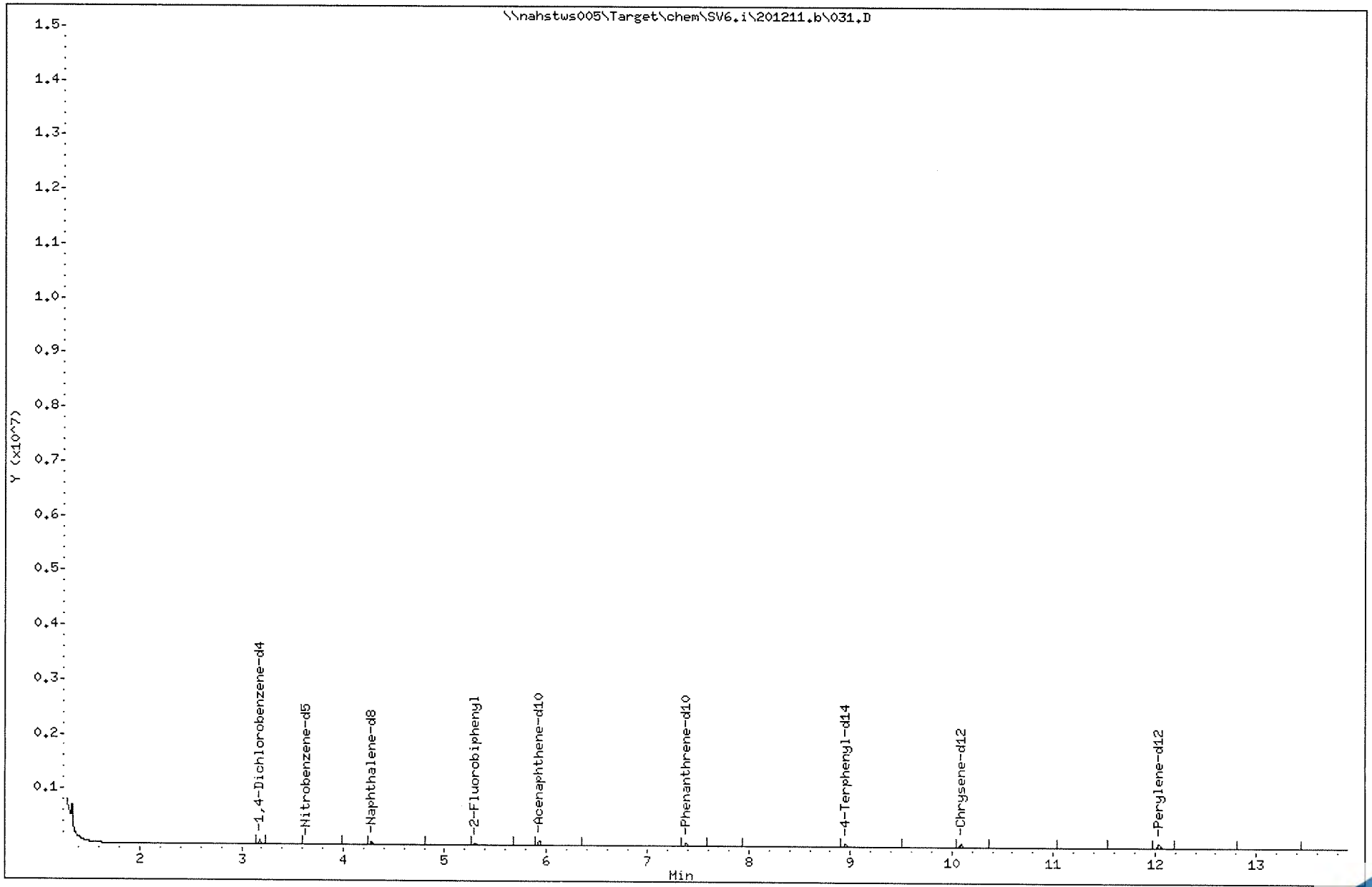
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.183	3.183	(1.000)	21623	0.10000		(a)
* 45 Naphthalene-d8	136	4.275	4.275	(1.000)	86064	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.639	3.639	(1.000)	18425	0.08000	0.06041	(Q)
* 86 Acenaphthene-d10	164	5.936	5.936	(1.000)	52662	0.10000		(QM)
$ 69 2-Fluorobiphenyl	172	5.299	5.299	(0.931)	46334	0.08000	0.07543	(Q)
* 126 Phenanthrene-d10	188	7.381	7.381	(1.000)	101542	0.10000		
* 182 Chrysene-d12	240	10.092	10.092	(1.000)	99370	0.10000		
$ 158 4-Terphenyl-d14	244	8.951	8.951	(0.887)	62998	0.08000	0.07648	(M)
* 198 Perylene-d12	264	12.041	12.041	(1.000)	106923	0.10000		

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\201211.b\031.D
Date : 11-DEC-2020 18:51
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



HS20111260 - ME - HG_W_DODICP_W_DOD

ALS WO# HS20111260

ALS Houston, US Date: 26-Jan-21

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS04
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

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		ArHe
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
111	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
135	Barium	Indium		Ar
203	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Houston, US Date: 26-Jan-21

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260
Start Date: 10-Dec-2020 08:00 End Date: 10-Dec-2020 10:00

Batch ID: 160524
Prep Code: Hg_WPr
Method: SW7470
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS20111258-01MS				10	10	1
HS20111258-01MSD				10	10	1
HS20111260-01	LH18/24-SP650_112420	Water		10	10	1
LCS-160524				10	10	1
MBLK-160524				10	10	1

ALS Houston, US

Date: 26-Jan-21

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260
Start Date: 03-Dec-2020 11:00 End Date: 03-Dec-2020 15:00

Batch ID: 160306
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS20111258-01MS				10	10	1
HS20111258-01MSD				10	10	1
HS20111258-01PDS				10	10	1
HS20111258-01SD				10	10	1
HS20111260-01	LH18/24-SP650_112420	Water		10	10	1
LCS-160306				10	10	1
MBLK-160306				10	10	1

ALS Houston, US Date: 26-Jan-21

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260
Start Date: 10-Dec-2020 End Date: 10-Dec-2020

Run ID:HG03_374335
Instrument:HG03
Method:SW7470

Sample No.	D/F	Time	FileID	Analytes
ICCV 1	1	10-Dec-2020 11:27	HG03_374335 Raw Data_5872519	HG
ICV	1	10-Dec-2020 11:29	_5872520	HG
ICB	1	10-Dec-2020 11:30	_5872521	HG
CRA	1	10-Dec-2020 11:32	_5872522	HG
CCV 2	1	10-Dec-2020 12:03	_5872624	HG
CCB 1	1	10-Dec-2020 12:05	_5872625	HG
CCV 3	1	10-Dec-2020 12:23	_5872635	HG
CCB 2	1	10-Dec-2020 12:25	_5872636	HG
CCV 4	1	10-Dec-2020 12:48	_5872911	HG
CCB 3	1	10-Dec-2020 12:50	_5872912	HG
CCV 5	1	10-Dec-2020 13:32	_5872909	HG
CCB 4	1	10-Dec-2020 13:33	_5872910	HG
MBLK-160524	1	10-Dec-2020 13:50	_5873307	HG
LCS-160524	1	10-Dec-2020 13:52	_5873308	HG
ZZZZZZMS	1	10-Dec-2020 13:56	_5873310	HG
ZZZZZZMSD	1	10-Dec-2020 13:57	_5873311	HG
CCV 6	1	10-Dec-2020 14:07	_5873312	HG
CCB 5	1	10-Dec-2020 14:09	_5873313	HG
LH18/24-SP650_112420	1	10-Dec-2020 14:11	_5873314	HG
CCV 7	1	10-Dec-2020 14:35	_5873324	HG
CCB 6	1	10-Dec-2020 14:37	_5873325	HG
CCV 8	1	10-Dec-2020 15:09	_5873363	HG
CCB 7	1	10-Dec-2020 15:11	_5873364	HG
CCV 9	1	10-Dec-2020 15:53	_5873448	HG
CCB 8	1	10-Dec-2020 15:55	_5873449	HG
CCV 10	1	10-Dec-2020 16:03	_5873454	HG
CCB 9	1	10-Dec-2020 16:05	_5873455	HG

ALS Houston, US Date: 26-Jan-21

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260
Start Date: 10-Dec-2020 End Date: 10-Dec-2020

Run ID:ICPMS04_374333
Instrument:ICPMS04
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS04_374333_Tune	1	10-Dec-2020 00:00	ICPMS04_374333_Tune_1	
CAL BLK	1	10-Dec-2020 11:06	015CALB.d_5872486	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	10-Dec-2020 11:08	016CALS.d_5872487	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	10-Dec-2020 11:10	017CALS.d_5872488	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	10-Dec-2020 11:12	018CALS.d_5872489	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	10-Dec-2020 11:14	019CALS.d_5872490	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	10-Dec-2020 11:16	020CALS.d_5872491	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV2	1	10-Dec-2020 11:25	023LCV2.d_5872494	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV5	1	10-Dec-2020 11:27	024LCV5.d_5872495	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICB	1	10-Dec-2020 11:29	025_ICB.d_5872496	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICV	1	10-Dec-2020 11:32	026_ICV.d_5872497	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	10-Dec-2020 11:34	027ICSA.d_5872498	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	10-Dec-2020 11:36	028ICSB.d_5872499	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 1	1	10-Dec-2020 15:58	119_CCV.d_5873669	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 1	1	10-Dec-2020 16:00	120_CCB.d_5873670	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LCS-160306	1	10-Dec-2020 16:06	122SMPL.d_5873671	AG AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZSD	5	10-Dec-2020 16:10	124SMPL.d_5873820	AG AL AS BA BE CD CO CR FE K MG MN NI PB SB SE TL V ZN
ZZZZZZMS	1	10-Dec-2020 16:12	125SMPL.d_5873674	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZMSD	1	10-Dec-2020 16:14	126SMPL.d_5873675	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZPDS	1	10-Dec-2020 16:16	127SMPL.d_5873676	AG AL AS BA BE CD CO CR FE K MG MN NI PB SB SE TL V ZN
MBLK-160306	1	10-Dec-2020 16:18	128SMPL.d_5873677	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 2	1	10-Dec-2020 16:26	131_CCV.d_5873680	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 2	1	10-Dec-2020 16:28	132_CCB.d_5873681	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LH18/24-SP650_112420	1	10-Dec-2020 16:34	134SMPL.d_5873744	AG AL AS BA BE CA CD CO CR FE K MG MN NI PB SB SE TL V ZN
LH18/24-SP650_112420	10	10-Dec-2020 16:50	141SMPL.d_5873750	NA
CCV 3	1	10-Dec-2020 16:54	143_CCV.d_5873752	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 3	1	10-Dec-2020 16:56	144_CCB.d_5873753	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN

ALS Houston, US Date: 26-Jan-21

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260
Start Date: 11-Dec-2020 End Date: 11-Dec-2020

Run ID:ICPMS04_374425
Instrument:ICPMS04
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS04_374425_Tune	1	11-Dec-2020 00:00	ICPMS04_374425_Tune_1	
CAL BLK	1	11-Dec-2020 11:58	017CALB.d_5875228	AL CA NA
2/10/200	1	11-Dec-2020 12:00	018CALS.d_5875229	AL CA NA
5/25/500	1	11-Dec-2020 12:02	019CALS.d_5875230	AL CA NA
10/50/1000	1	11-Dec-2020 12:04	020CALS.d_5875231	AL CA NA
100/500/10K	1	11-Dec-2020 12:06	021CALS.d_5875232	AL CA NA
200/1000/20K	1	11-Dec-2020 12:08	022CALS.d_5875233	AL CA NA
ICV	1	11-Dec-2020 12:13	024_ICV.d_5875235	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV2	1	11-Dec-2020 12:15	025LCV2.d_5875236	AL CA NA
LLICV5	1	11-Dec-2020 12:18	026LCV5.d_5875237	AL CA NA
ICB	1	11-Dec-2020 12:20	027_ICB.d_5875238	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	11-Dec-2020 12:23	028ICSA.d_5875239	AL CA NA
ICSAB	1	11-Dec-2020 12:25	029ICSB.d_5875240	AL CA NA
ZZZZZZSD	50	11-Dec-2020 12:34	033SMPL.d_5876317	CA NA
ZZZZZZPDS	10	11-Dec-2020 12:36	034SMPL.d_5876318	CA NA
CCV 1	1	11-Dec-2020 12:40	035_CCV.d_5876319	AL CA NA
CCB 1	1	11-Dec-2020 12:42	036_CCB.d_5876320	AL CA NA
LCS-160306	1	11-Dec-2020 12:53	040SMPL.d_5876321	AL
CCV 2	1	11-Dec-2020 13:09	047_CCV.d_5876314	AL CA NA
CCB 2	1	11-Dec-2020 13:11	048_CCB.d_5876315	AL CA NA
CCV 3	1	11-Dec-2020 15:35	096_CCV.d_5876804	AL CA NA
CCB 3	1	11-Dec-2020 15:37	097_CCB.d_5876805	AL CA NA
CCV 4	1	11-Dec-2020 16:10	108_CCV.d_5876811	AL CA NA
CCB 4	1	11-Dec-2020 16:12	109_CCB.d_5876812	AL CA NA

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Run ID: HG03_374335
Instrument: HG03
Method: SW7470

ICCV1 Date: 10-Dec-2020 11:27 Seq: 5872519 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.08	102	90-110	

ICV Date: 10-Dec-2020 11:29 Seq: 5872520 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.14	103	90-110	

CCV2 Date: 10-Dec-2020 12:03 Seq: 5872624 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	4.96	99	90-110	

CCV3 Date: 10-Dec-2020 12:23 Seq: 5872635 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	4.93	99	90-110	

CCV4 Date: 10-Dec-2020 12:48 Seq: 5872911 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.28	106	90-110	

CCV5 Date: 10-Dec-2020 13:32 Seq: 5872909 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.02	100	90-110	

CCV6 Date: 10-Dec-2020 14:07 Seq: 5873312 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.26	105	90-110	

CCV7 Date: 10-Dec-2020 14:35 Seq: 5873324 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.02	100	90-110	

CCV8 Date: 10-Dec-2020 15:09 Seq: 5873363 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.19	104	90-110	

CCV9 Date: 10-Dec-2020 15:53 Seq: 5873448 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	4.93	99	90-110	

CCV10 Date: 10-Dec-2020 16:03 Seq: 5873454 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.1	102	90-110	

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Run ID: ICPMS04_374333
Instrument: ICPMS04
Method: SW6020

ICV Date: 10-Dec-2020 11:32 Seq: 5872497 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	99.266	99	90-110	
Antimony	100	98.946	99	90-110	
Arsenic	100	99.893	100	90-110	
Barium	100	99.655	100	90-110	
Beryllium	100	99.411	99	90-110	
Cadmium	100	98.965	99	90-110	
Calcium	10000	9926.409	99	90-110	
Chromium	100	98.886	99	90-110	
Cobalt	100	96.768	97	90-110	
Iron	10000	10091.234	101	90-110	
Lead	100	93.653	94	90-110	
Magnesium	10000	10049.978	100	90-110	
Manganese	100	100.643	101	90-110	
Nickel	100	100.97	101	90-110	
Potassium	10000	10083.492	101	90-110	
Selenium	100	103.611	104	90-110	
Silver	100	101.742	102	90-110	
Sodium	10000	9975.204	100	90-110	
Thallium	100	94.847	95	90-110	
Vanadium	100	98.233	98	90-110	
Zinc	100	99.38	99	90-110	

CCV1 Date: 10-Dec-2020 15:58 Seq: 5873669 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	106.161	106	90-110	
Antimony	100	103.569	104	90-110	
Arsenic	100	100.793	101	90-110	
Barium	100	103.611	104	90-110	
Beryllium	100	103.508	104	90-110	
Cadmium	100	101.27	101	90-110	
Calcium	10000	10501.685	105	90-110	
Chromium	100	99.273	99	90-110	
Cobalt	100	95.864	96	90-110	
Iron	10000	10351.177	104	90-110	
Lead	100	98.47	99	90-110	
Magnesium	10000	10673.895	107	90-110	
Manganese	100	102.606	103	90-110	
Nickel	100	99.147	99	90-110	
Potassium	10000	10572.397	106	90-110	
Selenium	100	105.766	106	90-110	
Silver	100	101.915	102	90-110	
Sodium	10000	10756.778	108	90-110	
Thallium	100	99.591	100	90-110	
Vanadium	100	99.295	99	90-110	
Zinc	100	103.208	103	90-110	

CCV2 Date: 10-Dec-2020 16:26 Seq: 5873680 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	103.138	103	90-110	
Antimony	100	102.817	103	90-110	
Arsenic	100	101.655	102	90-110	
Barium	100	103.755	104	90-110	
Beryllium	100	103.662	104	90-110	
Cadmium	100	101.344	101	90-110	
Calcium	10000	10351.68	104	90-110	

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Run ID: ICPMS04_374333
Instrument: ICPMS04
Method: SW6020

CCV2	Date: 10-Dec-2020 16:26		Seq: 5873680	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Chromium	100	100.377	100	90-110	
Cobalt	100	97.343	97	90-110	
Iron	10000	10428.933	104	90-110	
Lead	100	98.919	99	90-110	
Magnesium	10000	10648.668	106	90-110	
Manganese	100	102.515	103	90-110	
Nickel	100	100.425	100	90-110	
Potassium	10000	10618.795	106	90-110	
Selenium	100	107.494	107	90-110	
Silver	100	103.073	103	90-110	
Sodium	10000	10518.681	105	90-110	
Thallium	100	98.864	99	90-110	
Vanadium	100	100.127	100	90-110	
Zinc	100	100.52	101	90-110	

CCV3	Date: 10-Dec-2020 16:54		Seq: 5873752	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	104.361	104	90-110	
Antimony	100	103.04	103	90-110	
Arsenic	100	101.044	101	90-110	
Barium	100	103.229	103	90-110	
Beryllium	100	103.045	103	90-110	
Cadmium	100	100.836	101	90-110	
Calcium	10000	10381.164	104	90-110	
Chromium	100	99.854	100	90-110	
Cobalt	100	96.535	97	90-110	
Iron	10000	10312.907	103	90-110	
Lead	100	97.634	98	90-110	
Magnesium	10000	10417.532	104	90-110	
Manganese	100	102.917	103	90-110	
Nickel	100	98.309	98	90-110	
Potassium	10000	10464.312	105	90-110	
Selenium	100	106.664	107	90-110	
Silver	100	101.676	102	90-110	
Sodium	10000	10535.226	105	90-110	
Thallium	100	98.163	98	90-110	
Vanadium	100	99.156	99	90-110	
Zinc	100	101.501	102	90-110	

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Run ID: ICPMS04_374425
Instrument: ICPMS04
Method: SW6020

ICV	Date: 11-Dec-2020 12:13		Seq: 5875235	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	105.002	105	90-110	
Calcium	10000	10527.967	105	90-110	
Sodium	10000	10442.27	104	90-110	

CCV1	Date: 11-Dec-2020 12:40		Seq: 5876319	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	104.122	104	90-110	
Calcium	10000	10302.959	103	90-110	
Sodium	10000	10264.988	103	90-110	

CCV2	Date: 11-Dec-2020 13:09		Seq: 5876314	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	101.063	101	90-110	
Calcium	10000	9901.665	99	90-110	
Sodium	10000	9947.529	100	90-110	

CCV3	Date: 11-Dec-2020 15:35		Seq: 5876804	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	97.412	97	90-110	
Calcium	10000	9804.439	98	90-110	
Sodium	10000	9886.932	99	90-110	

CCV4	Date: 11-Dec-2020 16:10		Seq: 5876811	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	98.139	98	90-110	
Calcium	10000	9826.912	98	90-110	
Sodium	10000	9903.873	99	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Run ID: HG03_374335
Instrument: HG03
Method: SW7470

ICB	Date: 10-Dec-2020 11:30		Seq: 5872521	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB1	Date: 10-Dec-2020 12:05		Seq: 5872625	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB2	Date: 10-Dec-2020 12:25		Seq: 5872636	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB3	Date: 10-Dec-2020 12:50		Seq: 5872912	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB4	Date: 10-Dec-2020 13:33		Seq: 5872910	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

MBLK-160524	Date: 10-Dec-2020 13:50		Seq: 5873307	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB5	Date: 10-Dec-2020 14:09		Seq: 5873313	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB6	Date: 10-Dec-2020 14:37		Seq: 5873325	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB7	Date: 10-Dec-2020 15:11		Seq: 5873364	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB8	Date: 10-Dec-2020 15:55		Seq: 5873449	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB9	Date: 10-Dec-2020 16:05		Seq: 5873455	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Run ID: ICPMS04_374333
Instrument: ICPMS04
Method: SW6020

ICB	Date: 10-Dec-2020 11:29		Seq: 5872496	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	5	0.4	5	U	
Arsenic	5	0.4	5	U	
Barium	5	1.9	5	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	5	0.4	5	U	
Cobalt	5	0.1	5	U	
Iron	200	12	200	U	
Lead	5	0.6	5	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	5	0.6	5	U	
Potassium	200	18	200	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	
Sodium	200	14	200	U	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	5	2	5	U	

CCB1	Date: 10-Dec-2020 16:00		Seq: 5873670	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.79	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	72.71	14	200	J	
Thallium	0.219	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

MBLK-160306	Date: 10-Dec-2020 16:18		Seq: 5873677	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	7.427	1.8	10	J	
Antimony	2.151	0.4	5	J	
Arsenic	5	0.4	5	U	
Barium	5	1.9	5	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Run ID: ICPMS04_374333
Instrument: ICPMS04
Method: SW6020

MBLK-160306	Date: 10-Dec-2020 16:18		Seq: 5873677	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Chromium	5	0.4	5	U	
Cobalt	5	0.1	5	U	
Iron	200	12	200	U	
Lead	5	0.6	5	U	
Magnesium	18.93	10	200	J	
Manganese	5	0.7	5	U	
Nickel	5	0.6	5	U	
Potassium	200	18	200	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	
Sodium	148.5	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	5	2	5	U	

CCB2	Date: 10-Dec-2020 16:28		Seq: 5873681	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	2.585	1.8	10	J	
Antimony	0.935	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	52.71	14	200	J	
Thallium	0.22	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB3	Date: 10-Dec-2020 16:56		Seq: 5873753	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.79	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	

ALS Houston, US Date: 26-Jan-21

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Run ID: ICPMS04_374333
Instrument: ICPMS04
Method: SW6020

CCB3 Date: 10-Dec-2020 16:56 Seq: 5873753 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	186.2	14	200	J
Thallium	0.229	0.2	2	J
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Run ID: ICPMS04_374425
Instrument: ICPMS04
Method: SW6020

ICB	Date: 11-Dec-2020 12:20		Seq: 5875238	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Calcium	500	34	500	U	
Sodium	200	14	200	U	

CCB1	Date: 11-Dec-2020 12:42		Seq: 5876320	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Calcium	500	34	500	U	
Sodium	200	14	200	U	

CCB2	Date: 11-Dec-2020 13:11		Seq: 5876315	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Calcium	500	34	500	U	
Sodium	19.6	14	200	J	

CCB3	Date: 11-Dec-2020 15:37		Seq: 5876805	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Calcium	500	34	500	U	
Sodium	79.26	14	200	J	

CCB4	Date: 11-Dec-2020 16:12		Seq: 5876812	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Calcium	500	34	500	U	
Sodium	70.6	14	200	J	

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS04_374333

Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument:ICPMS04

WorkOrder: HS20111260 Method:SW6020

ICSA	Date: 10-Dec-2020 11:34	Seq: 5872498	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	101500	101	
Antimony		0.794	0	
Arsenic		0.119	0	
Barium		0.123	0	
Beryllium		0.041	0	
Cadmium		2.213	0	
Calcium	100000	105200	105	
Chromium		0.954	0	
Cobalt		0.215	0	
Iron	100000	104900	105	
Lead		0.129	0	
Magnesium	100000	105300	105	
Manganese		0.306	0	
Nickel		0.22	0	
Potassium	100000	104600	105	
Selenium		0.371	0	
Silver		0.045	0	
Sodium	100000	105500	105	
Thallium		0.156	0	
Vanadium		-0.409	0	
Zinc		0.606	0	

ICSAB	Date: 10-Dec-2020 11:36	Seq: 5872499	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	98860	98.4	
Antimony	100	103.5	103	
Arsenic	100	104.7	105	
Barium	100	104.4	104	
Beryllium	100	97.55	97.5	
Cadmium	100	103.5	103	
Calcium	110000	113100	103	
Chromium	100	100.2	100	
Cobalt	100	96.18	96.2	
Iron	110000	112600	102	
Lead	100	100.4	100	
Magnesium	110000	112200	102	
Manganese	100	100.5	100	
Nickel	100	98.01	98.0	
Potassium	110000	112300	102	
Selenium	100	109.6	110	
Silver	100	93.15	93.1	
Sodium	110000	114700	104	
Thallium	100	104.2	104	
Vanadium	100	101.2	101	
Zinc	100	100.2	100	

ALS Houston, US Date: 26-Jan-21

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS04_374425
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument:ICPMS04
WorkOrder: HS20111260 Method:SW6020

ICSA	Date: 11-Dec-2020 12:23	Seq: 5875239	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	101000	101	
Calcium	100000	105600	106	
Sodium	100000	104700	105	

ICSAB	Date: 11-Dec-2020 12:25	Seq: 5875240	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	98220	97.7	
Calcium	110000	115200	105	
Sodium	110000	113000	103	

ALS Houston, US Date: 26-Jan-21

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Date Analyzed: 10-Dec-2020 13:57
Date Extracted: 09-Dec-2020 11:45
Units: ug/L

Matrix Spike: HS20111258-01MS
Client Sample ID:

Analysis Method: SW7470

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Mercury	0.2000	4.920	5.000	98.8	4.710	5.000	94.6	82-119	4.36	20

ALS Houston, US Date: 26-Jan-21

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Date Analyzed: 10-Dec-2020 16:14
Date Extracted: 03-Dec-2020 15:00
Units: ug/L

Matrix Spike: HS20111258-01MS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Aluminum	124.2	205.9	100.0	81.8	208.8	100.0	84.6	84-117	1.39	20
Antimony	0.8790	46.25	50.00	90.7	46.82	50.00	91.9	85-117	1.22	20
Arsenic	0.8110	47.10	50.00	92.6	47.23	50.00	92.8	84-116	0.290	20
Barium	662.7	663.3	50.00	1.25	664.2	50.00	3.10	86-114	0.139	20
Beryllium	2.000	47.59	50.00	94.9	46.55	50.00	92.8	83-121	2.20	20
Cadmium	0.3610	46.20	50.00	91.7	44.77	50.00	88.8	87-115	3.13	20
Calcium	36180	38650	5000	49.4	37970	5000	35.7	87-118	1.79	20
Chromium	2.484	45.95	50.00	86.9	45.88	50.00	86.8	85-116	0.168	20
Cobalt	4.591	46.79	50.00	84.4	46.75	50.00	84.3	86-115	0.0748	20
Iron	797.7	5258	5000	89.2	5250	5000	89.0	87-118	0.157	20
Lead	5.000	42.67	50.00	84.8	42.90	50.00	85.2	88-115	0.554	20
Magnesium	24820	28040	5000	64.4	27720	5000	57.9	83-118	1.17	20
Manganese	352.0	380.9	50.00	57.7	373.5	50.00	43.1	87-115	1.95	20
Nickel	13.24	54.90	50.00	83.3	54.40	50.00	82.3	85-117	0.913	20
Potassium	1415	6115	5000	94.0	6076	5000	93.2	87-115	0.642	20
Selenium	5.000	49.20	50.00	97.6	48.71	50.00	96.6	80-120	0.991	20
Silver	5.000	38.65	50.00	77.3	37.80	50.00	75.6	85-116	2.23	20
Sodium	179700	173500	5000	-125	172600	5000	-143	85-117	0.534	20
Thallium	0.2410	41.85	50.00	83.2	42.31	50.00	84.1	82-116	1.09	20
Vanadium	5.000	45.50	50.00	89.9	44.88	50.00	88.7	86-115	1.37	20
Zinc	156.6	192.6	50.00	72.1	190.2	50.00	67.3	83-119	1.25	20

ALS Houston, US

Date: 26-Jan-21

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Date Analyzed: 10-Dec-2020 16:16
Date Extracted: 03-Dec-2020 15:00
Units: ug/L

Lab Sample ID: HS20111258-01PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Aluminum	124.2	235.8	100	112	80-120
Antimony	0.879	102.6	100	102	80-120
Arsenic	0.811	113.4	100	113	80-120
Barium	662.7	783.2	100	120	80-120
Beryllium	0	110.9	100	111	80-120
Cadmium	0.361	108.5	100	108	80-120
Chromium	2.484	109.3	100	107	80-120
Cobalt	4.591	106	100	101	80-120
Iron	797.7	11710	10000	109	80-120
Lead	0	103.1	100	103	80-120
Magnesium	24820	36220	10000	114	80-120
Manganese	352	469.5	100	118	80-120
Nickel	13.24	114.9	100	102	80-120
Potassium	1415	12740	10000	113	80-120
Selenium	0	115.7	100	115	80-120
Silver	0	102.7	100	103	80-120
Thallium	0.241	104.6	100	104	80-120
Vanadium	0	109.1	100	109	80-120
Zinc	156.6	265.4	100	109	80-120

ALS Houston, US

Date: 26-Jan-21

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Date Analyzed: 11-Dec-2020 12:36
Date Extracted: 03-Dec-2020 15:00
Units: ug/L

Lab Sample ID: HS20111258-01PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Calcium	35520	138500	100000	103	80-120
Sodium	173200	271300	100000	98	80-120

ALS Houston, US

Date: 26-Jan-21

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Date Analyzed: 10-Dec-2020 13:52
Date Extracted: 09-Dec-2020 11:45
Units: ug/L

Lab Sample ID: LCS-160524
Analysis Method: SW7470

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Mercury	5	4.93	99	82-119

ALS Houston, US Date: 26-Jan-21

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Date Analyzed: 10-Dec-2020 16:06
Date Extracted: 03-Dec-2020 15:00
Units: ug/L

Lab Sample ID: LCS-160306 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Antimony	50	52.97	106	85-117
Arsenic	50	53.06	106	84-116
Barium	50	52.64	105	86-114
Beryllium	50	52.72	105	83-121
Cadmium	50	53.41	107	87-115
Calcium	5000	5193	104	87-118
Chromium	50	51.45	103	85-116
Cobalt	50	50.81	102	86-115
Iron	5000	5353	107	87-118
Lead	50	50.6	101	88-115
Magnesium	5000	5712	114	83-118
Manganese	50	52.85	106	87-115
Nickel	50	52.31	105	85-117
Potassium	5000	5611	112	87-115
Selenium	50	55.55	111	80-120
Silver	50	46.14	92	85-116
Sodium	5000	5577	112	85-117
Thallium	50	53.48	107	82-116
Vanadium	50	51.1	102	86-115
Zinc	50	56.13	112	83-119

ALS Houston, US

Date: 26-Jan-21

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Date Analyzed: 11-Dec-2020 12:53
Date Extracted: 03-Dec-2020 15:00
Units: ug/L

Lab Sample ID: LCS-160306
Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Aluminum	100	107.2	107	84-117

ALS Houston, US Date: 26-Jan-21

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Date Analyzed: 10-Dec-2020 16:10
Date Extracted: 03-Dec-2020 15:00
Units: ug/L

Lab Sample ID: HS20111258-01SD
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	C	SD Result	C	RPD	Q
Aluminum	124.2		144.2		16	E
Antimony	0.879	J	0	U	0	
Arsenic	0.811	J	0	U	0	
Barium	662.7		642.6		3	
Beryllium	0	U	0	U	0	
Cadmium	0.361	J	0	U	0	
Chromium	2.484	J	2.636	J	6	
Cobalt	4.591	J	4.895	J	7	
Iron	797.7		790.8	J	1	
Lead	0	U	0	U	0	
Magnesium	24820		25500		3	
Manganese	352		343.6		2	
Nickel	13.24		14.24	J	8	
Potassium	1415		1467		4	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	
Thallium	0.241	J	0	U	0	
Vanadium	0	U	0	U	0	
Zinc	156.6		158.1		1	

ALS Houston, US

Date: 26-Jan-21

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20111260

Date Analyzed: 11-Dec-2020 12:34
Date Extracted: 03-Dec-2020 15:00
Units: ug/L

Lab Sample ID: HS20111258-01SD
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	C	SD Result	C	RPD	Q
Calcium	35520		38750		9	
Sodium	173200		187600		8	

Report Generated By Teledyne Leeman QuickTrace

Analyst: ALSHS.NoUser

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\Worksheets\12102020AW.wszf

Creation Date: 12/10/2020 9:36:25 AM

Comment:

Results

Sample Name		Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
Calibration Blank		STD	12/10/20 11:14:55 am	0.000	131	12.33	11.81	
Replicates	138.1	115.8	120.0	150.5				
Standard #1 (0.2 ppb)		STD	12/10/20 11:16:36 am	0.200	1154	1.26	-6.06	
Replicates	1161.1	1136.3	1149.6	1170.1				
Standard #2 (0.5 ppb)		STD	12/10/20 11:18:18 am	0.500	2601	3.15	-48.52	
Replicates	2499.4	2571.1	2657.1	2677.1				
Standard #3 (2.0 ppb)		STD	12/10/20 11:20:00 am	2.000	11252	1.33	-8.77	
Replicates	11055.3	11227.9	11317.7	11405.7				
Standard #4 (5.0 ppb)		STD	12/10/20 11:21:42 am	5.000	28963	0.87	143.86	
Replicates	28689.2	28862.2	29019.4	29282.4				
Standard #5 (10.0 ppb)		STD	12/10/20 11:23:24 am	10.000	55835	0.55	-72.98	
Replicates	55383.1	55890.6	56017.9	56050.4				

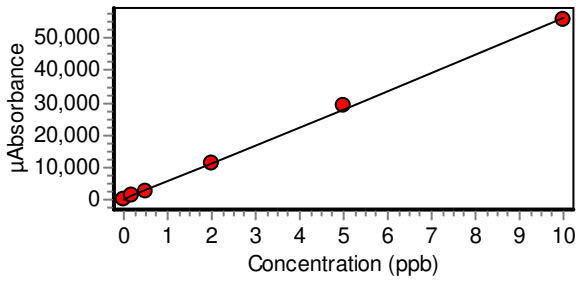
Calibration

Equation: Abs = 5618.077x + 64.717

R2: 0.99963

SEE: 475.2958

Flags:



ICCV		UNK	12/10/20 11:27:19 am	5.080	28587	0.18		
Replicates	28641.5	28609.6	28573.8	28524.8				
ICV		UNK	12/10/20 11:29:00 am	5.140	28951	0.25		
Replicates	28846.8	28963.7	28989.7	29004.4				
ICB		UNK	12/10/20 11:30:41 am	-0.008	85	55.41		s
Replicates	102.3	107.7	79.4	52.2				
CRA		UNK	12/10/20 11:32:23 am	0.184	1160	2.13		
Replicates	1165.0	1131.2	1160.4	1184.2				
MBLK-160523		UNK	12/10/20 11:37:25 am	-0.023	4	11.02		
Replicates	21.8	9.4	-6.3	-7.6				
LCS-160523		UNK	12/10/20 11:42:12 am	4.880	27470	0.44		
Replicates	27307.1	27466.8	27510.3	27596.3				
HS20120246-01		UNK	12/10/20 11:46:07 am	-0.029	-31	19.97		
Replicates	-18.3	-12.0	-13.5	-79.0				

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS20120246-01MS					UNK	12/10/20 11:47:49 am	3.780	21337	1.68		
Replicates	20926.4	21179.5	21505.3	21736.3							
HS20120246-01MSD					UNK	12/10/20 11:49:31 am	3.970	22377	1.95		
Replicates	21867.4	22212.6	22550.8	22877.3							
HS20120246-02					UNK	12/10/20 11:51:14 am	-0.030	-37	7.68		
Replicates	-41.8	-39.7	-47.7	-18.2							
CCV					UNK	12/10/20 12:03:23 pm	4.960	27943	0.32		
Replicates	27872.6	28034.2	28003.7	27860.9							
CCB					UNK	12/10/20 12:05:06 pm	-0.016	40	18.00		
Replicates	52.8	39.2	16.7	50.2							
HS20120246-03					UNK	12/10/20 12:06:48 pm	-0.018	30	28.12		
Replicates	47.2	-5.8	57.5	19.3							
HS20120246-04					UNK	12/10/20 12:08:31 pm	-0.010	73	44.73		s
Replicates	41.3	69.8	75.0	105.0							
HS20120246-05					UNK	12/10/20 12:10:12 pm	0.000	134	252.08		s
Replicates	133.7	124.3	140.0	137.3							
HS20120246-06					UNK	12/10/20 12:11:53 pm	-0.017	38	18.40		
Replicates	37.4	16.4	57.6	42.4							
HS20120246-07					UNK	12/10/20 12:13:34 pm	-0.020	20	14.00		
Replicates	13.3	22.2	3.9	40.4							
HS20120246-08					UNK	12/10/20 12:15:15 pm	-0.028	-24	15.24		
Replicates	-17.1	-0.8	-56.8	-20.8							
HS20120412-01					UNK	12/10/20 12:18:38 pm	0.070	522	5.37		s
Replicates	508.6	501.6	546.9	532.7							
HS20120451-01					UNK	12/10/20 12:20:20 pm	0.076	557	4.95		
Replicates	542.7	546.3	588.0	549.8							
HS20120451-02					UNK	12/10/20 12:22:02 pm	0.014	208	44.64		s
Replicates	203.1	165.6	213.9	248.9							
CCV					UNK	12/10/20 12:23:44 pm	4.930	27778	1.42		
Replicates	27322.3	27633.5	27909.0	28246.5							
CCB					UNK	12/10/20 12:25:28 pm	-0.020	19	14.72		
Replicates	31.9	21.7	-4.3	28.7							
MBLK-160522					UNK	12/10/20 12:28:59 pm	-0.022	5	13.74		
Replicates	18.6	15.3	-19.8	5.0							
LCS-160522					UNK	12/10/20 12:30:41 pm	4.950	27881	1.46		
Replicates	27426.7	27711.3	28020.3	28367.5							
HS20111309-09					UNK	12/10/20 12:32:23 pm	0.003	150	93.80		s
Replicates	175.1	142.9	149.6	133.1							

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS20111309-09MS				UNK	12/10/20 12:34:06 pm	4.990	28102	1.51		
Replicates	27597.0	27951.3	28284.6	28574.1						
HS20111309-09MSD				UNK	12/10/20 12:35:48 pm	4.800	27036	1.60		
Replicates	26536.8	26880.0	27184.0	27544.3						
HS20111309-01				UNK	12/10/20 12:37:30 pm	-0.027	-21	12.92		
Replicates	-22.0	-20.9	3.9	-44.1						
HS20111309-02				UNK	12/10/20 12:39:11 pm	-0.031	-43	8.42		
Replicates	-33.7	-64.2	-32.4	-43.2						
HS20111309-03				UNK	12/10/20 12:40:52 pm	-0.019	22	4.62		
Replicates	27.3	17.5	18.0	25.5						
HS20111309-04				UNK	12/10/20 12:42:33 pm	-0.026	-17	30.70		
Replicates	-25.9	-64.2	45.1	-22.4						
HS20111309-05				UNK	12/10/20 12:44:15 pm	-0.025	-9	12.99		
Replicates	10.9	-5.9	-7.7	-33.2						
CCV				UNK	12/10/20 12:48:33 pm	5.280	29744	0.31		
Replicates	29629.7	29713.5	29791.0	29840.0						
CCB				UNK	12/10/20 12:50:16 pm	-0.023	2	11.02		
Replicates	-4.5	9.7	-14.3	17.5						
HS20111309-06				UNK	12/10/20 12:51:57 pm	-0.027	-21	13.19		
Replicates	-49.6	-7.8	-6.6	-19.1						
HS20111309-07				UNK	12/10/20 12:53:39 pm	-0.028	-28	9.42		
Replicates	-8.9	-45.2	-30.2	-26.2						
HS20111309-08				UNK	12/10/20 12:55:21 pm	-0.025	-7	23.08		
Replicates	26.4	-0.2	-3.4	-50.2						
HS20111309-10				UNK	12/10/20 12:57:03 pm	0.003	149	75.43		s
Replicates	131.1	147.6	154.9	163.4						
HS20111309-12				UNK	12/10/20 12:58:46 pm	0.000	131	101.52		s
Replicates	105.5	147.9	140.6	130.1						
HS20120269-01				UNK	12/10/20 01:00:28 pm	-0.032	-47	5.33		
Replicates	-45.9	-59.4	-36.4	-45.4						
HS20120289-01				UNK	12/10/20 01:02:11 pm	-0.028	-25	17.35		
Replicates	-41.9	-29.9	-41.4	15.1						
HS20120292-03				UNK	12/10/20 01:03:52 pm	-0.029	-34	20.86		
Replicates	-83.2	-2.8	-22.8	-27.3						
HS20120292-04				UNK	12/10/20 01:05:33 pm	-0.028	-23	10.05		
Replicates	-24.8	-1.1	-33.3	-34.6						
HS20120292-05				UNK	12/10/20 01:07:14 pm	-0.028	-25	10.10		
Replicates	-25.9	-37.1	-2.6	-34.8						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
CCV					UNK	12/10/20 01:32:02 pm	5.020	28263	1.74		
	Replicates	27701.4	28072.4	28429.7	28847.9						
CCB					UNK	12/10/20 01:33:45 pm	-0.016	43	13.08		
	Replicates	60.0	41.1	34.1	38.3						
HS20111309-12					UNK	12/10/20 01:39:09 pm	-0.003	115	205.06		s
	Replicates	114.8	125.0	71.3	149.5						
HS20120297-01					UNK	12/10/20 01:40:50 pm	-0.028	-28	16.74		
	Replicates	-0.6	-38.9	-13.4	-60.4						
HS20120297-02					UNK	12/10/20 01:42:32 pm	-0.024	-4	20.09		
	Replicates	-18.5	-29.5	0.0	32.5						
HS20120297-03					UNK	12/10/20 01:44:14 pm	-0.021	10	25.71		
	Replicates	41.7	-15.8	32.5	-16.8						
HS20120405-01					UNK	12/10/20 01:45:56 pm	-0.030	-38	17.80		
	Replicates	-67.2	-25.7	-57.5	-1.4						
MBLK-160524					UNK	12/10/20 01:50:59 pm	-0.029	-30	17.22		
	Replicates	-48.7	11.1	-41.0	-43.0						
LCS-160524					UNK	12/10/20 01:52:41 pm	4.930	27772	1.37		
	Replicates	27335.2	27626.2	27910.7	28216.9						
HS20111258-01					UNK	12/10/20 01:54:24 pm	-0.022	10	10.44		
	Replicates	12.1	-4.7	25.8	7.0						
HS20111258-01MS					UNK	12/10/20 01:56:06 pm	4.920	27741	0.71		
	Replicates	27484.3	27723.2	27806.9	27949.2						
HS20111258-01MSD					UNK	12/10/20 01:57:49 pm	4.710	26536	1.36		
	Replicates	26113.3	26401.7	26678.9	26948.7						
CCV					UNK	12/10/20 02:07:51 pm	5.260	29606	0.38		
	Replicates	29462.3	29582.6	29648.8	29730.1						
CCB					UNK	12/10/20 02:09:34 pm	-0.014	54	26.46		s
	Replicates	82.3	55.3	38.0	40.3						
HS20111260-01					UNK	12/10/20 02:11:16 pm	-0.027	-20	18.93		
	Replicates	-47.0	-8.6	-40.1	14.6						
MBLK-160525					UNK	12/10/20 02:18:46 pm	-0.029	-31	16.06		
	Replicates	-7.2	-37.5	-15.0	-65.3						
LOQ-160525					UNK	12/10/20 02:20:27 pm	0.183	1157	1.88		
	Replicates	1144.8	1138.0	1179.5	1167.0						
LCS-160525					UNK	12/10/20 02:22:09 pm	5.010	28207	0.51		
	Replicates	28023.8	28167.3	28298.3	28337.1						
LCSD-160525					UNK	12/10/20 02:23:50 pm	5.000	28177	0.26		
	Replicates	28074.1	28176.9	28225.9	28229.7						

Sample Name		Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS20120377-02		UNK	12/10/20 02:25:32 pm	-0.033	-51	15.03		
Replicates	-36.0	-79.8	-21.1	-68.3				
HS20120377-02MS		UNK	12/10/20 02:27:14 pm	4.820	27165	1.45		
Replicates	26701.2	27033.4	27304.9	27618.9				
HS20120377-02MSD		UNK	12/10/20 02:28:56 pm	4.960	27915	0.34		
Replicates	27788.5	27912.9	27947.7	28011.9				
HS20120377-01		UNK	12/10/20 02:30:38 pm	-0.021	12	14.82		
Replicates	-11.3	22.2	7.2	28.4				
HS20120377-03		UNK	12/10/20 02:32:20 pm	-0.029	-31	17.52		
Replicates	-32.6	-69.9	-17.5	-4.2				
CCV		UNK	12/10/20 02:35:44 pm	5.020	28298	1.62		
Replicates	27763.9	28146.9	28440.7	28840.2				
CCB		UNK	12/10/20 02:37:27 pm	-0.023	2	25.10		
Replicates	-32.9	-0.6	-3.1	45.5				
HS20120344-11		UNK	12/10/20 02:39:10 pm	-0.019	27	24.24		
Replicates	-7.1	29.5	54.0	31.3				
HS20120344-12		UNK	12/10/20 02:40:52 pm	-0.022	6	22.92		
Replicates	27.1	34.4	-13.6	-22.6				
HS20120344-13		UNK	12/10/20 02:42:34 pm	-0.024	-1	16.00		
Replicates	-13.8	-24.9	15.1	17.8				
HS20120344-14		UNK	12/10/20 02:44:16 pm	-0.026	-14	12.17		
Replicates	-36.3	-11.5	-15.5	6.8				
HS20120344-15		UNK	12/10/20 02:45:57 pm	-0.030	-35	7.40		
Replicates	-30.5	-52.2	-23.2	-34.9				
MBLK-160555		UNK	12/10/20 02:53:40 pm	-0.022	8	17.30		
Replicates	9.1	13.0	-21.5	29.8				
LCS-160555		UNK	12/10/20 02:55:22 pm	-0.019	23	6.95		
Replicates	15.8	17.3	31.0	27.5				
LCS-160555		UNK	12/10/20 03:00:46 pm	4.770	26851	2.15		
Replicates	26076.5	26769.9	27183.9	27374.7				
HS20120252-01		UNK	12/10/20 03:02:27 pm	0.097	676	1.63		
Replicates	667.5	672.2	677.2	688.2				
HS20120252-01MS		UNK	12/10/20 03:06:13 pm	4.740	26689	1.47		
Replicates	26208.4	26587.2	26824.4	27136.7				
HS20120252-01MSD		UNK	12/10/20 03:07:55 pm	5.110	28799	0.23		
Replicates	28753.7	28892.3	28798.3	28751.8				
CCV		UNK	12/10/20 03:09:38 pm	5.190	29228	0.26		
Replicates	29119.8	29233.1	29263.3	29295.1				

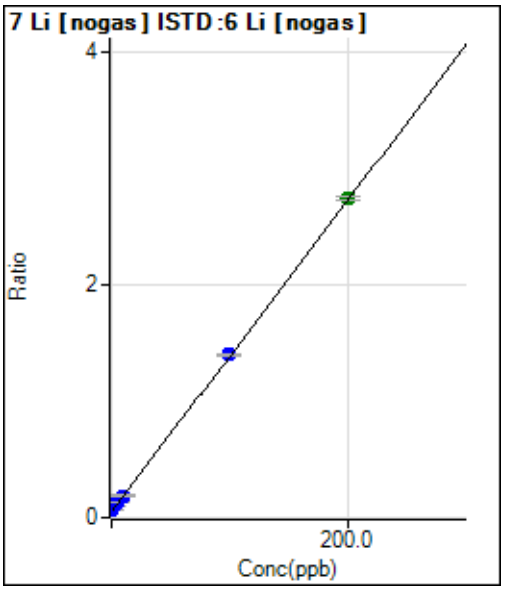
Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
CCB					UNK	12/10/20 03:11:21 pm	-0.018	31	18.20		
	Replicates	28.9	29.4	10.1	54.6						
HS20120331-01					UNK	12/10/20 03:22:31 pm	0.014	210	38.91		s
	Replicates	204.8	197.4	184.1	254.6						
HS20120418-01					UNK	12/10/20 03:24:13 pm	-0.021	14	27.31		
	Replicates	-8.8	-0.5	3.3	61.3						
HS20120445-13					UNK	12/10/20 03:25:56 pm	-0.027	-22	19.15		
	Replicates	-63.3	-17.8	-10.8	4.8						
MBLK-160557					UNK	12/10/20 03:31:32 pm	-0.026	-15	16.17		
	Replicates	-30.0	7.5	-40.2	2.5						
LCS-160557					UNK	12/10/20 03:35:18 pm	4.980	28031	2.37		
	Replicates	27147.7	27928.9	28380.4	28665.2						
HS20120484-01					UNK	12/10/20 03:36:59 pm	-0.021	12	18.93		
	Replicates	-11.6	41.8	2.6	13.6						
HS20120484-01MS					UNK	12/10/20 03:38:41 pm	4.610	26001	0.39		
	Replicates	25877.6	25977.9	26028.7	26118.4						
HS20120484-01MSD					UNK	12/10/20 03:40:23 pm	4.620	26038	0.40		
	Replicates	25900.9	26029.8	26072.5	26148.3						
HS20120062-01					UNK	12/10/20 03:42:05 pm	-0.025	-9	18.21		
	Replicates	-1.3	-42.9	-8.4	18.1						
HS20120136-01					UNK	12/10/20 03:43:47 pm	-0.009	83	23.48		s
	Replicates	73.7	93.8	71.8	90.8						
CCV					UNK	12/10/20 03:53:38 pm	4.930	27772	0.79		
	Replicates	27542.6	27674.9	27814.4	28054.2						
CCB					UNK	12/10/20 03:55:21 pm	-0.022	5	12.59		
	Replicates	10.8	0.8	22.6	-14.9						
HS20120136-02					UNK	12/10/20 03:57:03 pm	-0.011	68	39.53		s
	Replicates	46.2	97.8	79.3	48.8						
HS20120379-01					UNK	12/10/20 03:58:45 pm	-0.004	110	155.15		s
	Replicates	115.6	71.3	101.6	150.8						
HS20120484-02					UNK	12/10/20 04:00:27 pm	-0.019	26	19.12		
	Replicates	47.8	35.3	21.8	1.0						
HS20120484-03					UNK	12/10/20 04:02:09 pm	-0.016	43	5.84		
	Replicates	48.0	37.3	40.8	47.0						
CCV					UNK	12/10/20 04:03:52 pm	5.100	28741	0.32		
	Replicates	28627.6	28726.1	28757.3	28853.1						
CCB					UNK	12/10/20 04:05:35 pm	-0.018	28	17.40		
	Replicates	47.3	39.5	11.1	15.1						

Calibration for 257_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\121020A.b\
Analysis File: 121020A.batch.bin
DA Date-Time: 12/10/2020 10:11:45 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	247CALB.d	CAL BLK	12/10/2020 9:49:39 PM
2	248CALS.d	2/10/200	12/10/2020 9:51:41 PM
3	249CALS.d	5/25/500	12/10/2020 9:53:43 PM
4	250CALS.d	10/50/1000	12/10/2020 9:55:45 PM
5	251CALS.d	100/500/10K	12/10/2020 9:57:47 PM
6	252CALS.d	200/1000/20K	12/10/2020 9:59:46 PM
7			

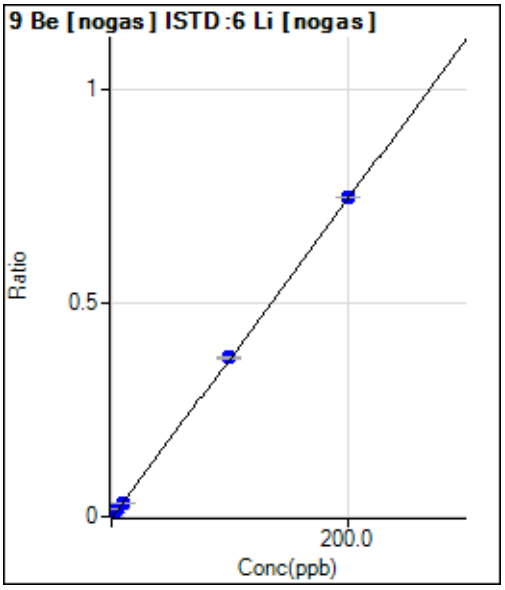
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	38905.03	0.0688	P	1.7	
2	☐	2.000	1.776	52170.19	0.0925	P	0.6	-11.
3	☐	5.000	4.468	72812.56	0.1286	P	1.0	-10.
4	☐	10.000	9.061	106284.76	0.1900	P	0.3	-9.4
5	☐	100.000	99.798	738885.04	1.4044	P	1.0	-0.2
6	☐	200.000	200.164	1340626.60	2.7477	A	1.7	0.1
7	☐	1.000						

y = 0.0134 * x + 0.0688
R = 1.0000
DL = 0.265 ppb
BEC = 5.138 ppb

Weight: <None>
Min Conc: <None>

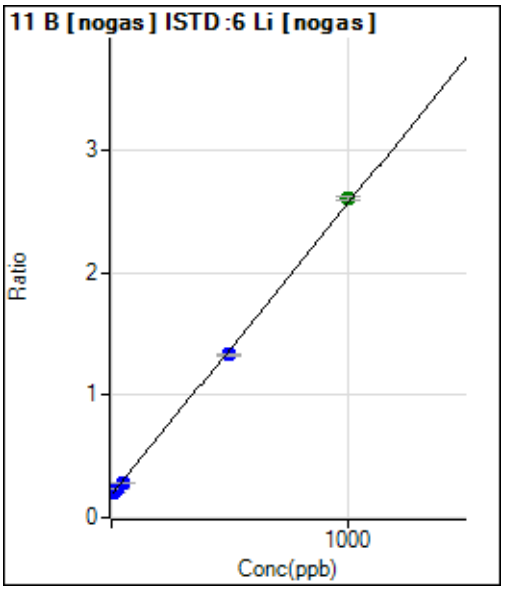


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0000	P	66.4	
2	☐	2.000	1.872	3962.12	0.0070	P	1.3	-6.4
3	☐	5.000	4.522	9589.18	0.0169	P	3.2	-9.6
4	☐	10.000	8.981	18786.12	0.0336	P	0.7	-10.
5	☐	100.000	99.763	196095.24	0.3727	P	1.4	-0.2
6	☐	200.000	200.183	364917.92	0.7479	P	0.5	0.1
7	☐	1.000						

y = 0.0037 * x + 3.5409E-005
R = 1.0000
DL = 0.01889 ppb
BEC = 0.009478 ppb

Weight: <None>
Min Conc: <None>

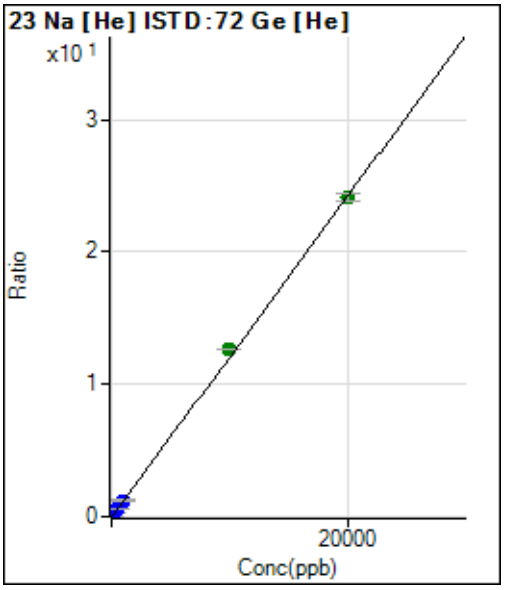
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	114124.67	0.2017	P	0.6	
2	☐	10.000	3.483	118390.71	0.2100	P	1.4	-65.
3	☐	25.000	14.956	134355.07	0.2372	P	1.4	-40.
4	☐	50.000	33.525	157323.63	0.2813	P	1.0	-32.
5	☐	500.000	475.176	699456.37	1.3295	P	1.7	-5.0
6	☐	1000.000	1013.552	1272096.65	2.6073	A	0.9	1.4
7	☐	5.000						

y = 0.0024 * x + 0.2017
R = 0.9996
DL = 1.511 ppb
BEC = 85 ppb

Weight: <None>
Min Conc: <None>

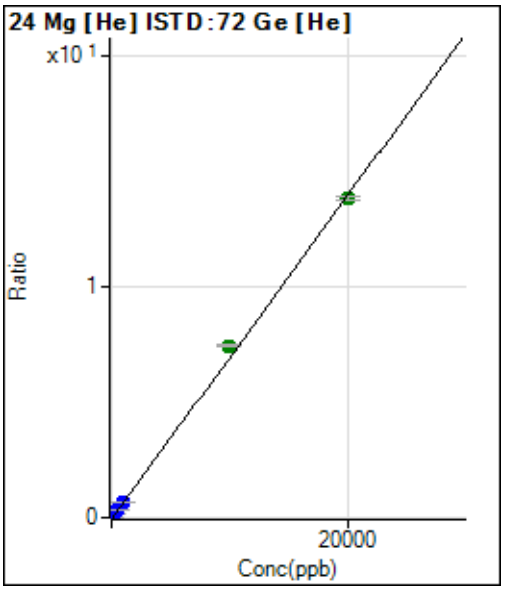


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	37999.11	0.0635	P	3.3	
2	☐	200.000	197.676	181357.29	0.3037	P	0.6	-1.2
3	☐	500.000	480.643	386757.79	0.6475	P	0.9	-3.9
4	☐	1000.000	964.443	736074.31	1.2354	P	0.9	-3.6
5	☐	10000.00	10370.56	7199009.48	12.6650	A	1.0	3.7
6	☐	20000.00	19817.00	13241931.88	24.1437	A	1.8	-0.9
7	☐	100.000						

y = 0.0012 * x + 0.0635
R = 0.9997
DL = 5.245 ppb
BEC = 52.24 ppb

Weight: <None>
Min Conc: <None>

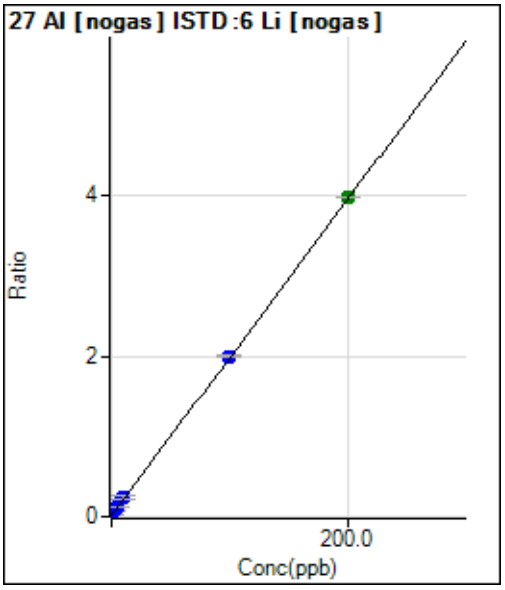
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	630.02	0.0011	P	6.7	
2	☐	200.000	198.792	83778.42	0.1403	P	2.2	-0.6
3	☐	500.000	479.842	201381.00	0.3372	P	0.9	-4.0
4	☐	1000.000	968.494	404827.19	0.6794	P	0.3	-3.2
5	☐	10000.00	10578.70	4212477.23	7.4109	A	1.1	5.8
6	☐	20000.00	19712.74	7573861.97	13.8089	A	1.6	-1.4
7	☐	100.000						

y = 7.0045E-004 * x + 0.0011
R = 0.9994
DL = 0.3024 ppb
BEC = 1.502 ppb

Weight: <None>
Min Conc: <None>

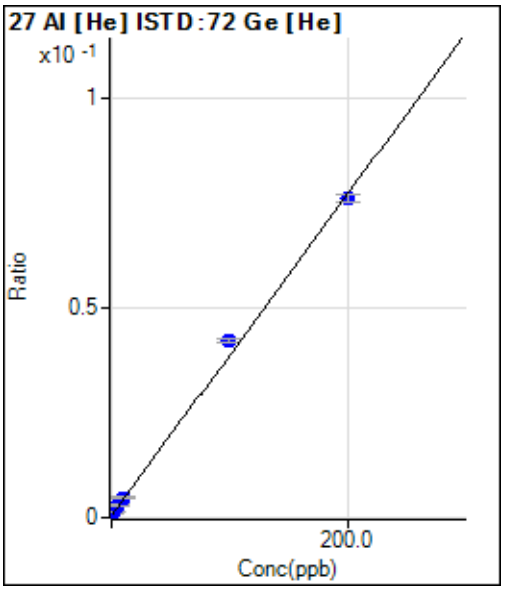


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	18609.55	0.0329	P	2.9	
2	☐	2.000	1.873	39365.47	0.0698	P	2.2	-6.4
3	☐	5.000	4.964	74064.16	0.1308	P	0.3	-0.7
4	☐	10.000	10.896	138763.62	0.2477	P	22.0	9.0
5	☐	100.000	99.584	1050298.63	1.9964	P	0.8	-0.4
6	☐	200.000	200.166	1941782.06	3.9795	A	0.4	0.1
7	☐	1.000						

y = 0.0197 * x + 0.0329
R = 1.0000
DL = 0.1444 ppb
BEC = 1.669 ppb

Weight: <None>
Min Conc: <None>

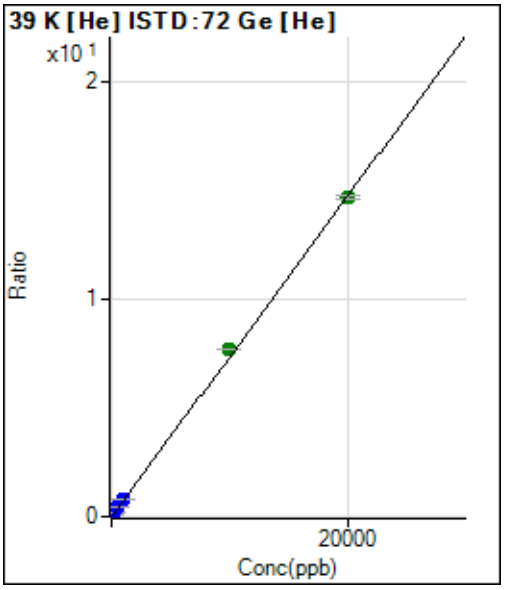
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	523.35	0.0009	P	11.0	
2	☐	2.000	1.606	890.04	0.0015	P	4.2	-19.
3	☐	5.000	5.299	1736.78	0.0029	P	8.8	6.0
4	☐	10.000	10.017	2810.27	0.0047	P	14.5	0.2
5	☐	100.000	107.570	23955.79	0.0421	P	1.6	7.6
6	☐	200.000	196.211	41770.69	0.0762	P	2.5	-1.9
7	☐	1.000						

y = 3.8369E-004 * x + 8.7436E-004
R = 0.9990
DL = 0.7543 ppb
BEC = 2.279 ppb

Weight: <None>
Min Conc: <None>

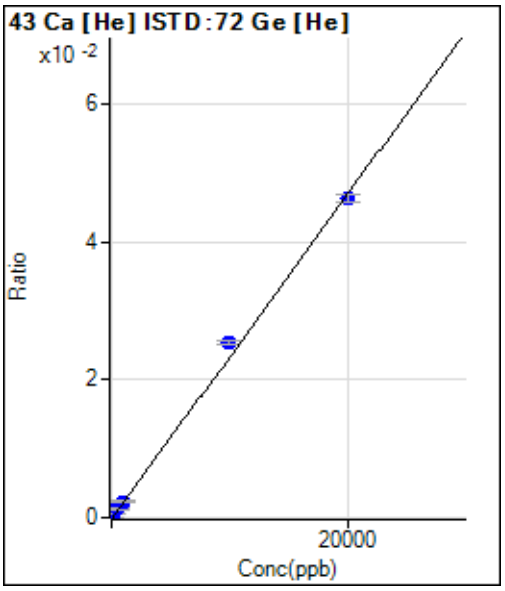


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	38383.61	0.0641	P	1.4	
2	☐	200.000	196.654	124774.47	0.2090	P	2.4	-1.7
3	☐	500.000	475.542	247498.28	0.4144	P	0.6	-4.9
4	☐	1000.000	952.134	456028.56	0.7654	P	0.7	-4.8
5	☐	10000.00	10372.26	4378898.89	7.7035	A	0.2	3.7
6	☐	20000.00	19816.90	8040990.29	14.6596	A	0.9	-0.9
7	☐	100.000						

y = 7.3652E-004 * x + 0.0641
R = 0.9997
DL = 3.665 ppb
BEC = 87.05 ppb

Weight: <None>
Min Conc: <None>

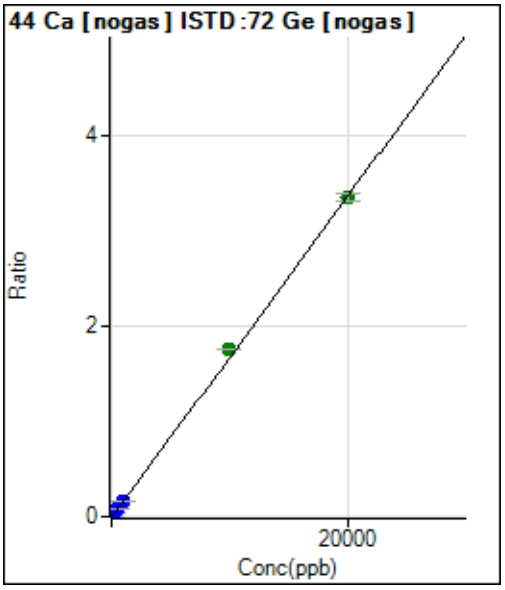
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	86.6	
2	☐	200.000	219.925	323.34	0.0005	P	10.3	10.0
3	☐	500.000	541.307	776.70	0.0013	P	8.0	8.3
4	☐	1000.000	992.512	1410.08	0.0024	P	12.1	-0.7
5	☐	10000.00	10727.19	14409.23	0.0254	P	2.1	7.3
6	☐	20000.00	19635.54	25441.41	0.0464	P	2.1	-1.8
7	☐	100.000						

y = 2.3613E-006 * x + 2.2274E-005
R = 0.9991
DL = 24.51 ppb
BEC = 9.433 ppb

Weight: <None>
Min Conc: <None>

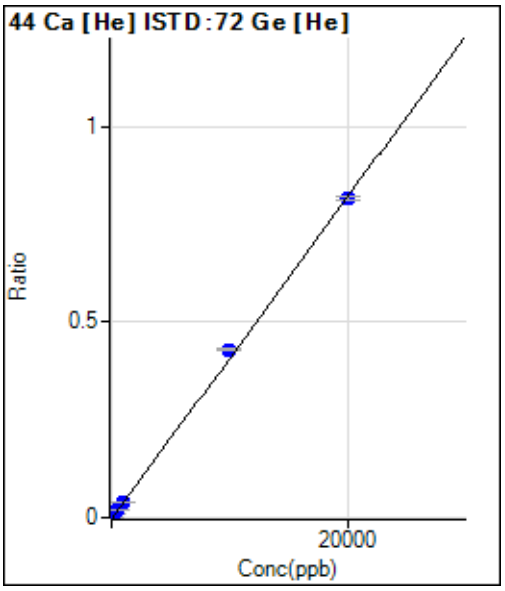


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	8008.54	0.0034	P	3.7	
2	☐	200.000	192.847	85060.30	0.0360	P	1.7	-3.6
3	☐	500.000	482.097	199748.44	0.0850	P	1.0	-3.6
4	☐	1000.000	959.511	386830.88	0.1657	P	0.5	-4.0
5	☐	10000.00	10353.05	3969941.71	1.7543	A	0.6	3.5
6	☐	20000.00	19826.01	7342759.89	3.3564	A	3.0	-0.9
7	☐	100.000						

y = 1.6912E-004 * x + 0.0034
R = 0.9998
DL = 2.22 ppb
BEC = 20.26 ppb

Weight: <None>
Min Conc: <None>

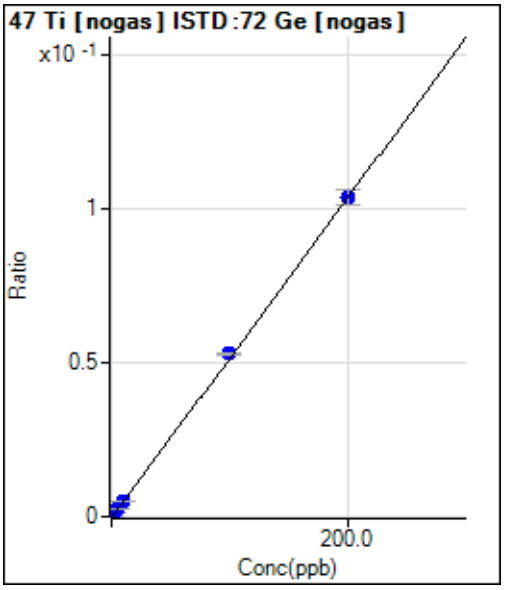
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	300.01	0.0005	P	14.8	
2	☐	200.000	197.487	5160.81	0.0086	P	3.5	-1.3
3	☐	500.000	465.265	11750.60	0.0197	P	4.9	-6.9
4	☐	1000.000	956.951	23795.82	0.0399	P	1.8	-4.3
5	☐	10000.00	10413.16	244198.74	0.4296	P	1.7	4.1
6	☐	20000.00	19796.46	447811.07	0.8163	P	0.8	-1.0
7	☐	100.000						

y = 4.1212E-005 * x + 5.0128E-004
R = 0.9997
DL = 5.398 ppb
BEC = 12.16 ppb

Weight: <None>
Min Conc: <None>

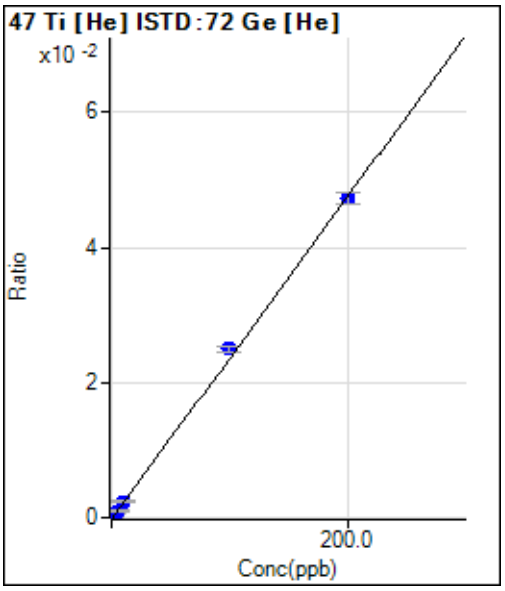


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	73.33	0.0000	P	42.8	
2	☐	2.000	1.900	2410.21	0.0010	P	10.1	-5.0
3	☐	5.000	4.630	5741.01	0.0024	P	2.9	-7.4
4	☐	10.000	9.706	11870.75	0.0051	P	1.6	-2.9
5	☐	100.000	101.528	119686.28	0.0529	P	1.0	1.5
6	☐	200.000	199.261	226986.47	0.1038	P	5.0	-0.4
7	☐	1.000						

y = 5.2064E-004 * x + 3.1292E-005
R = 1.0000
DL = 0.07718 ppb
BEC = 0.0601 ppb

Weight: <None>
Min Conc: <None>

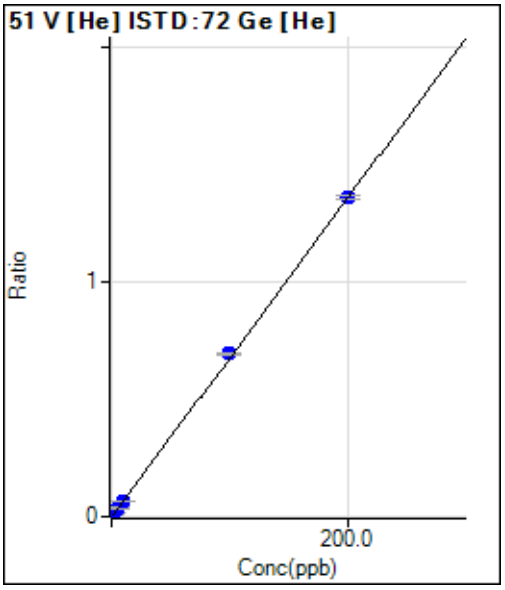
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6.67	0.0000	P	173.	
2	☐	2.000	2.148	313.34	0.0005	P	11.2	7.4
3	☐	5.000	4.016	580.02	0.0010	P	18.4	-19.
4	☐	10.000	10.041	1436.75	0.0024	P	8.1	0.4
5	☐	100.000	104.367	14185.78	0.0250	P	4.0	4.4
6	☐	200.000	197.837	25945.48	0.0473	P	3.7	-1.1
7	☐	1.000						

y = 2.3906E-004 * x + 1.1107E-005
R = 0.9996
DL = 0.2414 ppb
BEC = 0.04646 ppb

Weight: <None>
Min Conc: <None>

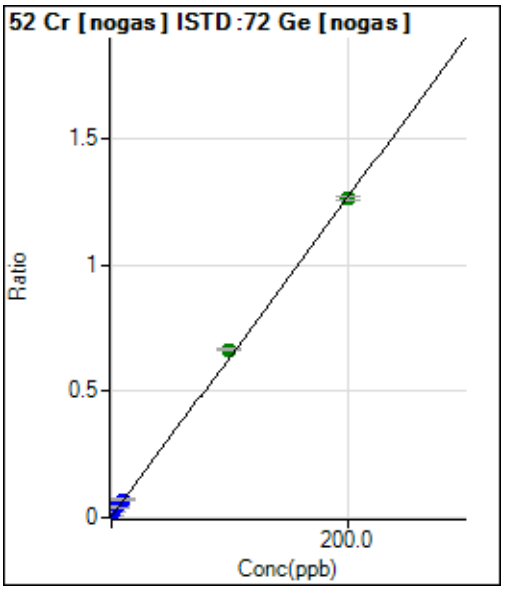


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2533.52	0.0042	P	6.1	
2	☐	2.000	1.895	10211.80	0.0171	P	2.9	-5.2
3	☐	5.000	4.765	21855.39	0.0366	P	1.4	-4.7
4	☐	10.000	9.507	40986.03	0.0688	P	0.4	-4.9
5	☐	100.000	101.277	393307.47	0.6920	P	1.2	1.3
6	☐	200.000	199.393	744985.72	1.3582	P	1.1	-0.3
7	☐	1.000						

y = 0.0068 * x + 0.0042
R = 1.0000
DL = 0.1148 ppb
BEC = 0.6232 ppb

Weight: <None>
Min Conc: <None>

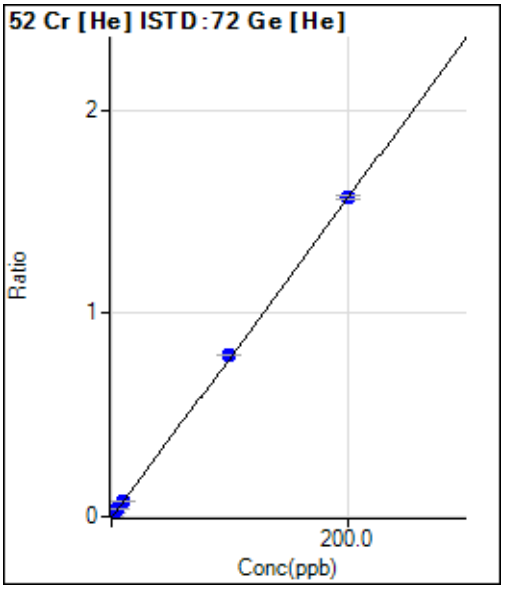
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	25571.74	0.0109	P	3.7	
2	☐	2.000	1.938	54705.98	0.0232	P	3.3	-3.1
3	☐	5.000	4.900	98439.00	0.0419	P	1.1	-2.0
4	☐	10.000	9.714	168712.65	0.0723	P	1.6	-2.9
5	☐	100.000	103.396	1501814.30	0.6637	A	1.0	3.4
6	☐	200.000	198.319	2763664.02	1.2630	A	1.2	-0.8
7	☐	1.000						

y = 0.0063 * x + 0.0109
R = 0.9998
DL = 0.194 ppb
BEC = 1.732 ppb

Weight: <None>
Min Conc: <None>

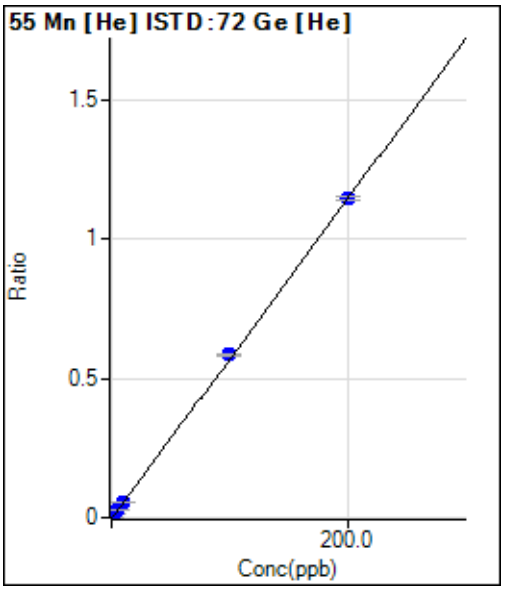


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1010.05	0.0017	P	23.4	
2	☐	2.000	1.958	10206.38	0.0171	P	3.7	-2.1
3	☐	5.000	4.917	24112.94	0.0404	P	3.8	-1.7
4	☐	10.000	9.693	46442.98	0.0779	P	1.3	-3.1
5	☐	100.000	101.066	452958.56	0.7969	P	0.6	1.1
6	☐	200.000	199.485	861819.78	1.5713	P	1.2	-0.3
7	☐	1.000						

y = 0.0079 * x + 0.0017
R = 1.0000
DL = 0.1503 ppb
BEC = 0.2144 ppb

Weight: <None>
Min Conc: <None>

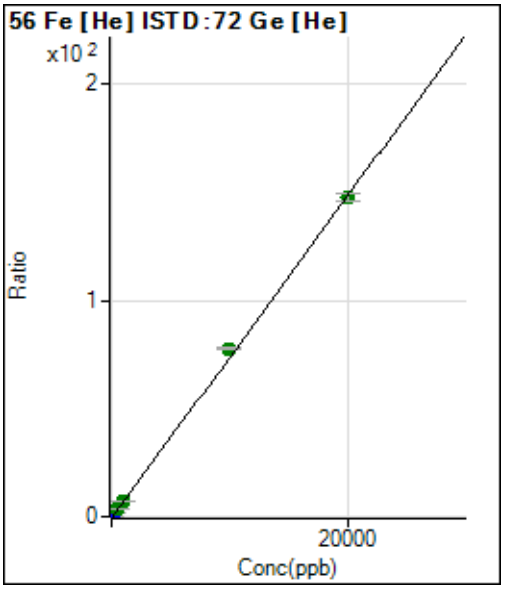
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	680.03	0.0011	P	9.0	
2	☐	2.000	2.014	7581.74	0.0127	P	8.9	0.7
3	☐	5.000	5.054	18012.59	0.0302	P	1.9	1.1
4	☐	10.000	9.545	33337.60	0.0560	P	1.1	-4.6
5	☐	100.000	101.654	332466.88	0.5849	P	1.0	1.7
6	☐	200.000	199.194	628092.79	1.1451	P	1.0	-0.4
7	☐	1.000						

y = 0.0057 * x + 0.0011
R = 0.9999
DL = 0.05328 ppb
BEC = 0.1978 ppb

Weight: <None>
Min Conc: <None>

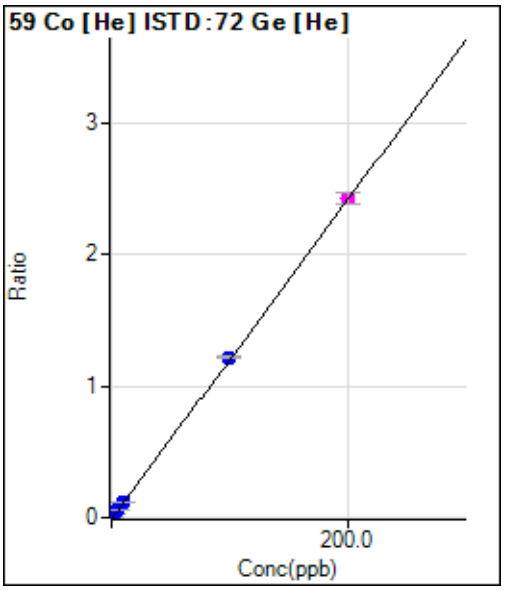


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	11867.47	0.0198	P	4.0	
2	☐	200.000	194.209	877907.62	1.4701	P	0.6	-2.9
3	☐	500.000	503.156	2256083.61	3.7771	A	1.1	0.6
4	☐	1000.000	981.387	4378257.43	7.3482	A	0.3	-1.9
5	☐	10000.00	10405.65	44177796.01	77.7227	A	0.9	4.1
6	☐	20000.00	19798.08	81093628.79	147.859	A	2.0	-1.0
7	☐	100.000						

y = 0.0075 * x + 0.0198
R = 0.9997
DL = 0.3223 ppb
BEC = 2.655 ppb

Weight: <None>
Min Conc: <None>

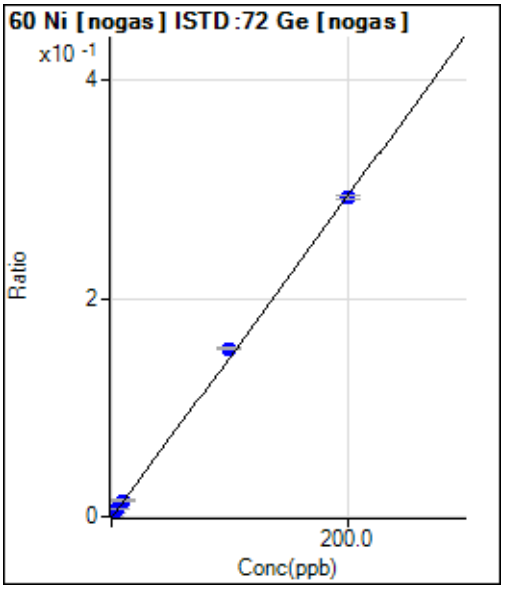
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	166.67	0.0003	P	15.4	
2	☐	2.000	2.005	14696.15	0.0246	P	1.5	0.3
3	☐	5.000	4.735	34483.37	0.0577	P	0.3	-5.3
4	☐	10.000	9.345	67730.25	0.1137	P	0.1	-6.5
5	☐	100.000	100.262	691647.02	1.2168	P	1.1	0.3
6	☐	200.000	199.908	1330464.23	2.4259	M	3.4	0.0
7	☐	1.000						

y = 0.0121 * x + 2.7848E-004
R = 1.0000
DL = 0.01057 ppb
BEC = 0.02295 ppb

Weight: <None>
Min Conc: <None>

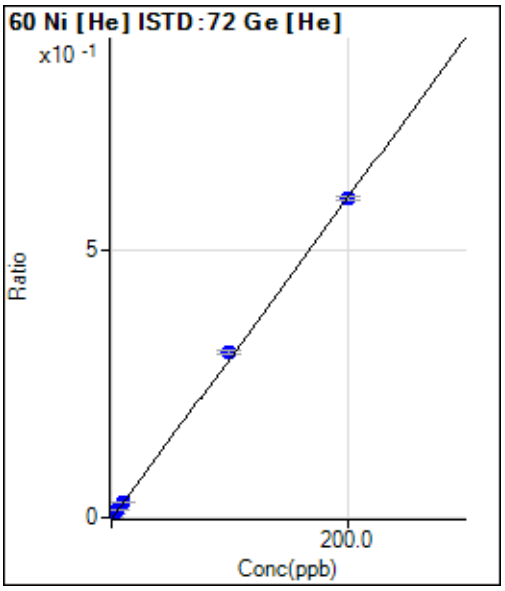


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	596.68	0.0003	P	13.8	
2	☐	2.000	1.939	7364.96	0.0031	P	5.5	-3.1
3	☐	5.000	5.042	18122.73	0.0077	P	1.4	0.8
4	☐	10.000	9.895	34743.79	0.0149	P	2.3	-1.1
5	☐	100.000	103.808	347824.75	0.1537	P	1.1	3.8
6	☐	200.000	198.101	641329.77	0.2931	P	1.5	-0.9
7	☐	1.000						

y = 0.0015 * x + 2.5516E-004
R = 0.9997
DL = 0.0712 ppb
BEC = 0.1726 ppb

Weight: <None>
Min Conc: <None>

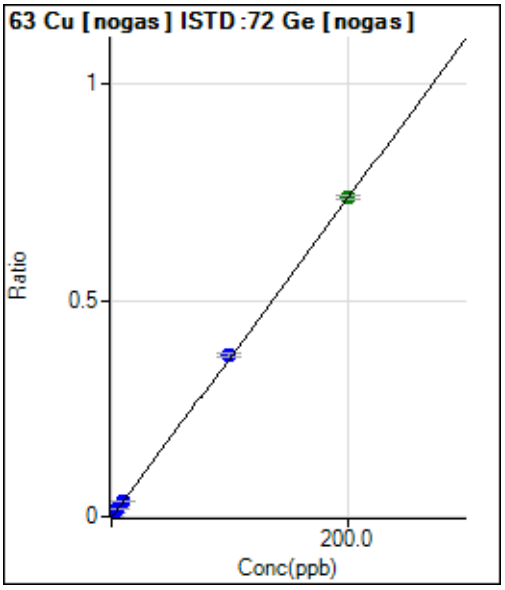
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	173.34	0.0003	P	28.9	
2	☐	2.000	1.895	3567.08	0.0060	P	7.2	-5.3
3	☐	5.000	4.994	9119.18	0.0153	P	4.7	-0.1
4	☐	10.000	9.701	17508.68	0.0294	P	1.3	-3.0
5	☐	100.000	102.705	175262.13	0.3084	P	2.0	2.7
6	☐	200.000	198.664	326984.98	0.5962	P	1.7	-0.7
7	☐	1.000						

y = 0.0030 * x + 2.8946E-004
R = 0.9999
DL = 0.08375 ppb
BEC = 0.0965 ppb

Weight: <None>
Min Conc: <None>

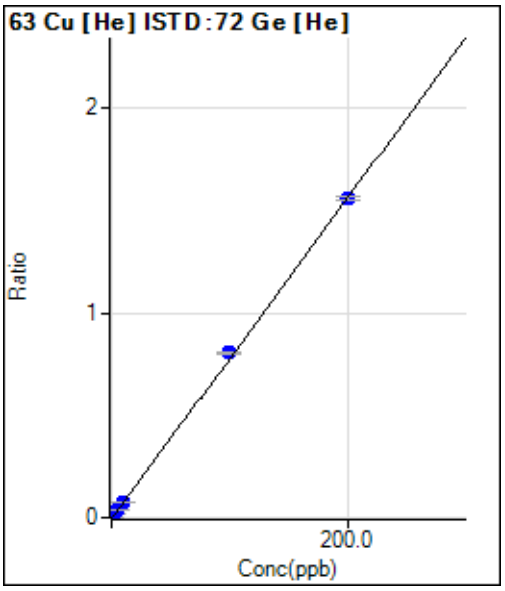


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2953.64	0.0013	P	27.0	
2	☐	2.000	1.967	20144.82	0.0085	P	3.9	-1.6
3	☐	5.000	4.899	45541.04	0.0194	P	1.3	-2.0
4	☐	10.000	9.765	87213.98	0.0374	P	1.4	-2.4
5	☐	100.000	100.914	846727.69	0.3742	P	2.3	0.9
6	☐	200.000	199.557	1616660.60	0.7388	A	1.6	-0.2
7	☐	1.000						

y = 0.0037 * x + 0.0013
R = 1.0000
DL = 0.2768 ppb
BEC = 0.3424 ppb

Weight: <None>
Min Conc: <None>

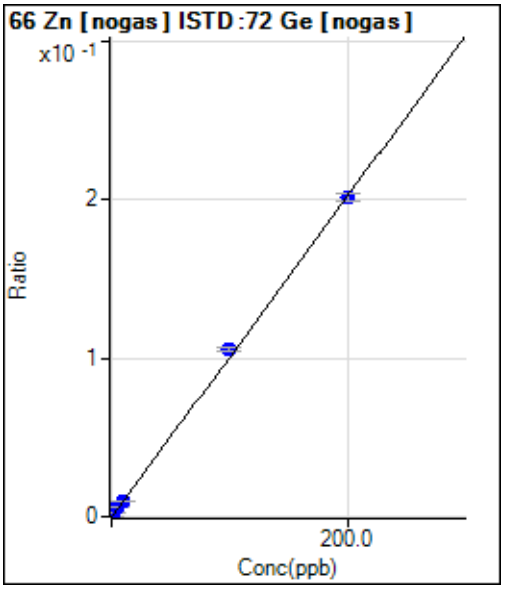
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1316.74	0.0022	P	8.3	
2	☐	2.000	2.041	10863.42	0.0182	P	4.9	2.0
3	☐	5.000	5.021	24820.69	0.0416	P	1.0	0.4
4	☐	10.000	9.698	46604.02	0.0782	P	0.4	-3.0
5	☐	100.000	102.676	458690.28	0.8070	P	1.1	2.7
6	☐	200.000	198.676	855360.09	1.5595	P	1.2	-0.7
7	☐	1.000						

y = 0.0078 * x + 0.0022
R = 0.9999
DL = 0.06947 ppb
BEC = 0.2806 ppb

Weight: <None>
Min Conc: <None>

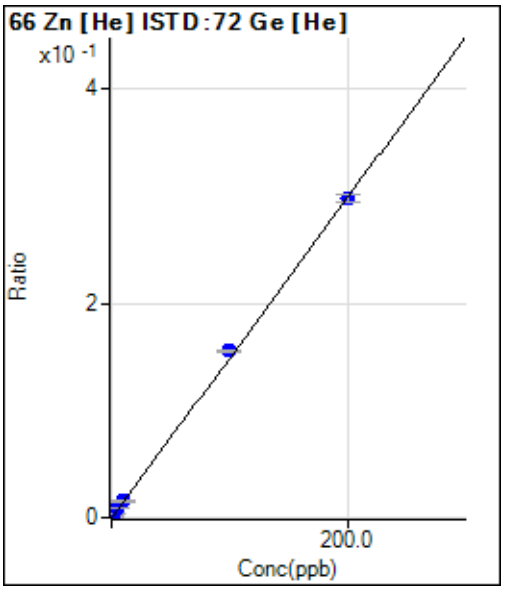


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1203.40	0.0005	P	6.7	
2	☐	2.000	1.840	5630.99	0.0024	P	5.6	-8.0
3	☐	5.000	5.407	14125.76	0.0060	P	3.0	8.1
4	☐	10.000	9.643	24073.16	0.0103	P	0.3	-3.6
5	☐	100.000	103.834	239816.64	0.1060	P	2.5	3.8
6	☐	200.000	198.092	441427.56	0.2018	P	2.2	-1.0
7	☐	1.000						

y = 0.0010 * x + 5.1505E-004
R = 0.9997
DL = 0.102 ppb
BEC = 0.507 ppb

Weight: <None>
Min Conc: <None>

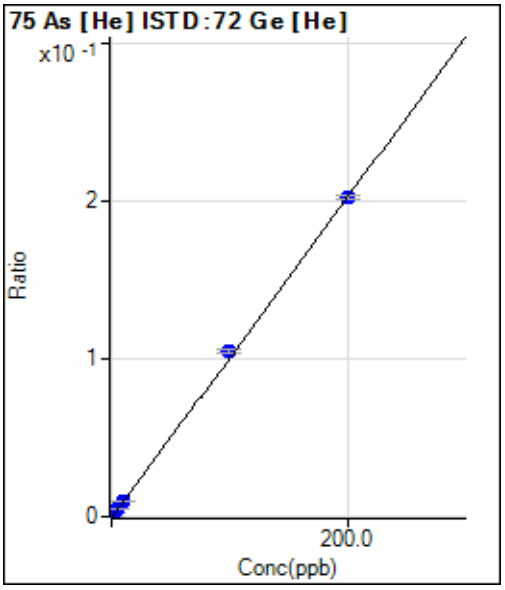
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	533.35	0.0009	P	24.3	
2	☐	2.000	1.793	2136.84	0.0036	P	3.8	-10.
3	☐	5.000	5.403	5370.89	0.0090	P	8.1	8.1
4	☐	10.000	9.591	9095.78	0.0153	P	3.6	-4.1
5	☐	100.000	103.420	88621.35	0.1559	P	1.1	3.4
6	☐	200.000	198.303	163507.29	0.2981	P	2.4	-0.8
7	☐	1.000						

y = 0.0015 * x + 8.9067E-004
R = 0.9998
DL = 0.4323 ppb
BEC = 0.5942 ppb

Weight: <None>
Min Conc: <None>

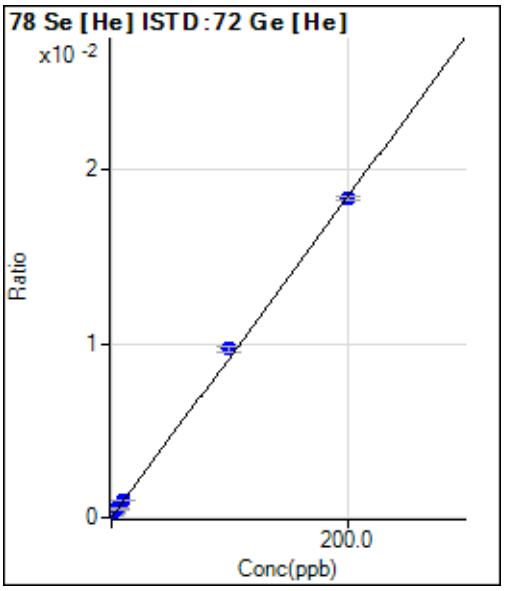


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	48.89	0.0001	P	24.1	
2	☐	2.000	1.926	1221.16	0.0020	P	6.7	-3.7
3	☐	5.000	4.753	2942.48	0.0049	P	5.1	-4.9
4	☐	10.000	9.402	5757.62	0.0097	P	1.2	-6.0
5	☐	100.000	102.494	59412.81	0.1045	P	2.1	2.5
6	☐	200.000	198.790	111159.71	0.2027	P	1.6	-0.6
7	☐	1.000						

y = 0.0010 * x + 8.1684E-005
R = 0.9999
DL = 0.05792 ppb
BEC = 0.08015 ppb

Weight: <None>
Min Conc: <None>

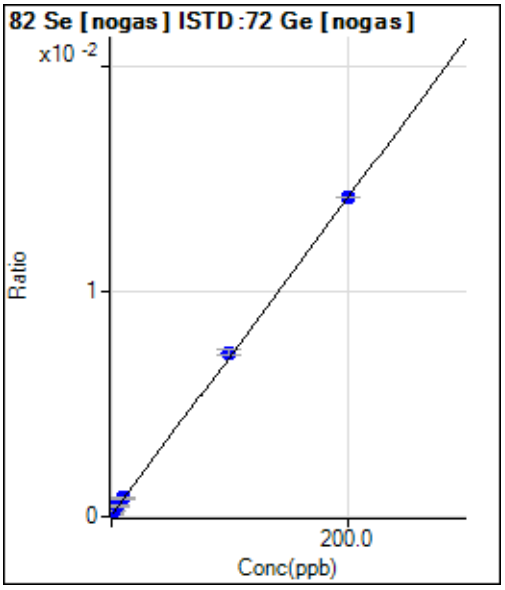
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	61.33	0.0001	P	27.3	
2	☐	2.000	1.986	170.67	0.0003	P	19.3	-0.7
3	☐	5.000	4.460	307.33	0.0005	P	12.6	-10.
4	☐	10.000	9.613	590.01	0.0010	P	4.0	-3.9
5	☐	100.000	104.124	5525.54	0.0097	P	3.5	4.1
6	☐	200.000	197.971	10084.87	0.0184	P	0.7	-1.0
7	☐	1.000						

y = 9.2348E-005 * x + 1.0245E-004
R = 0.9997
DL = 0.9097 ppb
BEC = 1.109 ppb

Weight: <None>
Min Conc: <None>

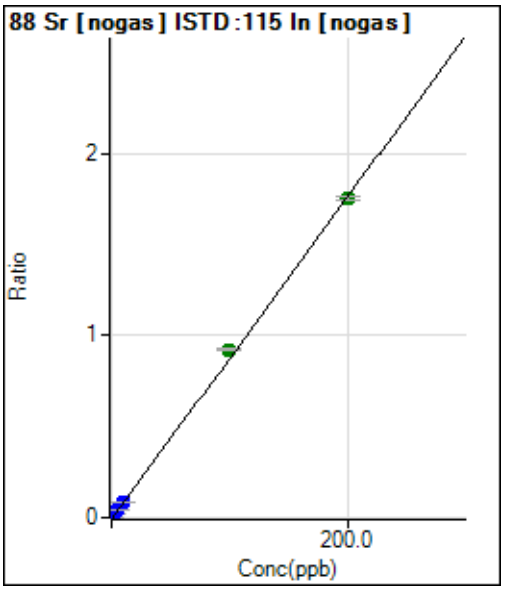


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	330.01	0.0001	P	31.3	
2	☐	2.000	1.849	640.02	0.0003	P	12.4	-7.5
3	☐	5.000	4.865	1136.73	0.0005	P	11.7	-2.7
4	☐	10.000	9.525	1893.47	0.0008	P	7.5	-4.8
5	☐	100.000	101.423	16454.50	0.0073	P	3.8	1.4
6	☐	200.000	199.317	30980.80	0.0142	P	0.5	-0.3
7	☐	1.000						

y = 7.0322E-005 * x + 1.4139E-004
R = 1.0000
DL = 1.89 ppb
BEC = 2.011 ppb

Weight: <None>
Min Conc: <None>

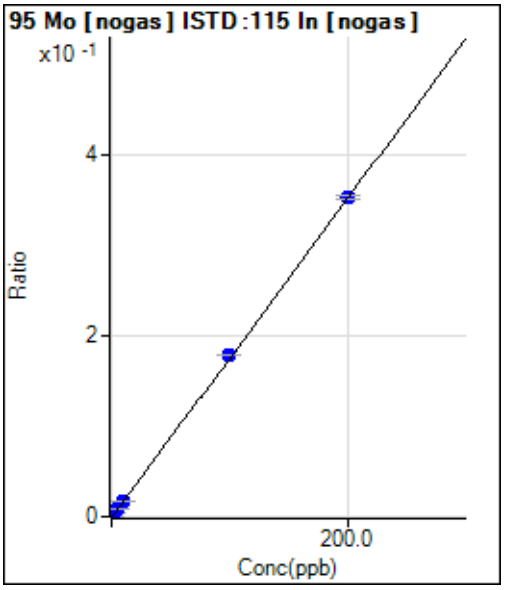
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	976.72	0.0003	P	7.8	
2	☐	2.000	1.897	52240.83	0.0171	P	2.1	-5.1
3	☐	5.000	4.640	128581.70	0.0415	P	1.0	-7.2
4	☐	10.000	9.259	251937.49	0.0825	P	1.2	-7.4
5	☐	100.000	104.264	2731808.29	0.9252	A	1.0	4.3
6	☐	200.000	197.915	4957077.22	1.7560	A	1.5	-1.0
7	☐	1.000						

y = 0.0089 * x + 3.1948E-004
R = 0.9997
DL = 0.008434 ppb
BEC = 0.03601 ppb

Weight: <None>
Min Conc: <None>

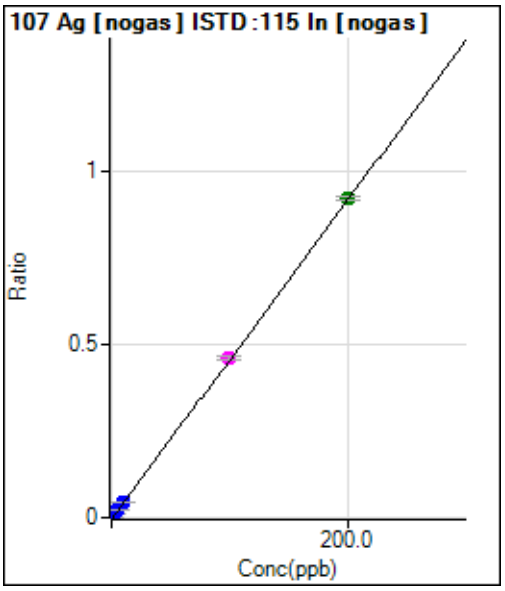


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1370.08	0.0004	P	19.1	
2	☐	2.000	1.879	11460.56	0.0038	P	4.1	-6.1
3	☐	5.000	4.510	26046.32	0.0084	P	3.1	-9.8
4	☐	10.000	9.398	52014.20	0.0170	P	2.9	-6.0
5	☐	100.000	100.997	527342.69	0.1786	P	0.4	1.0
6	☐	200.000	199.545	995008.66	0.3524	P	0.9	-0.2
7	☐	1.000						

y = 0.0018 * x + 4.4891E-004
R = 1.0000
DL = 0.146 ppb
BEC = 0.2545 ppb

Weight: <None>
Min Conc: <None>

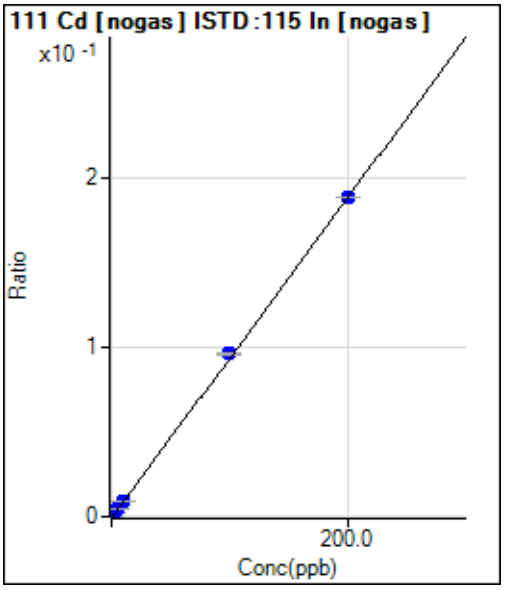
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	310.01	0.0001	P	15.2	
2	☐	2.000	1.911	27178.32	0.0089	P	0.8	-4.4
3	☐	5.000	4.540	65262.54	0.0211	P	1.2	-9.2
4	☐	10.000	9.309	131577.95	0.0431	P	1.4	-6.9
5	☐	100.000	100.017	1363235.55	0.4617	M	1.5	0.0
6	☐	200.000	200.039	2606359.07	0.9233	A	1.6	0.0
7	☐	1.000						

y = 0.0046 * x + 1.0148E-004
R = 1.0000
DL = 0.009999 ppb
BEC = 0.02199 ppb

Weight: <None>
Min Conc: <None>

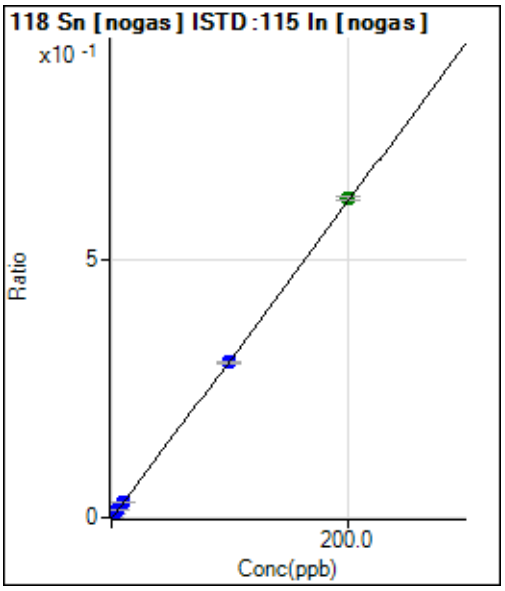


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16.67	0.0000	P	70.3	
2	☐	2.000	1.893	5474.29	0.0018	P	5.3	-5.3
3	☐	5.000	4.639	13625.55	0.0044	P	3.0	-7.2
4	☐	10.000	9.529	27565.58	0.0090	P	2.8	-4.7
5	☐	100.000	101.733	284244.35	0.0963	P	1.0	1.7
6	☐	200.000	199.167	532106.71	0.1885	P	0.4	-0.4
7	☐	1.000						

y = 9.4626E-004 * x + 5.4770E-006
R = 0.9999
DL = 0.0122 ppb
BEC = 0.005788 ppb

Weight: <None>
Min Conc: <None>

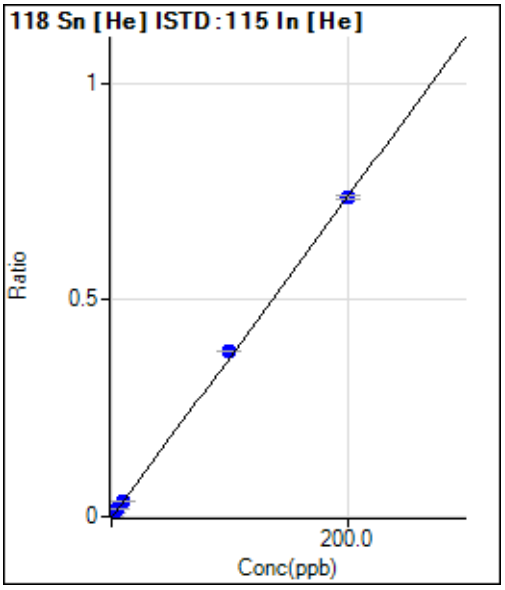
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2160.18	0.0007	P	1.5	
2	☐	2.000	1.771	18800.47	0.0062	P	0.7	-11.
3	☐	5.000	4.432	44581.28	0.0144	P	2.0	-11.
4	☐	10.000	9.049	87498.35	0.0286	P	1.2	-9.5
5	☐	100.000	97.774	892855.35	0.3024	P	1.1	-2.2
6	☐	200.000	201.177	1754415.13	0.6215	A	1.2	0.6
7	☐	1.000						

y = 0.0031 * x + 7.0688E-004
R = 0.9999
DL = 0.01044 ppb
BEC = 0.2291 ppb

Weight: <None>
Min Conc: <None>

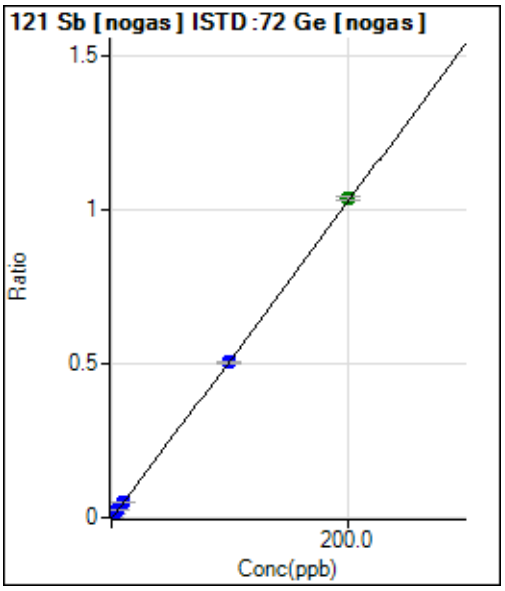


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1136.73	0.0010	P	2.6	
2	☐	2.000	1.790	8725.68	0.0076	P	5.4	-10.
3	☐	5.000	4.656	20592.67	0.0182	P	2.2	-6.9
4	☐	10.000	9.253	40040.34	0.0353	P	3.2	-7.5
5	☐	100.000	102.960	413783.43	0.3825	P	0.7	3.0
6	☐	200.000	198.568	770656.81	0.7367	P	0.9	-0.7
7	☐	1.000						

y = 0.0037 * x + 9.9838E-004
R = 0.9998
DL = 0.02142 ppb
BEC = 0.2695 ppb

Weight: <None>
Min Conc: <None>

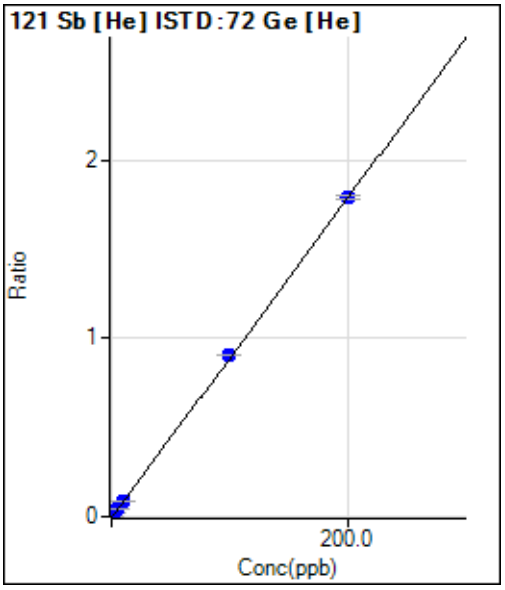
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2100.17	0.0009	P	8.1	
2	☐	2.000	1.776	23736.68	0.0101	P	1.3	-11.
3	☐	5.000	4.497	56633.54	0.0241	P	1.6	-10.
4	☐	10.000	8.958	109942.88	0.0471	P	0.6	-10.
5	☐	100.000	97.569	1140372.43	0.5040	P	2.4	-2.4
6	☐	200.000	201.283	2273508.93	1.0389	A	1.0	0.6
7	☐	1.000						

y = 0.0052 * x + 8.9888E-004
R = 0.9999
DL = 0.04251 ppb
BEC = 0.1743 ppb

Weight: <None>
Min Conc: <None>

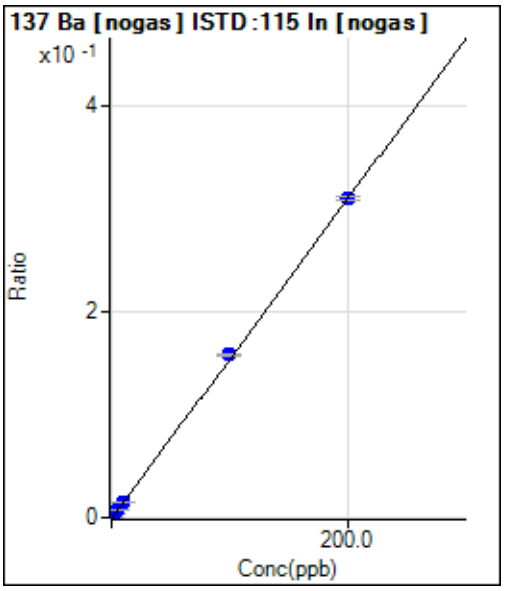


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	920.04	0.0015	P	4.9	
2	☐	2.000	2.016	11717.49	0.0196	P	5.4	0.8
3	☐	5.000	4.631	25732.91	0.0431	P	1.9	-7.4
4	☐	10.000	9.389	51099.53	0.0858	P	1.9	-6.1
5	☐	100.000	101.258	517193.37	0.9099	P	0.2	1.3
6	☐	200.000	199.411	982010.74	1.7903	P	0.9	-0.3
7	☐	1.000						

y = 0.0090 * x + 0.0015
R = 1.0000
DL = 0.02519 ppb
BEC = 0.1713 ppb

Weight: <None>
Min Conc: <None>

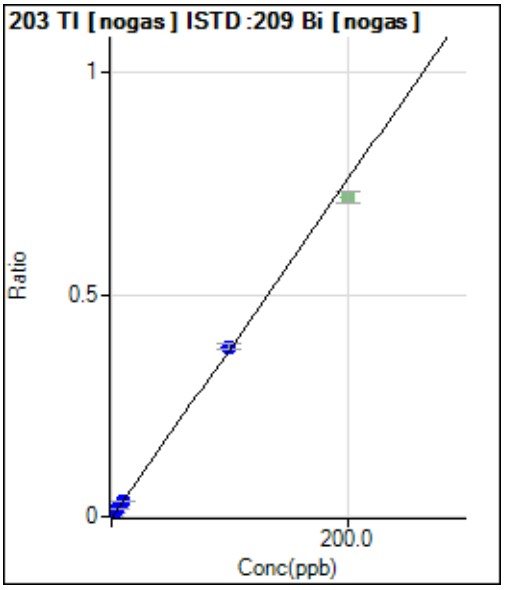
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	703.36	0.0002	P	17.9	
2	☐	2.000	1.959	9999.78	0.0033	P	3.8	-2.0
3	☐	5.000	4.676	23286.32	0.0075	P	2.9	-6.5
4	☐	10.000	9.350	45217.06	0.0148	P	0.2	-6.5
5	☐	100.000	101.519	467638.13	0.1584	P	0.5	1.5
6	☐	200.000	199.282	877136.94	0.3107	P	1.0	-0.4
7	☐	1.000						

y = 0.0016 * x + 2.3029E-004
R = 0.9999
DL = 0.07943 ppb
BEC = 0.1478 ppb

Weight: <None>
Min Conc: <None>

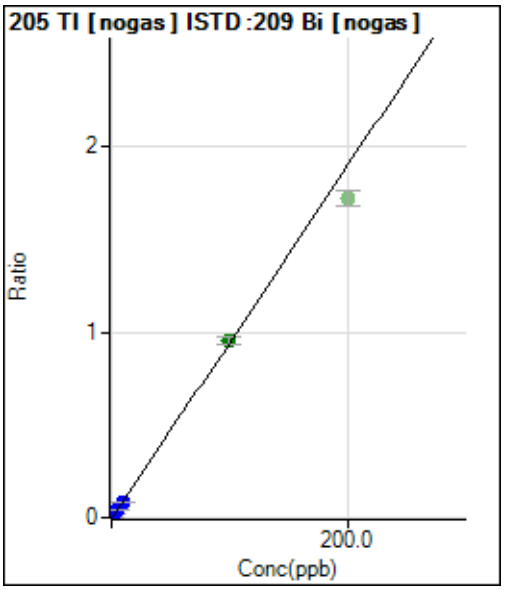


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	53.33	0.0000	P	80.5	
2	☐	2.000	1.838	25210.12	0.0070	P	3.9	-8.1
3	☐	5.000	4.491	63387.76	0.0171	P	4.4	-10.
4	☐	10.000	9.201	125427.63	0.0351	P	4.2	-8.0
5	☐	100.000	100.109	1325505.40	0.3820	P	3.8	0.1
6	☑	200.000		2637213.35	0.7191	A	4.2	
7	☐	1.000						

y = 0.0038 * x + 1.5194E-005
R = 1.0000
DL = 0.00962 ppb
BEC = 0.003982 ppb

Weight: <None>
Min Conc: <None>

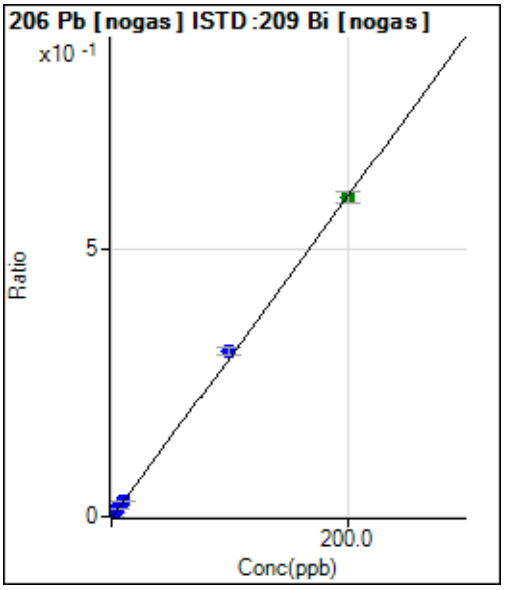
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	120.00	0.0000	P	57.6	
2	☐	2.000	1.787	61249.63	0.0171	P	6.2	-10.
3	☐	5.000	4.271	150742.75	0.0408	P	5.0	-14.
4	☐	10.000	8.884	302936.18	0.0848	P	4.1	-11.
5	☐	100.000	100.152	3316873.81	0.9558	A	3.9	0.2
6	☑	200.000		6312767.82	1.7217	A	5.3	
7	☐	1.000						

y = 0.0095 * x + 3.3742E-005
R = 0.9999
DL = 0.006113 ppb
BEC = 0.003536 ppb

Weight: <None>
Min Conc: <None>

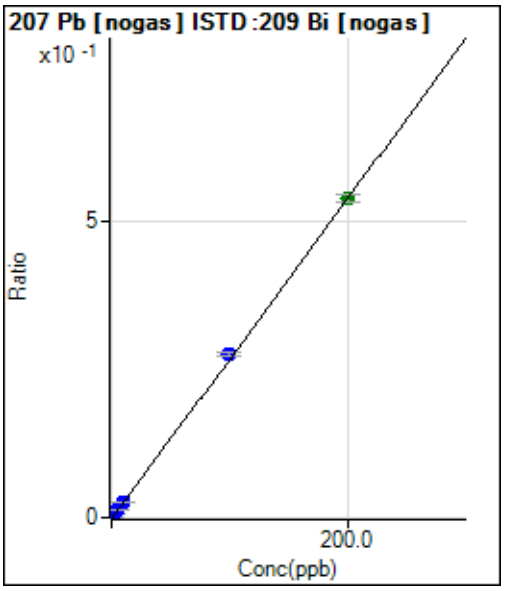


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	380.01	0.0001	P	27.0	
2	☐	2.000	1.928	21107.43	0.0059	P	5.6	-3.6
3	☐	5.000	4.710	52562.71	0.0142	P	5.9	-5.8
4	☐	10.000	9.740	104685.49	0.0293	P	2.7	-2.6
5	☐	100.000	103.061	1072255.35	0.3090	P	4.3	3.1
6	☐	200.000	198.491	2182613.25	0.5951	A	3.7	-0.8
7	☐	1.000						

y = 0.0030 * x + 1.0747E-004
R = 0.9998
DL = 0.02903 ppb
BEC = 0.03585 ppb

Weight: <None>
Min Conc: <None>

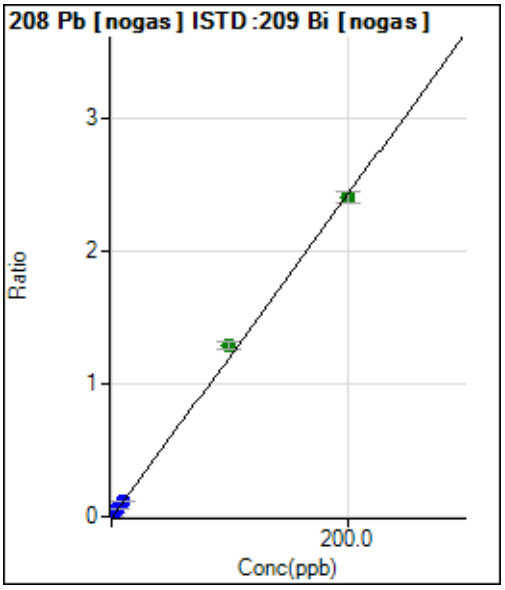
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	300.01	0.0001	P	28.7	
2	☐	2.000	1.950	19201.69	0.0054	P	4.7	-2.5
3	☐	5.000	4.605	46263.41	0.0125	P	7.7	-7.9
4	☐	10.000	9.531	92310.47	0.0258	P	3.3	-4.7
5	☐	100.000	101.885	955885.53	0.2754	P	3.4	1.9
6	☐	200.000	199.091	1974191.43	0.5382	A	2.9	-0.5
7	☐	1.000						

y = 0.0027 * x + 8.4152E-005
R = 0.9999
DL = 0.02676 ppb
BEC = 0.03114 ppb

Weight: <None>
Min Conc: <None>

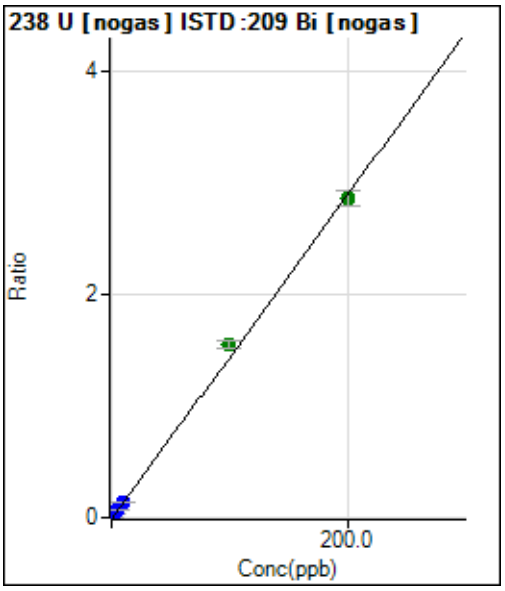


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1370.05	0.0004	P	2.2	
2	☐	2.000	1.934	85890.89	0.0239	P	4.6	-3.3
3	☐	5.000	4.666	211368.22	0.0572	P	6.2	-6.7
4	☐	10.000	9.663	421800.29	0.1181	P	3.3	-3.4
5	☐	100.000	105.579	4463530.90	1.2863	A	4.1	5.6
6	☐	200.000	197.236	8812532.84	2.4027	A	3.8	-1.4
7	☐	1.000						

y = 0.0122 * x + 3.8651E-004
R = 0.9994
DL = 0.002123 ppb
BEC = 0.03173 ppb

Weight: <None>
Min Conc: <None>

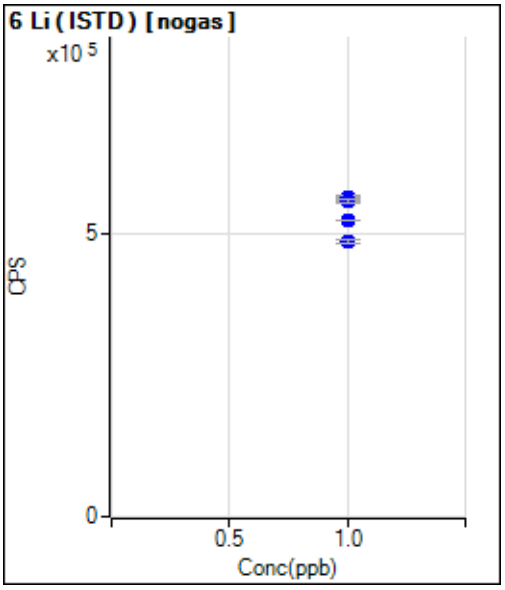
Calibration for 257_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	270.01	0.0001	P	40.5	
2	☐	2.000	1.863	97598.51	0.0272	P	6.3	-6.8
3	☐	5.000	4.498	242449.31	0.0656	P	5.4	-10.
4	☐	10.000	9.328	485692.40	0.1360	P	3.8	-6.7
5	☐	100.000	106.676	5393778.88	1.5544	A	3.9	6.7
6	☐	200.000	196.709	10510002.76	2.8662	A	5.0	-1.6
7	☐	1.000						

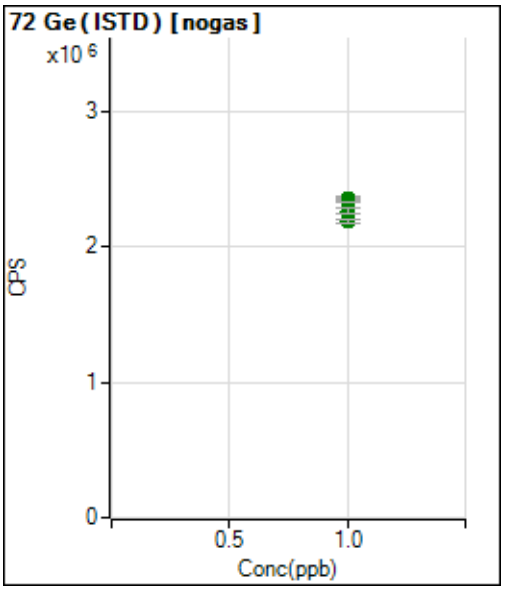
y = 0.0146 * x + 7.5509E-005
R = 0.9992
DL = 0.006302 ppb
BEC = 0.005182 ppb

Weight: <None>
Min Conc: <None>

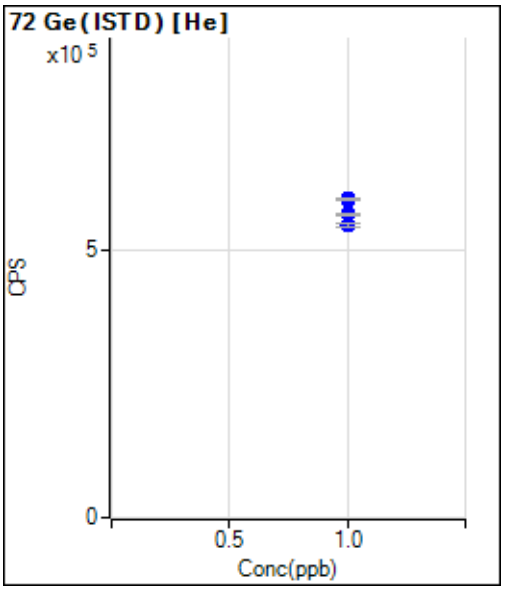


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		565696.15		P	0.5	
2	☐	1.000		563755.93		P	0.9	
3	☐	1.000		566360.65		P	0.9	
4	☐	1.000		559288.66		P	1.2	
5	☐	1.000		526107.82		P	0.3	
6	☐	1.000		487933.34		P	1.3	
7	☐	1.000						

Calibration for 257_ICV.d

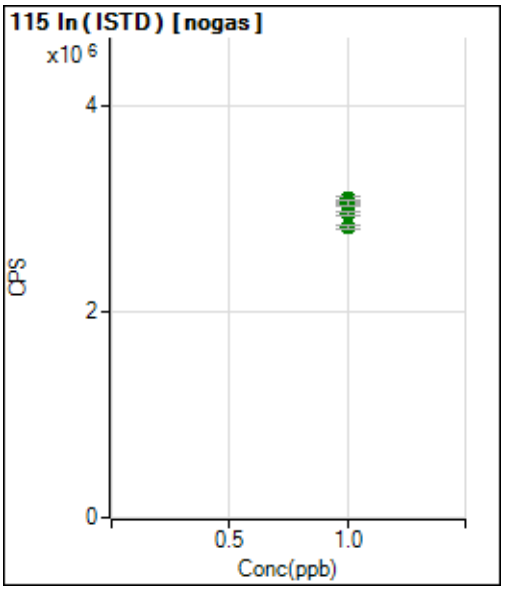


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2337426.16		A	0.9	
2	☐	1.000		2360491.68		A	1.4	
3	☐	1.000		2351085.12		A	0.3	
4	☐	1.000		2334575.85		A	0.3	
5	☐	1.000		2263048.46		A	1.7	
6	☐	1.000		2188361.48		A	1.6	
7	☐	1.000						

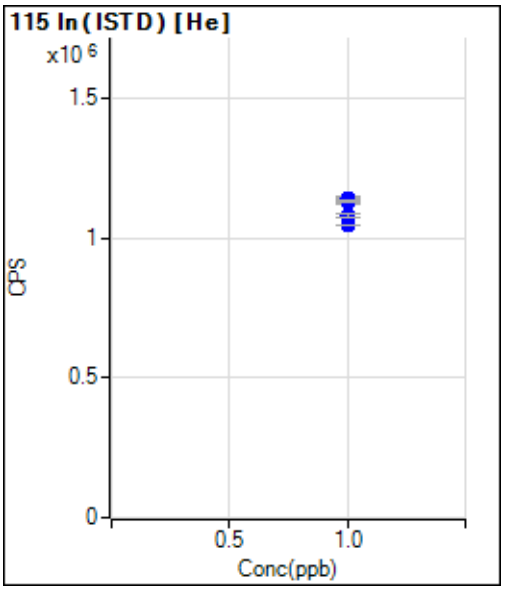


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		598641.19		P	0.3	
2	☐	1.000		597210.34		P	0.8	
3	☐	1.000		597303.55		P	0.5	
4	☐	1.000		595830.97		P	0.4	
5	☐	1.000		568439.47		P	1.1	
6	☐	1.000		548556.41		P	1.4	
7	☐	1.000						

Calibration for 257_ICV.d

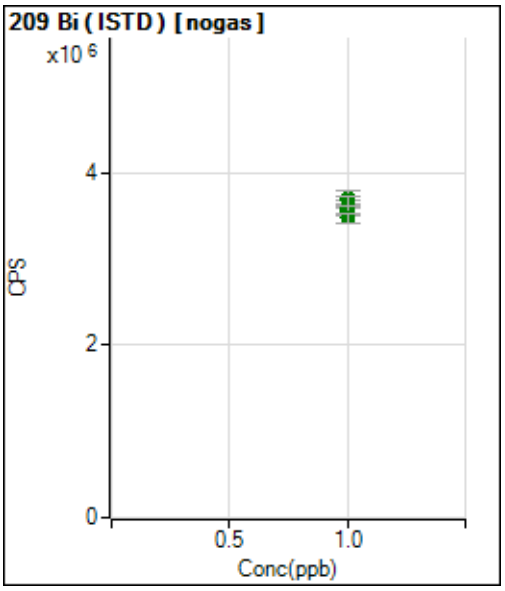


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3055966.80		A	1.1	
2	☐	1.000		3046141.12		A	0.8	
3	☐	1.000		3099663.11		A	1.2	
4	☐	1.000		3055894.67		A	1.7	
5	☐	1.000		2952671.54		A	0.8	
6	☐	1.000		2823334.50		A	1.6	
7	☐	1.000						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1138664.96		P	0.5	
2	☐	1.000		1144099.51		P	0.8	
3	☐	1.000		1128392.93		P	0.6	
4	☐	1.000		1134992.69		P	0.6	
5	☐	1.000		1081858.50		P	1.1	
6	☐	1.000		1046038.60		P	0.2	
7	☐	1.000						

Calibration for 257_ICV.d



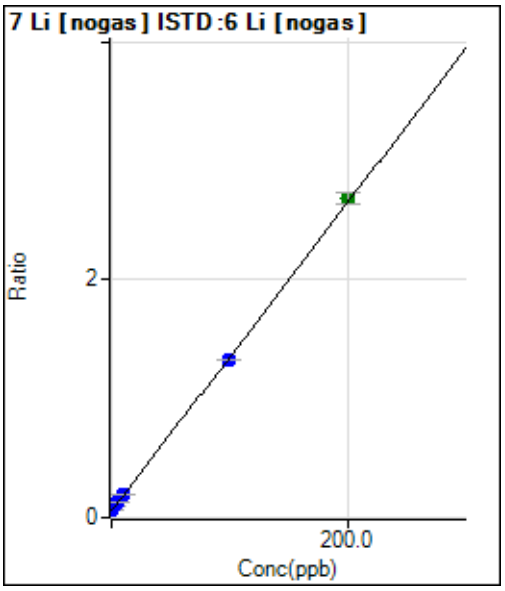
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3546224.11		A	3.1	
2	☐	1.000		3592744.22		A	5.1	
3	☐	1.000		3701582.44		A	4.9	
4	☐	1.000		3574898.70		A	3.6	
5	☐	1.000		3472631.93		A	2.9	
6	☐	1.000		3670451.92		A	2.9	
7	☐	1.000						

Calibration for 026_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\121020A.b\
Analysis File: 121020A.batch.bin
DA Date-Time: 12/10/2020 10:08:43 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	015CALB.d	CAL BLK	12/10/2020 11:06:02 AM
2	016CALS.d	2/10/200	12/10/2020 11:08:04 AM
3	017CALS.d	5/25/500	12/10/2020 11:10:06 AM
4	018CALS.d	10/50/1000	12/10/2020 11:12:08 AM
5	019CALS.d	100/500/10K	12/10/2020 11:14:11 AM
6	020CALS.d	200/1000/20K	12/10/2020 11:16:12 AM
7			

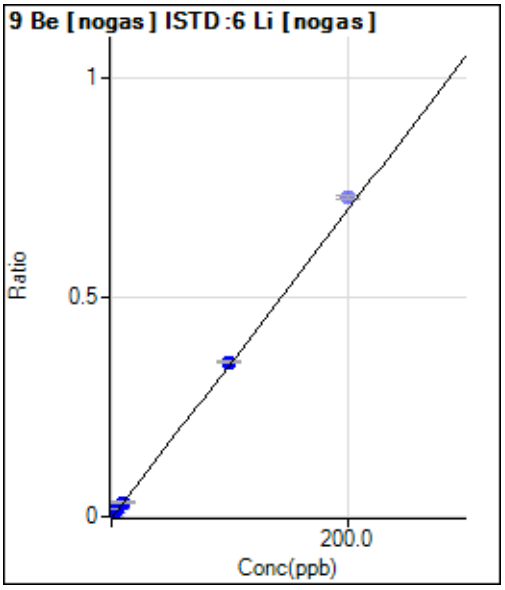
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	56687.97	0.0686	P	1.5	
2	☐	2.000	1.989	76848.76	0.0944	P	0.5	-0.6
3	☐	5.000	4.545	102410.23	0.1276	P	1.7	-9.1
4	☐	10.000	9.377	149799.23	0.1903	P	1.4	-6.2
5	☐	100.000	96.761	963845.56	1.3243	P	0.5	-3.2
6	☐	200.000	201.662	1821711.64	2.6856	A	3.3	0.8
7	☐	1.000						

y = 0.0130 * x + 0.0686
R = 0.9998
DL = 0.23 ppb
BEC = 5.284 ppb

Weight: <None>
Min Conc: <None>

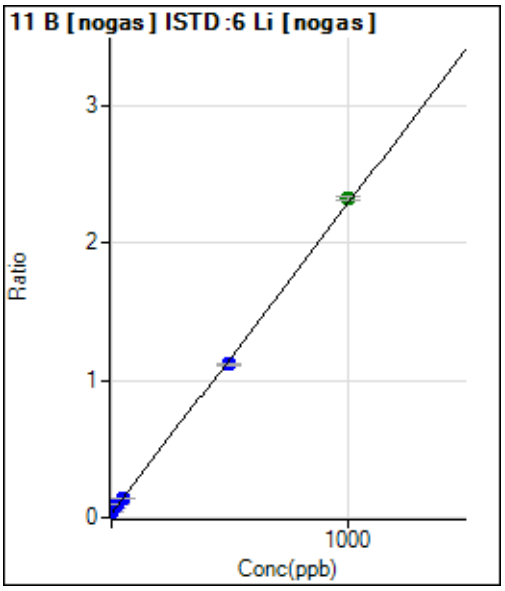


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	68.33	0.0001	P	8.2	
2	☐	2.000	1.965	5675.91	0.0070	P	7.7	-1.7
3	☐	5.000	4.676	13224.74	0.0165	P	2.4	-6.5
4	☐	10.000	9.319	25782.68	0.0327	P	2.1	-6.8
5	☐	100.000	100.085	255369.10	0.3509	P	1.0	0.1
6	☑	200.000		492940.43	0.7267	P	0.8	
7	☐	1.000						

y = 0.0035 * x + 8.2653E-005
R = 1.0000
DL = 0.005821 ppb
BEC = 0.02358 ppb

Weight: <None>
Min Conc: <None>

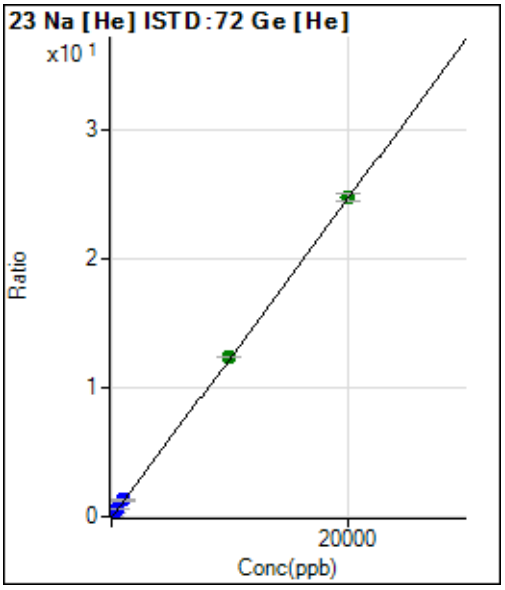
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	36764.27	0.0445	P	1.0	
2	☐	10.000	8.574	51963.19	0.0638	P	1.1	-14.
3	☐	25.000	21.441	74553.41	0.0929	P	1.5	-14.
4	☐	50.000	44.229	113600.04	0.1443	P	1.6	-11.
5	☐	500.000	475.437	813205.35	1.1173	P	1.3	-4.9
6	☐	1000.000	1012.673	1580157.74	2.3296	A	1.5	1.3
7	☐	5.000						

y = 0.0023 * x + 0.0445
R = 0.9996
DL = 0.5704 ppb
BEC = 19.71 ppb

Weight: <None>
Min Conc: <None>

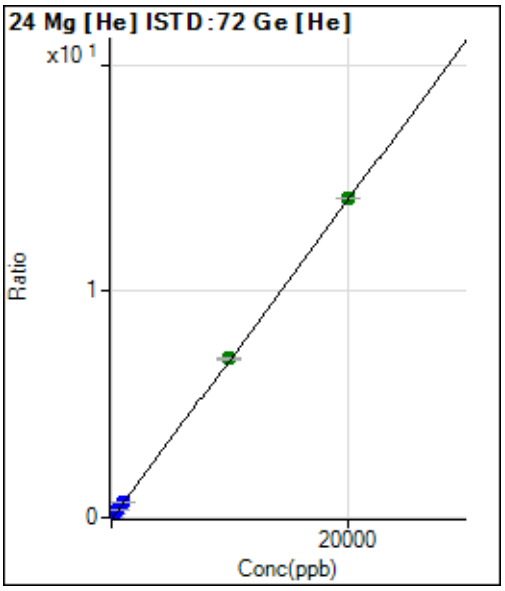


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23461.76	0.0310	P	1.2	
2	☐	200.000	204.800	213030.93	0.2841	P	0.9	2.4
3	☐	500.000	500.098	485626.05	0.6492	P	1.1	0.0
4	☐	1000.000	1002.736	942270.25	1.2706	P	0.7	0.3
5	☐	10000.00	10006.84	8743186.12	12.4014	A	0.7	0.1
6	☐	20000.00	19996.38	16951093.08	24.7504	A	1.9	0.0
7	☐	100.000						

y = 0.0012 * x + 0.0310
R = 1.0000
DL = 0.8895 ppb
BEC = 25.06 ppb

Weight: <None>
Min Conc: <None>

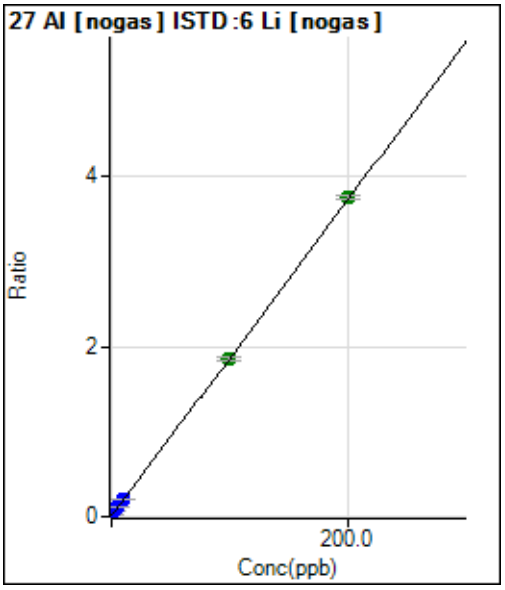
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1846.80	0.0024	P	10.1	
2	☐	200.000	206.453	110821.52	0.1478	P	1.5	3.2
3	☐	500.000	504.202	267425.69	0.3575	P	0.7	0.8
4	☐	1000.000	1007.238	527814.42	0.7117	P	0.3	0.7
5	☐	10000.00	9950.814	4941839.09	7.0095	A	1.3	-0.5
6	☐	20000.00	20024.06	9659154.02	14.1028	A	0.1	0.1
7	☐	100.000						

y = 7.0417E-004 * x + 0.0024
R = 1.0000
DL = 1.045 ppb
BEC = 3.463 ppb

Weight: <None>
Min Conc: <None>

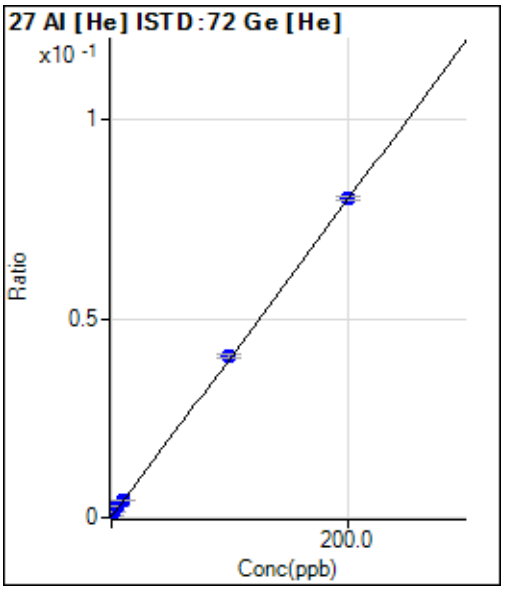


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	21542.84	0.0261	P	1.2	
2	☐	2.000	1.922	50295.05	0.0618	P	1.9	-3.9
3	☐	5.000	5.180	98221.97	0.1223	P	0.6	3.6
4	☐	10.000	9.209	155274.24	0.1972	P	2.7	-7.9
5	☐	100.000	98.881	1356402.84	1.8637	A	2.3	-1.1
6	☐	200.000	200.595	2546215.32	3.7540	A	0.6	0.3
7	☐	1.000						

y = 0.0186 * x + 0.0261
R = 1.0000
DL = 0.04986 ppb
BEC = 1.402 ppb

Weight: <None>
Min Conc: <None>

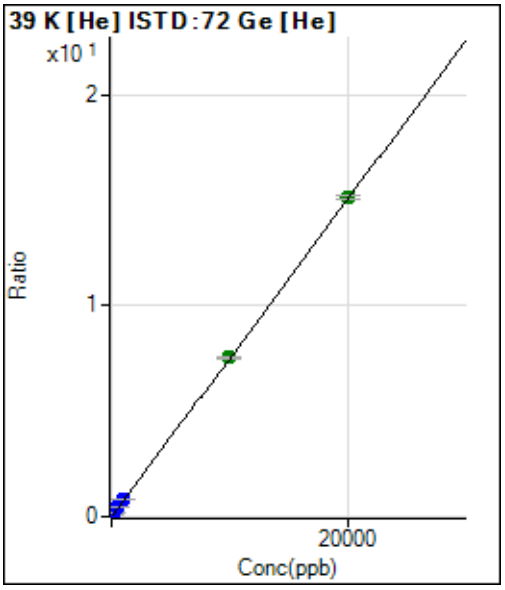
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	423.35	0.0006	P	20.1	
2	☐	2.000	2.324	1113.39	0.0015	P	18.4	16.2
3	☐	5.000	5.634	2100.16	0.0028	P	2.0	12.7
4	☐	10.000	9.807	3317.04	0.0045	P	4.7	-1.9
5	☐	100.000	100.479	28662.53	0.0407	P	2.7	0.5
6	☐	200.000	199.751	54978.31	0.0803	P	1.7	-0.1
7	☐	1.000						

y = 3.9906E-004 * x + 5.5899E-004
R = 1.0000
DL = 0.845 ppb
BEC = 1.401 ppb

Weight: <None>
Min Conc: <None>

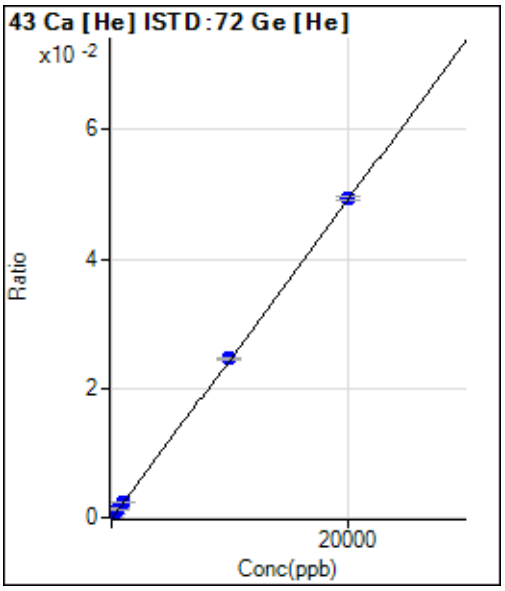


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	46432.52	0.0613	P	1.3	
2	☐	200.000	199.284	158550.88	0.2115	P	1.0	-0.4
3	☐	500.000	493.812	324238.29	0.4334	P	0.9	-1.2
4	☐	1000.000	977.779	591929.56	0.7982	P	1.1	-2.2
5	☐	10000.00	9965.586	5338094.92	7.5715	A	1.2	-0.3
6	☐	20000.00	20018.48	10374317.97	15.1474	A	1.1	0.1
7	☐	100.000						

y = 7.5361E-004 * x + 0.0613
R = 1.0000
DL = 3.169 ppb
BEC = 81.34 ppb

Weight: <None>
Min Conc: <None>

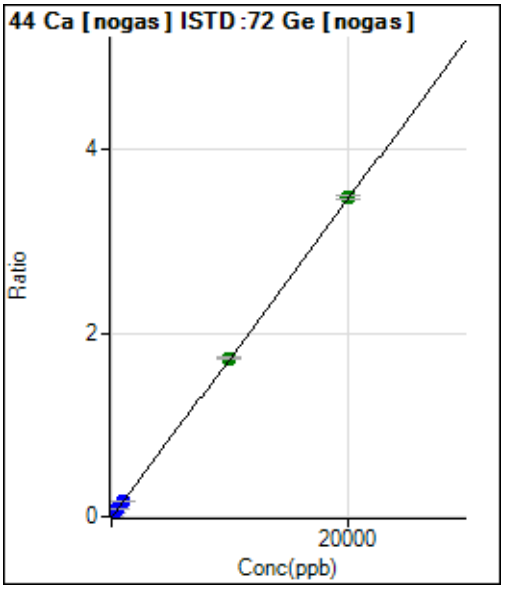
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23.33	0.0000	P	89.2	
2	☐	200.000	209.095	410.01	0.0005	P	22.9	4.5
3	☐	500.000	517.825	976.71	0.0013	P	23.1	3.6
4	☐	1000.000	967.900	1793.45	0.0024	P	7.2	-3.2
5	☐	10000.00	9973.968	17368.49	0.0246	P	1.7	-0.3
6	☐	20000.00	20014.08	33838.26	0.0494	P	1.5	0.1
7	☐	100.000						

y = 2.4669E-006 * x + 3.0713E-005
R = 1.0000
DL = 33.33 ppb
BEC = 12.45 ppb

Weight: <None>
Min Conc: <None>

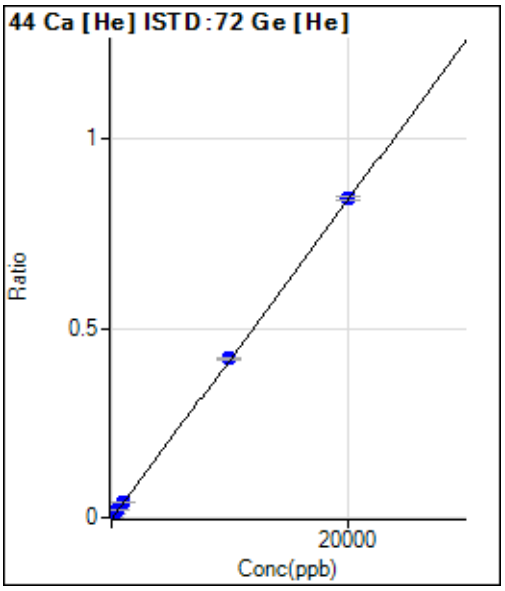


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	21279.32	0.0071	P	0.9	
2	☐	200.000	202.569	124547.79	0.0422	P	0.7	1.3
3	☐	500.000	498.301	273867.12	0.0934	P	1.0	-0.3
4	☐	1000.000	976.239	513535.46	0.1763	P	0.3	-2.4
5	☐	10000.00	9934.918	4788982.85	1.7292	A	0.8	-0.7
6	☐	20000.00	20033.74	9352326.11	3.4798	A	0.8	0.2
7	☐	100.000						

y = 1.7335E-004 * x + 0.0071
R = 1.0000
DL = 1.124 ppb
BEC = 40.73 ppb

Weight: <None>
Min Conc: <None>

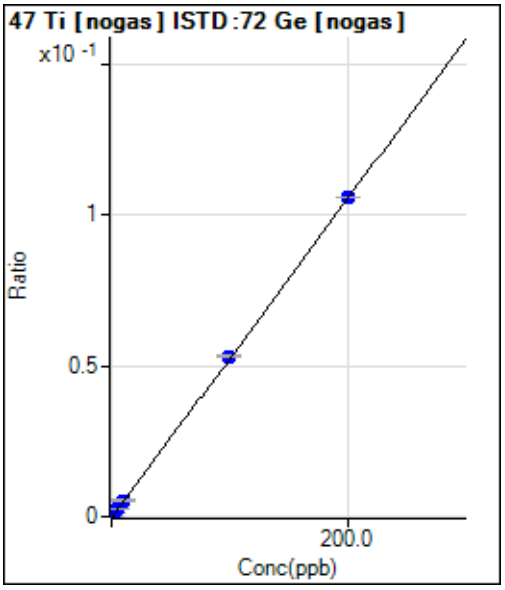
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	220.01	0.0003	P	15.9	
2	☐	200.000	204.357	6668.00	0.0089	P	9.9	2.2
3	☐	500.000	490.519	15670.25	0.0209	P	3.3	-1.9
4	☐	1000.000	971.316	30545.97	0.0412	P	2.7	-2.9
5	☐	10000.00	9965.121	296030.37	0.4199	P	1.1	-0.3
6	☐	20000.00	20019.06	577508.97	0.8432	P	1.0	0.1
7	☐	100.000						

y = 4.2106E-005 * x + 2.9031E-004
R = 1.0000
DL = 3.298 ppb
BEC = 6.895 ppb

Weight: <None>
Min Conc: <None>

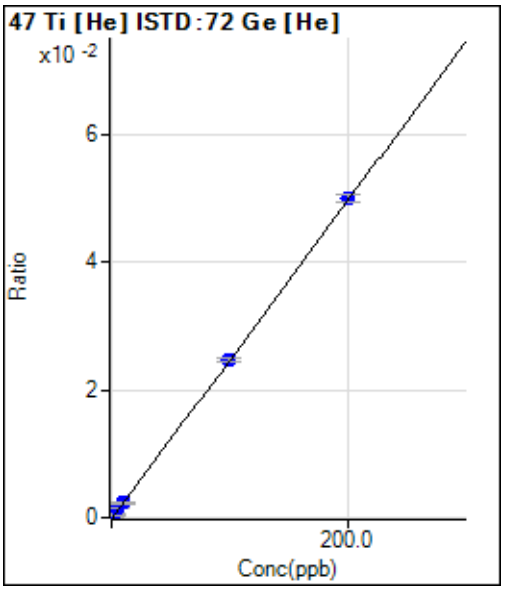


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	160.01	0.0001	P	16.6	
2	☐	2.000	1.989	3270.36	0.0011	P	0.6	-0.6
3	☐	5.000	5.011	7941.87	0.0027	P	2.8	0.2
4	☐	10.000	9.926	15483.53	0.0053	P	4.5	-0.7
5	☐	100.000	100.415	147561.91	0.0533	P	1.4	0.4
6	☐	200.000	199.796	284787.45	0.1060	P	0.4	-0.1
7	☐	1.000						

y = 5.3010E-004 * x + 5.3095E-005
R = 1.0000
DL = 0.04988 ppb
BEC = 0.1002 ppb

Weight: <None>
Min Conc: <None>

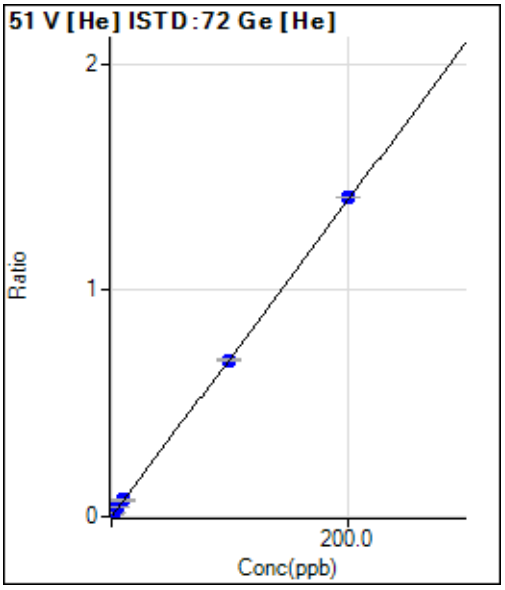
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10.00	0.0000	P	100.	
2	☐	2.000	1.799	346.68	0.0005	P	14.3	-10.
3	☐	5.000	5.892	1110.06	0.0015	P	8.9	17.8
4	☐	10.000	9.108	1696.78	0.0023	P	9.3	-8.9
5	☐	100.000	99.139	17465.29	0.0248	P	2.8	-0.9
6	☐	200.000	200.455	34299.12	0.0501	P	2.4	0.2
7	☐	1.000						

y = 2.4974E-004 * x + 1.3249E-005
R = 1.0000
DL = 0.1596 ppb
BEC = 0.05305 ppb

Weight: <None>
Min Conc: <None>

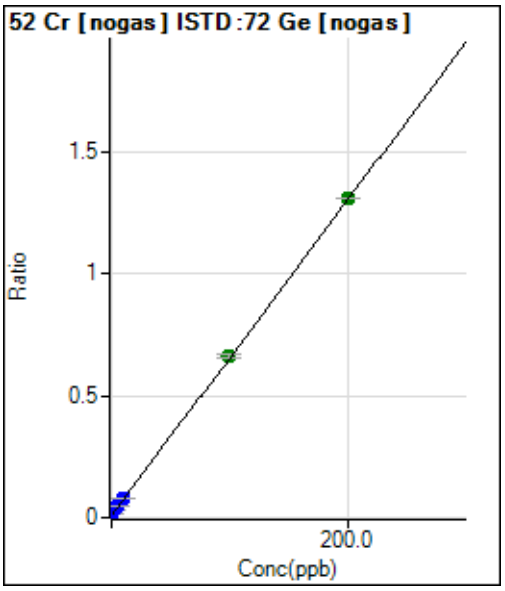


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	5326.37	0.0070	P	0.4	
2	☐	2.000	1.877	15099.63	0.0201	P	0.3	-6.1
3	☐	5.000	4.669	29649.69	0.0396	P	0.9	-6.6
4	☐	10.000	9.389	53831.48	0.0726	P	1.0	-6.1
5	☐	100.000	97.998	487343.28	0.6912	P	0.5	-2.0
6	☐	200.000	201.041	966185.24	1.4107	P	0.5	0.5
7	☐	1.000						

y = 0.0070 * x + 0.0070
R = 0.9999
DL = 0.01234 ppb
BEC = 1.007 ppb

Weight: <None>
Min Conc: <None>

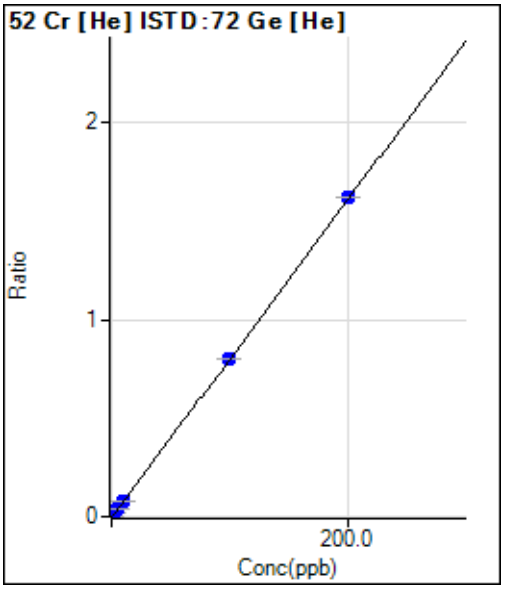
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	47605.99	0.0158	P	1.5	
2	☐	2.000	2.011	85091.94	0.0288	P	2.1	0.6
3	☐	5.000	5.000	141167.29	0.0482	P	1.0	0.0
4	☐	10.000	9.652	228014.03	0.0783	P	0.8	-3.5
5	☐	100.000	100.154	1839195.96	0.6641	A	1.8	0.2
6	☐	200.000	199.940	3520734.53	1.3100	A	0.5	0.0
7	☐	1.000						

y = 0.0065 * x + 0.0158
R = 1.0000
DL = 0.1071 ppb
BEC = 2.44 ppb

Weight: <None>
Min Conc: <None>

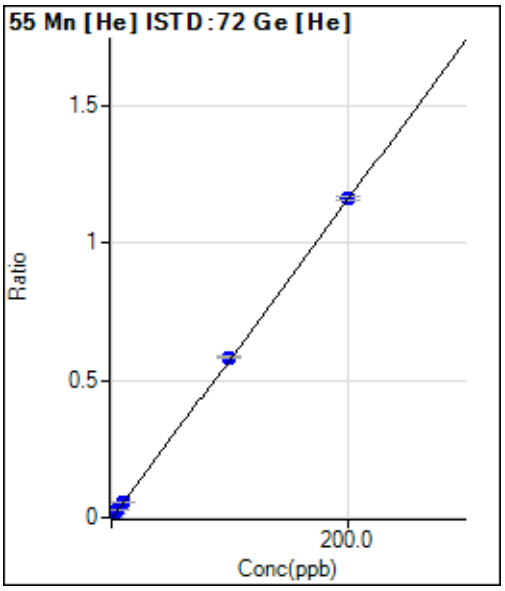


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1310.08	0.0017	P	6.6	
2	☐	2.000	2.088	13932.23	0.0186	P	1.3	4.4
3	☐	5.000	5.019	31591.10	0.0422	P	1.3	0.4
4	☐	10.000	9.728	59500.76	0.0802	P	0.3	-2.7
5	☐	100.000	98.899	563878.40	0.7998	P	0.8	-1.1
6	☐	200.000	200.563	1109669.54	1.6202	P	0.5	0.3
7	☐	1.000						

y = 0.0081 * x + 0.0017
R = 1.0000
DL = 0.0422 ppb
BEC = 0.2144 ppb

Weight: <None>
Min Conc: <None>

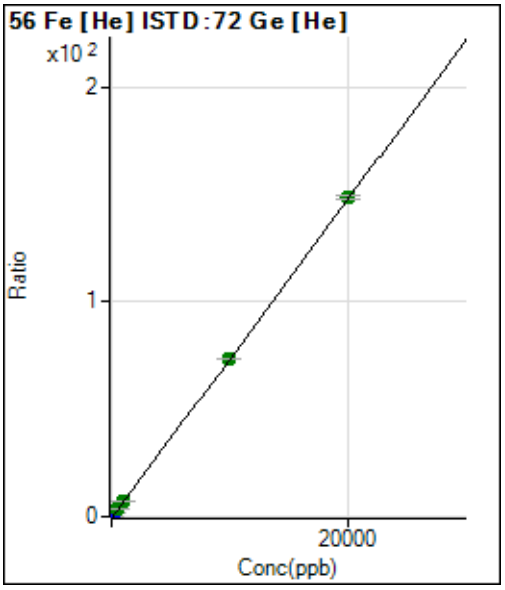
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	626.69	0.0008	P	12.5	
2	☐	2.000	2.094	9759.47	0.0130	P	4.5	4.7
3	☐	5.000	4.990	22337.38	0.0299	P	2.3	-0.2
4	☐	10.000	9.745	42670.48	0.0575	P	1.1	-2.5
5	☐	100.000	100.209	411701.96	0.5839	P	1.5	0.2
6	☐	200.000	199.907	797289.11	1.1641	P	0.7	0.0
7	☐	1.000						

y = 0.0058 * x + 8.2775E-004
R = 1.0000
DL = 0.05335 ppb
BEC = 0.1422 ppb

Weight: <None>
Min Conc: <None>

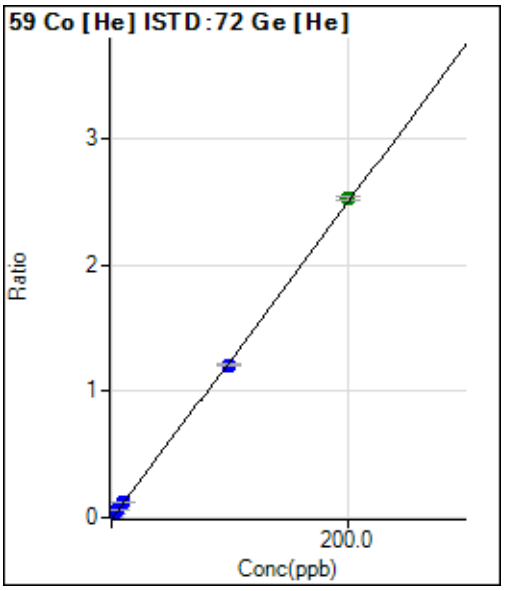


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	14335.85	0.0189	P	4.9	
2	☐	200.000	200.328	1128941.86	1.5058	P	0.7	0.2
3	☐	500.000	514.015	2867840.27	3.8341	A	1.8	2.8
4	☐	1000.000	998.918	5512533.67	7.4331	A	0.6	-0.1
5	☐	10000.00	9921.556	51931632.56	73.6591	A	0.6	-0.8
6	☐	20000.00	20038.92	101880651.8	148.752	A	0.8	0.2
7	☐	100.000						

y = 0.0074 * x + 0.0189
R = 1.0000
DL = 0.3758 ppb
BEC = 2.55 ppb

Weight: <None>
Min Conc: <None>

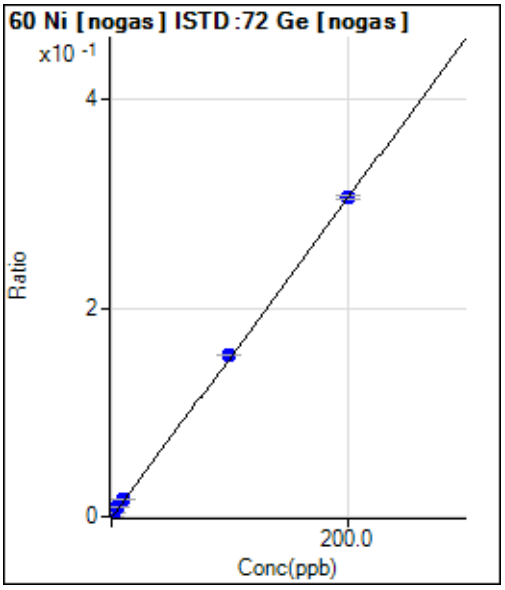
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	263.34	0.0003	P	24.8	
2	☐	2.000	1.989	18933.51	0.0253	P	3.9	-0.6
3	☐	5.000	4.825	45477.62	0.0608	P	2.5	-3.5
4	☐	10.000	9.494	88449.05	0.1193	P	1.4	-5.1
5	☐	100.000	96.540	852769.75	1.2096	P	0.8	-3.5
6	☐	200.000	201.760	1731049.09	2.5275	A	1.0	0.9
7	☐	1.000						

y = 0.0125 * x + 3.4793E-004
R = 0.9998
DL = 0.02066 ppb
BEC = 0.02778 ppb

Weight: <None>
Min Conc: <None>

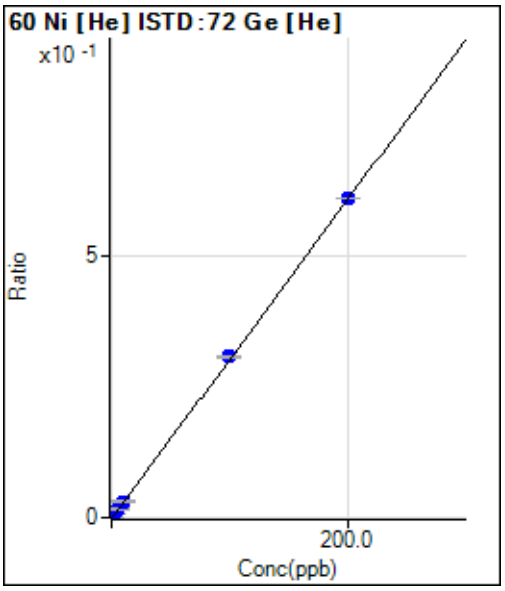


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1540.10	0.0005	P	5.1	
2	☐	2.000	2.129	11153.66	0.0038	P	3.8	6.4
3	☐	5.000	5.239	25057.69	0.0085	P	1.1	4.8
4	☐	10.000	10.189	47024.90	0.0161	P	1.6	1.9
5	☐	100.000	100.985	430510.59	0.1554	P	0.5	1.0
6	☐	200.000	199.491	823915.87	0.3066	P	0.8	-0.3
7	☐	1.000						

y = 0.0015 * x + 5.1092E-004
R = 1.0000
DL = 0.05127 ppb
BEC = 0.333 ppb

Weight: <None>
Min Conc: <None>

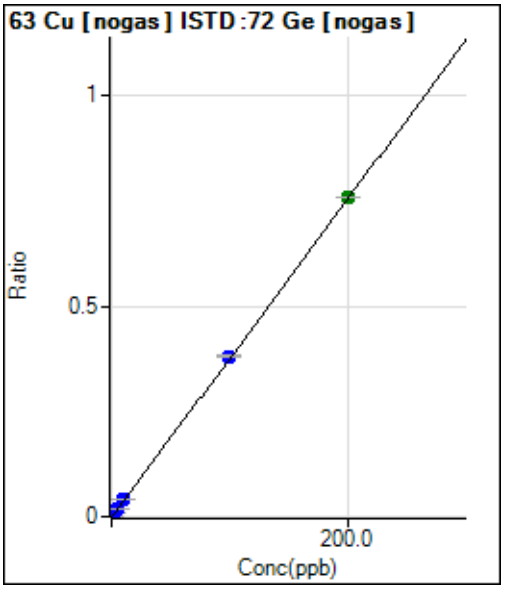
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	380.01	0.0005	P	19.5	
2	☐	2.000	2.108	5204.16	0.0069	P	10.1	5.4
3	☐	5.000	5.173	12197.63	0.0163	P	3.3	3.5
4	☐	10.000	10.061	23171.88	0.0312	P	4.1	0.6
5	☐	100.000	100.634	217150.92	0.3080	P	0.6	0.6
6	☐	200.000	199.675	418243.61	0.6106	P	0.4	-0.2
7	☐	1.000						

y = 0.0031 * x + 5.0204E-004
R = 1.0000
DL = 0.09625 ppb
BEC = 0.1643 ppb

Weight: <None>
Min Conc: <None>

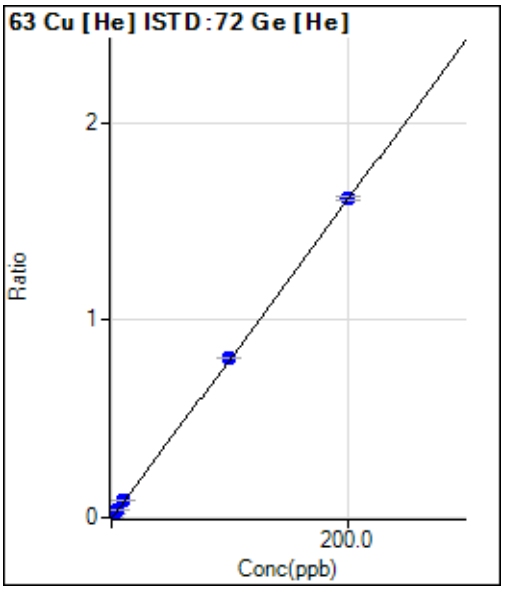


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	4574.01	0.0015	P	7.0	
2	☐	2.000	2.041	27301.06	0.0092	P	3.4	2.0
3	☐	5.000	4.917	59020.34	0.0201	P	3.3	-1.7
4	☐	10.000	9.913	113767.29	0.0391	P	0.4	-0.9
5	☐	100.000	99.888	1051641.36	0.3797	P	1.2	-0.1
6	☐	200.000	200.062	2039919.86	0.7591	A	0.5	0.0
7	☐	1.000						

y = 0.0038 * x + 0.0015
R = 1.0000
DL = 0.08416 ppb
BEC = 0.4008 ppb

Weight: <None>
Min Conc: <None>

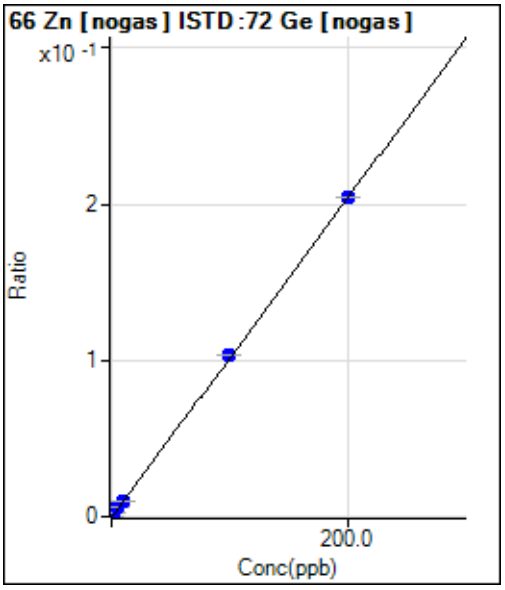
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1913.46	0.0025	P	3.5	
2	☐	2.000	2.013	14092.37	0.0188	P	4.1	0.7
3	☐	5.000	4.915	31614.86	0.0423	P	0.8	-1.7
4	☐	10.000	10.115	62508.78	0.0843	P	2.5	1.2
5	☐	100.000	100.176	572644.60	0.8122	P	0.4	0.2
6	☐	200.000	199.908	1108410.66	1.6184	P	0.7	0.0
7	☐	1.000						

y = 0.0081 * x + 0.0025
R = 1.0000
DL = 0.03324 ppb
BEC = 0.3126 ppb

Weight: <None>
Min Conc: <None>

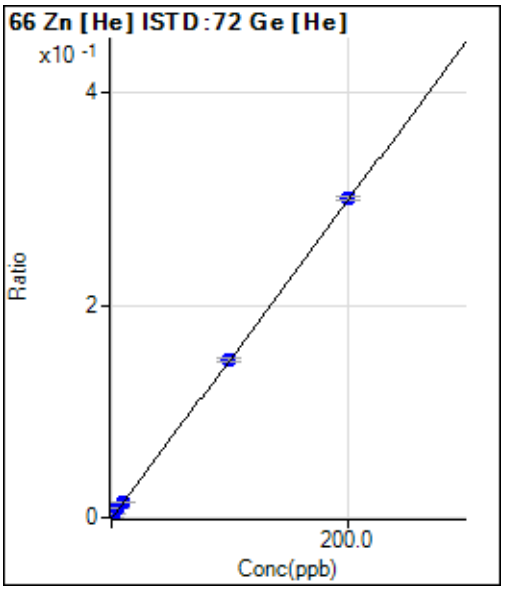


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1323.41	0.0004	P	13.0	
2	☐	2.000	1.868	6938.13	0.0023	P	3.7	-6.6
3	☐	5.000	5.416	17518.73	0.0060	P	0.8	8.3
4	☐	10.000	9.724	30245.82	0.0104	P	0.9	-2.8
5	☐	100.000	101.169	287747.90	0.1039	P	0.1	1.2
6	☐	200.000	199.420	549256.26	0.2044	P	0.1	-0.3
7	☐	1.000						

y = 0.0010 * x + 4.3868E-004
R = 1.0000
DL = 0.1667 ppb
BEC = 0.429 ppb

Weight: <None>
Min Conc: <None>

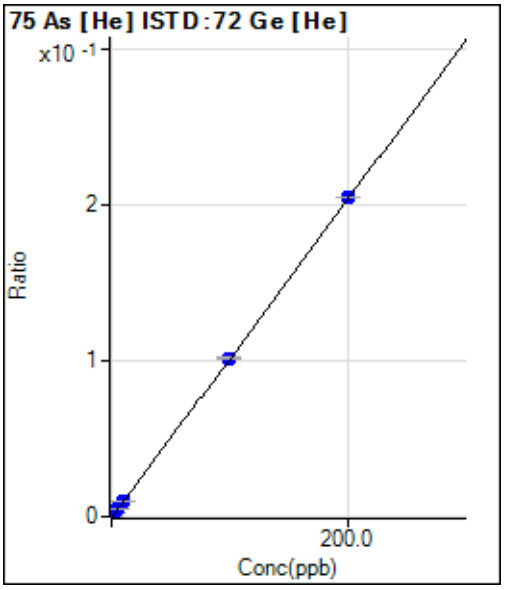
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	443.34	0.0006	P	1.9	
2	☐	2.000	2.016	2700.25	0.0036	P	1.6	0.8
3	☐	5.000	5.532	6631.34	0.0089	P	4.7	10.6
4	☐	10.000	9.415	10883.49	0.0147	P	2.3	-5.8
5	☐	100.000	98.907	104770.55	0.1486	P	1.4	-1.1
6	☐	200.000	200.563	205974.22	0.3007	P	0.8	0.3
7	☐	1.000						

y = 0.0015 * x + 5.8537E-004
R = 1.0000
DL = 0.02184 ppb
BEC = 0.3911 ppb

Weight: <None>
Min Conc: <None>

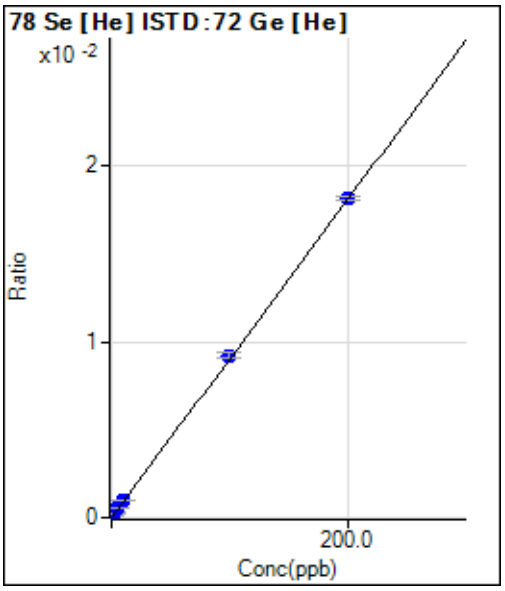


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	103.33	0.0001	P	19.7	
2	☐	2.000	1.874	1535.63	0.0020	P	3.0	-6.3
3	☐	5.000	4.731	3713.74	0.0050	P	1.3	-5.4
4	☐	10.000	9.782	7504.95	0.0101	P	0.9	-2.2
5	☐	100.000	99.447	71649.60	0.1016	P	0.9	-0.6
6	☐	200.000	200.295	140099.02	0.2046	P	0.4	0.1
7	☐	1.000						

y = 0.0010 * x + 1.3633E-004
R = 1.0000
DL = 0.07876 ppb
BEC = 0.1336 ppb

Weight: <None>
Min Conc: <None>

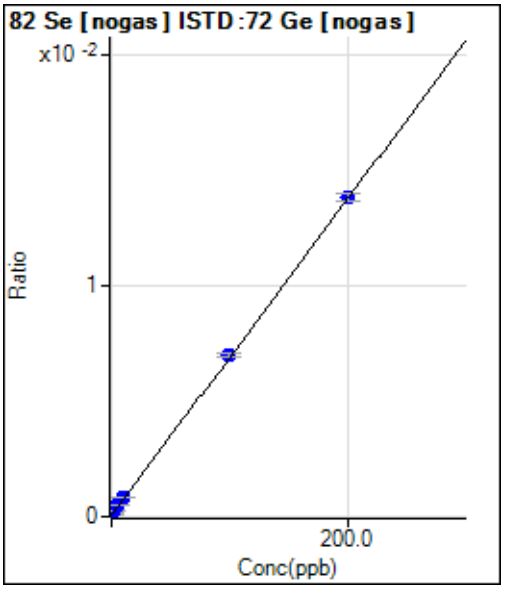
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	69.33	0.0001	P	27.7	
2	☐	2.000	2.002	204.67	0.0003	P	17.2	0.1
3	☐	5.000	5.411	435.34	0.0006	P	3.9	8.2
4	☐	10.000	10.078	745.35	0.0010	P	1.8	0.8
5	☐	100.000	100.704	6499.88	0.0092	P	3.9	0.7
6	☐	200.000	199.634	12455.71	0.0182	P	0.8	-0.2
7	☐	1.000						

y = 9.0639E-005 * x + 9.1613E-005
R = 1.0000
DL = 0.8388 ppb
BEC = 1.011 ppb

Weight: <None>
Min Conc: <None>

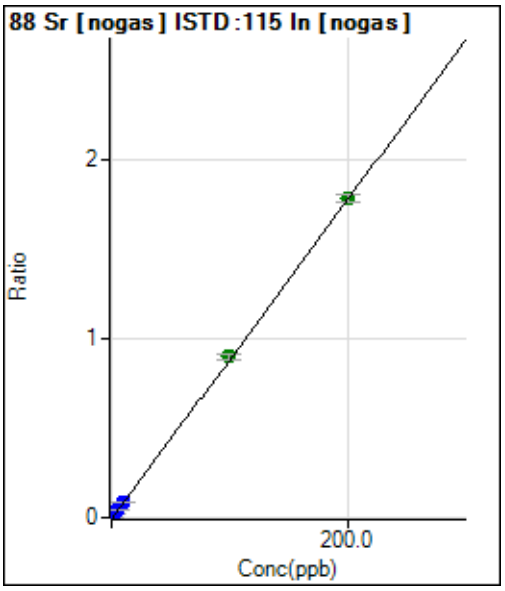


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	360.01	0.0001	P	22.7	
2	☐	2.000	2.162	790.03	0.0003	P	2.4	8.1
3	☐	5.000	5.147	1383.41	0.0005	P	6.1	2.9
4	☐	10.000	10.235	2390.20	0.0008	P	2.8	2.4
5	☐	100.000	100.299	19357.47	0.0070	P	1.9	0.3
6	☐	200.000	199.834	37115.87	0.0138	P	2.5	-0.1
7	☐	1.000						

y = 6.8502E-005 * x + 1.1943E-004
R = 1.0000
DL = 1.187 ppb
BEC = 1.744 ppb

Weight: <None>
Min Conc: <None>

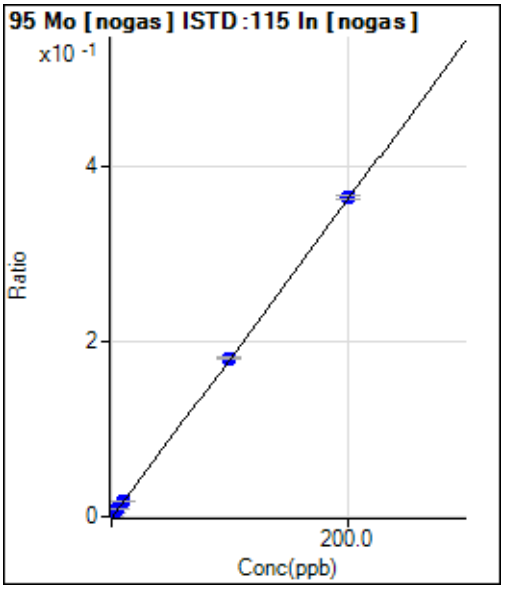
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	873.37	0.0002	P	6.1	
2	☐	2.000	1.959	64006.14	0.0178	P	1.2	-2.0
3	☐	5.000	4.861	154759.38	0.0438	P	0.2	-2.8
4	☐	10.000	9.634	306114.32	0.0865	P	1.3	-3.7
5	☐	100.000	100.517	3017553.08	0.9000	A	3.0	0.5
6	☐	200.000	199.764	5852834.71	1.7884	A	2.5	-0.1
7	☐	1.000						

y = 0.0090 * x + 2.4308E-004
R = 1.0000
DL = 0.005 ppb
BEC = 0.02716 ppb

Weight: <None>
Min Conc: <None>

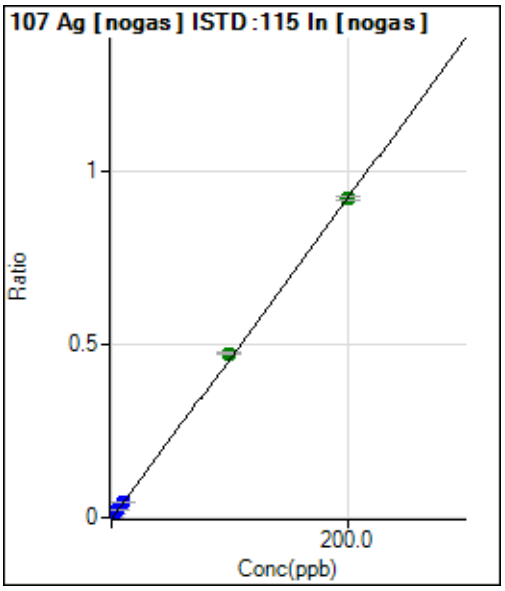


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	823.37	0.0002	P	22.4	
2	☐	2.000	1.928	13442.03	0.0037	P	4.2	-3.6
3	☐	5.000	4.711	31101.32	0.0088	P	3.0	-5.8
4	☐	10.000	9.408	61333.93	0.0173	P	3.1	-5.9
5	☐	100.000	99.123	605016.05	0.1804	P	1.1	-0.9
6	☐	200.000	200.476	1193459.85	0.3647	P	1.6	0.2
7	☐	1.000						

y = 0.0018 * x + 2.2929E-004
R = 1.0000
DL = 0.0849 ppb
BEC = 0.1261 ppb

Weight: <None>
Min Conc: <None>

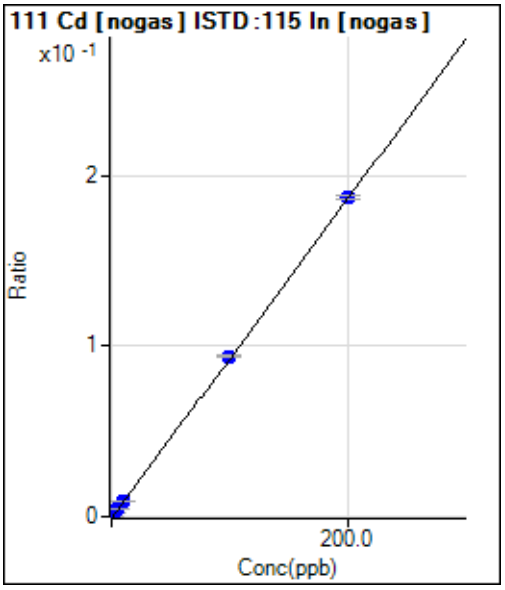
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	403.34	0.0001	P	13.7	
2	☐	2.000	1.926	32641.00	0.0091	P	2.4	-3.7
3	☐	5.000	4.805	79397.67	0.0225	P	0.9	-3.9
4	☐	10.000	9.535	157289.13	0.0444	P	1.3	-4.6
5	☐	100.000	102.247	1594216.49	0.4754	A	1.3	2.2
6	☐	200.000	198.905	3026449.54	0.9248	A	0.7	-0.5
7	☐	1.000						

y = 0.0046 * x + 1.1217E-004
R = 0.9999
DL = 0.009943 ppb
BEC = 0.02413 ppb

Weight: <None>
Min Conc: <None>

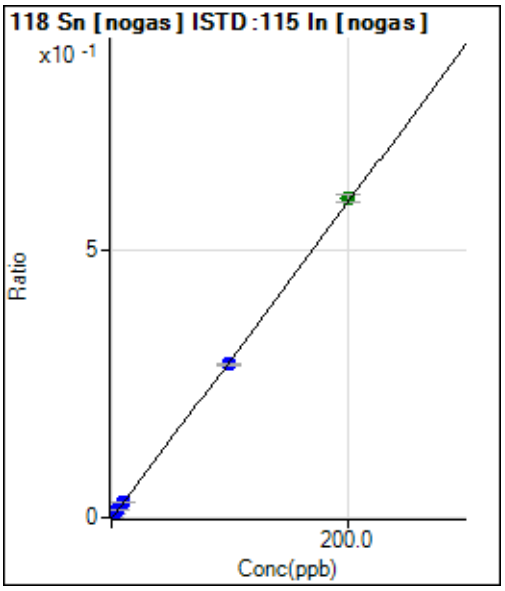


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6.67	0.0000	P	173.	
2	☐	2.000	1.960	6624.76	0.0018	P	9.1	-2.0
3	☐	5.000	4.993	16571.52	0.0047	P	2.9	-0.1
4	☐	10.000	9.673	32123.56	0.0091	P	1.5	-3.3
5	☐	100.000	100.219	315214.44	0.0940	P	1.5	0.2
6	☐	200.000	199.907	613654.57	0.1875	P	1.8	0.0
7	☐	1.000						

y = 9.3799E-004 * x + 1.8544E-006
R = 1.0000
DL = 0.01027 ppb
BEC = 0.001977 ppb

Weight: <None>
Min Conc: <None>

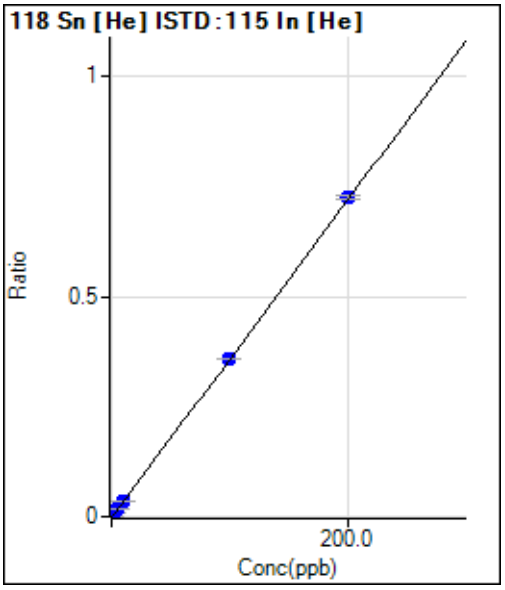
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2370.21	0.0007	P	10.2	
2	☐	2.000	1.821	21754.00	0.0060	P	0.7	-8.9
3	☐	5.000	4.728	51757.92	0.0146	P	0.9	-5.4
4	☐	10.000	9.447	101179.48	0.0286	P	2.3	-5.5
5	☐	100.000	96.752	961182.23	0.2867	P	1.6	-3.2
6	☐	200.000	201.660	1953082.47	0.5968	A	2.0	0.8
7	☐	1.000						

y = 0.0030 * x + 6.5932E-004
R = 0.9998
DL = 0.06857 ppb
BEC = 0.223 ppb

Weight: <None>
Min Conc: <None>

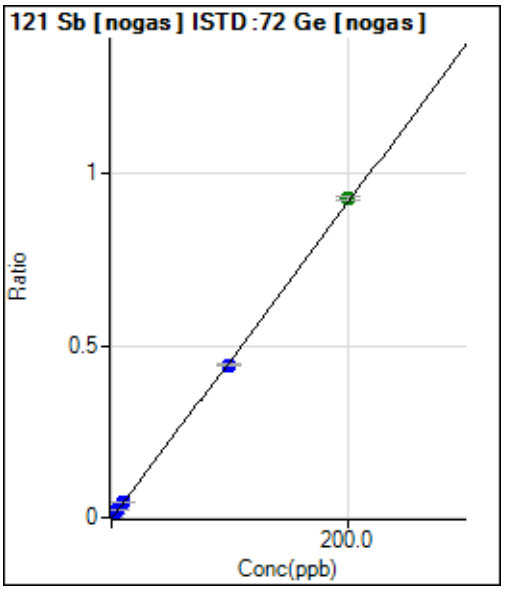


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1083.39	0.0008	P	11.1	
2	☐	2.000	1.832	10189.88	0.0074	P	5.0	-8.4
3	☐	5.000	4.710	23292.70	0.0178	P	2.3	-5.8
4	☐	10.000	9.716	46864.05	0.0359	P	1.8	-2.8
5	☐	100.000	98.699	444299.55	0.3572	P	0.5	-1.3
6	☐	200.000	200.674	877424.85	0.7255	P	0.7	0.3
7	☐	1.000						

y = 0.0036 * x + 7.8429E-004
R = 1.0000
DL = 0.07215 ppb
BEC = 0.2172 ppb

Weight: <None>
Min Conc: <None>

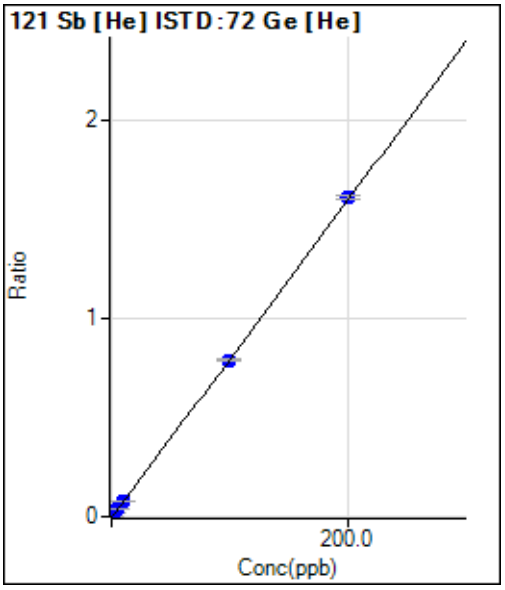
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2500.22	0.0008	P	8.5	
2	☐	2.000	1.804	26968.10	0.0091	P	1.5	-9.8
3	☐	5.000	4.663	65317.43	0.0223	P	3.2	-6.7
4	☐	10.000	9.252	126438.79	0.0434	P	1.4	-7.5
5	☐	100.000	96.456	1231434.23	0.4447	P	1.5	-3.5
6	☐	200.000	201.820	2497964.34	0.9295	A	0.8	0.9
7	☐	1.000						

y = 0.0046 * x + 8.3015E-004
R = 0.9998
DL = 0.04602 ppb
BEC = 0.1804 ppb

Weight: <None>
Min Conc: <None>

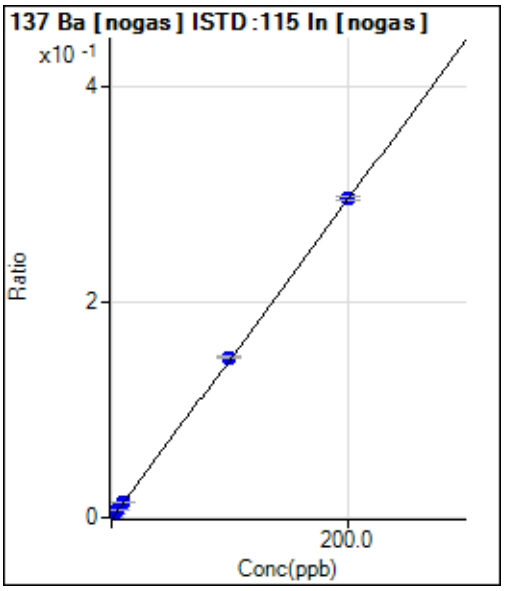


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1110.06	0.0015	P	5.1	
2	☐	2.000	1.890	12464.71	0.0166	P	2.1	-5.5
3	☐	5.000	4.793	29849.61	0.0399	P	2.4	-4.1
4	☐	10.000	9.490	57536.67	0.0776	P	1.9	-5.1
5	☐	100.000	98.356	557193.89	0.7903	P	1.3	-1.6
6	☐	200.000	200.854	1104353.26	1.6124	P	0.8	0.4
7	☐	1.000						

y = 0.0080 * x + 0.0015
R = 1.0000
DL = 0.02786 ppb
BEC = 0.1827 ppb

Weight: <None>
Min Conc: <None>

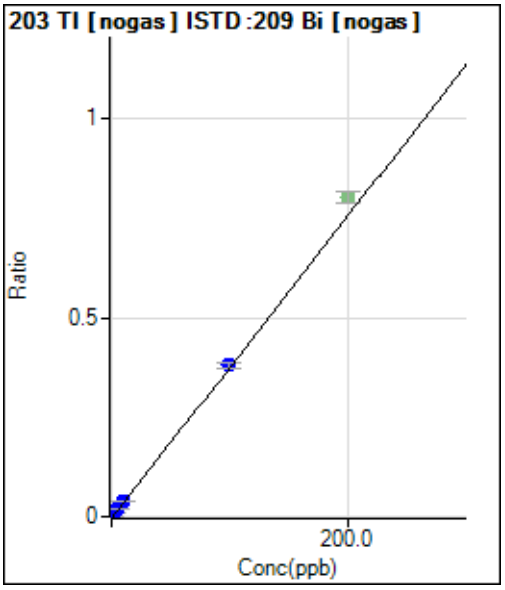
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	336.68	0.0001	P	17.8	
2	☐	2.000	1.973	10873.66	0.0030	P	0.9	-1.3
3	☐	5.000	4.860	25826.61	0.0073	P	0.8	-2.8
4	☐	10.000	9.578	50622.37	0.0143	P	1.4	-4.2
5	☐	100.000	100.223	498823.99	0.1488	P	0.8	0.2
6	☐	200.000	199.914	970751.65	0.2966	P	1.3	0.0
7	☐	1.000						

y = 0.0015 * x + 9.3477E-005
R = 1.0000
DL = 0.03373 ppb
BEC = 0.06302 ppb

Weight: <None>
Min Conc: <None>

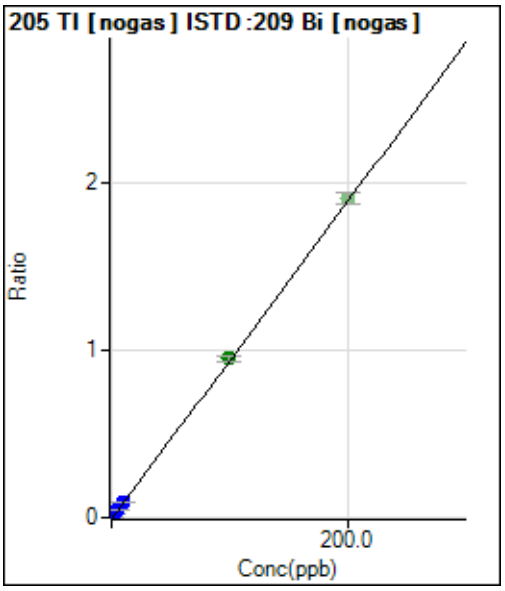


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	140.00	0.0000	P	53.6	
2	☐	2.000	2.016	27543.97	0.0077	P	3.2	0.8
3	☐	5.000	4.900	66764.80	0.0186	P	5.5	-2.0
4	☐	10.000	9.835	132443.76	0.0374	P	3.6	-1.7
5	☐	100.000	100.021	1309997.74	0.3797	P	4.0	0.0
6	☑	200.000		2679411.52	0.8023	A	4.1	
7	☐	1.000						

y = 0.0038 * x + 3.9641E-005
R = 1.0000
DL = 0.01681 ppb
BEC = 0.01044 ppb

Weight: <None>
Min Conc: <None>

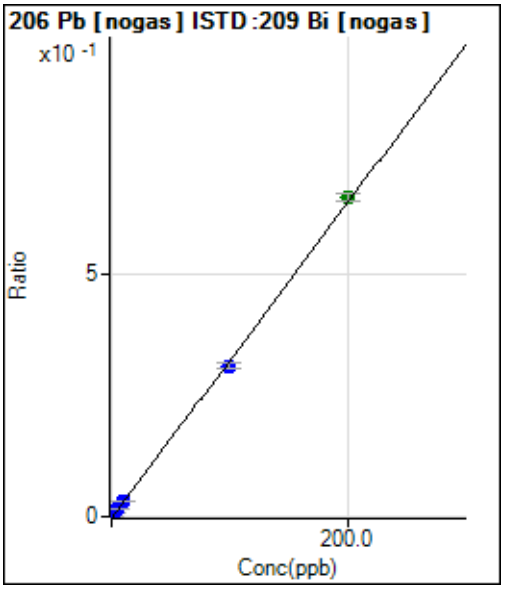
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	390.01	0.0001	P	34.6	
2	☐	2.000	1.864	63776.61	0.0178	P	6.2	-6.8
3	☐	5.000	4.625	157883.77	0.0441	P	5.4	-7.5
4	☐	10.000	9.472	319480.44	0.0902	P	4.6	-5.3
5	☐	100.000	100.074	3283268.60	0.9514	A	3.2	0.1
6	☑	200.000		6379116.99	1.9101	A	3.7	
7	☐	1.000						

y = 0.0095 * x + 1.0943E-004
R = 1.0000
DL = 0.01194 ppb
BEC = 0.01151 ppb

Weight: <None>
Min Conc: <None>

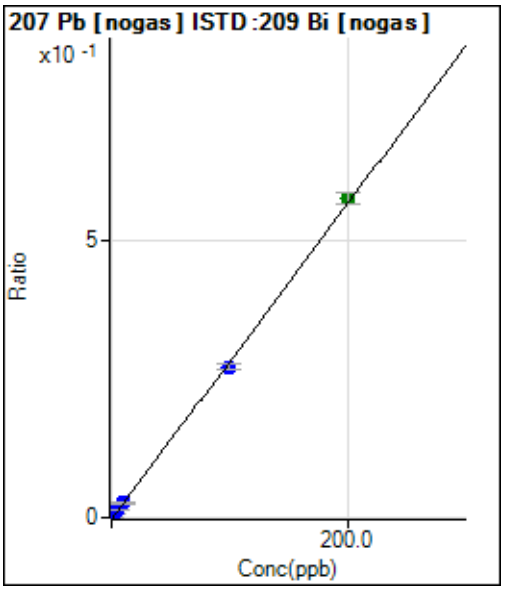


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	493.35	0.0001	P	8.8	
2	☐	2.000	1.904	22729.70	0.0063	P	2.1	-4.8
3	☐	5.000	4.761	56131.27	0.0157	P	3.6	-4.8
4	☐	10.000	9.367	108738.75	0.0307	P	4.2	-6.3
5	☐	100.000	95.522	1075183.11	0.3116	P	4.2	-4.5
6	☐	200.000	202.277	2203822.94	0.6598	A	3.0	1.1
7	☐	1.000						

y = 0.0033 * x + 1.3819E-004
R = 0.9997
DL = 0.01116 ppb
BEC = 0.04238 ppb

Weight: <None>
Min Conc: <None>

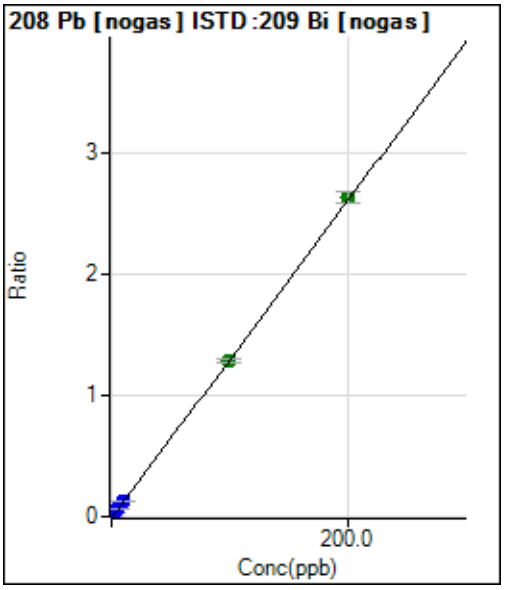
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	390.01	0.0001	P	13.1	
2	☐	2.000	1.873	19532.13	0.0055	P	4.8	-6.3
3	☐	5.000	4.768	49155.17	0.0137	P	5.0	-4.6
4	☐	10.000	9.330	94754.83	0.0267	P	5.1	-6.7
5	☐	100.000	95.576	941832.62	0.2730	P	3.7	-4.4
6	☐	200.000	202.253	1928957.52	0.5775	A	3.2	1.1
7	☐	1.000						

y = 0.0029 * x + 1.0912E-004
R = 0.9997
DL = 0.01508 ppb
BEC = 0.03822 ppb

Weight: <None>
Min Conc: <None>

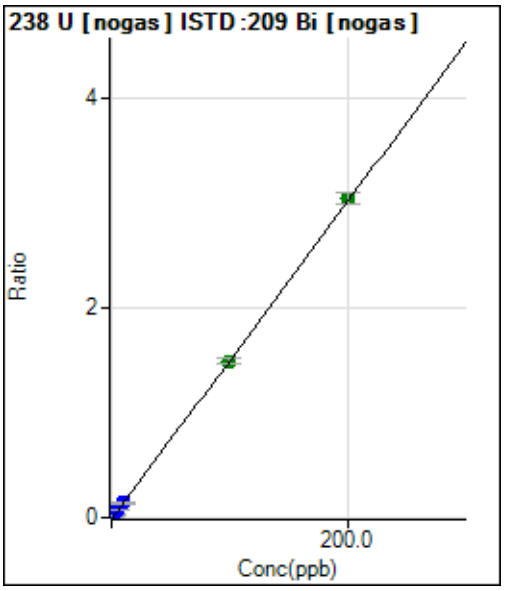


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1973.41	0.0006	P	7.5	
2	☐	2.000	1.871	89915.88	0.0251	P	3.9	-6.5
3	☐	5.000	4.673	221860.28	0.0619	P	3.9	-6.5
4	☐	10.000	9.277	433594.86	0.1224	P	4.8	-7.2
5	☐	100.000	97.813	4434124.28	1.2849	A	3.0	-2.2
6	☐	200.000	201.139	8822842.27	2.6416	A	3.5	0.6
7	☐	1.000						

y = 0.0131 * x + 5.5245E-004
R = 0.9999
DL = 0.009491 ppb
BEC = 0.04207 ppb

Weight: <None>
Min Conc: <None>

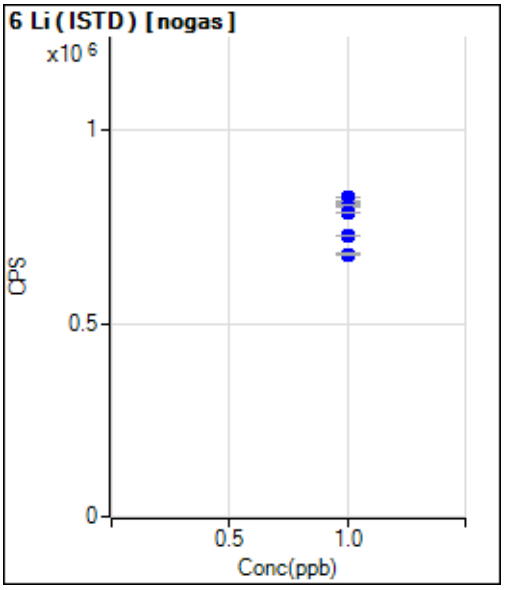
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	336.68	0.0001	P	12.7	
2	☐	2.000	1.830	99711.77	0.0279	P	3.9	-8.5
3	☐	5.000	4.556	247951.49	0.0692	P	4.9	-8.9
4	☐	10.000	9.127	490980.72	0.1386	P	4.8	-8.7
5	☐	100.000	98.328	5148221.69	1.4919	A	3.2	-1.7
6	☐	200.000	200.892	10178942.76	3.0480	A	4.1	0.4
7	☐	1.000						

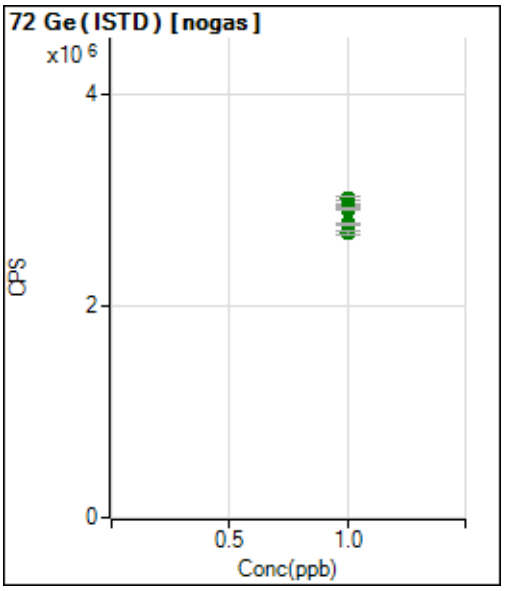
y = 0.0152 * x + 9.4145E-005
R = 1.0000
DL = 0.002357 ppb
BEC = 0.006205 ppb

Weight: <None>
Min Conc: <None>

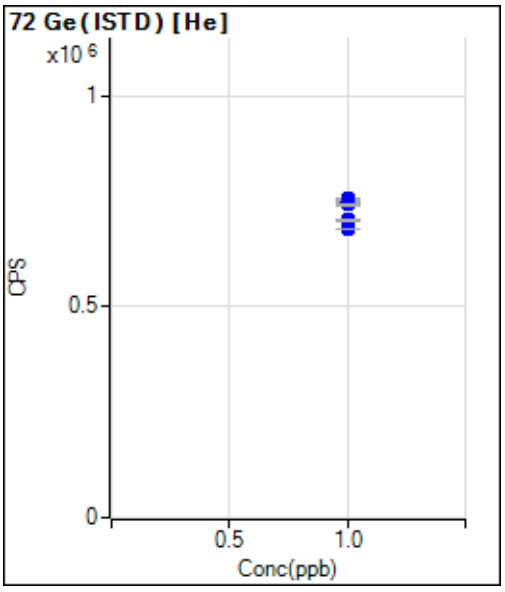


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		826657.33		P	0.2	
2	☐	1.000		814221.19		P	0.2	
3	☐	1.000		802934.61		P	0.8	
4	☐	1.000		787350.95		P	0.4	
5	☐	1.000		727826.35		P	0.4	
6	☐	1.000		678267.88		P	0.6	
7	☐	1.000						

Calibration for 026_ICV.d

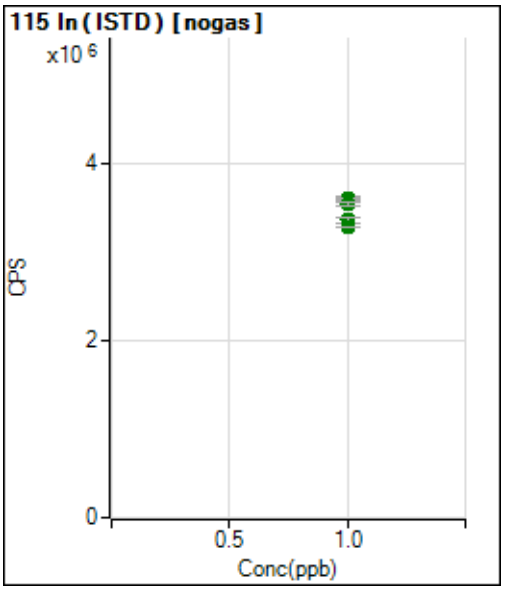


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3013773.60		A	1.2	
2	☐	1.000		2953072.98		A	0.2	
3	☐	1.000		2931009.12		A	0.4	
4	☐	1.000		2913015.90		A	0.4	
5	☐	1.000		2769505.37		A	0.9	
6	☐	1.000		2687524.02		A	0.9	
7	☐	1.000						

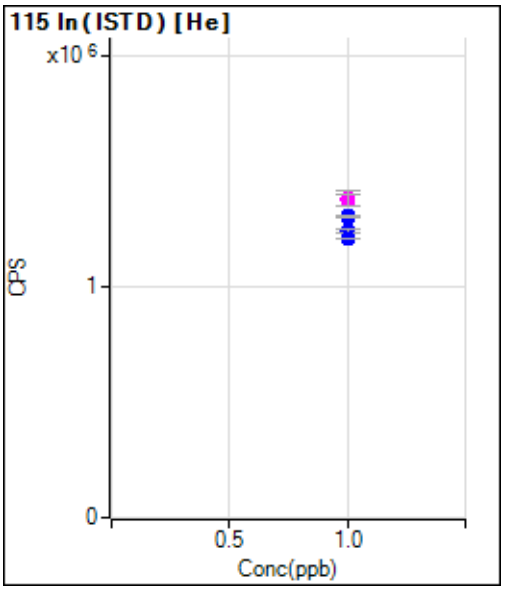


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		757426.71		P	0.6	
2	☐	1.000		749744.89		P	0.7	
3	☐	1.000		748118.61		P	1.4	
4	☐	1.000		741618.32		P	0.1	
5	☐	1.000		705019.63		P	0.3	
6	☐	1.000		684912.28		P	0.5	
7	☐	1.000						

Calibration for 026_ICV.d

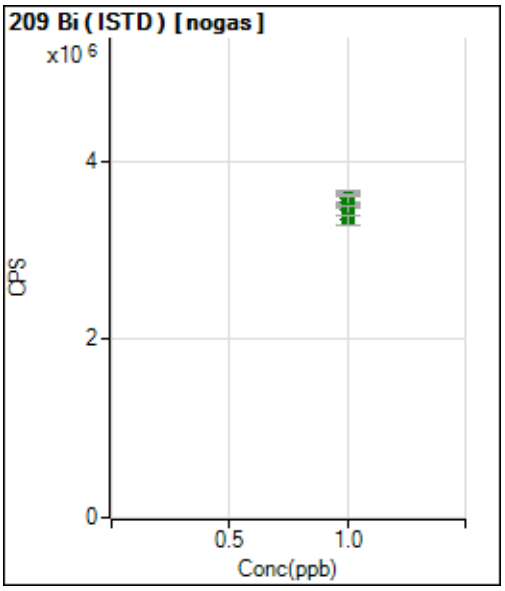


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3595137.39		A	1.5	
2	☐	1.000		3599829.45		A	0.2	
3	☐	1.000		3536713.04		A	0.8	
4	☐	1.000		3539945.31		A	1.5	
5	☐	1.000		3353564.75		A	1.6	
6	☐	1.000		3272751.07		A	0.4	
7	☐	1.000						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1385925.50		M	4.6	
2	☐	1.000		1377762.12		M	3.6	
3	☐	1.000		1309118.34		P	0.7	
4	☐	1.000		1306443.05		P	0.2	
5	☐	1.000		1243682.35		P	1.2	
6	☐	1.000		1209376.70		P	0.3	
7	☐	1.000						

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3580151.93		A	4.8	
2	☐	1.000		3583252.45		A	3.7	
3	☐	1.000		3585936.19		A	2.9	
4	☐	1.000		3547428.49		A	3.6	
5	☐	1.000		3453079.53		A	3.1	
6	☐	1.000		3342259.53		A	3.0	
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\121020A.b
Acq Date Time	2020-12-10T11:06:02-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	68	12.36
B	11	1	nogas	36764	0.00
Ca	44	1	nogas	21279	0.00
Ti	47	1	nogas	160	10.34
Cr	52	1	nogas	47606	0.00
Ni	60	1	nogas	1540	0.38
Cu	63	1	nogas	4574	0.15
Zn	66	1	nogas	1323	1.07
Se	82	1	nogas	360	6.32
Sr	88	1	nogas	873	0.53
Mo	95	1	nogas	823	2.66
Ag	107	1	nogas	403	3.50
Cd	111	1	nogas	7	2598.08
Sn	118	1	nogas	2370	0.43
Sb	121	1	nogas	2500	0.29
Ba	137	1	nogas	337	5.74
Tl	205	1	nogas	390	8.24
Pb	208	1	nogas	1973	0.17
Li	7	1	nogas	56688	0.00
Na	23	2	He	23462	0.00
Mg	24	2	He	1847	0.52
Al	27	2	He	423	4.75
K	39	2	He	46433	0.00
Ca	43	2	He	23	382.35
Ca	44	2	He	220	7.45
V	51	2	He	5326	0.02
Cr	52	2	He	1310	0.50
Mn	55	2	He	627	1.91
Fe	56	2	He	14336	0.03
Co	59	2	He	263	9.27
Ni	60	2	He	380	4.99
Cu	63	2	He	1913	0.18
Zn	66	2	He	443	0.29
As	75	2	He	103	19.50
Sb	121	2	He	1110	0.51
Se	78	2	He	69	39.32

QC ISTD Table

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	3013774	1.23
In	115	1	nogas	3595137	1.54
Li	6	1	nogas	826657	0.22

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Bi	209	1	nogas	3580152	4.75
Ge	72	2	He	757427	0.56
In	115	2	He	1385926	4.60

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	016CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T11:08:04-06:00
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	5676	0.13
B	11	1	nogas	51963	0.00
Ca	44	1	nogas	124548	0.00
Ti	47	1	nogas	3270	0.02
Cr	52	1	nogas	85092	0.00
Ni	60	1	nogas	11154	0.04
Cu	63	1	nogas	27301	0.01
Zn	66	1	nogas	6938	0.06
Se	82	1	nogas	790	0.28
Sr	88	1	nogas	64006	0.00
Mo	95	1	nogas	13442	0.03
Ag	107	1	nogas	32641	0.01
Cd	111	1	nogas	6625	0.14
Sn	118	1	nogas	21754	0.00
Sb	121	1	nogas	26968	0.01
Ba	137	1	nogas	10874	0.01
Tl	205	1	nogas	63777	0.00
Pb	208	1	nogas	89916	0.00
Na	23	2	He	213031	0.00
Mg	24	2	He	110822	0.00
Al	27	2	He	1113	1.59
K	39	2	He	158551	0.00
Ca	43	2	He	410	5.67
Ca	44	2	He	6668	0.15
V	51	2	He	15100	0.01
Cr	52	2	He	13932	0.01
Mn	55	2	He	9759	0.05
Fe	56	2	He	1128942	0.00
Co	59	2	He	18934	0.02
Ni	60	2	He	5204	0.19
Cu	63	2	He	14092	0.02
Zn	66	2	He	2700	0.04
As	75	2	He	1536	0.15
Sb	121	2	He	12465	0.02
Se	78	2	He	205	8.22

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2953073	0.24	3013774	97.99	70	120	

Calibration Standard Report

In	115	1	nogas	3599829	0.24	3595137	100.13	70	120	
Li	6	1	nogas	814221	0.17	826657	98.50	70	120	
Bi	209	1	nogas	3583252	3.68	3580152	100.09	70	120	
Ge	72	2	He	749745	0.68	757427	98.99	70	120	
In	115	2	He	1377762	3.60	1385926	99.41	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\121020A.b
Acq Date Time	2020-12-10T11:10:06-06:00
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	13225	0.02
B	11	1	nogas	74553	0.00
Ca	44	1	nogas	273867	0.00
Ti	47	1	nogas	7942	0.03
Cr	52	1	nogas	141167	0.00
Ni	60	1	nogas	25058	0.00
Cu	63	1	nogas	59020	0.01
Zn	66	1	nogas	17519	0.01
Se	82	1	nogas	1383	0.44
Sr	88	1	nogas	154759	0.00
Mo	95	1	nogas	31101	0.01
Ag	107	1	nogas	79398	0.00
Cd	111	1	nogas	16572	0.02
Sn	118	1	nogas	51758	0.00
Sb	121	1	nogas	65317	0.00
Ba	137	1	nogas	25827	0.00
Tl	205	1	nogas	157884	0.00
Pb	208	1	nogas	221860	0.00
Na	23	2	He	485626	0.00
Mg	24	2	He	267426	0.00
Al	27	2	He	2100	0.11
K	39	2	He	324238	0.00
Ca	43	2	He	977	2.25
Ca	44	2	He	15670	0.03
V	51	2	He	29650	0.01
Cr	52	2	He	31591	0.00
Mn	55	2	He	22337	0.01
Fe	56	2	He	2867840	0.00
Co	59	2	He	45478	0.01
Ni	60	2	He	12198	0.02
Cu	63	2	He	31615	0.01
Zn	66	2	He	6631	0.07
As	75	2	He	3714	0.02
Sb	121	2	He	29850	0.00
Se	78	2	He	435	0.74

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2931009	0.37	3013774	97.25	70	120	

Calibration Standard Report

In	115	1	nogas	3536713	0.82	3595137	98.37	70	120	
Li	6	1	nogas	802935	0.76	826657	97.13	70	120	
Bi	209	1	nogas	3585936	2.95	3580152	100.16	70	120	
Ge	72	2	He	748119	1.42	757427	98.77	70	120	
In	115	2	He	1309118	0.73	1385926	94.46	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\121020A.b
Acq Date Time	2020-12-10T11:12:08-06:00
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	25783	0.01
B	11	1	nogas	113600	0.00
Ca	44	1	nogas	513535	0.00
Ti	47	1	nogas	15484	0.03
Cr	52	1	nogas	228014	0.00
Ni	60	1	nogas	47025	0.00
Cu	63	1	nogas	113767	0.00
Zn	66	1	nogas	30246	0.00
Se	82	1	nogas	2390	0.11
Sr	88	1	nogas	306114	0.00
Mo	95	1	nogas	61334	0.00
Ag	107	1	nogas	157289	0.00
Cd	111	1	nogas	32124	0.00
Sn	118	1	nogas	101179	0.00
Sb	121	1	nogas	126439	0.00
Ba	137	1	nogas	50622	0.00
Tl	205	1	nogas	319480	0.00
Pb	208	1	nogas	433595	0.00
Na	23	2	He	942270	0.00
Mg	24	2	He	527814	0.00
Al	27	2	He	3317	0.14
K	39	2	He	591930	0.00
Ca	43	2	He	1793	0.40
Ca	44	2	He	30546	0.01
V	51	2	He	53831	0.00
Cr	52	2	He	59501	0.00
Mn	55	2	He	42670	0.00
Fe	56	2	He	5512534	0.00
Co	59	2	He	88449	0.00
Ni	60	2	He	23172	0.02
Cu	63	2	He	62509	0.00
Zn	66	2	He	10883	0.02
As	75	2	He	7505	0.01
Sb	121	2	He	57537	0.00
Se	78	2	He	745	0.24

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2913016	0.39	3013774	96.66	70	120	

Calibration Standard Report

In	115	1	nogas	3539945	1.50	3595137	98.46	70	120	
Li	6	1	nogas	787351	0.35	826657	95.25	70	120	
Bi	209	1	nogas	3547428	3.65	3580152	99.09	70	120	
Ge	72	2	He	741618	0.09	757427	97.91	70	120	
In	115	2	He	1306443	0.19	1385926	94.27	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\121020A.b
Acq Date Time	2020-12-10T11:14:11-06:00
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	255369	0.00
B	11	1	nogas	813205	0.00
Ca	44	1	nogas	4788983	0.00
Ti	47	1	nogas	147562	0.00
Cr	52	1	nogas	1839196	0.00
Ni	60	1	nogas	430511	0.00
Cu	63	1	nogas	1051641	0.00
Zn	66	1	nogas	287748	0.00
Se	82	1	nogas	19357	0.01
Sr	88	1	nogas	3017553	0.00
Mo	95	1	nogas	605016	0.00
Ag	107	1	nogas	1594216	0.00
Cd	111	1	nogas	315214	0.00
Sn	118	1	nogas	961182	0.00
Sb	121	1	nogas	1231434	0.00
Ba	137	1	nogas	498824	0.00
Tl	205	1	nogas	3283269	0.00
Pb	208	1	nogas	4434124	0.00
Na	23	2	He	8743186	0.00
Mg	24	2	He	4941839	0.00
Al	27	2	He	28663	0.01
K	39	2	He	5338095	0.00
Ca	43	2	He	17368	0.01
Ca	44	2	He	296030	0.00
V	51	2	He	487343	0.00
Cr	52	2	He	563878	0.00
Mn	55	2	He	411702	0.00
Fe	56	2	He	51931633	0.00
Co	59	2	He	852770	0.00
Ni	60	2	He	217151	0.00
Cu	63	2	He	572645	0.00
Zn	66	2	He	104771	0.00
As	75	2	He	71650	0.00
Sb	121	2	He	557194	0.00
Se	78	2	He	6500	0.06

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2769505	0.86	3013774	91.89	70	120	

Calibration Standard Report

In	115	1	nogas	3353565	1.58	3595137	93.28	70	120	
Li	6	1	nogas	727826	0.36	826657	88.04	70	120	
Bi	209	1	nogas	3453080	3.11	3580152	96.45	70	120	
Ge	72	2	He	705020	0.25	757427	93.08	70	120	
In	115	2	He	1243682	1.18	1385926	89.74	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\121020A.b
Acq Date Time	2020-12-10T11:16:12-06:00
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	492940	0.00
B	11	1	nogas	1580158	0.00
Ca	44	1	nogas	9352326	0.00
Ti	47	1	nogas	284787	0.00
Cr	52	1	nogas	3520735	0.00
Ni	60	1	nogas	823916	0.00
Cu	63	1	nogas	2039920	0.00
Zn	66	1	nogas	549256	0.00
Se	82	1	nogas	37116	0.01
Sr	88	1	nogas	5852835	0.00
Mo	95	1	nogas	1193460	0.00
Ag	107	1	nogas	3026450	0.00
Cd	111	1	nogas	613655	0.00
Sn	118	1	nogas	1953082	0.00
Sb	121	1	nogas	2497964	0.00
Ba	137	1	nogas	970752	0.00
Tl	205	1	nogas	6379117	0.00
Pb	208	1	nogas	8822842	0.00
Na	23	2	He	16951093	0.00
Mg	24	2	He	9659154	0.00
Al	27	2	He	54978	0.00
K	39	2	He	10374318	0.00
Ca	43	2	He	33838	0.01
Ca	44	2	He	577509	0.00
V	51	2	He	966185	0.00
Cr	52	2	He	1109670	0.00
Mn	55	2	He	797289	0.00
Fe	56	2	He	101880652	0.00
Co	59	2	He	1731049	0.00
Ni	60	2	He	418244	0.00
Cu	63	2	He	1108411	0.00
Zn	66	2	He	205974	0.00
As	75	2	He	140099	0.00
Sb	121	2	He	1104353	0.00
Se	78	2	He	12456	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2687524	0.86	3013774	89.17	70	120	

Calibration Standard Report

In	115	1	nogas	3272751	0.40	3595137	91.03	70	120	
Li	6	1	nogas	678268	0.55	826657	82.05	70	120	
Bi	209	1	nogas	3342260	3.03	3580152	93.36	70	120	
Ge	72	2	He	684912	0.50	757427	90.43	70	120	
In	115	2	He	1209377	0.34	1385926	87.26	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	LLICV2
Data File Name	023LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T11:25:01-06:00
Sample Type	LLCCV2
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	1.978	4.632	5274	5.04	2	98.9	70	120	
B	11	1	nogas	17.326	5.267	62821	1.99	10	173.3	70	120	NewName Main CR1 Failed
Ca	44	1	nogas	202.088	1.702	115210	0.63	200	101.0	70	120	
Ti	47	1	nogas	2.169	9.319	3290	7.56	2	108.5	70	120	
Cr	52	1	nogas	1.246	1.559	65318	1.74	2	62.3	70	120	NewName Main CR1 Failed
Ni	60	1	nogas	2.017	1.679	9873	2.99	2	100.9	70	120	
Cu	63	1	nogas	2.064	0.734	25549	0.99	2	103.2	70	120	
Zn	66	1	nogas	1.943	10.771	6638	8.51	2	97.1	70	120	
Se	82	1	nogas	2.428	23.379	783	15.23	2	121.4	70	120	NewName Main CR1 Failed
Sr	88	1	nogas	1.992	1.506	61035	0.99	2	99.6	70	120	
Mo	95	1	nogas	2.185	4.871	14189	5.09	2	109.2	70	120	
Ag	107	1	nogas	2.008	3.472	31893	2.97	2	100.4	70	120	
Cd	111	1	nogas	1.973	3.218	6258	3.69	2	98.7	70	120	
Sn	118	1	nogas	3.002	4.004	32197	4.07	2	150.1	70	120	NewName Main CR1 Failed
Sb	121	1	nogas	2.502	4.875	33777	3.39	2	125.1	70	120	NewName Main CR1 Failed
Ba	137	1	nogas	1.984	4.866	10253	4.27	2	99.2	70	120	
Tl	205	1	nogas	2.120	2.025	69634	2.27	2	106.0	70	120	
Pb	208	1	nogas	1.992	2.828	91420	1.53	2	99.6	70	120	
Pb	206	1	nogas	2.032	1.753	23160	2.53	2	101.6	70	120	
Pb	207	1	nogas	1.983	3.528	19749	2.21	2	99.1	70	120	
U	238	1	nogas	1.966	3.183	102409	1.19	2	98.3	70	120	
Li	7	1	nogas	2.006	3.460	71127	1.06	2	100.3	70	120	
Tl	203	1	nogas	2.071	2.367	28262	1.44	2	103.5	70	120	
Na	23	2	He	206.384	1.397	204105	0.92	200	103.2	70	120	
Mg	24	2	He	206.881	4.199	105659	3.79	200	103.4	70	120	
Al	27	2	He	1.901	21.187	940	12.27	2	95.1	70	120	
K	39	2	He	198.072	0.707	150222	0.62	200	99.0	70	120	
Ca	43	2	He	190.253	12.650	357	11.67	200	95.1	70	120	
Ca	44	2	He	195.885	2.633	6091	2.43	200	97.9	70	120	
V	51	2	He	1.471	1.050	12344	0.84	2	73.6	70	120	
Cr	52	2	He	2.002	2.001	12761	1.68	2	100.1	70	120	
Mn	55	2	He	2.117	10.365	9383	10.00	2	105.9	70	120	
Fe	56	2	He	203.333	0.223	1090162	0.17	200	101.7	70	120	
Co	59	2	He	1.987	2.568	18003	2.24	2	99.3	70	120	
Ni	60	2	He	1.991	4.740	4697	4.20	2	99.5	70	120	
Cu	63	2	He	2.004	0.575	13355	0.20	2	100.2	70	120	
Zn	66	2	He	1.919	13.319	2467	11.36	2	95.9	70	120	
As	75	2	He	1.982	7.842	1540	7.45	2	99.1	70	120	
Sn	118	2	He	2.587	3.282	12795	2.57	2	129.4	70	120	NewName Main CR1 Failed
Sb	121	2	He	2.342	1.681	14443	1.39	2	117.1	70	120	
Se	78	2	He	2.268	6.911	212	4.90	2	113.4	70	120	
Ti	47	2	He	2.435	33.317	443	32.71	2	121.8	70	120	NewName 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	2737452	1.59	3013774	90.83	70	120	
In	115	1	nogas	3377073	0.50	3595137	93.93	70	120	
Li	6	1	nogas	751782	0.48	826657	90.94	70	120	
Bi	209	1	nogas	3425287	3.74	3580152	95.67	70	120	
Ge	72	2	He	713407	0.33	757427	94.19	70	120	
In	115	2	He	1263406	0.73	1385926	91.16	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	LLICV5
Data File Name	024LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T11:27:05-06:00
Sample Type	LLCCV5
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	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.832	1.342	12848	1.13	5	96.6	70	130	
B	11	1	nogas	25.687	1.695	77333	1.05	25	102.7	70	130	
Ca	44	1	nogas	486.324	0.827	254723	0.21	500	97.3	70	130	
Ti	47	1	nogas	5.011	6.843	7555	7.18	5	100.2	70	130	
Cr	52	1	nogas	4.315	0.406	121910	1.00	5	86.3	70	130	
Ni	60	1	nogas	4.995	1.664	22791	2.32	5	99.9	70	130	
Cu	63	1	nogas	5.003	2.606	57047	2.75	5	100.1	70	130	
Zn	66	1	nogas	5.564	0.966	17088	1.27	5	111.3	70	130	
Se	82	1	nogas	5.780	11.933	1437	8.98	5	115.6	70	130	
Sr	88	1	nogas	4.735	0.836	147367	0.91	5	94.7	70	130	
Mo	95	1	nogas	4.711	1.939	30393	0.74	5	94.2	70	130	
Ag	107	1	nogas	4.763	0.369	76930	0.93	5	95.3	70	130	
Cd	111	1	nogas	4.870	1.445	15797	2.33	5	97.4	70	130	
Sn	118	1	nogas	5.077	0.479	54159	0.71	5	101.5	70	130	
Sb	121	1	nogas	4.924	0.895	65488	0.30	5	98.5	70	130	
Ba	137	1	nogas	4.777	3.891	24812	2.72	5	95.5	70	130	
Tl	205	1	nogas	4.713	4.217	156091	0.23	5	94.3	70	130	
Pb	208	1	nogas	4.729	4.610	216898	0.26	5	94.6	70	130	
U	238	1	nogas	4.647	5.600	244360	1.58	5	92.9	70	130	
Li	7	1	nogas	4.677	2.374	97593	1.15	5	93.5	70	130	
Na	23	2	He	495.964	0.529	464173	0.44	500	99.2	70	130	
Mg	24	2	He	499.004	1.491	254996	1.70	500	99.8	70	130	
Al	27	2	He	4.881	13.765	1807	10.87	5	97.6	70	130	
K	39	2	He	484.665	0.998	307398	0.64	500	96.9	70	130	
Ca	43	2	He	484.397	6.392	883	6.44	500	96.9	70	130	
Ca	44	2	He	495.578	3.691	15247	3.42	500	99.1	70	130	
V	51	2	He	4.468	2.054	27549	1.46	5	89.4	70	130	
Cr	52	2	He	4.836	3.110	29371	2.82	5	96.7	70	130	
Mn	55	2	He	4.989	2.074	21516	2.05	5	99.8	70	130	
Fe	56	2	He	507.576	1.023	2728627	0.80	500	101.5	70	130	
Co	59	2	He	4.715	1.625	42814	1.71	5	94.3	70	130	
Ni	60	2	He	5.001	1.916	11374	1.83	5	100.0	70	130	
Cu	63	2	He	4.929	2.880	30533	2.49	5	98.6	70	130	
Zn	66	2	He	5.340	4.278	6181	4.16	5	106.8	70	130	
As	75	2	He	5.017	1.847	3788	1.75	5	100.3	70	130	
Sb	121	2	He	4.891	2.971	29325	2.68	5	97.8	70	130	
Se	78	2	He	5.051	5.301	396	4.63	5	101.0	70	130	
Ti	47	2	He	4.985	2.101	907	2.30	5	99.7	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2788109	0.78	3013774	92.51	70	120	
In	115	1	nogas	3456801	1.16	3595137	96.15	70	120	
Li	6	1	nogas	754929	0.26	826657	91.32	70	120	
Bi	209	1	nogas	3467018	4.43	3580152	96.84	70	120	
Ge	72	2	He	720673	0.22	757427	95.15	70	120	
In	115	2	He	1268929	0.49	1385926	91.56	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\121020A.b
Acq Date Time	2020-12-10T11:29:07-06:00
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	0.011	10.9	93	3.1	1	
B	11	1	nogas	1.107	6.4	35990	0.9	10	
Ca	44	1	nogas	-6.409	-4.8	16564	1.0	100	
Ti	47	1	nogas	-0.012	-95.1	130	13.3	2.5	
Cr	52	1	nogas	-0.628	-2.9	32663	0.7	2.5	
Ni	60	1	nogas	-0.057	-30.4	1180	5.9	2.5	
Cu	63	1	nogas	-0.036	-53.9	3850	5.2	1	
Zn	66	1	nogas	-0.078	-46.8	1000	10.5	2.5	
Se	82	1	nogas	0.197	28.4	370	2.7	1	
Sr	88	1	nogas	0.008	71.4	1083	15.2	2.5	
Mo	95	1	nogas	0.026	47.7	953	7.0	2.5	
Ag	107	1	nogas	-0.007	-42.6	283	16.7	2.5	
Cd	111	1	nogas	0.009	83.3	37	68.6	1	
Sn	118	1	nogas	0.251	8.6	4847	4.5	5	
Sb	121	1	nogas	0.166	16.2	4444	8.0	2.5	
Ba	137	1	nogas	0.021	79.5	430	19.0	2.5	
Tl	205	1	nogas	0.025	21.6	1230	18.8	1	
Pb	208	1	nogas	0.015	21.4	2633	2.5	2.5	
U	238	1	nogas	0.007	16.2	727	10.4	2.5	
Na	23	2	He	-1.236	-10.0	21249	1.0	100	
Mg	24	2	He	0.120	266.5	1820	8.1	100	
Al	27	2	He	0.070	285.3	423	13.0	5	
K	39	2	He	-1.203	-93.1	43576	0.8	100	
Ca	43	2	He	-4.912	-176.4	13	114.6	100	
Ca	44	2	He	-0.657	-587.3	190	62.1	100	
V	51	2	He	-0.394	-3.5	3088	2.9	2.5	
Cr	52	2	He	-0.010	-457.6	1187	22.2	2.5	
Mn	55	2	He	-0.007	-183.1	567	10.8	2.5	
Fe	56	2	He	0.360	23.2	15587	2.8	100	
Co	59	2	He	-0.010	-25.0	163	14.1	2.5	
Ni	60	2	He	-0.009	-209.4	343	11.8	2.5	
Cu	63	2	He	-0.044	-20.3	1567	2.9	1	
Zn	66	2	He	-0.114	-68.5	300	28.5	2.5	
As	75	2	He	-0.025	-67.2	80	15.0	2.5	
Sb	121	2	He	0.134	22.1	1830	8.5	2.5	
Se	78	2	He	0.029	835.1	68	23.3	1	
Ti	47	2	He	0.021	399.8	13	114.6	2.5	

QC ISTD Table

Initial Calibration Blank (ICB) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2783856	0.31	3013774	92.37	70	120	
In	115	1	nogas	3459839	1.08	3595137	96.24	70	120	
Li	6	1	nogas	766204	0.54	826657	92.69	70	120	
Bi	209	1	nogas	3500206	4.44	3580152	97.77	70	120	
Ge	72	2	He	721567	0.82	757427	95.27	70	120	
In	115	2	He	1280426	0.27	1385926	92.39	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\121020A.b
Acq Date Time	2020-12-10T11:32:19-06:00
Sample Type	ICV
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	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	99.411	0.152	247608	0.27	100	99.4	90	110	
B	11	1	nogas	473.793	1.054	791207	1.34	500	94.8	90	110	
Ca	44	1	nogas	9850.115	2.107	4610892	0.77	10000	98.5	90	110	
Ti	47	1	nogas	99.276	2.905	141666	1.88	100	99.3	90	110	
Cr	52	1	nogas	100.329	0.525	1789239	0.83	100	100.3	90	110	
Ni	60	1	nogas	99.606	1.788	412365	0.81	100	99.6	90	110	
Cu	63	1	nogas	98.769	1.728	1009927	1.28	100	98.8	90	110	
Zn	66	1	nogas	99.737	1.867	275479	0.71	100	99.7	90	110	
Se	82	1	nogas	100.534	4.290	18844	4.16	100	100.5	90	110	
Sr	88	1	nogas	101.087	4.820	2944256	3.62	100	101.1	90	110	
Mo	95	1	nogas	97.437	3.553	576937	1.81	100	97.4	90	110	
Ag	107	1	nogas	101.742	1.625	1539250	0.97	100	101.7	90	110	
Cd	111	1	nogas	98.965	2.821	301991	1.09	100	99.0	90	110	
Sn	118	1	nogas	96.684	2.616	931914	0.78	100	96.7	90	110	
Sb	121	1	nogas	96.093	2.217	1191381	1.54	100	96.1	90	110	
Ba	137	1	nogas	99.655	2.825	481179	1.02	100	99.7	90	110	
Tl	205	1	nogas	94.847	7.350	3172841	1.46	100	94.8	90	110	
Pb	208	1	nogas	93.653	7.342	4313058	1.39	100	93.7	90	110	
U	238	1	nogas	94.400	7.303	5021340	1.31	100	94.4	90	110	
Li	7	1	nogas	96.192	0.534	935619	0.32	100	96.2	90	110	
Tl	203	1	nogas	91.764	7.182	1276694	1.22	100	91.8	90	110	
Na	23	2	He	9975.204	0.841	8570939	0.67	10000	99.8	90	110	
Mg	24	2	He	10049.978	1.206	4908108	0.77	10000	100.5	90	110	
Al	27	2	He	99.266	3.688	27855	3.95	100	99.3	90	110	
K	39	2	He	10083.492	1.150	5311304	1.67	10000	100.8	90	110	
Ca	43	2	He	10131.354	1.349	17349	0.80	10000	101.3	90	110	
Ca	44	2	He	9926.409	0.660	289983	0.68	10000	99.3	90	110	
V	51	2	He	98.233	0.489	480395	0.45	100	98.2	90	110	
Cr	52	2	He	98.886	0.007	554452	0.74	100	98.9	90	110	
Mn	55	2	He	100.643	0.263	406617	0.67	100	100.6	90	110	
Fe	56	2	He	10091.234	0.405	51942431	0.39	10000	100.9	90	110	
Co	59	2	He	96.768	0.766	840578	0.04	100	96.8	90	110	
Ni	60	2	He	100.970	0.313	214264	0.65	100	101.0	90	110	
Cu	63	2	He	99.297	0.794	558215	0.72	100	99.3	90	110	
Zn	66	2	He	99.380	0.228	103523	0.96	100	99.4	90	110	
As	75	2	He	99.893	0.638	70776	0.31	100	99.9	90	110	
Sn	118	2	He	98.019	0.309	438545	0.18	100	98.0	90	110	
Sb	121	2	He	98.946	0.302	551246	0.62	100	98.9	90	110	
Se	78	2	He	103.611	2.980	6574	2.33	100	103.6	90	110	
Ti	47	2	He	102.601	1.554	17776	2.03	100	102.6	90	110	
Al	27	1	nogas	98.420	2.197	1318115	2.51	100	98.4	90	110	

QC ISTD Table

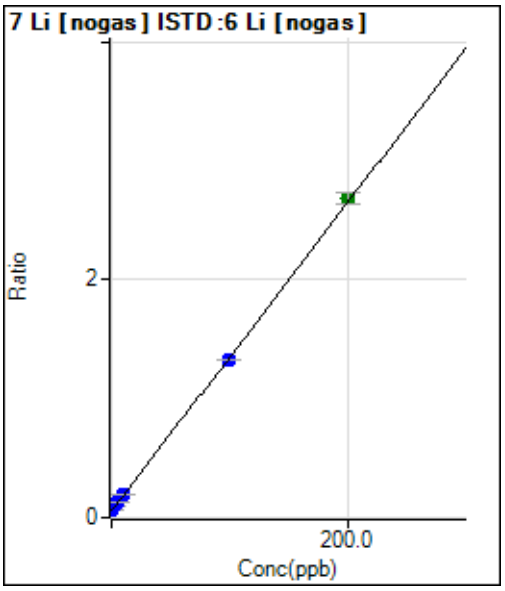
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2689782	1.34	3013774	89.25	70	120	
In	115	1	nogas	3254261	1.84	3595137	90.52	70	120	
Li	6	1	nogas	710486	0.39	826657	85.95	70	120	
Bi	209	1	nogas	3516497	6.25	3580152	98.22	70	120	
Ge	72	2	He	693332	0.73	757427	91.54	70	120	
In	115	2	He	1236114	0.22	1385926	89.19	70	120	

Calibration for 026_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\121020A.b\
Analysis File: 121020A.batch.bin
DA Date-Time: 12/10/2020 10:08:43 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	015CALB.d	CAL BLK	12/10/2020 11:06:02 AM
2	016CALS.d	2/10/200	12/10/2020 11:08:04 AM
3	017CALS.d	5/25/500	12/10/2020 11:10:06 AM
4	018CALS.d	10/50/1000	12/10/2020 11:12:08 AM
5	019CALS.d	100/500/10K	12/10/2020 11:14:11 AM
6	020CALS.d	200/1000/20K	12/10/2020 11:16:12 AM
7			

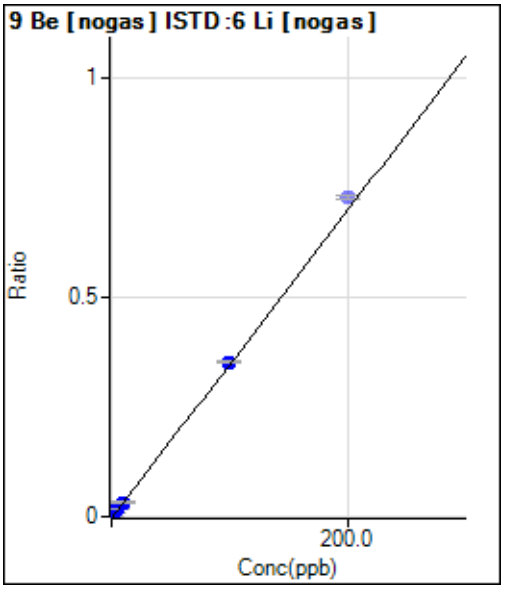
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	56687.97	0.0686	P	1.5	
2	☐	2.000	1.989	76848.76	0.0944	P	0.5	-0.6
3	☐	5.000	4.545	102410.23	0.1276	P	1.7	-9.1
4	☐	10.000	9.377	149799.23	0.1903	P	1.4	-6.2
5	☐	100.000	96.761	963845.56	1.3243	P	0.5	-3.2
6	☐	200.000	201.662	1821711.64	2.6856	A	3.3	0.8
7	☐	1.000						

y = 0.0130 * x + 0.0686
R = 0.9998
DL = 0.23 ppb
BEC = 5.284 ppb

Weight: <None>
Min Conc: <None>

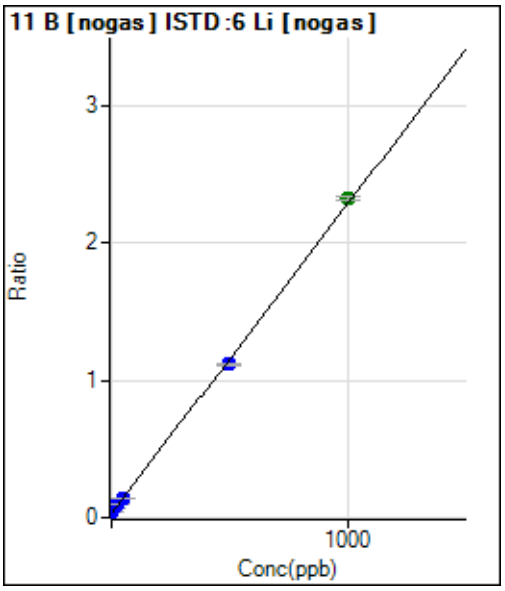


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	68.33	0.0001	P	8.2	
2	☐	2.000	1.965	5675.91	0.0070	P	7.7	-1.7
3	☐	5.000	4.676	13224.74	0.0165	P	2.4	-6.5
4	☐	10.000	9.319	25782.68	0.0327	P	2.1	-6.8
5	☐	100.000	100.085	255369.10	0.3509	P	1.0	0.1
6	☑	200.000		492940.43	0.7267	P	0.8	
7	☐	1.000						

y = 0.0035 * x + 8.2653E-005
R = 1.0000
DL = 0.005821 ppb
BEC = 0.02358 ppb

Weight: <None>
Min Conc: <None>

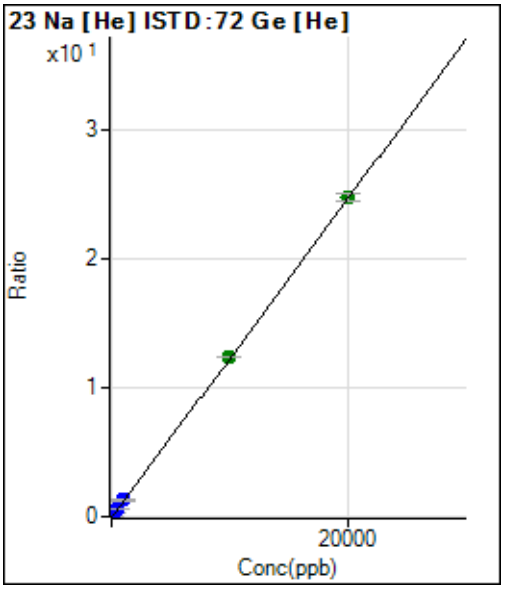
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	36764.27	0.0445	P	1.0	
2	☐	10.000	8.574	51963.19	0.0638	P	1.1	-14.
3	☐	25.000	21.441	74553.41	0.0929	P	1.5	-14.
4	☐	50.000	44.229	113600.04	0.1443	P	1.6	-11.
5	☐	500.000	475.437	813205.35	1.1173	P	1.3	-4.9
6	☐	1000.000	1012.673	1580157.74	2.3296	A	1.5	1.3
7	☐	5.000						

y = 0.0023 * x + 0.0445
R = 0.9996
DL = 0.5704 ppb
BEC = 19.71 ppb

Weight: <None>
Min Conc: <None>

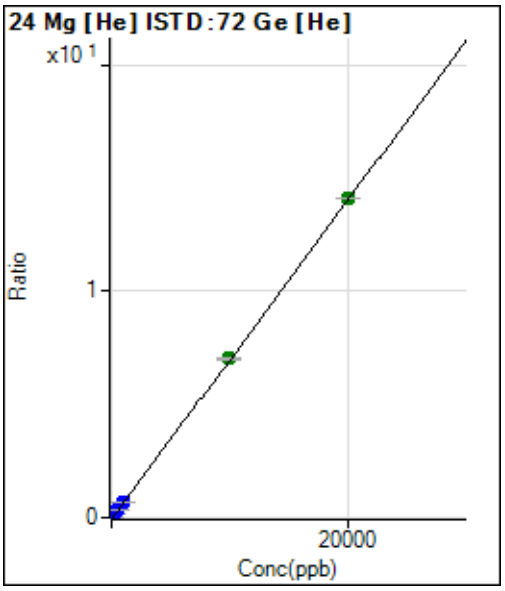


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23461.76	0.0310	P	1.2	
2	☐	200.000	204.800	213030.93	0.2841	P	0.9	2.4
3	☐	500.000	500.098	485626.05	0.6492	P	1.1	0.0
4	☐	1000.000	1002.736	942270.25	1.2706	P	0.7	0.3
5	☐	10000.00	10006.84	8743186.12	12.4014	A	0.7	0.1
6	☐	20000.00	19996.38	16951093.08	24.7504	A	1.9	0.0
7	☐	100.000						

y = 0.0012 * x + 0.0310
R = 1.0000
DL = 0.8895 ppb
BEC = 25.06 ppb

Weight: <None>
Min Conc: <None>

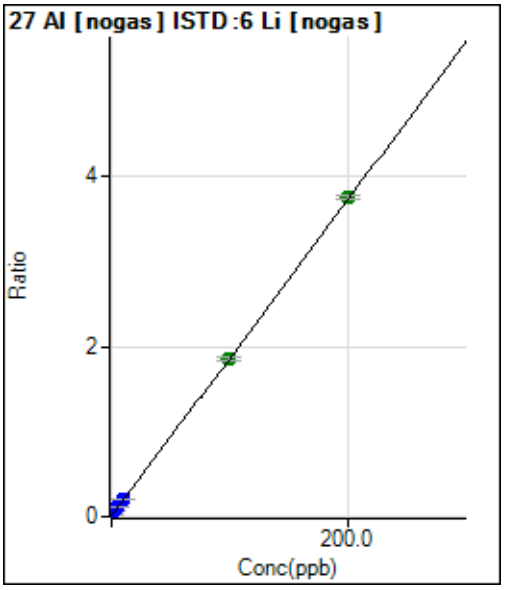
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1846.80	0.0024	P	10.1	
2	☐	200.000	206.453	110821.52	0.1478	P	1.5	3.2
3	☐	500.000	504.202	267425.69	0.3575	P	0.7	0.8
4	☐	1000.000	1007.238	527814.42	0.7117	P	0.3	0.7
5	☐	10000.00	9950.814	4941839.09	7.0095	A	1.3	-0.5
6	☐	20000.00	20024.06	9659154.02	14.1028	A	0.1	0.1
7	☐	100.000						

y = 7.0417E-004 * x + 0.0024
R = 1.0000
DL = 1.045 ppb
BEC = 3.463 ppb

Weight: <None>
Min Conc: <None>

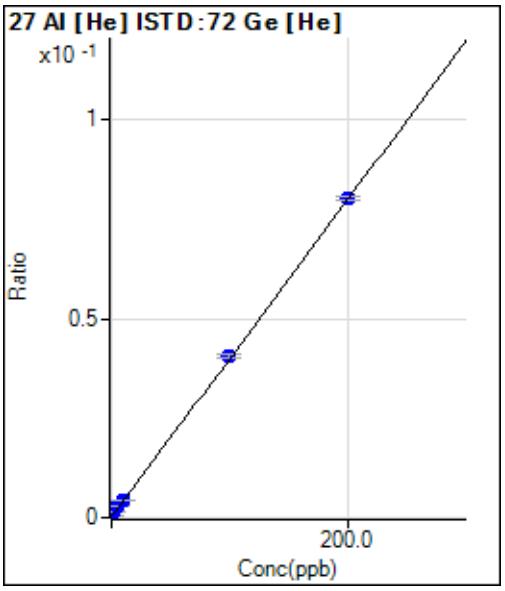


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	21542.84	0.0261	P	1.2	
2	☐	2.000	1.922	50295.05	0.0618	P	1.9	-3.9
3	☐	5.000	5.180	98221.97	0.1223	P	0.6	3.6
4	☐	10.000	9.209	155274.24	0.1972	P	2.7	-7.9
5	☐	100.000	98.881	1356402.84	1.8637	A	2.3	-1.1
6	☐	200.000	200.595	2546215.32	3.7540	A	0.6	0.3
7	☐	1.000						

y = 0.0186 * x + 0.0261
R = 1.0000
DL = 0.04986 ppb
BEC = 1.402 ppb

Weight: <None>
Min Conc: <None>

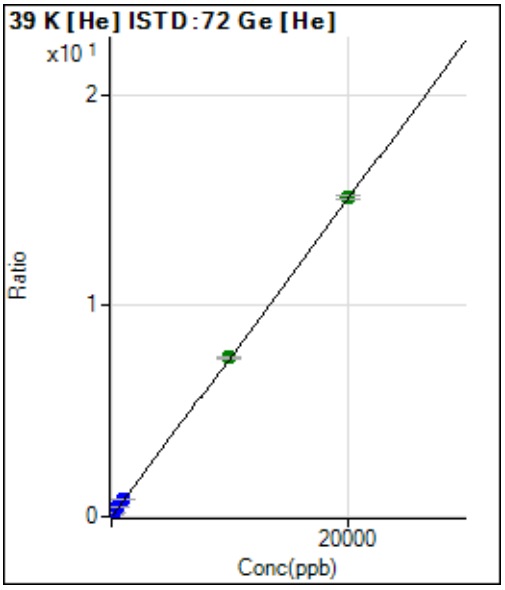
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	423.35	0.0006	P	20.1	
2	☐	2.000	2.324	1113.39	0.0015	P	18.4	16.2
3	☐	5.000	5.634	2100.16	0.0028	P	2.0	12.7
4	☐	10.000	9.807	3317.04	0.0045	P	4.7	-1.9
5	☐	100.000	100.479	28662.53	0.0407	P	2.7	0.5
6	☐	200.000	199.751	54978.31	0.0803	P	1.7	-0.1
7	☐	1.000						

y = 3.9906E-004 * x + 5.5899E-004
R = 1.0000
DL = 0.845 ppb
BEC = 1.401 ppb

Weight: <None>
Min Conc: <None>

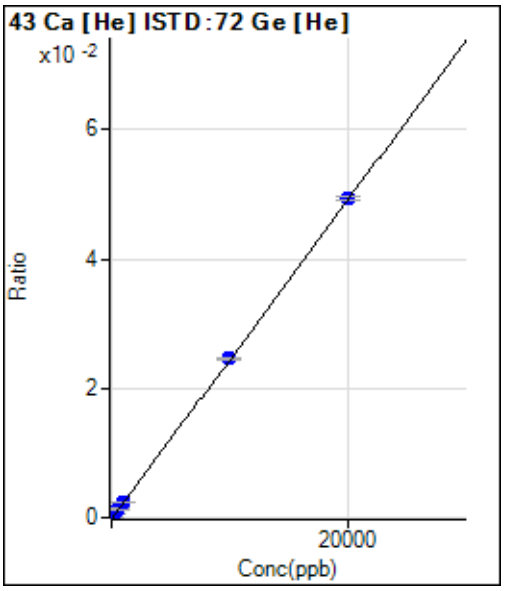


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	46432.52	0.0613	P	1.3	
2	☐	200.000	199.284	158550.88	0.2115	P	1.0	-0.4
3	☐	500.000	493.812	324238.29	0.4334	P	0.9	-1.2
4	☐	1000.000	977.779	591929.56	0.7982	P	1.1	-2.2
5	☐	10000.00	9965.586	5338094.92	7.5715	A	1.2	-0.3
6	☐	20000.00	20018.48	10374317.97	15.1474	A	1.1	0.1
7	☐	100.000						

y = 7.5361E-004 * x + 0.0613
R = 1.0000
DL = 3.169 ppb
BEC = 81.34 ppb

Weight: <None>
Min Conc: <None>

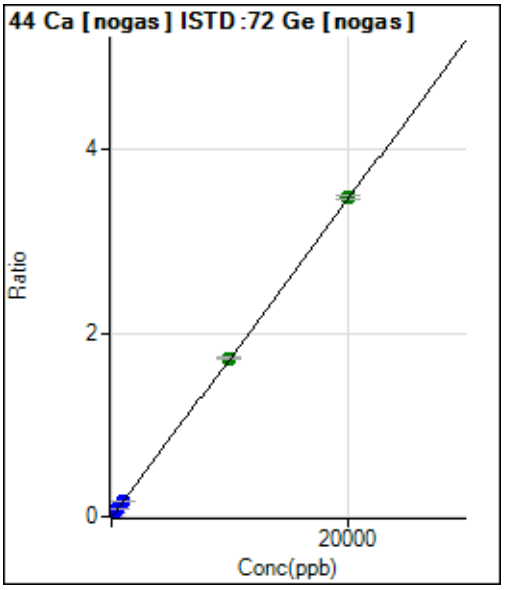
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23.33	0.0000	P	89.2	
2	☐	200.000	209.095	410.01	0.0005	P	22.9	4.5
3	☐	500.000	517.825	976.71	0.0013	P	23.1	3.6
4	☐	1000.000	967.900	1793.45	0.0024	P	7.2	-3.2
5	☐	10000.00	9973.968	17368.49	0.0246	P	1.7	-0.3
6	☐	20000.00	20014.08	33838.26	0.0494	P	1.5	0.1
7	☐	100.000						

y = 2.4669E-006 * x + 3.0713E-005
R = 1.0000
DL = 33.33 ppb
BEC = 12.45 ppb

Weight: <None>
Min Conc: <None>

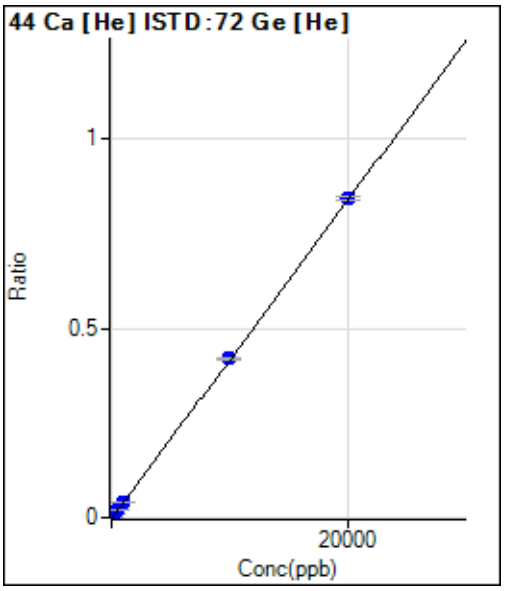


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	21279.32	0.0071	P	0.9	
2	☐	200.000	202.569	124547.79	0.0422	P	0.7	1.3
3	☐	500.000	498.301	273867.12	0.0934	P	1.0	-0.3
4	☐	1000.000	976.239	513535.46	0.1763	P	0.3	-2.4
5	☐	10000.00	9934.918	4788982.85	1.7292	A	0.8	-0.7
6	☐	20000.00	20033.74	9352326.11	3.4798	A	0.8	0.2
7	☐	100.000						

y = 1.7335E-004 * x + 0.0071
R = 1.0000
DL = 1.124 ppb
BEC = 40.73 ppb

Weight: <None>
Min Conc: <None>

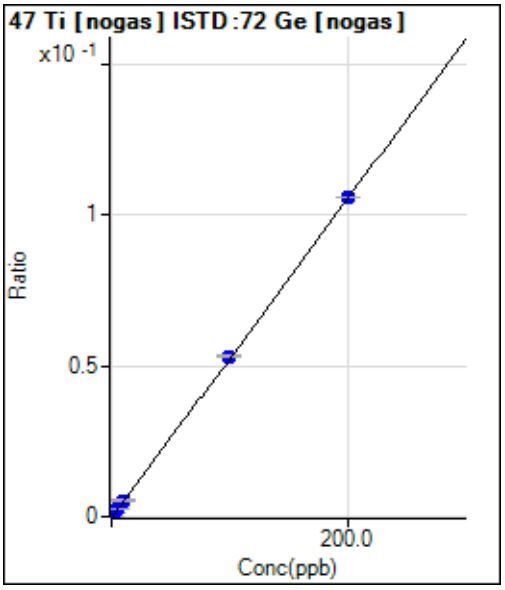
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	220.01	0.0003	P	15.9	
2	☐	200.000	204.357	6668.00	0.0089	P	9.9	2.2
3	☐	500.000	490.519	15670.25	0.0209	P	3.3	-1.9
4	☐	1000.000	971.316	30545.97	0.0412	P	2.7	-2.9
5	☐	10000.00	9965.121	296030.37	0.4199	P	1.1	-0.3
6	☐	20000.00	20019.06	577508.97	0.8432	P	1.0	0.1
7	☐	100.000						

y = 4.2106E-005 * x + 2.9031E-004
R = 1.0000
DL = 3.298 ppb
BEC = 6.895 ppb

Weight: <None>
Min Conc: <None>

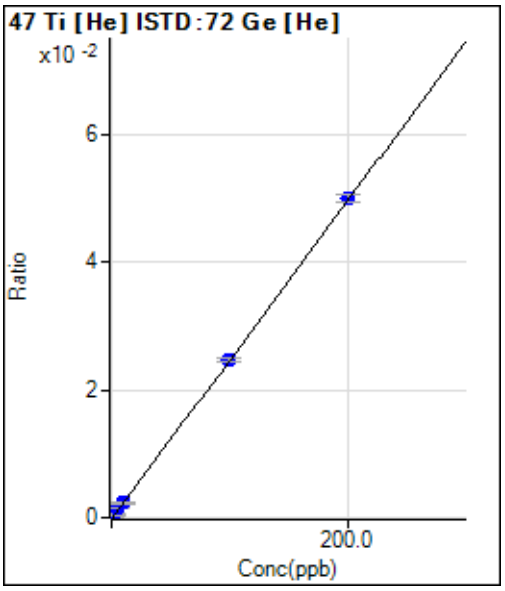


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	160.01	0.0001	P	16.6	
2	☐	2.000	1.989	3270.36	0.0011	P	0.6	-0.6
3	☐	5.000	5.011	7941.87	0.0027	P	2.8	0.2
4	☐	10.000	9.926	15483.53	0.0053	P	4.5	-0.7
5	☐	100.000	100.415	147561.91	0.0533	P	1.4	0.4
6	☐	200.000	199.796	284787.45	0.1060	P	0.4	-0.1
7	☐	1.000						

y = 5.3010E-004 * x + 5.3095E-005
R = 1.0000
DL = 0.04988 ppb
BEC = 0.1002 ppb

Weight: <None>
Min Conc: <None>

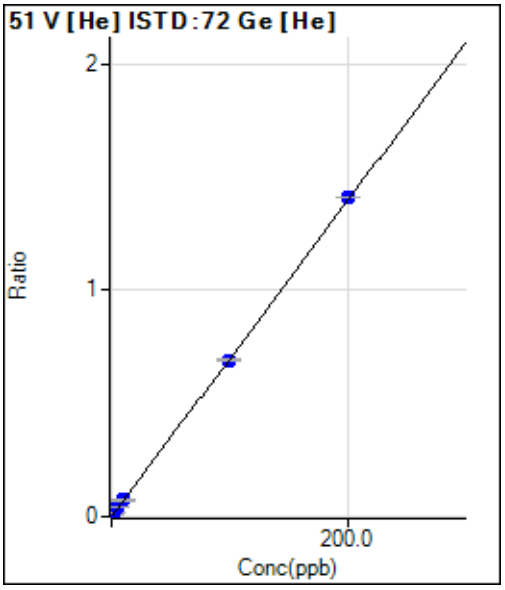
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10.00	0.0000	P	100.	
2	☐	2.000	1.799	346.68	0.0005	P	14.3	-10.
3	☐	5.000	5.892	1110.06	0.0015	P	8.9	17.8
4	☐	10.000	9.108	1696.78	0.0023	P	9.3	-8.9
5	☐	100.000	99.139	17465.29	0.0248	P	2.8	-0.9
6	☐	200.000	200.455	34299.12	0.0501	P	2.4	0.2
7	☐	1.000						

y = 2.4974E-004 * x + 1.3249E-005
R = 1.0000
DL = 0.1596 ppb
BEC = 0.05305 ppb

Weight: <None>
Min Conc: <None>

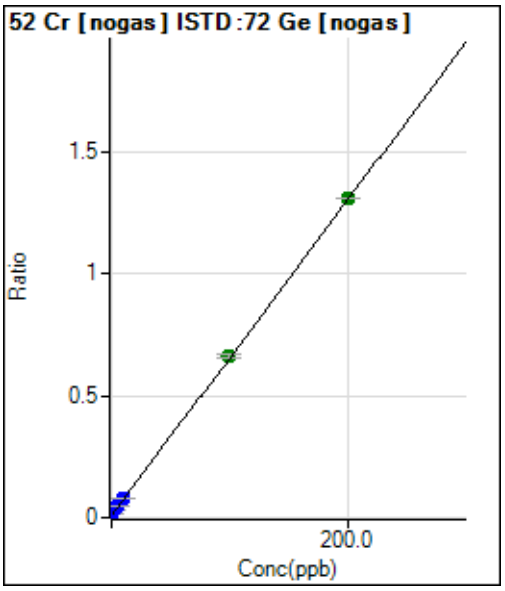


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	5326.37	0.0070	P	0.4	
2	☐	2.000	1.877	15099.63	0.0201	P	0.3	-6.1
3	☐	5.000	4.669	29649.69	0.0396	P	0.9	-6.6
4	☐	10.000	9.389	53831.48	0.0726	P	1.0	-6.1
5	☐	100.000	97.998	487343.28	0.6912	P	0.5	-2.0
6	☐	200.000	201.041	966185.24	1.4107	P	0.5	0.5
7	☐	1.000						

y = 0.0070 * x + 0.0070
R = 0.9999
DL = 0.01234 ppb
BEC = 1.007 ppb

Weight: <None>
Min Conc: <None>

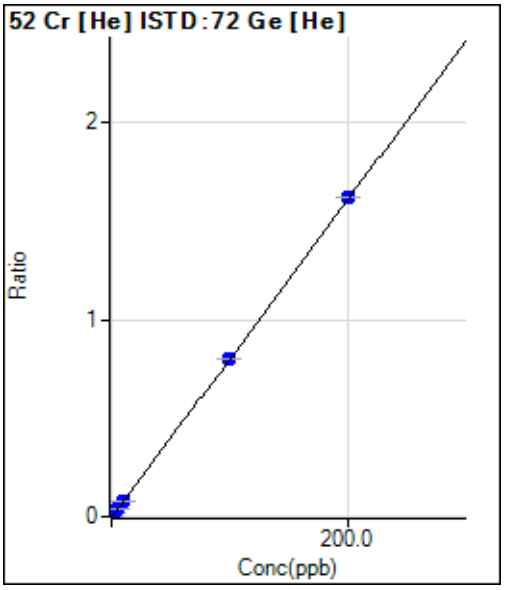
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	47605.99	0.0158	P	1.5	
2	☐	2.000	2.011	85091.94	0.0288	P	2.1	0.6
3	☐	5.000	5.000	141167.29	0.0482	P	1.0	0.0
4	☐	10.000	9.652	228014.03	0.0783	P	0.8	-3.5
5	☐	100.000	100.154	1839195.96	0.6641	A	1.8	0.2
6	☐	200.000	199.940	3520734.53	1.3100	A	0.5	0.0
7	☐	1.000						

y = 0.0065 * x + 0.0158
R = 1.0000
DL = 0.1071 ppb
BEC = 2.44 ppb

Weight: <None>
Min Conc: <None>

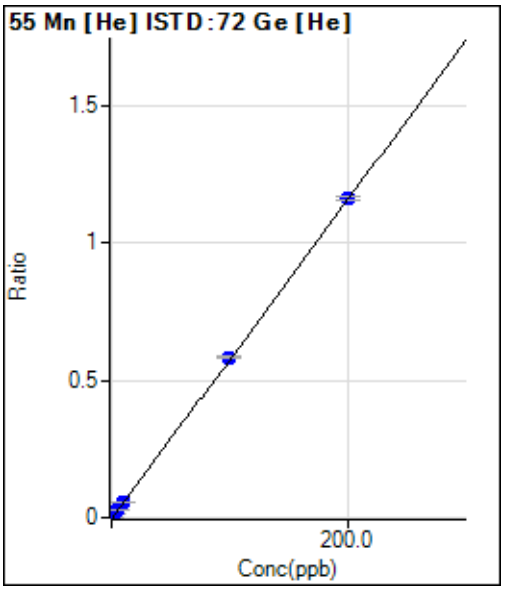


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1310.08	0.0017	P	6.6	
2	☐	2.000	2.088	13932.23	0.0186	P	1.3	4.4
3	☐	5.000	5.019	31591.10	0.0422	P	1.3	0.4
4	☐	10.000	9.728	59500.76	0.0802	P	0.3	-2.7
5	☐	100.000	98.899	563878.40	0.7998	P	0.8	-1.1
6	☐	200.000	200.563	1109669.54	1.6202	P	0.5	0.3
7	☐	1.000						

y = 0.0081 * x + 0.0017
R = 1.0000
DL = 0.0422 ppb
BEC = 0.2144 ppb

Weight: <None>
Min Conc: <None>

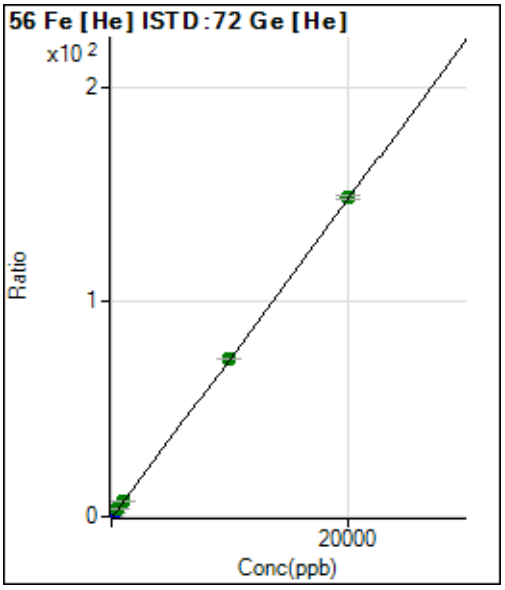
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	626.69	0.0008	P	12.5	
2	☐	2.000	2.094	9759.47	0.0130	P	4.5	4.7
3	☐	5.000	4.990	22337.38	0.0299	P	2.3	-0.2
4	☐	10.000	9.745	42670.48	0.0575	P	1.1	-2.5
5	☐	100.000	100.209	411701.96	0.5839	P	1.5	0.2
6	☐	200.000	199.907	797289.11	1.1641	P	0.7	0.0
7	☐	1.000						

y = 0.0058 * x + 8.2775E-004
R = 1.0000
DL = 0.05335 ppb
BEC = 0.1422 ppb

Weight: <None>
Min Conc: <None>

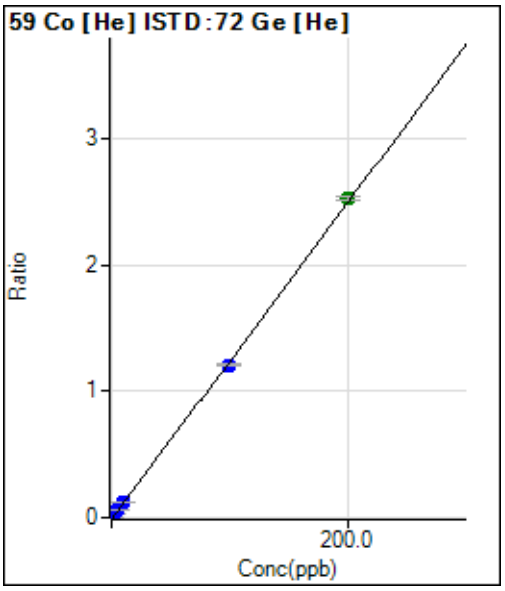


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	14335.85	0.0189	P	4.9	
2	☐	200.000	200.328	1128941.86	1.5058	P	0.7	0.2
3	☐	500.000	514.015	2867840.27	3.8341	A	1.8	2.8
4	☐	1000.000	998.918	5512533.67	7.4331	A	0.6	-0.1
5	☐	10000.00	9921.556	51931632.56	73.6591	A	0.6	-0.8
6	☐	20000.00	20038.92	101880651.8	148.752	A	0.8	0.2
7	☐	100.000						

y = 0.0074 * x + 0.0189
R = 1.0000
DL = 0.3758 ppb
BEC = 2.55 ppb

Weight: <None>
Min Conc: <None>

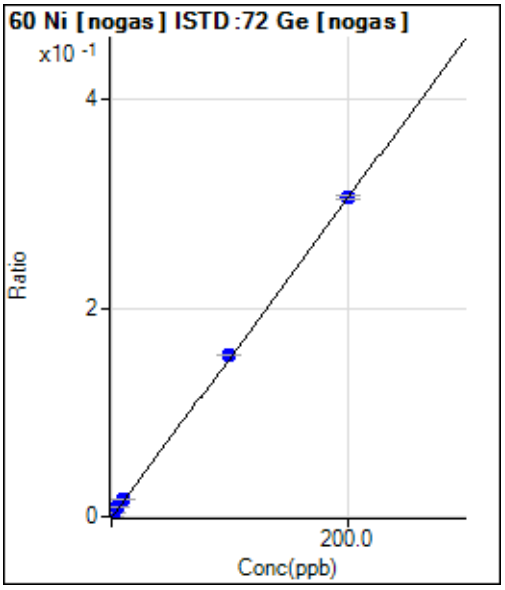
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	263.34	0.0003	P	24.8	
2	☐	2.000	1.989	18933.51	0.0253	P	3.9	-0.6
3	☐	5.000	4.825	45477.62	0.0608	P	2.5	-3.5
4	☐	10.000	9.494	88449.05	0.1193	P	1.4	-5.1
5	☐	100.000	96.540	852769.75	1.2096	P	0.8	-3.5
6	☐	200.000	201.760	1731049.09	2.5275	A	1.0	0.9
7	☐	1.000						

y = 0.0125 * x + 3.4793E-004
R = 0.9998
DL = 0.02066 ppb
BEC = 0.02778 ppb

Weight: <None>
Min Conc: <None>

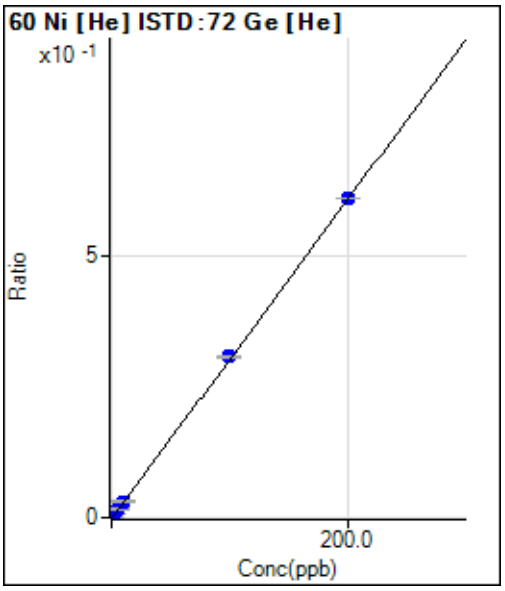


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1540.10	0.0005	P	5.1	
2	☐	2.000	2.129	11153.66	0.0038	P	3.8	6.4
3	☐	5.000	5.239	25057.69	0.0085	P	1.1	4.8
4	☐	10.000	10.189	47024.90	0.0161	P	1.6	1.9
5	☐	100.000	100.985	430510.59	0.1554	P	0.5	1.0
6	☐	200.000	199.491	823915.87	0.3066	P	0.8	-0.3
7	☐	1.000						

y = 0.0015 * x + 5.1092E-004
R = 1.0000
DL = 0.05127 ppb
BEC = 0.333 ppb

Weight: <None>
Min Conc: <None>

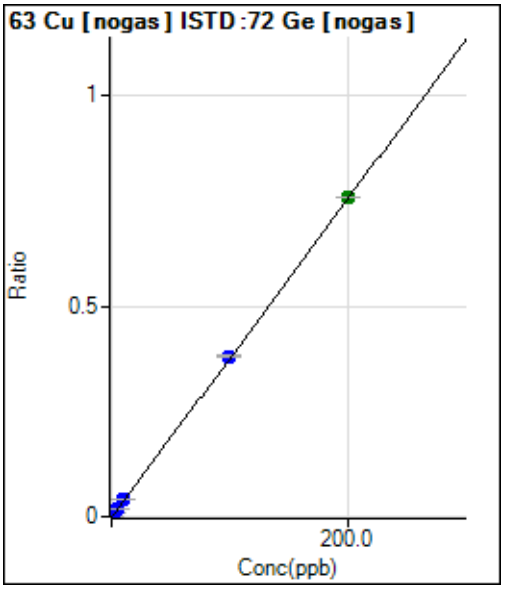
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	380.01	0.0005	P	19.5	
2	☐	2.000	2.108	5204.16	0.0069	P	10.1	5.4
3	☐	5.000	5.173	12197.63	0.0163	P	3.3	3.5
4	☐	10.000	10.061	23171.88	0.0312	P	4.1	0.6
5	☐	100.000	100.634	217150.92	0.3080	P	0.6	0.6
6	☐	200.000	199.675	418243.61	0.6106	P	0.4	-0.2
7	☐	1.000						

y = 0.0031 * x + 5.0204E-004
R = 1.0000
DL = 0.09625 ppb
BEC = 0.1643 ppb

Weight: <None>
Min Conc: <None>

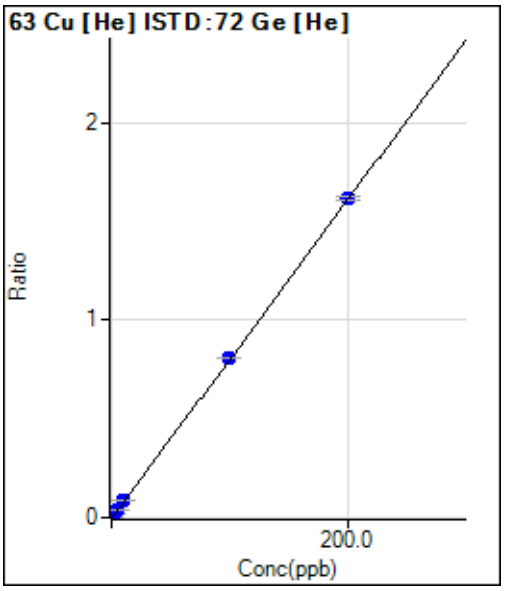


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	4574.01	0.0015	P	7.0	
2	☐	2.000	2.041	27301.06	0.0092	P	3.4	2.0
3	☐	5.000	4.917	59020.34	0.0201	P	3.3	-1.7
4	☐	10.000	9.913	113767.29	0.0391	P	0.4	-0.9
5	☐	100.000	99.888	1051641.36	0.3797	P	1.2	-0.1
6	☐	200.000	200.062	2039919.86	0.7591	A	0.5	0.0
7	☐	1.000						

y = 0.0038 * x + 0.0015
R = 1.0000
DL = 0.08416 ppb
BEC = 0.4008 ppb

Weight: <None>
Min Conc: <None>

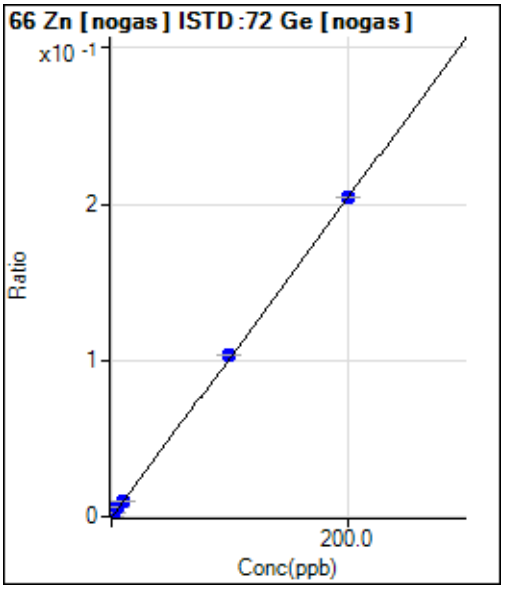
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1913.46	0.0025	P	3.5	
2	☐	2.000	2.013	14092.37	0.0188	P	4.1	0.7
3	☐	5.000	4.915	31614.86	0.0423	P	0.8	-1.7
4	☐	10.000	10.115	62508.78	0.0843	P	2.5	1.2
5	☐	100.000	100.176	572644.60	0.8122	P	0.4	0.2
6	☐	200.000	199.908	1108410.66	1.6184	P	0.7	0.0
7	☐	1.000						

y = 0.0081 * x + 0.0025
R = 1.0000
DL = 0.03324 ppb
BEC = 0.3126 ppb

Weight: <None>
Min Conc: <None>

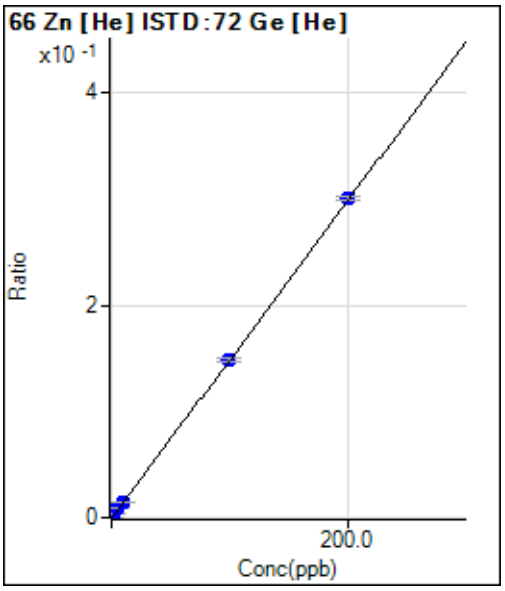


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1323.41	0.0004	P	13.0	
2	☐	2.000	1.868	6938.13	0.0023	P	3.7	-6.6
3	☐	5.000	5.416	17518.73	0.0060	P	0.8	8.3
4	☐	10.000	9.724	30245.82	0.0104	P	0.9	-2.8
5	☐	100.000	101.169	287747.90	0.1039	P	0.1	1.2
6	☐	200.000	199.420	549256.26	0.2044	P	0.1	-0.3
7	☐	1.000						

y = 0.0010 * x + 4.3868E-004
R = 1.0000
DL = 0.1667 ppb
BEC = 0.429 ppb

Weight: <None>
Min Conc: <None>

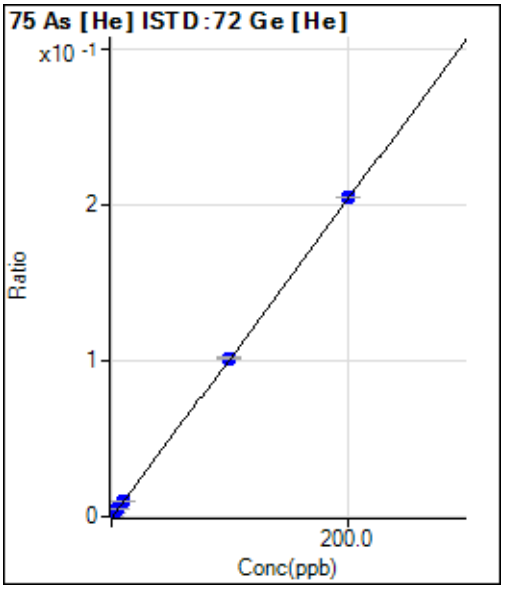
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	443.34	0.0006	P	1.9	
2	☐	2.000	2.016	2700.25	0.0036	P	1.6	0.8
3	☐	5.000	5.532	6631.34	0.0089	P	4.7	10.6
4	☐	10.000	9.415	10883.49	0.0147	P	2.3	-5.8
5	☐	100.000	98.907	104770.55	0.1486	P	1.4	-1.1
6	☐	200.000	200.563	205974.22	0.3007	P	0.8	0.3
7	☐	1.000						

y = 0.0015 * x + 5.8537E-004
R = 1.0000
DL = 0.02184 ppb
BEC = 0.3911 ppb

Weight: <None>
Min Conc: <None>

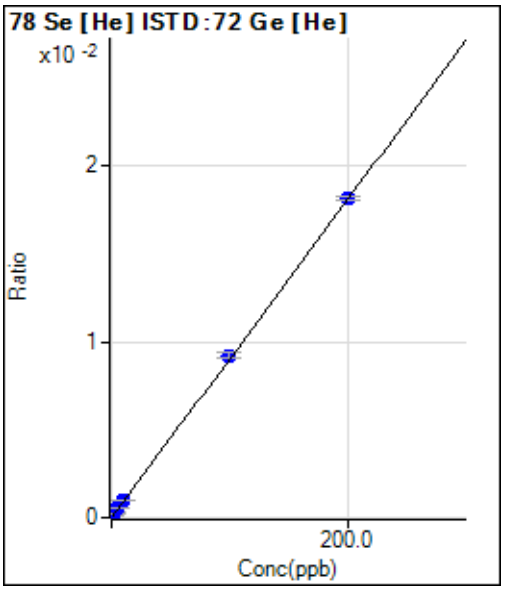


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	103.33	0.0001	P	19.7	
2	☐	2.000	1.874	1535.63	0.0020	P	3.0	-6.3
3	☐	5.000	4.731	3713.74	0.0050	P	1.3	-5.4
4	☐	10.000	9.782	7504.95	0.0101	P	0.9	-2.2
5	☐	100.000	99.447	71649.60	0.1016	P	0.9	-0.6
6	☐	200.000	200.295	140099.02	0.2046	P	0.4	0.1
7	☐	1.000						

y = 0.0010 * x + 1.3633E-004
R = 1.0000
DL = 0.07876 ppb
BEC = 0.1336 ppb

Weight: <None>
Min Conc: <None>

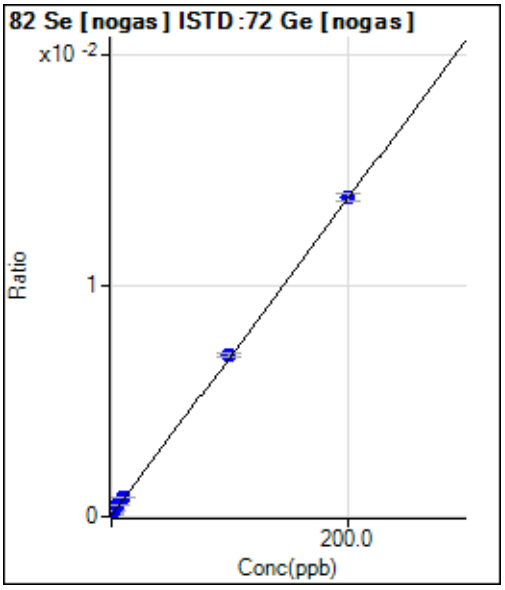
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	69.33	0.0001	P	27.7	
2	☐	2.000	2.002	204.67	0.0003	P	17.2	0.1
3	☐	5.000	5.411	435.34	0.0006	P	3.9	8.2
4	☐	10.000	10.078	745.35	0.0010	P	1.8	0.8
5	☐	100.000	100.704	6499.88	0.0092	P	3.9	0.7
6	☐	200.000	199.634	12455.71	0.0182	P	0.8	-0.2
7	☐	1.000						

y = 9.0639E-005 * x + 9.1613E-005
R = 1.0000
DL = 0.8388 ppb
BEC = 1.011 ppb

Weight: <None>
Min Conc: <None>

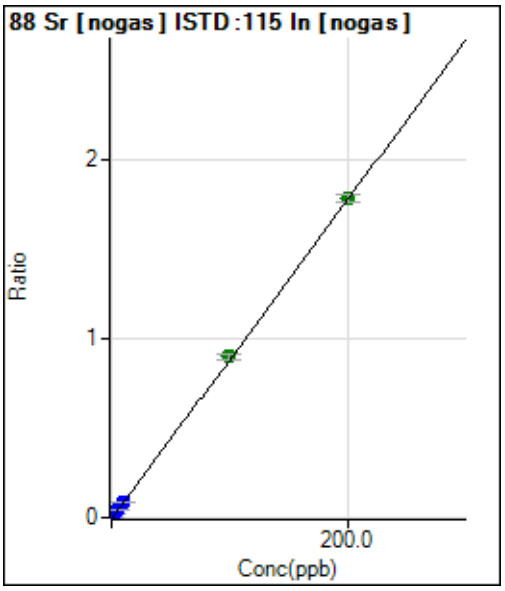


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	360.01	0.0001	P	22.7	
2	☐	2.000	2.162	790.03	0.0003	P	2.4	8.1
3	☐	5.000	5.147	1383.41	0.0005	P	6.1	2.9
4	☐	10.000	10.235	2390.20	0.0008	P	2.8	2.4
5	☐	100.000	100.299	19357.47	0.0070	P	1.9	0.3
6	☐	200.000	199.834	37115.87	0.0138	P	2.5	-0.1
7	☐	1.000						

y = 6.8502E-005 * x + 1.1943E-004
R = 1.0000
DL = 1.187 ppb
BEC = 1.744 ppb

Weight: <None>
Min Conc: <None>

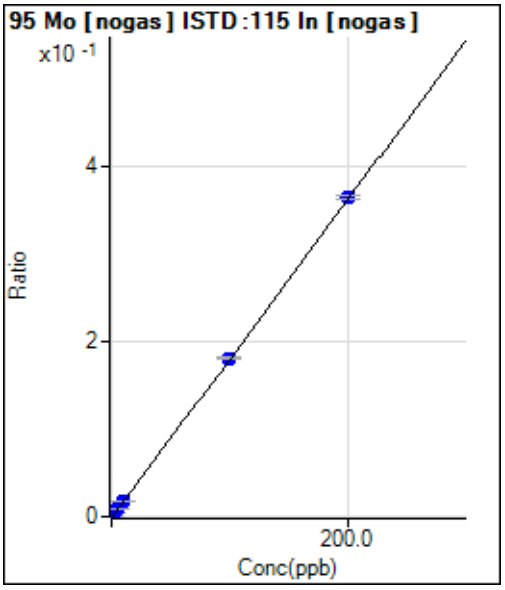
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	873.37	0.0002	P	6.1	
2	☐	2.000	1.959	64006.14	0.0178	P	1.2	-2.0
3	☐	5.000	4.861	154759.38	0.0438	P	0.2	-2.8
4	☐	10.000	9.634	306114.32	0.0865	P	1.3	-3.7
5	☐	100.000	100.517	3017553.08	0.9000	A	3.0	0.5
6	☐	200.000	199.764	5852834.71	1.7884	A	2.5	-0.1
7	☐	1.000						

y = 0.0090 * x + 2.4308E-004
R = 1.0000
DL = 0.005 ppb
BEC = 0.02716 ppb

Weight: <None>
Min Conc: <None>

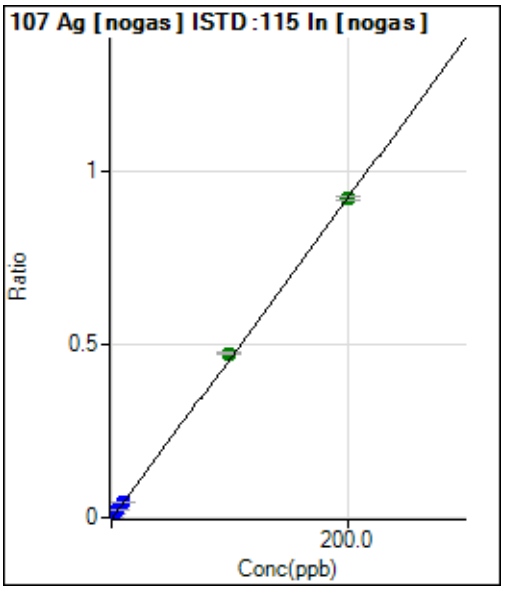


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	823.37	0.0002	P	22.4	
2	☐	2.000	1.928	13442.03	0.0037	P	4.2	-3.6
3	☐	5.000	4.711	31101.32	0.0088	P	3.0	-5.8
4	☐	10.000	9.408	61333.93	0.0173	P	3.1	-5.9
5	☐	100.000	99.123	605016.05	0.1804	P	1.1	-0.9
6	☐	200.000	200.476	1193459.85	0.3647	P	1.6	0.2
7	☐	1.000						

y = 0.0018 * x + 2.2929E-004
R = 1.0000
DL = 0.0849 ppb
BEC = 0.1261 ppb

Weight: <None>
Min Conc: <None>

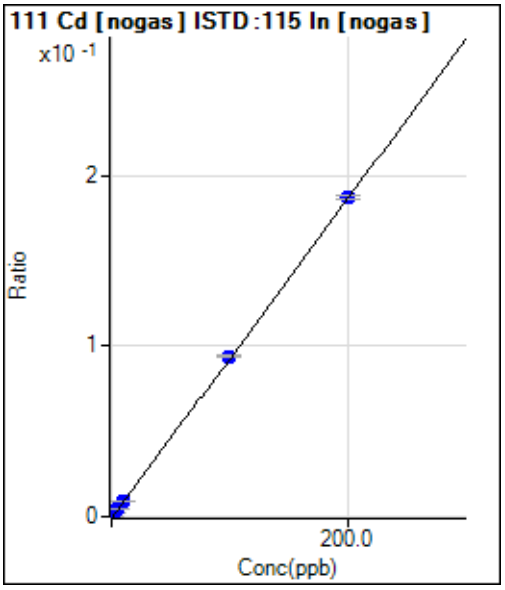
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	403.34	0.0001	P	13.7	
2	☐	2.000	1.926	32641.00	0.0091	P	2.4	-3.7
3	☐	5.000	4.805	79397.67	0.0225	P	0.9	-3.9
4	☐	10.000	9.535	157289.13	0.0444	P	1.3	-4.6
5	☐	100.000	102.247	1594216.49	0.4754	A	1.3	2.2
6	☐	200.000	198.905	3026449.54	0.9248	A	0.7	-0.5
7	☐	1.000						

y = 0.0046 * x + 1.1217E-004
R = 0.9999
DL = 0.009943 ppb
BEC = 0.02413 ppb

Weight: <None>
Min Conc: <None>

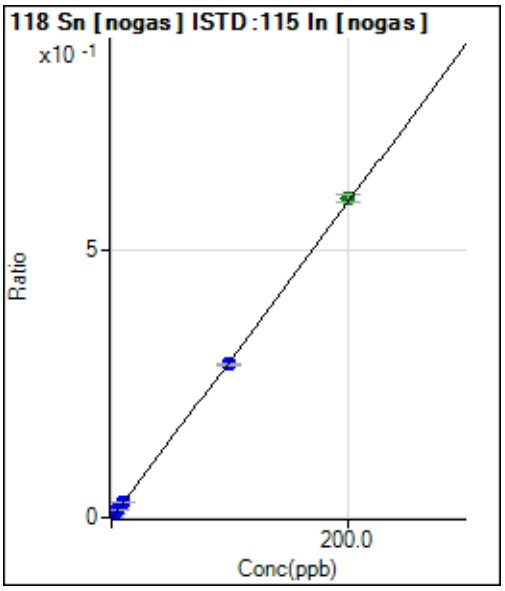


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6.67	0.0000	P	173.	
2	☐	2.000	1.960	6624.76	0.0018	P	9.1	-2.0
3	☐	5.000	4.993	16571.52	0.0047	P	2.9	-0.1
4	☐	10.000	9.673	32123.56	0.0091	P	1.5	-3.3
5	☐	100.000	100.219	315214.44	0.0940	P	1.5	0.2
6	☐	200.000	199.907	613654.57	0.1875	P	1.8	0.0
7	☐	1.000						

y = 9.3799E-004 * x + 1.8544E-006
R = 1.0000
DL = 0.01027 ppb
BEC = 0.001977 ppb

Weight: <None>
Min Conc: <None>

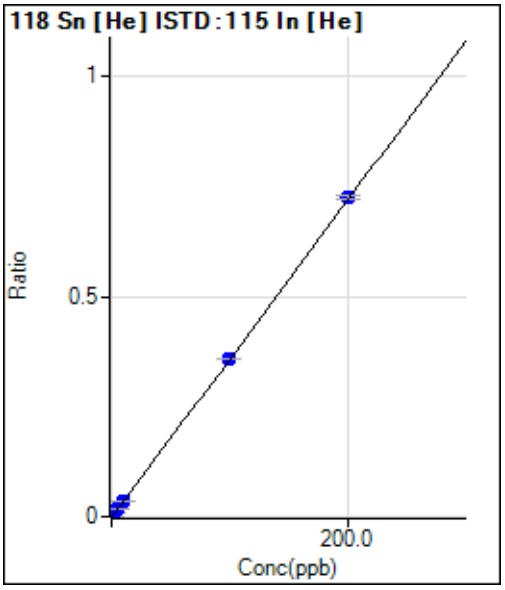
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2370.21	0.0007	P	10.2	
2	☐	2.000	1.821	21754.00	0.0060	P	0.7	-8.9
3	☐	5.000	4.728	51757.92	0.0146	P	0.9	-5.4
4	☐	10.000	9.447	101179.48	0.0286	P	2.3	-5.5
5	☐	100.000	96.752	961182.23	0.2867	P	1.6	-3.2
6	☐	200.000	201.660	1953082.47	0.5968	A	2.0	0.8
7	☐	1.000						

y = 0.0030 * x + 6.5932E-004
R = 0.9998
DL = 0.06857 ppb
BEC = 0.223 ppb

Weight: <None>
Min Conc: <None>

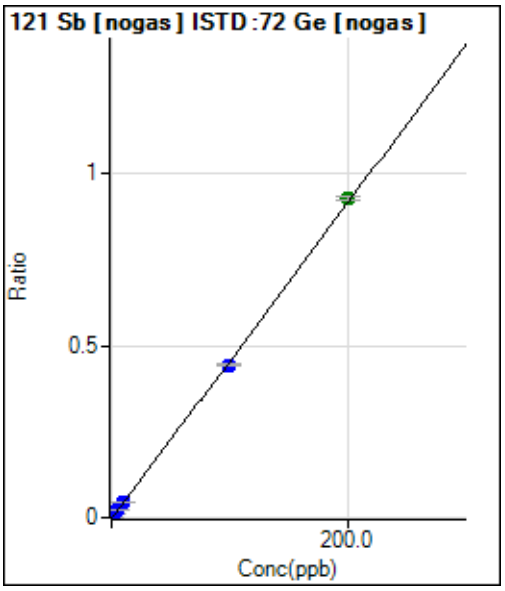


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1083.39	0.0008	P	11.1	
2	☐	2.000	1.832	10189.88	0.0074	P	5.0	-8.4
3	☐	5.000	4.710	23292.70	0.0178	P	2.3	-5.8
4	☐	10.000	9.716	46864.05	0.0359	P	1.8	-2.8
5	☐	100.000	98.699	444299.55	0.3572	P	0.5	-1.3
6	☐	200.000	200.674	877424.85	0.7255	P	0.7	0.3
7	☐	1.000						

y = 0.0036 * x + 7.8429E-004
R = 1.0000
DL = 0.07215 ppb
BEC = 0.2172 ppb

Weight: <None>
Min Conc: <None>

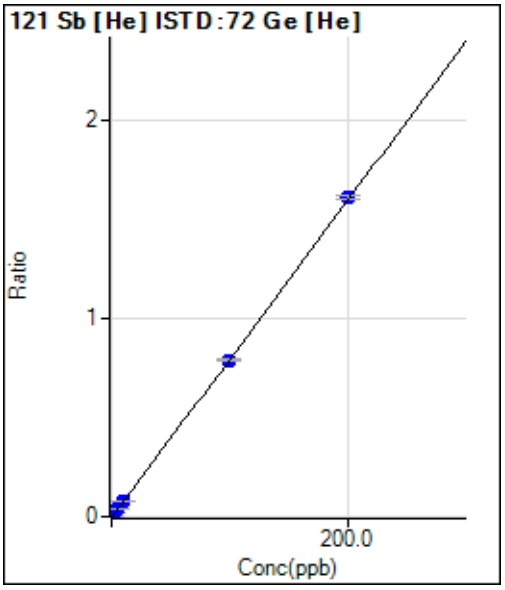
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2500.22	0.0008	P	8.5	
2	☐	2.000	1.804	26968.10	0.0091	P	1.5	-9.8
3	☐	5.000	4.663	65317.43	0.0223	P	3.2	-6.7
4	☐	10.000	9.252	126438.79	0.0434	P	1.4	-7.5
5	☐	100.000	96.456	1231434.23	0.4447	P	1.5	-3.5
6	☐	200.000	201.820	2497964.34	0.9295	A	0.8	0.9
7	☐	1.000						

y = 0.0046 * x + 8.3015E-004
R = 0.9998
DL = 0.04602 ppb
BEC = 0.1804 ppb

Weight: <None>
Min Conc: <None>

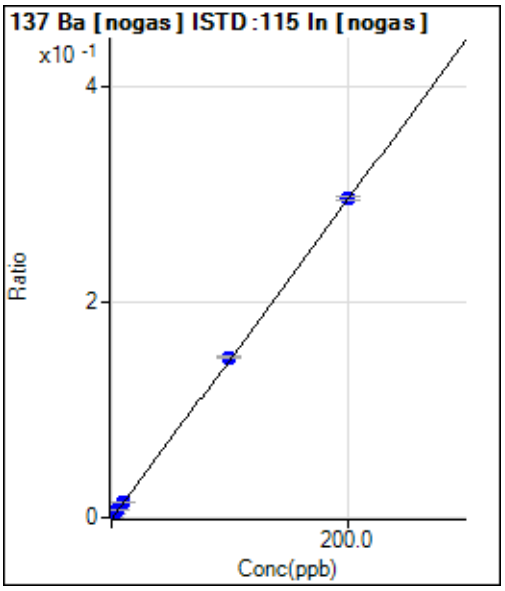


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1110.06	0.0015	P	5.1	
2	☐	2.000	1.890	12464.71	0.0166	P	2.1	-5.5
3	☐	5.000	4.793	29849.61	0.0399	P	2.4	-4.1
4	☐	10.000	9.490	57536.67	0.0776	P	1.9	-5.1
5	☐	100.000	98.356	557193.89	0.7903	P	1.3	-1.6
6	☐	200.000	200.854	1104353.26	1.6124	P	0.8	0.4
7	☐	1.000						

y = 0.0080 * x + 0.0015
R = 1.0000
DL = 0.02786 ppb
BEC = 0.1827 ppb

Weight: <None>
Min Conc: <None>

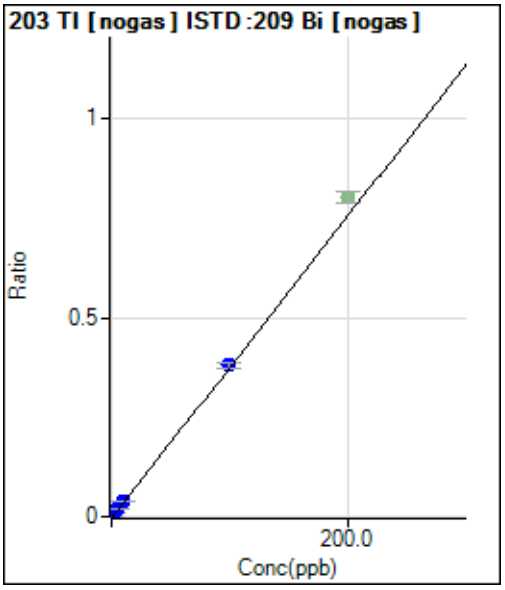
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	336.68	0.0001	P	17.8	
2	☐	2.000	1.973	10873.66	0.0030	P	0.9	-1.3
3	☐	5.000	4.860	25826.61	0.0073	P	0.8	-2.8
4	☐	10.000	9.578	50622.37	0.0143	P	1.4	-4.2
5	☐	100.000	100.223	498823.99	0.1488	P	0.8	0.2
6	☐	200.000	199.914	970751.65	0.2966	P	1.3	0.0
7	☐	1.000						

y = 0.0015 * x + 9.3477E-005
R = 1.0000
DL = 0.03373 ppb
BEC = 0.06302 ppb

Weight: <None>
Min Conc: <None>

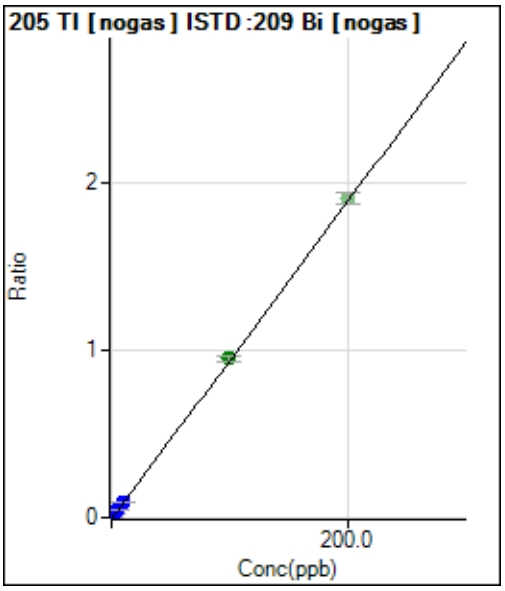


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	140.00	0.0000	P	53.6	
2	☐	2.000	2.016	27543.97	0.0077	P	3.2	0.8
3	☐	5.000	4.900	66764.80	0.0186	P	5.5	-2.0
4	☐	10.000	9.835	132443.76	0.0374	P	3.6	-1.7
5	☐	100.000	100.021	1309997.74	0.3797	P	4.0	0.0
6	☑	200.000		2679411.52	0.8023	A	4.1	
7	☐	1.000						

y = 0.0038 * x + 3.9641E-005
R = 1.0000
DL = 0.01681 ppb
BEC = 0.01044 ppb

Weight: <None>
Min Conc: <None>

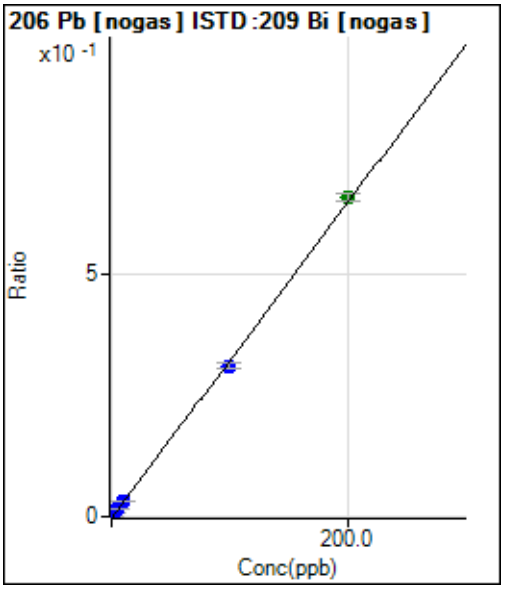
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	390.01	0.0001	P	34.6	
2	☐	2.000	1.864	63776.61	0.0178	P	6.2	-6.8
3	☐	5.000	4.625	157883.77	0.0441	P	5.4	-7.5
4	☐	10.000	9.472	319480.44	0.0902	P	4.6	-5.3
5	☐	100.000	100.074	3283268.60	0.9514	A	3.2	0.1
6	☑	200.000		6379116.99	1.9101	A	3.7	
7	☐	1.000						

y = 0.0095 * x + 1.0943E-004
R = 1.0000
DL = 0.01194 ppb
BEC = 0.01151 ppb

Weight: <None>
Min Conc: <None>

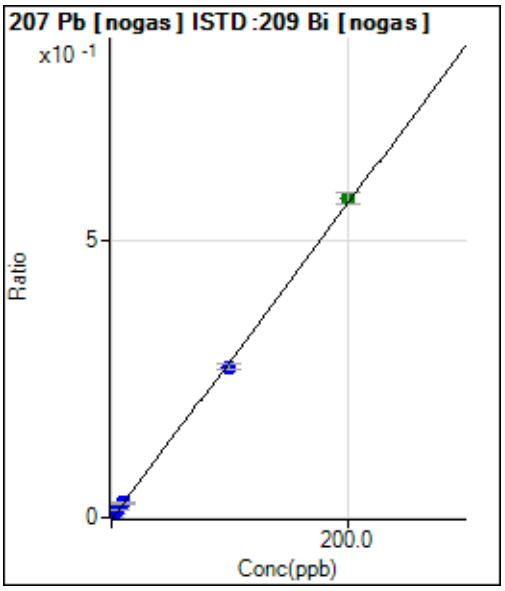


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	493.35	0.0001	P	8.8	
2	☐	2.000	1.904	22729.70	0.0063	P	2.1	-4.8
3	☐	5.000	4.761	56131.27	0.0157	P	3.6	-4.8
4	☐	10.000	9.367	108738.75	0.0307	P	4.2	-6.3
5	☐	100.000	95.522	1075183.11	0.3116	P	4.2	-4.5
6	☐	200.000	202.277	2203822.94	0.6598	A	3.0	1.1
7	☐	1.000						

y = 0.0033 * x + 1.3819E-004
R = 0.9997
DL = 0.01116 ppb
BEC = 0.04238 ppb

Weight: <None>
Min Conc: <None>

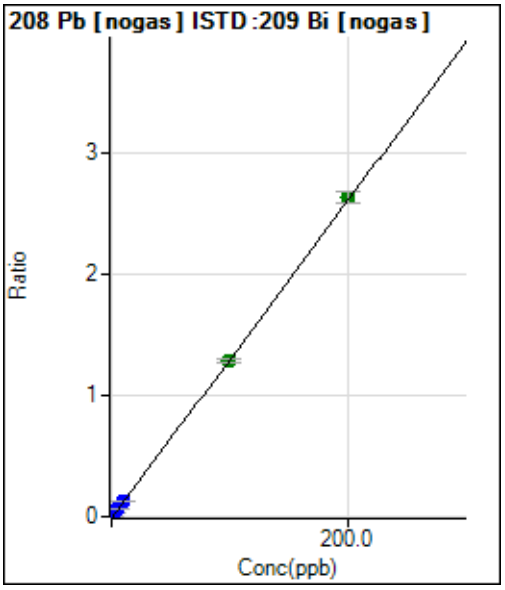
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	390.01	0.0001	P	13.1	
2	☐	2.000	1.873	19532.13	0.0055	P	4.8	-6.3
3	☐	5.000	4.768	49155.17	0.0137	P	5.0	-4.6
4	☐	10.000	9.330	94754.83	0.0267	P	5.1	-6.7
5	☐	100.000	95.576	941832.62	0.2730	P	3.7	-4.4
6	☐	200.000	202.253	1928957.52	0.5775	A	3.2	1.1
7	☐	1.000						

y = 0.0029 * x + 1.0912E-004
R = 0.9997
DL = 0.01508 ppb
BEC = 0.03822 ppb

Weight: <None>
Min Conc: <None>

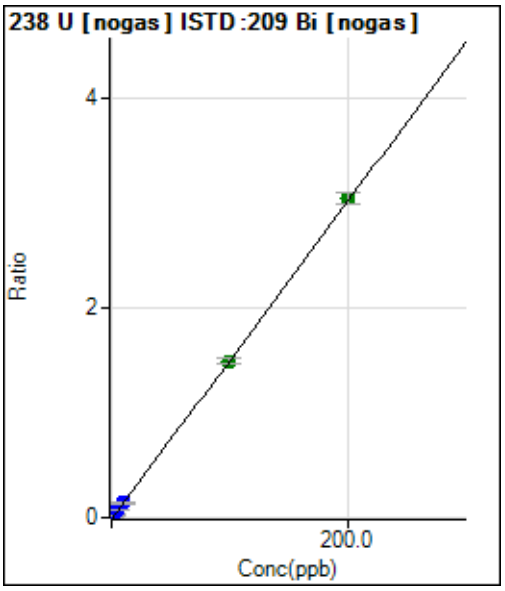


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1973.41	0.0006	P	7.5	
2	☐	2.000	1.871	89915.88	0.0251	P	3.9	-6.5
3	☐	5.000	4.673	221860.28	0.0619	P	3.9	-6.5
4	☐	10.000	9.277	433594.86	0.1224	P	4.8	-7.2
5	☐	100.000	97.813	4434124.28	1.2849	A	3.0	-2.2
6	☐	200.000	201.139	8822842.27	2.6416	A	3.5	0.6
7	☐	1.000						

y = 0.0131 * x + 5.5245E-004
R = 0.9999
DL = 0.009491 ppb
BEC = 0.04207 ppb

Weight: <None>
Min Conc: <None>

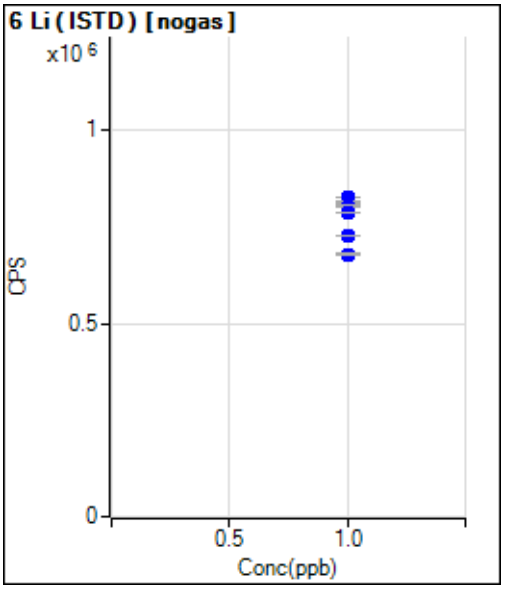
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	336.68	0.0001	P	12.7	
2	☐	2.000	1.830	99711.77	0.0279	P	3.9	-8.5
3	☐	5.000	4.556	247951.49	0.0692	P	4.9	-8.9
4	☐	10.000	9.127	490980.72	0.1386	P	4.8	-8.7
5	☐	100.000	98.328	5148221.69	1.4919	A	3.2	-1.7
6	☐	200.000	200.892	10178942.76	3.0480	A	4.1	0.4
7	☐	1.000						

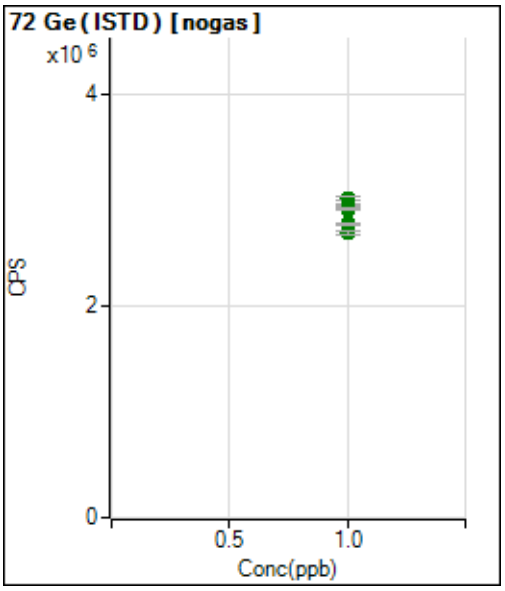
y = 0.0152 * x + 9.4145E-005
R = 1.0000
DL = 0.002357 ppb
BEC = 0.006205 ppb

Weight: <None>
Min Conc: <None>

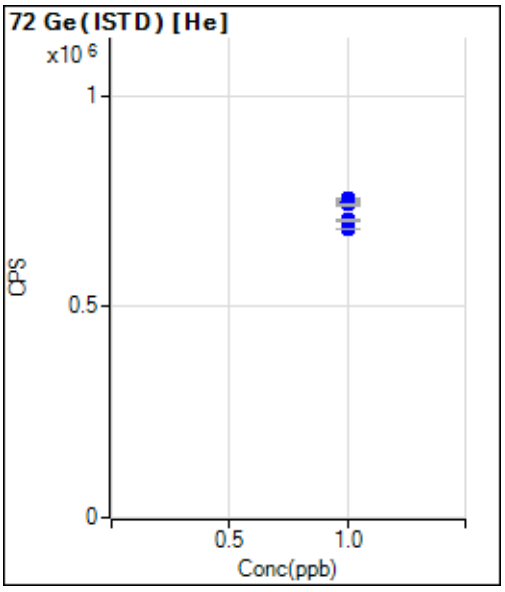


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		826657.33		P	0.2	
2	☐	1.000		814221.19		P	0.2	
3	☐	1.000		802934.61		P	0.8	
4	☐	1.000		787350.95		P	0.4	
5	☐	1.000		727826.35		P	0.4	
6	☐	1.000		678267.88		P	0.6	
7	☐	1.000						

Calibration for 026_ICV.d

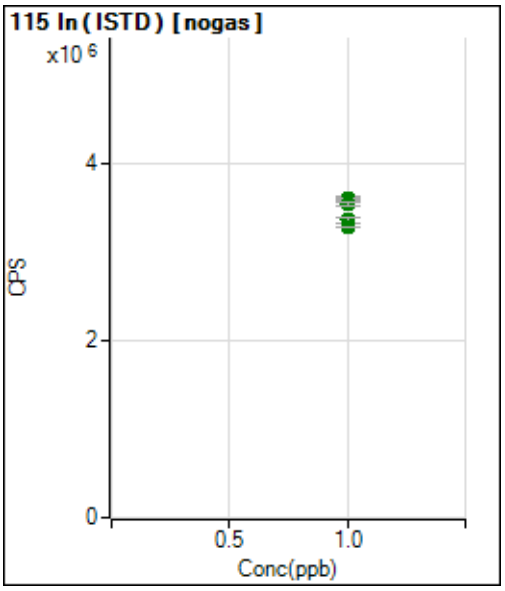


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3013773.60		A	1.2	
2	☐	1.000		2953072.98		A	0.2	
3	☐	1.000		2931009.12		A	0.4	
4	☐	1.000		2913015.90		A	0.4	
5	☐	1.000		2769505.37		A	0.9	
6	☐	1.000		2687524.02		A	0.9	
7	☐	1.000						

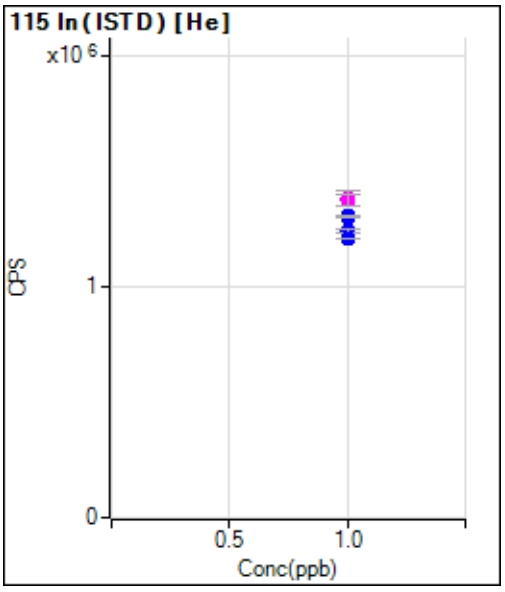


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		757426.71		P	0.6	
2	☐	1.000		749744.89		P	0.7	
3	☐	1.000		748118.61		P	1.4	
4	☐	1.000		741618.32		P	0.1	
5	☐	1.000		705019.63		P	0.3	
6	☐	1.000		684912.28		P	0.5	
7	☐	1.000						

Calibration for 026_ICV.d

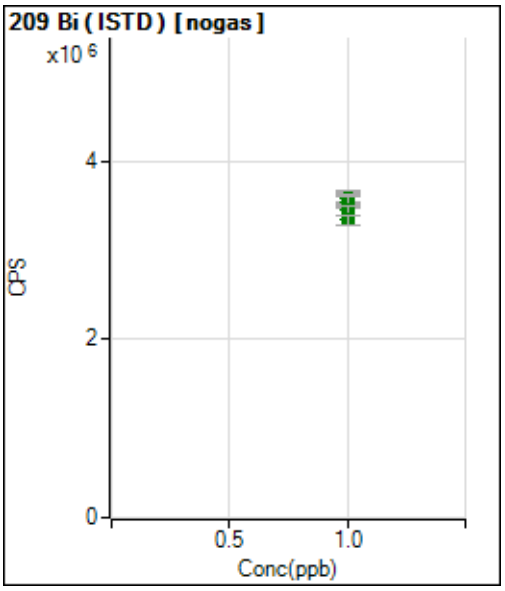


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3595137.39		A	1.5	
2	☐	1.000		3599829.45		A	0.2	
3	☐	1.000		3536713.04		A	0.8	
4	☐	1.000		3539945.31		A	1.5	
5	☐	1.000		3353564.75		A	1.6	
6	☐	1.000		3272751.07		A	0.4	
7	☐	1.000						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1385925.50		M	4.6	
2	☐	1.000		1377762.12		M	3.6	
3	☐	1.000		1309118.34		P	0.7	
4	☐	1.000		1306443.05		P	0.2	
5	☐	1.000		1243682.35		P	1.2	
6	☐	1.000		1209376.70		P	0.3	
7	☐	1.000						

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3580151.93		A	4.8	
2	☐	1.000		3583252.45		A	3.7	
3	☐	1.000		3585936.19		A	2.9	
4	☐	1.000		3547428.49		A	3.6	
5	☐	1.000		3453079.53		A	3.1	
6	☐	1.000		3342259.53		A	3.0	
7	☐	1.000						

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	027ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T11:34:32-06:00
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	0.041	9.9	155	6.5	0	ICSA Main CR1 Failed
B	11	1	nogas	4.524	11.8	37569	2.0	0	ICSA Main CR1 Failed
Ca	44	1	nogas	103074.101	1.5	45554923	1.4	0	
Ti	47	1	nogas	2131.943	1.9	2880245	1.3	0	
Cr	52	1	nogas	0.977	3.0	56374	0.5	0	ICSA Main CR1 Failed
Ni	60	1	nogas	1.299	6.7	6378	4.4	0	ICSA Main CR1 Failed
Cu	63	1	nogas	1.192	8.8	15363	5.6	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.972	4.4	6258	3.6	0	ICSA Main CR1 Failed
Se	82	1	nogas	0.435	115.1	380	22.5	0	ICSA Main CR1 Failed
Sr	88	1	nogas	1.021	3.6	28427	3.2	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2084.346	0.6	11482419	1.3	0	
Ag	107	1	nogas	0.045	10.0	980	6.4	0	ICSA Main CR1 Failed
Cd	111	1	nogas	2.213	1.9	6295	1.1	0	
Sn	118	1	nogas	1.150	9.0	12291	6.7	0	ICSA Main CR1 Failed
Sb	121	1	nogas	1.296	19.0	17298	16.0	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.123	22.1	837	13.9	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.156	18.4	4931	20.6	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.129	9.4	6907	10.4	0	ICSA Main CR1 Failed
Na	23	2	He	105465.906	1.4	83299155	1.3	0	
Mg	24	2	He	105338.563	1.0	47382771	0.9	0	
Al	27	2	He	101479.444	0.5	25868392	0.5	0	
K	39	2	He	104595.930	0.8	50389578	0.7	0	
Ca	43	2	He	100575.326	0.8	158503	0.9	0	
Ca	44	2	He	105150.906	1.9	2828289	1.8	0	
V	51	2	He	-0.409	-8.4	2669	5.6	0	ICSA Main CR1 Failed
Cr	52	2	He	0.954	4.5	6021	3.6	0	ICSA Main CR1 Failed
Mn	55	2	He	0.306	13.3	1667	9.0	0	ICSA Main CR1 Failed
Fe	56	2	He	104899.848	0.6	497355099	0.8	0	
Co	59	2	He	0.215	6.5	1943	5.7	0	ICSA Main CR1 Failed
Ni	60	2	He	0.220	32.5	750	18.5	0	ICSA Main CR1 Failed
Cu	63	2	He	0.192	10.5	2607	3.9	0	ICSA Main CR1 Failed
Zn	66	2	He	0.606	12.0	953	7.1	0	ICSA Main CR1 Failed
As	75	2	He	0.119	60.4	164	28.4	0	ICSA Main CR1 Failed
Sb	121	2	He	0.794	4.4	5004	3.5	0	ICSA Main CR1 Failed
Se	78	2	He	0.371	33.4	80	9.0	0	ICSA Main CR1 Failed
Ti	47	2	He	2081.296	1.0	332029	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	2548694	0.97	3013774	84.57	70	120	
In	115	1	nogas	3030062	0.78	3595137	84.28	70	120	
Li	6	1	nogas	687069	0.38	826657	83.11	70	120	
Bi	209	1	nogas	3065348	3.37	3580152	85.62	70	120	
Ge	72	2	He	638769	0.14	757427	84.33	70	120	
In	115	2	He	1115461	0.31	1385926	80.48	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	028ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T11:36:31-06:00
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	97.548	0.827	231669	1.28	100	97.5	80	120	
B	11	1	nogas	466.138	1.070	742666	1.02	100	466.1	80	120	
Ca	44	1	nogas	110329.230	0.780	49111154	0.42	100	110329.2	80	120	ICSB Main CR1 Failed
Ti	47	1	nogas	2166.361	1.657	2948093	1.83	100	2166.4	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	99.834	1.275	1699345	0.80	100	99.8	80	120	
Ni	60	1	nogas	96.434	0.576	381097	0.18	100	96.4	80	120	
Cu	63	1	nogas	94.695	1.103	924293	0.65	100	94.7	80	120	
Zn	66	1	nogas	101.004	0.944	266269	0.90	100	101.0	80	120	
Se	82	1	nogas	107.010	0.469	19124	0.94	100	107.0	80	120	
Sr	88	1	nogas	106.175	0.609	2880318	0.74	100	106.2	80	120	
Mo	95	1	nogas	2166.773	0.480	11935032	0.81	100	2166.8	80	120	
Ag	107	1	nogas	93.146	1.930	1312169	1.59	100	93.1	80	120	
Cd	111	1	nogas	103.456	1.012	294007	0.56	100	103.5	80	120	
Sn	118	1	nogas	100.158	1.359	899017	1.45	100	100.2	80	120	
Sb	121	1	nogas	100.258	2.212	1186275	1.77	100	100.3	80	120	
Ba	137	1	nogas	104.394	1.917	469423	1.77	100	104.4	80	120	
Tl	205	1	nogas	104.221	2.487	3073634	0.64	100	104.2	80	120	
Pb	208	1	nogas	100.355	3.595	4073494	0.66	100	100.4	80	120	
U	238	1	nogas	105.648	3.690	4953067	0.80	100	105.6	80	120	
Na	23	2	He	114743.545	1.111	90742069	0.77	100	114743.5	80	120	
Mg	24	2	He	112207.402	1.228	50537008	0.85	100	112207.4	80	120	ICSB Main CR1 Failed
Al	27	2	He	98858.628	1.054	25232780	0.88	100	98858.6	80	120	ICSB Main CR1 Failed
K	39	2	He	112298.674	1.209	54166769	0.89	100	112298.7	80	120	ICSB Main CR1 Failed
Ca	43	2	He	108767.450	1.082	171633	1.06	100	108767.4	80	120	
Ca	44	2	He	113081.236	0.076	3045598	0.43	100	113081.2	80	120	ICSB Main CR1 Failed
V	51	2	He	101.179	0.445	456333	0.82	100	101.2	80	120	
Cr	52	2	He	100.188	0.220	518206	0.60	100	100.2	80	120	
Mn	55	2	He	100.481	1.376	374504	1.44	100	100.5	80	120	
Fe	56	2	He	112597.008	0.913	534538112	0.89	100	112597.0	80	120	ICSB Main CR1 Failed
Co	59	2	He	96.178	0.548	770728	0.19	100	96.2	80	120	
Ni	60	2	He	98.006	0.358	191866	0.35	100	98.0	80	120	
Cu	63	2	He	96.216	0.842	499041	1.05	100	96.2	80	120	
Zn	66	2	He	100.221	0.599	96304	0.28	100	100.2	80	120	
As	75	2	He	104.711	0.338	68438	0.61	100	104.7	80	120	
Sb	121	2	He	103.489	1.082	531818	0.74	100	103.5	80	120	
Se	78	2	He	109.569	3.255	6411	3.60	100	109.6	80	120	
Ti	47	2	He	2137.083	0.972	341368	0.79	100	2137.1	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	2566988	0.48	3013774	85.18	70	120	
In	115	1	nogas	3029857	1.13	3595137	84.28	70	120	
Li	6	1	nogas	677428	0.66	826657	81.95	70	120	
Bi	209	1	nogas	3092258	3.03	3580152	86.37	70	120	
Ge	72	2	He	639602	0.39	757427	84.44	70	120	
In	115	2	He	1119866	0.78	1385926	80.80	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	119_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T15:58:21-06:00
Sample Type	CCV
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	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	103.508	0.400	228187	0.29	100	103.5	90	110	
B	11	1	nogas	492.991	1.592	727531	1.62	500	98.6	90	110	
Ca	44	1	nogas	10122.425	1.778	4376862	0.84	10000	101.2	90	110	
Ti	47	1	nogas	101.275	0.339	133524	1.01	100	101.3	90	110	
Cr	52	1	nogas	101.672	0.768	1674420	0.72	100	101.7	90	110	
Ni	60	1	nogas	98.250	0.315	375824	1.58	100	98.3	90	110	
Cu	63	1	nogas	97.098	0.289	917317	1.41	100	97.1	90	110	
Zn	66	1	nogas	102.278	0.501	260968	1.11	100	102.3	90	110	
Se	82	1	nogas	103.023	5.340	17829	4.91	100	103.0	90	110	
Sr	88	1	nogas	105.480	0.974	2866124	1.83	100	105.5	90	110	
Mo	95	1	nogas	98.656	0.649	544956	1.57	100	98.7	90	110	
Ag	107	1	nogas	101.915	1.176	1437901	0.11	100	101.9	90	110	
Cd	111	1	nogas	101.270	0.770	288261	1.42	100	101.3	90	110	
Sn	118	1	nogas	99.841	0.413	897582	0.92	100	99.8	90	110	
Sb	121	1	nogas	100.127	0.674	1146822	1.33	100	100.1	90	110	
Ba	137	1	nogas	103.611	0.427	466674	1.56	100	103.6	90	110	
Tl	205	1	nogas	99.591	4.018	3113947	1.09	100	99.6	90	110	
Pb	208	1	nogas	98.470	4.595	4238183	1.76	100	98.5	90	110	
U	238	1	nogas	100.183	4.605	4980234	1.61	100	100.2	90	110	
Li	7	1	nogas	100.547	1.122	863670	1.23	100	100.5	90	110	
Tl	203	1	nogas	95.195	4.842	1237643	1.90	100	95.2	90	110	
Na	23	2	He	10756.778	0.558	8667687	0.65	10000	107.6	90	110	
Mg	24	2	He	10673.895	1.166	4889415	0.93	10000	106.7	90	110	
Al	27	2	He	106.161	0.858	27915	1.22	100	106.2	90	110	
K	39	2	He	10572.397	0.325	5221242	0.63	10000	105.7	90	110	
Ca	43	2	He	10349.421	4.799	16621	4.45	10000	103.5	90	110	
Ca	44	2	He	10501.685	0.357	287750	0.63	10000	105.0	90	110	
V	51	2	He	99.295	0.074	455419	0.45	100	99.3	90	110	
Cr	52	2	He	99.273	0.472	522080	0.18	100	99.3	90	110	
Mn	55	2	He	102.606	0.982	388821	1.15	100	102.6	90	110	
Fe	56	2	He	10351.177	0.386	49975309	0.55	10000	103.5	90	110	
Co	59	2	He	95.864	0.539	781086	0.63	100	95.9	90	110	
Ni	60	2	He	99.147	2.346	197341	2.10	100	99.1	90	110	
Cu	63	2	He	97.557	0.835	514432	0.46	100	97.6	90	110	
Zn	66	2	He	103.208	0.416	100825	0.62	100	103.2	90	110	
As	75	2	He	100.793	1.092	66983	0.77	100	100.8	90	110	
Sn	118	2	He	100.377	1.617	425726	1.06	100	100.4	90	110	
Sb	121	2	He	103.569	0.600	541155	0.47	100	103.6	90	110	
Se	78	2	He	105.766	2.294	6294	2.27	100	105.8	90	110	
Ti	47	2	He	102.464	3.460	16651	3.82	100	102.5	90	110	
Al	27	1	nogas	103.822	3.132	1229694	2.94	100	103.8	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	2484734	1.34	3013774	82.45	70	120	
In	115	1	nogas	3034608	1.27	3595137	84.41	70	120	
Li	6	1	nogas	628856	0.60	826657	76.07	70	120	
Bi	209	1	nogas	3279439	3.04	3580152	91.60	70	120	
Ge	72	2	He	650315	0.38	757427	85.86	70	120	
In	115	2	He	1171947	0.99	1385926	84.56	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	120_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:00:20-06:00
Sample Type	CCB
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	0.049	11.0	172	6.7	1	
B	11	1	nogas	7.535	10.5	41526	2.3	10	
Ca	44	1	nogas	-7.558	-28.0	14566	5.4	100	
Ti	47	1	nogas	0.228	18.4	440	11.8	2.5	
Cr	52	1	nogas	-0.057	-121.2	39089	2.4	2.5	
Ni	60	1	nogas	-0.118	-12.2	837	5.4	2.5	
Cu	63	1	nogas	-0.062	-74.9	3250	12.3	2	
Zn	66	1	nogas	0.792	8.6	3164	4.8	2.5	
Se	82	1	nogas	0.180	330.4	333	30.0	2	
Sr	88	1	nogas	0.056	29.0	2370	17.9	2.5	
Mo	95	1	nogas	0.322	46.0	2577	31.3	2.5	
Ag	107	1	nogas	0.041	44.6	967	27.1	2.5	
Cd	111	1	nogas	0.046	53.3	143	49.5	1	
Sn	118	1	nogas	1.074	18.3	12165	13.7	5	
Sb	121	1	nogas	1.390	22.7	18284	18.8	2.5	
Ba	137	1	nogas	0.071	12.8	633	6.0	2.5	
Tl	205	1	nogas	0.219	29.1	7379	32.2	1	
Pb	208	1	nogas	0.052	15.1	4094	12.7	2.5	
U	238	1	nogas	0.069	17.4	3817	20.5	2.5	
Na	23	2	He	72.713	2.6	80523	2.5	100	
Mg	24	2	He	2.469	10.5	2784	5.0	100	
Al	27	2	He	0.530	15.9	513	4.9	5	
K	39	2	He	12.708	12.0	47221	2.2	100	
Ca	43	2	He	-2.315	-150.8	17	34.6	100	
Ca	44	2	He	8.788	28.1	440	15.9	100	
V	51	2	He	-0.139	-9.9	4039	1.7	2.5	
Cr	52	2	He	0.006	285.6	1187	7.8	2.5	
Mn	55	2	He	0.163	24.3	1183	13.4	2.5	
Fe	56	2	He	3.468	4.0	29758	2.8	100	
Co	59	2	He	0.018	51.8	383	20.9	2.5	
Ni	60	2	He	-0.005	-646.0	323	21.9	2.5	
Cu	63	2	He	-0.014	-249.2	1607	12.5	2	
Zn	66	2	He	0.946	12.8	1333	9.4	2.5	
As	75	2	He	0.081	36.5	146	13.2	2.5	
Sb	121	2	He	0.790	12.5	5198	10.6	2.5	
Se	78	2	He	0.049	311.4	64	14.3	2	
Ti	47	2	He	0.228	81.0	47	65.5	2.5	

QC ISTD Table

Continuing Calibration Blank (CCB) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2533815	1.29	3013774	84.07	70	120	
In	115	1	nogas	3176414	1.70	3595137	88.35	70	120	
Li	6	1	nogas	675574	0.82	826657	81.72	70	120	
Bi	209	1	nogas	3323570	4.51	3580152	92.83	70	120	
Ge	72	2	He	666190	0.57	757427	87.95	70	120	
In	115	2	He	1207506	0.30	1385926	87.13	70	120	

Sample Report

Sample Table

Sample Name	LCS-160306
Data File Name	122SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:06:05-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 160306
ISTD Ref FileName	015CALB.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	52.721	52.721	0.70	131578	0.04	2000	
B	11	1	nogas	-1.122	-1.122	-14.27	29852	0.00	2000	
Ca	44	1	nogas	5414.106	5414.106	1.08	2535027	0.21	200000	
Ti	47	1	nogas	50.799	50.799	0.97	72343	0.07	2000	
Cr	52	1	nogas	51.550	51.550	1.13	936965	0.01	2000	
Ni	60	1	nogas	52.261	52.261	1.49	216358	0.02	2000	
Cu	63	1	nogas	52.404	52.404	0.58	536082	0.01	2000	
Zn	66	1	nogas	56.450	56.450	2.76	155958	0.04	2000	
Se	82	1	nogas	54.830	54.830	1.06	10390	0.53	2000	
Sr	88	1	nogas	0.092	0.092	6.02	3490	0.00	2000	
Mo	95	1	nogas	51.331	51.331	2.44	306692	0.02	2000	
Ag	107	1	nogas	46.139	46.139	1.64	703566	0.01	2000	
Cd	111	1	nogas	53.414	53.414	1.27	164272	0.03	2000	
Sn	118	1	nogas	0.132	0.132	18.90	3437	0.00	2000	
Sb	121	1	nogas	51.162	51.162	0.75	633391	0.01	2000	
Ba	137	1	nogas	52.640	52.640	1.25	256313	0.02	2000	
Tl	205	1	nogas	53.475	53.475	4.27	1732153	0.00	2000	
Pb	208	1	nogas	50.600	50.600	4.11	2257137	0.00	2000	
U	238	1	nogas	0.000	0.000	657.98	330	0.00	2000	
Na	23	2	He	5576.821	5576.821	0.87	4772520	0.12	200000	
Mg	24	2	He	5712.050	5712.050	2.47	2773546	0.21	200000	
Al	27	2	He	124.608	124.608	2.96	34653	0.36	2000	
K	39	2	He	5611.358	5611.358	0.62	2956652	0.19	200000	
Ca	43	2	He	5180.412	5180.412	2.86	8829	58.68	200000	
Ca	44	2	He	5192.971	5192.971	0.35	150897	3.44	200000	
V	51	2	He	51.097	51.097	0.92	250713	0.02	2000	
Cr	52	2	He	51.452	51.452	1.07	287328	0.02	2000	
Mn	55	2	He	52.848	52.848	0.64	212509	0.02	2000	
Fe	56	2	He	5352.894	5352.894	1.38	27394025	0.02	200000	
Co	59	2	He	50.812	50.812	0.56	438869	0.01	2000	
Ni	60	2	He	52.313	52.313	0.80	110513	0.05	2000	
Cu	63	2	He	52.592	52.592	1.59	294696	0.02	2000	
Zn	66	2	He	56.129	56.129	0.86	58295	0.10	2000	
As	75	2	He	53.065	53.065	0.57	37418	0.14	2000	
Sb	121	2	He	52.967	52.967	1.75	293776	0.02	2000	
Se	78	2	He	55.547	55.547	0.71	3533	1.57	2000	
Ti	47	2	He	52.305	52.305	2.51	9012	0.58	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2681077	0.87	3013774	88.96	70	120	
In	115	1	nogas	3278912	1.23	3595137	91.20	70	120	
Li	6	1	nogas	711738	0.70	826657	86.10	70	120	
Bi	209	1	nogas	3397769	3.70	3580152	94.91	70	120	

Sample Report

Ge	72	2	He	689194	0.61	757427	90.99	70	120	
In	115	2	He	1210904	0.21	1385926	87.37	70	120	

Sample Report

Sample Table

Sample Name	HS20111258-01SD
Data File Name	124SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:10:03-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 160306
ISTD Ref FileName	015CALB.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	0.022	0.022	26.94	108	0.02	2000	
B	11	1	nogas	7.486	7.486	7.46	41638	0.02	2000	
Ca	44	1	nogas	7009.205	7009.205	2.54	3190162	0.22	200000	
Ti	47	1	nogas	0.735	0.735	28.75	1157	0.06	2000	
Cr	52	1	nogas	1.036	1.036	3.21	58738	0.00	2000	
Ni	60	1	nogas	2.685	2.685	2.05	12088	0.02	2000	
Cu	63	1	nogas	2.433	2.433	5.58	28019	0.01	2000	
Zn	66	1	nogas	32.074	32.074	1.46	86766	0.04	2000	
Se	82	1	nogas	0.344	0.344	55.06	373	0.09	2000	
Sr	88	1	nogas	125.606	125.606	0.81	3567131	0.00	2000	
Mo	95	1	nogas	0.219	0.219	19.68	1987	0.01	2000	
Ag	107	1	nogas	-0.009	-0.009	-5.20	227	0.00	2000	
Cd	111	1	nogas	0.075	0.075	34.00	230	0.03	2000	
Sn	118	1	nogas	0.102	0.102	28.26	3047	0.00	2000	
Sb	121	1	nogas	0.295	0.295	17.74	5708	0.01	2000	
Ba	137	1	nogas	128.518	128.518	0.71	604952	0.02	2000	
Tl	205	1	nogas	0.022	0.022	7.74	1097	0.00	2000	
Pb	208	1	nogas	0.286	0.286	2.70	14573	0.00	2000	
U	238	1	nogas	0.018	0.018	15.03	1260	0.00	2000	
Na	23	2	He	36427.391	36427.391	0.96	30404636	0.12	200000	
Mg	24	2	He	5099.459	5099.459	0.17	2424493	0.21	200000	
Al	27	2	He	28.849	28.849	3.64	8145	0.35	2000	
K	39	2	He	293.494	293.494	1.05	190595	0.15	200000	
Ca	43	2	He	7618.463	7618.463	0.80	12701	59.98	200000	
Ca	44	2	He	7335.764	7335.764	0.63	208603	3.52	200000	
V	51	2	He	0.544	0.544	5.59	7308	0.01	2000	
Cr	52	2	He	0.527	0.527	4.88	4037	0.01	2000	
Mn	55	2	He	68.712	68.712	0.57	270334	0.03	2000	
Fe	56	2	He	158.154	158.154	0.56	804795	0.02	200000	
Co	59	2	He	0.979	0.979	4.11	8509	0.01	2000	
Ni	60	2	He	2.848	2.848	4.63	6211	0.05	2000	
Cu	63	2	He	2.383	2.383	3.25	14703	0.02	2000	
Zn	66	2	He	31.619	31.619	1.06	32323	0.10	2000	
As	75	2	He	0.176	0.176	24.83	213	0.08	2000	
Sb	121	2	He	0.245	0.245	10.95	2317	0.01	2000	
Se	78	2	He	0.254	0.254	117.73	77	0.33	2000	
Ti	47	2	He	0.363	0.363	28.62	70	0.52	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2610651	1.03	3013774	86.62	70	120	
In	115	1	nogas	3171829	0.42	3595137	88.23	70	120	
Li	6	1	nogas	678447	0.86	826657	82.07	70	120	
Bi	209	1	nogas	3380777	3.82	3580152	94.43	70	120	

Sample Report

Ge	72	2	He	674718	0.21	757427	89.08	70	120	
In	115	2	He	1194929	1.18	1385926	86.22	70	120	

Sample Report

Sample Table

Sample Name	HS20111258-01MS
Data File Name	125SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:12:48-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 160306
ISTD Ref FileName	015CALB.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	47.592	47.592	1.03	111115	0.04	2000	
B	11	1	nogas	33.842	33.842	1.71	80454	0.04	2000	
Ca	44	1	nogas	37812.847	37812.847	0.98	16892640	0.22	200000	
Ti	47	1	nogas	47.116	47.116	1.83	64450	0.07	2000	
Cr	52	1	nogas	46.181	46.181	0.12	810303	0.01	2000	
Ni	60	1	nogas	54.972	54.972	0.63	218467	0.03	2000	
Cu	63	1	nogas	54.498	54.498	0.91	535152	0.01	2000	
Zn	66	1	nogas	190.549	190.549	1.28	502772	0.04	2000	
Se	82	1	nogas	52.093	52.093	3.00	9493	0.55	2000	
Sr	88	1	nogas	589.995	589.995	0.61	16307701	0.00	2000	
Mo	95	1	nogas	45.854	45.854	1.31	258072	0.02	2000	
Ag	107	1	nogas	38.654	38.654	0.86	555136	0.01	2000	
Cd	111	1	nogas	46.198	46.198	1.52	133790	0.03	2000	
Sn	118	1	nogas	0.131	0.131	7.55	3234	0.00	2000	
Sb	121	1	nogas	44.289	44.289	0.50	526840	0.01	2000	
Ba	137	1	nogas	663.296	663.296	0.83	3038011	0.02	2000	
Tl	205	1	nogas	41.851	41.851	4.66	1283919	0.00	2000	
Pb	208	1	nogas	42.668	42.668	4.88	1802581	0.00	2000	
U	238	1	nogas	0.101	0.101	8.10	5218	0.00	2000	
Na	23	2	He	173488.454	173488.454	0.84	141923131	0.12	200000	
Mg	24	2	He	28044.329	28044.329	0.67	13068117	0.21	200000	
Al	27	2	He	205.926	205.926	2.92	54744	0.38	2000	
K	39	2	He	6114.747	6114.747	0.68	3089569	0.20	200000	
Ca	43	2	He	39187.983	39187.983	2.77	63978	61.25	200000	
Ca	44	2	He	38650.219	38650.219	1.64	1076962	3.59	200000	
V	51	2	He	45.500	45.500	1.24	214841	0.02	2000	
Cr	52	2	He	45.954	45.954	1.61	246494	0.02	2000	
Mn	55	2	He	380.873	380.873	2.08	1466909	0.03	2000	
Fe	56	2	He	5258.435	5258.435	1.11	25836098	0.02	200000	
Co	59	2	He	46.786	46.786	1.00	387968	0.01	2000	
Ni	60	2	He	54.899	54.899	0.86	111327	0.05	2000	
Cu	63	2	He	53.602	53.602	0.71	288342	0.02	2000	
Zn	66	2	He	192.639	192.639	1.13	191139	0.10	2000	
As	75	2	He	47.098	47.098	0.75	31894	0.15	2000	
Sb	121	2	He	46.249	46.249	1.80	246394	0.02	2000	
Se	78	2	He	49.196	49.196	2.00	3011	1.63	2000	
Ti	47	2	He	48.453	48.453	9.65	8019	0.60	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2574601	1.22	3013774	85.43	70	120	
In	115	1	nogas	3087736	1.24	3595137	85.89	70	120	
Li	6	1	nogas	665831	0.69	826657	80.54	70	120	
Bi	209	1	nogas	3219113	4.62	3580152	89.92	70	120	
Ge	72	2	He	661674	0.64	757427	87.36	70	120	
In	115	2	He	1151502	0.62	1385926	83.09	70	120	

Sample Report

Sample Table

Sample Name	HS20111258-01MSD
Data File Name	126SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:14:48-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 160306
ISTD Ref FileName	015CALB.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	46.555	46.555	0.77	106694	0.04	2000	
B	11	1	nogas	32.982	32.982	1.78	77706	0.04	2000	
Ca	44	1	nogas	36624.009	36624.009	0.95	16059474	0.23	200000	
Ti	47	1	nogas	47.874	47.874	2.36	64260	0.07	2000	
Cr	52	1	nogas	45.737	45.737	0.89	787993	0.01	2000	
Ni	60	1	nogas	54.550	54.550	1.03	212766	0.03	2000	
Cu	63	1	nogas	53.506	53.506	1.25	515758	0.01	2000	
Zn	66	1	nogas	188.730	188.730	1.52	488769	0.04	2000	
Se	82	1	nogas	48.917	48.917	1.97	8769	0.56	2000	
Sr	88	1	nogas	572.275	572.275	1.03	15631396	0.00	2000	
Mo	95	1	nogas	45.468	45.468	1.11	252931	0.02	2000	
Ag	107	1	nogas	37.800	37.800	1.00	536497	0.01	2000	
Cd	111	1	nogas	44.773	44.773	1.48	128141	0.03	2000	
Sn	118	1	nogas	-0.003	-0.003	-741.21	1990	0.00	2000	
Sb	121	1	nogas	45.212	45.212	1.04	527796	0.01	2000	
Ba	137	1	nogas	664.221	664.221	1.42	3006664	0.02	2000	
Tl	205	1	nogas	42.309	42.309	3.60	1260622	0.00	2000	
Pb	208	1	nogas	42.905	42.905	3.52	1760601	0.00	2000	
U	238	1	nogas	0.108	0.108	2.89	5398	0.00	2000	
Na	23	2	He	172563.875	172563.875	1.77	138759101	0.12	200000	
Mg	24	2	He	27718.068	27718.068	0.50	12697823	0.22	200000	
Al	27	2	He	208.816	208.816	1.21	54564	0.38	2000	
K	39	2	He	6075.590	6075.590	0.13	3018333	0.20	200000	
Ca	43	2	He	38569.464	38569.464	3.69	61885	62.32	200000	
Ca	44	2	He	37965.679	37965.679	1.69	1039879	3.65	200000	
V	51	2	He	44.882	44.882	1.27	208391	0.02	2000	
Cr	52	2	He	45.877	45.877	0.93	241926	0.02	2000	
Mn	55	2	He	373.536	373.536	2.29	1414104	0.03	2000	
Fe	56	2	He	5250.178	5250.178	1.08	25358720	0.02	200000	
Co	59	2	He	46.751	46.751	1.61	381074	0.01	2000	
Ni	60	2	He	54.400	54.400	2.63	108427	0.05	2000	
Cu	63	2	He	53.316	53.316	0.47	281975	0.02	2000	
Zn	66	2	He	190.238	190.238	2.21	185538	0.10	2000	
As	75	2	He	47.235	47.235	1.00	31445	0.15	2000	
Sb	121	2	He	46.818	46.818	1.61	245180	0.02	2000	
Se	78	2	He	48.711	48.711	1.82	2932	1.66	2000	
Ti	47	2	He	45.716	45.716	4.31	7438	0.61	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2526967	1.18	3013774	83.85	70	120	
In	115	1	nogas	3051377	0.91	3595137	84.88	70	120	
Li	6	1	nogas	653581	0.70	826657	79.06	70	120	
Bi	209	1	nogas	3124157	2.85	3580152	87.26	70	120	
Ge	72	2	He	650520	1.96	757427	85.89	70	120	
In	115	2	He	1140288	0.75	1385926	82.28	70	120	

Sample Report

Sample Table

Sample Name	HS20111258-01PDS
Data File Name	127SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:16:48-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 160306
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	110.889	110.889	0.67	248597	0.04	2000	
B	11	1	nogas	36.615	36.615	2.07	81276	0.05	2000	
Ca	44	1	nogas	45532.996	45532.996	0.84	19784735	0.23	200000	
Ti	47	1	nogas	108.615	108.615	0.72	144329	0.08	2000	
Cr	52	1	nogas	108.554	108.554	2.50	1799290	0.01	2000	
Ni	60	1	nogas	113.251	113.251	1.22	436422	0.03	2000	
Cu	63	1	nogas	112.259	112.259	1.35	1068326	0.01	2000	
Zn	66	1	nogas	258.078	258.078	0.97	662055	0.04	2000	
Se	82	1	nogas	117.091	117.091	4.11	20385	0.57	2000	
Sr	88	1	nogas	629.517	629.517	0.63	16780826	0.00	2000	
Mo	95	1	nogas	108.676	108.676	0.72	588995	0.02	2000	
Ag	107	1	nogas	102.656	102.656	0.55	1421391	0.01	2000	
Cd	111	1	nogas	108.481	108.481	2.19	303018	0.04	2000	
Sn	118	1	nogas	0.036	0.036	26.21	2284	0.00	2000	
Sb	121	1	nogas	96.360	96.360	1.90	1112474	0.01	2000	
Ba	137	1	nogas	783.156	783.156	1.42	3459544	0.02	2000	
Tl	205	1	nogas	104.586	104.586	3.66	3174194	0.00	2000	
Pb	208	1	nogas	103.142	103.142	4.60	4308572	0.00	2000	
U	238	1	nogas	0.109	0.109	5.32	5554	0.00	2000	
Na	23	2	He	192081.803	192081.803	0.52	152212238	0.13	200000	>LDR
Mg	24	2	He	36224.813	36224.813	1.27	16350604	0.22	200000	
Al	27	2	He	235.781	235.781	0.63	60666	0.39	2000	
K	39	2	He	12741.930	12741.930	2.18	6193756	0.21	200000	
Ca	43	2	He	47629.554	47629.554	2.00	75324	63.23	200000	
Ca	44	2	He	48271.104	48271.104	1.34	1302907	3.70	200000	
V	51	2	He	109.052	109.052	0.77	492517	0.02	2000	
Cr	52	2	He	109.310	109.310	0.70	566472	0.02	2000	
Mn	55	2	He	469.527	469.527	1.49	1751687	0.03	2000	
Fe	56	2	He	11708.279	11708.279	0.99	55710336	0.02	200000	
Co	59	2	He	106.041	106.041	0.84	851522	0.01	2000	
Ni	60	2	He	114.905	114.905	0.78	225366	0.05	2000	
Cu	63	2	He	113.798	113.798	1.07	591163	0.02	2000	
Zn	66	2	He	265.407	265.407	0.57	254962	0.10	2000	
As	75	2	He	113.437	113.437	1.73	74287	0.15	2000	
Sb	121	2	He	102.576	102.576	0.63	528256	0.02	2000	
Se	78	2	He	115.729	115.729	0.45	6782	1.71	2000	
Ti	47	2	He	112.433	112.433	0.45	18006	0.62	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2504421	0.29	3013774	83.10	70	120	
In	115	1	nogas	2977785	0.37	3595137	82.83	70	120	
Li	6	1	nogas	639489	0.67	826657	77.36	70	120	
Bi	209	1	nogas	3183089	3.11	3580152	88.91	70	120	
Ge	72	2	He	640956	0.57	757427	84.62	70	120	
In	115	2	He	1122316	0.50	1385926	80.98	70	120	

Sample Report

Sample Table

Sample Name	MBLK-160306
Data File Name	128SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:18:46-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 160306
ISTD Ref FileName	015CALB.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	0.053	0.053	14.19	190	0.03	2000	
B	11	1	nogas	-1.518	-1.518	-17.94	28899	-0.01	2000	
Ca	44	1	nogas	4.398	4.398	88.07	20418	0.02	200000	
Ti	47	1	nogas	0.319	0.319	22.61	580	0.06	2000	
Cr	52	1	nogas	0.394	0.394	16.16	47917	0.00	2000	
Ni	60	1	nogas	-0.032	-0.032	-88.94	1207	0.00	2000	
Cu	63	1	nogas	0.472	0.472	15.41	8629	0.01	2000	
Zn	66	1	nogas	1.143	1.143	0.81	4197	0.03	2000	
Se	82	1	nogas	0.401	0.401	74.27	383	0.10	2000	
Sr	88	1	nogas	0.226	0.226	17.48	7248	0.00	2000	
Mo	95	1	nogas	0.604	0.604	34.27	4244	0.01	2000	
Ag	107	1	nogas	0.032	0.032	12.61	843	0.00	2000	
Cd	111	1	nogas	0.046	0.046	13.71	143	0.03	2000	
Sn	118	1	nogas	0.058	0.058	48.09	2664	0.00	2000	
Sb	121	1	nogas	3.508	3.508	17.83	44279	0.01	2000	
Ba	137	1	nogas	0.239	0.239	26.26	1433	0.02	2000	
Tl	205	1	nogas	0.121	0.121	19.56	4341	0.00	2000	
Pb	208	1	nogas	0.058	0.058	31.60	4534	0.00	2000	
U	238	1	nogas	0.008	0.008	44.86	730	0.00	2000	
Na	23	2	He	148.462	148.462	3.50	146334	0.10	200000	
Mg	24	2	He	18.927	18.927	1.37	10757	0.18	200000	
Al	27	2	He	7.427	7.427	6.45	2404	0.31	2000	
K	39	2	He	16.093	16.093	2.70	50095	0.03	200000	
Ca	43	2	He	17.286	17.286	60.07	50	34.57	200000	
Ca	44	2	He	18.869	18.869	27.27	740	2.55	200000	
V	51	2	He	0.353	0.353	4.84	6478	0.01	2000	
Cr	52	2	He	0.024	0.024	61.53	1313	0.00	2000	
Mn	55	2	He	0.347	0.347	4.35	1943	0.02	2000	
Fe	56	2	He	7.117	7.117	9.91	48945	0.01	200000	
Co	59	2	He	0.018	0.018	43.44	390	0.00	2000	
Ni	60	2	He	0.047	0.047	68.94	440	0.01	2000	
Cu	63	2	He	0.510	0.510	8.76	4534	0.01	2000	
Zn	66	2	He	1.196	1.196	27.84	1620	0.07	2000	
As	75	2	He	0.091	0.091	46.16	157	0.06	2000	
Sb	121	2	He	2.151	2.151	4.75	12768	0.02	2000	
Se	78	2	He	0.143	0.143	161.49	71	0.20	2000	
Ti	47	2	He	0.182	0.182	32.79	40	0.45	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2611216	0.96	3013774	86.64	70	120	
In	115	1	nogas	3208740	1.59	3595137	89.25	70	120	
Li	6	1	nogas	704016	0.48	826657	85.16	70	120	
Bi	209	1	nogas	3429013	2.83	3580152	95.78	70	120	

Sample Report

Ge	72	2	He	682228	0.42	757427	90.07	70	120	
In	115	2	He	1216041	0.87	1385926	87.74	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	131_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:26:59-06:00
Sample Type	CCV
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	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	103.662	0.697	237862	0.98	100	103.7	90	110	
B	11	1	nogas	490.175	0.534	753080	0.81	500	98.0	90	110	
Ca	44	1	nogas	10230.628	0.912	4631361	1.53	10000	102.3	90	110	
Ti	47	1	nogas	101.047	2.186	139445	1.09	100	101.0	90	110	
Cr	52	1	nogas	102.589	1.091	1768277	0.64	100	102.6	90	110	
Ni	60	1	nogas	99.858	0.867	399811	0.34	100	99.9	90	110	
Cu	63	1	nogas	98.263	0.793	971721	0.83	100	98.3	90	110	
Zn	66	1	nogas	101.351	0.696	270729	0.91	100	101.4	90	110	
Se	82	1	nogas	101.212	2.613	18343	2.21	100	101.2	90	110	
Sr	88	1	nogas	105.547	0.751	2962993	0.88	100	105.5	90	110	
Mo	95	1	nogas	101.580	0.669	579685	0.77	100	101.6	90	110	
Ag	107	1	nogas	103.073	0.846	1502573	0.37	100	103.1	90	110	
Cd	111	1	nogas	101.344	0.325	298041	0.39	100	101.3	90	110	
Sn	118	1	nogas	100.768	0.363	935967	0.45	100	100.8	90	110	
Sb	121	1	nogas	99.804	1.531	1196591	0.98	100	99.8	90	110	
Ba	137	1	nogas	103.755	0.929	482805	0.94	100	103.8	90	110	
Tl	205	1	nogas	98.864	3.071	3204989	1.07	100	98.9	90	110	
Pb	208	1	nogas	98.919	3.171	4414425	0.51	100	98.9	90	110	
U	238	1	nogas	99.680	2.762	5138389	0.29	100	99.7	90	110	
Li	7	1	nogas	100.989	0.067	902678	0.36	100	101.0	90	110	
Tl	203	1	nogas	94.473	3.265	1273594	0.77	100	94.5	90	110	
Na	23	2	He	10518.681	1.568	8640609	0.80	10000	105.2	90	110	
Mg	24	2	He	10648.668	0.504	4972820	0.45	10000	106.5	90	110	
Al	27	2	He	103.138	2.398	27654	1.54	100	103.1	90	110	
K	39	2	He	10618.795	1.079	5345802	0.63	10000	106.2	90	110	
Ca	43	2	He	10310.664	2.038	16881	1.25	10000	103.1	90	110	
Ca	44	2	He	10351.680	0.791	289153	0.40	10000	103.5	90	110	
V	51	2	He	100.127	0.614	468124	0.48	100	100.1	90	110	
Cr	52	2	He	100.377	0.252	538150	0.72	100	100.4	90	110	
Mn	55	2	He	102.515	1.261	396010	0.51	100	102.5	90	110	
Fe	56	2	He	10428.933	1.027	51328241	0.39	10000	104.3	90	110	
Co	59	2	He	97.343	1.106	808525	0.15	100	97.3	90	110	
Ni	60	2	He	100.425	1.749	203760	0.84	100	100.4	90	110	
Cu	63	2	He	98.549	1.069	529744	0.20	100	98.5	90	110	
Zn	66	2	He	100.520	1.425	100121	1.55	100	100.5	90	110	
As	75	2	He	101.655	1.088	68868	0.13	100	101.7	90	110	
Sn	118	2	He	100.960	0.934	432876	1.10	100	101.0	90	110	
Sb	121	2	He	102.817	0.505	547686	0.53	100	102.8	90	110	
Se	78	2	He	107.494	0.652	6521	1.56	100	107.5	90	110	
Ti	47	2	He	100.681	6.140	16675	5.58	100	100.7	90	110	
Al	27	1	nogas	105.934	2.270	1305586	2.02	100	105.9	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	2601136	1.16	3013774	86.31	70	120	
In	115	1	nogas	3135278	0.71	3595137	87.21	70	120	
Li	6	1	nogas	654527	0.30	826657	79.18	70	120	
Bi	209	1	nogas	3399277	2.87	3580152	94.95	70	120	
Ge	72	2	He	662982	0.95	757427	87.53	70	120	
In	115	2	He	1184660	0.43	1385926	85.48	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	132_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:28:58-06:00
Sample Type	CCB
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	0.074	46.0	233	34.4	1	
B	11	1	nogas	3.732	23.4	36292	3.4	10	
Ca	44	1	nogas	-12.292	-2.0	12895	0.6	100	
Ti	47	1	nogas	0.343	25.3	613	19.0	2.5	
Cr	52	1	nogas	0.002	743.9	41351	0.5	2.5	
Ni	60	1	nogas	-0.146	-7.8	750	5.8	2.5	
Cu	63	1	nogas	-0.051	-137.3	3460	19.3	2	
Zn	66	1	nogas	0.120	54.8	1467	11.3	2.5	
Se	82	1	nogas	0.044	419.7	320	9.4	2	
Sr	88	1	nogas	0.058	8.1	2444	4.5	2.5	
Mo	95	1	nogas	0.337	37.3	2700	26.3	2.5	
Ag	107	1	nogas	0.044	26.5	1020	16.4	2.5	
Cd	111	1	nogas	0.048	56.4	150	54.6	1	
Sn	118	1	nogas	1.112	15.9	12658	12.7	5	
Sb	121	1	nogas	1.479	17.2	19955	14.7	2.5	
Ba	137	1	nogas	0.064	13.3	603	6.7	2.5	
Tl	205	1	nogas	0.220	27.1	7765	30.1	1	
Pb	208	1	nogas	0.056	19.1	4497	15.3	2.5	
U	238	1	nogas	0.067	16.2	3901	19.1	2.5	
Na	23	2	He	52.712	2.7	64502	1.6	100	
Mg	24	2	He	2.273	17.0	2710	6.9	100	
Al	27	2	He	2.585	137.2	1065	88.6	5	
K	39	2	He	11.206	36.9	46797	4.6	100	
Ca	43	2	He	5.679	106.4	30	33.3	100	
Ca	44	2	He	6.196	63.8	370	30.5	100	
V	51	2	He	-0.086	-56.2	4315	5.6	2.5	
Cr	52	2	He	0.029	82.0	1320	9.8	2.5	
Mn	55	2	He	0.169	11.1	1217	6.4	2.5	
Fe	56	2	He	4.074	5.1	32984	2.9	100	
Co	59	2	He	0.029	42.7	473	21.3	2.5	
Ni	60	2	He	-0.047	-81.9	240	32.5	2.5	
Cu	63	2	He	-0.038	-82.5	1487	11.1	2	
Zn	66	2	He	0.216	22.0	610	7.5	2.5	
As	75	2	He	0.061	76.3	133	24.1	2.5	
Sb	121	2	He	0.935	11.5	6015	9.4	2.5	
Se	78	2	He	0.140	59.0	70	7.6	2	
Ti	47	2	He	0.106	85.9	27	57.3	2.5	

QC ISTD Table

Continuing Calibration Blank (CCB) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2615441	0.93	3013774	86.78	70	120	
In	115	1	nogas	3209008	1.00	3595137	89.26	70	120	
Li	6	1	nogas	686173	0.35	826657	83.01	70	120	
Bi	209	1	nogas	3491445	4.59	3580152	97.52	70	120	
Ge	72	2	He	670942	0.39	757427	88.58	70	120	
In	115	2	He	1217094	0.31	1385926	87.82	70	120	

Sample Report

Sample Table

Sample Name	HS20111260-01
Data File Name	134SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:34:35-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 160306
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	0.022	0.022	36.84	107	0.02	2000	
B	11	1	nogas	20.285	20.285	1.58	60507	0.03	2000	
Ca	44	1	nogas	10380.615	10380.615	0.28	4642133	0.22	200000	
Ti	47	1	nogas	3.679	3.679	5.32	5147	0.07	2000	
Cr	52	1	nogas	7.020	7.020	0.75	157356	0.00	2000	
Ni	60	1	nogas	3.761	3.761	1.87	16141	0.02	2000	
Cu	63	1	nogas	5.203	5.203	0.78	54526	0.01	2000	
Zn	66	1	nogas	49.023	49.023	1.35	129953	0.04	2000	
Se	82	1	nogas	2.401	2.401	21.24	730	0.33	2000	
Sr	88	1	nogas	283.562	283.562	1.04	7716261	0.00	2000	
Mo	95	1	nogas	1.168	1.168	8.78	7148	0.02	2000	
Ag	107	1	nogas	-0.012	-0.012	-32.48	170	-0.01	2000	
Cd	111	1	nogas	0.053	0.053	32.59	157	0.03	2000	
Sn	118	1	nogas	0.076	0.076	30.89	2684	0.00	2000	
Sb	121	1	nogas	0.267	0.267	9.55	5298	0.01	2000	
Ba	137	1	nogas	220.279	220.279	0.67	993461	0.02	2000	
Tl	205	1	nogas	0.000	0.000	-1417.97	330	0.00	2000	
Pb	208	1	nogas	0.085	0.085	5.57	5137	0.00	2000	
U	238	1	nogas	0.053	0.053	8.20	2767	0.00	2000	
Na	23	2	He	414377.124	414377.124	0.55	339063982	0.12	200000	>LDR
Mg	24	2	He	16307.987	16307.987	0.78	7602262	0.21	200000	
Al	27	2	He	39.366	39.366	4.27	10767	0.37	2000	
K	39	2	He	1889.016	1889.016	0.38	982786	0.19	200000	
Ca	43	2	He	11190.962	11190.962	1.64	18293	61.18	200000	
Ca	44	2	He	10965.934	10965.934	0.71	305797	3.59	200000	
V	51	2	He	0.570	0.570	7.18	7288	0.01	2000	
Cr	52	2	He	6.646	6.646	1.42	36637	0.02	2000	
Mn	55	2	He	130.893	130.893	1.21	504660	0.03	2000	
Fe	56	2	He	433.875	433.875	0.39	2143935	0.02	200000	
Co	59	2	He	1.519	1.519	4.68	12818	0.01	2000	
Ni	60	2	He	3.533	3.533	5.44	7478	0.05	2000	
Cu	63	2	He	2.295	2.295	3.22	13949	0.02	2000	
Zn	66	2	He	50.117	50.117	1.55	50030	0.10	2000	
As	75	2	He	0.419	0.419	13.73	373	0.11	2000	
Sb	121	2	He	0.237	0.237	15.80	2230	0.01	2000	
Se	78	2	He	0.567	0.567	76.16	95	0.60	2000	
Ti	47	2	He	0.714	0.714	32.56	127	0.56	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2569711	0.90	3013774	85.27	70	120	
In	115	1	nogas	3039798	1.21	3595137	84.55	70	120	
Li	6	1	nogas	670460	0.51	826657	81.10	70	120	
Bi	209	1	nogas	3081505	2.82	3580152	86.07	70	120	
Ge	72	2	He	661868	0.38	757427	87.38	70	120	
In	115	2	He	1156074	0.85	1385926	83.42	70	120	

Sample Report

Sample Table

Sample Name	HS20111260-01
Data File Name	141SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:50:32-06:00
Sample Type	Sample
Dilution	10
Comment	DOD TW 160306
ISTD Ref FileName	015CALB.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	-0.018	-0.178	-25.62	13	-0.13	2000	
B	11	1	nogas	-2.166	-21.656	-11.37	25875	-0.01	2000	
Ca	44	1	nogas	1018.710	10187.097	0.88	463972	0.22	200000	
Ti	47	1	nogas	0.348	3.475	33.16	600	0.06	2000	
Cr	52	1	nogas	0.353	3.533	8.30	45684	0.00	2000	
Ni	60	1	nogas	0.285	2.853	10.68	2397	0.01	2000	
Cu	63	1	nogas	0.403	4.025	2.99	7685	0.01	2000	
Zn	66	1	nogas	5.596	55.960	6.64	15564	0.04	2000	
Se	82	1	nogas	1.185	11.850	29.42	507	0.23	2000	
Sr	88	1	nogas	27.178	271.781	0.94	753654	0.00	2000	
Mo	95	1	nogas	0.125	1.247	35.89	1410	0.01	2000	
Ag	107	1	nogas	-0.015	-0.151	-12.34	130	-0.01	2000	
Cd	111	1	nogas	0.004	0.038	140.26	17	0.02	2000	
Sn	118	1	nogas	0.021	0.212	50.73	2234	0.00	2000	
Sb	121	1	nogas	-0.030	-0.304	-35.34	1743	0.00	2000	
Ba	137	1	nogas	21.970	219.702	1.16	101140	0.02	2000	
Tl	205	1	nogas	-0.007	-0.069	-17.40	143	0.00	2000	
Pb	208	1	nogas	-0.013	-0.127	-12.66	1277	0.00	2000	
U	238	1	nogas	0.006	0.056	17.03	590	0.00	2000	
Na	23	2	He	41656.793	416567.932	0.57	33965361	0.12	200000	
Mg	24	2	He	1640.375	16403.750	0.61	763036	0.21	200000	
Al	27	2	He	4.545	45.451	25.27	1563	0.29	2000	
K	39	2	He	191.231	1912.311	1.83	135405	0.14	200000	
Ca	43	2	He	1228.010	12280.099	13.89	2017	60.89	200000	
Ca	44	2	He	1110.335	11103.351	1.34	31010	3.58	200000	
V	51	2	He	-0.037	-0.373	-26.40	4464	0.00	2000	
Cr	52	2	He	0.624	6.237	7.35	4457	0.01	2000	
Mn	55	2	He	13.564	135.643	1.29	52576	0.03	2000	
Fe	56	2	He	41.848	418.477	0.96	217217	0.02	200000	
Co	59	2	He	0.129	1.293	7.09	1297	0.01	2000	
Ni	60	2	He	0.342	3.421	10.20	1020	0.03	2000	
Cu	63	2	He	0.168	1.679	22.90	2560	0.01	2000	
Zn	66	2	He	5.631	56.311	1.26	5941	0.09	2000	
As	75	2	He	-0.008	-0.080	-445.44	84	-0.01	2000	
Sb	121	2	He	-0.006	-0.062	-76.63	933	0.00	2000	
Se	78	2	He	0.038	0.379	327.26	63	0.06	2000	
Ti	47	2	He	-0.013	-0.126	-278.74	7	-0.19	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2526439	0.44	3013774	83.83	70	120	
In	115	1	nogas	3094597	0.68	3595137	86.08	70	120	
Li	6	1	nogas	653624	0.25	826657	79.07	70	120	
Bi	209	1	nogas	3308294	3.16	3580152	92.41	70	120	

Sample Report

Ge	72	2	He	659185	0.35	757427	87.03	70	120	
In	115	2	He	1179317	0.28	1385926	85.09	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	143_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:54:36-06:00
Sample Type	CCV
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	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	103.045	0.407	227865	0.25	100	103.0	90	110	
B	11	1	nogas	483.671	0.912	716483	0.51	500	96.7	90	110	
Ca	44	1	nogas	10194.470	2.074	4411249	1.34	10000	101.9	90	110	
Ti	47	1	nogas	101.963	0.986	134529	0.89	100	102.0	90	110	
Cr	52	1	nogas	101.647	1.152	1675308	1.26	100	101.6	90	110	
Ni	60	1	nogas	99.509	1.027	380876	0.69	100	99.5	90	110	
Cu	63	1	nogas	99.265	0.893	938334	0.18	100	99.3	90	110	
Zn	66	1	nogas	102.486	2.083	261671	1.55	100	102.5	90	110	
Se	82	1	nogas	102.022	2.645	17672	1.87	100	102.0	90	110	
Sr	88	1	nogas	103.784	0.821	2854703	1.12	100	103.8	90	110	
Mo	95	1	nogas	98.824	1.515	552605	1.82	100	98.8	90	110	
Ag	107	1	nogas	101.676	0.900	1452319	1.06	100	101.7	90	110	
Cd	111	1	nogas	100.836	1.102	290564	1.41	100	100.8	90	110	
Sn	118	1	nogas	99.696	0.959	907349	1.26	100	99.7	90	110	
Sb	121	1	nogas	101.871	1.309	1167554	0.79	100	101.9	90	110	
Ba	137	1	nogas	103.229	0.164	470662	0.49	100	103.2	90	110	
Tl	205	1	nogas	98.163	3.900	3128233	1.04	100	98.2	90	110	
Pb	208	1	nogas	97.634	3.531	4283753	1.14	100	97.6	90	110	
U	238	1	nogas	100.408	2.840	5089095	0.87	100	100.4	90	110	
Li	7	1	nogas	100.200	0.850	863494	1.12	100	100.2	90	110	
Tl	203	1	nogas	94.052	4.093	1246421	1.27	100	94.1	90	110	
Na	23	2	He	10535.226	1.775	8513445	1.57	10000	105.4	90	110	
Mg	24	2	He	10417.532	0.481	4785602	0.11	10000	104.2	90	110	
Al	27	2	He	104.361	2.728	27524	2.61	100	104.4	90	110	
K	39	2	He	10464.312	1.207	5182810	1.00	10000	104.6	90	110	
Ca	43	2	He	10407.673	1.937	16765	2.30	10000	104.1	90	110	
Ca	44	2	He	10381.164	0.655	285259	0.94	10000	103.8	90	110	
V	51	2	He	99.156	0.053	456076	0.37	100	99.2	90	110	
Cr	52	2	He	99.854	0.509	526617	0.28	100	99.9	90	110	
Mn	55	2	He	102.917	0.458	391099	0.48	100	102.9	90	110	
Fe	56	2	He	10312.907	0.420	49932389	0.81	10000	103.1	90	110	
Co	59	2	He	96.535	0.706	788797	1.04	100	96.5	90	110	
Ni	60	2	He	98.309	0.644	196241	1.03	100	98.3	90	110	
Cu	63	2	He	98.620	0.199	521503	0.19	100	98.6	90	110	
Zn	66	2	He	101.501	0.654	99444	0.27	100	101.5	90	110	
As	75	2	He	101.044	1.068	67340	0.80	100	101.0	90	110	
Sn	118	2	He	101.582	0.635	426734	0.75	100	101.6	90	110	
Sb	121	2	He	103.040	0.577	539924	0.40	100	103.0	90	110	
Se	78	2	He	106.664	2.843	6365	3.14	100	106.7	90	110	
Ti	47	2	He	100.255	3.028	16338	3.16	100	100.3	90	110	
Al	27	1	nogas	103.459	2.201	1229275	2.23	100	103.5	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	2486528	0.73	3013774	82.51	70	120	
In	115	1	nogas	3071915	0.33	3595137	85.45	70	120	
Li	6	1	nogas	630792	0.64	826657	76.31	70	120	
Bi	209	1	nogas	3342335	3.04	3580152	93.36	70	120	
Ge	72	2	He	652160	0.39	757427	86.10	70	120	
In	115	2	He	1160726	0.45	1385926	83.75	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	144_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq Date Time	2020-12-10T16:56:35-06:00
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	0.056	40.6	183	28.0	1	
B	11	1	nogas	1.658	69.1	31578	4.7	10	
Ca	44	1	nogas	-9.930	-10.3	13285	3.7	100	
Ti	47	1	nogas	0.226	23.8	430	17.6	2.5	
Cr	52	1	nogas	-0.577	-12.9	30002	2.8	2.5	
Ni	60	1	nogas	-0.104	-30.4	873	14.2	2.5	
Cu	63	1	nogas	-0.032	-146.6	3477	14.1	2	
Zn	66	1	nogas	0.513	3.1	2397	2.4	2.5	
Se	82	1	nogas	0.368	81.7	360	14.7	2	
Sr	88	1	nogas	0.079	5.6	2964	5.3	2.5	
Mo	95	1	nogas	0.326	40.5	2554	27.8	2.5	
Ag	107	1	nogas	0.044	17.6	993	11.7	2.5	
Cd	111	1	nogas	0.049	38.9	150	37.1	1	
Sn	118	1	nogas	1.099	13.8	12161	10.1	5	
Sb	121	1	nogas	1.346	14.5	17493	14.0	2.5	
Ba	137	1	nogas	0.090	30.5	707	16.6	2.5	
Tl	205	1	nogas	0.229	27.5	7729	28.8	1	
Pb	208	1	nogas	0.064	17.7	4670	13.3	2.5	
U	238	1	nogas	0.082	23.2	4501	24.2	2.5	
Na	23	2	He	186.166	0.8	172309	0.6	100	CCB Main CR1 Failed
Mg	24	2	He	6.057	2.9	4424	1.5	100	
Al	27	2	He	1.117	38.5	663	17.5	5	
K	39	2	He	11.030	6.4	45938	0.7	100	
Ca	43	2	He	12.136	152.9	40	75.0	100	
Ca	44	2	He	8.459	33.0	427	18.2	100	
V	51	2	He	-0.344	-3.1	3054	2.4	2.5	
Cr	52	2	He	0.037	15.4	1340	1.5	2.5	
Mn	55	2	He	0.252	17.6	1513	10.7	2.5	
Fe	56	2	He	5.192	5.2	37913	2.7	100	
Co	59	2	He	0.032	18.3	490	9.4	2.5	
Ni	60	2	He	-0.001	-1878.6	330	8.0	2.5	
Cu	63	2	He	-0.033	-67.5	1493	8.3	2	
Zn	66	2	He	0.379	36.4	760	17.1	2.5	
As	75	2	He	0.040	63.4	117	15.1	2.5	
Sb	121	2	He	0.790	15.6	5144	11.9	2.5	
Se	78	2	He	0.116	176.7	67	17.4	2	
Ti	47	2	He	0.088	143.2	23	89.2	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	2487793	1.24	3013774	82.55	70	120	
In	115	1	nogas	3115926	1.32	3595137	86.67	70	120	
Li	6	1	nogas	655108	0.75	826657	79.25	70	120	
Bi	209	1	nogas	3358152	2.66	3580152	93.80	70	120	

Continuing Calibration Blank (CCB) Report

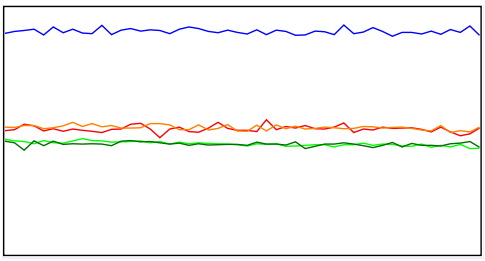
Ge	72	2	He	659924	0.93	757427	87.13	70	120	
In	115	2	He	1187437	1.05	1385926	85.68	70	120	

Tune Check Report

Operator Name	ALSHS NoUser
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\121020A.b
Acq. Date-Time	12/10/2020 10:02:37 AM
Report Comment	---
Instrument Name	G3281A JP09420132

[nogas]

Sensitivity



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

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	5000	2540	25403.54		
24	50000	22396	223955.04		
59	20000	18075	180754.57		
115	50000	25692	256915.88		
208	50000	22324	223237.67		

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

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	2.609	5.000	
24	2.041	5.000	
59	1.235	5.000	
115	1.846	5.000	
208	1.828	5.000	

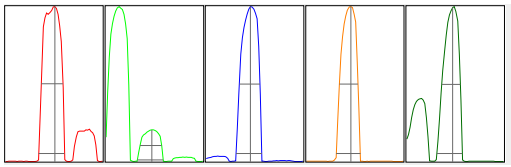
Mass	Background	Background (Required)	Background (Flag)
9	0.400		
24	0.800		
59	0.500		
115	1.100		
208	3.400		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.071 %
Doubly Charged	70 / 140 0.945 %

Tune Check Report

Resolution/Axis



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

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	2546.82	9.05	8.90 - 9.10	
24	21133.61	23.95	23.90 - 24.10	
59	18674.94	58.90	58.90 - 59.10	
115	25996.59	114.90	114.90 - 115.10	
208	22188.38	207.95	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.66	0.788		
24	0.66	0.788		
59	0.63	0.783		
115	0.57	0.737		
208	0.56	0.778		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.43 L/min	Dilution Gas	0.57 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	---
RF Matching	1.70 V	Nebulizer Pump	0.10 rps	Plasma Gas	---
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.0 V	Deflect	10.0 V
Extract 2	-180.0 V	Cell Entrance	-30 V	Plate Bias	-40 V
Omega Bias	-80 V	Cell Exit	-50 V		

Cell Parameters

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

QP Parameters

Mass Gain	144	Axis Gain	0.9937	QP Bias	-3.0 V
Mass Offset	127	Axis Offset	0.06		

Hardware Settings

Torch

Torch H	-0.7 mm	Torch V	0.6 mm

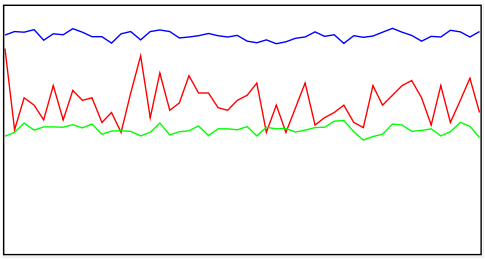
EM

Discriminator	5.0 mV	Analog HV	1920 V	Pulse HV	1601 V

[He]

Tune Check Report

Sensitivity



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

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	100	61	611.61		
24	2000	1001	10012.27		
59	10000	8828	88275.88		

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

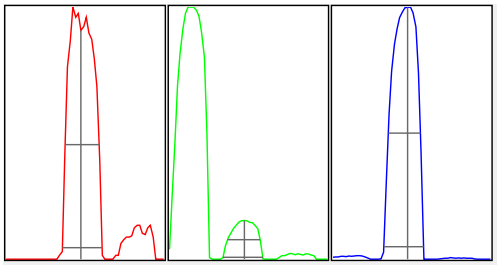
Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	12.740	5.000	Fail
24	3.683	5.000	
59	1.825	5.000	

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

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.441 %
Doubly Charged	70 / 140 0.952 %

Resolution/Axis



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

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	58.67	8.95	8.90 - 9.10	
24	1007.31	23.95	23.90 - 24.10	
59	8834.40	58.95	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.63	0.744		
24	0.61	0.744		

Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
59	0.60	0.740		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.43 L/min	Dilution Gas	0.57 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	---
RF Matching	1.70 V	Nebulizer Pump	0.10 rps	Plasma Gas	---
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.0 V	Deflect	0.0 V
Extract 2	-180.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.6 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	180 V		

QP Parameters

Mass Gain	144	Axis Gain	0.9937	QP Bias	-13.0 V
Mass Offset	127	Axis Offset	0.06		

Hardware Settings

Torch

Torch H	-0.7 mm	Torch V	0.6 mm

EM

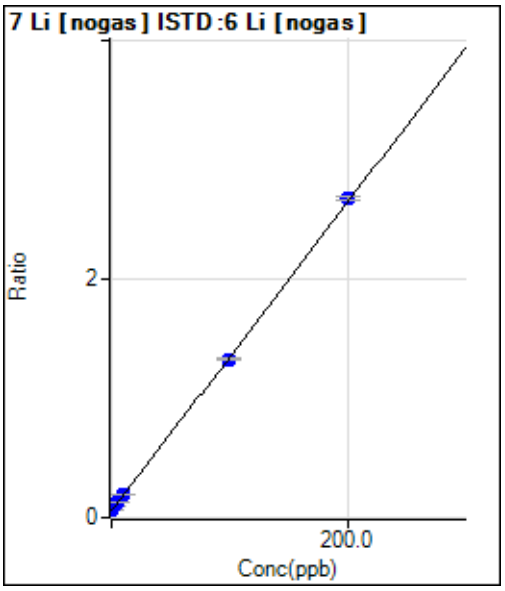
Discriminator	5.0 mV	Analog HV	1920 V	Pulse HV	1601 V

Calibration for 271_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\121120A.b\
Analysis File: 121120A.batch.bin
DA Date-Time: 12/12/2020 7:39:54 AM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	264CALB.d	CAL BLK	12/11/2020 11:49:26 PM
2	265CALS.d	2/10/200	12/11/2020 11:51:29 PM
3	266CALS.d	5/25/500	12/11/2020 11:53:32 PM
4	267CALS.d	10/50/1000	12/11/2020 11:55:35 PM
5	268CALS.d	100/500/10K	12/11/2020 11:57:37 PM
6	269CALS.d	200/1000/20K	12/11/2020 11:59:37 PM
7			

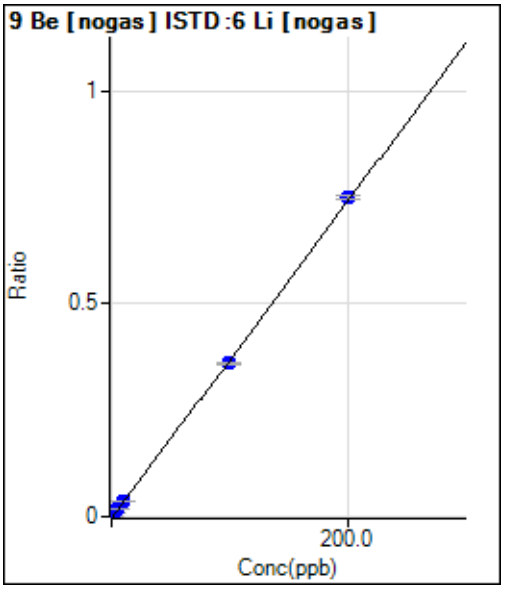
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	19928.96	0.0692	P	1.2	
2	☐	2.000	1.807	27064.43	0.0925	P	1.5	-9.7
3	☐	5.000	4.694	38247.03	0.1298	P	1.4	-6.1
4	☐	10.000	9.577	56793.43	0.1929	P	1.4	-4.2
5	☐	100.000	97.262	376183.47	1.3264	P	0.4	-2.7
6	☐	200.000	201.399	727324.13	2.6724	P	0.9	0.7
7	☐	1.000						

y = 0.0129 * x + 0.0692
R = 0.9999
DL = 0.197 ppb
BEC = 5.35 ppb

Weight: <None>
Min Conc: <None>

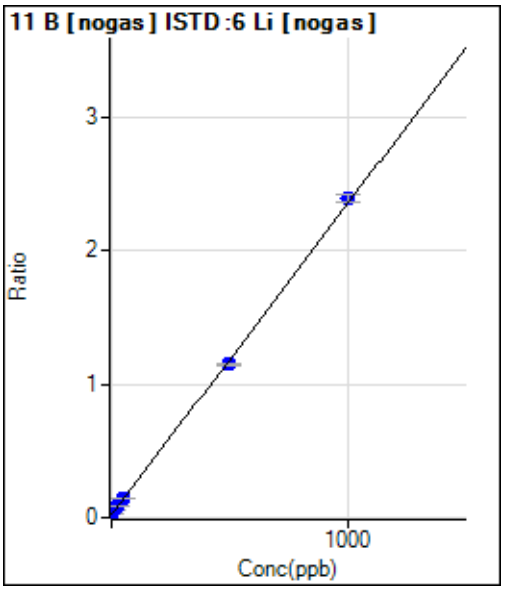


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	43.33	0.0002	P	13.1	
2	☐	2.000	1.834	2043.47	0.0070	P	3.3	-8.3
3	☐	5.000	4.802	5315.79	0.0180	P	4.6	-4.0
4	☐	10.000	9.332	10279.54	0.0349	P	3.1	-6.7
5	☐	100.000	97.025	102574.88	0.3617	P	1.1	-3.0
6	☐	200.000	201.528	204408.30	0.7511	P	1.1	0.8
7	☐	1.000						

y = 0.0037 * x + 1.5035E-004
R = 0.9998
DL = 0.01591 ppb
BEC = 0.04035 ppb

Weight: <None>
Min Conc: <None>

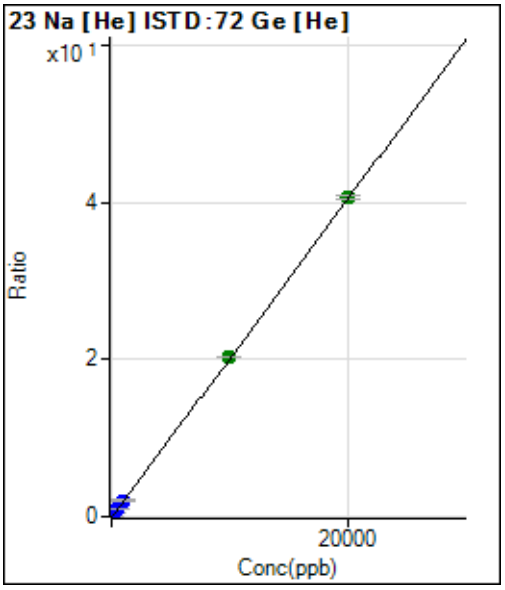
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	9926.04	0.0344	P	3.7	
2	☐	10.000	8.432	15826.77	0.0541	P	5.2	-15.7
3	☐	25.000	22.053	25300.41	0.0859	P	1.3	-11.8
4	☐	50.000	45.197	41171.66	0.1399	P	1.2	-9.6
5	☐	500.000	478.709	326464.78	1.1510	P	1.1	-4.3
6	☐	1000.000	1010.975	651116.66	2.3924	P	1.9	1.1
7	☐	5.000						

y = 0.0023 * x + 0.0344
R = 0.9997
DL = 1.634 ppb
BEC = 14.77 ppb

Weight: <None>
Min Conc: <None>

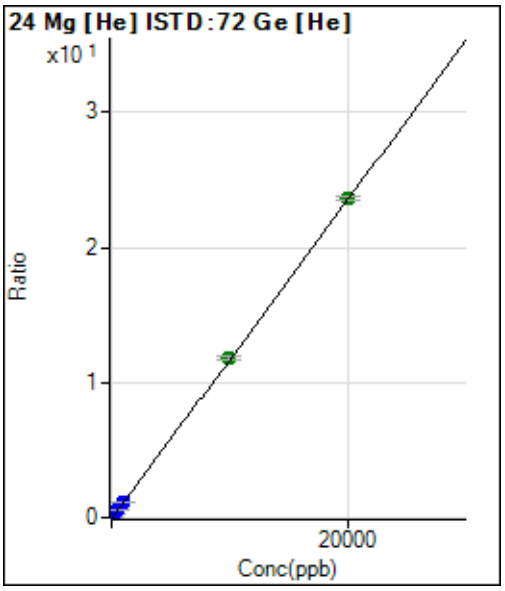


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	11407.05	0.0585	P	4.1	
2	☐	200.000	192.933	89732.01	0.4503	P	0.8	-3.5
3	☐	500.000	487.861	207856.34	1.0491	P	2.0	-2.4
4	☐	1000.000	996.195	410866.81	2.0812	P	2.1	-0.4
5	☐	10000.00	9984.334	3802918.49	20.3306	A	0.7	-0.2
6	☐	20000.00	20008.39	7201989.06	40.6832	A	1.5	0.0
7	☐	100.000						

y = 0.0020 * x + 0.0585
R = 1.0000
DL = 3.585 ppb
BEC = 28.83 ppb

Weight: <None>
Min Conc: <None>

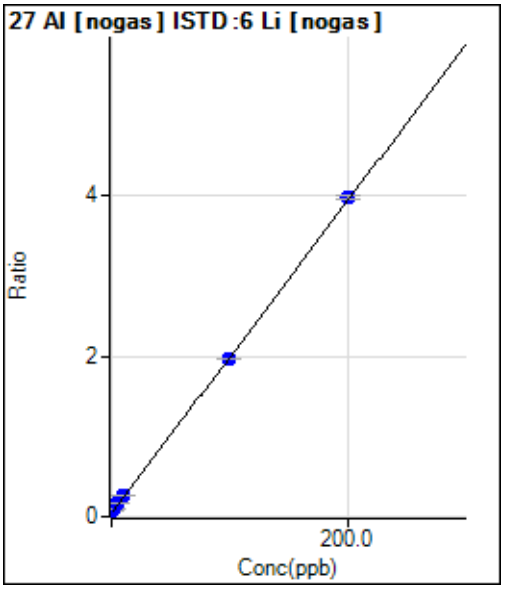
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2116.83	0.0109	P	6.5	
2	☐	200.000	189.527	46819.08	0.2349	P	2.0	-5.2
3	☐	500.000	495.357	118162.83	0.5965	P	3.1	-0.9
4	☐	1000.000	985.964	232277.50	1.1766	P	2.1	-1.4
5	☐	10000.00	10024.80	2218452.42	11.8632	A	2.7	0.2
6	☐	20000.00	19988.51	4186107.33	23.6433	A	0.9	-0.1
7	☐	100.000						

y = 0.0012 * x + 0.0109
R = 1.0000
DL = 1.803 ppb
BEC = 9.193 ppb

Weight: <None>
Min Conc: <None>

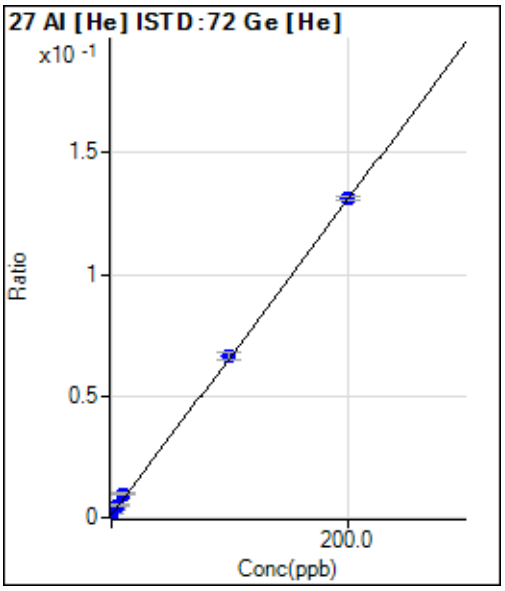


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	17888.92	0.0621	P	2.6	
2	☐	2.000	2.147	30415.30	0.1040	P	2.4	7.4
3	☐	5.000	4.966	46829.18	0.1590	P	1.0	-0.7
4	☐	10.000	10.175	76694.63	0.2606	P	0.9	1.7
5	☐	100.000	97.778	558560.76	1.9694	P	0.4	-2.2
6	☐	200.000	201.101	1084500.17	3.9848	P	1.0	0.6
7	☐	1.000						

y = 0.0195 * x + 0.0621
R = 0.9999
DL = 0.2448 ppb
BEC = 3.183 ppb

Weight: <None>
Min Conc: <None>

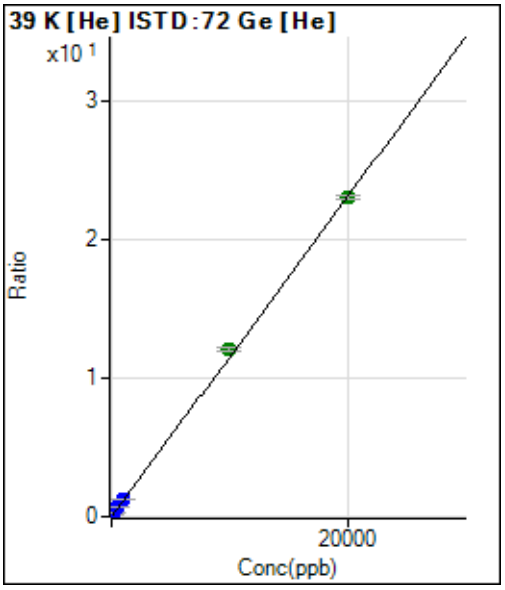
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	333.34	0.0017	P	10.9	
2	☐	2.000	2.853	710.03	0.0036	P	15.9	42.7
3	☐	5.000	5.035	986.71	0.0050	P	7.2	0.7
4	☐	10.000	12.333	1920.14	0.0097	P	7.0	23.3
5	☐	100.000	100.085	12451.05	0.0666	P	4.7	0.1
6	☐	200.000	199.831	23238.24	0.1313	P	1.4	-0.1
7	☐	1.000						

y = 6.4832E-004 * x + 0.0017
R = 0.9999
DL = 0.8644 ppb
BEC = 2.642 ppb

Weight: <None>
Min Conc: <None>

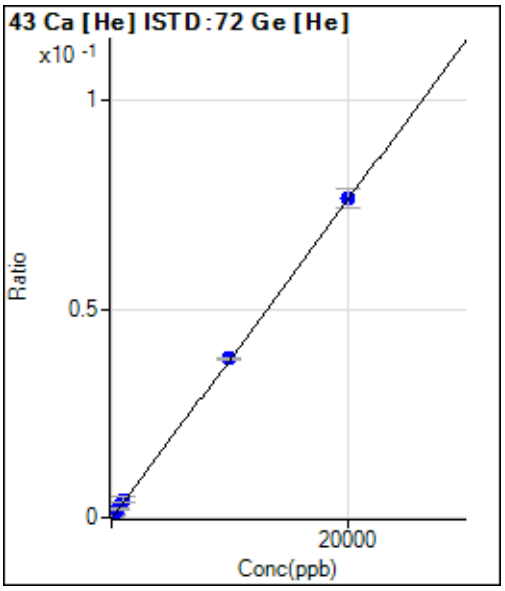


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	22126.95	0.1136	P	4.1	
2	☐	200.000	192.659	67095.63	0.3366	P	0.9	-3.7
3	☐	500.000	485.177	133827.06	0.6754	P	1.6	-3.0
4	☐	1000.000	1011.404	253689.44	1.2847	P	1.0	1.1
5	☐	10000.00	10305.77	2253397.52	12.0473	A	2.2	3.1
6	☐	20000.00	19846.98	4088552.65	23.0958	A	1.4	-0.8
7	☐	100.000						

y = 0.0012 * x + 0.1136
R = 0.9998
DL = 11.97 ppb
BEC = 98.06 ppb

Weight: <None>
Min Conc: <None>

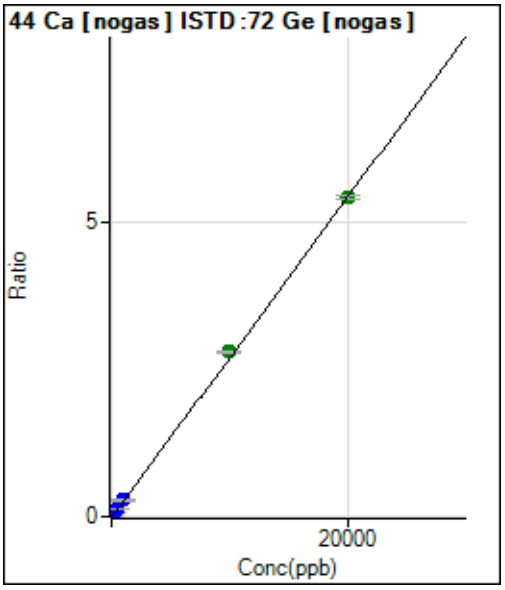
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16.67	0.0001	P	35.9	
2	☐	200.000	169.896	146.67	0.0007	P	23.5	-15.1
3	☐	500.000	479.434	380.01	0.0019	P	27.9	-4.1
4	☐	1000.000	1122.306	860.04	0.0044	P	26.4	12.2
5	☐	10000.00	9973.933	7148.19	0.0382	P	1.5	-0.3
6	☐	20000.00	20007.73	13551.89	0.0766	P	6.0	0.0
7	☐	100.000						

y = 3.8221E-006 * x + 8.5901E-005
R = 1.0000
DL = 24.2 ppb
BEC = 22.48 ppb

Weight: <None>
Min Conc: <None>

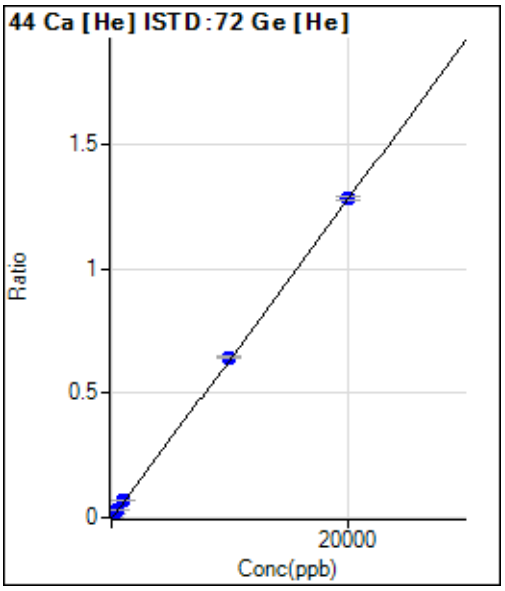


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	5464.26	0.0071	P	3.1	
2	☐	200.000	195.965	46479.30	0.0604	P	0.9	-2.0
3	☐	500.000	490.272	108902.67	0.1405	P	1.8	-1.9
4	☐	1000.000	997.946	216736.19	0.2786	P	1.0	-0.2
5	☐	10000.00	10246.90	2145221.22	2.7943	A	1.4	2.5
6	☐	20000.00	19876.93	4139422.75	5.4137	A	1.5	-0.6
7	☐	100.000						

y = 2.7200E-004 * x + 0.0071
R = 0.9999
DL = 2.404 ppb
BEC = 26.21 ppb

Weight: <None>
Min Conc: <None>

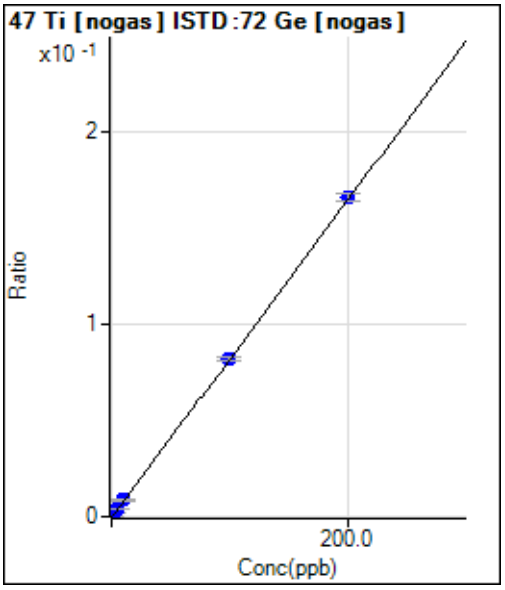
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	213.34	0.0011	P	17.7	
2	☐	200.000	183.505	2566.91	0.0129	P	13.0	-8.2
3	☐	500.000	501.778	6604.65	0.0333	P	0.8	0.4
4	☐	1000.000	1032.008	13308.38	0.0674	P	1.0	3.2
5	☐	10000.00	10033.29	120746.08	0.6456	P	1.1	0.3
6	☐	20000.00	19981.87	227447.58	1.2846	P	1.0	-0.1
7	☐	100.000						

y = 6.4232E-005 * x + 0.0011
R = 1.0000
DL = 9.072 ppb
BEC = 17.05 ppb

Weight: <None>
Min Conc: <None>

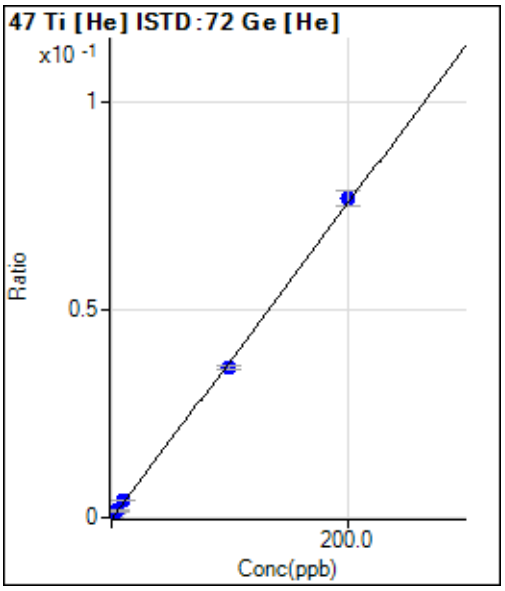


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	186.67	0.0002	P	44.2	
2	☐	2.000	1.731	1290.07	0.0017	P	14.6	-13.5
3	☐	5.000	4.743	3233.68	0.0042	P	4.1	-5.1
4	☐	10.000	10.041	6651.34	0.0086	P	7.0	0.4
5	☐	100.000	98.612	62831.55	0.0819	P	2.0	-1.4
6	☐	200.000	200.701	127172.81	0.1663	P	2.6	0.4
7	☐	1.000						

y = 8.2755E-004 * x + 2.4435E-004
R = 1.0000
DL = 0.3912 ppb
BEC = 0.2953 ppb

Weight: <None>
Min Conc: <None>

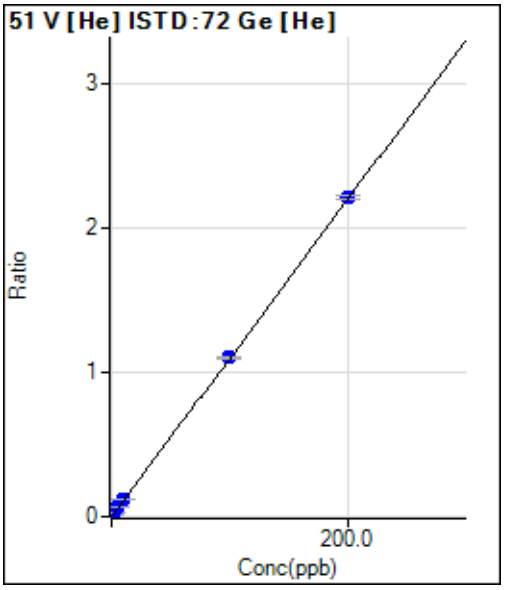
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10.00	0.0001	P	1.8	
2	☐	2.000	2.901	230.01	0.0012	P	5.0	45.0
3	☐	5.000	4.552	353.35	0.0018	P	29.6	-9.0
4	☐	10.000	10.787	820.03	0.0042	P	7.8	7.9
5	☐	100.000	95.525	6804.73	0.0364	P	2.6	-4.5
6	☐	200.000	202.201	13615.26	0.0769	P	4.6	1.1
7	☐	1.000						

y = 3.8029E-004 * x + 5.1334E-005
R = 0.9996
DL = 0.007336 ppb
BEC = 0.135 ppb

Weight: <None>
Min Conc: <None>

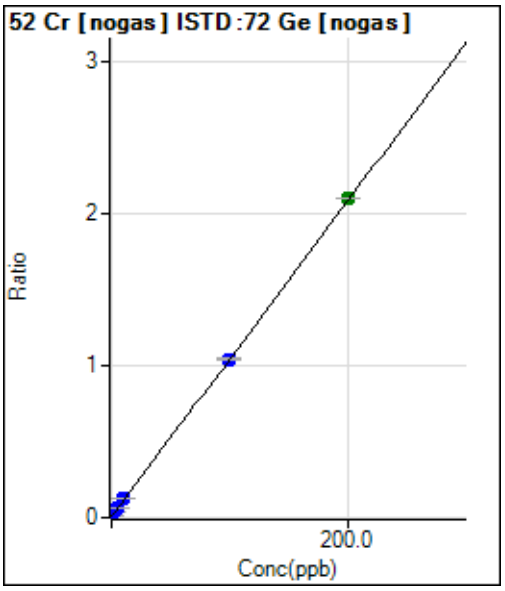


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1650.09	0.0085	P	6.3	
2	☐	2.000	1.810	5659.80	0.0284	P	1.0	-9.5
3	☐	5.000	4.758	12064.03	0.0609	P	1.0	-4.8
4	☐	10.000	9.730	22834.33	0.1156	P	0.5	-2.7
5	☐	100.000	99.615	206776.05	1.1056	P	1.3	-0.4
6	☐	200.000	200.214	391873.14	2.2135	P	1.1	0.1
7	☐	1.000						

y = 0.0110 * x + 0.0085
R = 1.0000
DL = 0.1453 ppb
BEC = 0.7685 ppb

Weight: <None>
Min Conc: <None>

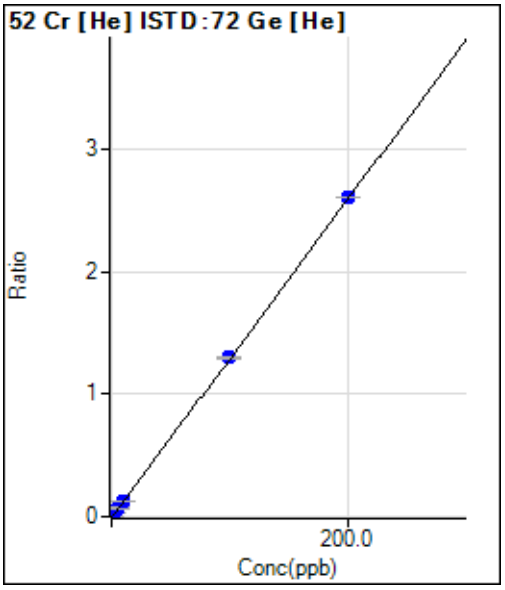
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13235.03	0.0173	P	2.2	
2	☐	2.000	2.118	30225.50	0.0393	P	4.9	5.9
3	☐	5.000	4.958	53345.21	0.0688	P	2.4	-0.8
4	☐	10.000	9.974	94112.37	0.1210	P	0.4	-0.3
5	☐	100.000	98.786	801842.07	1.0443	P	0.6	-1.2
6	☐	200.000	200.608	1608054.46	2.1029	A	0.2	0.3
7	☐	1.000						

y = 0.0104 * x + 0.0173
R = 1.0000
DL = 0.1087 ppb
BEC = 1.661 ppb

Weight: <None>
Min Conc: <None>

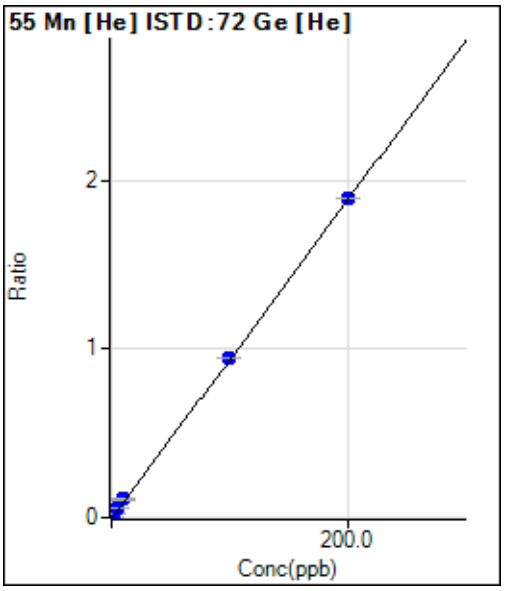


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	563.35	0.0029	P	11.2	
2	☐	2.000	1.950	5627.63	0.0282	P	0.4	-2.5
3	☐	5.000	5.107	13722.03	0.0693	P	5.0	2.1
4	☐	10.000	9.727	25528.26	0.1293	P	2.4	-2.7
5	☐	100.000	99.528	242466.83	1.2965	P	1.7	-0.5
6	☐	200.000	200.247	461372.19	2.6055	P	0.5	0.1
7	☐	1.000						

y = 0.0130 * x + 0.0029
R = 1.0000
DL = 0.07477 ppb
BEC = 0.2224 ppb

Weight: <None>
Min Conc: <None>

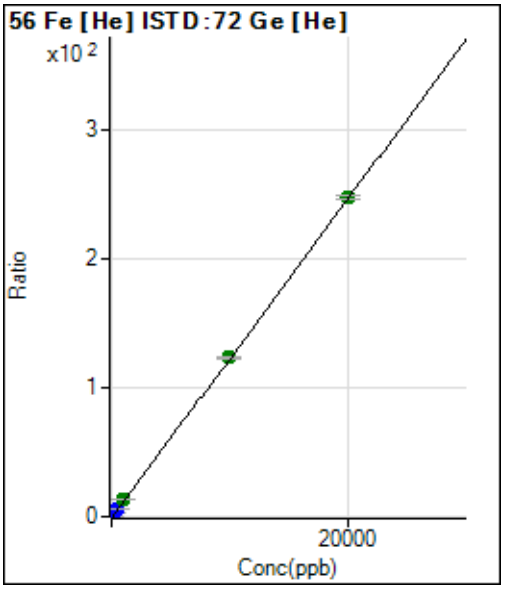
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	526.69	0.0027	P	30.8	
2	☐	2.000	2.183	4650.69	0.0233	P	5.8	9.1
3	☐	5.000	5.309	10479.90	0.0529	P	0.4	6.2
4	☐	10.000	11.284	21583.18	0.1093	P	2.5	12.8
5	☐	100.000	99.814	176948.58	0.9459	P	0.5	-0.2
6	☐	200.000	200.019	335155.07	1.8928	P	0.4	0.0
7	☐	1.000						

y = 0.0094 * x + 0.0027
R = 1.0000
DL = 0.2639 ppb
BEC = 0.2856 ppb

Weight: <None>
Min Conc: <None>

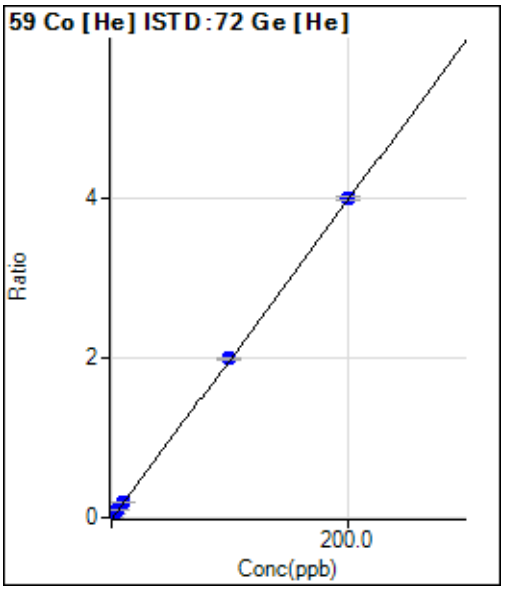


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	17328.45	0.0890	P	2.0	
2	☐	200.000	191.682	490564.56	2.4614	P	0.1	-4.2
3	☐	500.000	481.834	1199182.92	6.0526	P	2.1	-3.6
4	☐	1000.000	1044.223	2569090.69	13.0133	A	2.1	4.4
5	☐	10000.00	9976.450	23112702.9	123.567	A	0.9	-0.2
6	☐	20000.00	20010.10	43863334.3	247.753	A	0.7	0.1
7	☐	100.000						

y = 0.0124 * x + 0.0890
R = 1.0000
DL = 0.4309 ppb
BEC = 7.187 ppb

Weight: <None>
Min Conc: <None>

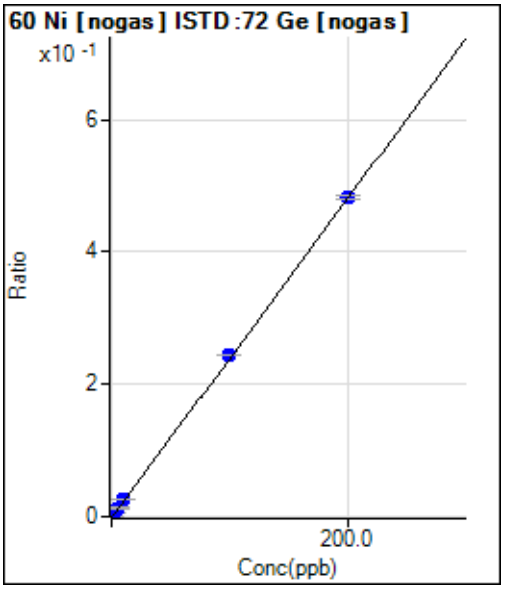
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	76.67	0.0004	P	50.9	
2	☐	2.000	1.952	7835.17	0.0393	P	5.2	-2.4
3	☐	5.000	4.877	19337.33	0.0976	P	4.1	-2.5
4	☐	10.000	10.092	39800.69	0.2016	P	2.1	0.9
5	☐	100.000	99.566	371350.28	1.9855	P	1.3	-0.4
6	☐	200.000	200.216	706760.48	3.9921	P	1.2	0.1
7	☐	1.000						

y = 0.0199 * x + 3.9544E-004
R = 1.0000
DL = 0.03026 ppb
BEC = 0.01983 ppb

Weight: <None>
Min Conc: <None>

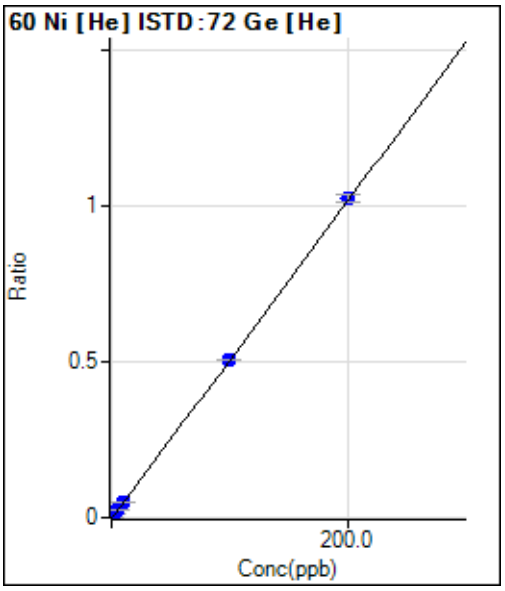


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	336.68	0.0004	P	26.7	
2	☐	2.000	2.058	4160.55	0.0054	P	2.3	2.9
3	☐	5.000	5.194	10062.98	0.0130	P	4.0	3.9
4	☐	10.000	10.420	19917.93	0.0256	P	1.2	4.2
5	☐	100.000	100.671	187002.15	0.2436	P	0.7	0.7
6	☐	200.000	199.638	368986.22	0.4826	P	1.3	-0.2
7	☐	1.000						

y = 0.0024 * x + 4.3870E-004
R = 1.0000
DL = 0.1455 ppb
BEC = 0.1816 ppb

Weight: <None>
Min Conc: <None>

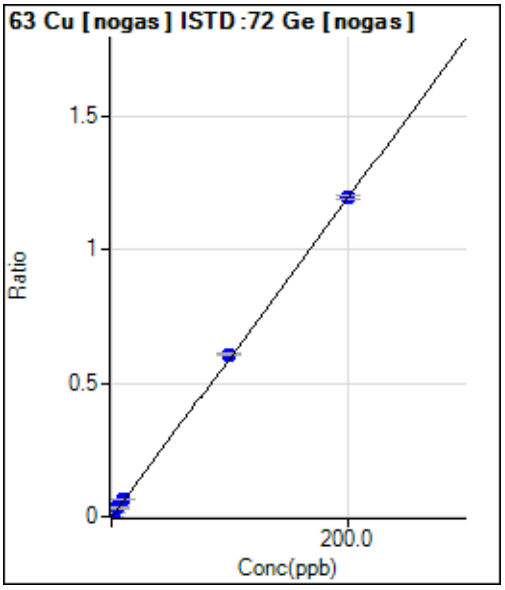
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	170.00	0.0009	P	20.9	
2	☐	2.000	2.094	2303.52	0.0116	P	6.7	4.7
3	☐	5.000	4.791	5014.11	0.0253	P	6.6	-4.2
4	☐	10.000	9.733	9979.61	0.0506	P	3.5	-2.7
5	☐	100.000	98.715	94439.19	0.5049	P	0.4	-1.3
6	☐	200.000	200.660	181496.37	1.0254	P	2.4	0.3
7	☐	1.000						

y = 0.0051 * x + 8.7321E-004
R = 1.0000
DL = 0.1073 ppb
BEC = 0.171 ppb

Weight: <None>
Min Conc: <None>

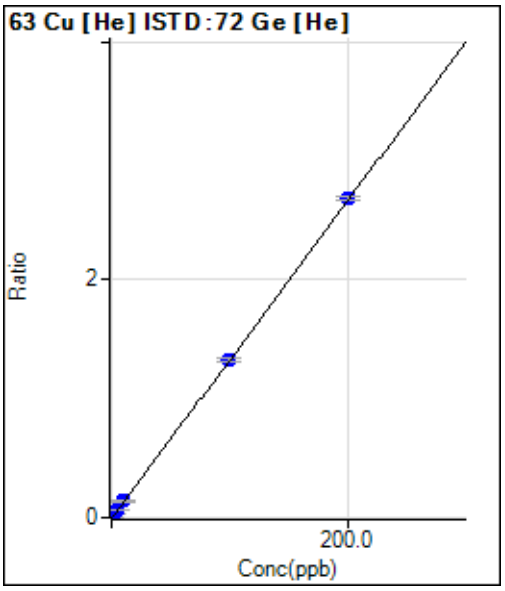


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1950.14	0.0025	P	1.8	
2	☐	2.000	2.029	11300.40	0.0147	P	1.6	1.5
3	☐	5.000	5.070	25505.10	0.0329	P	4.8	1.4
4	☐	10.000	10.055	48823.13	0.0627	P	1.1	0.6
5	☐	100.000	100.978	466131.15	0.6072	P	1.2	1.0
6	☐	200.000	199.506	915320.32	1.1971	P	1.0	-0.2
7	☐	1.000						

y = 0.0060 * x + 0.0025
R = 1.0000
DL = 0.02305 ppb
BEC = 0.4249 ppb

Weight: <None>
Min Conc: <None>

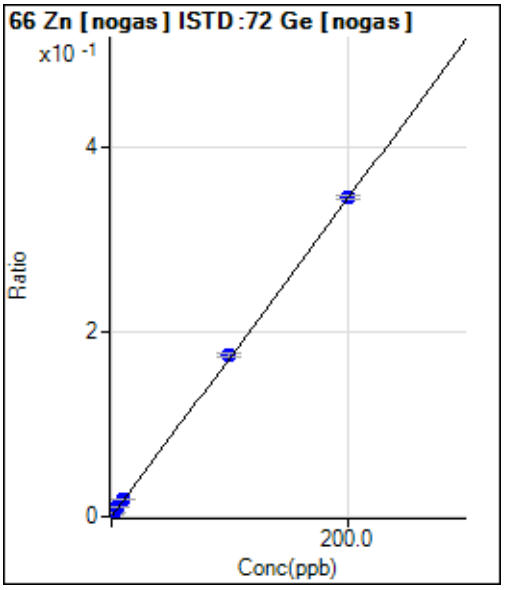
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	806.70	0.0041	P	9.2	
2	☐	2.000	1.983	6111.12	0.0307	P	2.3	-0.9
3	☐	5.000	4.908	13828.83	0.0698	P	2.0	-1.8
4	☐	10.000	10.058	27381.17	0.1387	P	2.7	0.6
5	☐	100.000	98.953	248369.24	1.3280	P	1.5	-1.0
6	☐	200.000	200.523	475673.60	2.6869	P	1.0	0.3
7	☐	1.000						

y = 0.0134 * x + 0.0041
R = 1.0000
DL = 0.08506 ppb
BEC = 0.3092 ppb

Weight: <None>
Min Conc: <None>

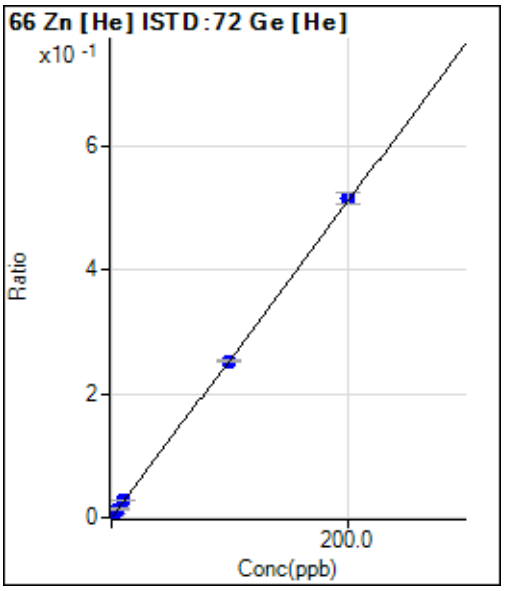


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1330.07	0.0017	P	13.7	
2	☐	2.000	1.724	3613.78	0.0047	P	7.7	-13.8
3	☐	5.000	4.831	7781.80	0.0100	P	1.7	-3.4
4	☐	10.000	10.060	14796.29	0.0190	P	3.2	0.6
5	☐	100.000	100.476	133865.02	0.1744	P	1.7	0.5
6	☐	200.000	199.766	263790.37	0.3450	P	0.7	-0.1
7	☐	1.000						

y = 0.0017 * x + 0.0017
R = 1.0000
DL = 0.4141 ppb
BEC = 1.01 ppb

Weight: <None>
Min Conc: <None>

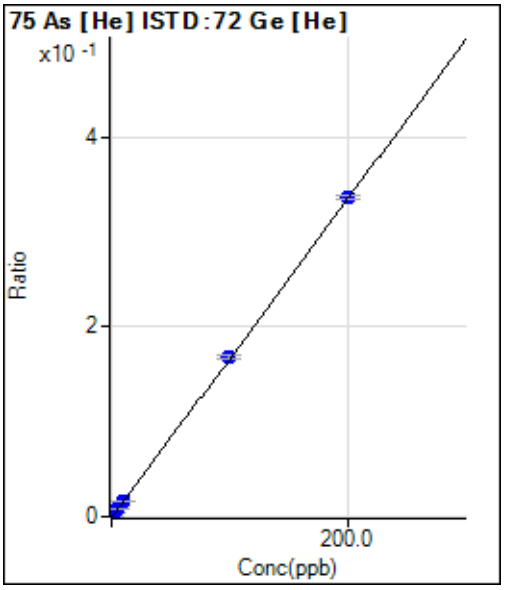
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	460.02	0.0024	P	16.8	
2	☐	2.000	1.365	1166.72	0.0058	P	13.9	-31.7
3	☐	5.000	4.450	2716.92	0.0137	P	4.4	-11.0
4	☐	10.000	9.908	5460.92	0.0276	P	2.5	-0.9
5	☐	100.000	97.973	47212.30	0.2524	P	1.9	-2.0
6	☐	200.000	201.038	91220.36	0.5154	P	3.1	0.5
7	☐	1.000						

y = 0.0026 * x + 0.0024
R = 0.9999
DL = 0.4665 ppb
BEC = 0.9263 ppb

Weight: <None>
Min Conc: <None>

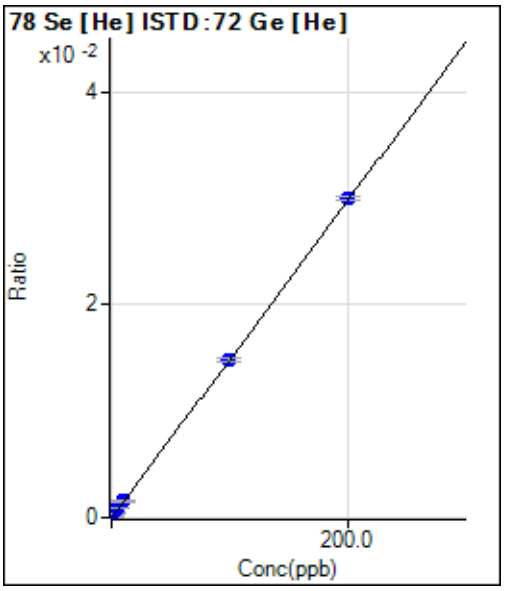


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	55.56	0.0003	P	20.9	
2	☐	2.000	2.269	817.80	0.0041	P	11.0	13.4
3	☐	5.000	4.667	1614.53	0.0081	P	11.9	-6.7
4	☐	10.000	9.799	3312.55	0.0168	P	5.1	-2.0
5	☐	100.000	100.032	31550.05	0.1687	P	1.6	0.0
6	☐	200.000	200.000	59666.94	0.3370	P	1.3	0.0
7	☐	1.000						

y = 0.0017 * x + 2.8448E-004
R = 1.0000
DL = 0.1058 ppb
BEC = 0.169 ppb

Weight: <None>
Min Conc: <None>

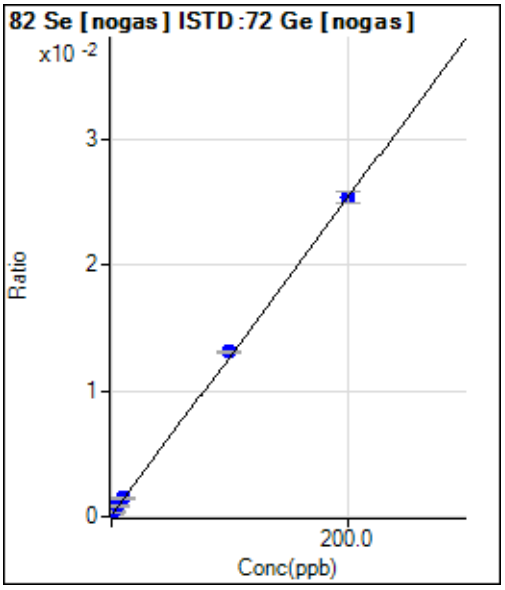
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	18.67	0.0001	P	18.0	
2	☐	2.000	2.469	92.67	0.0005	P	11.6	23.5
3	☐	5.000	5.167	172.00	0.0009	P	5.9	3.3
4	☐	10.000	10.013	314.67	0.0016	P	7.0	0.1
5	☐	100.000	99.027	2784.23	0.0149	P	3.0	-1.0
6	☐	200.000	200.477	5316.81	0.0300	P	1.4	0.2
7	☐	1.000						

y = 1.4931E-004 * x + 9.5995E-005
R = 1.0000
DL = 0.3473 ppb
BEC = 0.6429 ppb

Weight: <None>
Min Conc: <None>

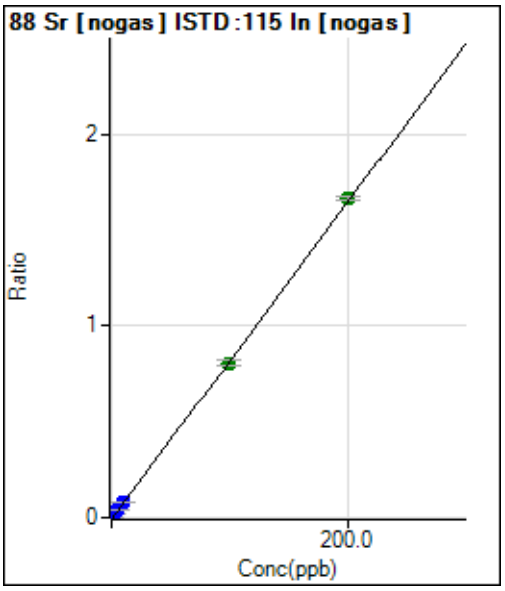


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	180.00	0.0002	P	36.8	
2	☐	2.000	1.464	323.34	0.0004	P	25.4	-26.8
3	☐	5.000	4.982	670.03	0.0009	P	5.9	-0.4
4	☐	10.000	10.187	1183.40	0.0015	P	9.1	1.9
5	☐	100.000	101.704	10039.68	0.0131	P	0.2	1.7
6	☐	200.000	199.144	19400.83	0.0254	P	3.0	-0.4
7	☐	1.000						

y = 1.2625E-004 * x + 2.3528E-004
R = 0.9999
DL = 2.06 ppb
BEC = 1.864 ppb

Weight: <None>
Min Conc: <None>

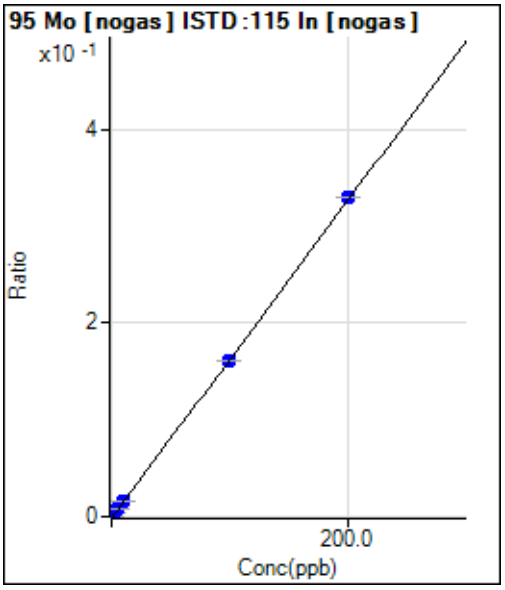
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	850.04	0.0004	P	8.2	
2	☐	2.000	1.902	31368.19	0.0162	P	3.0	-4.9
3	☐	5.000	4.732	78075.79	0.0396	P	1.5	-5.4
4	☐	10.000	9.462	158710.62	0.0787	P	0.3	-5.4
5	☐	100.000	97.331	1560847.69	0.8054	A	3.2	-2.7
6	☐	200.000	201.369	3168508.60	1.6658	A	0.7	0.7
7	☐	1.000						

y = 0.0083 * x + 4.3365E-004
R = 0.9999
DL = 0.01293 ppb
BEC = 0.05244 ppb

Weight: <None>
Min Conc: <None>

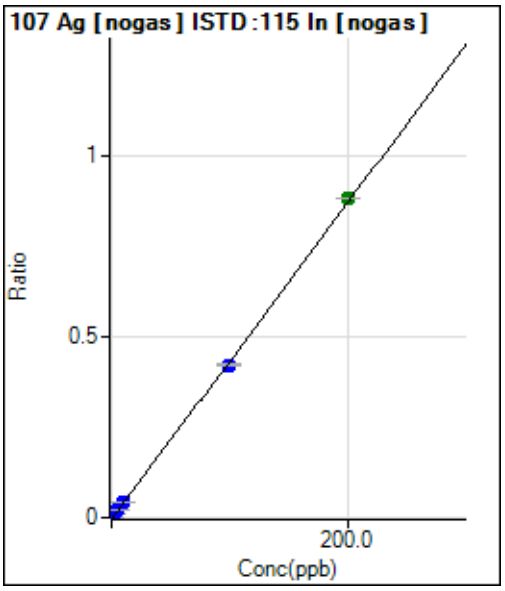


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	210.01	0.0001	P	8.0	
2	☐	2.000	1.971	6487.99	0.0033	P	2.8	-1.5
3	☐	5.000	4.813	15797.31	0.0080	P	2.6	-3.7
4	☐	10.000	9.822	32734.12	0.0162	P	3.9	-1.8
5	☐	100.000	98.081	312174.21	0.1611	P	0.8	-1.9
6	☐	200.000	200.973	627740.97	0.3300	P	0.2	0.5
7	☐	1.000						

y = 0.0016 * x + 1.0712E-004
R = 0.9999
DL = 0.01574 ppb
BEC = 0.06526 ppb

Weight: <None>
Min Conc: <None>

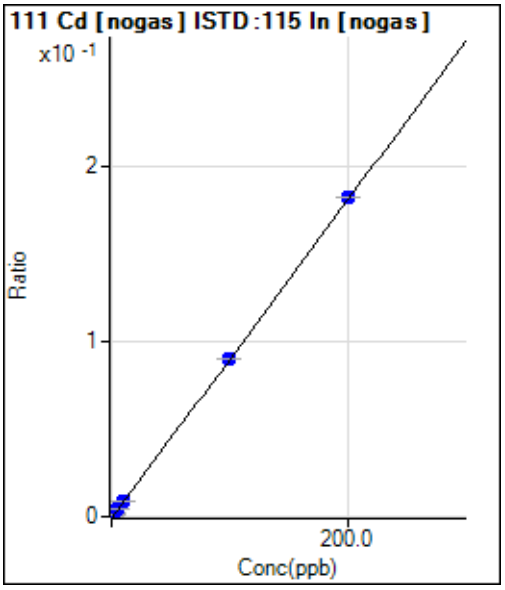
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	226.67	0.0001	P	40.9	
2	☐	2.000	1.953	16781.69	0.0086	P	3.9	-2.4
3	☐	5.000	4.838	41914.07	0.0212	P	2.3	-3.2
4	☐	10.000	9.467	83617.37	0.0415	P	0.9	-5.3
5	☐	100.000	96.585	817544.05	0.4219	P	0.3	-3.4
6	☐	200.000	201.739	1676045.50	0.8811	A	0.2	0.9
7	☐	1.000						

y = 0.0044 * x + 1.1570E-004
R = 0.9998
DL = 0.0325 ppb
BEC = 0.02649 ppb

Weight: <None>
Min Conc: <None>

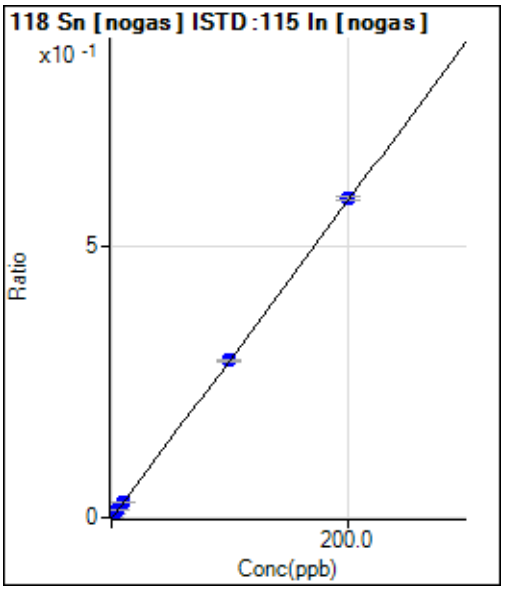


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16.67	0.0000	P	69.7	
2	☐	2.000	1.825	3233.70	0.0017	P	5.4	-8.8
3	☐	5.000	4.803	8625.62	0.0044	P	4.0	-3.9
4	☐	10.000	9.645	17685.93	0.0088	P	3.5	-3.6
5	☐	100.000	98.756	173851.18	0.0897	P	0.2	-1.2
6	☐	200.000	200.646	346712.09	0.1823	P	0.4	0.3
7	☐	1.000						

y = 9.0841E-004 * x + 8.5196E-006
R = 1.0000
DL = 0.01962 ppb
BEC = 0.009379 ppb

Weight: <None>
Min Conc: <None>

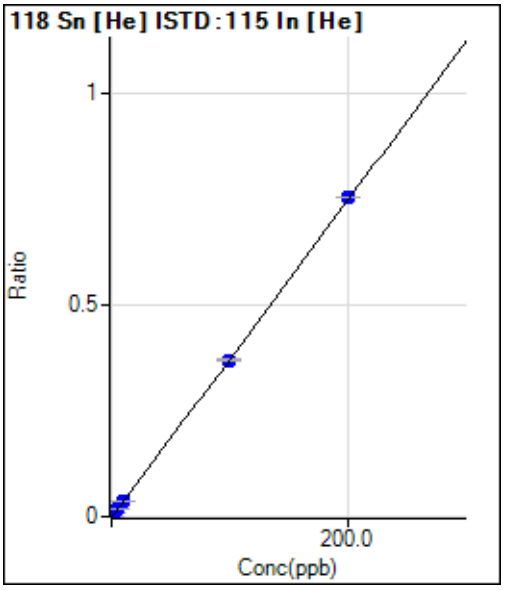
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1563.44	0.0008	P	20.8	
2	☐	2.000	1.888	12267.88	0.0063	P	3.1	-5.6
3	☐	5.000	4.895	29826.24	0.0151	P	1.1	-2.1
4	☐	10.000	9.716	58927.61	0.0292	P	2.1	-2.8
5	☐	100.000	98.653	560691.25	0.2894	P	0.9	-1.3
6	☐	200.000	200.691	1118123.42	0.5879	P	0.7	0.3
7	☐	1.000						

y = 0.0029 * x + 7.9752E-004
R = 1.0000
DL = 0.1697 ppb
BEC = 0.2726 ppb

Weight: <None>
Min Conc: <None>

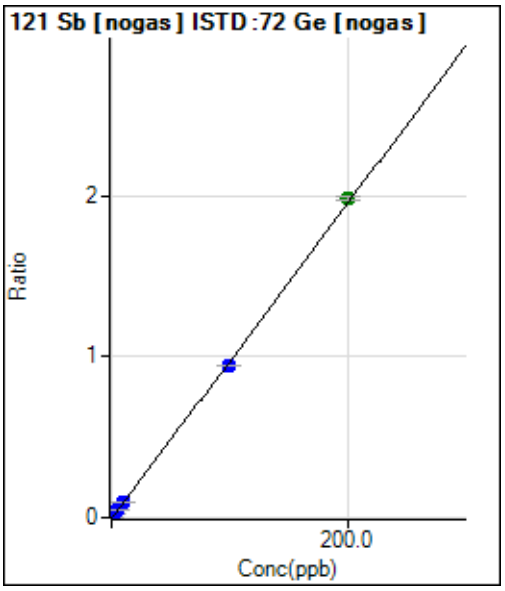


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	623.36	0.0009	P	13.3	
2	☐	2.000	1.853	5634.36	0.0078	P	4.1	-7.3
3	☐	5.000	4.751	13625.57	0.0187	P	1.0	-5.0
4	☐	10.000	9.646	27118.28	0.0371	P	1.3	-3.5
5	☐	100.000	98.342	252014.80	0.3698	P	1.9	-1.7
6	☐	200.000	200.854	485417.04	0.7544	P	0.4	0.4
7	☐	1.000						

y = 0.0038 * x + 8.8076E-004
R = 1.0000
DL = 0.09364 ppb
BEC = 0.2348 ppb

Weight: <None>
Min Conc: <None>

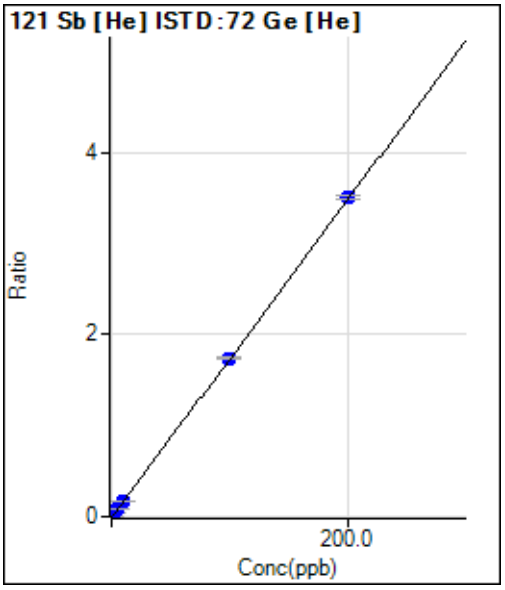
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2093.51	0.0027	P	1.4	
2	☐	2.000	1.914	16554.93	0.0215	P	2.5	-4.3
3	☐	5.000	4.856	39081.26	0.0504	P	0.8	-2.9
4	☐	10.000	9.547	75053.50	0.0965	P	1.1	-4.5
5	☐	100.000	95.849	724559.91	0.9437	P	0.6	-4.2
6	☐	200.000	202.103	1519329.14	1.9869	A	0.8	1.1
7	☐	1.000						

y = 0.0098 * x + 0.0027
R = 0.9997
DL = 0.01166 ppb
BEC = 0.2782 ppb

Weight: <None>
Min Conc: <None>

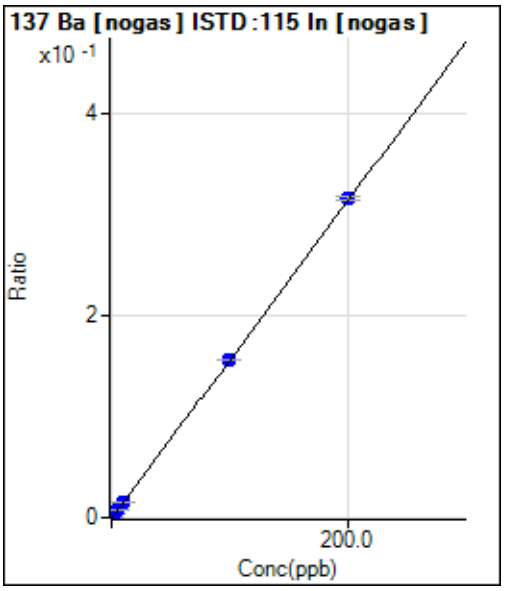


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1063.39	0.0055	P	8.1	
2	☐	2.000	2.002	8068.74	0.0405	P	3.0	0.1
3	☐	5.000	4.827	17806.14	0.0899	P	5.0	-3.5
4	☐	10.000	9.815	34995.88	0.1772	P	2.0	-1.8
5	☐	100.000	99.160	325621.79	1.7407	P	1.0	-0.8
6	☐	200.000	200.433	621889.37	3.5129	P	1.2	0.2
7	☐	1.000						

y = 0.0175 * x + 0.0055
R = 1.0000
DL = 0.07593 ppb
BEC = 0.3117 ppb

Weight: <None>
Min Conc: <None>

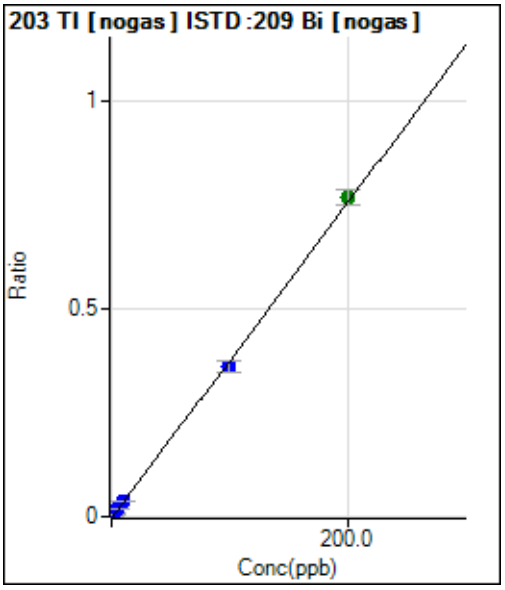
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	770.03	0.0004	P	31.2	
2	☐	2.000	1.856	6441.33	0.0033	P	1.0	-7.2
3	☐	5.000	4.638	15193.66	0.0077	P	4.4	-7.2
4	☐	10.000	9.338	30477.77	0.0151	P	2.6	-6.6
5	☐	100.000	98.878	302756.14	0.1562	P	0.7	-1.1
6	☐	200.000	200.604	602215.94	0.3166	P	1.2	0.3
7	☐	1.000						

y = 0.0016 * x + 3.9251E-004
R = 1.0000
DL = 0.2329 ppb
BEC = 0.249 ppb

Weight: <None>
Min Conc: <None>

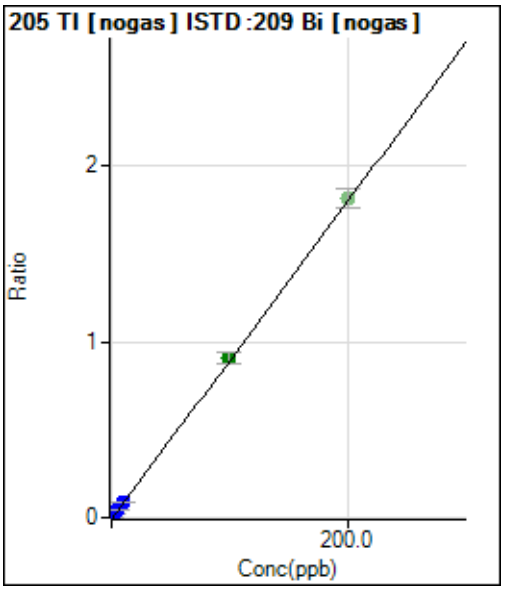


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	76.67	0.0000	P	18.3	
2	☐	2.000	1.873	18654.36	0.0071	P	8.2	-6.3
3	☐	5.000	4.733	48259.12	0.0180	P	6.1	-5.3
4	☐	10.000	9.549	96108.85	0.0363	P	7.4	-4.5
5	☐	100.000	95.280	955613.58	0.3615	P	6.9	-4.7
6	☐	200.000	202.390	1992689.34	0.7678	A	5.3	1.2
7	☐	1.000						

y = 0.0038 * x + 2.9646E-005
R = 0.9996
DL = 0.004291 ppb
BEC = 0.007815 ppb

Weight: <None>
Min Conc: <None>

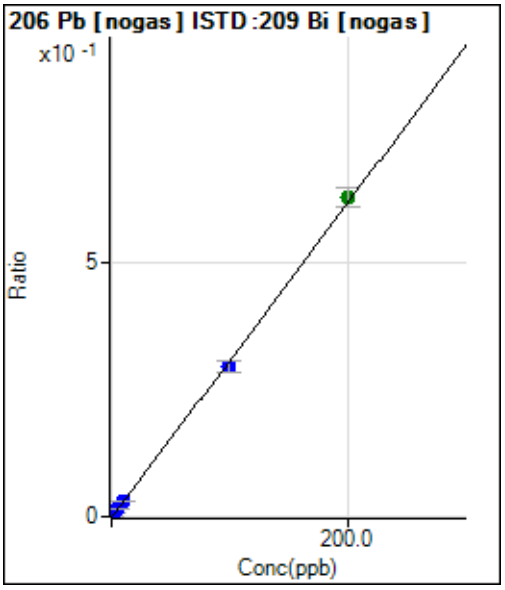
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	190.01	0.0001	P	26.1	
2	☐	2.000	1.915	45534.71	0.0174	P	7.0	-4.2
3	☐	5.000	4.748	115525.18	0.0431	P	6.0	-5.0
4	☐	10.000	9.621	231202.13	0.0872	P	6.5	-3.8
5	☐	100.000	100.052	2394284.23	0.9059	A	7.6	0.1
6	☑	200.000		4717988.68	1.8183	A	6.3	
7	☐	1.000						

y = 0.0091 * x + 7.3961E-005
R = 1.0000
DL = 0.006407 ppb
BEC = 0.00817 ppb

Weight: <None>
Min Conc: <None>

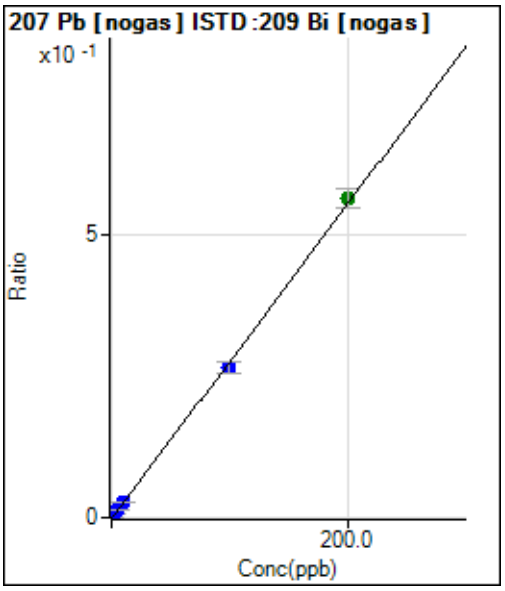


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2376.88	0.0009	P	11.0	
2	☐	2.000	1.866	17599.85	0.0067	P	5.1	-6.7
3	☐	5.000	4.597	40852.11	0.0152	P	4.9	-8.1
4	☐	10.000	9.565	81311.53	0.0307	P	7.4	-4.3
5	☐	100.000	94.952	783134.31	0.2962	P	6.9	-5.0
6	☐	200.000	202.557	1637247.21	0.6309	A	5.6	1.3
7	☐	1.000						

y = 0.0031 * x + 9.2244E-004
R = 0.9996
DL = 0.09748 ppb
BEC = 0.2966 ppb

Weight: <None>
Min Conc: <None>

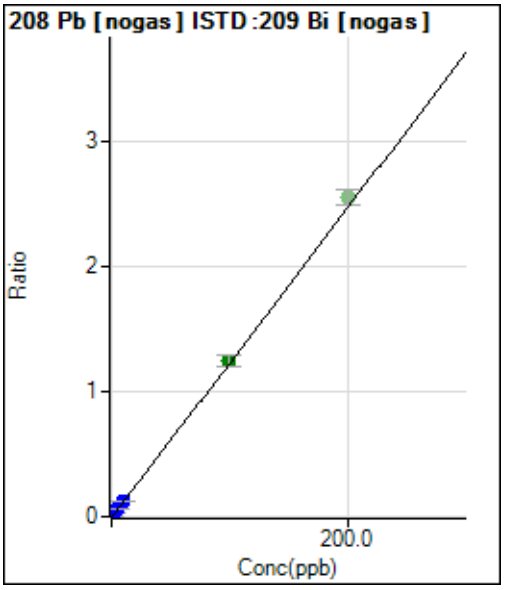
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2120.18	0.0008	P	10.6	
2	☐	2.000	1.858	15684.59	0.0060	P	7.8	-7.1
3	☐	5.000	4.548	36201.06	0.0135	P	6.2	-9.0
4	☐	10.000	9.449	72024.11	0.0271	P	5.8	-5.5
5	☐	100.000	95.082	702592.96	0.2657	P	6.8	-4.9
6	☐	200.000	202.499	1466304.77	0.5650	A	5.9	1.2
7	☐	1.000						

y = 0.0028 * x + 8.2300E-004
R = 0.9996
DL = 0.09422 ppb
BEC = 0.2954 ppb

Weight: <None>
Min Conc: <None>

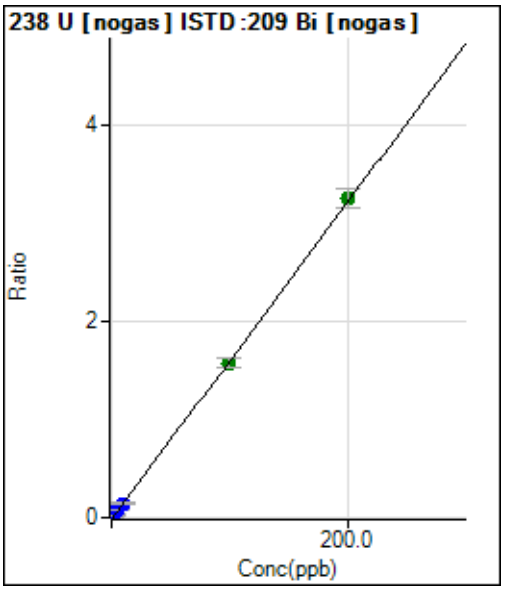


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	9401.23	0.0036	P	2.6	
2	☐	2.000	1.908	71436.77	0.0273	P	5.8	-4.6
3	☐	5.000	4.728	167104.65	0.0623	P	5.6	-5.4
4	☐	10.000	9.706	328838.64	0.1240	P	6.8	-2.9
5	☐	100.000	100.045	3289813.02	1.2443	A	6.9	0.0
6	☑	200.000		6631518.90	2.5549	A	5.0	
7	☐	1.000						

y = 0.0124 * x + 0.0036
R = 1.0000
DL = 0.023 ppb
BEC = 0.2937 ppb

Weight: <None>
Min Conc: <None>

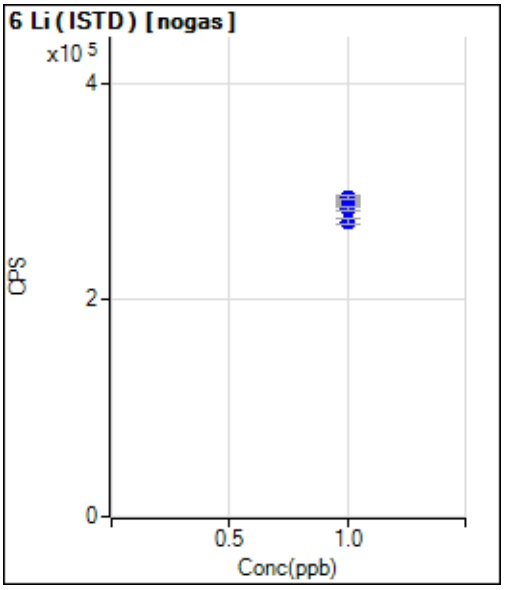
Calibration for 271_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	160.00	0.0001	P	51.1	
2	☐	2.000	1.789	75963.40	0.0290	P	5.2	-10.5
3	☐	5.000	4.445	193377.50	0.0720	P	4.5	-11.1
4	☐	10.000	9.085	390171.23	0.1472	P	7.2	-9.2
5	☐	100.000	97.567	4177148.58	1.5798	A	6.6	-2.4
6	☐	200.000	201.278	8457720.08	3.2590	A	5.6	0.6
7	☐	1.000						

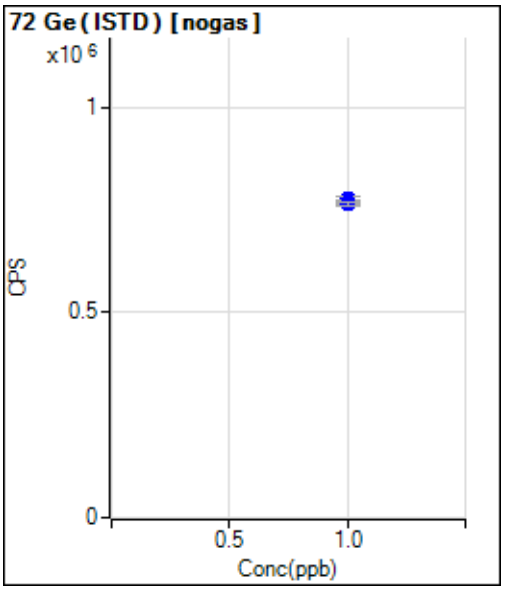
y = 0.0162 * x + 6.1549E-005
R = 0.9999
DL = 0.005822 ppb
BEC = 0.003801 ppb

Weight: <None>
Min Conc: <None>

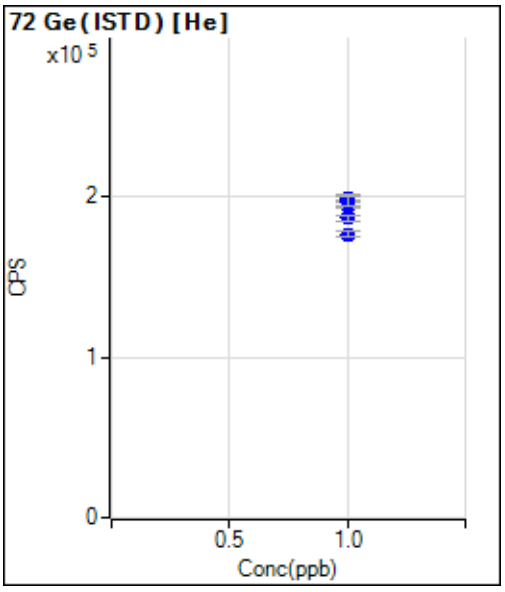


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		288179.48		P	0.3	
2	☐	1.000		292588.43		P	1.0	
3	☐	1.000		294605.76		P	0.0	
4	☐	1.000		294367.48		P	0.8	
5	☐	1.000		283631.59		P	1.1	
6	☐	1.000		272184.10		P	1.5	
7	☐	1.000						

Calibration for 271_ICV.d

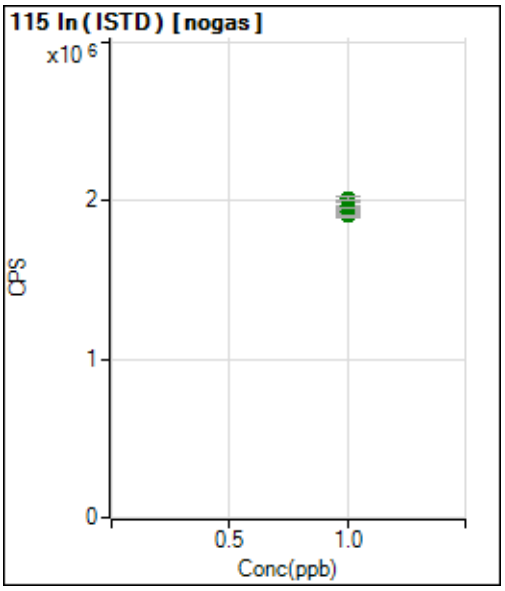


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		766401.47		P	1.1	
2	☐	1.000		769132.07		P	0.6	
3	☐	1.000		775320.17		P	1.4	
4	☐	1.000		777998.06		P	1.4	
5	☐	1.000		767815.66		P	1.8	
6	☐	1.000		764684.44		P	1.2	
7	☐	1.000						

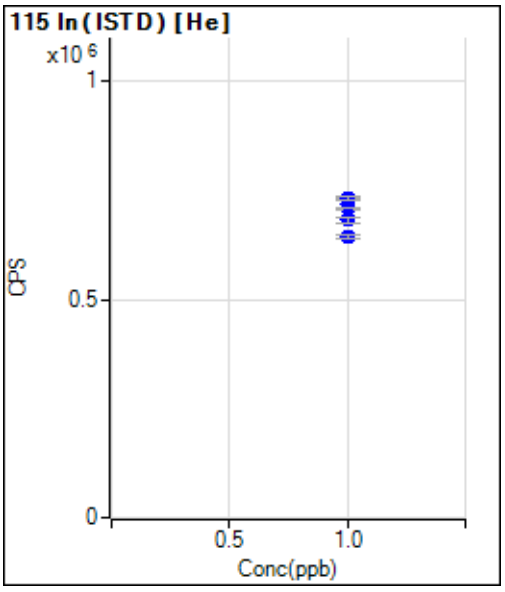


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		194845.87		P	1.8	
2	☐	1.000		199302.49		P	1.1	
3	☐	1.000		198225.99		P	3.6	
4	☐	1.000		197500.27		P	3.0	
5	☐	1.000		187058.36		P	1.8	
6	☐	1.000		177062.02		P	2.1	
7	☐	1.000						

Calibration for 271_ICV.d

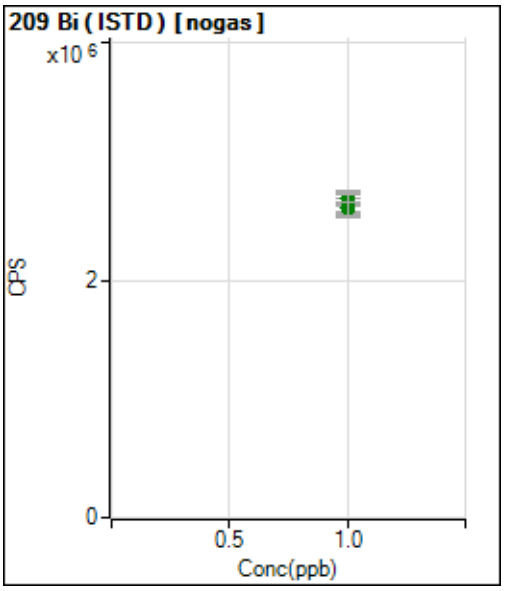


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1960197.15		A	0.4	
2	☐	1.000		1941281.35		A	0.5	
3	☐	1.000		1973289.33		A	1.4	
4	☐	1.000		2016993.78		A	0.7	
5	☐	1.000		1937745.34		A	1.3	
6	☐	1.000		1902165.52		A	1.2	
7	☐	1.000						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		707384.86		P	0.7	
2	☐	1.000		718978.40		P	2.6	
3	☐	1.000		728480.95		P	0.9	
4	☐	1.000		731560.15		P	0.9	
5	☐	1.000		681511.32		P	1.6	
6	☐	1.000		643457.52		P	1.9	
7	☐	1.000						

Calibration for 271_ICV.d



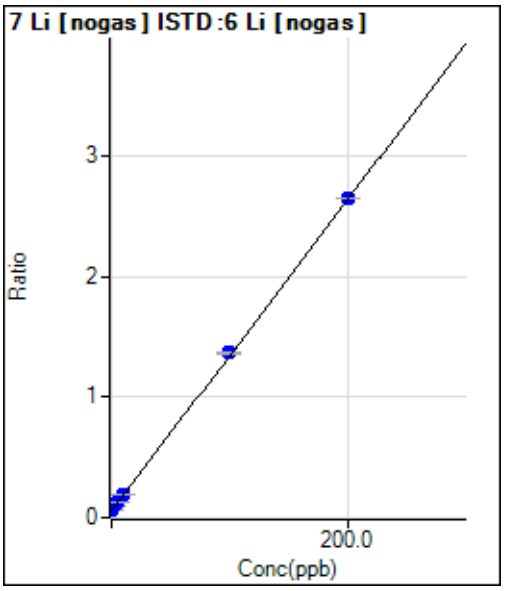
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2582336.26		A	3.9	
2	☐	1.000		2621340.80		A	5.1	
3	☐	1.000		2688407.67		A	5.0	
4	☐	1.000		2659540.64		A	6.4	
5	☐	1.000		2650855.43		A	5.8	
6	☐	1.000		2599345.64		A	4.3	
7	☐	1.000						

Calibration for 238_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\121120A.b\
Analysis File: 121120A.batch.bin
DA Date-Time: 12/12/2020 7:39:54 AM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	231CALB.d	CAL BLK	12/11/2020 10:42:58 PM
2	232CALS.d	2/10/200	12/11/2020 10:45:01 PM
3	233CALS.d	5/25/500	12/11/2020 10:47:04 PM
4	234CALS.d	10/50/1000	12/11/2020 10:49:06 PM
5	235CALS.d	100/500/10K	12/11/2020 10:51:08 PM
6	236CALS.d	200/1000/20K	12/11/2020 10:53:08 PM
7			

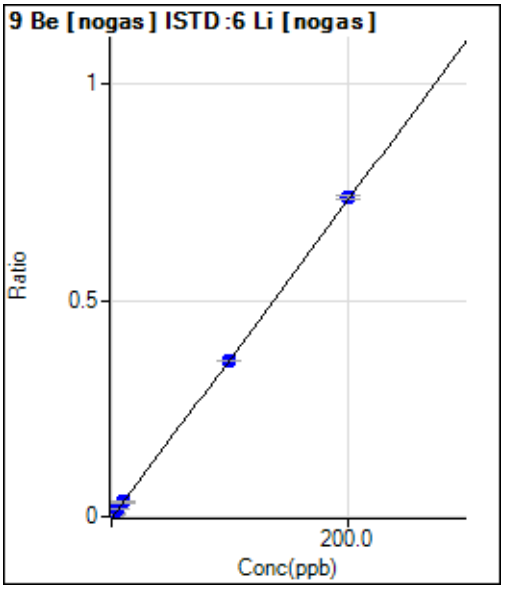
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	28035.87	0.0677	P	2.6	
2	☐	2.000	1.830	38889.97	0.0914	P	1.4	-8.5
3	☐	5.000	4.471	53507.12	0.1255	P	1.2	-10.6
4	☐	10.000	9.370	80788.29	0.1888	P	1.3	-6.3
5	☐	100.000	100.708	552913.31	1.3693	P	0.9	0.7
6	☐	200.000	199.692	1009252.01	2.6486	P	0.3	-0.2
7	☐	1.000						

y = 0.0129 * x + 0.0677
R = 1.0000
DL = 0.4139 ppb
BEC = 5.24 ppb

Weight: <None>
Min Conc: <None>

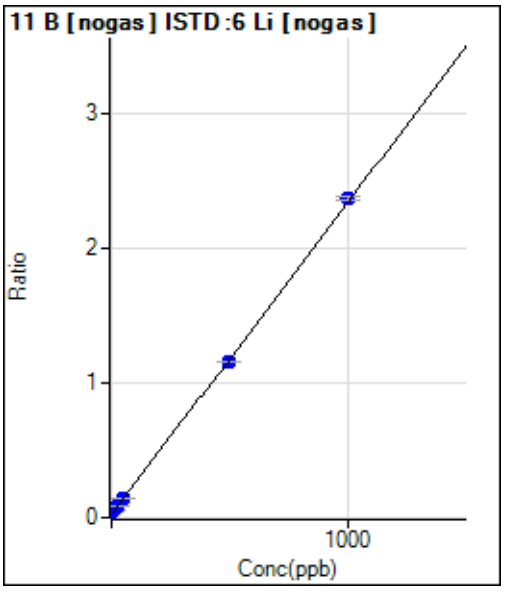


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	31.67	0.0001	P	24.1	
2	☐	2.000	1.805	2853.58	0.0067	P	4.7	-9.7
3	☐	5.000	4.556	7164.76	0.0168	P	3.5	-8.9
4	☐	10.000	9.149	14407.26	0.0337	P	3.9	-8.5
5	☐	100.000	98.177	145647.87	0.3607	P	0.8	-1.8
6	☐	200.000	200.967	281318.41	0.7383	P	1.1	0.5
7	☐	1.000						

y = 0.0037 * x + 7.6508E-005
R = 0.9999
DL = 0.01506 ppb
BEC = 0.02083 ppb

Weight: <None>
Min Conc: <None>

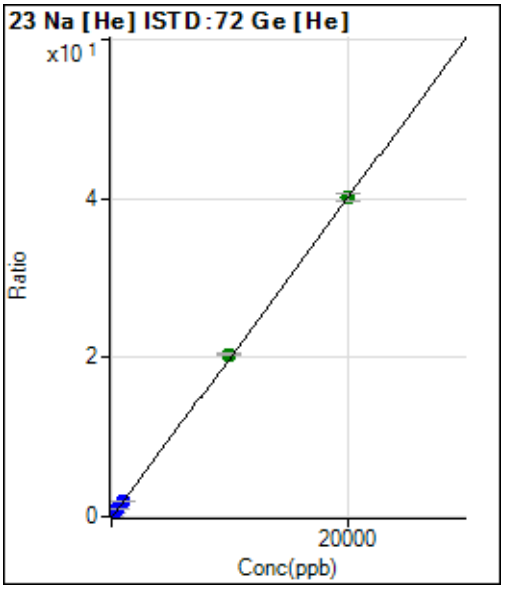
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	15785.05	0.0381	P	2.4	
2	☐	10.000	8.503	24601.22	0.0578	P	2.1	-15.0
3	☐	25.000	21.920	37883.05	0.0889	P	1.8	-12.3
4	☐	50.000	44.307	60199.07	0.1407	P	1.5	-11.4
5	☐	500.000	483.496	467410.04	1.1575	P	0.1	-3.3
6	☐	1000.000	1008.629	904344.49	2.3733	P	0.6	0.9
7	☐	5.000						

y = 0.0023 * x + 0.0381
R = 0.9998
DL = 1.21 ppb
BEC = 16.47 ppb

Weight: <None>
Min Conc: <None>

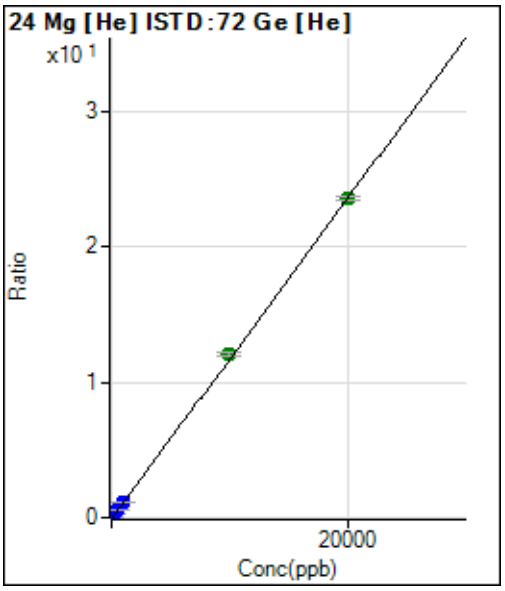


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	17782.16	0.0635	P	3.9	
2	☐	200.000	188.129	126346.00	0.4415	P	0.4	-5.9
3	☐	500.000	478.093	293030.94	1.0241	P	1.9	-4.4
4	☐	1000.000	970.086	576266.13	2.0126	P	0.8	-3.0
5	☐	10000.00	10119.14	5655903.67	20.3949	A	1.3	1.2
6	☐	20000.00	19942.58	10765507.7	40.1321	A	2.9	-0.3
7	☐	100.000						

y = 0.0020 * x + 0.0635
R = 1.0000
DL = 3.669 ppb
BEC = 31.62 ppb

Weight: <None>
Min Conc: <None>

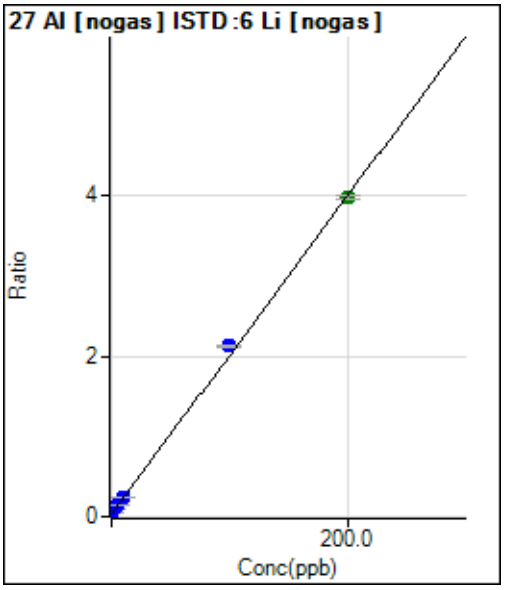
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1043.39	0.0037	P	11.7	
2	☐	200.000	190.410	65695.89	0.2296	P	1.2	-4.8
3	☐	500.000	475.885	162584.30	0.5682	P	2.1	-4.8
4	☐	1000.000	951.115	324083.23	1.1319	P	1.7	-4.9
5	☐	10000.00	10213.44	3360597.34	12.1184	A	1.9	2.1
6	☐	20000.00	19896.41	6333024.49	23.6039	A	1.4	-0.5
7	☐	100.000						

y = 0.0012 * x + 0.0037
R = 0.9999
DL = 1.107 ppb
BEC = 3.143 ppb

Weight: <None>
Min Conc: <None>

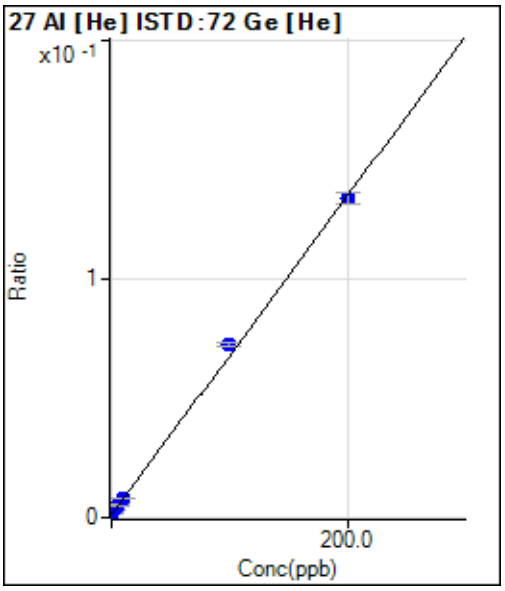


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	21095.70	0.0510	P	1.5	
2	☐	2.000	1.924	37932.48	0.0891	P	1.5	-3.8
3	☐	5.000	4.557	60267.98	0.1414	P	0.9	-8.9
4	☐	10.000	9.428	101824.64	0.2380	P	0.9	-5.7
5	☐	100.000	104.395	856887.20	2.1222	P	0.9	4.4
6	☐	200.000	197.843	1515109.25	3.9762	A	1.4	-1.1
7	☐	1.000						

y = 0.0198 * x + 0.0510
R = 0.9996
DL = 0.1193 ppb
BEC = 2.569 ppb

Weight: <None>
Min Conc: <None>

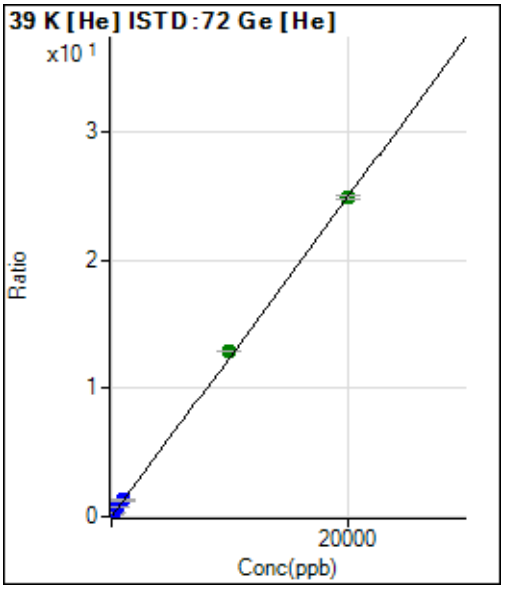
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	526.68	0.0019	P	17.2	
2	☐	2.000	2.179	956.71	0.0033	P	4.9	9.0
3	☐	5.000	4.821	1463.42	0.0051	P	6.5	-3.6
4	☐	10.000	9.495	2360.20	0.0082	P	5.3	-5.0
5	☐	100.000	105.696	20154.53	0.0727	P	1.9	5.7
6	☐	200.000	197.180	35931.73	0.1340	P	3.1	-1.4
7	☐	1.000						

y = 6.6978E-004 * x + 0.0019
R = 0.9994
DL = 1.451 ppb
BEC = 2.812 ppb

Weight: <None>
Min Conc: <None>

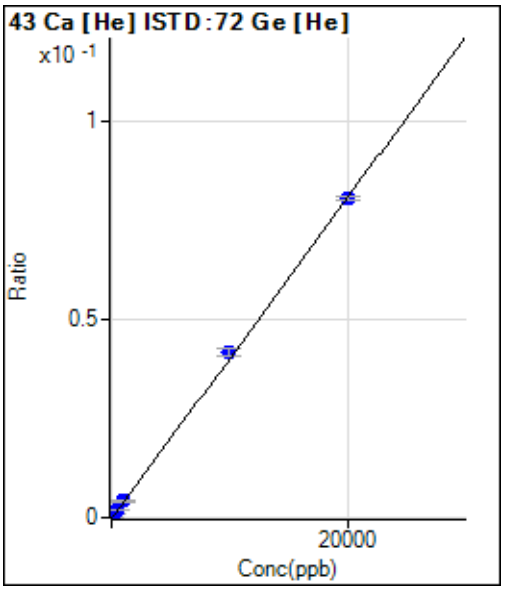


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	34058.53	0.1217	P	2.3	
2	☐	200.000	181.207	99535.23	0.3478	P	0.9	-9.4
3	☐	500.000	468.123	201994.65	0.7059	P	1.0	-6.4
4	☐	1000.000	928.167	366517.55	1.2801	P	1.1	-7.2
5	☐	10000.00	10240.26	3578147.24	12.9022	A	0.9	2.4
6	☐	20000.00	19884.44	6690858.86	24.9389	A	1.8	-0.6
7	☐	100.000						

y = 0.0012 * x + 0.1217
R = 0.9999
DL = 6.745 ppb
BEC = 97.49 ppb

Weight: <None>
Min Conc: <None>

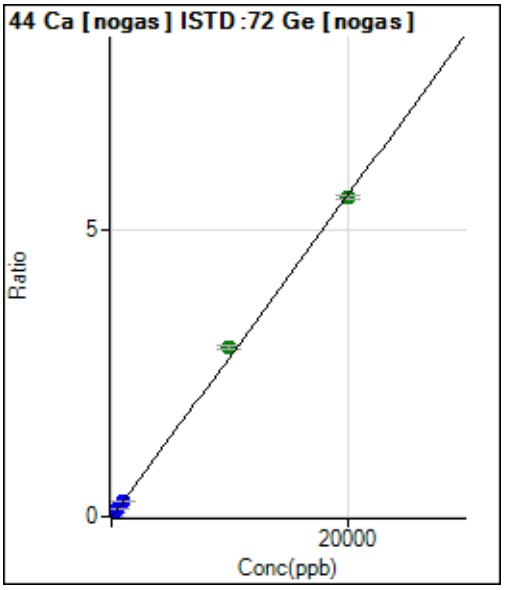
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0001	P	51.0	
2	☐	200.000	180.876	230.01	0.0008	P	16.5	-9.6
3	☐	500.000	485.227	583.35	0.0020	P	11.9	-3.0
4	☐	1000.000	1025.639	1210.06	0.0042	P	9.1	2.6
5	☐	10000.00	10317.73	11610.52	0.0419	P	4.6	3.2
6	☐	20000.00	19840.41	21583.11	0.0804	P	1.7	-0.8
7	☐	100.000						

y = 4.0510E-006 * x + 7.1687E-005
R = 0.9998
DL = 27.09 ppb
BEC = 17.7 ppb

Weight: <None>
Min Conc: <None>

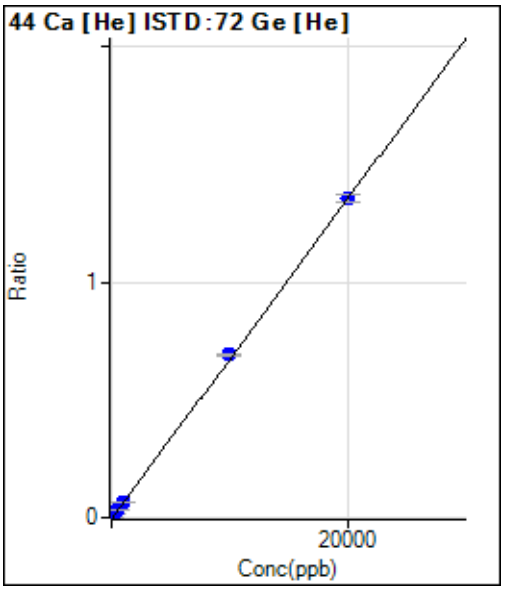


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6611.32	0.0065	P	4.5	
2	☐	200.000	191.604	62379.99	0.0604	P	2.9	-4.2
3	☐	500.000	481.141	148773.34	0.1419	P	0.3	-3.8
4	☐	1000.000	976.193	294964.16	0.2813	P	0.9	-2.4
5	☐	10000.00	10458.13	3018453.29	2.9506	A	1.4	4.6
6	☐	20000.00	19772.67	5577060.33	5.5728	A	1.3	-1.1
7	☐	100.000						

y = 2.8152E-004 * x + 0.0065
R = 0.9996
DL = 3.102 ppb
BEC = 23.06 ppb

Weight: <None>
Min Conc: <None>

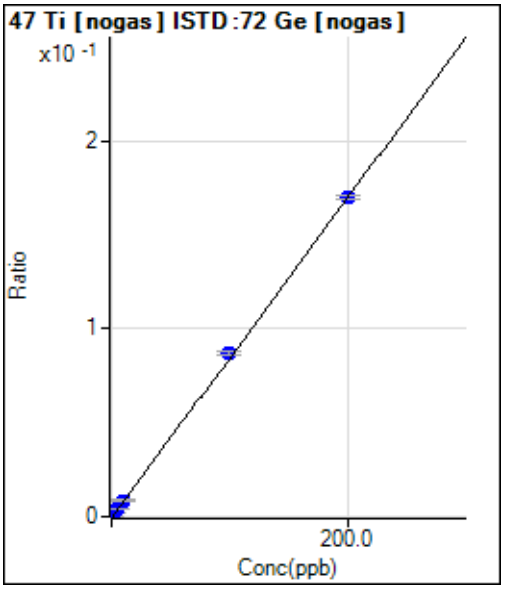
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	166.67	0.0006	P	27.6	
2	☐	200.000	199.123	4043.87	0.0141	P	7.4	-0.4
3	☐	500.000	486.461	9632.68	0.0337	P	7.1	-2.7
4	☐	1000.000	980.263	19257.08	0.0673	P	0.4	-2.0
5	☐	10000.00	10145.69	191505.21	0.6905	P	0.4	1.5
6	☐	20000.00	19928.48	363731.11	1.3558	P	2.1	-0.4
7	☐	100.000						

y = 6.8003E-005 * x + 5.9446E-004
R = 1.0000
DL = 7.236 ppb
BEC = 8.742 ppb

Weight: <None>
Min Conc: <None>

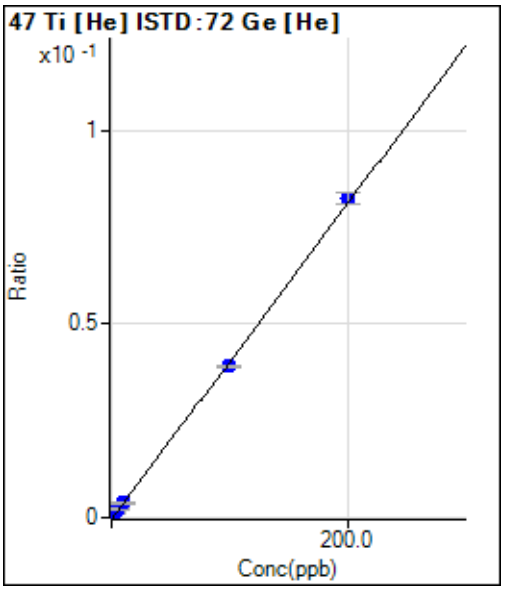


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	126.67	0.0001	P	30.4	
2	☐	2.000	1.910	1810.12	0.0018	P	10.7	-4.5
3	☐	5.000	5.029	4624.01	0.0044	P	4.7	0.6
4	☐	10.000	9.805	8899.00	0.0085	P	6.9	-1.9
5	☐	100.000	101.680	88805.18	0.0868	P	2.3	1.7
6	☐	200.000	199.170	170052.12	0.1699	P	1.2	-0.4
7	☐	1.000						

y = 8.5257E-004 * x + 1.2446E-004
R = 0.9999
DL = 0.1331 ppb
BEC = 0.146 ppb

Weight: <None>
Min Conc: <None>

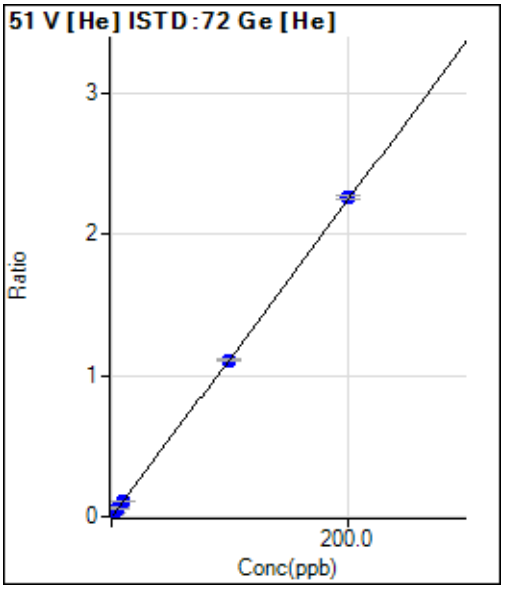
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	0.00	0.0000	P		
2	☐	2.000	3.000	350.01	0.0012	P	10.8	50.0
3	☐	5.000	5.167	603.36	0.0021	P	12.6	3.3
4	☐	10.000	9.301	1086.72	0.0038	P	9.1	-7.0
5	☐	100.000	95.642	10823.42	0.0390	P	1.1	-4.4
6	☐	200.000	202.200	22137.00	0.0825	P	3.6	1.1
7	☐	1.000						

y = 4.0803E-004 * x + 0.0000E+000
R = 0.9996
DL = 0 ppb
BEC = 0 ppb

Weight: <None>
Min Conc: <None>

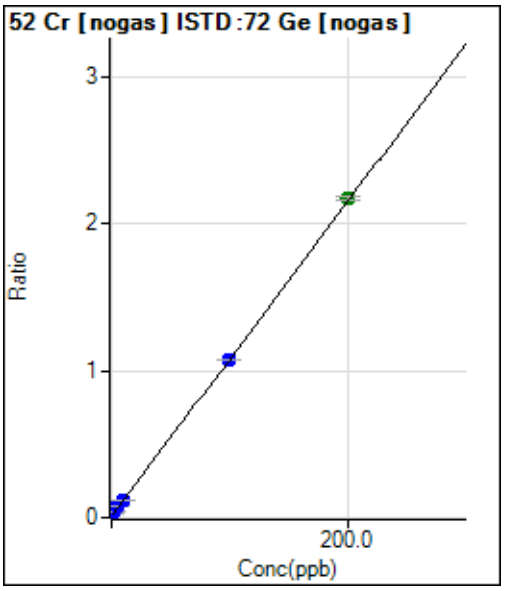


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2261.27	0.0081	P	5.0	
2	☐	2.000	1.914	8463.13	0.0296	P	3.1	-4.3
3	☐	5.000	4.710	17455.07	0.0610	P	1.4	-5.8
4	☐	10.000	9.503	32882.96	0.1148	P	1.1	-5.0
5	☐	100.000	98.240	308352.57	1.1119	P	0.7	-1.8
6	☐	200.000	200.913	607828.69	2.2655	P	1.5	0.5
7	☐	1.000						

y = 0.0112 * x + 0.0081
R = 0.9999
DL = 0.1086 ppb
BEC = 0.7189 ppb

Weight: <None>
Min Conc: <None>

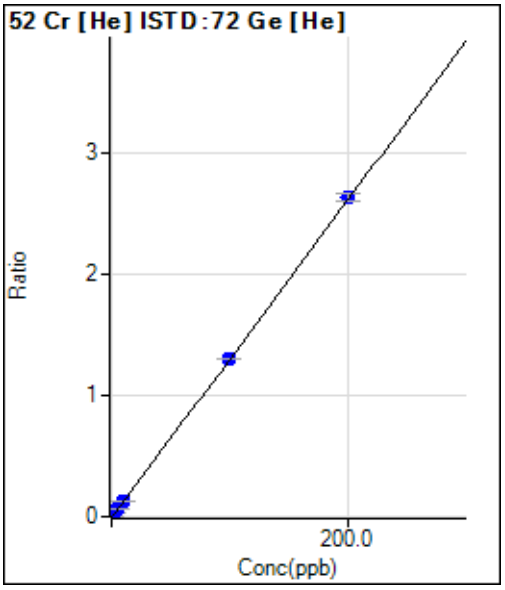
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20615.34	0.0202	P	1.7	
2	☐	2.000	2.049	43515.75	0.0422	P	1.3	2.5
3	☐	5.000	4.883	75988.55	0.0725	P	1.4	-2.3
4	☐	10.000	9.568	128564.77	0.1226	P	2.0	-4.3
5	☐	100.000	98.146	1095117.82	1.0705	P	0.6	-1.9
6	☐	200.000	200.951	2172255.91	2.1706	A	1.1	0.5
7	☐	1.000						

y = 0.0107 * x + 0.0202
R = 0.9999
DL = 0.09415 ppb
BEC = 1.891 ppb

Weight: <None>
Min Conc: <None>

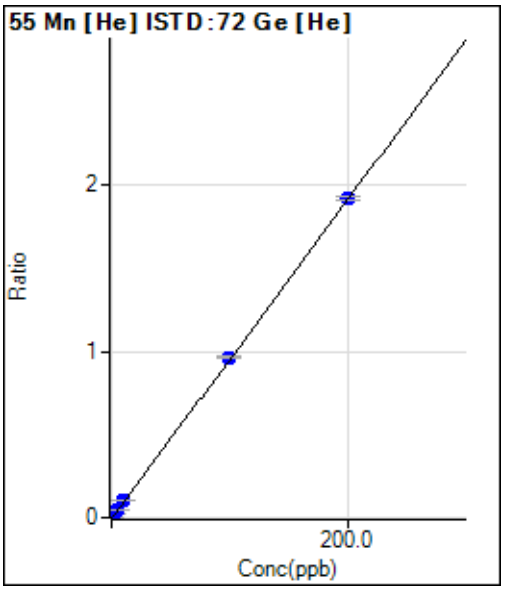


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	703.36	0.0025	P	10.1	
2	☐	2.000	1.916	7915.20	0.0277	P	2.3	-4.2
3	☐	5.000	4.754	18573.09	0.0649	P	2.8	-4.9
4	☐	10.000	9.715	37221.82	0.1300	P	1.6	-2.9
5	☐	100.000	98.636	359672.58	1.2969	P	0.2	-1.4
6	☐	200.000	200.703	707283.06	2.6363	P	1.9	0.4
7	☐	1.000						

y = 0.0131 * x + 0.0025
R = 1.0000
DL = 0.05777 ppb
BEC = 0.1914 ppb

Weight: <None>
Min Conc: <None>

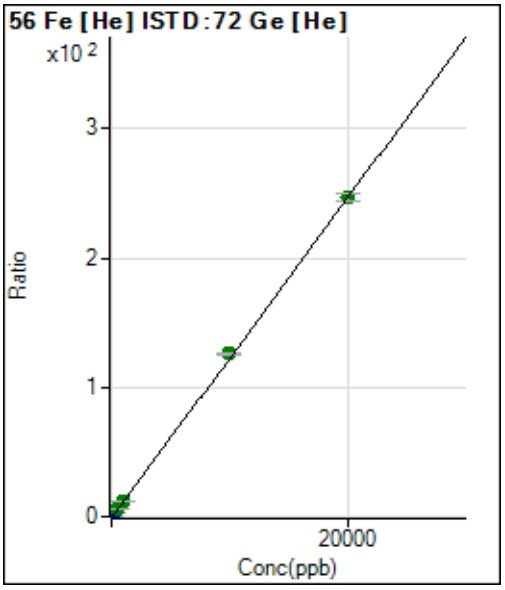
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	590.02	0.0021	P	10.4	
2	☐	2.000	1.834	5641.00	0.0197	P	4.7	-8.3
3	☐	5.000	4.750	13652.05	0.0477	P	5.8	-5.0
4	☐	10.000	10.164	28549.37	0.0997	P	1.4	1.6
5	☐	100.000	100.369	267855.87	0.9659	P	1.7	0.4
6	☐	200.000	199.815	515335.84	1.9208	P	1.8	-0.1
7	☐	1.000						

y = 0.0096 * x + 0.0021
R = 1.0000
DL = 0.06853 ppb
BEC = 0.2196 ppb

Weight: <None>
Min Conc: <None>

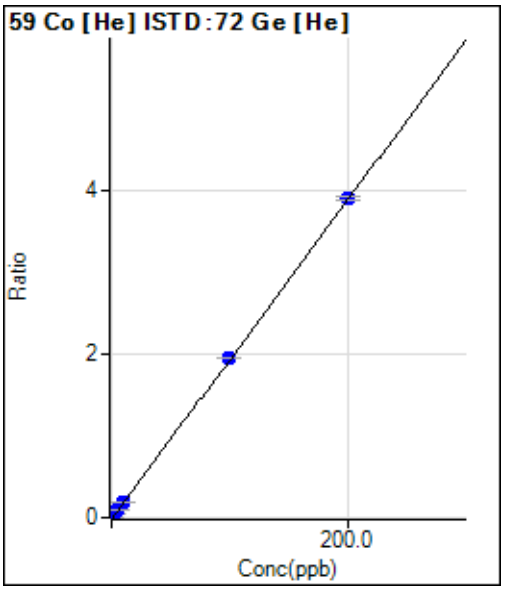


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16247.48	0.0580	P	3.5	
2	☐	200.000	185.762	675649.03	2.3612	P	0.9	-7.1
3	☐	500.000	502.433	1799119.19	6.2873	A	0.6	0.5
4	☐	1000.000	995.299	3549844.53	12.3980	A	0.9	-0.5
5	☐	10000.00	10165.48	34968958.6	126.091	A	0.7	1.7
6	☐	20000.00	19917.57	66267064.0	247.000	A	1.9	-0.4
7	☐	100.000						

y = 0.0124 * x + 0.0580
R = 1.0000
DL = 0.4857 ppb
BEC = 4.681 ppb

Weight: <None>
Min Conc: <None>

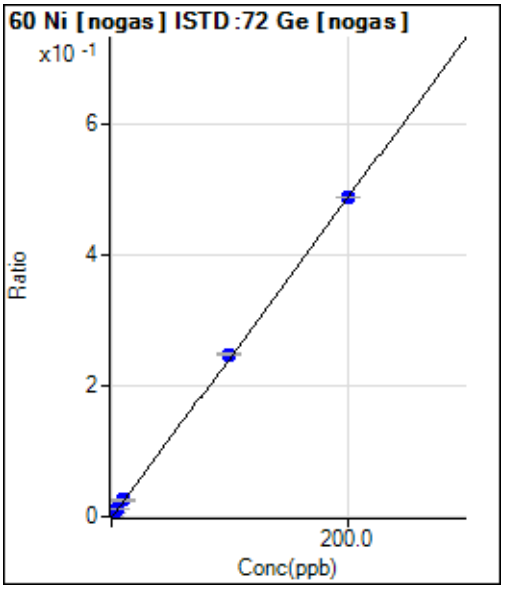
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	106.67	0.0004	P	6.1	
2	☐	2.000	1.979	11193.65	0.0391	P	1.1	-1.0
3	☐	5.000	4.919	27661.53	0.0967	P	1.9	-1.6
4	☐	10.000	10.088	56642.50	0.1978	P	1.1	0.9
5	☐	100.000	100.012	542933.22	1.9578	P	1.1	0.0
6	☐	200.000	199.992	1050315.06	3.9145	P	1.2	0.0
7	☐	1.000						

y = 0.0196 * x + 3.8110E-004
R = 1.0000
DL = 0.003553 ppb
BEC = 0.01947 ppb

Weight: <None>
Min Conc: <None>

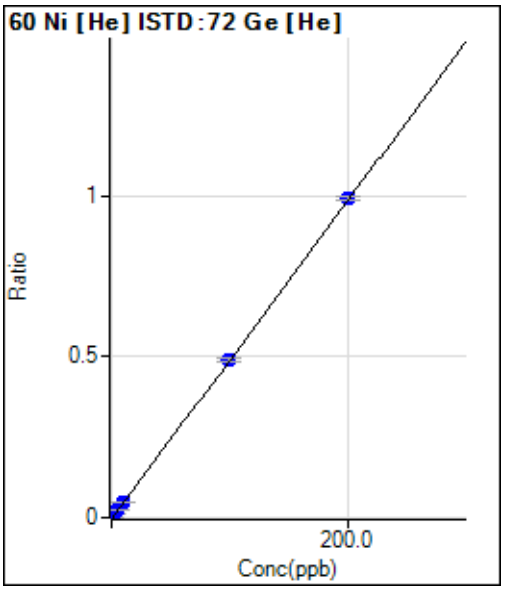


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	486.68	0.0005	P	8.9	
2	☐	2.000	1.998	5547.62	0.0054	P	3.9	-0.1
3	☐	5.000	5.027	13415.20	0.0128	P	1.6	0.5
4	☐	10.000	10.044	26309.46	0.0251	P	0.8	0.4
5	☐	100.000	101.334	254535.17	0.2488	P	0.7	1.3
6	☐	200.000	199.330	489312.99	0.4890	P	0.5	-0.3
7	☐	1.000						

y = 0.0025 * x + 4.7788E-004
R = 1.0000
DL = 0.05203 ppb
BEC = 0.195 ppb

Weight: <None>
Min Conc: <None>

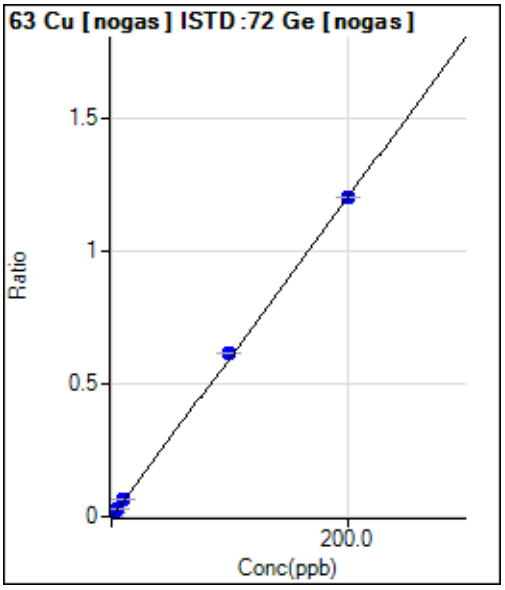
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	186.67	0.0007	P	31.9	
2	☐	2.000	2.006	3026.99	0.0106	P	2.6	0.3
3	☐	5.000	5.056	7338.27	0.0256	P	4.9	1.1
4	☐	10.000	9.782	14029.03	0.0490	P	3.7	-2.2
5	☐	100.000	99.008	135840.61	0.4898	P	1.3	-1.0
6	☐	200.000	200.505	265967.28	0.9913	P	1.5	0.3
7	☐	1.000						

y = 0.0049 * x + 6.6516E-004
R = 1.0000
DL = 0.1287 ppb
BEC = 0.1346 ppb

Weight: <None>
Min Conc: <None>

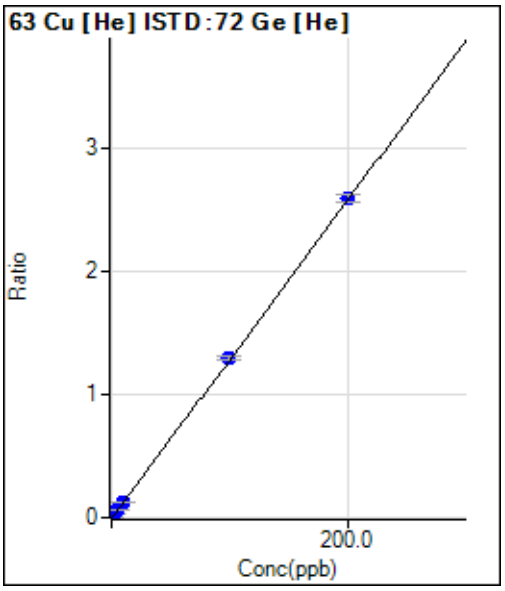


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2026.82	0.0020	P	16.6	
2	☐	2.000	2.018	14642.83	0.0142	P	3.5	0.9
3	☐	5.000	5.024	33918.84	0.0324	P	1.7	0.5
4	☐	10.000	10.209	66800.56	0.0637	P	1.6	2.1
5	☐	100.000	101.864	632075.17	0.6179	P	0.8	1.9
6	☐	200.000	199.057	1206366.93	1.2055	P	0.2	-0.5
7	☐	1.000						

y = 0.0060 * x + 0.0020
R = 0.9999
DL = 0.1642 ppb
BEC = 0.3293 ppb

Weight: <None>
Min Conc: <None>

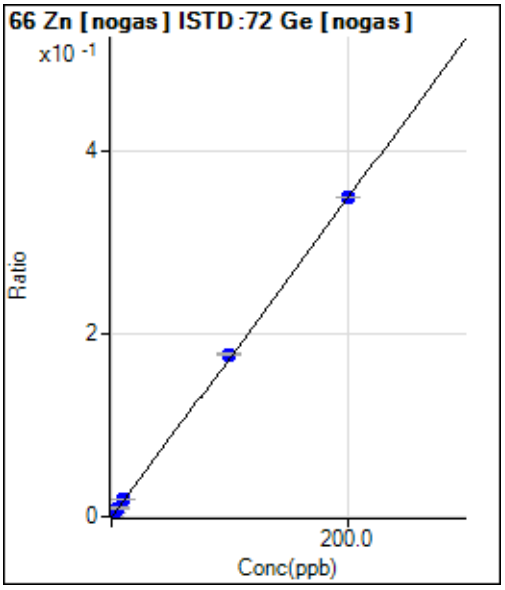
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	906.70	0.0032	P	22.4	
2	☐	2.000	1.992	8298.71	0.0290	P	1.6	-0.4
3	☐	5.000	5.117	19861.38	0.0694	P	0.6	2.3
4	☐	10.000	9.833	37335.60	0.1304	P	2.5	-1.7
5	☐	100.000	99.869	359063.15	1.2948	P	1.9	-0.1
6	☐	200.000	200.071	695041.42	2.5907	P	1.9	0.0
7	☐	1.000						

y = 0.0129 * x + 0.0032
R = 1.0000
DL = 0.1683 ppb
BEC = 0.25 ppb

Weight: <None>
Min Conc: <None>

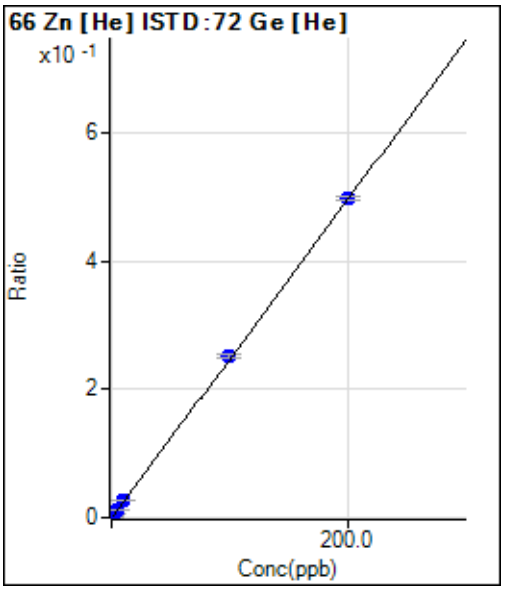


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1013.38	0.0010	P	7.6	
2	☐	2.000	1.892	4433.97	0.0043	P	7.7	-5.4
3	☐	5.000	4.795	9812.92	0.0094	P	2.8	-4.1
4	☐	10.000	10.004	19347.39	0.0185	P	4.5	0.0
5	☐	100.000	101.058	181443.55	0.1774	P	1.7	1.1
6	☐	200.000	199.477	349389.06	0.3491	P	0.5	-0.3
7	☐	1.000						

y = 0.0017 * x + 9.9501E-004
R = 1.0000
DL = 0.1298 ppb
BEC = 0.5701 ppb

Weight: <None>
Min Conc: <None>

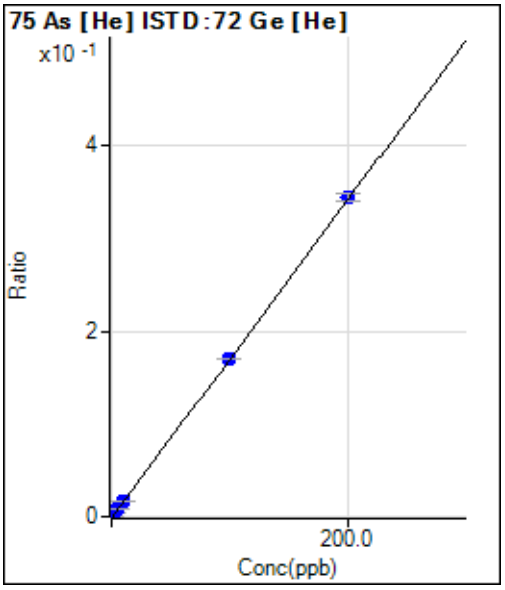
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	433.35	0.0015	P	27.0	
2	☐	2.000	1.865	1773.45	0.0062	P	9.4	-6.7
3	☐	5.000	4.469	3627.09	0.0127	P	9.3	-10.6
4	☐	10.000	10.204	7721.79	0.0270	P	0.2	2.0
5	☐	100.000	100.547	69892.51	0.2520	P	2.8	0.5
6	☐	200.000	199.731	133915.47	0.4991	P	1.8	-0.1
7	☐	1.000						

y = 0.0025 * x + 0.0015
R = 1.0000
DL = 0.5025 ppb
BEC = 0.6208 ppb

Weight: <None>
Min Conc: <None>

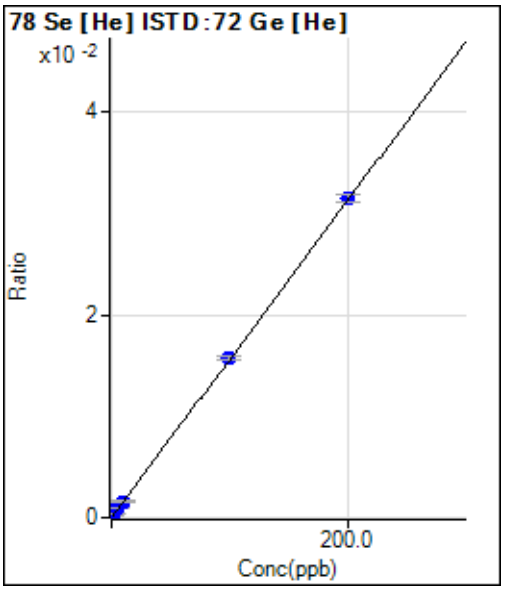


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	65.55	0.0002	P	21.7	
2	☐	2.000	1.978	1040.04	0.0036	P	8.5	-1.1
3	☐	5.000	5.090	2569.09	0.0090	P	3.1	1.8
4	☐	10.000	9.724	4850.69	0.0169	P	0.8	-2.8
5	☐	100.000	98.885	47178.73	0.1701	P	0.8	-1.1
6	☐	200.000	200.569	92507.84	0.3448	P	2.0	0.3
7	☐	1.000						

y = 0.0017 * x + 2.3451E-004
R = 1.0000
DL = 0.08901 ppb
BEC = 0.1365 ppb

Weight: <None>
Min Conc: <None>

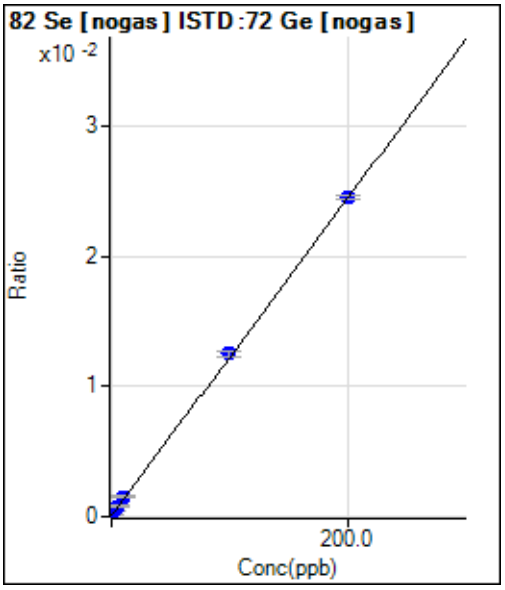
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	43.33	0.0002	P	25.3	
2	☐	2.000	1.704	120.67	0.0004	P	6.8	-14.8
3	☐	5.000	5.026	269.33	0.0009	P	4.8	0.5
4	☐	10.000	9.295	460.68	0.0016	P	15.1	-7.1
5	☐	100.000	99.576	4363.88	0.0157	P	3.2	-0.4
6	☐	200.000	200.250	8448.68	0.0315	P	2.0	0.1
7	☐	1.000						

y = 1.5648E-004 * x + 1.5481E-004
R = 1.0000
DL = 0.7518 ppb
BEC = 0.9893 ppb

Weight: <None>
Min Conc: <None>

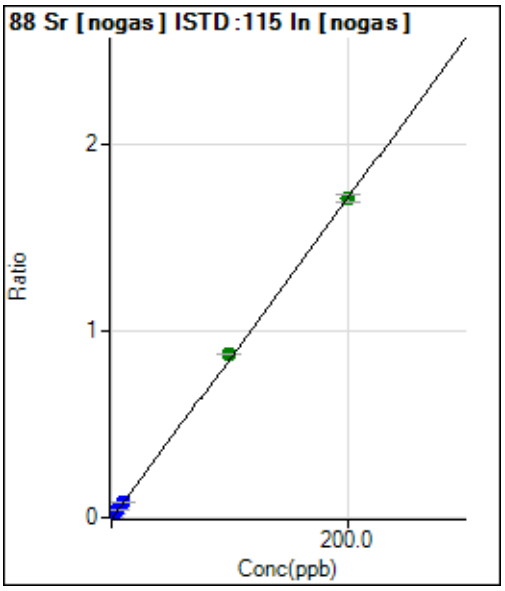


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	203.34	0.0002	P	11.6	
2	☐	2.000	1.911	446.68	0.0004	P	12.1	-4.4
3	☐	5.000	4.856	830.04	0.0008	P	13.0	-2.9
4	☐	10.000	10.826	1596.77	0.0015	P	11.5	8.3
5	☐	100.000	100.967	12828.21	0.0125	P	3.6	1.0
6	☐	200.000	199.480	24594.00	0.0246	P	1.1	-0.3
7	☐	1.000						

y = 1.2220E-004 * x + 1.9949E-004
R = 1.0000
DL = 0.57 ppb
BEC = 1.632 ppb

Weight: <None>
Min Conc: <None>

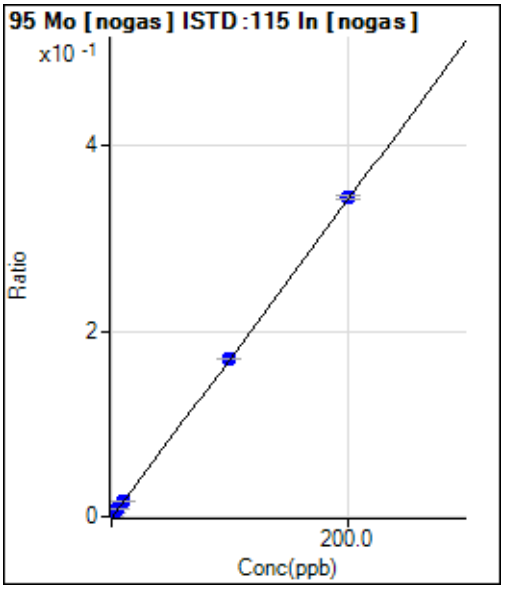
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	920.04	0.0004	P	4.1	
2	☐	2.000	1.854	39638.19	0.0163	P	1.8	-7.3
3	☐	5.000	4.652	99613.19	0.0403	P	1.4	-7.0
4	☐	10.000	9.154	196798.69	0.0790	P	1.5	-8.5
5	☐	100.000	102.305	2113234.24	0.8791	A	0.0	2.3
6	☐	200.000	198.900	3935846.40	1.7087	A	2.3	-0.5
7	☐	1.000						

y = 0.0086 * x + 3.8527E-004
R = 0.9999
DL = 0.005474 ppb
BEC = 0.04486 ppb

Weight: <None>
Min Conc: <None>

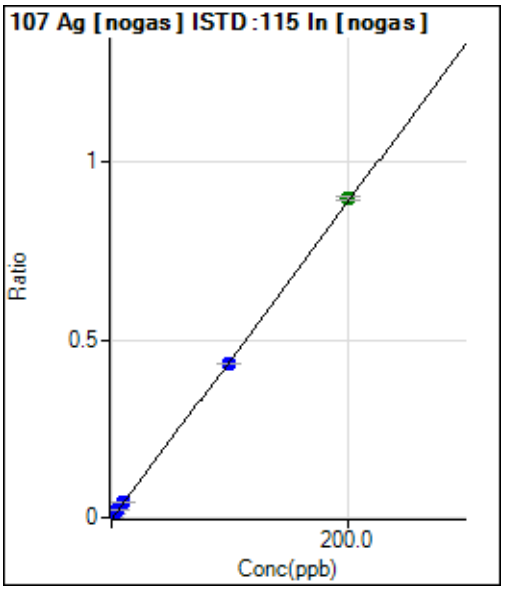


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	303.34	0.0001	P	18.5	
2	☐	2.000	1.865	8095.35	0.0033	P	3.9	-6.7
3	☐	5.000	4.596	19818.16	0.0080	P	4.0	-8.1
4	☐	10.000	9.339	40276.63	0.0162	P	2.7	-6.6
5	☐	100.000	98.873	408613.80	0.1700	P	0.2	-1.1
6	☐	200.000	200.608	794153.14	0.3447	P	1.1	0.3
7	☐	1.000						

y = 0.0017 * x + 1.2707E-004
R = 1.0000
DL = 0.04112 ppb
BEC = 0.07397 ppb

Weight: <None>
Min Conc: <None>

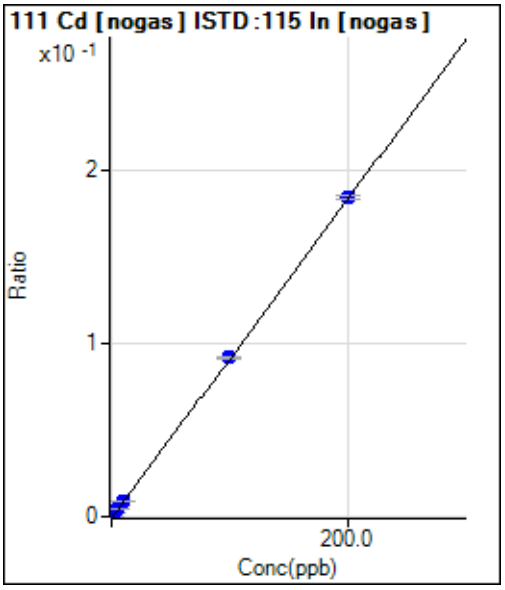
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	306.68	0.0001	P	20.1	
2	☐	2.000	1.880	20689.40	0.0085	P	3.4	-6.0
3	☐	5.000	4.775	52897.17	0.0214	P	1.3	-4.5
4	☐	10.000	9.524	106129.06	0.0426	P	0.8	-4.8
5	☐	100.000	97.179	1042191.34	0.4335	P	0.2	-2.8
6	☐	200.000	201.441	2069753.25	0.8985	A	1.7	0.7
7	☐	1.000						

y = 0.0045 * x + 1.2845E-004
R = 0.9999
DL = 0.01736 ppb
BEC = 0.0288 ppb

Weight: <None>
Min Conc: <None>

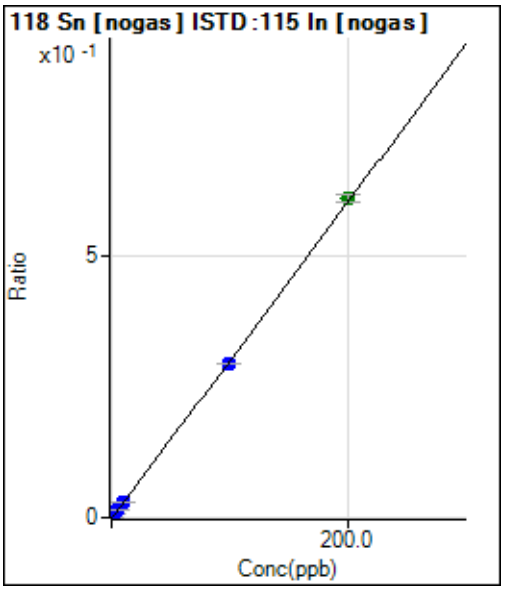


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3.33	0.0000	P	173.	
2	☐	2.000	1.899	4247.26	0.0017	P	6.3	-5.0
3	☐	5.000	4.686	10640.13	0.0043	P	5.5	-6.3
4	☐	10.000	9.435	21613.74	0.0087	P	2.8	-5.6
5	☐	100.000	99.709	220397.43	0.0917	P	0.9	-0.3
6	☐	200.000	200.182	424003.57	0.1841	P	0.9	0.1
7	☐	1.000						

y = 9.1944E-004 * x + 1.3951E-006
R = 1.0000
DL = 0.007885 ppb
BEC = 0.001517 ppb

Weight: <None>
Min Conc: <None>

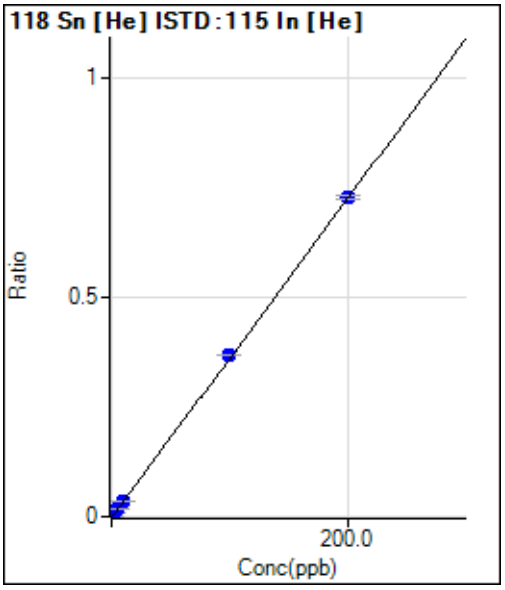
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1836.79	0.0008	P	7.0	
2	☐	2.000	1.826	15283.72	0.0063	P	5.5	-8.7
3	☐	5.000	4.541	35814.31	0.0145	P	3.4	-9.2
4	☐	10.000	9.005	69767.82	0.0280	P	0.3	-9.9
5	☐	100.000	97.101	707936.50	0.2945	P	0.2	-2.9
6	☐	200.000	201.513	1405951.65	0.6103	A	2.0	0.8
7	☐	1.000						

y = 0.0030 * x + 7.6900E-004
R = 0.9999
DL = 0.05305 ppb
BEC = 0.2542 ppb

Weight: <None>
Min Conc: <None>

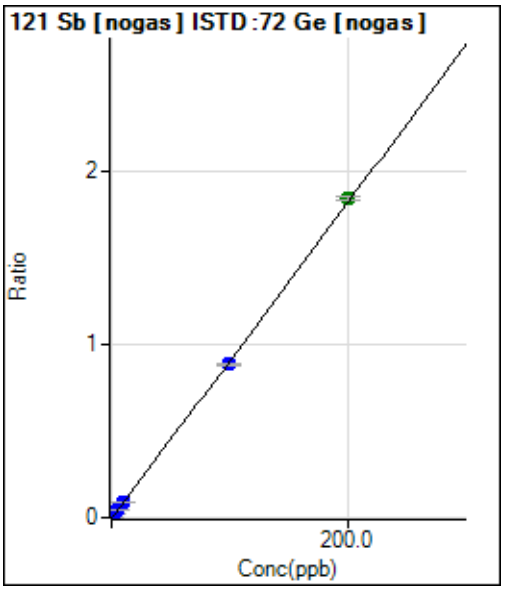


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	843.37	0.0009	P	14.6	
2	☐	2.000	1.976	7788.58	0.0081	P	5.8	-1.2
3	☐	5.000	4.776	17592.60	0.0183	P	1.6	-4.5
4	☐	10.000	9.468	34190.96	0.0353	P	1.4	-5.3
5	☐	100.000	100.844	339258.76	0.3679	P	0.7	0.8
6	☐	200.000	199.611	666545.20	0.7273	P	0.7	-0.2
7	☐	1.000						

y = 0.0036 * x + 8.9394E-004
R = 1.0000
DL = 0.1073 ppb
BEC = 0.2457 ppb

Weight: <None>
Min Conc: <None>

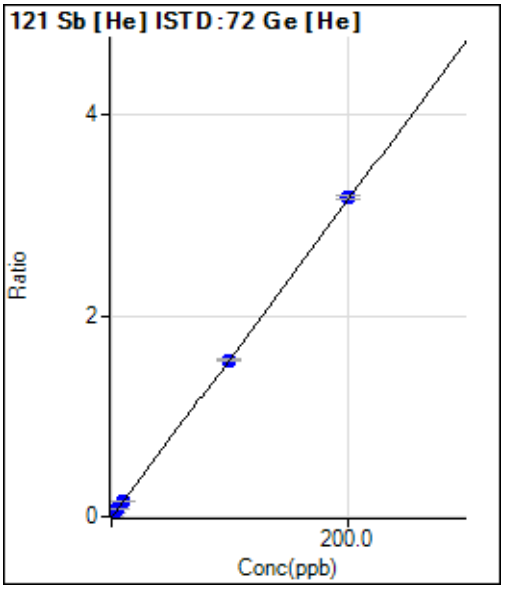
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3510.42	0.0034	P	2.4	
2	☐	2.000	1.898	21460.37	0.0208	P	0.7	-5.1
3	☐	5.000	4.656	48218.09	0.0460	P	1.6	-6.9
4	☐	10.000	9.125	91060.68	0.0868	P	0.1	-8.7
5	☐	100.000	96.646	907149.91	0.8867	P	0.6	-3.4
6	☐	200.000	201.730	1848361.33	1.8471	A	0.7	0.9
7	☐	1.000						

y = 0.0091 * x + 0.0034
R = 0.9998
DL = 0.02698 ppb
BEC = 0.3771 ppb

Weight: <None>
Min Conc: <None>

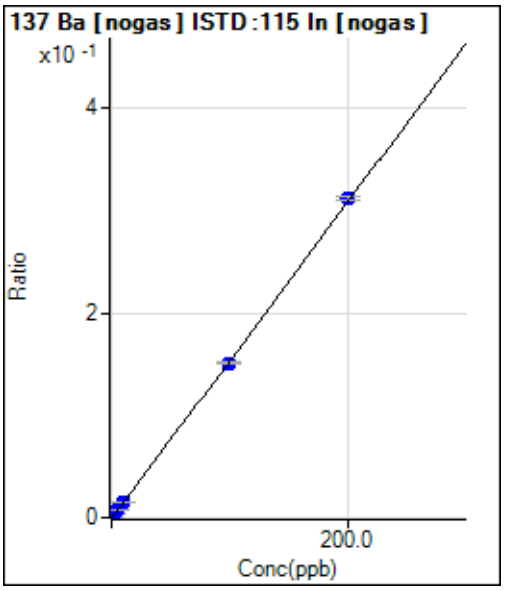


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1983.49	0.0071	P	9.9	
2	☐	2.000	1.981	10986.98	0.0384	P	3.3	-1.0
3	☐	5.000	4.642	23032.45	0.0805	P	2.6	-7.2
4	☐	10.000	9.355	44387.60	0.1550	P	1.6	-6.4
5	☐	100.000	98.376	433407.29	1.5628	P	0.8	-1.6
6	☐	200.000	200.853	854071.78	3.1834	P	1.8	0.4
7	☐	1.000						

y = 0.0158 * x + 0.0071
R = 1.0000
DL = 0.1324 ppb
BEC = 0.4477 ppb

Weight: <None>
Min Conc: <None>

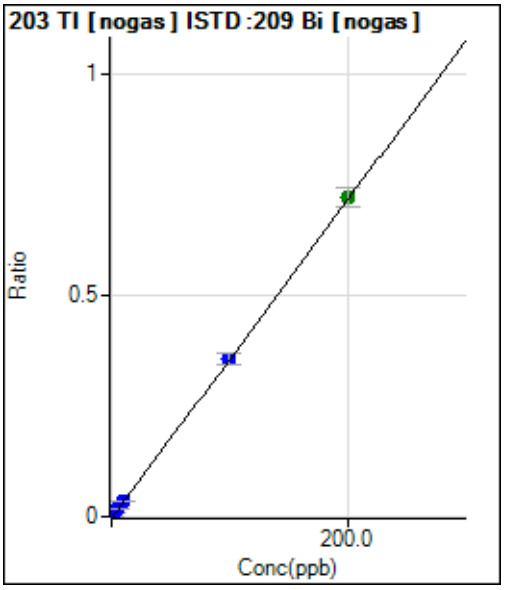
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	710.03	0.0003	P	4.6	
2	☐	2.000	1.779	7411.76	0.0030	P	4.2	-11.1
3	☐	5.000	4.672	18583.77	0.0075	P	2.1	-6.6
4	☐	10.000	9.409	37004.15	0.0149	P	0.9	-5.9
5	☐	100.000	97.397	363017.24	0.1510	P	0.6	-2.6
6	☐	200.000	201.341	718388.19	0.3118	P	1.4	0.7
7	☐	1.000						

y = 0.0015 * x + 2.9734E-004
R = 0.9999
DL = 0.0265 ppb
BEC = 0.1922 ppb

Weight: <None>
Min Conc: <None>

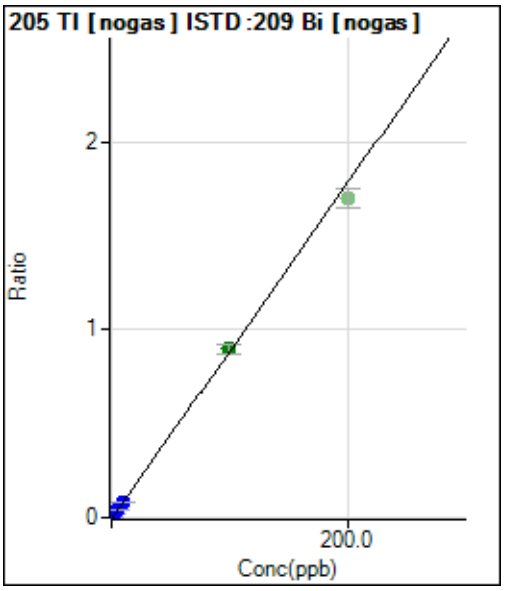


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	80.00	0.0000	P	52.2	
2	☐	2.000	1.902	20553.42	0.0069	P	8.5	-4.9
3	☐	5.000	4.684	51476.00	0.0169	P	5.4	-6.3
4	☐	10.000	9.581	103799.22	0.0345	P	5.2	-4.2
5	☐	100.000	98.971	1055879.65	0.3560	P	6.9	-1.0
6	☐	200.000	200.544	2190912.73	0.7213	A	5.6	0.3
7	☐	1.000						

y = 0.0036 * x + 2.7972E-005
R = 1.0000
DL = 0.01217 ppb
BEC = 0.007778 ppb

Weight: <None>
Min Conc: <None>

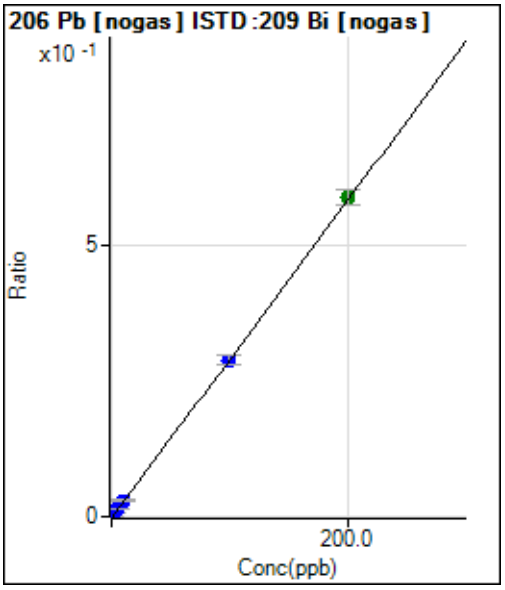
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	220.01	0.0001	P	32.2	
2	☐	2.000	1.833	49409.40	0.0165	P	8.2	-8.4
3	☐	5.000	4.539	124290.76	0.0408	P	6.9	-9.2
4	☐	10.000	9.318	251461.14	0.0836	P	7.1	-6.8
5	☐	100.000	100.095	2662450.59	0.8973	A	6.0	0.1
6	☑	200.000		5164759.30	1.7007	A	6.1	
7	☐	1.000						

y = 0.0090 * x + 7.5833E-005
R = 1.0000
DL = 0.008164 ppb
BEC = 0.00846 ppb

Weight: <None>
Min Conc: <None>

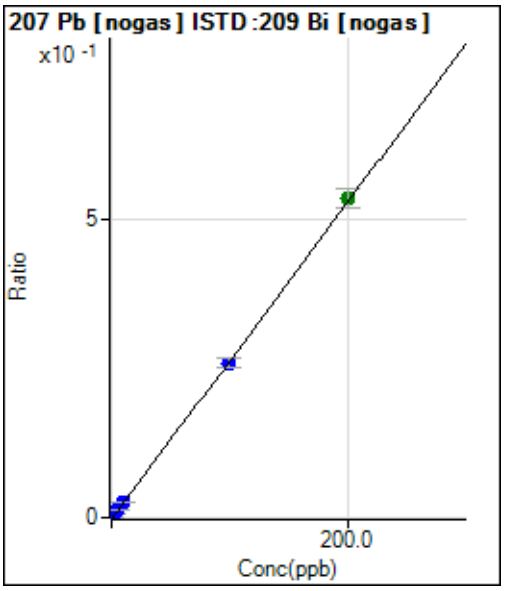


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	590.02	0.0002	P	4.6	
2	☐	2.000	1.918	17409.63	0.0058	P	7.0	-4.1
3	☐	5.000	4.772	43195.03	0.0142	P	5.4	-4.6
4	☐	10.000	9.856	87299.17	0.0290	P	7.3	-1.4
5	☐	100.000	98.352	853893.24	0.2878	P	6.3	-1.6
6	☐	200.000	200.838	1784789.55	0.5875	A	5.3	0.4
7	☐	1.000						

y = 0.0029 * x + 2.0316E-004
R = 1.0000
DL = 0.009524 ppb
BEC = 0.06947 ppb

Weight: <None>
Min Conc: <None>

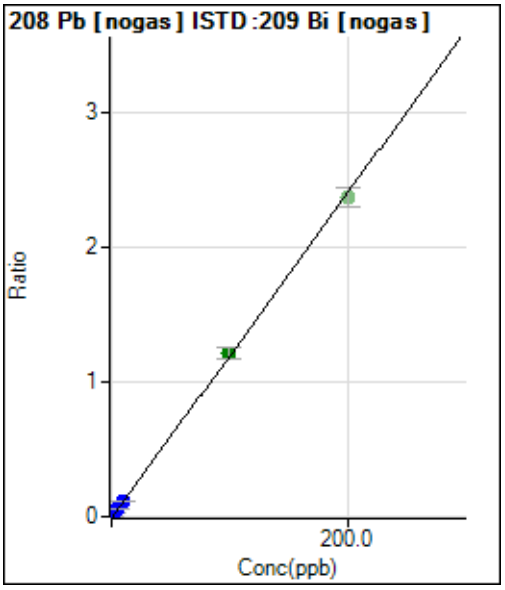
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	530.02	0.0002	P	16.3	
2	☐	2.000	1.934	15938.12	0.0053	P	7.0	-3.3
3	☐	5.000	4.778	39241.55	0.0129	P	7.1	-4.4
4	☐	10.000	9.602	77282.16	0.0257	P	5.4	-4.0
5	☐	100.000	97.179	766105.20	0.2582	P	6.4	-2.8
6	☐	200.000	201.437	1624916.49	0.5351	A	6.3	0.7
7	☐	1.000						

y = 0.0027 * x + 1.8368E-004
R = 0.9999
DL = 0.03388 ppb
BEC = 0.06917 ppb

Weight: <None>
Min Conc: <None>

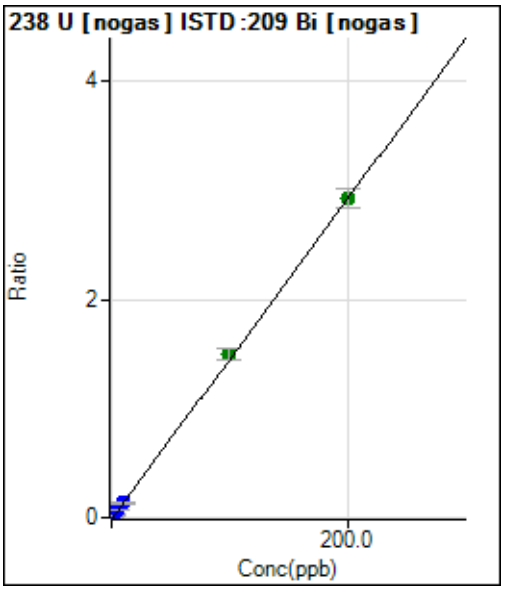


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2386.78	0.0008	P	12.1	
2	☐	2.000	1.911	71730.59	0.0239	P	5.9	-4.5
3	☐	5.000	4.712	176229.42	0.0578	P	7.5	-5.8
4	☐	10.000	9.664	354185.71	0.1177	P	6.0	-3.4
5	☐	100.000	100.050	3591941.54	1.2110	A	6.9	0.0
6	☑	200.000		7209433.17	2.3743	A	6.5	
7	☐	1.000						

y = 0.0121 * x + 8.2523E-004
R = 1.0000
DL = 0.02483 ppb
BEC = 0.06823 ppb

Weight: <None>
Min Conc: <None>

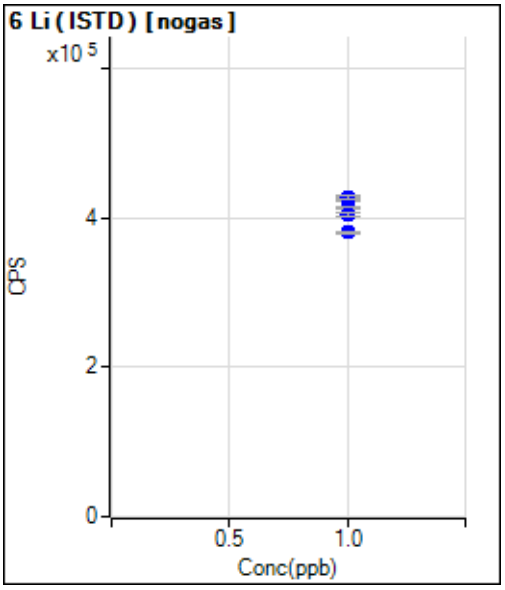
Calibration for 238_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	106.67	0.0000	P	29.7	
2	☐	2.000	1.815	80134.09	0.0267	P	5.9	-9.2
3	☐	5.000	4.509	202197.95	0.0664	P	8.4	-9.8
4	☐	10.000	9.177	406405.72	0.1350	P	5.1	-8.2
5	☐	100.000	101.729	4439684.31	1.4965	A	6.4	1.7
6	☐	200.000	199.191	8897068.83	2.9302	A	6.6	-0.4
7	☐	1.000						

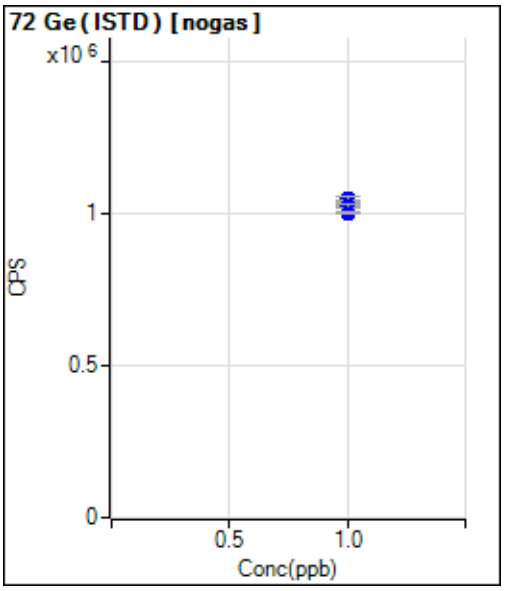
y = 0.0147 * x + 3.6839E-005
R = 0.9999
DL = 0.002228 ppb
BEC = 0.002504 ppb

Weight: <None>
Min Conc: <None>

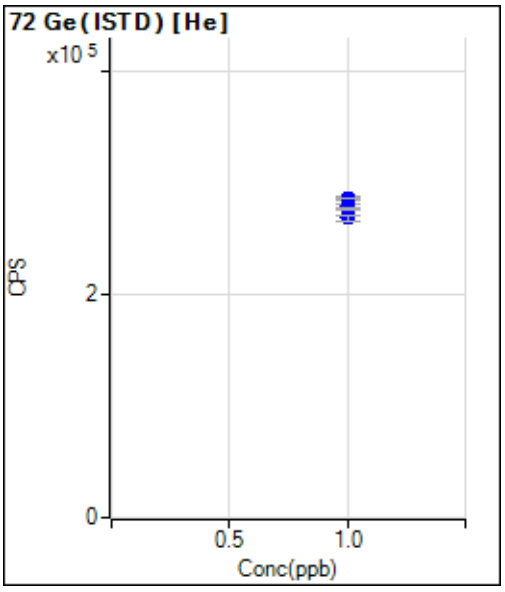


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		413970.35		P	0.9	
2	☐	1.000		425601.89		P	1.0	
3	☐	1.000		426293.34		P	0.8	
4	☐	1.000		427844.95		P	1.3	
5	☐	1.000		403808.44		P	1.2	
6	☐	1.000		381041.06		P	0.8	
7	☐	1.000						

Calibration for 238_ICV.d

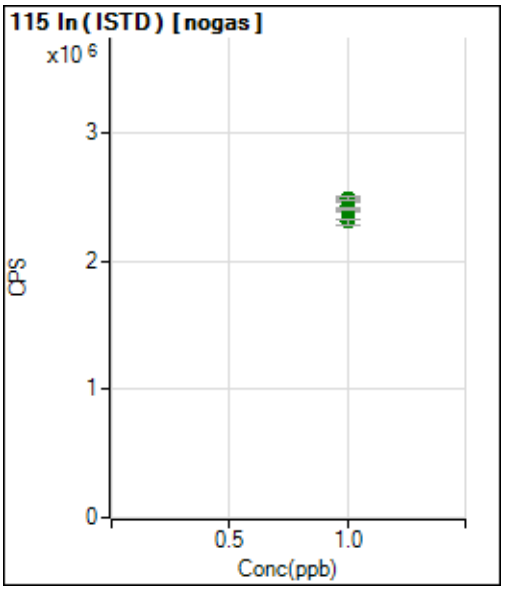


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1018779.44		P	0.8	
2	☐	1.000		1032082.46		P	1.0	
3	☐	1.000		1048166.60		P	1.6	
4	☐	1.000		1048534.54		P	1.0	
5	☐	1.000		1023070.51		P	1.0	
6	☐	1.000		1000727.41		P	1.0	
7	☐	1.000						

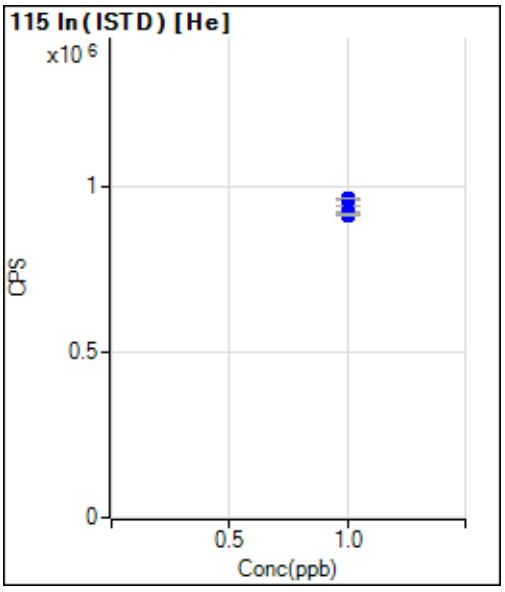


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		279977.02		P	1.2	
2	☐	1.000		286171.41		P	1.1	
3	☐	1.000		286154.32		P	0.8	
4	☐	1.000		286327.35		P	0.3	
5	☐	1.000		277334.49		P	0.6	
6	☐	1.000		268353.32		P	2.0	
7	☐	1.000						

Calibration for 238_ICV.d

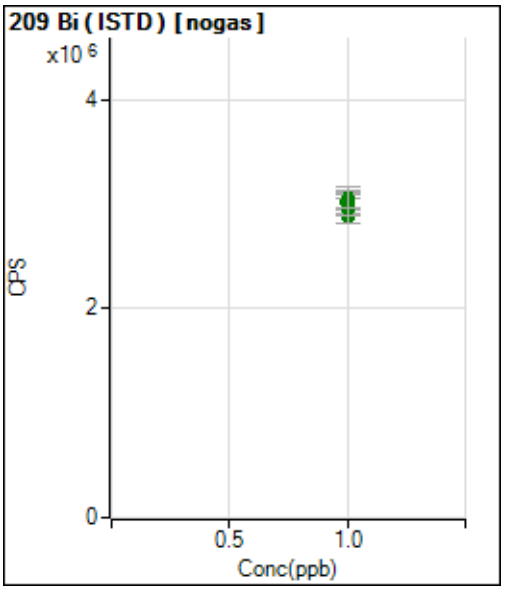


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2388221.60		A	0.4	
2	☐	1.000		2430943.44		A	2.1	
3	☐	1.000		2469387.42		A	1.2	
4	☐	1.000		2490883.63		A	0.7	
5	☐	1.000		2403956.09		A	0.6	
6	☐	1.000		2303856.22		A	1.4	
7	☐	1.000						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		943829.34		P	0.5	
2	☐	1.000		963209.02		P	0.8	
3	☐	1.000		962673.16		P	0.6	
4	☐	1.000		967330.09		P	0.2	
5	☐	1.000		922264.41		P	0.4	
6	☐	1.000		916552.07		P	1.0	
7	☐	1.000						

Calibration for 238_ICV.d



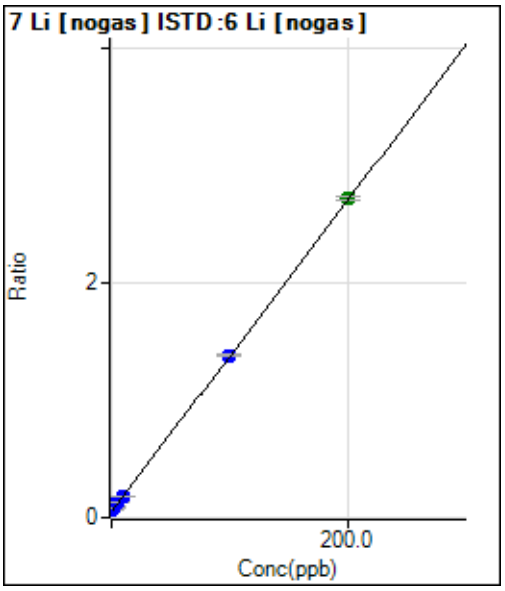
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2900181.00		A	5.0	
2	☐	1.000		3004476.52		A	6.7	
3	☐	1.000		3058039.64		A	6.6	
4	☐	1.000		3014706.52		A	4.9	
5	☐	1.000		2973500.48		A	5.4	
6	☐	1.000		3043795.58		A	5.6	
7	☐	1.000						

Calibration for 178_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\121120A.b\
Analysis File: 121120A.batch.bin
DA Date-Time: 12/12/2020 7:39:54 AM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	162CALB.d	CAL BLK	12/11/2020 7:42:02 PM
2	163CALS.d	2/10/200	12/11/2020 7:44:06 PM
3	164CALS.d	5/25/500	12/11/2020 7:46:10 PM
4	165CALS.d	10/50/1000	12/11/2020 7:48:13 PM
5	166CALS.d	100/500/10K	12/11/2020 7:50:15 PM
6	172CALS.d	200/1000/20K	12/11/2020 8:02:20 PM
7			

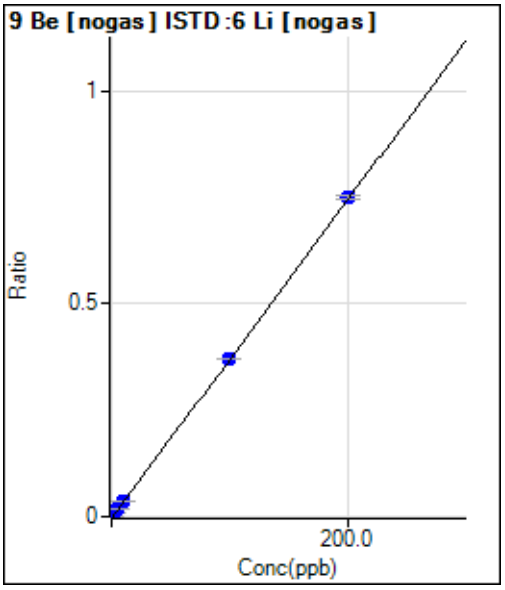
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	36476.89	0.0645	P	1.1	
2	☐	2.000	1.885	50659.41	0.0895	P	1.8	-5.7
3	☐	5.000	4.521	71133.21	0.1244	P	1.4	-9.6
4	☐	10.000	9.005	105998.11	0.1839	P	1.5	-9.9
5	☐	100.000	99.437	722924.91	1.3830	P	0.4	-0.6
6	☐	200.000	200.344	1338485.61	2.7210	A	1.7	0.2
7	☐	1.000						

y = 0.0133 * x + 0.0645
R = 1.0000
DL = 0.1542 ppb
BEC = 4.863 ppb

Weight: <None>
Min Conc: <None>

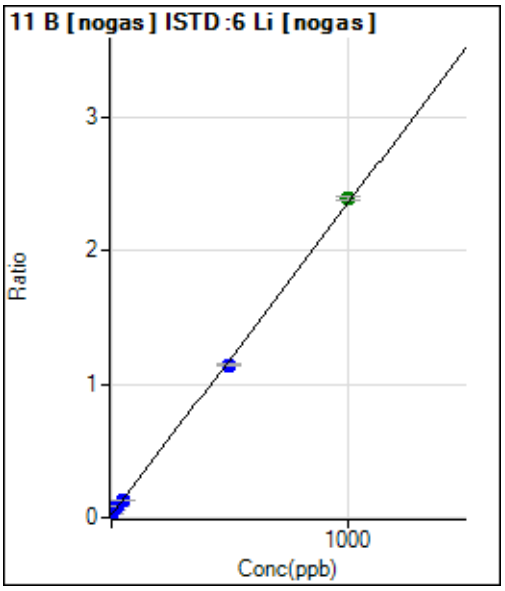


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	5.00	0.0000	P	0.5	
2	☐	2.000	1.832	3887.09	0.0069	P	1.8	-8.4
3	☐	5.000	4.440	9509.12	0.0166	P	2.6	-11.2
4	☐	10.000	9.189	19842.18	0.0344	P	0.9	-8.1
5	☐	100.000	98.994	193782.07	0.3707	P	0.3	-1.0
6	☐	200.000	200.559	369458.91	0.7510	P	0.7	0.3
7	☐	1.000						

y = 0.0037 * x + 8.8385E-006
R = 1.0000
DL = 3.3E-05 ppb
BEC = 0.00236 ppb

Weight: <None>
Min Conc: <None>

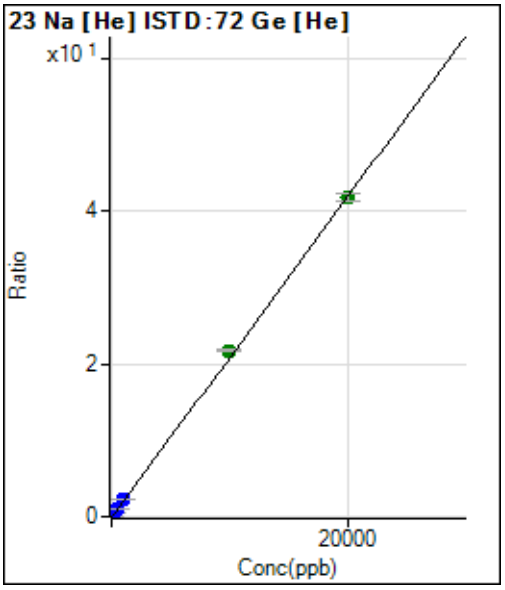
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	19051.39	0.0337	P	1.4	
2	☐	10.000	9.356	31419.58	0.0555	P	2.2	-6.4
3	☐	25.000	21.283	47623.51	0.0833	P	1.1	-14.9
4	☐	50.000	42.359	76375.72	0.1325	P	1.5	-15.3
5	☐	500.000	476.372	598368.54	1.1447	P	0.9	-4.7
6	☐	1000.000	1012.295	1178012.56	2.3946	A	1.7	1.2
7	☐	5.000						

y = 0.0023 * x + 0.0337
R = 0.9996
DL = 0.6085 ppb
BEC = 14.44 ppb

Weight: <None>
Min Conc: <None>

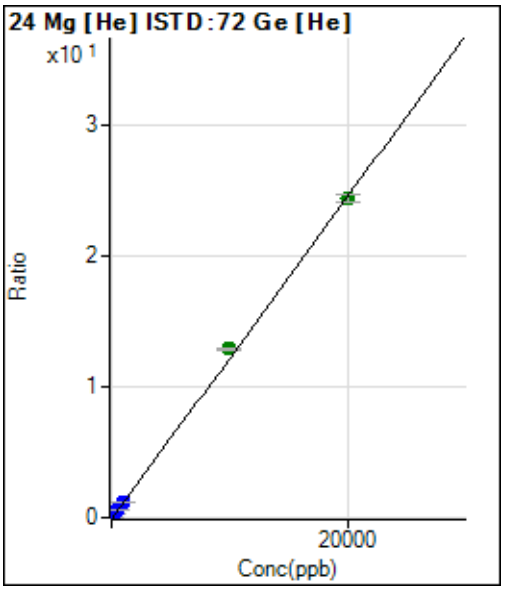


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23511.86	0.0639	P	3.4	
2	☐	200.000	198.670	178699.48	0.4818	P	1.5	-0.7
3	☐	500.000	493.554	408504.55	1.1021	P	0.8	-1.3
4	☐	1000.000	989.466	799630.98	2.1452	P	0.4	-1.1
5	☐	10000.00	10310.98	7569247.39	21.7526	A	1.1	3.1
6	☐	20000.00	19845.21	14154094.3	41.8074	A	2.1	-0.8
7	☐	100.000						

y = 0.0021 * x + 0.0639
R = 0.9998
DL = 3.123 ppb
BEC = 30.4 ppb

Weight: <None>
Min Conc: <None>

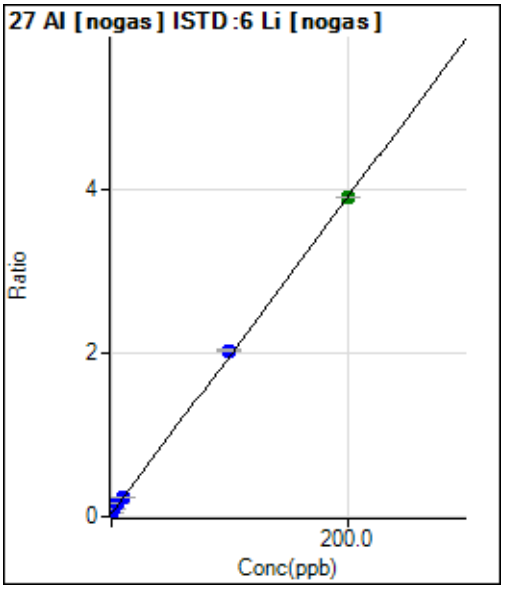
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	866.70	0.0024	P	13.4	
2	☐	200.000	199.324	92093.55	0.2483	P	1.4	-0.3
3	☐	500.000	488.716	224380.78	0.6054	P	1.7	-2.3
4	☐	1000.000	980.729	451944.49	1.2125	P	1.0	-1.9
5	☐	10000.00	10445.02	4485514.41	12.8903	A	1.0	4.5
6	☐	20000.00	19778.73	8262953.00	24.4070	A	2.3	-1.1
7	☐	100.000						

y = 0.0012 * x + 0.0024
R = 0.9996
DL = 0.7704 ppb
BEC = 1.911 ppb

Weight: <None>
Min Conc: <None>

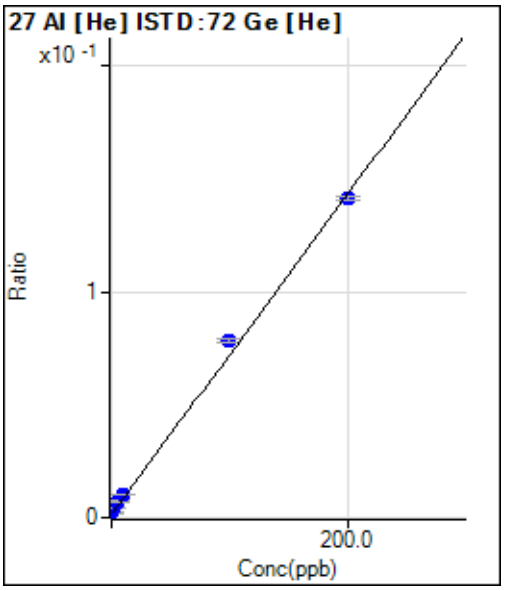


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	32154.88	0.0568	P	2.8	
2	☐	2.000	2.080	54924.78	0.0970	P	1.2	4.0
3	☐	5.000	6.024	98995.71	0.1732	P	2.7	20.5
4	☐	10.000	9.731	141127.45	0.2448	P	0.7	-2.7
5	☐	100.000	102.199	1061645.24	2.0310	P	0.6	2.2
6	☐	200.000	198.887	1917913.56	3.8986	A	0.5	-0.6
7	☐	1.000						

y = 0.0193 * x + 0.0568
R = 0.9999
DL = 0.2454 ppb
BEC = 2.943 ppb

Weight: <None>
Min Conc: <None>

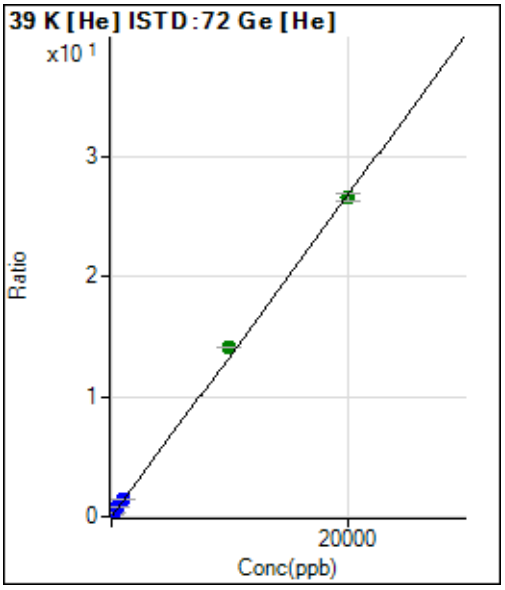
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	786.70	0.0021	P	13.0	
2	☐	2.000	3.025	1590.10	0.0043	P	7.1	51.3
3	☐	5.000	7.026	2640.23	0.0071	P	10.3	40.5
4	☐	10.000	11.442	3823.80	0.0103	P	4.5	14.4
5	☐	100.000	107.192	27210.21	0.0782	P	2.2	7.2
6	☐	200.000	196.271	47872.06	0.1414	P	1.5	-1.9
7	☐	1.000						

y = 7.0952E-004 * x + 0.0021
R = 0.9991
DL = 1.18 ppb
BEC = 3.016 ppb

Weight: <None>
Min Conc: <None>

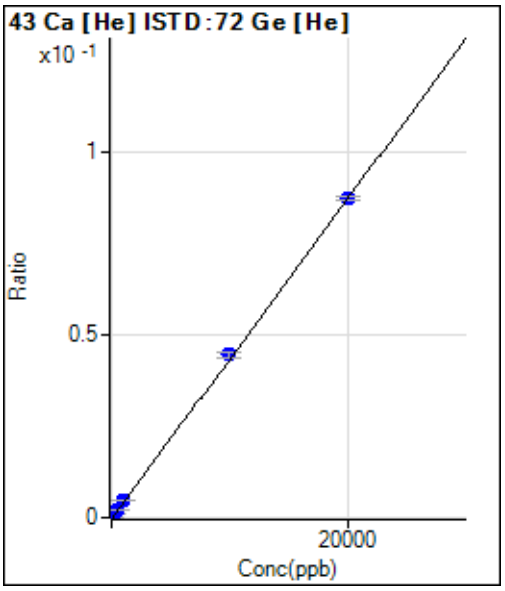


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	49182.80	0.1338	P	3.7	
2	☐	200.000	193.727	145709.79	0.3929	P	1.4	-3.1
3	☐	500.000	473.766	284450.85	0.7674	P	0.3	-5.2
4	☐	1000.000	951.149	524013.52	1.4059	P	1.6	-4.9
5	☐	10000.00	10466.56	4917734.72	14.1323	A	0.3	4.7
6	☐	20000.00	19769.88	8997174.66	26.5751	A	2.0	-1.2
7	☐	100.000						

y = 0.0013 * x + 0.1338
R = 0.9996
DL = 11.02 ppb
BEC = 100 ppb

Weight: <None>
Min Conc: <None>

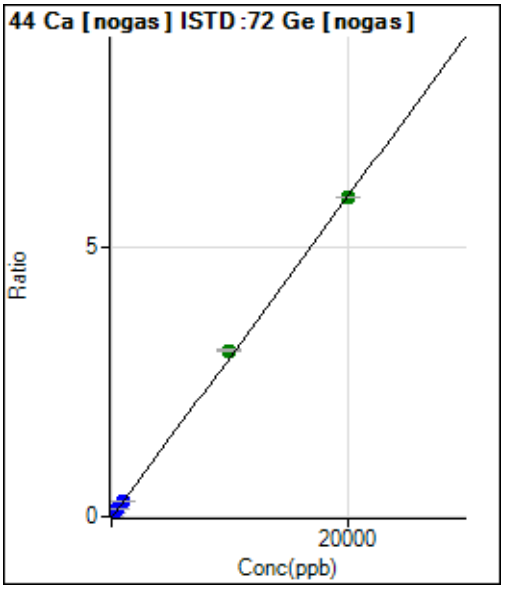
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23.33	0.0001	P	64.7	
2	☐	200.000	207.283	360.01	0.0010	P	15.9	3.6
3	☐	500.000	466.110	780.03	0.0021	P	9.5	-6.8
4	☐	1000.000	1036.915	1716.79	0.0046	P	4.2	3.7
5	☐	10000.00	10153.78	15496.75	0.0445	P	3.1	1.5
6	☐	20000.00	19922.03	29564.17	0.0873	P	1.7	-0.4
7	☐	100.000						

y = 4.3799E-006 * x + 6.3252E-005
R = 1.0000
DL = 28.02 ppb
BEC = 14.44 ppb

Weight: <None>
Min Conc: <None>

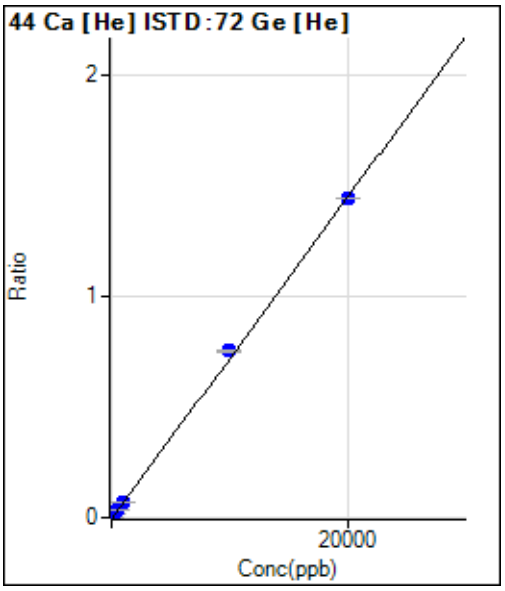


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	8838.96	0.0075	P	5.0	
2	☐	200.000	200.634	79961.14	0.0674	P	1.8	0.3
3	☐	500.000	495.810	186291.84	0.1556	P	0.5	-0.8
4	☐	1000.000	970.188	360992.51	0.2974	P	0.4	-3.0
5	☐	10000.00	10297.69	3606650.57	3.0842	A	0.8	3.0
6	☐	20000.00	19852.74	6755545.73	5.9391	A	0.6	-0.7
7	☐	100.000						

y = 2.9878E-004 * x + 0.0075
R = 0.9998
DL = 3.779 ppb
BEC = 25.07 ppb

Weight: <None>
Min Conc: <None>

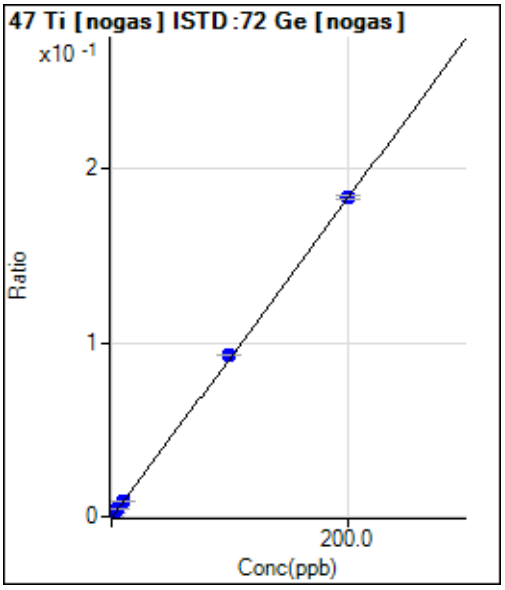
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	286.68	0.0008	P	13.0	
2	☐	200.000	208.986	5937.72	0.0160	P	8.7	4.5
3	☐	500.000	492.323	13585.23	0.0366	P	5.8	-1.5
4	☐	1000.000	971.977	26686.44	0.0716	P	1.5	-2.8
5	☐	10000.00	10356.58	262823.62	0.7553	P	1.6	3.6
6	☐	20000.00	19823.21	489264.77	1.4450	P	0.2	-0.9
7	☐	100.000						

y = 7.2855E-005 * x + 7.8009E-004
R = 0.9998
DL = 4.176 ppb
BEC = 10.71 ppb

Weight: <None>
Min Conc: <None>

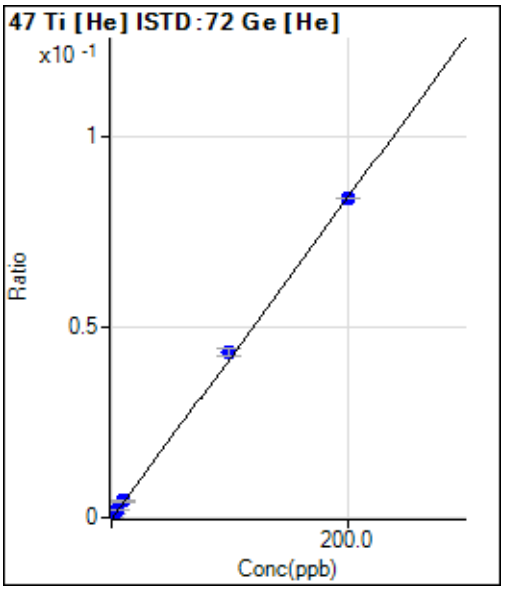


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	126.67	0.0001	P	25.4	
2	☐	2.000	2.001	2313.53	0.0019	P	13.8	0.0
3	☐	5.000	4.967	5600.96	0.0047	P	5.2	-0.7
4	☐	10.000	9.671	10940.14	0.0090	P	1.0	-3.3
5	☐	100.000	100.883	108739.02	0.0930	P	1.0	0.9
6	☐	200.000	199.576	209130.50	0.1839	P	0.6	-0.2
7	☐	1.000						

y = 9.2072E-004 * x + 1.0753E-004
R = 1.0000
DL = 0.08896 ppb
BEC = 0.1168 ppb

Weight: <None>
Min Conc: <None>

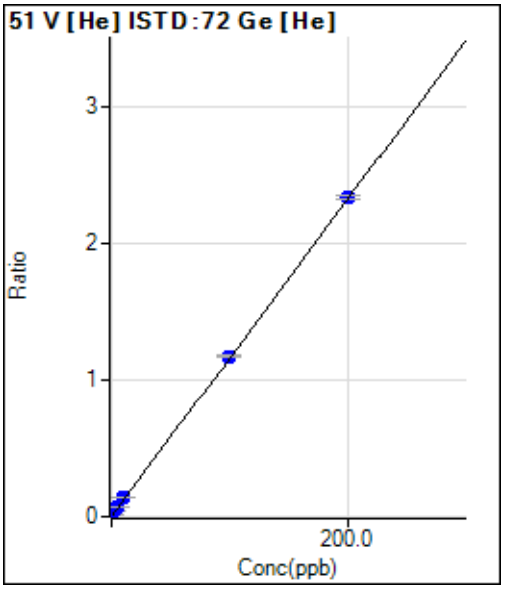
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	173.	
2	☐	2.000	2.026	330.01	0.0009	P	17.0	1.3
3	☐	5.000	4.996	793.37	0.0021	P	7.6	-0.1
4	☐	10.000	10.127	1603.43	0.0043	P	7.1	1.3
5	☐	100.000	102.922	15099.86	0.0434	P	4.5	2.9
6	☐	200.000	198.533	28325.88	0.0837	P	0.6	-0.7
7	☐	1.000						

y = 4.2121E-004 * x + 3.6473E-005
R = 0.9998
DL = 0.4499 ppb
BEC = 0.08659 ppb

Weight: <None>
Min Conc: <None>

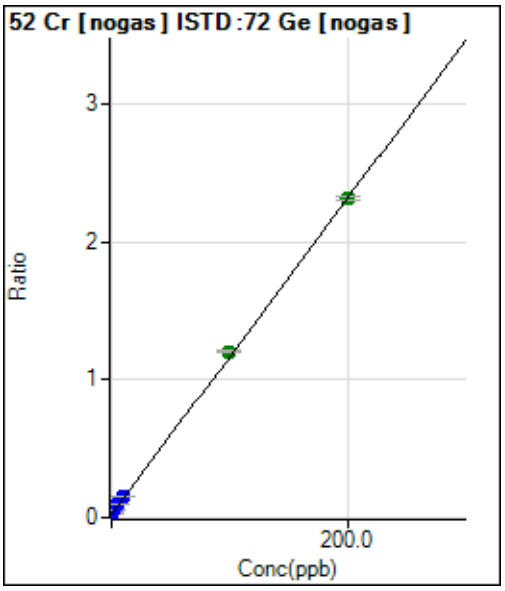


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	5391.94	0.0147	P	5.7	
2	☐	2.000	2.055	14265.63	0.0385	P	1.6	2.7
3	☐	5.000	5.215	27826.82	0.0751	P	1.6	4.3
4	☐	10.000	10.422	50467.30	0.1354	P	0.7	4.2
5	☐	100.000	99.719	407088.66	1.1699	P	0.9	-0.3
6	☐	200.000	200.113	789878.59	2.3329	P	0.7	0.1
7	☐	1.000						

y = 0.0116 * x + 0.0147
R = 1.0000
DL = 0.2177 ppb
BEC = 1.265 ppb

Weight: <None>
Min Conc: <None>

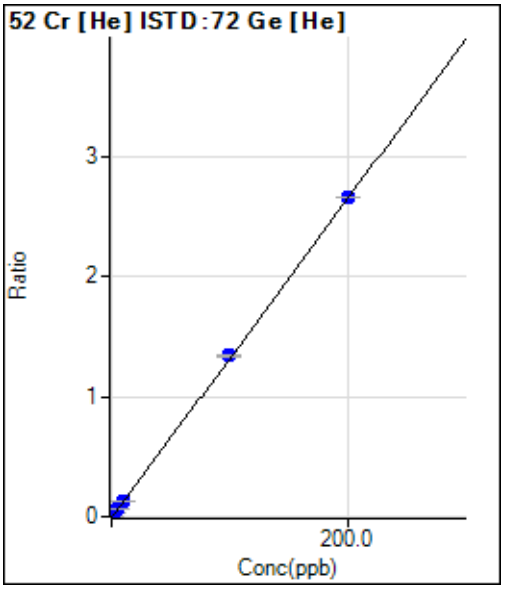
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	41096.71	0.0348	P	2.4	
2	☐	2.000	2.100	69857.49	0.0589	P	0.8	5.0
3	☐	5.000	5.279	114200.36	0.0954	P	1.0	5.6
4	☐	10.000	10.570	189545.60	0.1561	P	2.1	5.7
5	☐	100.000	102.164	1411949.62	1.2074	A	1.6	2.2
6	☐	200.000	198.882	2635946.05	2.3175	A	0.6	-0.6
7	☐	1.000						

y = 0.0115 * x + 0.0348
R = 0.9999
DL = 0.2214 ppb
BEC = 3.033 ppb

Weight: <None>
Min Conc: <None>

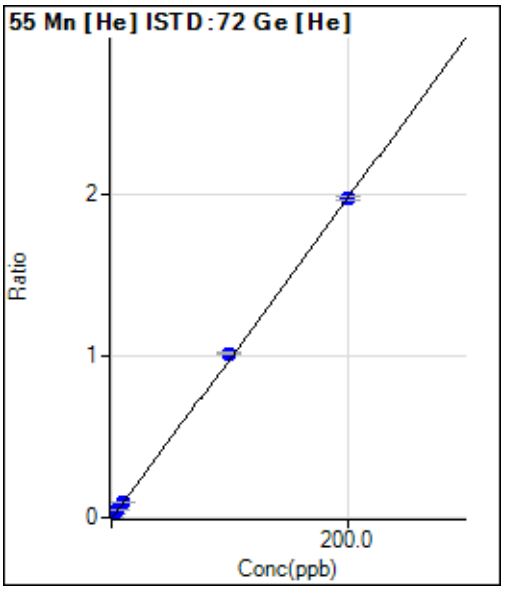


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	966.71	0.0026	P	10.5	
2	☐	2.000	1.984	10753.36	0.0290	P	3.6	-0.8
3	☐	5.000	4.867	24950.82	0.0673	P	0.6	-2.7
4	☐	10.000	9.924	50139.39	0.1345	P	2.2	-0.8
5	☐	100.000	100.429	465344.50	1.3373	P	0.8	0.4
6	☐	200.000	199.793	899894.23	2.6578	P	0.3	-0.1
7	☐	1.000						

y = 0.0133 * x + 0.0026
R = 1.0000
DL = 0.06212 ppb
BEC = 0.1979 ppb

Weight: <None>
Min Conc: <None>

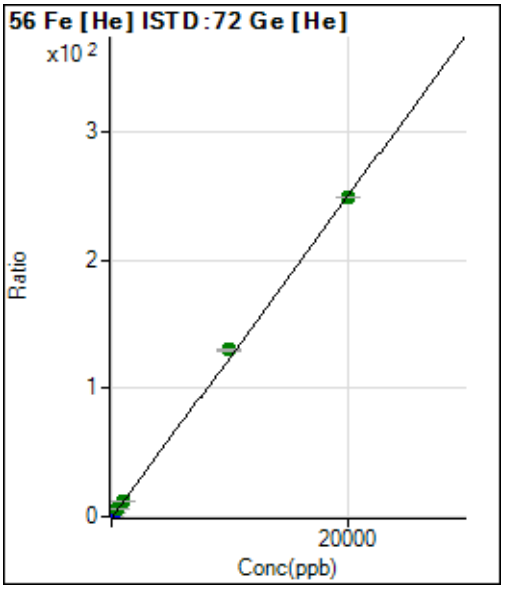
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	593.35	0.0016	P	21.9	
2	☐	2.000	2.163	8562.16	0.0231	P	4.1	8.2
3	☐	5.000	5.102	19370.58	0.0523	P	1.0	2.0
4	☐	10.000	9.768	36747.44	0.0986	P	2.0	-2.3
5	☐	100.000	102.125	353339.11	1.0154	P	1.6	2.1
6	☐	200.000	198.945	669236.92	1.9766	P	0.6	-0.5
7	☐	1.000						

y = 0.0099 * x + 0.0016
R = 0.9999
DL = 0.107 ppb
BEC = 0.1627 ppb

Weight: <None>
Min Conc: <None>

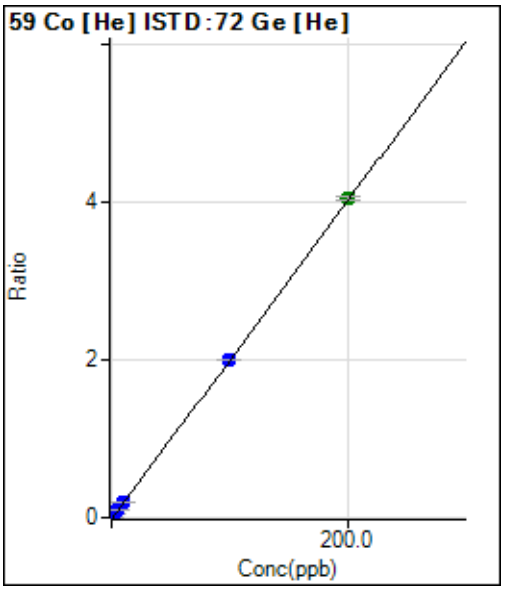


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	17121.70	0.0466	P	3.1	
2	☐	200.000	193.232	918219.03	2.4758	P	0.7	-3.4
3	☐	500.000	503.779	2364770.48	6.3798	A	0.4	0.8
4	☐	1000.000	992.156	4666414.93	12.5195	A	1.4	-0.8
5	☐	10000.00	10337.96	45240419.3	130.010	A	0.9	3.4
6	☐	20000.00	19831.38	84431855.4	249.357	A	0.2	-0.8
7	☐	100.000						

y = 0.0126 * x + 0.0466
R = 0.9998
DL = 0.3418 ppb
BEC = 3.704 ppb

Weight: <None>
Min Conc: <None>

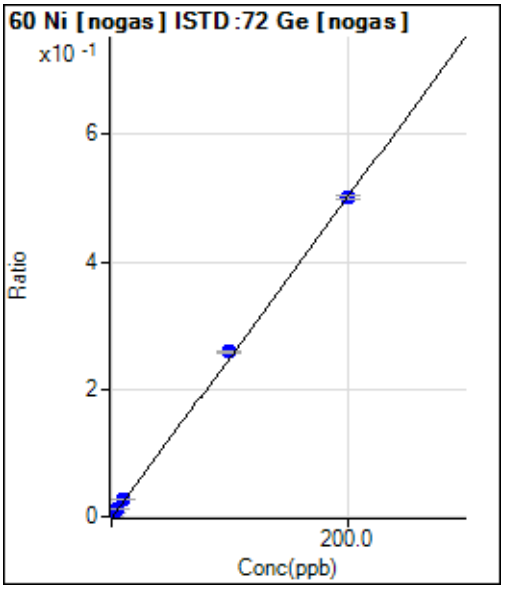
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	96.67	0.0003	P	59.3	
2	☐	2.000	1.896	14272.52	0.0385	P	1.6	-5.2
3	☐	5.000	4.787	35869.19	0.0968	P	1.1	-4.3
4	☐	10.000	9.644	72579.17	0.1947	P	0.6	-3.6
5	☐	100.000	98.905	693999.89	1.9944	P	0.2	-1.1
6	☐	200.000	200.571	1369210.76	4.0441	A	1.3	0.3
7	☐	1.000						

y = 0.0202 * x + 2.6321E-004
R = 1.0000
DL = 0.02324 ppb
BEC = 0.01306 ppb

Weight: <None>
Min Conc: <None>

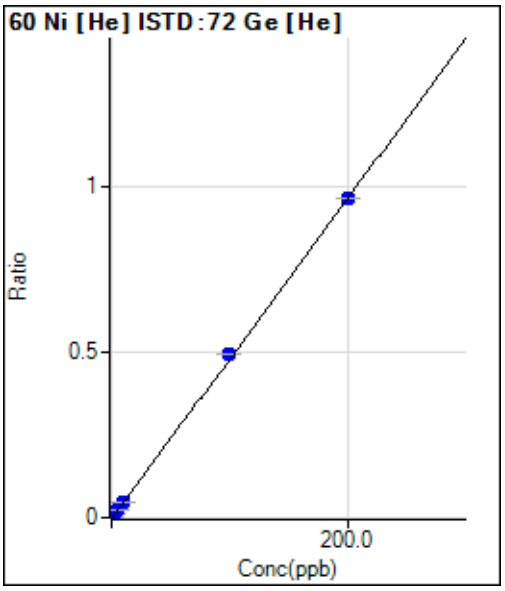


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	343.35	0.0003	P	28.6	
2	☐	2.000	2.092	6594.64	0.0056	P	4.5	4.6
3	☐	5.000	5.145	15867.22	0.0133	P	2.6	2.9
4	☐	10.000	10.092	31230.62	0.0257	P	0.3	0.9
5	☐	100.000	102.363	302018.27	0.2583	P	1.1	2.4
6	☐	200.000	198.809	570294.96	0.5014	P	0.7	-0.6
7	☐	1.000						

y = 0.0025 * x + 2.9039E-004
R = 0.9999
DL = 0.09871 ppb
BEC = 0.1152 ppb

Weight: <None>
Min Conc: <None>

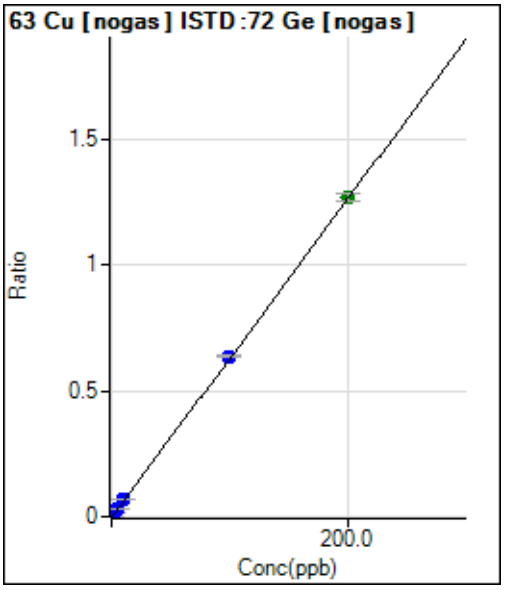
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	226.67	0.0006	P	25.2	
2	☐	2.000	1.952	3733.80	0.0101	P	5.1	-2.4
3	☐	5.000	5.033	9262.55	0.0250	P	3.1	0.7
4	☐	10.000	9.904	18109.36	0.0486	P	1.6	-1.0
5	☐	100.000	101.921	171974.10	0.4942	P	0.5	1.9
6	☐	200.000	199.044	326595.27	0.9646	P	0.4	-0.5
7	☐	1.000						

y = 0.0048 * x + 6.1611E-004
R = 0.9999
DL = 0.09636 ppb
BEC = 0.1272 ppb

Weight: <None>
Min Conc: <None>

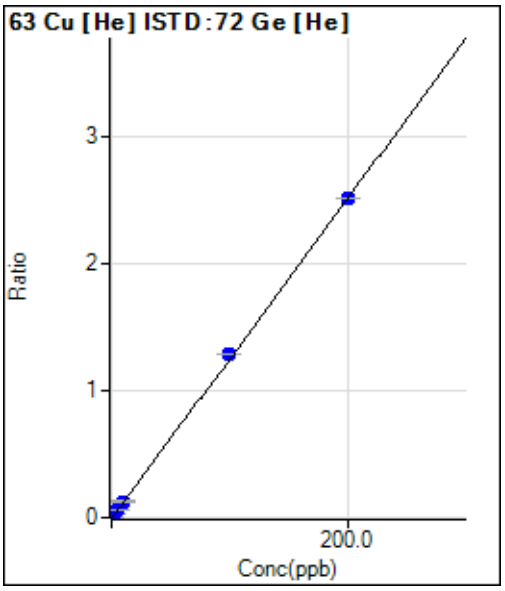


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2693.59	0.0023	P	19.1	
2	☐	2.000	1.992	17705.63	0.0149	P	2.1	-0.4
3	☐	5.000	4.910	40051.60	0.0335	P	2.8	-1.8
4	☐	10.000	9.942	79407.83	0.0654	P	0.7	-0.6
5	☐	100.000	100.137	746165.20	0.6381	P	0.5	0.1
6	☐	200.000	199.937	1446769.41	1.2718	A	2.1	0.0
7	☐	1.000						

y = 0.0063 * x + 0.0023
R = 1.0000
DL = 0.2063 ppb
BEC = 0.3599 ppb

Weight: <None>
Min Conc: <None>

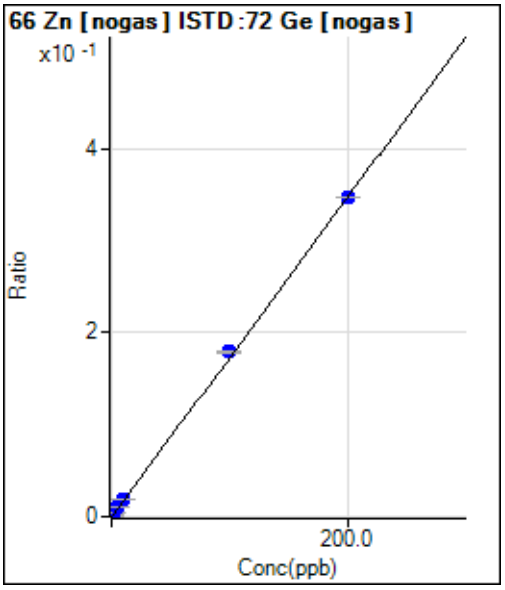
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1336.74	0.0036	P	9.7	
2	☐	2.000	1.967	10569.94	0.0285	P	4.7	-1.6
3	☐	5.000	4.931	24450.23	0.0660	P	0.8	-1.4
4	☐	10.000	9.905	48020.87	0.1288	P	0.6	-1.0
5	☐	100.000	101.930	449600.57	1.2920	P	0.5	1.9
6	☐	200.000	199.042	853067.33	2.5195	P	0.5	-0.5
7	☐	1.000						

y = 0.0126 * x + 0.0036
R = 0.9999
DL = 0.08325 ppb
BEC = 0.2876 ppb

Weight: <None>
Min Conc: <None>

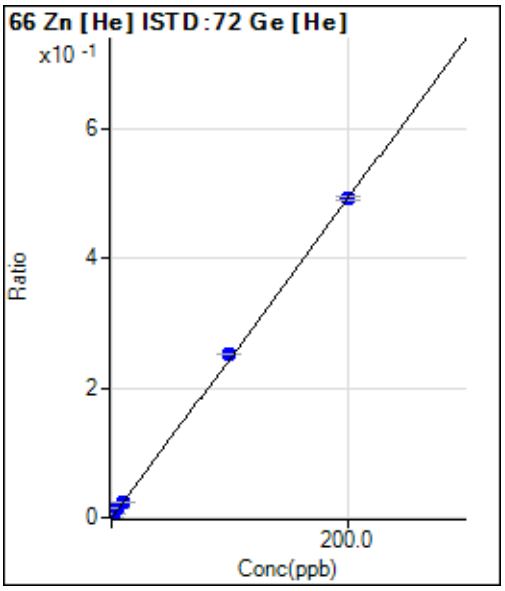


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1220.07	0.0010	P	5.2	
2	☐	2.000	2.073	5504.28	0.0046	P	3.4	3.7
3	☐	5.000	5.734	13185.03	0.0110	P	1.3	14.7
4	☐	10.000	10.030	22451.02	0.0185	P	2.0	0.3
5	☐	100.000	102.228	209311.57	0.1790	P	0.5	2.2
6	☐	200.000	198.865	394961.24	0.3472	P	0.4	-0.6
7	☐	1.000						

y = 0.0017 * x + 0.0010
R = 0.9999
DL = 0.09187 ppb
BEC = 0.5938 ppb

Weight: <None>
Min Conc: <None>

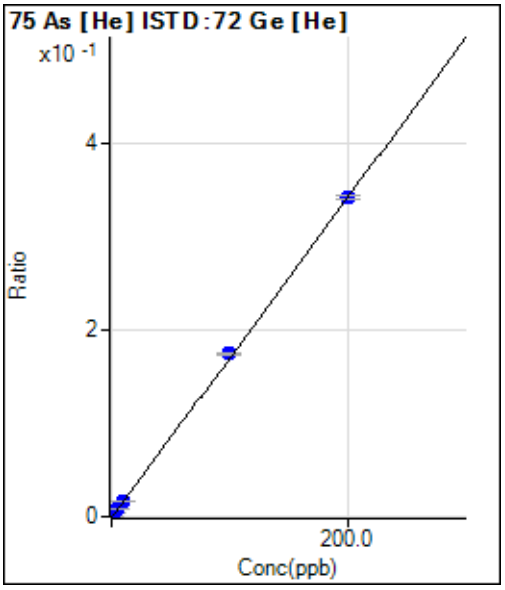
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	480.01	0.0013	P	5.1	
2	☐	2.000	2.185	2480.22	0.0067	P	10.5	9.3
3	☐	5.000	5.567	5567.63	0.0150	P	6.7	11.3
4	☐	10.000	9.552	9255.90	0.0248	P	2.7	-4.5
5	☐	100.000	101.596	87525.86	0.2515	P	0.6	1.6
6	☐	200.000	199.208	166555.28	0.4919	P	1.1	-0.4
7	☐	1.000						

y = 0.0025 * x + 0.0013
R = 0.9999
DL = 0.0815 ppb
BEC = 0.5299 ppb

Weight: <None>
Min Conc: <None>

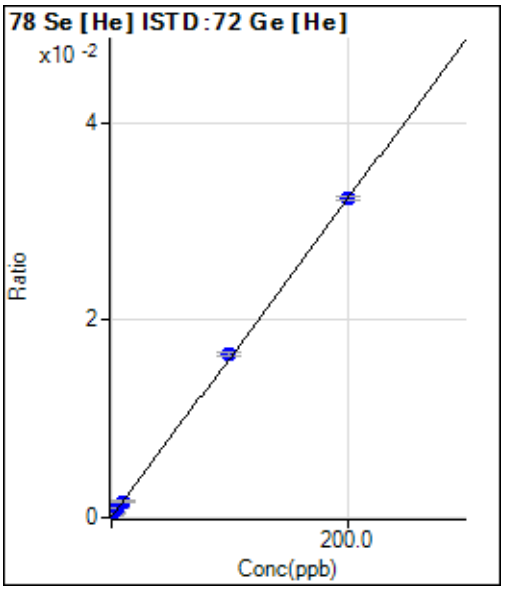


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	123.33	0.0003	P	21.3	
2	☐	2.000	2.096	1456.74	0.0039	P	5.5	4.8
3	☐	5.000	4.682	3099.17	0.0084	P	4.3	-6.4
4	☐	10.000	9.897	6448.99	0.0173	P	0.8	-1.0
5	☐	100.000	101.765	60824.16	0.1748	P	1.1	1.8
6	☐	200.000	199.130	115691.93	0.3417	P	1.3	-0.4
7	☐	1.000						

y = 0.0017 * x + 3.3499E-004
R = 0.9999
DL = 0.1247 ppb
BEC = 0.1954 ppb

Weight: <None>
Min Conc: <None>

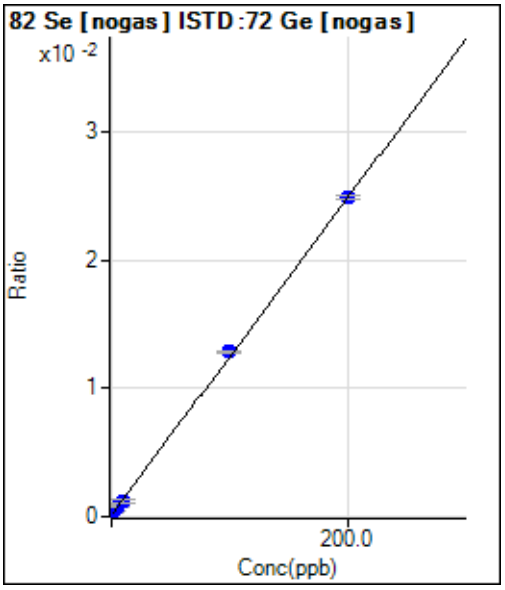
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	87.33	0.0002	P	20.6	
2	☐	2.000	1.627	185.33	0.0005	P	17.5	-18.7
3	☐	5.000	4.765	372.67	0.0010	P	6.8	-4.7
4	☐	10.000	8.749	614.01	0.0016	P	5.7	-12.5
5	☐	100.000	101.617	5779.62	0.0166	P	2.4	1.6
6	☐	200.000	199.263	10950.73	0.0323	P	1.3	-0.4
7	☐	1.000						

y = 1.6110E-004 * x + 2.3773E-004
R = 0.9999
DL = 0.914 ppb
BEC = 1.476 ppb

Weight: <None>
Min Conc: <None>

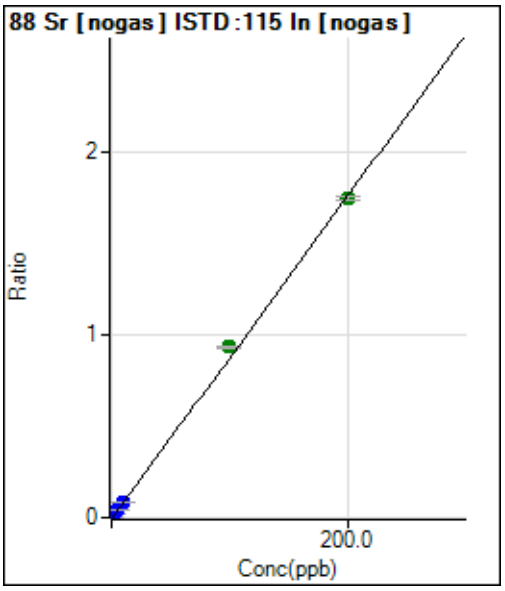


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	306.68	0.0003	P	13.6	
2	☐	2.000	1.698	556.68	0.0005	P	15.3	-15.1
3	☐	5.000	4.446	970.05	0.0008	P	23.6	-11.1
4	☐	10.000	7.815	1486.76	0.0012	P	21.2	-21.8
5	☐	100.000	101.728	14996.60	0.0128	P	1.8	1.7
6	☐	200.000	199.262	28286.23	0.0249	P	1.4	-0.4
7	☐	1.000						

y = 1.2351E-004 * x + 2.6009E-004
R = 0.9999
DL = 0.8599 ppb
BEC = 2.106 ppb

Weight: <None>
Min Conc: <None>

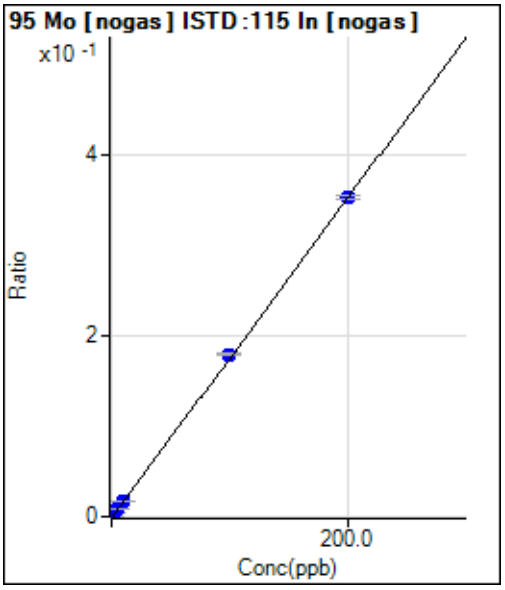
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1023.38	0.0004	P	4.3	
2	☐	2.000	1.931	46384.65	0.0174	P	0.5	-3.4
3	☐	5.000	4.749	112453.22	0.0423	P	1.5	-5.0
4	☐	10.000	9.529	227119.61	0.0846	P	0.9	-4.7
5	☐	100.000	105.229	2356099.91	0.9300	A	0.9	5.2
6	☐	200.000	197.416	4339109.83	1.7444	A	1.2	-1.3
7	☐	1.000						

y = 0.0088 * x + 3.8922E-004
R = 0.9995
DL = 0.005637 ppb
BEC = 0.04406 ppb

Weight: <None>
Min Conc: <None>

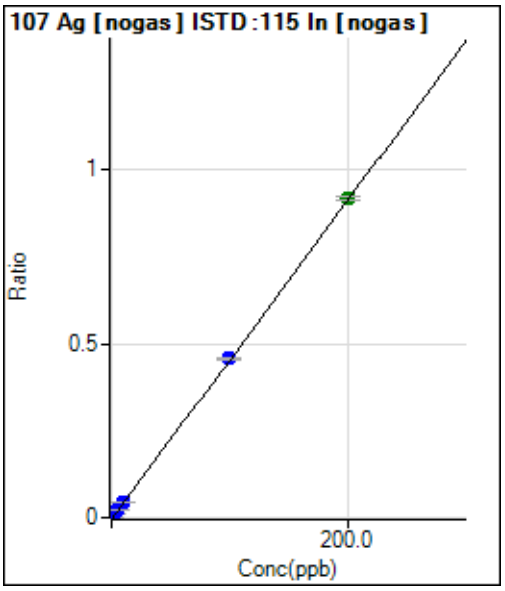


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	526.69	0.0002	P	4.2	
2	☐	2.000	1.857	9269.24	0.0035	P	4.8	-7.2
3	☐	5.000	4.585	22087.59	0.0083	P	3.1	-8.3
4	☐	10.000	9.283	44670.61	0.0166	P	2.1	-7.2
5	☐	100.000	101.303	454807.61	0.1795	P	0.7	1.3
6	☐	200.000	199.396	878513.08	0.3532	P	1.6	-0.3
7	☐	1.000						

y = 0.0018 * x + 2.0034E-004
R = 1.0000
DL = 0.01415 ppb
BEC = 0.1132 ppb

Weight: <None>
Min Conc: <None>

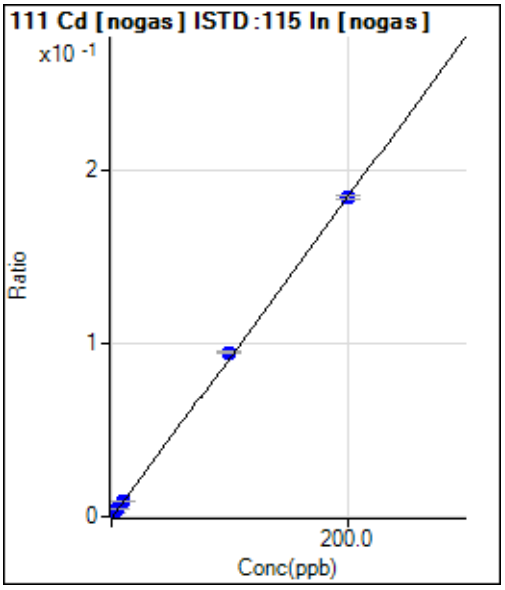
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	243.34	0.0001	P	6.7	
2	☐	2.000	1.887	23259.21	0.0087	P	0.7	-5.6
3	☐	5.000	4.746	58050.54	0.0219	P	3.5	-5.1
4	☐	10.000	9.541	117810.50	0.0439	P	0.8	-4.6
5	☐	100.000	99.557	1157372.14	0.4568	P	0.8	-0.4
6	☐	200.000	200.252	2285513.14	0.9188	A	1.1	0.1
7	☐	1.000						

y = 0.0046 * x + 9.2575E-005
R = 1.0000
DL = 0.004063 ppb
BEC = 0.02018 ppb

Weight: <None>
Min Conc: <None>

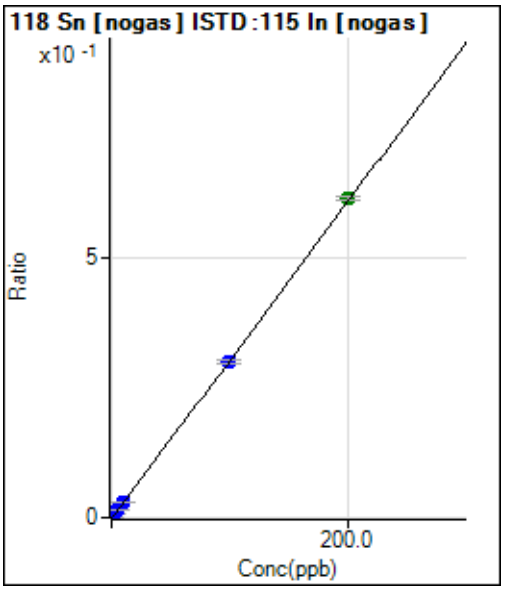


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	0.00	0.0000	P		
2	☐	2.000	1.887	4644.05	0.0017	P	6.5	-5.6
3	☐	5.000	4.673	11480.68	0.0043	P	3.6	-6.5
4	☐	10.000	9.508	23629.75	0.0088	P	2.3	-4.9
5	☐	100.000	102.378	240028.82	0.0947	P	0.8	2.4
6	☐	200.000	198.845	457747.83	0.1840	P	1.2	-0.6
7	☐	1.000						

y = 9.2542E-004 * x + 0.0000E+000
R = 0.9999
DL = 0 ppb
BEC = 0 ppb

Weight: <None>
Min Conc: <None>

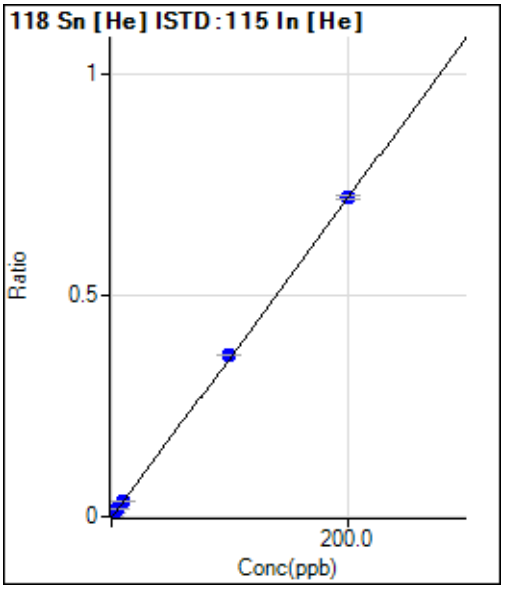
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2010.16	0.0008	P	10.7	
2	☐	2.000	1.876	17258.93	0.0065	P	3.3	-6.2
3	☐	5.000	4.514	38620.25	0.0145	P	1.2	-9.7
4	☐	10.000	9.064	76358.91	0.0284	P	1.5	-9.4
5	☐	100.000	97.894	758885.38	0.2996	P	1.5	-2.1
6	☐	200.000	201.113	1528844.66	0.6146	A	1.8	0.6
7	☐	1.000						

y = 0.0031 * x + 7.6472E-004
R = 0.9999
DL = 0.08005 ppb
BEC = 0.2505 ppb

Weight: <None>
Min Conc: <None>

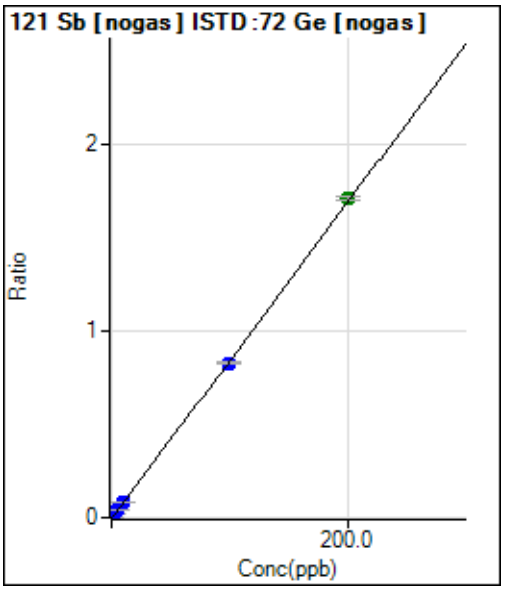


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1153.39	0.0010	P	11.6	
2	☐	2.000	1.937	9225.94	0.0080	P	1.3	-3.2
3	☐	5.000	4.777	21213.31	0.0183	P	1.5	-4.5
4	☐	10.000	9.449	40832.00	0.0352	P	3.1	-5.5
5	☐	100.000	101.090	399309.69	0.3667	P	0.5	1.1
6	☐	200.000	199.489	764946.08	0.7227	P	1.0	-0.3
7	☐	1.000						

y = 0.0036 * x + 9.9875E-004
R = 1.0000
DL = 0.09585 ppb
BEC = 0.2761 ppb

Weight: <None>
Min Conc: <None>

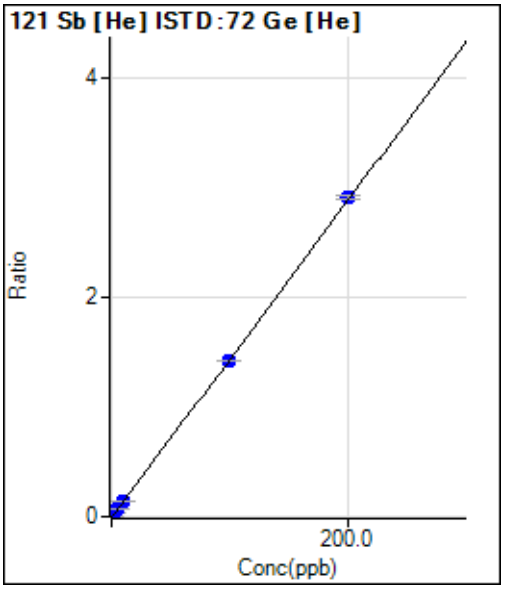
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2946.97	0.0025	P	8.7	
2	☐	2.000	1.986	22965.61	0.0194	P	4.1	-0.7
3	☐	5.000	4.740	51183.17	0.0428	P	1.5	-5.2
4	☐	10.000	9.178	97679.47	0.0805	P	1.7	-8.2
5	☐	100.000	97.340	969752.38	0.8293	P	0.9	-2.7
6	☐	200.000	201.378	1948548.51	1.7130	A	1.5	0.7
7	☐	1.000						

y = 0.0085 * x + 0.0025
R = 0.9999
DL = 0.07666 ppb
BEC = 0.2938 ppb

Weight: <None>
Min Conc: <None>

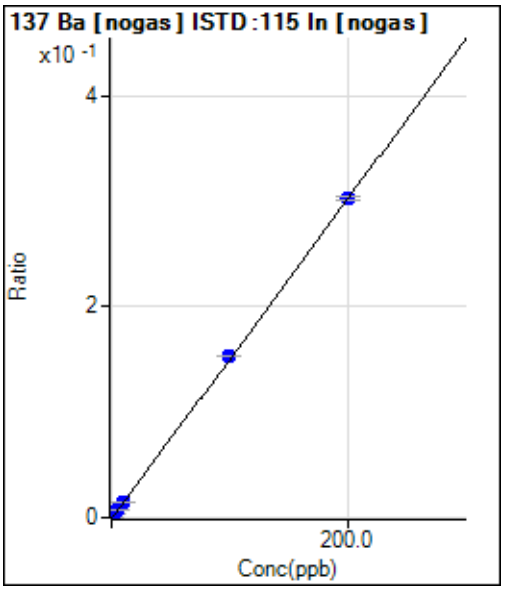


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1756.78	0.0048	P	5.9	
2	☐	2.000	1.998	12478.04	0.0336	P	2.6	-0.1
3	☐	5.000	4.718	27031.58	0.0729	P	0.5	-5.6
4	☐	10.000	9.631	53640.63	0.1439	P	2.2	-3.7
5	☐	100.000	97.923	493878.26	1.4193	P	0.1	-2.1
6	☐	200.000	201.064	984930.90	2.9091	P	1.4	0.5
7	☐	1.000						

y = 0.0144 * x + 0.0048
R = 0.9999
DL = 0.05823 ppb
BEC = 0.3306 ppb

Weight: <None>
Min Conc: <None>

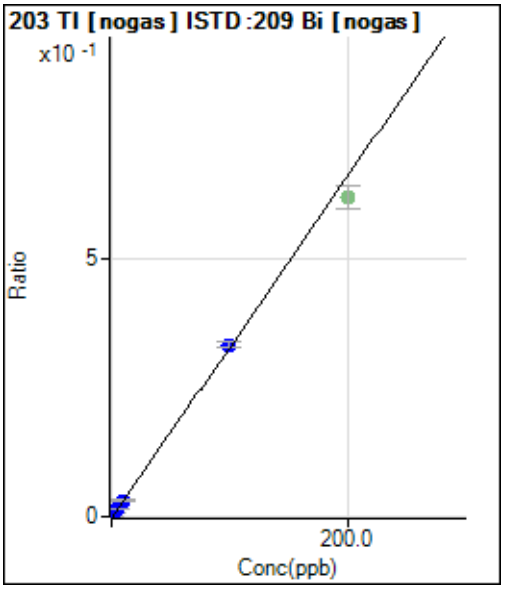
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	680.03	0.0003	P	15.2	
2	☐	2.000	1.933	8492.28	0.0032	P	2.1	-3.3
3	☐	5.000	4.790	20005.40	0.0075	P	1.5	-4.2
4	☐	10.000	9.505	39469.51	0.0147	P	1.2	-4.9
5	☐	100.000	101.217	390181.51	0.1540	P	0.1	1.2
6	☐	200.000	199.422	754144.50	0.3032	P	1.3	-0.3
7	☐	1.000						

y = 0.0015 * x + 2.5859E-004
R = 1.0000
DL = 0.0774 ppb
BEC = 0.1702 ppb

Weight: <None>
Min Conc: <None>

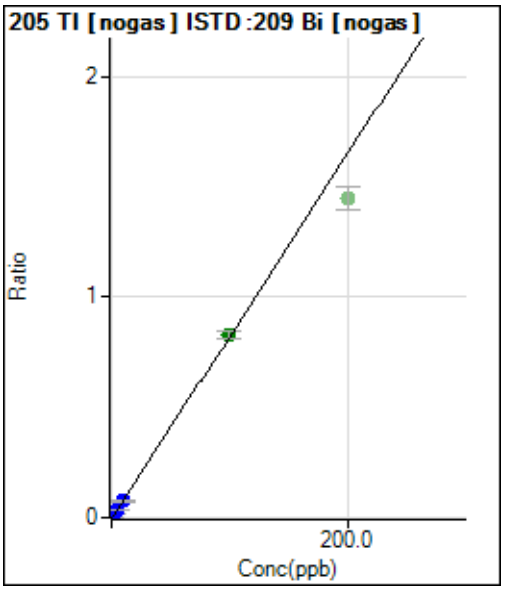


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	36.67	0.0000	P	100.	
2	☐	2.000	1.911	20202.91	0.0063	P	4.8	-4.5
3	☐	5.000	4.818	51696.23	0.0160	P	4.4	-3.6
4	☐	10.000	9.412	103480.58	0.0312	P	6.1	-5.9
5	☐	100.000	100.070	1062165.45	0.3315	P	3.4	0.1
6	☑	200.000		2158259.55	0.6181	A	6.6	
7	☐	1.000						

y = 0.0033 * x + 1.1804E-005
R = 1.0000
DL = 0.01076 ppb
BEC = 0.003563 ppb

Weight: <None>
Min Conc: <None>

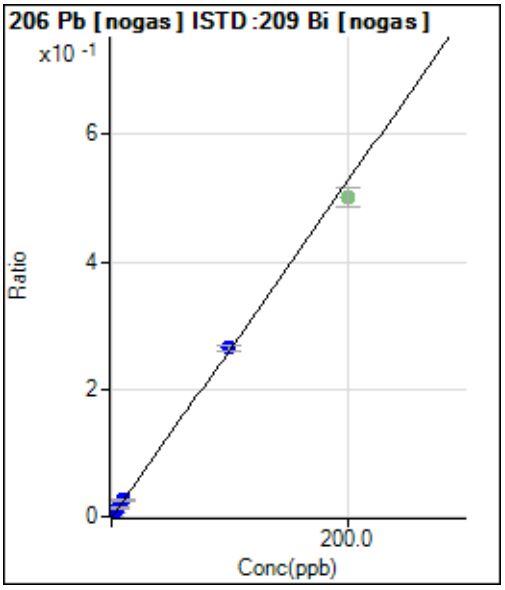
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	153.34	0.0001	P	17.6	
2	☐	2.000	1.876	49757.10	0.0156	P	2.0	-6.2
3	☐	5.000	4.558	122452.24	0.0378	P	5.8	-8.8
4	☐	10.000	9.080	249969.02	0.0753	P	6.3	-9.2
5	☐	100.000	100.117	2660240.48	0.8303	A	3.7	0.1
6	☑	200.000		5050001.91	1.4467	A	7.7	
7	☐	1.000						

y = 0.0083 * x + 5.0212E-005
R = 1.0000
DL = 0.003204 ppb
BEC = 0.006055 ppb

Weight: <None>
Min Conc: <None>

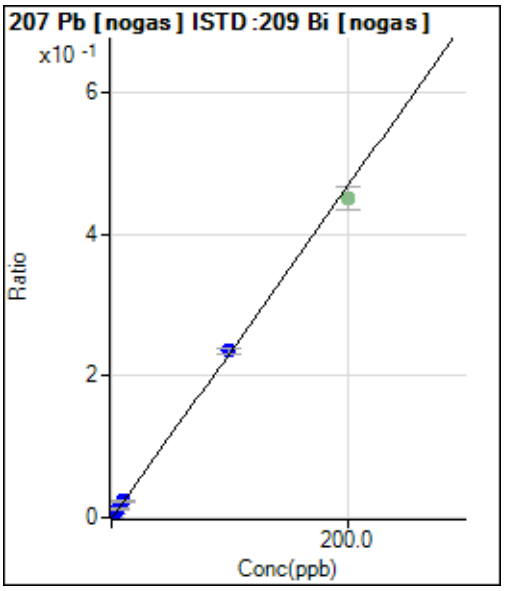


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1286.74	0.0004	P	4.9	
2	☐	2.000	2.011	18314.00	0.0057	P	3.0	0.5
3	☐	5.000	4.927	43546.04	0.0135	P	4.9	-1.5
4	☐	10.000	9.607	85721.04	0.0258	P	6.1	-3.9
5	☐	100.000	100.043	849299.05	0.2651	P	3.7	0.0
6	☑	200.000		1750959.56	0.5014	A	6.2	
7	☐	1.000						

y = 0.0026 * x + 4.2317E-004
R = 1.0000
DL = 0.02363 ppb
BEC = 0.16 ppb

Weight: <None>
Min Conc: <None>

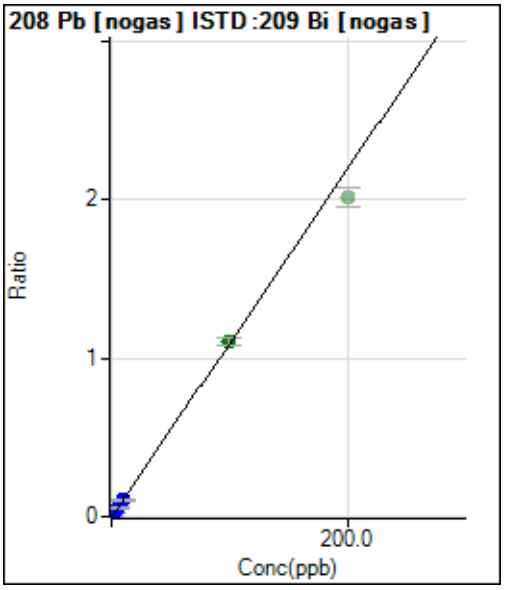
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1133.40	0.0004	P	20.0	
2	☐	2.000	2.046	16505.46	0.0052	P	7.5	2.3
3	☐	5.000	4.954	38894.09	0.0120	P	4.8	-0.9
4	☐	10.000	9.666	76652.21	0.0231	P	5.3	-3.3
5	☐	100.000	100.035	754686.60	0.2356	P	3.9	0.0
6	☑	200.000		1574534.51	0.4510	A	7.3	
7	☐	1.000						

y = 0.0024 * x + 3.7191E-004
R = 1.0000
DL = 0.09492 ppb
BEC = 0.1582 ppb

Weight: <None>
Min Conc: <None>

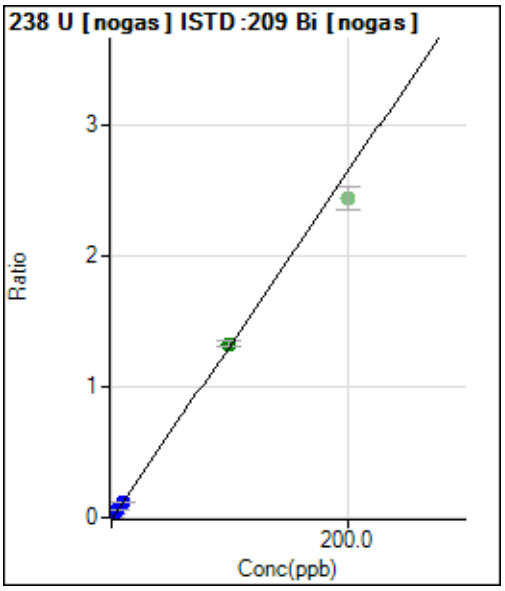


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	5073.76	0.0017	P	8.7	
2	☐	2.000	1.962	74405.16	0.0233	P	3.3	-1.9
3	☐	5.000	4.776	176165.32	0.0544	P	5.2	-4.5
4	☐	10.000	9.368	349051.31	0.1052	P	5.3	-6.3
5	☐	100.000	100.075	3548303.23	1.1075	A	3.8	0.1
6	☑	200.000		7047281.82	2.0177	A	6.0	
7	☐	1.000						

y = 0.0110 * x + 0.0017
R = 1.0000
DL = 0.03945 ppb
BEC = 0.151 ppb

Weight: <None>
Min Conc: <None>

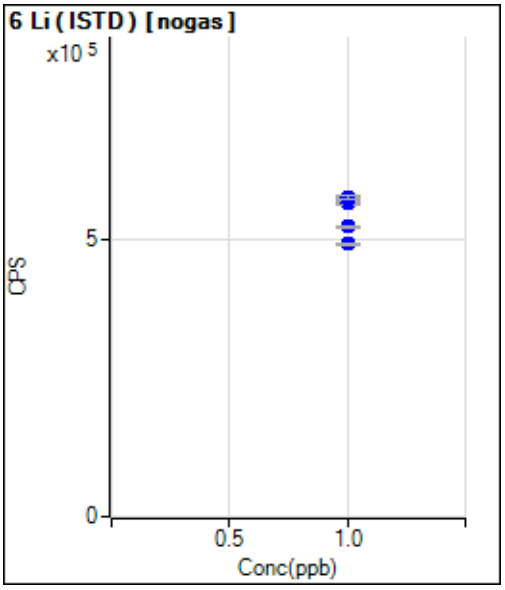
Calibration for 178_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	80.00	0.0000	P	15.3	
2	☐	2.000	1.837	77949.60	0.0245	P	4.8	-8.1
3	☐	5.000	4.557	196073.59	0.0606	P	6.9	-8.9
4	☐	10.000	8.926	393925.92	0.1187	P	6.3	-10.7
5	☐	100.000	100.133	4266439.83	1.3317	A	4.0	0.1
6	☑	200.000		8531910.08	2.4434	A	6.8	
7	☐	1.000						

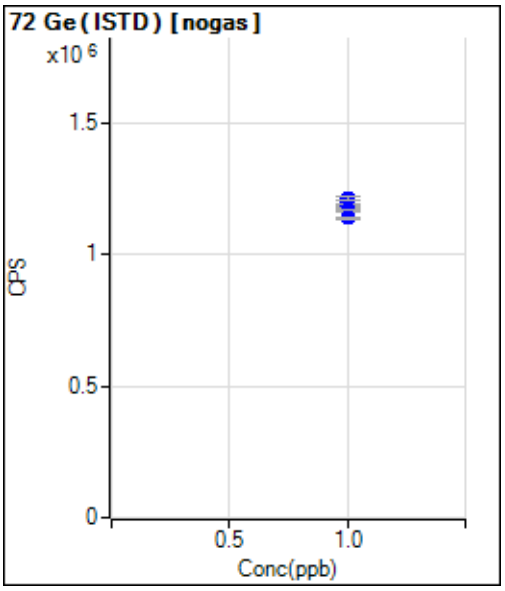
y = 0.0133 * x + 2.6373E-005
R = 1.0000
DL = 0.0009086 ppb
BEC = 0.001983 ppb

Weight: <None>
Min Conc: <None>

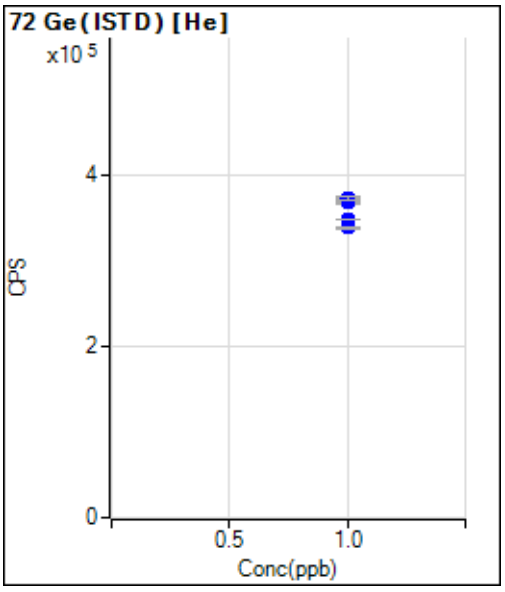


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		565713.94		P	0.5	
2	☐	1.000		566092.82		P	1.1	
3	☐	1.000		571637.85		P	1.1	
4	☐	1.000		576503.96		P	1.0	
5	☐	1.000		522733.31		P	0.1	
6	☐	1.000		491939.61		P	0.7	
7	☐	1.000						

Calibration for 178_ICV.d

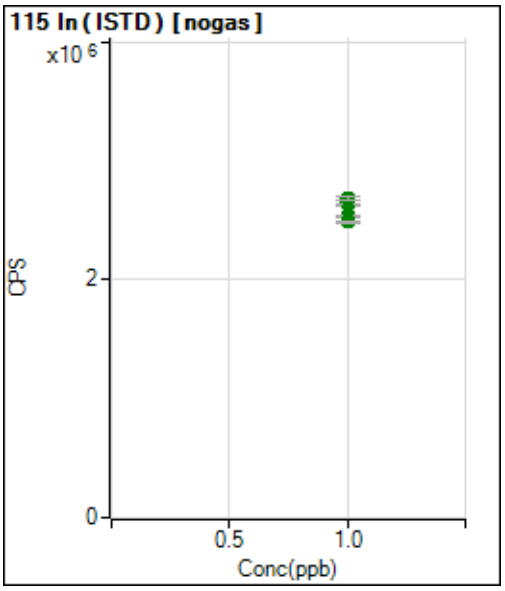


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1180396.49		P	1.2	
2	☐	1.000		1185772.17		P	0.9	
3	☐	1.000		1197029.96		P	1.1	
4	☐	1.000		1213982.35		P	0.7	
5	☐	1.000		1169373.86		P	0.5	
6	☐	1.000		1137449.54		P	1.0	
7	☐	1.000						

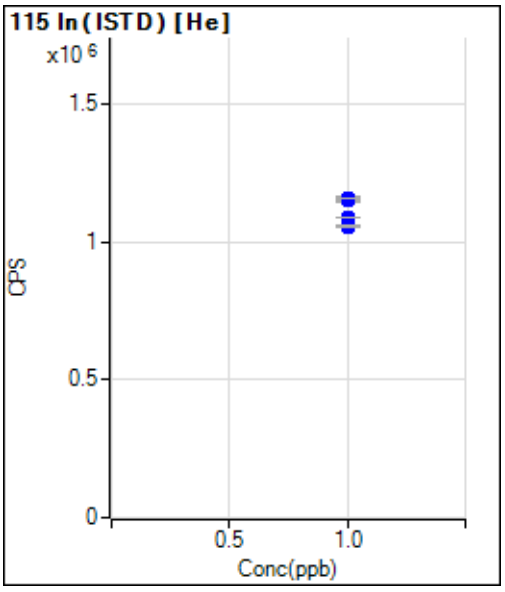


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		367742.09		P	0.8	
2	☐	1.000		370884.55		P	0.4	
3	☐	1.000		370667.23		P	0.6	
4	☐	1.000		372753.29		P	0.7	
5	☐	1.000		347979.51		P	0.4	
6	☐	1.000		338593.04		P	0.9	
7	☐	1.000						

Calibration for 178_ICV.d

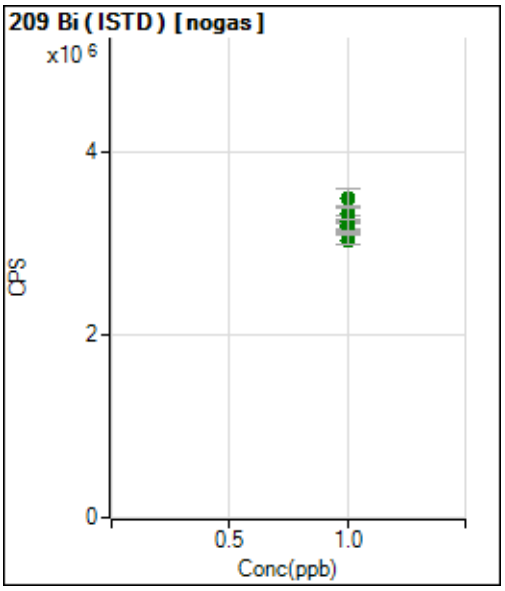


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2629102.03		A	0.6	
2	☐	1.000		2658120.11		A	1.1	
3	☐	1.000		2655489.27		A	1.4	
4	☐	1.000		2685701.14		A	0.6	
5	☐	1.000		2533581.97		A	0.7	
6	☐	1.000		2487490.72		A	0.5	
7	☐	1.000						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1154419.46		P	0.5	
2	☐	1.000		1152608.52		P	0.7	
3	☐	1.000		1160529.36		P	1.1	
4	☐	1.000		1160627.38		P	0.3	
5	☐	1.000		1088950.92		P	0.3	
6	☐	1.000		1058569.12		P	0.6	
7	☐	1.000						

Calibration for 178_ICV.d



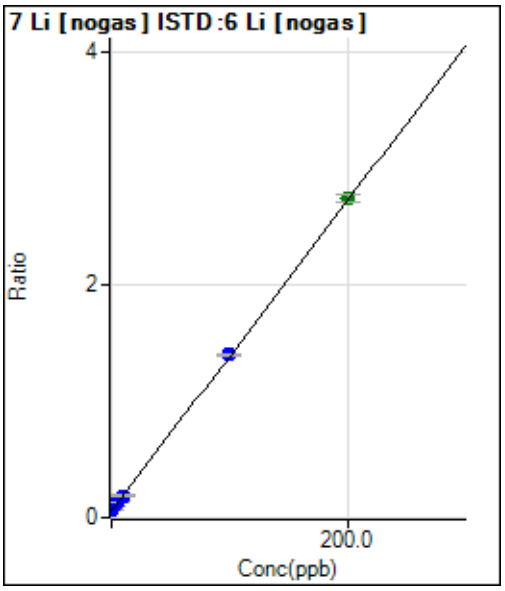
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3042611.62		A	3.1	
2	☐	1.000		3190166.72		A	3.7	
3	☐	1.000		3241056.51		A	4.7	
4	☐	1.000		3324948.18		A	5.4	
5	☐	1.000		3206815.47		A	3.6	
6	☐	1.000		3500796.82		A	5.8	
7	☐	1.000						

Calibration for 024_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\121120A.b\
Analysis File: 121120A.batch.bin
DA Date-Time: 12/12/2020 7:39:54 AM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	017CALB.d	CAL BLK	12/11/2020 11:58:39 AM
2	018CALS.d	2/10/200	12/11/2020 12:00:42 PM
3	019CALS.d	5/25/500	12/11/2020 12:02:46 PM
4	020CALS.d	10/50/1000	12/11/2020 12:04:49 PM
5	021CALS.d	100/500/10K	12/11/2020 12:06:51 PM
6	022CALS.d	200/1000/20K	12/11/2020 12:08:52 PM
7			

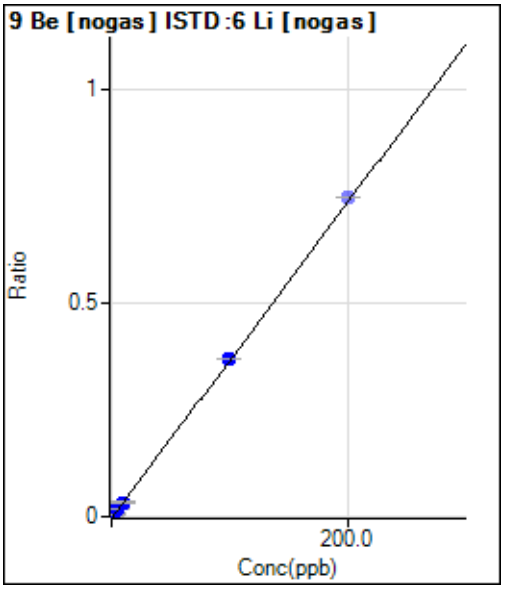
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	40525.06	0.0714	P	0.8	
2	☐	2.000	1.667	53040.87	0.0937	P	0.3	-16.6
3	☐	5.000	4.350	72545.14	0.1295	P	1.5	-13.0
4	☐	10.000	8.886	105961.26	0.1901	P	0.6	-11.1
5	☐	100.000	99.412	733221.50	1.3990	P	0.8	-0.6
6	☐	200.000	200.369	1343422.85	2.7472	A	2.3	0.2
7	☐	1.000						

y = 0.0134 * x + 0.0714
R = 1.0000
DL = 0.1356 ppb
BEC = 5.349 ppb

Weight: <None>
Min Conc: <None>

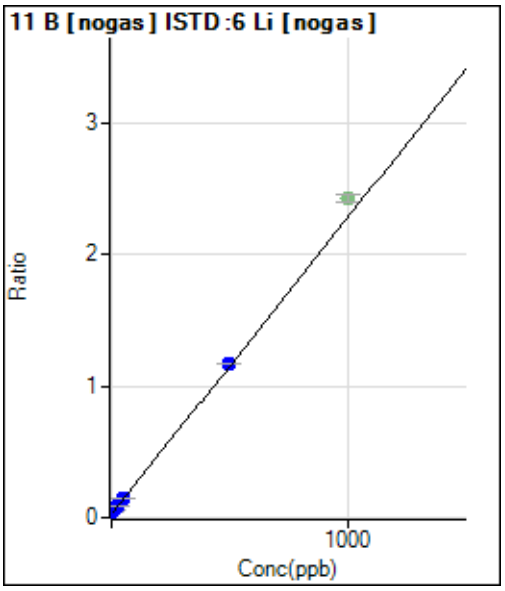


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	25.00	0.0000	P	52.2	
2	☐	2.000	1.779	3752.07	0.0066	P	6.0	-11.0
3	☐	5.000	4.535	9422.42	0.0168	P	0.6	-9.3
4	☐	10.000	9.096	18781.11	0.0337	P	2.0	-9.0
5	☐	100.000	100.118	194149.86	0.3704	P	0.2	0.1
6	☑	200.000		365640.61	0.7477	P	0.6	
7	☐	1.000						

y = 0.0037 * x + 4.3962E-005
R = 1.0000
DL = 0.01859 ppb
BEC = 0.01188 ppb

Weight: <None>
Min Conc: <None>

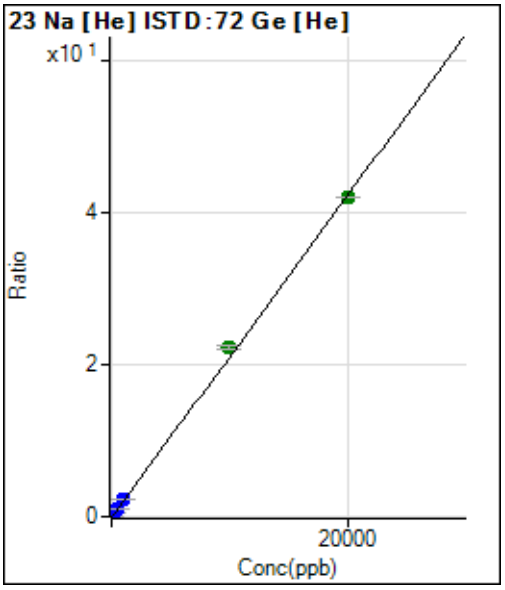
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	22852.31	0.0403	P	1.7	
2	☐	10.000	9.206	34548.55	0.0610	P	2.1	-7.9
3	☐	25.000	22.515	50972.01	0.0910	P	0.9	-9.9
4	☐	50.000	45.181	79192.18	0.1421	P	1.1	-9.6
5	☐	500.000	500.622	612256.52	1.1682	P	0.7	0.1
6	☑	1000.000		1186879.67	2.4272	A	2.4	
7	☐	5.000						

y = 0.0023 * x + 0.0403
R = 1.0000
DL = 0.8905 ppb
BEC = 17.88 ppb

Weight: <None>
Min Conc: <None>

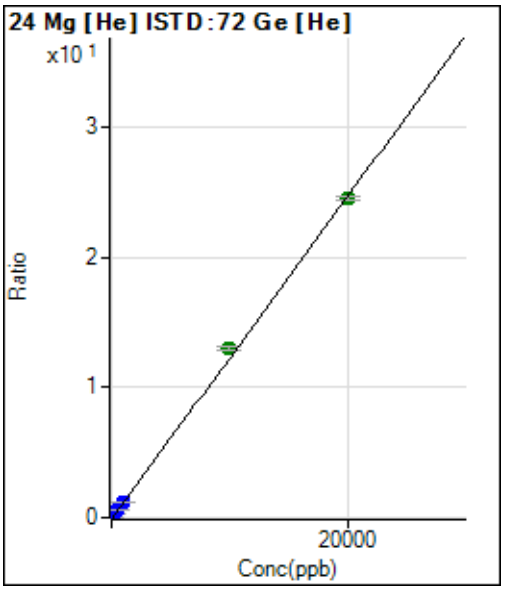


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	24990.50	0.0756	P	1.7	
2	☐	200.000	196.517	162673.38	0.4932	P	0.4	-1.7
3	☐	500.000	482.595	362318.37	1.1011	P	1.1	-3.5
4	☐	1000.000	986.188	703914.49	2.1713	P	0.7	-1.4
5	☐	10000.00	10468.85	7044928.02	22.3227	A	1.3	4.7
6	☐	20000.00	19766.73	12829639.3	42.0813	A	0.3	-1.2
7	☐	100.000						

y = 0.0021 * x + 0.0756
R = 0.9996
DL = 1.817 ppb
BEC = 35.57 ppb

Weight: <None>
Min Conc: <None>

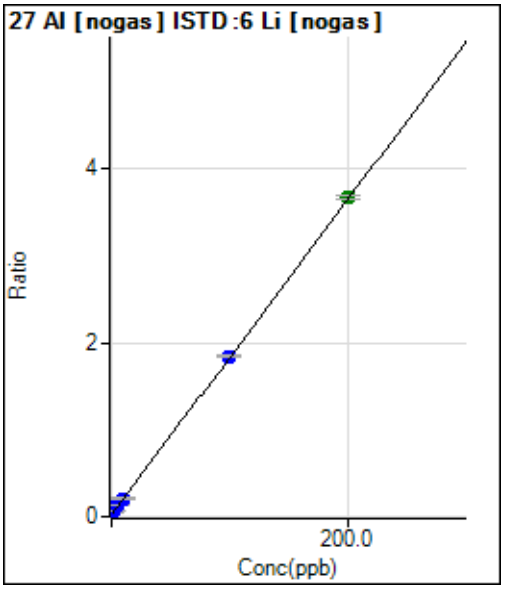
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	986.72	0.0030	P	21.7	
2	☐	200.000	200.047	82773.41	0.2509	P	2.5	0.0
3	☐	500.000	483.269	198063.29	0.6020	P	1.8	-3.3
4	☐	1000.000	977.529	393763.00	1.2146	P	0.5	-2.2
5	☐	10000.00	10470.22	4096573.38	12.9805	A	1.7	4.7
6	☐	20000.00	19766.42	7470552.18	24.5028	A	1.0	-1.2
7	☐	100.000						

y = 0.0012 * x + 0.0030
R = 0.9996
DL = 1.567 ppb
BEC = 2.408 ppb

Weight: <None>
Min Conc: <None>

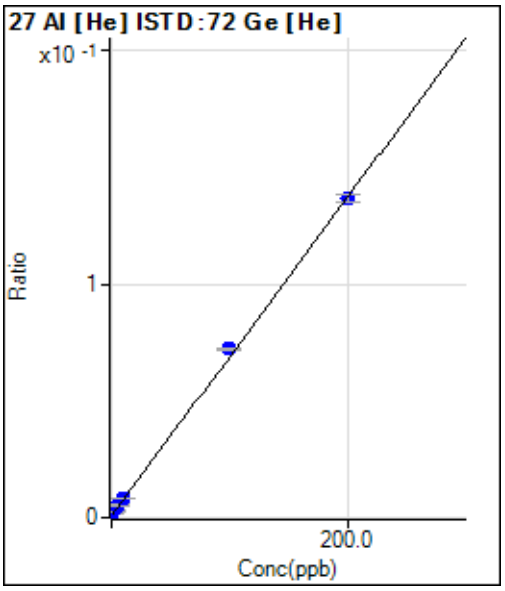


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	24236.09	0.0427	P	2.5	
2	☐	2.000	1.885	43534.63	0.0769	P	0.9	-5.7
3	☐	5.000	5.053	75249.02	0.1344	P	1.9	1.1
4	☐	10.000	9.229	117097.10	0.2101	P	1.4	-7.7
5	☐	100.000	99.256	965657.77	1.8425	P	0.8	-0.7
6	☐	200.000	200.410	1798021.27	3.6767	A	1.1	0.2
7	☐	1.000						

y = 0.0181 * x + 0.0427
R = 1.0000
DL = 0.179 ppb
BEC = 2.356 ppb

Weight: <None>
Min Conc: <None>

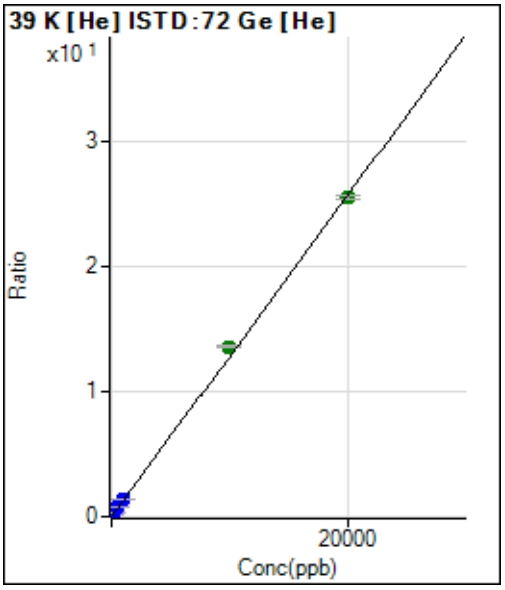
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	516.68	0.0016	P	26.9	
2	☐	2.000	1.991	963.38	0.0029	P	6.7	-0.5
3	☐	5.000	5.440	1736.78	0.0053	P	9.5	8.8
4	☐	10.000	9.861	2686.91	0.0083	P	2.3	-1.4
5	☐	100.000	103.711	22817.66	0.0723	P	0.8	3.7
6	☐	200.000	198.140	41680.33	0.1367	P	2.4	-0.9
7	☐	1.000						

y = 6.8207E-004 * x + 0.0016
R = 0.9998
DL = 1.852 ppb
BEC = 2.29 ppb

Weight: <None>
Min Conc: <None>

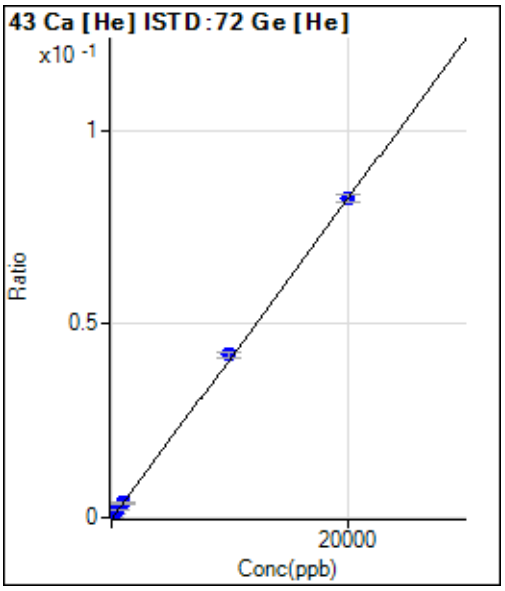


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	40521.58	0.1226	P	2.5	
2	☐	200.000	191.046	121431.78	0.3682	P	1.1	-4.5
3	☐	500.000	473.203	240484.10	0.7309	P	2.3	-5.4
4	☐	1000.000	954.363	437519.47	1.3496	P	0.6	-4.6
5	☐	10000.00	10474.59	4288888.69	13.5897	A	1.1	4.7
6	☐	20000.00	19765.74	7785037.80	25.5353	A	1.0	-1.2
7	☐	100.000						

y = 0.0013 * x + 0.1226
R = 0.9996
DL = 7.133 ppb
BEC = 95.32 ppb

Weight: <None>
Min Conc: <None>

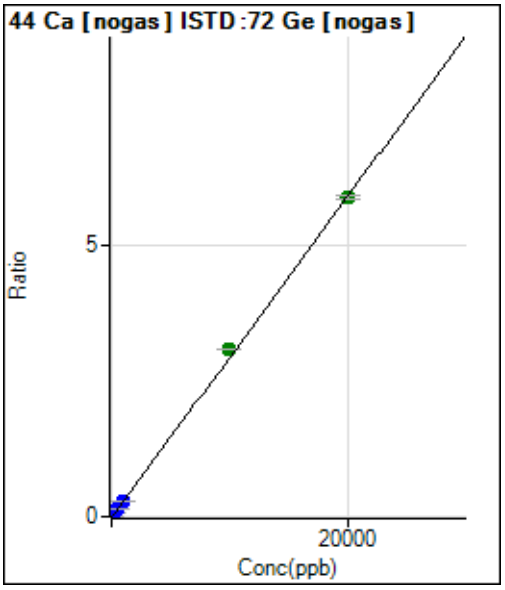
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6.67	0.0000	P	86.6	
2	☐	200.000	212.593	296.68	0.0009	P	14.3	6.3
3	☐	500.000	460.032	633.36	0.0019	P	12.5	-8.0
4	☐	1000.000	912.185	1230.07	0.0038	P	7.2	-8.8
5	☐	10000.00	10149.98	13265.06	0.0420	P	2.8	1.5
6	☐	20000.00	19930.27	25157.64	0.0825	P	2.3	-0.3
7	☐	100.000						

y = 4.1391E-006 * x + 2.0140E-005
R = 0.9999
DL = 12.64 ppb
BEC = 4.866 ppb

Weight: <None>
Min Conc: <None>

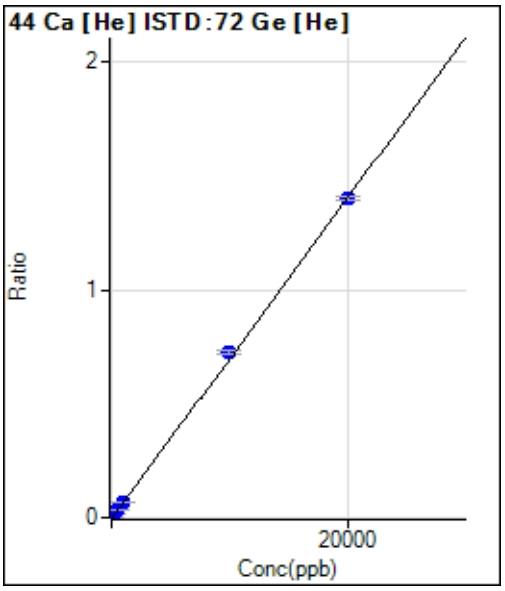


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	12994.88	0.0110	P	5.4	
2	☐	200.000	196.867	80901.68	0.0691	P	1.1	-1.6
3	☐	500.000	478.745	179258.54	0.1523	P	0.3	-4.3
4	☐	1000.000	968.095	347176.06	0.2968	P	1.1	-3.2
5	☐	10000.00	10328.89	3490144.11	3.0596	A	0.2	3.3
6	☐	20000.00	19837.71	6447310.53	5.8661	A	1.2	-0.8
7	☐	100.000						

y = 2.9515E-004 * x + 0.0110
R = 0.9998
DL = 6.027 ppb
BEC = 37.39 ppb

Weight: <None>
Min Conc: <None>

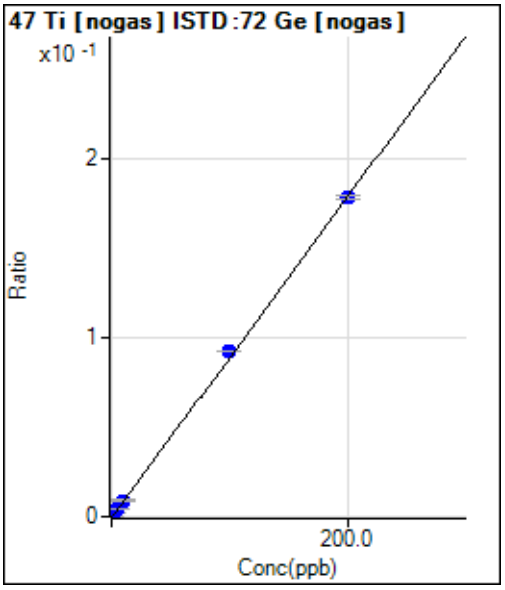
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	300.01	0.0009	P	11.2	
2	☐	200.000	198.346	4914.08	0.0149	P	5.8	-0.8
3	☐	500.000	479.540	11427.12	0.0347	P	0.3	-4.1
4	☐	1000.000	972.880	22537.56	0.0695	P	1.7	-2.7
5	☐	10000.00	10290.24	229310.36	0.7266	P	2.0	2.9
6	☐	20000.00	19856.76	427205.45	1.4012	P	0.7	-0.7
7	☐	100.000						

y = 7.0522E-005 * x + 9.0718E-004
R = 0.9998
DL = 4.33 ppb
BEC = 12.86 ppb

Weight: <None>
Min Conc: <None>

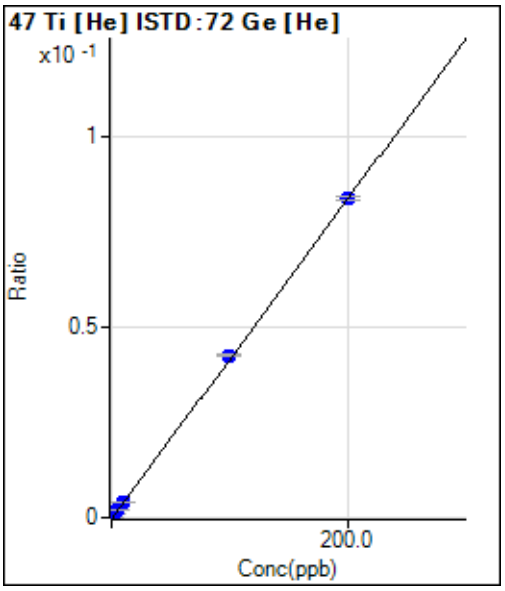


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	160.00	0.0001	P	18.7	
2	☐	2.000	1.927	2183.51	0.0019	P	4.4	-3.6
3	☐	5.000	4.888	5324.19	0.0045	P	0.2	-2.2
4	☐	10.000	9.906	10563.21	0.0090	P	4.3	-0.9
5	☐	100.000	102.904	105560.08	0.0925	P	0.4	2.9
6	☐	200.000	198.556	196102.58	0.1784	P	0.7	-0.7
7	☐	1.000						

y = 8.9794E-004 * x + 1.3591E-004
R = 0.9998
DL = 0.08487 ppb
BEC = 0.1514 ppb

Weight: <None>
Min Conc: <None>

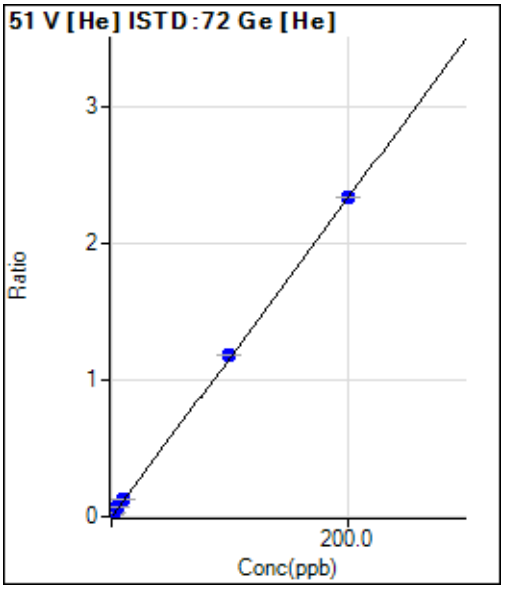
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6.67	0.0000	P	173.	
2	☐	2.000	2.161	306.68	0.0009	P	19.3	8.1
3	☐	5.000	4.664	653.36	0.0020	P	9.2	-6.7
4	☐	10.000	9.641	1323.41	0.0041	P	4.2	-3.6
5	☐	100.000	101.241	13465.19	0.0427	P	0.6	1.2
6	☐	200.000	199.404	25615.14	0.0840	P	1.1	-0.3
7	☐	1.000						

y = 4.2123E-004 * x + 2.0092E-005
R = 1.0000
DL = 0.2478 ppb
BEC = 0.0477 ppb

Weight: <None>
Min Conc: <None>

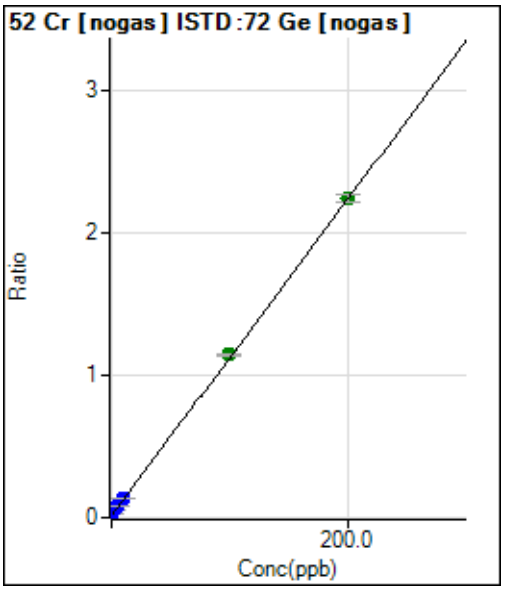


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3038.05	0.0092	P	2.2	
2	☐	2.000	1.900	10356.31	0.0314	P	1.7	-5.0
3	☐	5.000	4.747	21285.78	0.0647	P	1.6	-5.1
4	☐	10.000	9.624	39463.82	0.1217	P	1.1	-3.8
5	☐	100.000	100.868	375117.65	1.1886	P	0.4	0.9
6	☐	200.000	199.592	714306.17	2.3429	P	0.3	-0.2
7	☐	1.000						

y = 0.0117 * x + 0.0092
R = 1.0000
DL = 0.05108 ppb
BEC = 0.7859 ppb

Weight: <None>
Min Conc: <None>

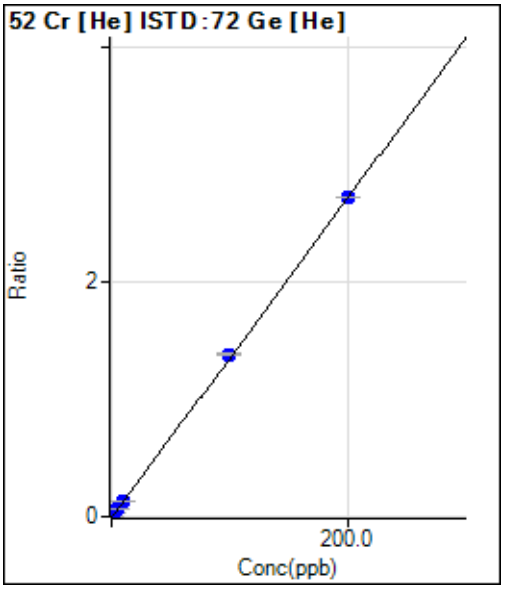
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	30235.51	0.0257	P	1.1	
2	☐	2.000	1.985	55916.40	0.0478	P	1.2	-0.8
3	☐	5.000	4.794	93044.06	0.0791	P	2.3	-4.1
4	☐	10.000	9.573	154756.43	0.1323	P	1.1	-4.3
5	☐	100.000	100.969	1311912.69	1.1501	A	1.2	1.0
6	☐	200.000	199.542	2470410.17	2.2479	A	2.7	-0.2
7	☐	1.000						

y = 0.0111 * x + 0.0257
R = 1.0000
DL = 0.07482 ppb
BEC = 2.307 ppb

Weight: <None>
Min Conc: <None>

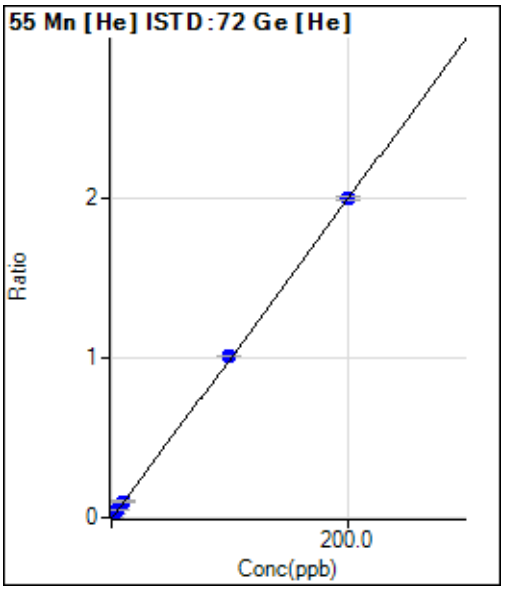


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	920.04	0.0028	P	13.3	
2	☐	2.000	1.985	9849.47	0.0299	P	4.4	-0.7
3	☐	5.000	4.971	23225.17	0.0706	P	3.5	-0.6
4	☐	10.000	9.630	43495.67	0.1341	P	2.4	-3.7
5	☐	100.000	101.169	436391.49	1.3827	P	0.7	1.2
6	☐	200.000	199.435	830206.89	2.7231	P	0.6	-0.3
7	☐	1.000						

y = 0.0136 * x + 0.0028
R = 1.0000
DL = 0.0812 ppb
BEC = 0.204 ppb

Weight: <None>
Min Conc: <None>

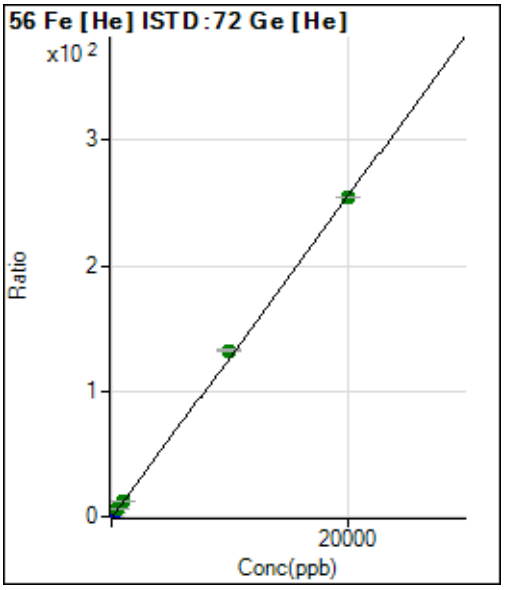
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	553.35	0.0017	P	12.9	
2	☐	2.000	1.887	6774.72	0.0205	P	5.4	-5.6
3	☐	5.000	4.774	16257.54	0.0494	P	1.7	-4.5
4	☐	10.000	9.983	32910.08	0.1015	P	1.7	-0.2
5	☐	100.000	101.121	319649.32	1.0128	P	0.4	1.1
6	☐	200.000	199.447	608547.39	1.9961	P	0.7	-0.3
7	☐	1.000						

y = 0.0100 * x + 0.0017
R = 1.0000
DL = 0.0648 ppb
BEC = 0.1673 ppb

Weight: <None>
Min Conc: <None>

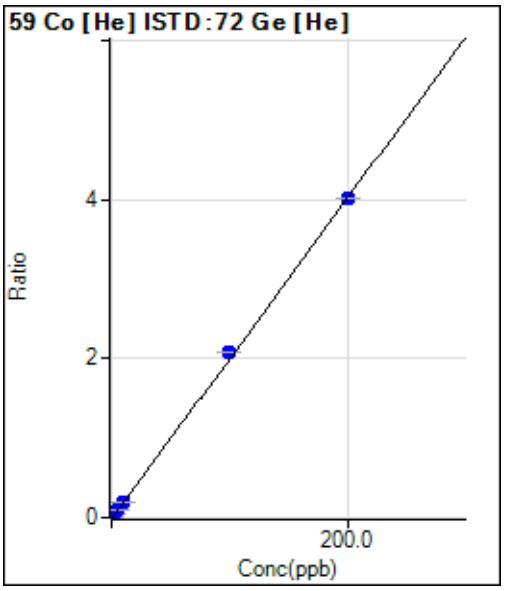


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16227.52	0.0491	P	1.0	
2	☐	200.000	192.799	831997.90	2.5226	P	1.1	-3.6
3	☐	500.000	496.250	2110936.38	6.4158	A	1.6	-0.7
4	☐	1000.000	996.521	4160973.79	12.8340	A	0.6	-0.3
5	☐	10000.00	10327.80	41832548.5	132.550	A	0.6	3.3
6	☐	20000.00	19836.43	77604478.8	254.542	A	0.5	-0.8
7	☐	100.000						

y = 0.0128 * x + 0.0491
R = 0.9998
DL = 0.1167 ppb
BEC = 3.826 ppb

Weight: <None>
Min Conc: <None>

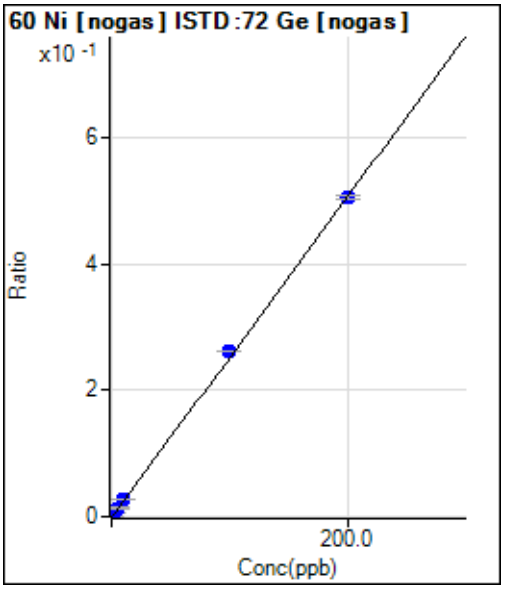
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	130.00	0.0004	P	48.2	
2	☐	2.000	2.008	13541.95	0.0411	P	4.3	0.4
3	☐	5.000	4.905	32810.07	0.0997	P	0.7	-1.9
4	☐	10.000	9.904	65147.65	0.2009	P	0.9	-1.0
5	☐	100.000	102.853	657413.61	2.0831	P	1.1	2.9
6	☐	200.000	198.581	1226067.09	4.0215	P	0.4	-0.7
7	☐	1.000						

y = 0.0202 * x + 3.9356E-004
R = 0.9999
DL = 0.0281 ppb
BEC = 0.01944 ppb

Weight: <None>
Min Conc: <None>

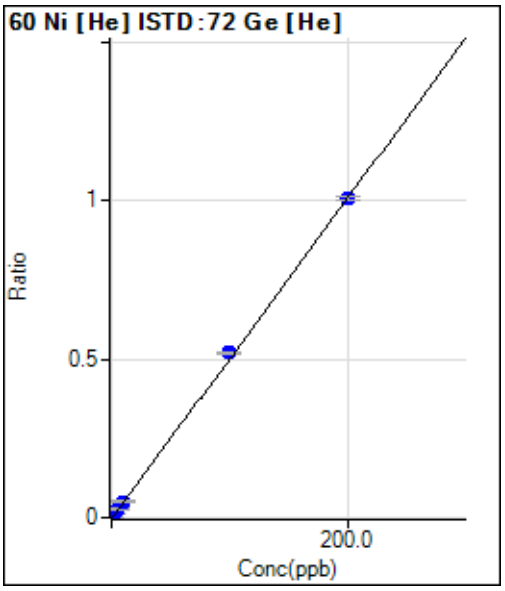


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	953.38	0.0008	P	13.0	
2	☐	2.000	2.042	7038.17	0.0060	P	6.3	2.1
3	☐	5.000	5.036	16054.00	0.0136	P	1.4	0.7
4	☐	10.000	10.091	31033.63	0.0265	P	1.1	0.9
5	☐	100.000	103.105	300648.71	0.2636	P	0.2	3.1
6	☐	200.000	198.441	556689.82	0.5065	P	0.7	-0.8
7	☐	1.000						

y = 0.0025 * x + 8.1032E-004
R = 0.9998
DL = 0.1242 ppb
BEC = 0.318 ppb

Weight: <None>
Min Conc: <None>

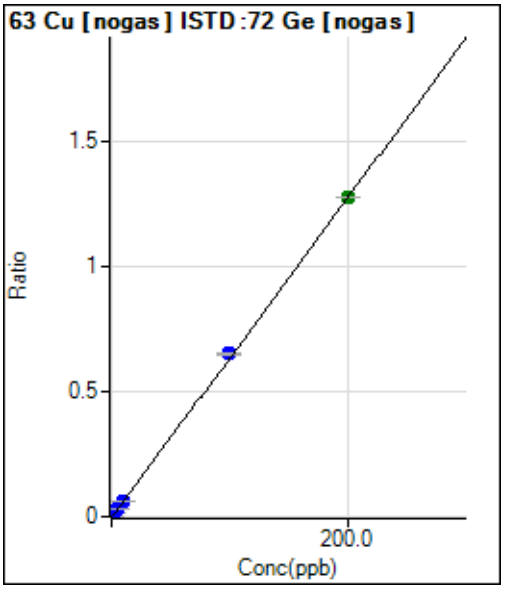
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	363.34	0.0011	P	15.7	
2	☐	2.000	1.926	3580.41	0.0109	P	3.5	-3.7
3	☐	5.000	5.099	8862.33	0.0269	P	5.4	2.0
4	☐	10.000	9.824	16491.11	0.0509	P	4.8	-1.8
5	☐	100.000	102.447	164113.14	0.5200	P	0.9	2.4
6	☐	200.000	198.784	307302.48	1.0080	P	1.3	-0.6
7	☐	1.000						

y = 0.0051 * x + 0.0011
R = 0.9999
DL = 0.1019 ppb
BEC = 0.217 ppb

Weight: <None>
Min Conc: <None>

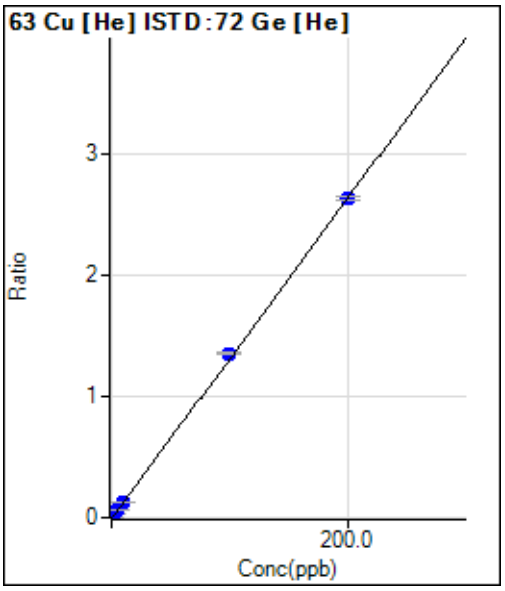


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2310.19	0.0020	P	5.9	
2	☐	2.000	2.031	17508.81	0.0150	P	2.6	1.6
3	☐	5.000	4.881	39059.36	0.0332	P	2.3	-2.4
4	☐	10.000	9.744	75253.75	0.0643	P	0.5	-2.6
5	☐	100.000	101.456	742898.40	0.6513	P	0.4	1.5
6	☐	200.000	199.288	1403939.04	1.2774	A	0.6	-0.4
7	☐	1.000						

y = 0.0064 * x + 0.0020
R = 1.0000
DL = 0.0539 ppb
BEC = 0.3067 ppb

Weight: <None>
Min Conc: <None>

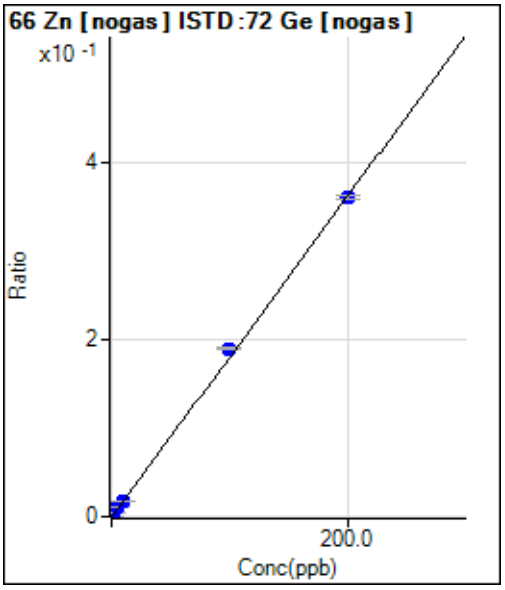
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1170.07	0.0035	P	11.9	
2	☐	2.000	1.904	9492.65	0.0288	P	3.0	-4.8
3	☐	5.000	5.012	23025.01	0.0700	P	2.0	0.2
4	☐	10.000	9.860	43522.77	0.1342	P	1.4	-1.4
5	☐	100.000	102.172	428534.14	1.3579	P	0.4	2.2
6	☐	200.000	198.922	804957.70	2.6403	P	1.0	-0.5
7	☐	1.000						

y = 0.0133 * x + 0.0035
R = 0.9999
DL = 0.09524 ppb
BEC = 0.267 ppb

Weight: <None>
Min Conc: <None>

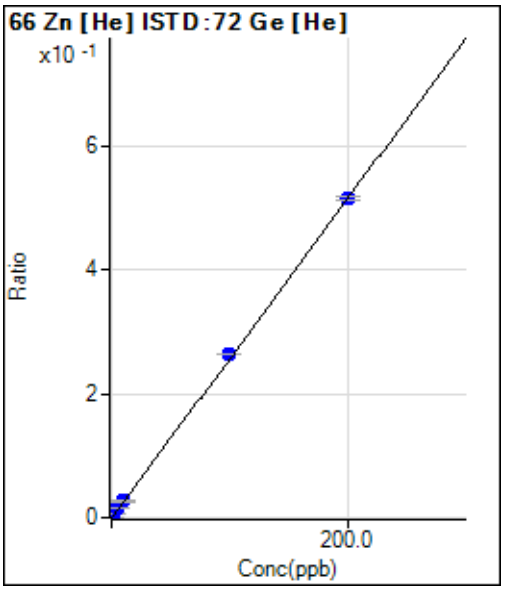


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1030.05	0.0009	P	22.6	
2	☐	2.000	1.881	5014.13	0.0043	P	1.4	-5.9
3	☐	5.000	5.325	12384.51	0.0105	P	1.1	6.5
4	☐	10.000	9.605	21386.38	0.0183	P	0.4	-4.0
5	☐	100.000	103.708	215379.74	0.1888	P	1.0	3.7
6	☐	200.000	198.159	395644.28	0.3600	P	0.9	-0.9
7	☐	1.000						

y = 0.0018 * x + 8.7553E-004
R = 0.9997
DL = 0.3277 ppb
BEC = 0.4831 ppb

Weight: <None>
Min Conc: <None>

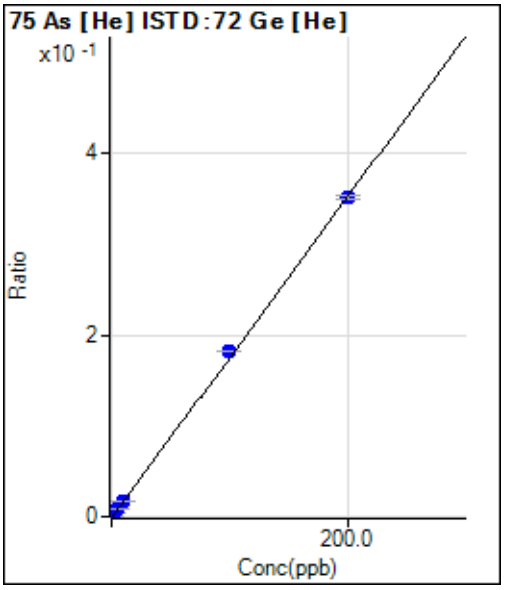
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	420.01	0.0013	P	4.5	
2	☐	2.000	1.849	1993.49	0.0060	P	2.1	-7.5
3	☐	5.000	5.528	5110.84	0.0155	P	6.2	10.6
4	☐	10.000	9.896	8692.26	0.0268	P	4.9	-1.0
5	☐	100.000	101.842	83359.70	0.2641	P	0.4	1.8
6	☐	200.000	199.072	157036.86	0.5151	P	0.8	-0.5
7	☐	1.000						

y = 0.0026 * x + 0.0013
R = 0.9999
DL = 0.0668 ppb
BEC = 0.4921 ppb

Weight: <None>
Min Conc: <None>

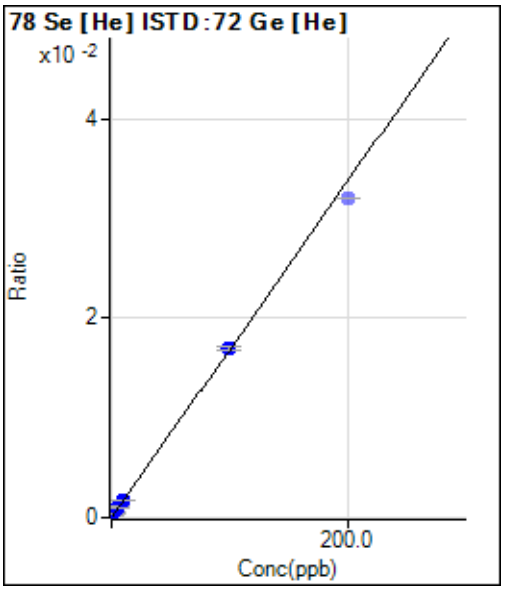


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	66.67	0.0002	P	20.2	
2	☐	2.000	1.924	1191.16	0.0036	P	6.1	-3.8
3	☐	5.000	4.745	2833.57	0.0086	P	3.5	-5.1
4	☐	10.000	9.675	5622.03	0.0173	P	2.9	-3.3
5	☐	100.000	103.024	57670.35	0.1827	P	0.6	3.0
6	☐	200.000	198.512	107291.93	0.3519	P	0.7	-0.7
7	☐	1.000						

y = 0.0018 * x + 2.0170E-004
R = 0.9998
DL = 0.06903 ppb
BEC = 0.1138 ppb

Weight: <None>
Min Conc: <None>

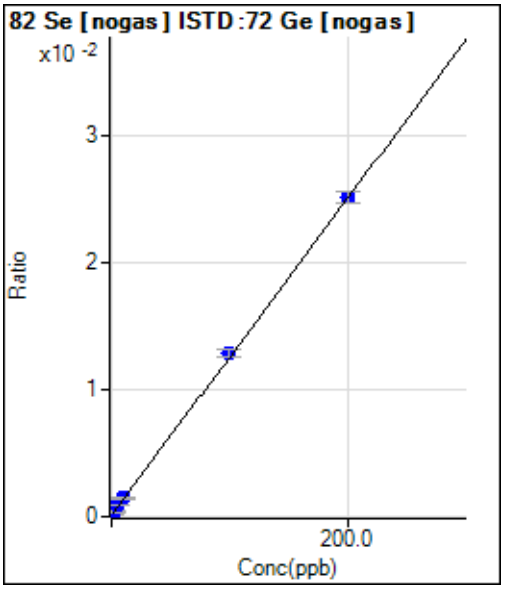
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	52.67	0.0002	P	35.5	
2	☐	2.000	1.929	160.00	0.0005	P	13.5	-3.5
3	☐	5.000	5.036	332.67	0.0010	P	17.2	0.7
4	☐	10.000	9.404	566.01	0.0017	P	5.9	-6.0
5	☐	100.000	100.059	5379.49	0.0170	P	2.2	0.1
6	☑	200.000		9757.35	0.0320	P	0.2	
7	☐	1.000						

y = 1.6876E-004 * x + 1.5941E-004
R = 1.0000
DL = 1.007 ppb
BEC = 0.9446 ppb

Weight: <None>
Min Conc: <None>

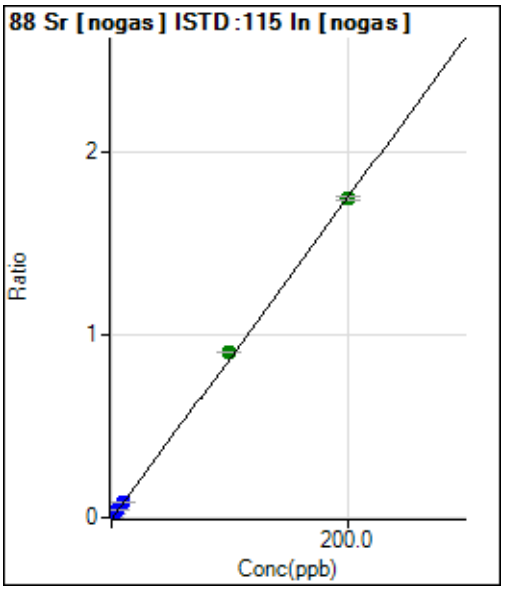


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	283.34	0.0002	P	29.8	
2	☐	2.000	1.082	440.01	0.0004	P	7.5	-45.9
3	☐	5.000	5.752	1130.06	0.0010	P	4.6	15.0
4	☐	10.000	9.648	1693.45	0.0014	P	7.5	-3.5
5	☐	100.000	100.998	14679.64	0.0129	P	4.1	1.0
6	☐	200.000	199.509	27681.96	0.0252	P	4.0	-0.2
7	☐	1.000						

y = 1.2502E-004 * x + 2.4098E-004
R = 1.0000
DL = 1.724 ppb
BEC = 1.928 ppb

Weight: <None>
Min Conc: <None>

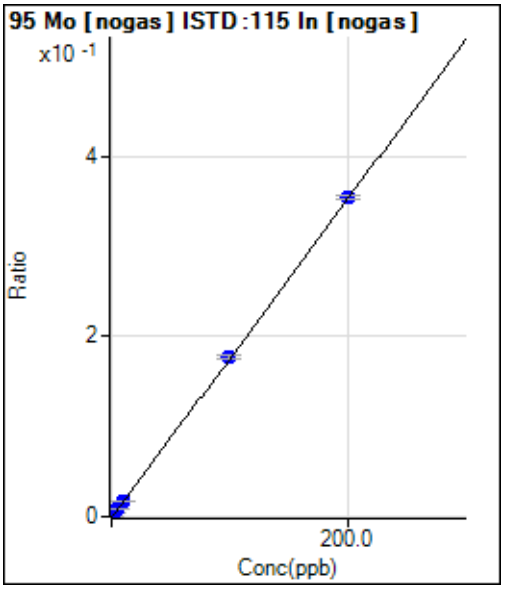
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	963.38	0.0004	P	8.6	
2	☐	2.000	1.920	45027.66	0.0172	P	2.1	-4.0
3	☐	5.000	4.702	109526.06	0.0417	P	1.4	-6.0
4	☐	10.000	9.473	218363.49	0.0836	P	0.3	-5.3
5	☐	100.000	103.039	2294005.33	0.9054	A	0.5	3.0
6	☐	200.000	198.515	4237987.75	1.7439	A	1.3	-0.7
7	☐	1.000						

y = 0.0088 * x + 3.6542E-004
R = 0.9998
DL = 0.01076 ppb
BEC = 0.0416 ppb

Weight: <None>
Min Conc: <None>

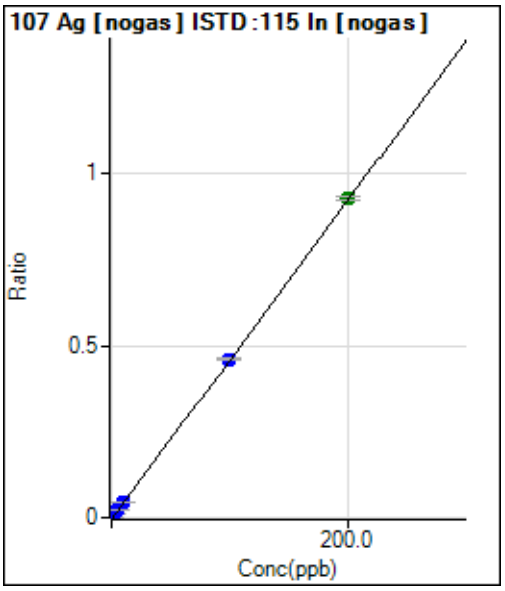


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	790.03	0.0003	P	21.8	
2	☐	2.000	1.915	9649.49	0.0037	P	4.4	-4.3
3	☐	5.000	4.757	22921.85	0.0087	P	4.1	-4.9
4	☐	10.000	9.522	44841.12	0.0172	P	1.0	-4.8
5	☐	100.000	100.002	449320.16	0.1774	P	1.8	0.0
6	☐	200.000	200.030	861452.98	0.3545	P	0.8	0.0
7	☐	1.000						

y = 0.0018 * x + 2.9986E-004
R = 1.0000
DL = 0.1108 ppb
BEC = 0.1693 ppb

Weight: <None>
Min Conc: <None>

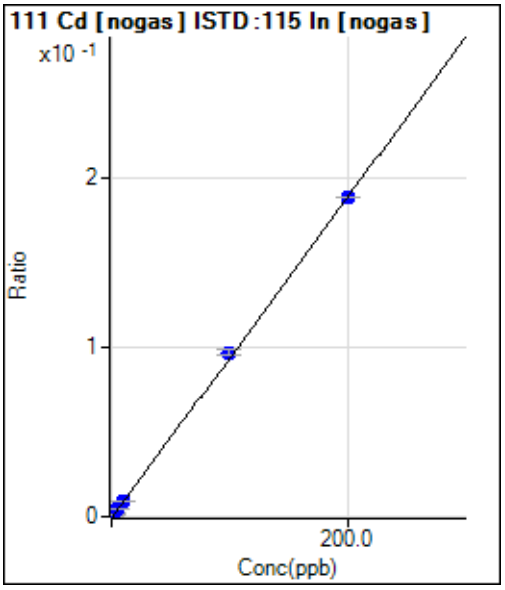
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	260.01	0.0001	P	5.5	
2	☐	2.000	1.932	23656.41	0.0090	P	2.8	-3.4
3	☐	5.000	4.627	56622.51	0.0215	P	2.0	-7.5
4	☐	10.000	9.663	117253.80	0.0449	P	1.9	-3.4
5	☐	100.000	99.335	1166285.53	0.4604	P	1.7	-0.7
6	☐	200.000	200.359	2256485.90	0.9285	A	1.1	0.2
7	☐	1.000						

y = 0.0046 * x + 9.8537E-005
R = 1.0000
DL = 0.003499 ppb
BEC = 0.02127 ppb

Weight: <None>
Min Conc: <None>

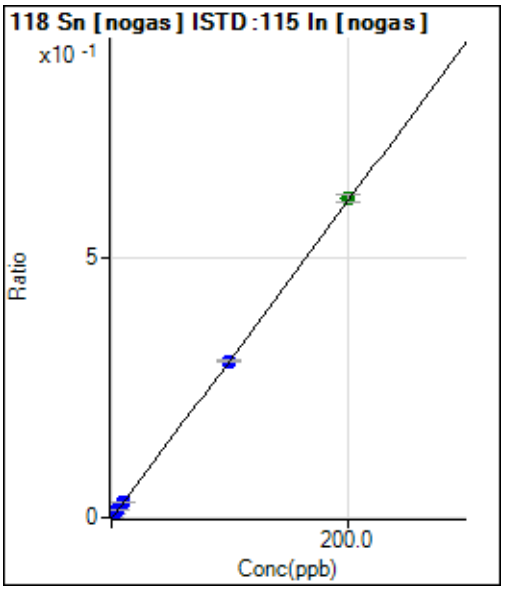


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3.33	0.0000	P	173.	
2	☐	2.000	1.863	4614.02	0.0018	P	7.9	-6.8
3	☐	5.000	4.848	12071.05	0.0046	P	2.1	-3.0
4	☐	10.000	9.699	24003.56	0.0092	P	0.8	-3.0
5	☐	100.000	102.293	245342.73	0.0969	P	2.6	2.3
6	☐	200.000	198.874	457644.81	0.1883	P	0.5	-0.6
7	☐	1.000						

y = 9.4689E-004 * x + 1.2724E-006
R = 0.9999
DL = 0.006983 ppb
BEC = 0.001344 ppb

Weight: <None>
Min Conc: <None>

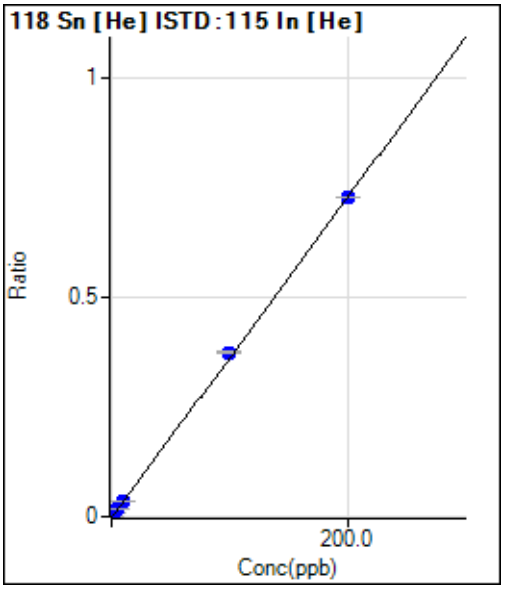
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1876.82	0.0007	P	1.3	
2	☐	2.000	1.886	16948.58	0.0065	P	1.5	-5.7
3	☐	5.000	4.535	38363.07	0.0146	P	1.2	-9.3
4	☐	10.000	9.187	75327.93	0.0288	P	1.8	-8.1
5	☐	100.000	98.338	764366.55	0.3017	P	0.8	-1.7
6	☐	200.000	200.885	1496092.84	0.6156	A	2.5	0.4
7	☐	1.000						

y = 0.0031 * x + 7.1157E-004
R = 1.0000
DL = 0.009233 ppb
BEC = 0.2325 ppb

Weight: <None>
Min Conc: <None>

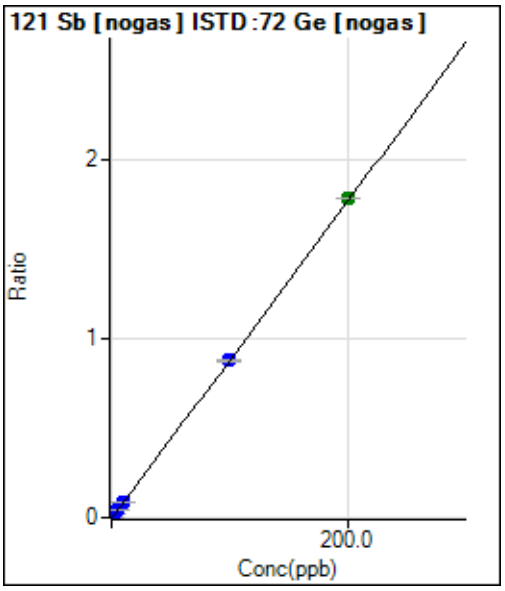


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	963.38	0.0009	P	8.3	
2	☐	2.000	1.913	8318.80	0.0079	P	0.4	-4.4
3	☐	5.000	4.740	19170.96	0.0183	P	1.7	-5.2
4	☐	10.000	9.450	36789.67	0.0355	P	2.0	-5.5
5	☐	100.000	102.257	374830.37	0.3746	P	0.6	2.3
6	☐	200.000	198.907	707495.88	0.7278	P	0.5	-0.5
7	☐	1.000						

y = 0.0037 * x + 9.2809E-004
R = 0.9999
DL = 0.06291 ppb
BEC = 0.254 ppb

Weight: <None>
Min Conc: <None>

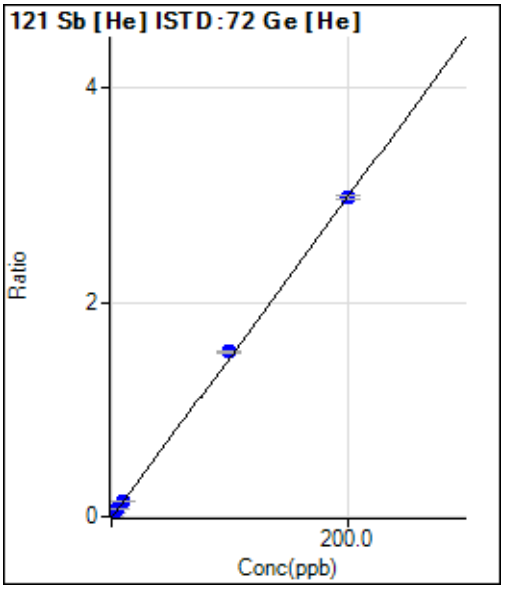
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1986.82	0.0017	P	3.0	
2	☐	2.000	1.805	20766.13	0.0177	P	1.4	-9.7
3	☐	5.000	4.538	49494.86	0.0421	P	4.8	-9.2
4	☐	10.000	9.097	96647.33	0.0826	P	1.2	-9.0
5	☐	100.000	98.590	1002496.73	0.8788	P	1.0	-1.4
6	☐	200.000	200.763	1964944.19	1.7878	A	0.6	0.4
7	☐	1.000						

y = 0.0089 * x + 0.0017
R = 1.0000
DL = 0.01681 ppb
BEC = 0.1897 ppb

Weight: <None>
Min Conc: <None>

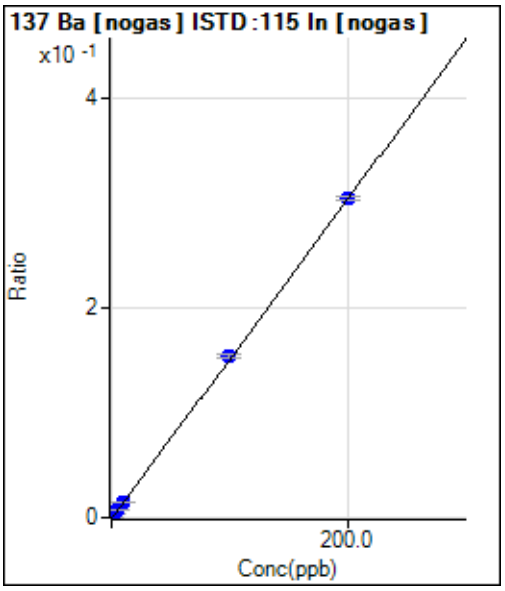


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	900.04	0.0027	P	19.4	
2	☐	2.000	1.872	10159.87	0.0308	P	3.6	-6.4
3	☐	5.000	4.660	23890.26	0.0726	P	3.0	-6.8
4	☐	10.000	9.389	46536.49	0.1435	P	0.4	-6.1
5	☐	100.000	102.524	486152.17	1.5404	P	1.4	2.5
6	☐	200.000	198.778	909800.14	2.9841	P	0.7	-0.6
7	☐	1.000						

y = 0.0150 * x + 0.0027
R = 0.9999
DL = 0.1058 ppb
BEC = 0.1815 ppb

Weight: <None>
Min Conc: <None>

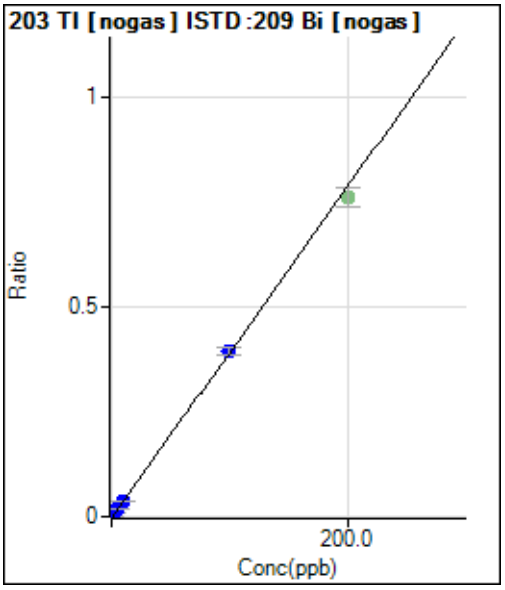
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	680.03	0.0003	P	7.2	
2	☐	2.000	1.988	8618.99	0.0033	P	5.0	-0.6
3	☐	5.000	4.711	19611.67	0.0075	P	4.0	-5.8
4	☐	10.000	9.665	39279.26	0.0150	P	2.6	-3.3
5	☐	100.000	101.034	391861.13	0.1547	P	2.3	1.0
6	☐	200.000	199.507	741731.87	0.3052	P	0.9	-0.2
7	☐	1.000						

y = 0.0015 * x + 2.5777E-004
R = 1.0000
DL = 0.03638 ppb
BEC = 0.1686 ppb

Weight: <None>
Min Conc: <None>

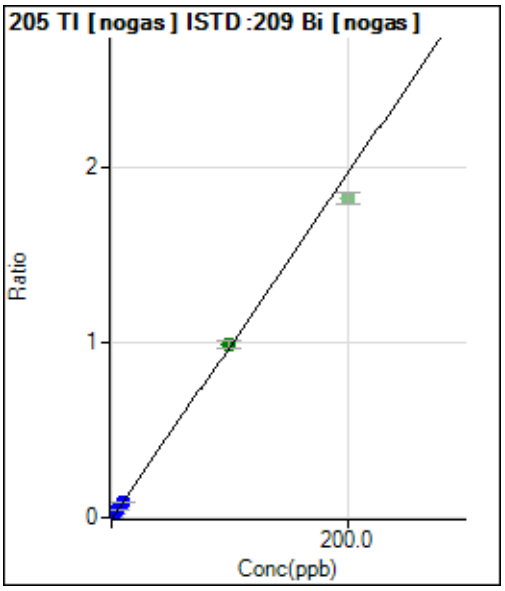


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	90.00	0.0000	P	38.2	
2	☐	2.000	1.907	22145.43	0.0076	P	4.8	-4.6
3	☐	5.000	4.548	53405.22	0.0180	P	5.2	-9.0
4	☐	10.000	9.241	108617.20	0.0366	P	5.6	-7.6
5	☐	100.000	100.100	1124767.35	0.3962	P	4.6	0.1
6	☑	200.000		2202207.89	0.7612	A	6.1	
7	☐	1.000						

y = 0.0040 * x + 3.0652E-005
R = 1.0000
DL = 0.008887 ppb
BEC = 0.007746 ppb

Weight: <None>
Min Conc: <None>

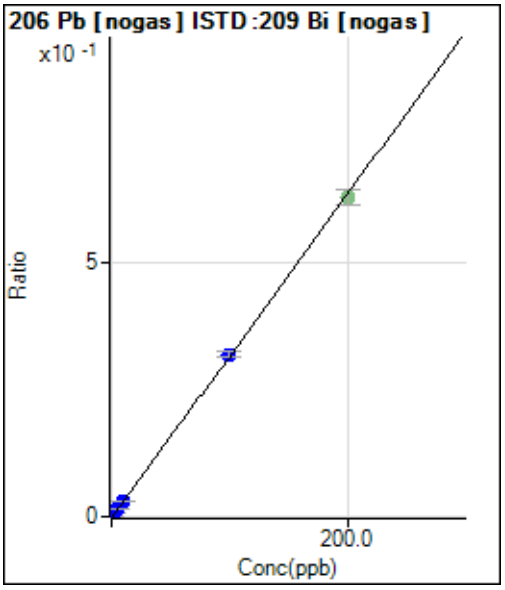
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	373.34	0.0001	P	25.6	
2	☐	2.000	1.811	52532.62	0.0180	P	8.0	-9.4
3	☐	5.000	4.392	128697.37	0.0435	P	6.3	-12.2
4	☐	10.000	8.870	260147.68	0.0876	P	5.4	-11.3
5	☐	100.000	100.147	2805774.23	0.9883	A	5.0	0.1
6	☑	200.000		5274576.17	1.8219	A	3.7	
7	☐	1.000						

y = 0.0099 * x + 1.2810E-004
R = 0.9999
DL = 0.009957 ppb
BEC = 0.01298 ppb

Weight: <None>
Min Conc: <None>

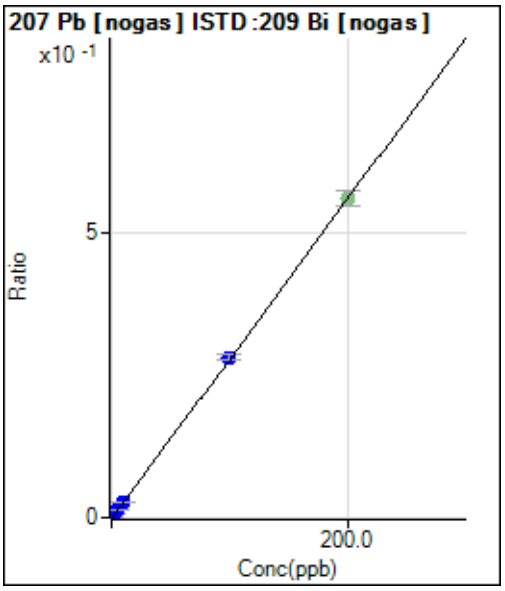


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	420.01	0.0001	P	13.0	
2	☐	2.000	1.952	18644.42	0.0064	P	9.9	-2.4
3	☐	5.000	4.678	44735.68	0.0151	P	6.0	-6.4
4	☐	10.000	9.272	88499.53	0.0298	P	4.3	-7.3
5	☐	100.000	100.090	909746.29	0.3203	P	3.5	0.1
6	☑	200.000		1821597.37	0.6295	A	5.2	
7	☐	1.000						

y = 0.0032 * x + 1.4274E-004
R = 1.0000
DL = 0.01744 ppb
BEC = 0.04462 ppb

Weight: <None>
Min Conc: <None>

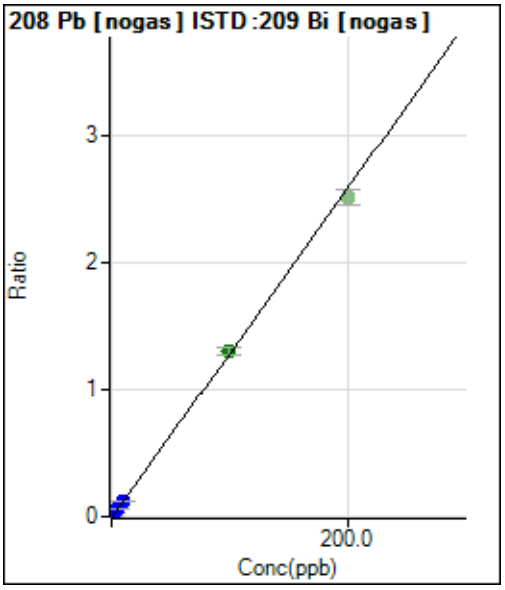
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	366.68	0.0001	P	14.6	
2	☐	2.000	1.923	16121.75	0.0055	P	10.4	-3.9
3	☐	5.000	4.717	39572.52	0.0134	P	8.0	-5.7
4	☐	10.000	9.349	78313.36	0.0264	P	5.5	-6.5
5	☐	100.000	100.081	798621.52	0.2813	P	4.1	0.1
6	☑	200.000		1619435.60	0.5595	A	4.6	
7	☐	1.000						

y = 0.0028 * x + 1.2545E-004
R = 1.0000
DL = 0.01951 ppb
BEC = 0.04466 ppb

Weight: <None>
Min Conc: <None>

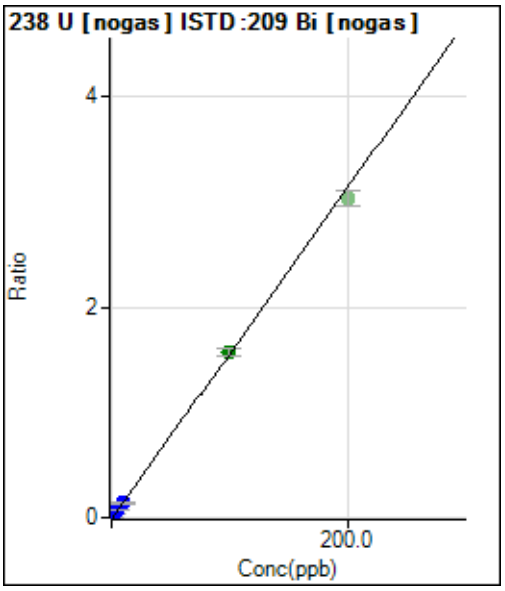


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1670.06	0.0006	P	2.0	
2	☐	2.000	1.899	73853.96	0.0253	P	8.5	-5.1
3	☐	5.000	4.605	179321.50	0.0606	P	6.3	-7.9
4	☐	10.000	9.186	356980.04	0.1203	P	5.0	-8.1
5	☐	100.000	100.103	3704769.55	1.3048	A	4.5	0.1
6	☑	200.000		7295791.14	2.5210	A	5.1	
7	☐	1.000						

y = 0.0130 * x + 5.6950E-004
R = 1.0000
DL = 0.002581 ppb
BEC = 0.04371 ppb

Weight: <None>
Min Conc: <None>

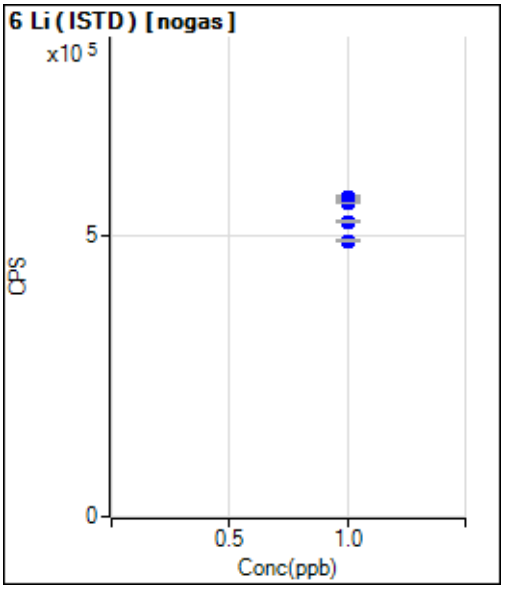
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	170.00	0.0001	P	8.7	
2	☐	2.000	1.813	83564.70	0.0286	P	6.7	-9.4
3	☐	5.000	4.383	204669.58	0.0691	P	6.5	-12.3
4	☐	10.000	8.840	413568.78	0.1394	P	6.0	-11.6
5	☐	100.000	100.151	4481364.41	1.5783	A	4.5	0.2
6	☑	200.000		8774608.62	3.0321	A	5.4	
7	☐	1.000						

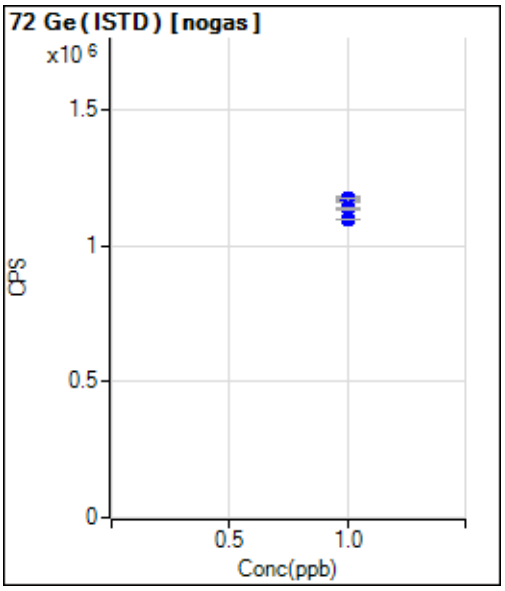
y = 0.0158 * x + 5.8067E-005
R = 0.9999
DL = 0.0009612 ppb
BEC = 0.003685 ppb

Weight: <None>
Min Conc: <None>

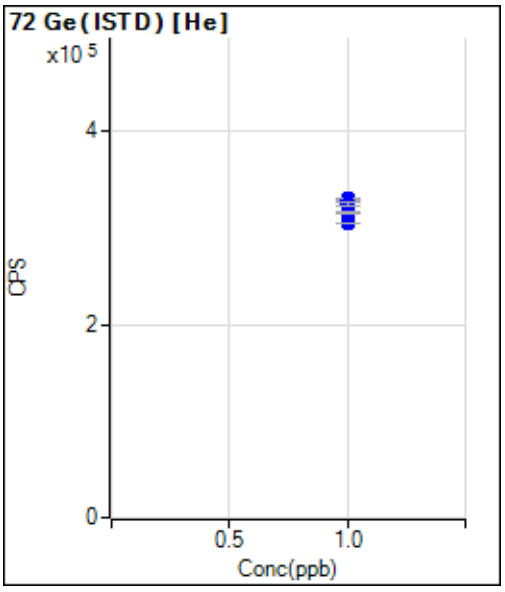


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		567320.42		P	0.7	
2	☐	1.000		566093.33		P	0.8	
3	☐	1.000		560082.20		P	0.2	
4	☐	1.000		557401.64		P	0.2	
5	☐	1.000		524117.64		P	0.7	
6	☐	1.000		489055.00		P	0.8	
7	☐	1.000						

Calibration for 024_ICV.d

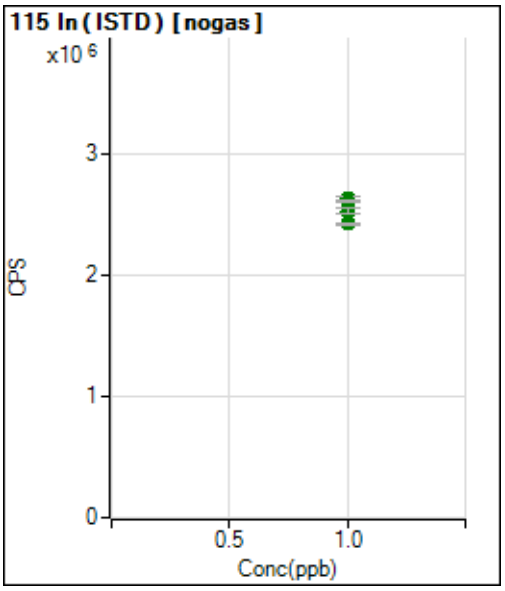


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1177117.72		P	0.6	
2	☐	1.000		1170140.32		P	1.5	
3	☐	1.000		1176704.90		P	0.8	
4	☐	1.000		1169864.07		P	0.8	
5	☐	1.000		1140704.62		P	0.7	
6	☐	1.000		1099072.53		P	0.5	
7	☐	1.000						

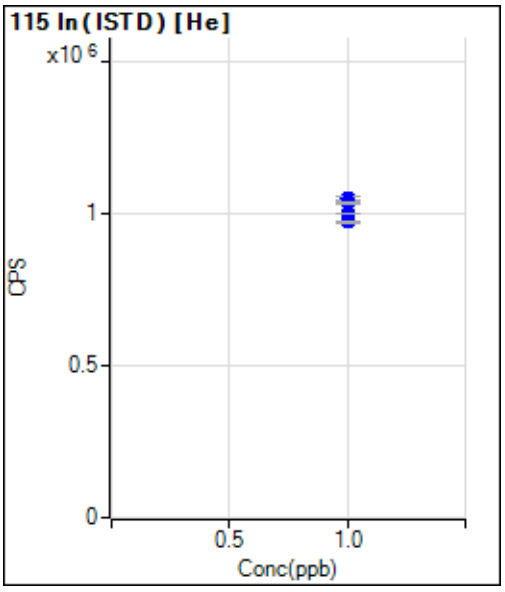


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		330629.88		P	0.3	
2	☐	1.000		329832.10		P	0.7	
3	☐	1.000		329073.54		P	1.4	
4	☐	1.000		324201.94		P	0.9	
5	☐	1.000		315597.53		P	0.1	
6	☐	1.000		304879.99		P	0.5	
7	☐	1.000						

Calibration for 024_ICV.d

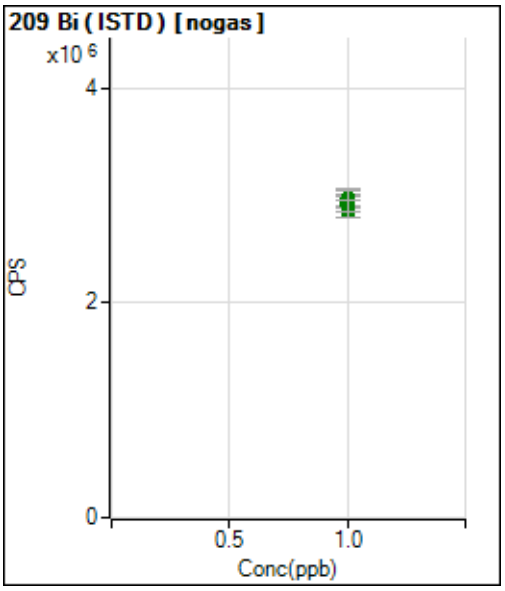


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2637598.17		A	1.1	
2	☐	1.000		2614290.91		A	0.5	
3	☐	1.000		2629114.34		A	1.5	
4	☐	1.000		2613080.42		A	1.1	
5	☐	1.000		2533834.41		A	2.0	
6	☐	1.000		2430217.84		A	0.7	
7	☐	1.000						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1038218.97		P	0.3	
2	☐	1.000		1050626.62		P	0.6	
3	☐	1.000		1050452.25		P	0.7	
4	☐	1.000		1037522.75		P	0.6	
5	☐	1.000		1000624.18		P	0.5	
6	☐	1.000		972122.67		P	0.3	
7	☐	1.000						

Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2933302.77		A	3.8	
2	☐	1.000		2926717.35		A	5.4	
3	☐	1.000		2968228.39		A	6.1	
4	☐	1.000		2973685.58		A	5.3	
5	☐	1.000		2842122.77		A	3.4	
6	☐	1.000		2898016.52		A	4.0	
7	☐	1.000						

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	017CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T11:58:39-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	25	211.66
B	11	1	nogas	22852	0.01
Ca	44	1	nogas	12995	0.05
Ti	47	1	nogas	160	11.72
Cr	52	1	nogas	30236	0.00
Ni	60	1	nogas	953	1.31
Cu	63	1	nogas	2310	0.23
Zn	66	1	nogas	1030	2.16
Se	82	1	nogas	283	10.37
Sr	88	1	nogas	963	0.82
Mo	95	1	nogas	790	2.67
Ag	107	1	nogas	260	2.56
Cd	111	1	nogas	3	5196.15
Sn	118	1	nogas	1877	0.09
Sb	121	1	nogas	1987	0.14
Ba	137	1	nogas	680	1.12
Tl	205	1	nogas	373	5.97
Pb	208	1	nogas	1670	0.19
Li	7	1	nogas	40525	0.00
Na	23	2	He	24991	0.01
Mg	24	2	He	987	2.20
Al	27	2	He	517	5.25
K	39	2	He	40522	0.01
Ca	43	2	He	7	1299.04
Ca	44	2	He	300	3.85
V	51	2	He	3038	0.06
Cr	52	2	He	920	1.48
Mn	55	2	He	553	2.36
Fe	56	2	He	16228	0.01
Co	59	2	He	130	36.95
Ni	60	2	He	363	4.31
Cu	63	2	He	1170	1.00
Zn	66	2	He	420	1.13
As	75	2	He	67	30.00
Sb	121	2	He	900	2.16
Se	78	2	He	53	67.00

QC ISTD Table

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	1177118	0.63
In	115	1	nogas	2637598	1.14
Li	6	1	nogas	567320	0.70

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Bi	209	1	nogas	2933303	3.79
Ge	72	2	He	330630	0.31
In	115	2	He	1038219	0.34

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	018CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:00:42-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	3752	0.18
B	11	1	nogas	34549	0.01
Ca	44	1	nogas	80902	0.00
Ti	47	1	nogas	2184	0.16
Cr	52	1	nogas	55916	0.00
Ni	60	1	nogas	7038	0.10
Cu	63	1	nogas	17509	0.01
Zn	66	1	nogas	5014	0.04
Se	82	1	nogas	440	1.55
Sr	88	1	nogas	45028	0.00
Mo	95	1	nogas	9649	0.05
Ag	107	1	nogas	23656	0.01
Cd	111	1	nogas	4614	0.16
Sn	118	1	nogas	16949	0.01
Sb	121	1	nogas	20766	0.01
Ba	137	1	nogas	8619	0.06
Tl	205	1	nogas	52533	0.01
Pb	208	1	nogas	73854	0.01
Na	23	2	He	162673	0.00
Mg	24	2	He	82773	0.00
Al	27	2	He	963	0.76
K	39	2	He	121432	0.00
Ca	43	2	He	297	4.59
Ca	44	2	He	4914	0.13
V	51	2	He	10356	0.01
Cr	52	2	He	9849	0.04
Mn	55	2	He	6775	0.07
Fe	56	2	He	831998	0.00
Co	59	2	He	13542	0.03
Ni	60	2	He	3580	0.12
Cu	63	2	He	9493	0.04
Zn	66	2	He	1993	0.11
As	75	2	He	1191	0.56
Sb	121	2	He	10160	0.04
Se	78	2	He	160	8.70

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1170140	1.52	1177118	99.41	70	120	

Calibration Standard Report

In	115	1	nogas	2614291	0.54	2637598	99.12	70	120	
Li	6	1	nogas	566093	0.82	567320	99.78	70	120	
Bi	209	1	nogas	2926717	5.42	2933303	99.78	70	120	
Ge	72	2	He	329832	0.71	330630	99.76	70	120	
In	115	2	He	1050627	0.61	1038219	101.20	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	019CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:02:46-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	9422	0.01
B	11	1	nogas	50972	0.00
Ca	44	1	nogas	179259	0.00
Ti	47	1	nogas	5324	0.01
Cr	52	1	nogas	93044	0.00
Ni	60	1	nogas	16054	0.01
Cu	63	1	nogas	39059	0.00
Zn	66	1	nogas	12385	0.00
Se	82	1	nogas	1130	0.48
Sr	88	1	nogas	109526	0.00
Mo	95	1	nogas	22922	0.01
Ag	107	1	nogas	56623	0.00
Cd	111	1	nogas	12071	0.01
Sn	118	1	nogas	38363	0.01
Sb	121	1	nogas	49495	0.01
Ba	137	1	nogas	19612	0.02
Tl	205	1	nogas	128697	0.00
Pb	208	1	nogas	179322	0.00
Na	23	2	He	362318	0.00
Mg	24	2	He	198063	0.00
Al	27	2	He	1737	0.63
K	39	2	He	240484	0.00
Ca	43	2	He	633	2.02
Ca	44	2	He	11427	0.01
V	51	2	He	21286	0.00
Cr	52	2	He	23225	0.01
Mn	55	2	He	16258	0.01
Fe	56	2	He	2110936	0.00
Co	59	2	He	32810	0.00
Ni	60	2	He	8862	0.07
Cu	63	2	He	23025	0.01
Zn	66	2	He	5111	0.10
As	75	2	He	2834	0.17
Sb	121	2	He	23890	0.01
Se	78	2	He	333	5.62

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1176705	0.85	1177118	99.96	70	120	

Calibration Standard Report

In	115	1	nogas	2629114	1.54	2637598	99.68	70	120	
Li	6	1	nogas	560082	0.18	567320	98.72	70	120	
Bi	209	1	nogas	2968228	6.07	2933303	101.19	70	120	
Ge	72	2	He	329074	1.43	330630	99.53	70	120	
In	115	2	He	1050452	0.70	1038219	101.18	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	020CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:04:49-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	18781	0.01
B	11	1	nogas	79192	0.00
Ca	44	1	nogas	347176	0.00
Ti	47	1	nogas	10563	0.04
Cr	52	1	nogas	154756	0.00
Ni	60	1	nogas	31034	0.01
Cu	63	1	nogas	75254	0.00
Zn	66	1	nogas	21386	0.00
Se	82	1	nogas	1693	0.47
Sr	88	1	nogas	218363	0.00
Mo	95	1	nogas	44841	0.00
Ag	107	1	nogas	117254	0.00
Cd	111	1	nogas	24004	0.01
Sn	118	1	nogas	75328	0.00
Sb	121	1	nogas	96647	0.00
Ba	137	1	nogas	39279	0.01
Tl	205	1	nogas	260148	0.00
Pb	208	1	nogas	356980	0.00
Na	23	2	He	703914	0.00
Mg	24	2	He	393763	0.00
Al	27	2	He	2687	0.08
K	39	2	He	437519	0.00
Ca	43	2	He	1230	0.52
Ca	44	2	He	22538	0.01
V	51	2	He	39464	0.00
Cr	52	2	He	43496	0.01
Mn	55	2	He	32910	0.01
Fe	56	2	He	4160974	0.00
Co	59	2	He	65148	0.00
Ni	60	2	He	16491	0.03
Cu	63	2	He	43523	0.00
Zn	66	2	He	8692	0.06
As	75	2	He	5622	0.05
Sb	121	2	He	46536	0.00
Se	78	2	He	566	0.88

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1169864	0.83	1177118	99.38	70	120	

Calibration Standard Report

In	115	1	nogas	2613080	1.08	2637598	99.07	70	120	
Li	6	1	nogas	557402	0.23	567320	98.25	70	120	
Bi	209	1	nogas	2973686	5.30	2933303	101.38	70	120	
Ge	72	2	He	324202	0.94	330630	98.06	70	120	
In	115	2	He	1037523	0.65	1038219	99.93	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	021CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:06:51-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	194150	0.00
B	11	1	nogas	612257	0.00
Ca	44	1	nogas	3490144	0.00
Ti	47	1	nogas	105560	0.00
Cr	52	1	nogas	1311913	0.00
Ni	60	1	nogas	300649	0.00
Cu	63	1	nogas	742898	0.00
Zn	66	1	nogas	215380	0.00
Se	82	1	nogas	14680	0.03
Sr	88	1	nogas	2294005	0.00
Mo	95	1	nogas	449320	0.00
Ag	107	1	nogas	1166286	0.00
Cd	111	1	nogas	245343	0.00
Sn	118	1	nogas	764367	0.00
Sb	121	1	nogas	1002497	0.00
Ba	137	1	nogas	391861	0.00
Tl	205	1	nogas	2805774	0.00
Pb	208	1	nogas	3704770	0.00
Na	23	2	He	7044928	0.00
Mg	24	2	He	4096573	0.00
Al	27	2	He	22818	0.00
K	39	2	He	4288889	0.00
Ca	43	2	He	13265	0.02
Ca	44	2	He	229310	0.00
V	51	2	He	375118	0.00
Cr	52	2	He	436391	0.00
Mn	55	2	He	319649	0.00
Fe	56	2	He	41832549	0.00
Co	59	2	He	657414	0.00
Ni	60	2	He	164113	0.00
Cu	63	2	He	428534	0.00
Zn	66	2	He	83360	0.00
As	75	2	He	57670	0.00
Sb	121	2	He	486152	0.00
Se	78	2	He	5379	0.04

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1140705	0.66	1177118	96.91	70	120	

Calibration Standard Report

In	115	1	nogas	2533834	2.03	2637598	96.07	70	120	
Li	6	1	nogas	524118	0.71	567320	92.38	70	120	
Bi	209	1	nogas	2842123	3.35	2933303	96.89	70	120	
Ge	72	2	He	315598	0.08	330630	95.45	70	120	
In	115	2	He	1000624	0.48	1038219	96.38	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	022CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:08:52-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	365641	0.00
B	11	1	nogas	1186880	0.00
Ca	44	1	nogas	6447311	0.00
Ti	47	1	nogas	196103	0.00
Cr	52	1	nogas	2470410	0.00
Ni	60	1	nogas	556690	0.00
Cu	63	1	nogas	1403939	0.00
Zn	66	1	nogas	395644	0.00
Se	82	1	nogas	27682	0.02
Sr	88	1	nogas	4237988	0.00
Mo	95	1	nogas	861453	0.00
Ag	107	1	nogas	2256486	0.00
Cd	111	1	nogas	457645	0.00
Sn	118	1	nogas	1496093	0.00
Sb	121	1	nogas	1964944	0.00
Ba	137	1	nogas	741732	0.00
Tl	205	1	nogas	5274576	0.00
Pb	208	1	nogas	7295791	0.00
Na	23	2	He	12829639	0.00
Mg	24	2	He	7470552	0.00
Al	27	2	He	41680	0.01
K	39	2	He	7785038	0.00
Ca	43	2	He	25158	0.01
Ca	44	2	He	427205	0.00
V	51	2	He	714306	0.00
Cr	52	2	He	830207	0.00
Mn	55	2	He	608547	0.00
Fe	56	2	He	77604479	0.00
Co	59	2	He	1226067	0.00
Ni	60	2	He	307302	0.00
Cu	63	2	He	804958	0.00
Zn	66	2	He	157037	0.00
As	75	2	He	107292	0.00
Sb	121	2	He	909800	0.00
Se	78	2	He	9757	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1099073	0.48	1177118	93.37	70	120	

Calibration Standard Report

In	115	1	nogas	2430218	0.71	2637598	92.14	70	120	
Li	6	1	nogas	489055	0.81	567320	86.20	70	120	
Bi	209	1	nogas	2898017	4.04	2933303	98.80	70	120	
Ge	72	2	He	304880	0.50	330630	92.21	70	120	
In	115	2	He	972123	0.30	1038219	93.63	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	024_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:13:57-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	106.057	0.887	197493	1.36	100	106.1	90	110	
B	11	1	nogas	537.894	1.222	630180	1.44	500	107.6	90	110	
Ca	44	1	nogas	10633.165	0.959	3536210	0.81	10000	106.3	90	110	
Ti	47	1	nogas	103.949	0.316	104958	0.44	100	103.9	90	110	
Cr	52	1	nogas	105.183	0.906	1344161	1.51	100	105.2	90	110	
Ni	60	1	nogas	106.005	1.059	304242	1.42	100	106.0	90	110	
Cu	63	1	nogas	104.961	0.530	756452	0.61	100	105.0	90	110	
Zn	66	1	nogas	105.846	1.413	216373	1.91	100	105.8	90	110	
Se	82	1	nogas	104.326	4.818	14917	4.94	100	104.3	90	110	
Sr	88	1	nogas	106.435	0.671	2325296	2.11	100	106.4	90	110	
Mo	95	1	nogas	103.484	1.867	456250	0.96	100	103.5	90	110	
Ag	107	1	nogas	103.462	1.978	1192033	1.27	100	103.5	90	110	
Cd	111	1	nogas	105.075	2.256	247320	0.90	100	105.1	90	110	
Sn	118	1	nogas	101.773	2.070	776123	1.36	100	101.8	90	110	
Sb	121	1	nogas	104.455	0.959	1045357	1.38	100	104.5	90	110	
Ba	137	1	nogas	105.911	2.242	403076	0.98	100	105.9	90	110	
Tl	205	1	nogas	106.435	4.491	2874218	0.92	100	106.4	90	110	
Pb	208	1	nogas	109.449	5.266	3800552	0.05	100	109.4	90	110	
U	238	1	nogas	107.438	5.356	4491410	1.14	100	107.4	90	110	
Li	7	1	nogas	106.202	0.888	749705	0.70	100	106.2	90	110	
Tl	203	1	nogas	112.004	5.711	1175352	1.05	100	112.0	90	110	ICV Main CR1 Failed
Na	23	2	He	10442.270	0.805	6998818	0.73	10000	104.4	90	110	
Mg	24	2	He	10624.391	0.310	4140379	1.26	10000	106.2	90	110	
Al	27	2	He	105.002	1.865	23001	1.22	100	105.0	90	110	
K	39	2	He	10698.303	2.010	4361507	0.73	10000	107.0	90	110	
Ca	43	2	He	10881.316	4.696	14159	3.59	10000	108.8	90	110	
Ca	44	2	He	10527.967	1.404	233648	0.84	10000	105.3	90	110	
V	51	2	He	103.592	1.202	383601	0.21	100	103.6	90	110	
Cr	52	2	He	104.412	1.931	448490	0.84	100	104.4	90	110	
Mn	55	2	He	104.617	1.290	329331	0.26	100	104.6	90	110	
Fe	56	2	He	10561.163	1.138	42603639	0.39	10000	105.6	90	110	
Co	59	2	He	105.247	1.319	669968	0.15	100	105.2	90	110	
Ni	60	2	He	104.666	1.208	166979	0.69	100	104.7	90	110	
Cu	63	2	He	105.289	1.685	439763	0.70	100	105.3	90	110	
Zn	66	2	He	106.604	2.544	86873	1.26	100	106.6	90	110	
As	75	2	He	107.717	2.416	60043	1.20	100	107.7	90	110	
Sn	118	2	He	104.585	0.783	381623	0.58	100	104.6	90	110	
Sb	121	2	He	106.563	1.322	503218	0.65	100	106.6	90	110	
Se	78	2	He	108.028	0.705	5522	0.97	100	108.0	90	110	
Ti	47	2	He	105.545	5.135	13976	3.92	100	105.5	90	110	
Al	27	1	nogas	104.967	0.801	979384	0.59	100	105.0	90	110	

QC ISTD Table

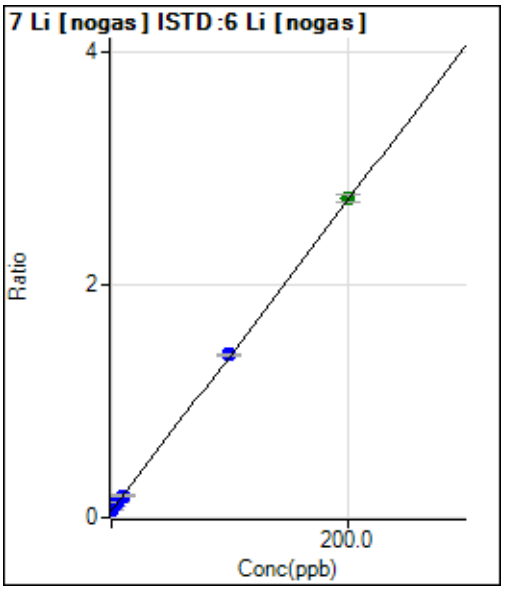
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1122844	0.76	1177118	95.39	70	120	
In	115	1	nogas	2486380	1.84	2637598	94.27	70	120	
Li	6	1	nogas	503281	0.88	567320	88.71	70	120	
Bi	209	1	nogas	2740713	5.28	2933303	93.43	70	120	
Ge	72	2	He	314344	1.28	330630	95.07	70	120	
In	115	2	He	996130	0.21	1038219	95.95	70	120	

Calibration for 024_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\121120A.b\
Analysis File: 121120A.batch.bin
DA Date-Time: 12/12/2020 7:39:54 AM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	017CALB.d	CAL BLK	12/11/2020 11:58:39 AM
2	018CALS.d	2/10/200	12/11/2020 12:00:42 PM
3	019CALS.d	5/25/500	12/11/2020 12:02:46 PM
4	020CALS.d	10/50/1000	12/11/2020 12:04:49 PM
5	021CALS.d	100/500/10K	12/11/2020 12:06:51 PM
6	022CALS.d	200/1000/20K	12/11/2020 12:08:52 PM
7			

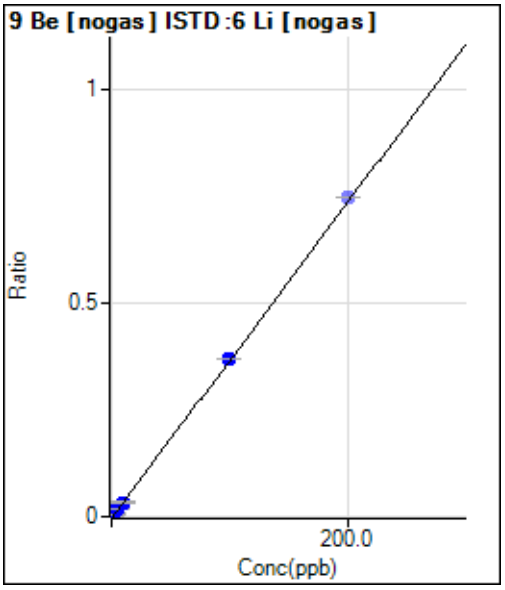
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	40525.06	0.0714	P	0.8	
2	☐	2.000	1.667	53040.87	0.0937	P	0.3	-16.6
3	☐	5.000	4.350	72545.14	0.1295	P	1.5	-13.0
4	☐	10.000	8.886	105961.26	0.1901	P	0.6	-11.1
5	☐	100.000	99.412	733221.50	1.3990	P	0.8	-0.6
6	☐	200.000	200.369	1343422.85	2.7472	A	2.3	0.2
7	☐	1.000						

y = 0.0134 * x + 0.0714
R = 1.0000
DL = 0.1356 ppb
BEC = 5.349 ppb

Weight: <None>
Min Conc: <None>

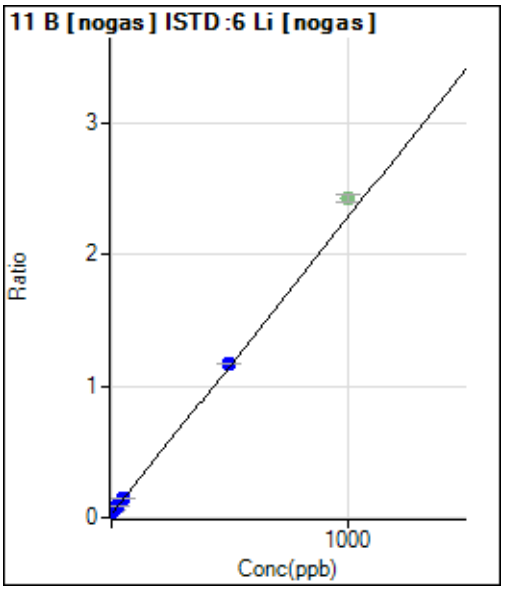


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	25.00	0.0000	P	52.2	
2	☐	2.000	1.779	3752.07	0.0066	P	6.0	-11.0
3	☐	5.000	4.535	9422.42	0.0168	P	0.6	-9.3
4	☐	10.000	9.096	18781.11	0.0337	P	2.0	-9.0
5	☐	100.000	100.118	194149.86	0.3704	P	0.2	0.1
6	☑	200.000		365640.61	0.7477	P	0.6	
7	☐	1.000						

y = 0.0037 * x + 4.3962E-005
R = 1.0000
DL = 0.01859 ppb
BEC = 0.01188 ppb

Weight: <None>
Min Conc: <None>

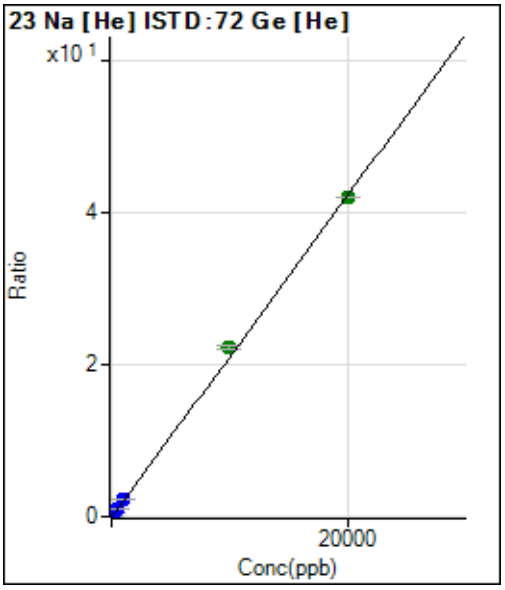
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	22852.31	0.0403	P	1.7	
2	☐	10.000	9.206	34548.55	0.0610	P	2.1	-7.9
3	☐	25.000	22.515	50972.01	0.0910	P	0.9	-9.9
4	☐	50.000	45.181	79192.18	0.1421	P	1.1	-9.6
5	☐	500.000	500.622	612256.52	1.1682	P	0.7	0.1
6	☑	1000.000		1186879.67	2.4272	A	2.4	
7	☐	5.000						

y = 0.0023 * x + 0.0403
R = 1.0000
DL = 0.8905 ppb
BEC = 17.88 ppb

Weight: <None>
Min Conc: <None>

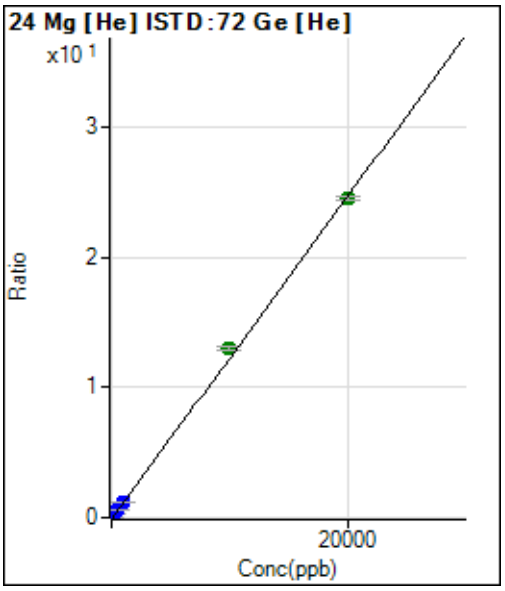


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	24990.50	0.0756	P	1.7	
2	☐	200.000	196.517	162673.38	0.4932	P	0.4	-1.7
3	☐	500.000	482.595	362318.37	1.1011	P	1.1	-3.5
4	☐	1000.000	986.188	703914.49	2.1713	P	0.7	-1.4
5	☐	10000.00	10468.85	7044928.02	22.3227	A	1.3	4.7
6	☐	20000.00	19766.73	12829639.3	42.0813	A	0.3	-1.2
7	☐	100.000						

y = 0.0021 * x + 0.0756
R = 0.9996
DL = 1.817 ppb
BEC = 35.57 ppb

Weight: <None>
Min Conc: <None>

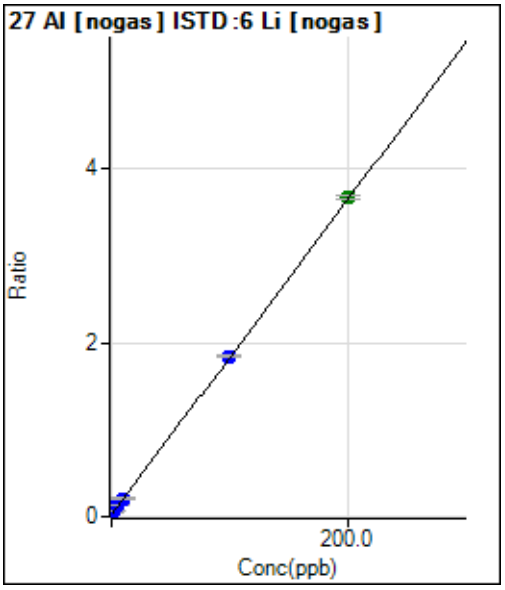
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	986.72	0.0030	P	21.7	
2	☐	200.000	200.047	82773.41	0.2509	P	2.5	0.0
3	☐	500.000	483.269	198063.29	0.6020	P	1.8	-3.3
4	☐	1000.000	977.529	393763.00	1.2146	P	0.5	-2.2
5	☐	10000.00	10470.22	4096573.38	12.9805	A	1.7	4.7
6	☐	20000.00	19766.42	7470552.18	24.5028	A	1.0	-1.2
7	☐	100.000						

y = 0.0012 * x + 0.0030
R = 0.9996
DL = 1.567 ppb
BEC = 2.408 ppb

Weight: <None>
Min Conc: <None>

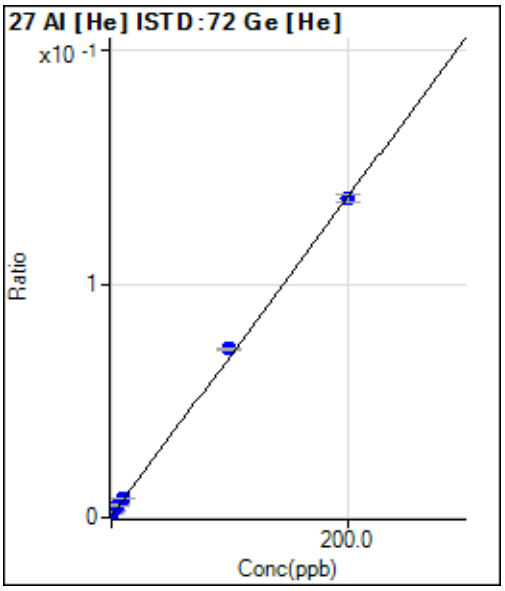


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	24236.09	0.0427	P	2.5	
2	☐	2.000	1.885	43534.63	0.0769	P	0.9	-5.7
3	☐	5.000	5.053	75249.02	0.1344	P	1.9	1.1
4	☐	10.000	9.229	117097.10	0.2101	P	1.4	-7.7
5	☐	100.000	99.256	965657.77	1.8425	P	0.8	-0.7
6	☐	200.000	200.410	1798021.27	3.6767	A	1.1	0.2
7	☐	1.000						

y = 0.0181 * x + 0.0427
R = 1.0000
DL = 0.179 ppb
BEC = 2.356 ppb

Weight: <None>
Min Conc: <None>

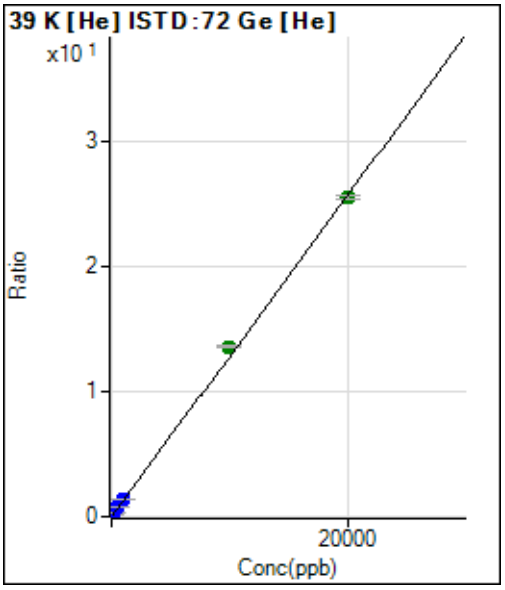
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	516.68	0.0016	P	26.9	
2	☐	2.000	1.991	963.38	0.0029	P	6.7	-0.5
3	☐	5.000	5.440	1736.78	0.0053	P	9.5	8.8
4	☐	10.000	9.861	2686.91	0.0083	P	2.3	-1.4
5	☐	100.000	103.711	22817.66	0.0723	P	0.8	3.7
6	☐	200.000	198.140	41680.33	0.1367	P	2.4	-0.9
7	☐	1.000						

y = 6.8207E-004 * x + 0.0016
R = 0.9998
DL = 1.852 ppb
BEC = 2.29 ppb

Weight: <None>
Min Conc: <None>

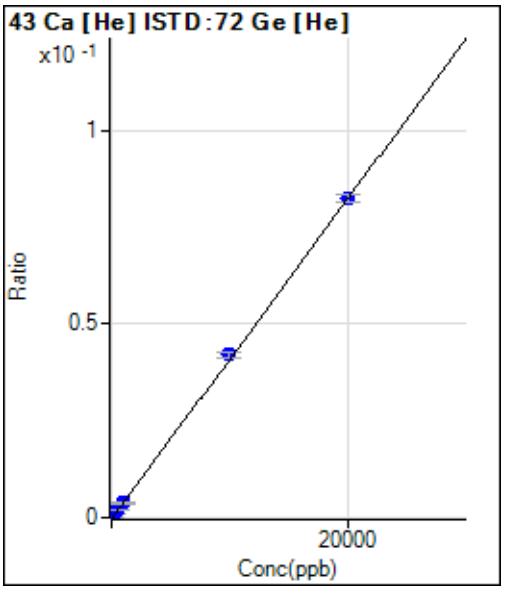


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	40521.58	0.1226	P	2.5	
2	☐	200.000	191.046	121431.78	0.3682	P	1.1	-4.5
3	☐	500.000	473.203	240484.10	0.7309	P	2.3	-5.4
4	☐	1000.000	954.363	437519.47	1.3496	P	0.6	-4.6
5	☐	10000.00	10474.59	4288888.69	13.5897	A	1.1	4.7
6	☐	20000.00	19765.74	7785037.80	25.5353	A	1.0	-1.2
7	☐	100.000						

y = 0.0013 * x + 0.1226
R = 0.9996
DL = 7.133 ppb
BEC = 95.32 ppb

Weight: <None>
Min Conc: <None>

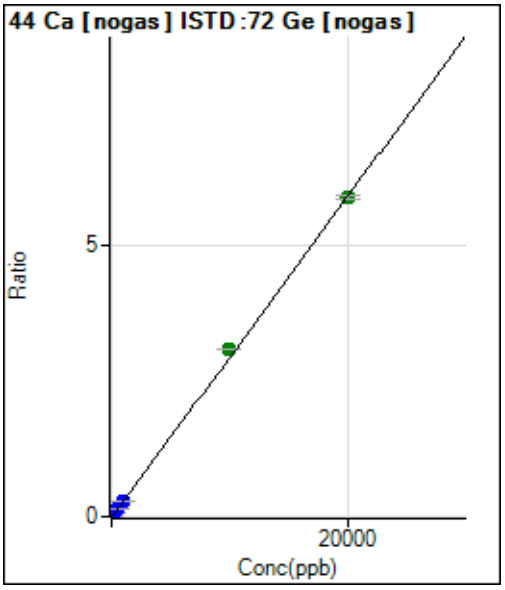
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6.67	0.0000	P	86.6	
2	☐	200.000	212.593	296.68	0.0009	P	14.3	6.3
3	☐	500.000	460.032	633.36	0.0019	P	12.5	-8.0
4	☐	1000.000	912.185	1230.07	0.0038	P	7.2	-8.8
5	☐	10000.00	10149.98	13265.06	0.0420	P	2.8	1.5
6	☐	20000.00	19930.27	25157.64	0.0825	P	2.3	-0.3
7	☐	100.000						

y = 4.1391E-006 * x + 2.0140E-005
R = 0.9999
DL = 12.64 ppb
BEC = 4.866 ppb

Weight: <None>
Min Conc: <None>

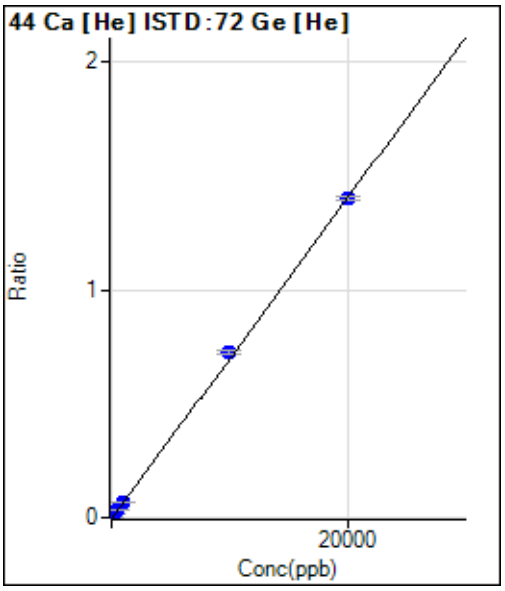


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	12994.88	0.0110	P	5.4	
2	☐	200.000	196.867	80901.68	0.0691	P	1.1	-1.6
3	☐	500.000	478.745	179258.54	0.1523	P	0.3	-4.3
4	☐	1000.000	968.095	347176.06	0.2968	P	1.1	-3.2
5	☐	10000.00	10328.89	3490144.11	3.0596	A	0.2	3.3
6	☐	20000.00	19837.71	6447310.53	5.8661	A	1.2	-0.8
7	☐	100.000						

y = 2.9515E-004 * x + 0.0110
R = 0.9998
DL = 6.027 ppb
BEC = 37.39 ppb

Weight: <None>
Min Conc: <None>

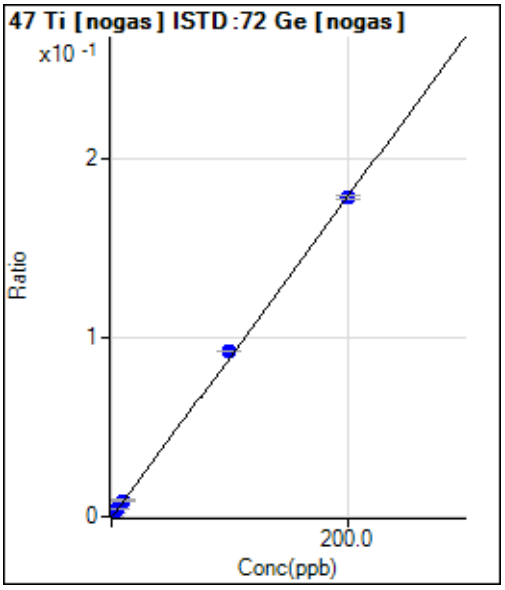
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	300.01	0.0009	P	11.2	
2	☐	200.000	198.346	4914.08	0.0149	P	5.8	-0.8
3	☐	500.000	479.540	11427.12	0.0347	P	0.3	-4.1
4	☐	1000.000	972.880	22537.56	0.0695	P	1.7	-2.7
5	☐	10000.00	10290.24	229310.36	0.7266	P	2.0	2.9
6	☐	20000.00	19856.76	427205.45	1.4012	P	0.7	-0.7
7	☐	100.000						

y = 7.0522E-005 * x + 9.0718E-004
R = 0.9998
DL = 4.33 ppb
BEC = 12.86 ppb

Weight: <None>
Min Conc: <None>

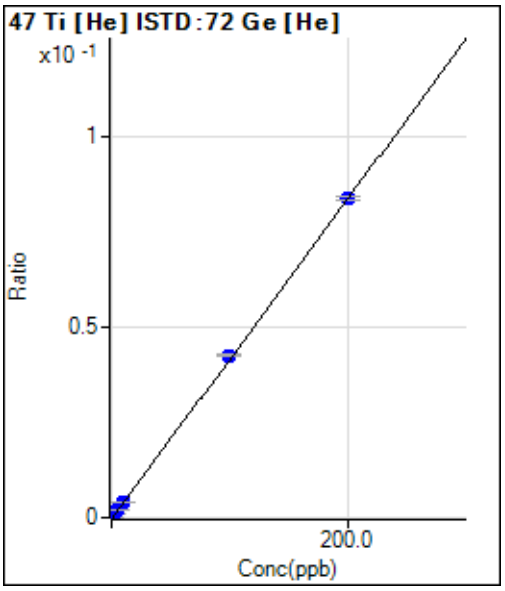


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	160.00	0.0001	P	18.7	
2	☐	2.000	1.927	2183.51	0.0019	P	4.4	-3.6
3	☐	5.000	4.888	5324.19	0.0045	P	0.2	-2.2
4	☐	10.000	9.906	10563.21	0.0090	P	4.3	-0.9
5	☐	100.000	102.904	105560.08	0.0925	P	0.4	2.9
6	☐	200.000	198.556	196102.58	0.1784	P	0.7	-0.7
7	☐	1.000						

y = 8.9794E-004 * x + 1.3591E-004
R = 0.9998
DL = 0.08487 ppb
BEC = 0.1514 ppb

Weight: <None>
Min Conc: <None>

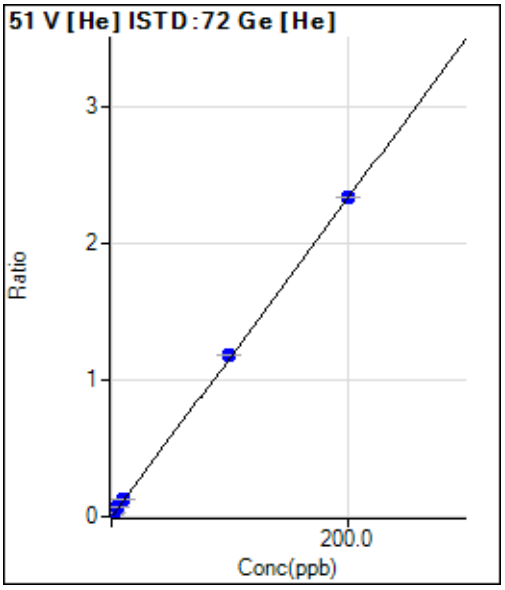
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6.67	0.0000	P	173.	
2	☐	2.000	2.161	306.68	0.0009	P	19.3	8.1
3	☐	5.000	4.664	653.36	0.0020	P	9.2	-6.7
4	☐	10.000	9.641	1323.41	0.0041	P	4.2	-3.6
5	☐	100.000	101.241	13465.19	0.0427	P	0.6	1.2
6	☐	200.000	199.404	25615.14	0.0840	P	1.1	-0.3
7	☐	1.000						

y = 4.2123E-004 * x + 2.0092E-005
R = 1.0000
DL = 0.2478 ppb
BEC = 0.0477 ppb

Weight: <None>
Min Conc: <None>

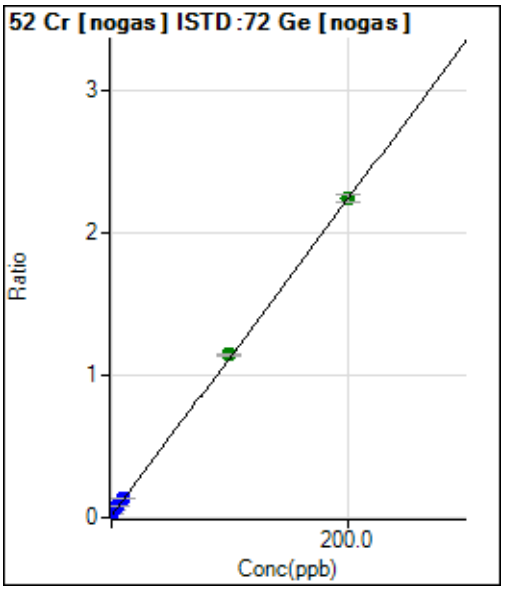


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3038.05	0.0092	P	2.2	
2	☐	2.000	1.900	10356.31	0.0314	P	1.7	-5.0
3	☐	5.000	4.747	21285.78	0.0647	P	1.6	-5.1
4	☐	10.000	9.624	39463.82	0.1217	P	1.1	-3.8
5	☐	100.000	100.868	375117.65	1.1886	P	0.4	0.9
6	☐	200.000	199.592	714306.17	2.3429	P	0.3	-0.2
7	☐	1.000						

y = 0.0117 * x + 0.0092
R = 1.0000
DL = 0.05108 ppb
BEC = 0.7859 ppb

Weight: <None>
Min Conc: <None>

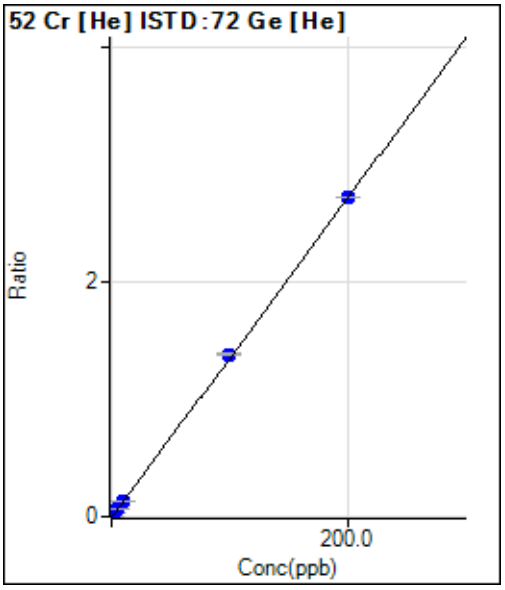
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	30235.51	0.0257	P	1.1	
2	☐	2.000	1.985	55916.40	0.0478	P	1.2	-0.8
3	☐	5.000	4.794	93044.06	0.0791	P	2.3	-4.1
4	☐	10.000	9.573	154756.43	0.1323	P	1.1	-4.3
5	☐	100.000	100.969	1311912.69	1.1501	A	1.2	1.0
6	☐	200.000	199.542	2470410.17	2.2479	A	2.7	-0.2
7	☐	1.000						

y = 0.0111 * x + 0.0257
R = 1.0000
DL = 0.07482 ppb
BEC = 2.307 ppb

Weight: <None>
Min Conc: <None>

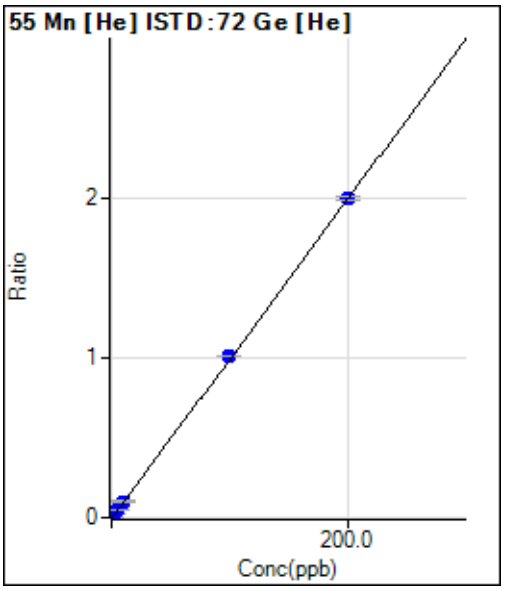


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	920.04	0.0028	P	13.3	
2	☐	2.000	1.985	9849.47	0.0299	P	4.4	-0.7
3	☐	5.000	4.971	23225.17	0.0706	P	3.5	-0.6
4	☐	10.000	9.630	43495.67	0.1341	P	2.4	-3.7
5	☐	100.000	101.169	436391.49	1.3827	P	0.7	1.2
6	☐	200.000	199.435	830206.89	2.7231	P	0.6	-0.3
7	☐	1.000						

y = 0.0136 * x + 0.0028
R = 1.0000
DL = 0.0812 ppb
BEC = 0.204 ppb

Weight: <None>
Min Conc: <None>

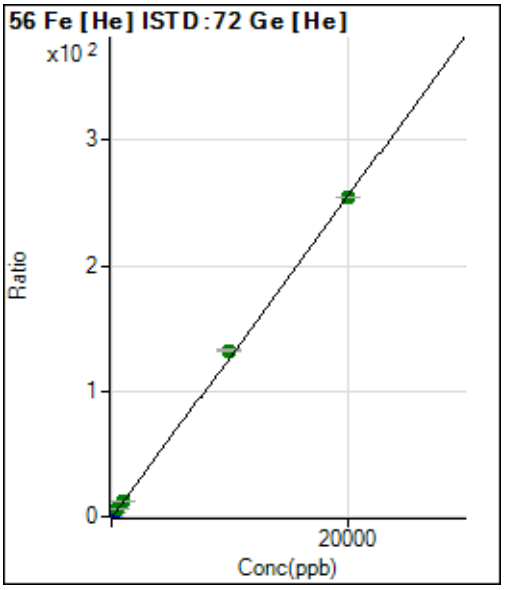
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	553.35	0.0017	P	12.9	
2	☐	2.000	1.887	6774.72	0.0205	P	5.4	-5.6
3	☐	5.000	4.774	16257.54	0.0494	P	1.7	-4.5
4	☐	10.000	9.983	32910.08	0.1015	P	1.7	-0.2
5	☐	100.000	101.121	319649.32	1.0128	P	0.4	1.1
6	☐	200.000	199.447	608547.39	1.9961	P	0.7	-0.3
7	☐	1.000						

y = 0.0100 * x + 0.0017
R = 1.0000
DL = 0.0648 ppb
BEC = 0.1673 ppb

Weight: <None>
Min Conc: <None>

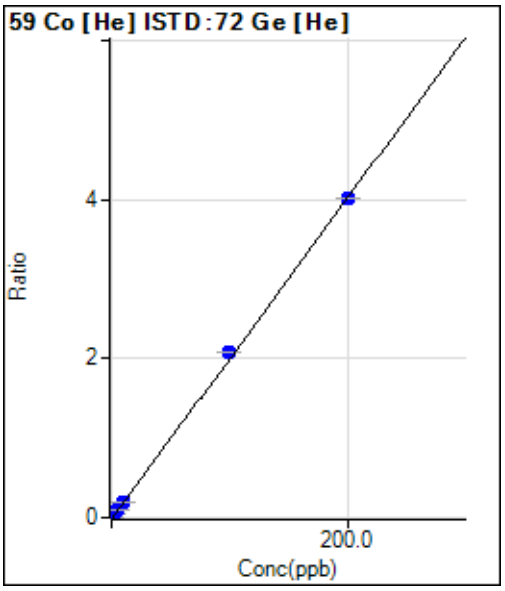


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16227.52	0.0491	P	1.0	
2	☐	200.000	192.799	831997.90	2.5226	P	1.1	-3.6
3	☐	500.000	496.250	2110936.38	6.4158	A	1.6	-0.7
4	☐	1000.000	996.521	4160973.79	12.8340	A	0.6	-0.3
5	☐	10000.00	10327.80	41832548.5	132.550	A	0.6	3.3
6	☐	20000.00	19836.43	77604478.8	254.542	A	0.5	-0.8
7	☐	100.000						

y = 0.0128 * x + 0.0491
R = 0.9998
DL = 0.1167 ppb
BEC = 3.826 ppb

Weight: <None>
Min Conc: <None>

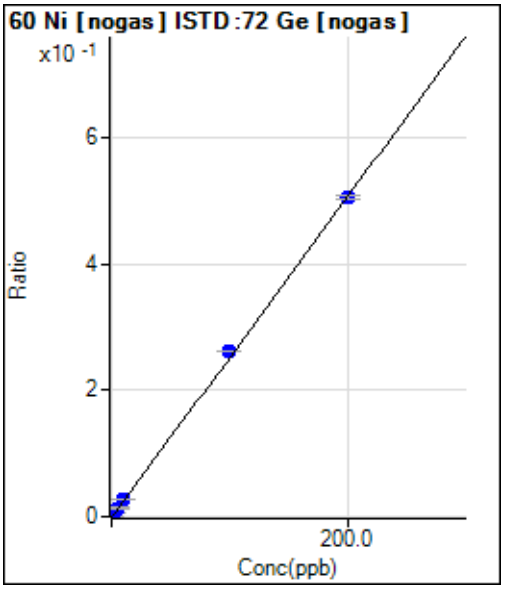
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	130.00	0.0004	P	48.2	
2	☐	2.000	2.008	13541.95	0.0411	P	4.3	0.4
3	☐	5.000	4.905	32810.07	0.0997	P	0.7	-1.9
4	☐	10.000	9.904	65147.65	0.2009	P	0.9	-1.0
5	☐	100.000	102.853	657413.61	2.0831	P	1.1	2.9
6	☐	200.000	198.581	1226067.09	4.0215	P	0.4	-0.7
7	☐	1.000						

y = 0.0202 * x + 3.9356E-004
R = 0.9999
DL = 0.0281 ppb
BEC = 0.01944 ppb

Weight: <None>
Min Conc: <None>

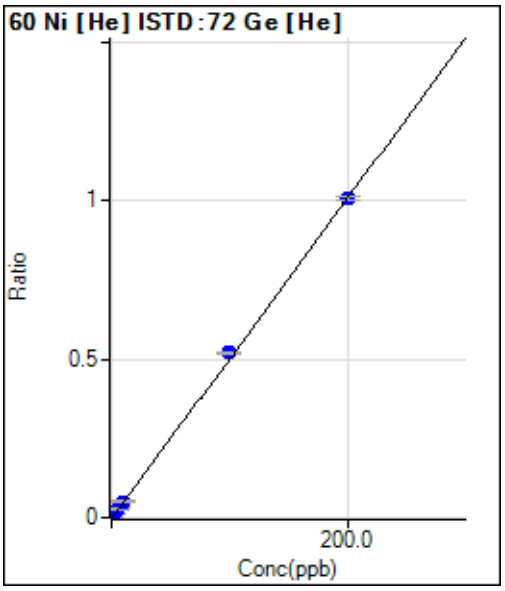


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	953.38	0.0008	P	13.0	
2	☐	2.000	2.042	7038.17	0.0060	P	6.3	2.1
3	☐	5.000	5.036	16054.00	0.0136	P	1.4	0.7
4	☐	10.000	10.091	31033.63	0.0265	P	1.1	0.9
5	☐	100.000	103.105	300648.71	0.2636	P	0.2	3.1
6	☐	200.000	198.441	556689.82	0.5065	P	0.7	-0.8
7	☐	1.000						

y = 0.0025 * x + 8.1032E-004
R = 0.9998
DL = 0.1242 ppb
BEC = 0.318 ppb

Weight: <None>
Min Conc: <None>

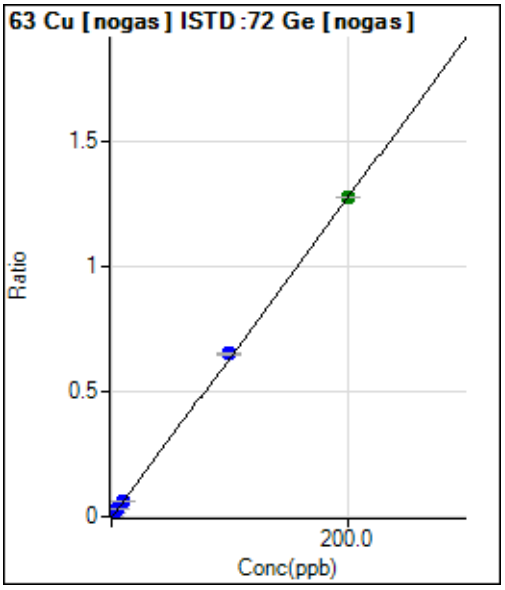
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	363.34	0.0011	P	15.7	
2	☐	2.000	1.926	3580.41	0.0109	P	3.5	-3.7
3	☐	5.000	5.099	8862.33	0.0269	P	5.4	2.0
4	☐	10.000	9.824	16491.11	0.0509	P	4.8	-1.8
5	☐	100.000	102.447	164113.14	0.5200	P	0.9	2.4
6	☐	200.000	198.784	307302.48	1.0080	P	1.3	-0.6
7	☐	1.000						

y = 0.0051 * x + 0.0011
R = 0.9999
DL = 0.1019 ppb
BEC = 0.217 ppb

Weight: <None>
Min Conc: <None>

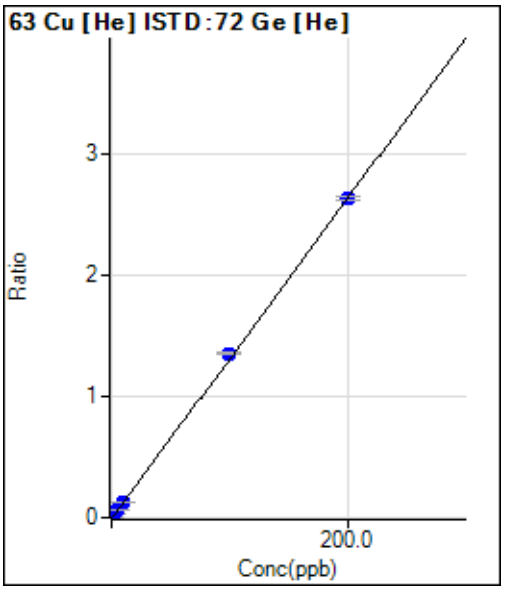


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2310.19	0.0020	P	5.9	
2	☐	2.000	2.031	17508.81	0.0150	P	2.6	1.6
3	☐	5.000	4.881	39059.36	0.0332	P	2.3	-2.4
4	☐	10.000	9.744	75253.75	0.0643	P	0.5	-2.6
5	☐	100.000	101.456	742898.40	0.6513	P	0.4	1.5
6	☐	200.000	199.288	1403939.04	1.2774	A	0.6	-0.4
7	☐	1.000						

y = 0.0064 * x + 0.0020
R = 1.0000
DL = 0.0539 ppb
BEC = 0.3067 ppb

Weight: <None>
Min Conc: <None>

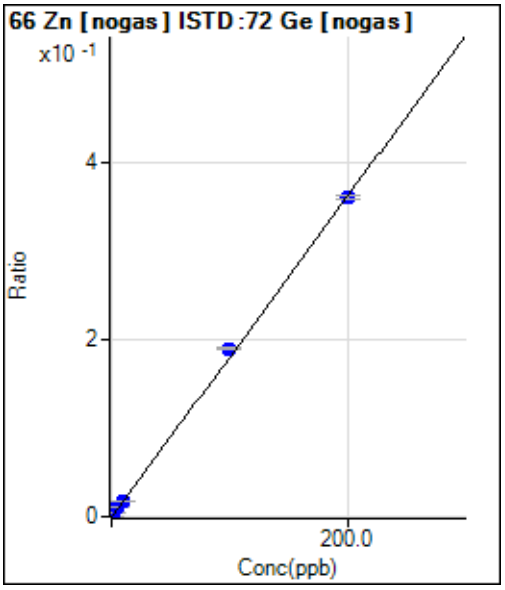
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1170.07	0.0035	P	11.9	
2	☐	2.000	1.904	9492.65	0.0288	P	3.0	-4.8
3	☐	5.000	5.012	23025.01	0.0700	P	2.0	0.2
4	☐	10.000	9.860	43522.77	0.1342	P	1.4	-1.4
5	☐	100.000	102.172	428534.14	1.3579	P	0.4	2.2
6	☐	200.000	198.922	804957.70	2.6403	P	1.0	-0.5
7	☐	1.000						

y = 0.0133 * x + 0.0035
R = 0.9999
DL = 0.09524 ppb
BEC = 0.267 ppb

Weight: <None>
Min Conc: <None>

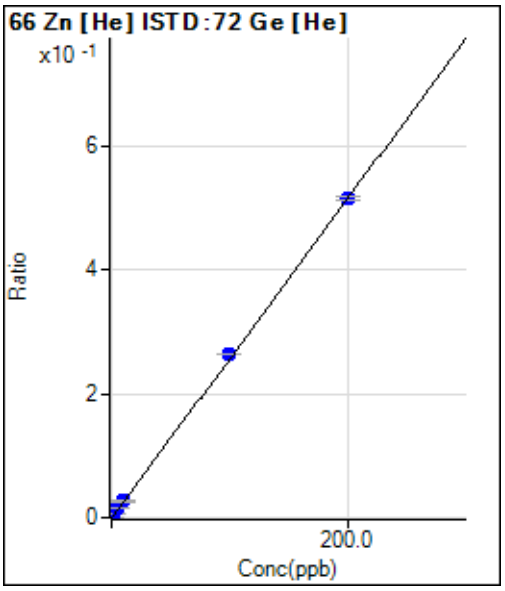


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1030.05	0.0009	P	22.6	
2	☐	2.000	1.881	5014.13	0.0043	P	1.4	-5.9
3	☐	5.000	5.325	12384.51	0.0105	P	1.1	6.5
4	☐	10.000	9.605	21386.38	0.0183	P	0.4	-4.0
5	☐	100.000	103.708	215379.74	0.1888	P	1.0	3.7
6	☐	200.000	198.159	395644.28	0.3600	P	0.9	-0.9
7	☐	1.000						

y = 0.0018 * x + 8.7553E-004
R = 0.9997
DL = 0.3277 ppb
BEC = 0.4831 ppb

Weight: <None>
Min Conc: <None>

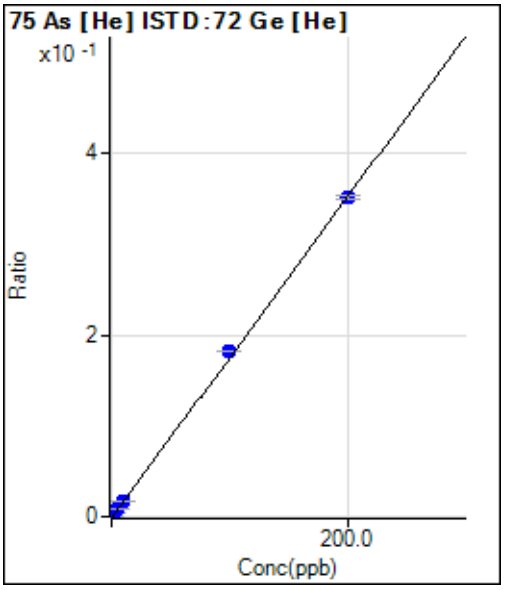
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	420.01	0.0013	P	4.5	
2	☐	2.000	1.849	1993.49	0.0060	P	2.1	-7.5
3	☐	5.000	5.528	5110.84	0.0155	P	6.2	10.6
4	☐	10.000	9.896	8692.26	0.0268	P	4.9	-1.0
5	☐	100.000	101.842	83359.70	0.2641	P	0.4	1.8
6	☐	200.000	199.072	157036.86	0.5151	P	0.8	-0.5
7	☐	1.000						

y = 0.0026 * x + 0.0013
R = 0.9999
DL = 0.0668 ppb
BEC = 0.4921 ppb

Weight: <None>
Min Conc: <None>

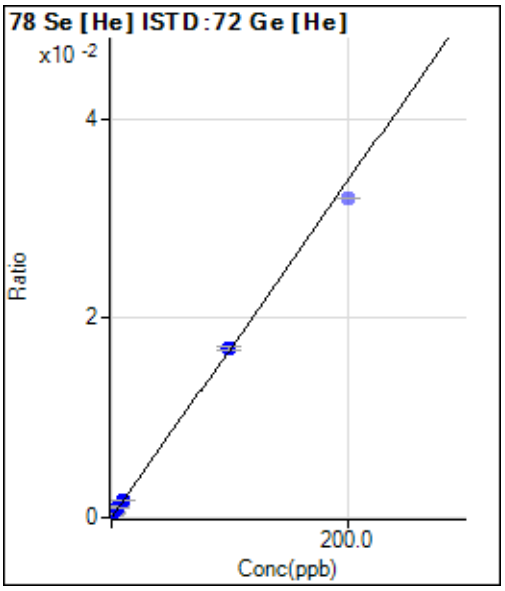


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	66.67	0.0002	P	20.2	
2	☐	2.000	1.924	1191.16	0.0036	P	6.1	-3.8
3	☐	5.000	4.745	2833.57	0.0086	P	3.5	-5.1
4	☐	10.000	9.675	5622.03	0.0173	P	2.9	-3.3
5	☐	100.000	103.024	57670.35	0.1827	P	0.6	3.0
6	☐	200.000	198.512	107291.93	0.3519	P	0.7	-0.7
7	☐	1.000						

y = 0.0018 * x + 2.0170E-004
R = 0.9998
DL = 0.06903 ppb
BEC = 0.1138 ppb

Weight: <None>
Min Conc: <None>

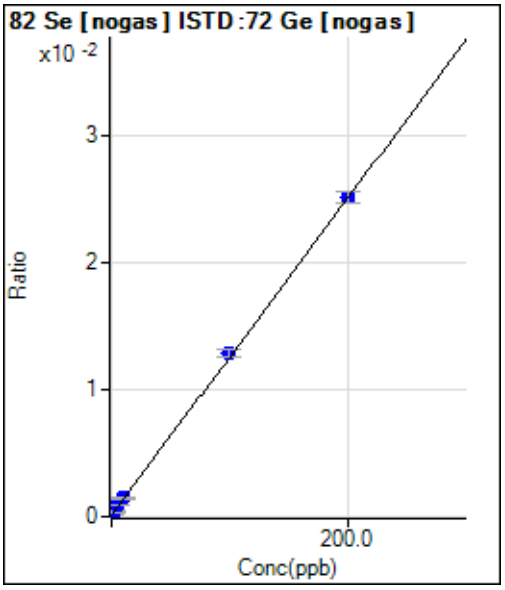
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	52.67	0.0002	P	35.5	
2	☐	2.000	1.929	160.00	0.0005	P	13.5	-3.5
3	☐	5.000	5.036	332.67	0.0010	P	17.2	0.7
4	☐	10.000	9.404	566.01	0.0017	P	5.9	-6.0
5	☐	100.000	100.059	5379.49	0.0170	P	2.2	0.1
6	☑	200.000		9757.35	0.0320	P	0.2	
7	☐	1.000						

y = 1.6876E-004 * x + 1.5941E-004
R = 1.0000
DL = 1.007 ppb
BEC = 0.9446 ppb

Weight: <None>
Min Conc: <None>

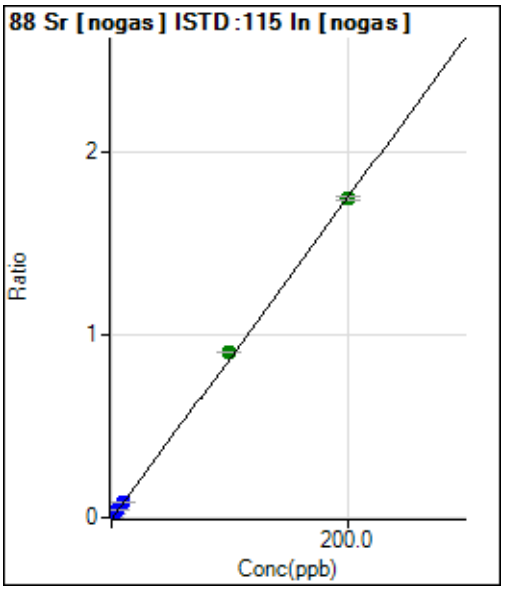


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	283.34	0.0002	P	29.8	
2	☐	2.000	1.082	440.01	0.0004	P	7.5	-45.9
3	☐	5.000	5.752	1130.06	0.0010	P	4.6	15.0
4	☐	10.000	9.648	1693.45	0.0014	P	7.5	-3.5
5	☐	100.000	100.998	14679.64	0.0129	P	4.1	1.0
6	☐	200.000	199.509	27681.96	0.0252	P	4.0	-0.2
7	☐	1.000						

y = 1.2502E-004 * x + 2.4098E-004
R = 1.0000
DL = 1.724 ppb
BEC = 1.928 ppb

Weight: <None>
Min Conc: <None>

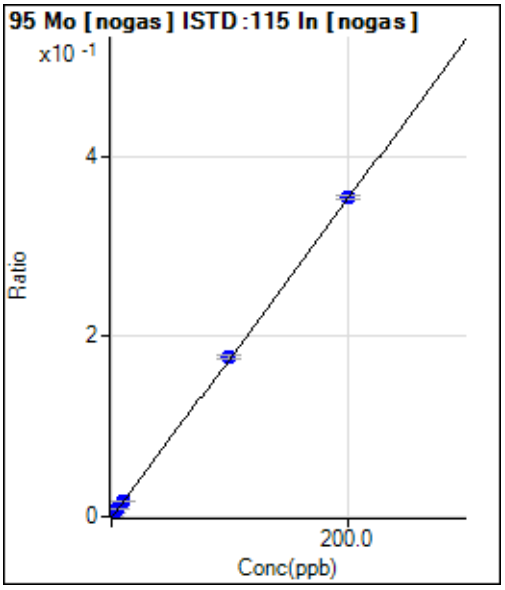
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	963.38	0.0004	P	8.6	
2	☐	2.000	1.920	45027.66	0.0172	P	2.1	-4.0
3	☐	5.000	4.702	109526.06	0.0417	P	1.4	-6.0
4	☐	10.000	9.473	218363.49	0.0836	P	0.3	-5.3
5	☐	100.000	103.039	2294005.33	0.9054	A	0.5	3.0
6	☐	200.000	198.515	4237987.75	1.7439	A	1.3	-0.7
7	☐	1.000						

y = 0.0088 * x + 3.6542E-004
R = 0.9998
DL = 0.01076 ppb
BEC = 0.0416 ppb

Weight: <None>
Min Conc: <None>

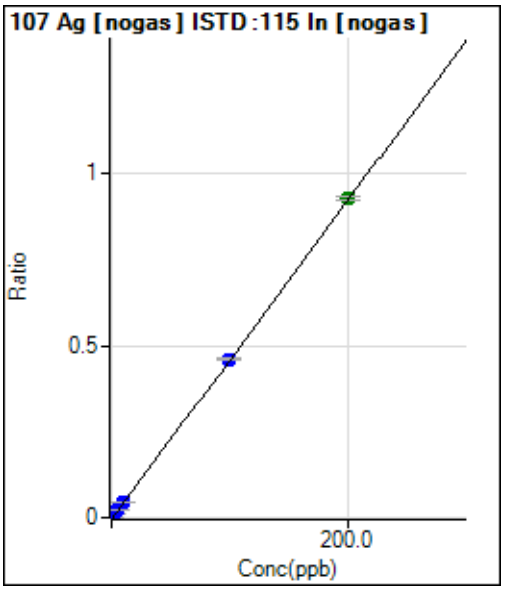


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	790.03	0.0003	P	21.8	
2	☐	2.000	1.915	9649.49	0.0037	P	4.4	-4.3
3	☐	5.000	4.757	22921.85	0.0087	P	4.1	-4.9
4	☐	10.000	9.522	44841.12	0.0172	P	1.0	-4.8
5	☐	100.000	100.002	449320.16	0.1774	P	1.8	0.0
6	☐	200.000	200.030	861452.98	0.3545	P	0.8	0.0
7	☐	1.000						

y = 0.0018 * x + 2.9986E-004
R = 1.0000
DL = 0.1108 ppb
BEC = 0.1693 ppb

Weight: <None>
Min Conc: <None>

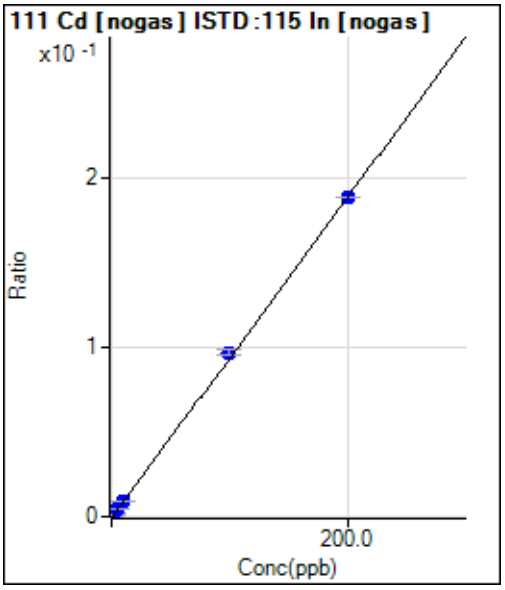
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	260.01	0.0001	P	5.5	
2	☐	2.000	1.932	23656.41	0.0090	P	2.8	-3.4
3	☐	5.000	4.627	56622.51	0.0215	P	2.0	-7.5
4	☐	10.000	9.663	117253.80	0.0449	P	1.9	-3.4
5	☐	100.000	99.335	1166285.53	0.4604	P	1.7	-0.7
6	☐	200.000	200.359	2256485.90	0.9285	A	1.1	0.2
7	☐	1.000						

y = 0.0046 * x + 9.8537E-005
R = 1.0000
DL = 0.003499 ppb
BEC = 0.02127 ppb

Weight: <None>
Min Conc: <None>

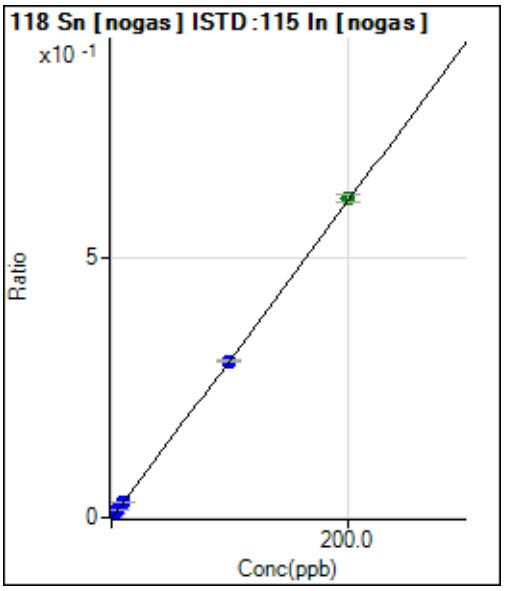


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3.33	0.0000	P	173.	
2	☐	2.000	1.863	4614.02	0.0018	P	7.9	-6.8
3	☐	5.000	4.848	12071.05	0.0046	P	2.1	-3.0
4	☐	10.000	9.699	24003.56	0.0092	P	0.8	-3.0
5	☐	100.000	102.293	245342.73	0.0969	P	2.6	2.3
6	☐	200.000	198.874	457644.81	0.1883	P	0.5	-0.6
7	☐	1.000						

y = 9.4689E-004 * x + 1.2724E-006
R = 0.9999
DL = 0.006983 ppb
BEC = 0.001344 ppb

Weight: <None>
Min Conc: <None>

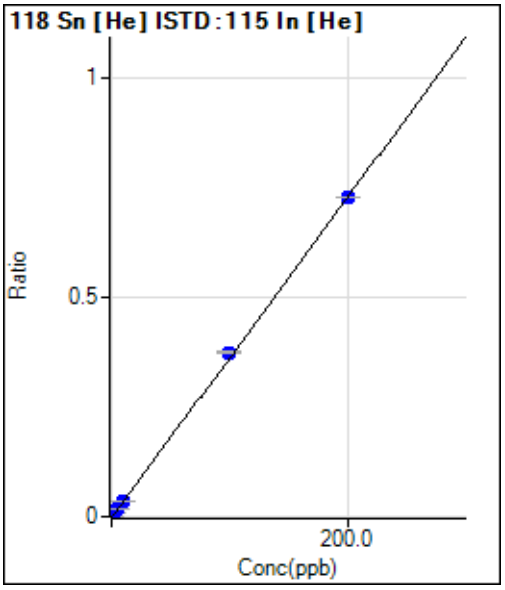
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1876.82	0.0007	P	1.3	
2	☐	2.000	1.886	16948.58	0.0065	P	1.5	-5.7
3	☐	5.000	4.535	38363.07	0.0146	P	1.2	-9.3
4	☐	10.000	9.187	75327.93	0.0288	P	1.8	-8.1
5	☐	100.000	98.338	764366.55	0.3017	P	0.8	-1.7
6	☐	200.000	200.885	1496092.84	0.6156	A	2.5	0.4
7	☐	1.000						

y = 0.0031 * x + 7.1157E-004
R = 1.0000
DL = 0.009233 ppb
BEC = 0.2325 ppb

Weight: <None>
Min Conc: <None>

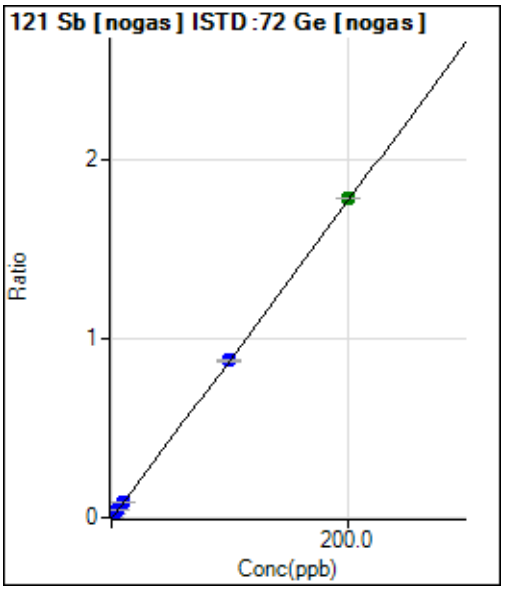


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	963.38	0.0009	P	8.3	
2	☐	2.000	1.913	8318.80	0.0079	P	0.4	-4.4
3	☐	5.000	4.740	19170.96	0.0183	P	1.7	-5.2
4	☐	10.000	9.450	36789.67	0.0355	P	2.0	-5.5
5	☐	100.000	102.257	374830.37	0.3746	P	0.6	2.3
6	☐	200.000	198.907	707495.88	0.7278	P	0.5	-0.5
7	☐	1.000						

y = 0.0037 * x + 9.2809E-004
R = 0.9999
DL = 0.06291 ppb
BEC = 0.254 ppb

Weight: <None>
Min Conc: <None>

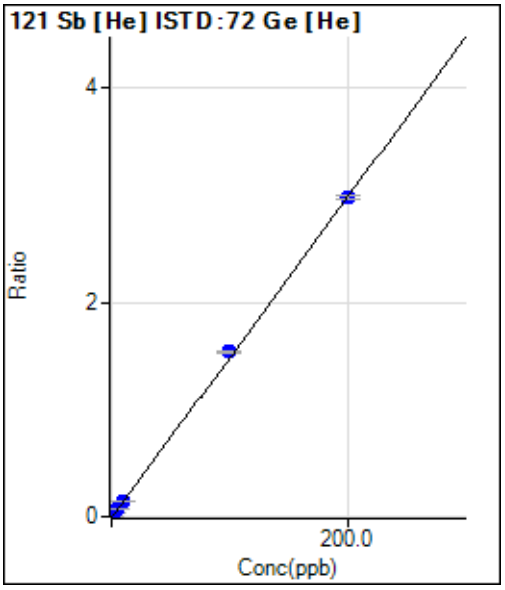
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1986.82	0.0017	P	3.0	
2	☐	2.000	1.805	20766.13	0.0177	P	1.4	-9.7
3	☐	5.000	4.538	49494.86	0.0421	P	4.8	-9.2
4	☐	10.000	9.097	96647.33	0.0826	P	1.2	-9.0
5	☐	100.000	98.590	1002496.73	0.8788	P	1.0	-1.4
6	☐	200.000	200.763	1964944.19	1.7878	A	0.6	0.4
7	☐	1.000						

y = 0.0089 * x + 0.0017
R = 1.0000
DL = 0.01681 ppb
BEC = 0.1897 ppb

Weight: <None>
Min Conc: <None>

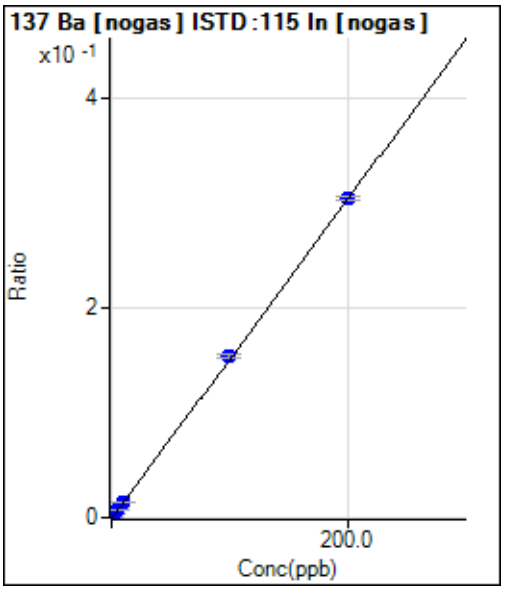


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	900.04	0.0027	P	19.4	
2	☐	2.000	1.872	10159.87	0.0308	P	3.6	-6.4
3	☐	5.000	4.660	23890.26	0.0726	P	3.0	-6.8
4	☐	10.000	9.389	46536.49	0.1435	P	0.4	-6.1
5	☐	100.000	102.524	486152.17	1.5404	P	1.4	2.5
6	☐	200.000	198.778	909800.14	2.9841	P	0.7	-0.6
7	☐	1.000						

y = 0.0150 * x + 0.0027
R = 0.9999
DL = 0.1058 ppb
BEC = 0.1815 ppb

Weight: <None>
Min Conc: <None>

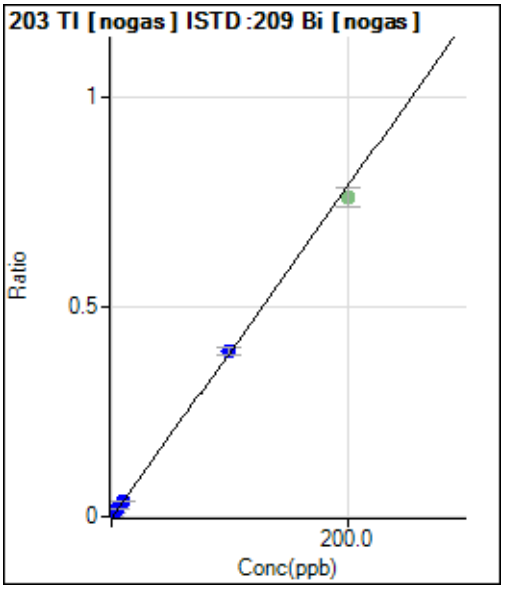
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	680.03	0.0003	P	7.2	
2	☐	2.000	1.988	8618.99	0.0033	P	5.0	-0.6
3	☐	5.000	4.711	19611.67	0.0075	P	4.0	-5.8
4	☐	10.000	9.665	39279.26	0.0150	P	2.6	-3.3
5	☐	100.000	101.034	391861.13	0.1547	P	2.3	1.0
6	☐	200.000	199.507	741731.87	0.3052	P	0.9	-0.2
7	☐	1.000						

y = 0.0015 * x + 2.5777E-004
R = 1.0000
DL = 0.03638 ppb
BEC = 0.1686 ppb

Weight: <None>
Min Conc: <None>

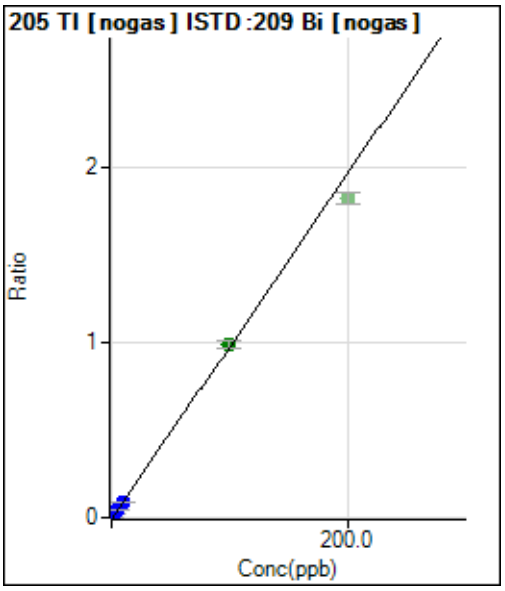


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	90.00	0.0000	P	38.2	
2	☐	2.000	1.907	22145.43	0.0076	P	4.8	-4.6
3	☐	5.000	4.548	53405.22	0.0180	P	5.2	-9.0
4	☐	10.000	9.241	108617.20	0.0366	P	5.6	-7.6
5	☐	100.000	100.100	1124767.35	0.3962	P	4.6	0.1
6	☑	200.000		2202207.89	0.7612	A	6.1	
7	☐	1.000						

y = 0.0040 * x + 3.0652E-005
R = 1.0000
DL = 0.008887 ppb
BEC = 0.007746 ppb

Weight: <None>
Min Conc: <None>

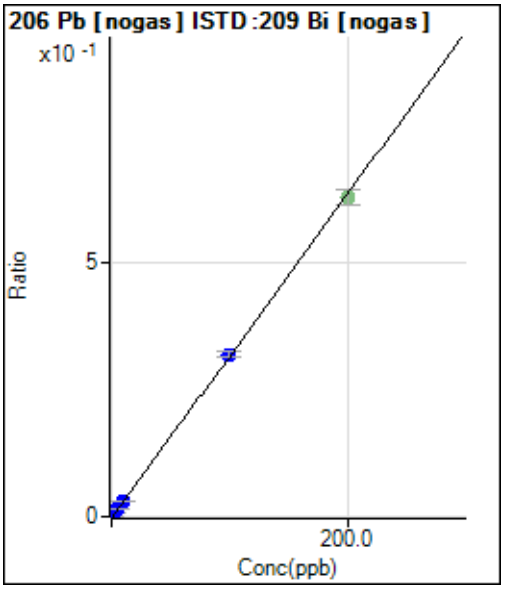
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	373.34	0.0001	P	25.6	
2	☐	2.000	1.811	52532.62	0.0180	P	8.0	-9.4
3	☐	5.000	4.392	128697.37	0.0435	P	6.3	-12.2
4	☐	10.000	8.870	260147.68	0.0876	P	5.4	-11.3
5	☐	100.000	100.147	2805774.23	0.9883	A	5.0	0.1
6	☑	200.000		5274576.17	1.8219	A	3.7	
7	☐	1.000						

y = 0.0099 * x + 1.2810E-004
R = 0.9999
DL = 0.009957 ppb
BEC = 0.01298 ppb

Weight: <None>
Min Conc: <None>

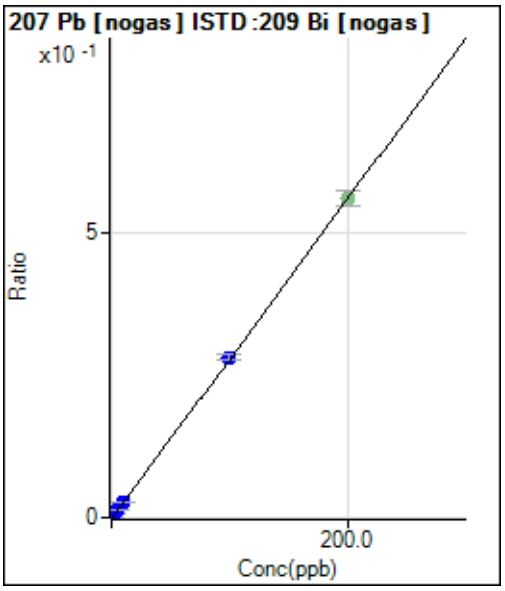


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	420.01	0.0001	P	13.0	
2	☐	2.000	1.952	18644.42	0.0064	P	9.9	-2.4
3	☐	5.000	4.678	44735.68	0.0151	P	6.0	-6.4
4	☐	10.000	9.272	88499.53	0.0298	P	4.3	-7.3
5	☐	100.000	100.090	909746.29	0.3203	P	3.5	0.1
6	☑	200.000		1821597.37	0.6295	A	5.2	
7	☐	1.000						

y = 0.0032 * x + 1.4274E-004
R = 1.0000
DL = 0.01744 ppb
BEC = 0.04462 ppb

Weight: <None>
Min Conc: <None>

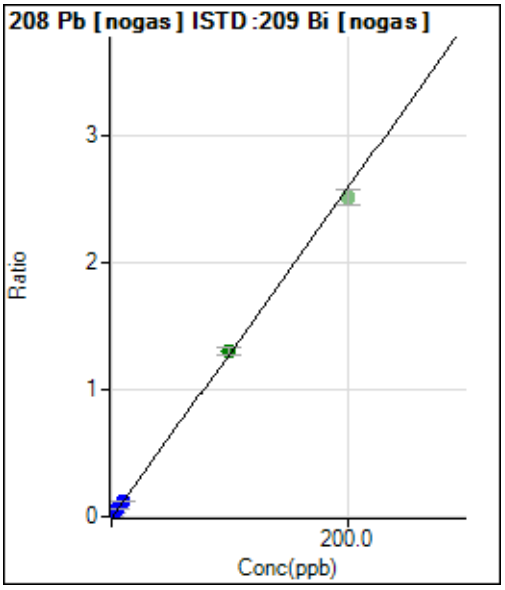
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	366.68	0.0001	P	14.6	
2	☐	2.000	1.923	16121.75	0.0055	P	10.4	-3.9
3	☐	5.000	4.717	39572.52	0.0134	P	8.0	-5.7
4	☐	10.000	9.349	78313.36	0.0264	P	5.5	-6.5
5	☐	100.000	100.081	798621.52	0.2813	P	4.1	0.1
6	☑	200.000		1619435.60	0.5595	A	4.6	
7	☐	1.000						

y = 0.0028 * x + 1.2545E-004
R = 1.0000
DL = 0.01951 ppb
BEC = 0.04466 ppb

Weight: <None>
Min Conc: <None>

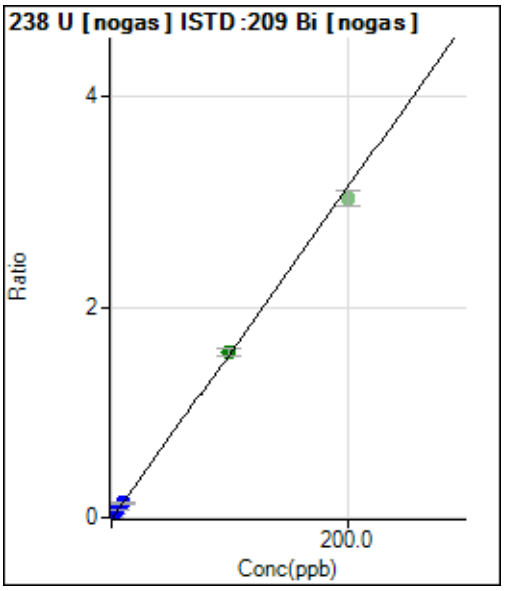


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1670.06	0.0006	P	2.0	
2	☐	2.000	1.899	73853.96	0.0253	P	8.5	-5.1
3	☐	5.000	4.605	179321.50	0.0606	P	6.3	-7.9
4	☐	10.000	9.186	356980.04	0.1203	P	5.0	-8.1
5	☐	100.000	100.103	3704769.55	1.3048	A	4.5	0.1
6	☑	200.000		7295791.14	2.5210	A	5.1	
7	☐	1.000						

y = 0.0130 * x + 5.6950E-004
R = 1.0000
DL = 0.002581 ppb
BEC = 0.04371 ppb

Weight: <None>
Min Conc: <None>

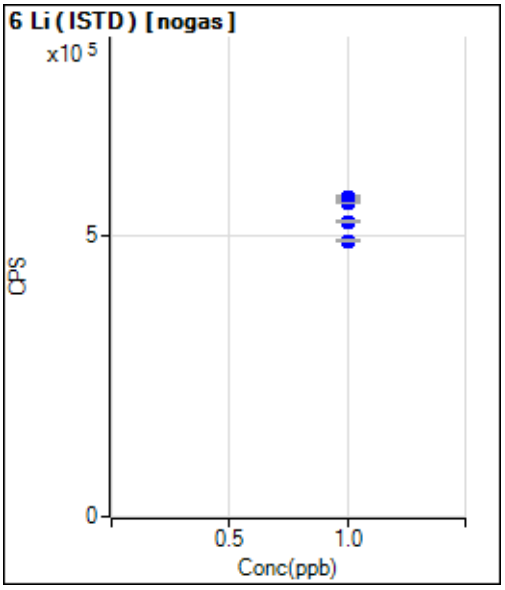
Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	170.00	0.0001	P	8.7	
2	☐	2.000	1.813	83564.70	0.0286	P	6.7	-9.4
3	☐	5.000	4.383	204669.58	0.0691	P	6.5	-12.3
4	☐	10.000	8.840	413568.78	0.1394	P	6.0	-11.6
5	☐	100.000	100.151	4481364.41	1.5783	A	4.5	0.2
6	☑	200.000		8774608.62	3.0321	A	5.4	
7	☐	1.000						

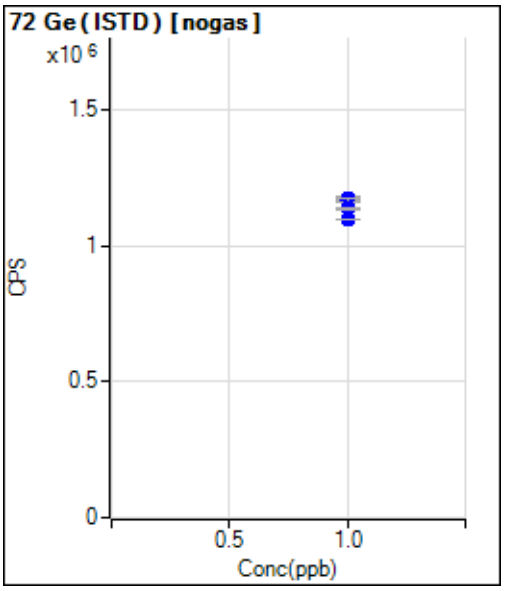
y = 0.0158 * x + 5.8067E-005
R = 0.9999
DL = 0.0009612 ppb
BEC = 0.003685 ppb

Weight: <None>
Min Conc: <None>

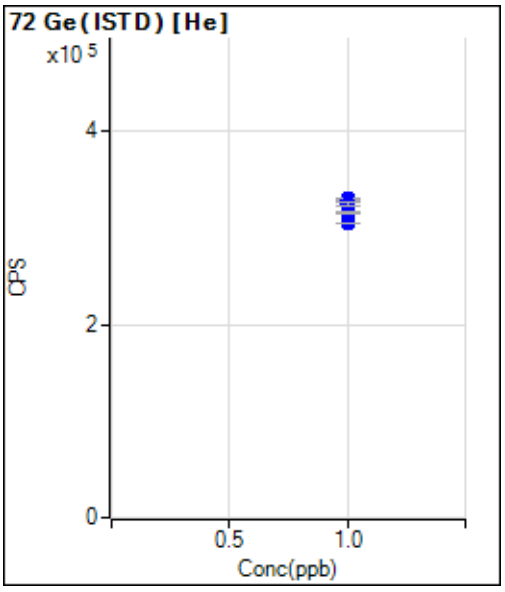


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		567320.42		P	0.7	
2	☐	1.000		566093.33		P	0.8	
3	☐	1.000		560082.20		P	0.2	
4	☐	1.000		557401.64		P	0.2	
5	☐	1.000		524117.64		P	0.7	
6	☐	1.000		489055.00		P	0.8	
7	☐	1.000						

Calibration for 024_ICV.d

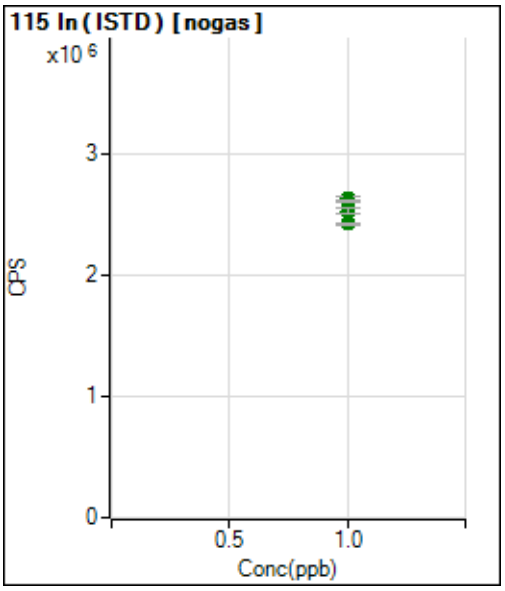


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1177117.72		P	0.6	
2	☐	1.000		1170140.32		P	1.5	
3	☐	1.000		1176704.90		P	0.8	
4	☐	1.000		1169864.07		P	0.8	
5	☐	1.000		1140704.62		P	0.7	
6	☐	1.000		1099072.53		P	0.5	
7	☐	1.000						

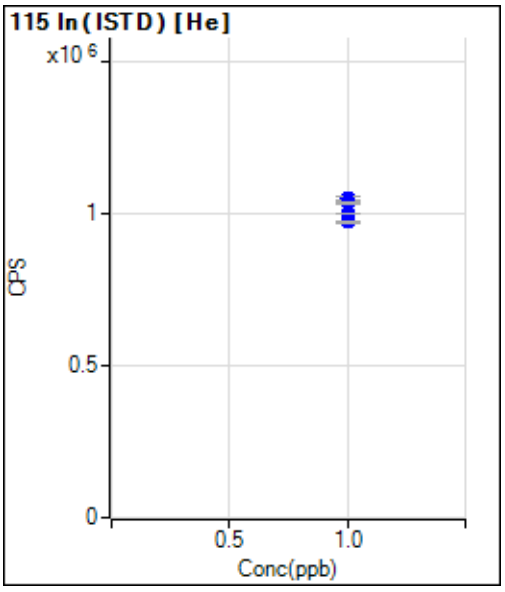


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		330629.88		P	0.3	
2	☐	1.000		329832.10		P	0.7	
3	☐	1.000		329073.54		P	1.4	
4	☐	1.000		324201.94		P	0.9	
5	☐	1.000		315597.53		P	0.1	
6	☐	1.000		304879.99		P	0.5	
7	☐	1.000						

Calibration for 024_ICV.d

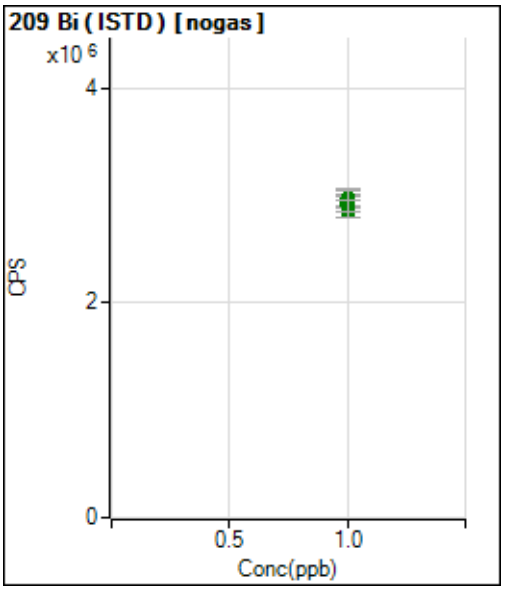


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2637598.17		A	1.1	
2	☐	1.000		2614290.91		A	0.5	
3	☐	1.000		2629114.34		A	1.5	
4	☐	1.000		2613080.42		A	1.1	
5	☐	1.000		2533834.41		A	2.0	
6	☐	1.000		2430217.84		A	0.7	
7	☐	1.000						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1038218.97		P	0.3	
2	☐	1.000		1050626.62		P	0.6	
3	☐	1.000		1050452.25		P	0.7	
4	☐	1.000		1037522.75		P	0.6	
5	☐	1.000		1000624.18		P	0.5	
6	☐	1.000		972122.67		P	0.3	
7	☐	1.000						

Calibration for 024_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2933302.77		A	3.8	
2	☐	1.000		2926717.35		A	5.4	
3	☐	1.000		2968228.39		A	6.1	
4	☐	1.000		2973685.58		A	5.3	
5	☐	1.000		2842122.77		A	3.4	
6	☐	1.000		2898016.52		A	4.0	
7	☐	1.000						

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	LLICV2
Data File Name	025LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:15:59-06:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	1.891	5.426	3807	5.78	2	94.5	70	120	
B	11	1	nogas	24.590	5.632	51751	3.36	10	245.9	70	120	NewName Main CR1 Failed
Ca	44	1	nogas	194.689	0.212	76794	0.36	200	97.3	70	120	
Ti	47	1	nogas	2.121	6.209	2287	5.47	2	106.0	70	120	
Cr	52	1	nogas	1.357	1.462	45745	0.77	2	67.9	70	120	NewName Main CR1 Failed
Ni	60	1	nogas	2.010	2.251	6651	1.97	2	100.5	70	120	
Cu	63	1	nogas	1.974	3.002	16364	2.54	2	98.7	70	120	
Zn	66	1	nogas	1.900	9.607	4841	7.42	2	95.0	70	120	
Se	82	1	nogas	1.926	10.406	540	4.90	2	96.3	70	120	
Sr	88	1	nogas	2.004	0.405	45332	0.16	2	100.2	70	120	
Mo	95	1	nogas	2.251	7.407	10810	6.44	2	112.6	70	120	
Ag	107	1	nogas	2.032	1.567	24004	2.05	2	101.6	70	120	
Cd	111	1	nogas	2.074	4.935	4957	4.93	2	103.7	70	120	
Sn	118	1	nogas	2.937	2.066	24471	1.44	2	146.8	70	120	NewName Main CR1 Failed
Sb	121	1	nogas	2.403	3.847	25863	3.62	2	120.2	70	120	NewName Main CR1 Failed
Ba	137	1	nogas	2.075	4.164	8652	3.73	2	103.8	70	120	
Tl	205	1	nogas	2.045	2.289	58643	2.77	2	102.2	70	120	
Pb	208	1	nogas	2.024	2.308	75825	2.33	2	101.2	70	120	
Pb	206	1	nogas	2.017	3.040	18801	2.55	2	100.8	70	120	
Pb	207	1	nogas	1.997	4.408	16509	4.47	2	99.9	70	120	
U	238	1	nogas	1.915	3.201	84644	0.52	2	95.7	70	120	
Li	7	1	nogas	1.888	6.109	52269	1.14	2	94.4	70	120	
Tl	203	1	nogas	2.235	1.609	24853	2.89	2	111.7	70	120	
Na	23	2	He	200.321	0.487	158475	0.50	200	100.2	70	120	
Mg	24	2	He	200.140	1.064	79372	1.79	200	100.1	70	120	
Al	27	2	He	2.196	36.809	967	17.44	2	109.8	70	120	
K	39	2	He	196.442	3.588	118577	1.74	200	98.2	70	120	
Ca	43	2	He	237.380	39.903	317	38.59	200	118.7	70	120	
Ca	44	2	He	191.207	4.180	4551	4.68	200	95.6	70	120	
V	51	2	He	1.681	5.732	9118	3.61	2	84.0	70	120	
Cr	52	2	He	2.038	5.362	9666	4.75	2	101.9	70	120	
Mn	55	2	He	2.044	6.489	6992	6.73	2	102.2	70	120	
Fe	56	2	He	196.531	1.151	812605	0.59	200	98.3	70	120	
Co	59	2	He	1.997	1.020	12908	0.31	2	99.9	70	120	
Ni	60	2	He	2.144	7.127	3780	5.96	2	107.2	70	120	
Cu	63	2	He	1.959	3.401	9329	3.75	2	97.9	70	120	
Zn	66	2	He	2.203	18.791	2200	15.81	2	110.1	70	120	
As	75	2	He	1.995	9.389	1181	9.04	2	99.7	70	120	
Sn	118	2	He	2.606	4.248	10607	4.12	2	130.3	70	120	NewName Main CR1 Failed
Sb	121	2	He	2.270	3.245	11627	3.76	2	113.5	70	120	
Se	78	2	He	2.255	2.943	171	1.35	2	112.7	70	120	
Ti	47	2	He	2.478	17.471	337	17.90	2	123.9	70	120	NewName 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	1121092	0.51	1177118	95.24	70	120	
In	115	1	nogas	2522935	0.54	2637598	95.65	70	120	
Li	6	1	nogas	540845	0.51	567320	95.33	70	120	
Bi	209	1	nogas	2889294	3.62	2933303	98.50	70	120	
Ge	72	2	He	316143	0.75	330630	95.62	70	120	
In	115	2	He	1014800	0.73	1038219	97.74	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	LLICV5
Data File Name	026LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:18:02-06:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.643	4.853	9312	4.71	5	92.9	70	130	
B	11	1	nogas	31.995	1.107	60773	0.58	25	128.0	70	130	
Ca	44	1	nogas	482.899	0.965	172182	0.69	500	96.6	70	130	
Ti	47	1	nogas	4.797	5.828	4981	4.68	5	95.9	70	130	
Cr	52	1	nogas	4.354	3.678	83160	1.87	5	87.1	70	130	
Ni	60	1	nogas	4.918	2.065	14963	2.89	5	98.4	70	130	
Cu	63	1	nogas	4.936	1.749	37616	1.05	5	98.7	70	130	
Zn	66	1	nogas	5.601	2.599	12364	3.17	5	112.0	70	130	
Se	82	1	nogas	4.725	18.919	933	14.27	5	94.5	70	130	
Sr	88	1	nogas	4.726	0.788	105950	1.14	5	94.5	70	130	
Mo	95	1	nogas	4.854	2.010	22505	2.53	5	97.1	70	130	
Ag	107	1	nogas	4.823	0.884	56793	0.67	5	96.5	70	130	
Cd	111	1	nogas	4.814	3.173	11537	3.48	5	96.3	70	130	
Sn	118	1	nogas	5.021	1.255	40678	1.17	5	100.4	70	130	
Sb	121	1	nogas	4.774	1.885	49518	2.67	5	95.5	70	130	
Ba	137	1	nogas	4.759	2.450	19058	2.10	5	95.2	70	130	
Tl	205	1	nogas	4.493	4.517	129366	0.50	5	89.9	70	130	
Pb	208	1	nogas	4.768	3.177	177726	1.16	5	95.4	70	130	
U	238	1	nogas	4.593	4.433	204362	0.64	5	91.9	70	130	
Li	7	1	nogas	4.437	4.085	70680	1.91	5	88.7	70	130	
Na	23	2	He	489.718	2.511	351313	1.40	500	97.9	70	130	
Mg	24	2	He	491.583	1.117	192721	1.13	500	98.3	70	130	
Al	27	2	He	5.537	4.804	1680	2.73	5	110.7	70	130	
K	39	2	He	477.608	1.881	231838	0.70	500	95.5	70	130	
Ca	43	2	He	453.751	29.488	597	28.66	500	90.8	70	130	
Ca	44	2	He	468.574	3.308	10687	3.23	500	93.7	70	130	
V	51	2	He	4.571	2.356	19716	1.99	5	91.4	70	130	
Cr	52	2	He	4.794	2.771	21460	3.05	5	95.9	70	130	
Mn	55	2	He	4.943	4.192	16081	3.47	5	98.9	70	130	
Fe	56	2	He	504.322	1.177	2051916	0.31	500	100.9	70	130	
Co	59	2	He	4.908	2.393	31404	1.92	5	98.2	70	130	
Ni	60	2	He	4.821	2.159	8032	1.35	5	96.4	70	130	
Cu	63	2	He	4.967	2.283	21837	1.83	5	99.3	70	130	
Zn	66	2	He	5.381	3.384	4771	2.06	5	107.6	70	130	
As	75	2	He	4.862	2.077	2775	1.60	5	97.2	70	130	
Sb	121	2	He	4.999	5.074	24448	3.87	5	100.0	70	130	
Se	78	2	He	4.516	11.822	290	9.58	5	90.3	70	130	
Ti	47	2	He	5.085	11.462	680	10.29	5	101.7	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1121280	0.96	1177118	95.26	70	120	
In	115	1	nogas	2530095	1.02	2637598	95.92	70	120	
Li	6	1	nogas	540841	0.14	567320	95.33	70	120	
Bi	209	1	nogas	2913102	4.30	2933303	99.31	70	120	
Ge	72	2	He	314767	1.02	330630	95.20	70	120	
In	115	2	He	1015644	0.61	1038219	97.83	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	027_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:20:04-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.029	19.4	82	14.1	1	
B	11	1	nogas	7.239	10.6	30899	2.7	10	
Ca	44	1	nogas	3.705	57.0	13599	5.7	100	
Ti	47	1	nogas	0.060	104.0	213	30.1	2.5	
Cr	52	1	nogas	-0.409	-9.4	23692	2.6	2.5	
Ni	60	1	nogas	0.019	88.0	963	4.8	2.5	
Cu	63	1	nogas	-0.029	-79.1	1990	8.5	1	
Zn	66	1	nogas	0.068	58.3	1120	7.8	2.5	
Se	82	1	nogas	-0.428	-102.3	210	29.0	1	
Sr	88	1	nogas	0.020	33.6	1360	11.8	2.5	
Mo	95	1	nogas	0.012	435.2	813	30.2	2.5	
Ag	107	1	nogas	0.012	69.6	387	24.0	2.5	
Cd	111	1	nogas	0.024	18.9	60	16.7	1	
Sn	118	1	nogas	0.423	3.4	5067	1.9	5	
Sb	121	1	nogas	0.193	3.8	3817	2.4	2.5	
Ba	137	1	nogas	-0.050	-69.8	460	29.9	2.5	
Tl	205	1	nogas	0.040	8.8	1530	7.7	1	
Pb	208	1	nogas	0.028	7.5	2697	6.7	2.5	
U	238	1	nogas	0.020	14.0	1060	11.8	2.5	
Na	23	2	He	2.929	21.6	25555	1.0	100	
Mg	24	2	He	1.690	3.9	1587	2.2	100	
Al	27	2	He	0.589	19.3	613	3.4	5	
K	39	2	He	1.540	135.7	38898	1.5	100	
Ca	43	2	He	13.196	67.9	23	49.5	100	
Ca	44	2	He	2.413	62.2	337	10.4	100	
V	51	2	He	-0.129	-26.8	2400	5.6	2.5	
Cr	52	2	He	0.017	59.8	943	5.3	2.5	
Mn	55	2	He	0.305	5.6	1477	3.9	2.5	
Fe	56	2	He	1.586	6.8	21690	2.5	100	
Co	59	2	He	0.031	30.4	317	19.0	2.5	
Ni	60	2	He	0.011	109.1	360	5.6	2.5	
Cu	63	2	He	-0.031	-90.3	977	12.2	1	
Zn	66	2	He	-0.087	-56.3	327	12.7	2.5	
As	75	2	He	0.021	112.9	74	17.0	2.5	
Sb	121	2	He	0.176	13.9	1673	7.5	2.5	
Se	78	2	He	0.168	174.2	59	26.5	1	
Ti	47	2	He	0.028	270.3	10	100.0	2.5	

QC ISTD Table

Initial Calibration Blank (ICB) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1120782	0.60	1177118	95.21	70	120	
In	115	1	nogas	2526159	1.32	2637598	95.77	70	120	
Li	6	1	nogas	546037	0.56	567320	96.25	70	120	
Bi	209	1	nogas	2920862	3.77	2933303	99.58	70	120	
Ge	72	2	He	312383	0.67	330630	94.48	70	120	
In	115	2	He	1004673	1.38	1038219	96.77	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\121120A.b
Acq Date Time	2020-12-11T12:23:05-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.020	80.0	58	48.7	0	ICSA Main CR1 Failed
B	11	1	nogas	5.645	15.9	26569	2.8	0	ICSA Main CR1 Failed
Ca	44	1	nogas	100206.402	0.1	31592383	0.5	0	
Ti	47	1	nogas	2082.995	0.9	1997378	1.4	0	
Cr	52	1	nogas	1.258	5.0	42390	2.2	0	ICSA Main CR1 Failed
Ni	60	1	nogas	1.233	6.7	4221	5.6	0	ICSA Main CR1 Failed
Cu	63	1	nogas	1.571	0.9	12835	0.7	0	ICSA Main CR1 Failed
Zn	66	1	nogas	2.120	4.8	5037	3.8	0	ICSA Main CR1 Failed
Se	82	1	nogas	0.144	300.8	277	21.2	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.958	1.5	20145	1.2	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2092.905	2.3	8505114	2.0	0	
Ag	107	1	nogas	0.011	60.7	343	20.5	0	ICSA Main CR1 Failed
Cd	111	1	nogas	2.320	4.9	5044	4.5	0	
Sn	118	1	nogas	0.263	20.8	3480	11.3	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.125	5.6	2990	2.2	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.038	85.5	727	16.1	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.016	9.6	777	13.2	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.060	10.0	3627	2.8	0	ICSA Main CR1 Failed
Na	23	2	He	104653.900	1.3	64445364	1.5	0	
Mg	24	2	He	103184.395	1.1	37047514	0.8	0	
Al	27	2	He	101004.939	1.2	19956341	1.0	0	
K	39	2	He	105014.343	1.5	39144328	1.0	0	
Ca	43	2	He	101383.757	1.1	121561	0.6	0	
Ca	44	2	He	105576.752	1.6	2156946	1.2	0	
V	51	2	He	-0.041	-83.5	2524	4.0	0	ICSA Main CR1 Failed
Cr	52	2	He	1.048	2.5	4947	1.7	0	ICSA Main CR1 Failed
Mn	55	2	He	0.239	55.3	1177	31.9	0	ICSA Main CR1 Failed
Fe	56	2	He	102282.341	0.6	380138074	0.8	0	
Co	59	2	He	0.197	4.0	1270	4.2	0	ICSA Main CR1 Failed
Ni	60	2	He	0.154	56.0	543	22.9	0	ICSA Main CR1 Failed
Cu	63	2	He	0.183	40.9	1727	16.3	0	ICSA Main CR1 Failed
Zn	66	2	He	0.787	21.0	957	13.2	0	ICSA Main CR1 Failed
As	75	2	He	0.118	16.2	119	8.6	0	ICSA Main CR1 Failed
Sb	121	2	He	0.167	26.7	1513	13.1	0	ICSA Main CR1 Failed
Se	78	2	He	0.107	275.6	51	27.4	0	ICSA Main CR1 Failed
Ti	47	2	He	2032.298	1.1	247983	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	1067778	0.46	1177118	90.71	70	120	
In	115	1	nogas	2294973	0.31	2637598	87.01	70	120	
Li	6	1	nogas	501437	1.33	567320	88.39	70	120	
Bi	209	1	nogas	2722260	7.82	2933303	92.81	70	120	
Ge	72	2	He	289676	0.58	330630	87.61	70	120	
In	115	2	He	908890	0.20	1038219	87.54	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\121120A.b
Acq Date Time	2020-12-11T12:25:04-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	95.283	1.117	178032	1.19	100	95.3	80	120	
B	11	1	nogas	483.311	0.981	570221	1.01	100	483.3	80	120	
Ca	44	1	nogas	107867.920	1.772	35642203	0.92	100	107867.9	80	120	ICSB Main CR1 Failed
Ti	47	1	nogas	2131.986	1.229	2142767	1.24	100	2132.0	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	96.165	1.297	1227401	1.56	100	96.2	80	120	
Ni	60	1	nogas	95.032	1.052	271948	0.20	100	95.0	80	120	
Cu	63	1	nogas	93.376	1.516	671025	1.33	100	93.4	80	120	
Zn	66	1	nogas	98.869	0.592	201520	1.09	100	98.9	80	120	
Se	82	1	nogas	99.795	1.571	14233	0.84	100	99.8	80	120	
Sr	88	1	nogas	104.760	1.167	2178382	0.52	100	104.8	80	120	
Mo	95	1	nogas	2173.108	0.634	9107610	1.30	100	2173.1	80	120	
Ag	107	1	nogas	92.940	1.172	1019420	0.34	100	92.9	80	120	
Cd	111	1	nogas	103.802	1.119	232607	0.27	100	103.8	80	120	
Sn	118	1	nogas	98.200	1.125	713025	1.37	100	98.2	80	120	
Sb	121	1	nogas	95.605	0.346	953902	1.45	100	95.6	80	120	
Ba	137	1	nogas	104.136	0.849	377336	0.79	100	104.1	80	120	
Tl	205	1	nogas	98.059	6.276	2574941	1.42	100	98.1	80	120	
Pb	208	1	nogas	101.946	4.647	3445227	0.59	100	101.9	80	120	
U	238	1	nogas	107.427	6.244	4368168	1.23	100	107.4	80	120	
Na	23	2	He	112965.257	1.218	70565287	0.89	100	112965.3	80	120	
Mg	24	2	He	110333.215	1.193	40186347	0.44	100	110333.2	80	120	ICSB Main CR1 Failed
Al	27	2	He	98217.011	1.367	19685922	0.95	100	98217.0	80	120	ICSB Main CR1 Failed
K	39	2	He	111677.279	1.122	42228456	0.54	100	111677.3	80	120	ICSB Main CR1 Failed
Ca	43	2	He	109201.403	1.406	132825	0.65	100	109201.4	80	120	ICSB Main CR1 Failed
Ca	44	2	He	115201.113	1.708	2387593	1.35	100	115201.1	80	120	
V	51	2	He	100.779	1.467	348966	1.09	100	100.8	80	120	
Cr	52	2	He	100.018	0.229	401729	0.66	100	100.0	80	120	
Mn	55	2	He	98.235	0.972	289146	0.27	100	98.2	80	120	
Fe	56	2	He	110317.233	0.921	415918820	0.50	100	110317.2	80	120	
Co	59	2	He	99.389	0.869	591526	0.76	100	99.4	80	120	
Ni	60	2	He	97.162	0.782	144944	0.66	100	97.2	80	120	
Cu	63	2	He	97.184	1.009	379583	0.23	100	97.2	80	120	
Zn	66	2	He	99.317	1.392	75702	1.15	100	99.3	80	120	
As	75	2	He	102.920	1.321	53642	0.73	100	102.9	80	120	
Sb	121	2	He	100.942	1.610	445677	0.89	100	100.9	80	120	
Se	78	2	He	102.992	2.068	5154	1.29	100	103.0	80	120	
Ti	47	2	He	2096.279	0.498	259497	0.98	100	2096.3	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	1119255	1.11	1177118	95.08	70	120	
In	115	1	nogas	2366772	1.27	2637598	89.73	70	120	
Li	6	1	nogas	504988	0.07	567320	89.01	70	120	
Bi	209	1	nogas	2666524	5.13	2933303	90.91	70	120	
Ge	72	2	He	293870	0.80	330630	88.88	70	120	
In	115	2	He	927573	0.29	1038219	89.34	70	120	

Sample Report

Sample Table

Sample Name	HS20111258-01SD
Data File Name	033SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:34:26-06:00
Sample Type	Sample
Dilution	50
Comment	DOD TW 160306
ISTD Ref FileName	017CALB.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	0.016	0.822	61.39	58	0.03	2000	
B	11	1	nogas	0.715	35.744	52.98	23323	0.00	2000	
Ca	44	1	nogas	732.678	36633.905	0.59	272507	0.27	200000	
Ti	47	1	nogas	0.282	14.114	23.68	467	0.06	2000	
Cr	52	1	nogas	0.058	2.896	73.72	31571	0.00	2000	
Ni	60	1	nogas	0.269	13.455	22.40	1793	0.02	2000	
Cu	63	1	nogas	0.247	12.341	10.83	4247	0.01	2000	
Zn	66	1	nogas	3.105	155.225	0.51	7795	0.04	2000	
Se	82	1	nogas	-0.304	-15.190	-71.68	243	-0.12	2000	
Sr	88	1	nogas	12.440	621.991	1.56	296634	0.00	2000	
Mo	95	1	nogas	0.202	10.108	6.91	1780	0.01	2000	
Ag	107	1	nogas	-0.001	-0.067	-172.34	250	0.00	2000	
Cd	111	1	nogas	0.013	0.647	62.06	37	0.04	2000	
Sn	118	1	nogas	0.114	5.689	24.64	2867	0.00	2000	
Sb	121	1	nogas	0.258	12.891	4.65	4774	0.01	2000	
Ba	137	1	nogas	12.831	641.558	1.57	53772	0.02	2000	
Tl	205	1	nogas	0.023	1.150	16.92	1087	0.00	2000	
Pb	208	1	nogas	0.000	-0.014	-1374.80	1733	0.00	2000	
U	238	1	nogas	0.003	0.147	20.11	317	0.00	2000	
Na	23	2	He	3751.985	187599.269	1.66	2594606	0.14	200000	
Mg	24	2	He	510.974	25548.689	1.12	205131	0.25	200000	
Al	27	2	He	6.245	312.265	21.58	1877	0.33	2000	
K	39	2	He	26.462	1323.098	11.57	50473	0.05	200000	
Ca	43	2	He	780.776	39038.805	21.48	1047	74.59	200000	
Ca	44	2	He	774.943	38747.135	2.19	17912	4.33	200000	
V	51	2	He	0.295	14.764	7.96	4075	0.01	2000	
Cr	52	2	He	0.075	3.751	2.57	1227	0.01	2000	
Mn	55	2	He	7.054	352.715	1.99	23279	0.03	2000	
Fe	56	2	He	17.145	857.265	3.85	86720	0.02	200000	
Co	59	2	He	0.118	5.922	7.22	900	0.01	2000	
Ni	60	2	He	0.275	13.734	33.83	803	0.03	2000	
Cu	63	2	He	0.240	12.006	17.33	2167	0.01	2000	
Zn	66	2	He	3.195	159.758	11.38	3070	0.10	2000	
As	75	2	He	0.061	3.070	37.69	100	0.06	2000	
Sb	121	2	He	0.234	11.677	7.65	2007	0.01	2000	
Se	78	2	He	0.132	6.615	226.14	59	0.23	2000	
Ti	47	2	He	0.517	25.842	86.57	77	0.67	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1198968	0.41	1177118	101.86	70	120	
In	115	1	nogas	2706050	0.72	2637598	102.60	70	120	
Li	6	1	nogas	556694	0.60	567320	98.13	70	120	
Bi	209	1	nogas	3065643	3.07	2933303	104.51	70	120	

Sample Report

Ge	72	2	He	322398	1.14	330630	97.51	70	120	
In	115	2	He	1041172	0.44	1038219	100.28	70	120	

Sample Report

Sample Table

Sample Name	HS20111258-01PDS
Data File Name	034SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:36:27-06:00
Sample Type	Sample
Dilution	10
Comment	DOD TW 160306
ISTD Ref FileName	017CALB.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	99.818	998.182	0.36	199040	0.05	2000	
B	11	1	nogas	4.276	42.755	12.57	26903	0.02	2000	
Ca	44	1	nogas	13877.502	138775.022	2.05	4824114	0.29	200000	
Ti	47	1	nogas	101.921	1019.206	1.18	107669	0.09	2000	
Cr	52	1	nogas	105.838	1058.378	1.84	1414639	0.01	2000	
Ni	60	1	nogas	105.858	1058.580	0.88	317862	0.03	2000	
Cu	63	1	nogas	104.691	1046.914	0.87	789375	0.01	2000	
Zn	66	1	nogas	121.672	1216.720	1.85	260024	0.05	2000	
Se	82	1	nogas	107.792	1077.921	0.89	16114	0.67	2000	
Sr	88	1	nogas	60.069	600.687	1.25	1370813	0.00	2000	
Mo	95	1	nogas	105.918	1059.183	1.44	487633	0.02	2000	
Ag	107	1	nogas	99.055	990.548	0.59	1191871	0.01	2000	
Cd	111	1	nogas	106.137	1061.368	0.79	260909	0.04	2000	
Sn	118	1	nogas	0.095	0.949	17.45	2600	0.00	2000	
Sb	121	1	nogas	92.451	924.512	1.11	968338	0.01	2000	
Ba	137	1	nogas	166.665	1666.655	1.14	662084	0.03	2000	
Tl	205	1	nogas	99.489	994.886	4.79	2968749	0.00	2000	
Pb	208	1	nogas	102.544	1025.438	5.25	3935075	0.00	2000	
U	238	1	nogas	0.010	0.102	25.88	647	0.00	2000	
Na	23	2	He	27127.605	271276.046	2.03	18261679	0.15	200000	
Mg	24	2	He	12971.921	129719.211	1.61	5087720	0.25	200000	
Al	27	2	He	118.514	1185.140	0.87	26072	0.45	2000	
K	39	2	He	10849.790	108497.900	1.28	4452928	0.24	200000	
Ca	43	2	He	13568.677	135686.768	0.88	17779	76.32	200000	
Ca	44	2	He	13845.939	138459.394	2.44	309192	4.48	200000	
V	51	2	He	103.964	1039.639	1.35	387513	0.03	2000	
Cr	52	2	He	104.569	1045.691	2.16	452132	0.02	2000	
Mn	55	2	He	136.025	1360.252	1.57	430879	0.03	2000	
Fe	56	2	He	10472.637	104726.365	1.37	42526419	0.02	200000	
Co	59	2	He	105.133	1051.331	1.03	673689	0.02	2000	
Ni	60	2	He	105.987	1059.870	1.63	170192	0.06	2000	
Cu	63	2	He	106.442	1064.417	1.41	447523	0.02	2000	
Zn	66	2	He	121.725	1217.250	2.19	99799	0.12	2000	
As	75	2	He	105.481	1054.810	0.34	59200	0.18	2000	
Sb	121	2	He	97.098	970.981	1.57	461613	0.02	2000	
Se	78	2	He	104.435	1044.355	4.83	5625	1.86	2000	
Ti	47	2	He	100.869	1008.691	3.83	13455	0.75	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1174793	1.41	1177118	99.80	70	120	
In	115	1	nogas	2596269	1.41	2637598	98.43	70	120	
Li	6	1	nogas	538928	0.38	567320	95.00	70	120	
Bi	209	1	nogas	3028248	4.87	2933303	103.24	70	120	

Sample Report

Ge	72	2	He	316423	1.40	330630	95.70	70	120	
In	115	2	He	1001200	0.73	1038219	96.43	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	035_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:40:37-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	101.247	1.095	194900	1.36	100	101.2	90	110	
B	11	1	nogas	507.563	2.047	615930	2.43	500	101.5	90	110	
Ca	44	1	nogas	10324.671	2.153	3570817	1.96	10000	103.2	90	110	
Ti	47	1	nogas	101.965	0.700	107063	0.85	100	102.0	90	110	
Cr	52	1	nogas	104.666	0.825	1390933	0.49	100	104.7	90	110	
Ni	60	1	nogas	102.955	0.019	307292	0.71	100	103.0	90	110	
Cu	63	1	nogas	101.668	0.692	762021	1.03	100	101.7	90	110	
Zn	66	1	nogas	103.951	0.715	220983	1.17	100	104.0	90	110	
Se	82	1	nogas	104.107	2.175	15477	1.63	100	104.1	90	110	
Sr	88	1	nogas	103.526	2.288	2388732	3.26	100	103.5	90	110	
Mo	95	1	nogas	100.205	1.633	466609	0.83	100	100.2	90	110	
Ag	107	1	nogas	98.455	1.367	1198011	0.09	100	98.5	90	110	
Cd	111	1	nogas	100.544	2.163	249954	1.84	100	100.5	90	110	
Sn	118	1	nogas	97.129	1.889	782315	0.54	100	97.1	90	110	
Sb	121	1	nogas	101.092	0.465	1052086	0.88	100	101.1	90	110	
Ba	137	1	nogas	101.047	2.316	406168	1.20	100	101.0	90	110	
Tl	205	1	nogas	93.536	9.814	2870457	1.57	100	93.5	90	110	
Pb	208	1	nogas	96.705	9.526	3817930	1.05	100	96.7	90	110	
U	238	1	nogas	96.895	9.840	4604361	1.60	100	96.9	90	110	
Li	7	1	nogas	99.353	1.245	727428	1.04	100	99.4	90	110	
Tl	203	1	nogas	96.265	10.133	1148243	1.45	100	96.3	90	110	
Na	23	2	He	10264.988	0.980	7054879	0.23	10000	102.6	90	110	
Mg	24	2	He	10301.978	0.959	4116358	0.28	10000	103.0	90	110	
Al	27	2	He	104.122	1.153	23395	1.92	100	104.1	90	110	
K	39	2	He	10361.177	1.242	4332867	0.56	10000	103.6	90	110	
Ca	43	2	He	10363.482	1.502	13832	1.53	10000	103.6	90	110	
Ca	44	2	He	10302.959	1.148	234467	0.55	10000	103.0	90	110	
V	51	2	He	100.676	0.816	382359	0.04	100	100.7	90	110	
Cr	52	2	He	100.972	0.681	444801	0.68	100	101.0	90	110	
Mn	55	2	He	101.037	0.526	326173	0.57	100	101.0	90	110	
Fe	56	2	He	10311.269	1.209	42651794	0.51	10000	103.1	90	110	
Co	59	2	He	102.242	1.463	667368	0.68	100	102.2	90	110	
Ni	60	2	He	101.875	0.801	166669	0.89	100	101.9	90	110	
Cu	63	2	He	102.451	1.630	438807	0.80	100	102.5	90	110	
Zn	66	2	He	102.655	1.265	85804	0.53	100	102.7	90	110	
As	75	2	He	103.605	1.078	59227	0.59	100	103.6	90	110	
Sn	118	2	He	102.372	0.406	380410	0.35	100	102.4	90	110	
Sb	121	2	He	103.729	0.648	502318	0.74	100	103.7	90	110	
Se	78	2	He	100.383	2.789	5511	2.02	100	100.4	90	110	
Ti	47	2	He	100.678	2.716	13675	2.81	100	100.7	90	110	
Al	27	1	nogas	101.934	0.703	983862	1.05	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	1167607	0.71	1177118	99.19	70	120	
In	115	1	nogas	2625721	1.37	2637598	99.55	70	120	
Li	6	1	nogas	520271	0.81	567320	91.71	70	120	
Bi	209	1	nogas	3127955	8.98	2933303	106.64	70	120	
Ge	72	2	He	322313	0.84	330630	97.48	70	120	
In	115	2	He	1014377	0.74	1038219	97.70	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	036_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:42:37-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.075	37.7	177	31.6	1	
B	11	1	nogas	6.728	14.4	30368	3.2	10	
Ca	44	1	nogas	9.844	12.0	16368	2.7	100	
Ti	47	1	nogas	0.326	9.1	503	6.4	2.5	
Cr	52	1	nogas	-0.425	-4.7	24594	1.1	2.5	
Ni	60	1	nogas	0.009	53.3	977	1.6	2.5	
Cu	63	1	nogas	0.020	77.0	2454	4.9	2	
Zn	66	1	nogas	-0.113	-17.5	787	5.1	2.5	
Se	82	1	nogas	0.140	187.3	303	12.5	2	
Sr	88	1	nogas	0.057	12.2	2304	7.0	2.5	
Mo	95	1	nogas	0.346	46.0	2417	29.3	2.5	
Ag	107	1	nogas	0.054	6.3	920	3.8	2.5	
Cd	111	1	nogas	0.077	39.2	197	36.8	1	
Sn	118	1	nogas	1.132	13.5	11074	9.6	5	
Sb	121	1	nogas	1.466	17.3	17292	15.4	2.5	
Ba	137	1	nogas	-0.047	-45.9	493	18.4	2.5	
Tl	205	1	nogas	0.247	32.9	7682	34.2	1	
Pb	208	1	nogas	0.074	19.9	4494	15.4	2.5	
U	238	1	nogas	0.074	22.6	3554	24.5	2.5	
Na	23	2	He	9.915	6.8	31467	1.2	100	
Mg	24	2	He	4.152	7.4	2647	4.7	100	
Al	27	2	He	1.404	51.2	820	19.2	5	
K	39	2	He	4.675	18.7	41854	0.7	100	
Ca	43	2	He	22.352	69.3	37	56.8	100	
Ca	44	2	He	9.642	14.1	517	5.9	100	
V	51	2	He	-0.137	-14.4	2470	2.7	2.5	
Cr	52	2	He	0.054	36.0	1147	7.9	2.5	
Mn	55	2	He	0.110	39.0	903	15.8	2.5	
Fe	56	2	He	4.213	6.3	33575	3.1	100	
Co	59	2	He	0.041	2.0	397	1.5	2.5	
Ni	60	2	He	0.014	163.3	380	9.5	2.5	
Cu	63	2	He	0.009	409.4	1190	13.2	2	
Zn	66	2	He	-0.008	-634.2	407	10.2	2.5	
As	75	2	He	0.092	22.9	119	10.6	2.5	
Sb	121	2	He	0.993	2.3	5734	2.0	2.5	
Se	78	2	He	0.172	86.9	61	13.6	2	
Ti	47	2	He	0.341	25.0	53	21.7	2.5	

QC ISTD Table

Continuing Calibration Blank (CCB) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1173894	0.23	1177118	99.73	70	120	
In	115	1	nogas	2654293	1.58	2637598	100.63	70	120	
Li	6	1	nogas	547879	1.18	567320	96.57	70	120	
Bi	209	1	nogas	2970236	3.14	2933303	101.26	70	120	
Ge	72	2	He	325557	0.35	330630	98.47	70	120	
In	115	2	He	1036752	0.69	1038219	99.86	70	120	

Sample Report

Sample Table

Sample Name	LCS-160581
Data File Name	040SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T12:53:23-06:00
Sample Type	Sample
Dilution	1
Comment	200.8 B160581
ISTD Ref FileName	017CALB.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	48.427	48.427	0.60	106126	0.05	2000	
B	11	1	nogas	-5.451	-5.451	-0.34	16584	-0.03	2000	
Ca	44	1	nogas	5196.832	5196.832	0.95	1941739	0.27	200000	
Ti	47	1	nogas	48.501	48.501	3.32	54906	0.09	2000	
Cr	52	1	nogas	48.547	48.547	2.12	711787	0.01	2000	
Ni	60	1	nogas	51.622	51.622	1.98	166355	0.03	2000	
Cu	63	1	nogas	51.335	51.335	1.21	415386	0.01	2000	
Zn	66	1	nogas	57.186	57.186	1.24	131350	0.04	2000	
Se	82	1	nogas	52.687	52.687	2.59	8582	0.61	2000	
Sr	88	1	nogas	0.123	0.123	16.74	4044	0.00	2000	
Mo	95	1	nogas	48.234	48.234	1.11	240139	0.02	2000	
Ag	107	1	nogas	49.386	49.386	1.44	641456	0.01	2000	
Cd	111	1	nogas	50.841	50.841	0.87	134894	0.04	2000	
Sn	118	1	nogas	-0.036	-0.036	-39.88	1687	0.00	2000	
Sb	121	1	nogas	46.423	46.423	2.05	521200	0.01	2000	
Ba	137	1	nogas	48.748	48.748	0.09	209523	0.02	2000	
Tl	205	1	nogas	48.129	48.129	8.37	1466859	0.00	2000	
Pb	208	1	nogas	49.755	49.755	6.90	1952456	0.00	2000	
U	238	1	nogas	0.001	0.001	124.60	210	0.00	2000	
Na	23	2	He	5144.172	5144.172	0.97	3816045	0.13	200000	
Mg	24	2	He	5212.702	5212.702	0.94	2240883	0.23	200000	
Al	27	2	He	107.152	107.152	1.58	25878	0.41	2000	
K	39	2	He	5250.807	5250.807	0.86	2382943	0.22	200000	
Ca	43	2	He	4680.740	4680.740	8.79	6725	69.61	200000	
Ca	44	2	He	4985.651	4985.651	0.88	122205	4.08	200000	
V	51	2	He	48.987	48.987	0.63	201756	0.02	2000	
Cr	52	2	He	49.955	49.955	0.81	237186	0.02	2000	
Mn	55	2	He	50.977	50.977	0.43	177299	0.03	2000	
Fe	56	2	He	4984.487	4984.487	0.85	22186467	0.02	200000	
Co	59	2	He	50.899	50.899	0.92	357453	0.01	2000	
Ni	60	2	He	50.947	50.947	1.77	89840	0.06	2000	
Cu	63	2	He	51.441	51.441	1.16	237609	0.02	2000	
Zn	66	2	He	56.486	56.486	0.98	50986	0.11	2000	
As	75	2	He	51.346	51.346	0.24	31608	0.16	2000	
Sb	121	2	He	48.580	48.580	0.56	253543	0.02	2000	
Se	78	2	He	50.674	50.674	3.62	3020	1.68	2000	
Ti	47	2	He	47.448	47.448	7.90	6935	0.68	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1256861	0.34	1177118	106.77	70	120	
In	115	1	nogas	2802045	0.83	2637598	106.23	70	120	
Li	6	1	nogas	592225	0.62	567320	104.39	70	120	
Bi	209	1	nogas	3099662	6.83	2933303	105.67	70	120	

Sample Report

Ge	72	2	He	346680	0.39	330630	104.85	70	120	
In	115	2	He	1089439	0.40	1038219	104.93	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	047_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T13:09:06-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	96.547	0.594	180624	0.32	100	96.5	90	110	
B	11	1	nogas	492.323	0.883	581225	1.08	500	98.5	90	110	
Ca	44	1	nogas	9887.841	0.741	3252889	1.15	10000	98.9	90	110	
Ti	47	1	nogas	99.505	0.768	99362	0.45	100	99.5	90	110	
Cr	52	1	nogas	98.162	0.281	1242453	1.37	100	98.2	90	110	
Ni	60	1	nogas	101.423	1.178	287886	0.39	100	101.4	90	110	
Cu	63	1	nogas	99.169	0.669	706910	0.44	100	99.2	90	110	
Zn	66	1	nogas	100.096	1.404	202387	0.99	100	100.1	90	110	
Se	82	1	nogas	99.248	3.433	14042	2.32	100	99.2	90	110	
Sr	88	1	nogas	101.667	0.940	2217626	0.57	100	101.7	90	110	
Mo	95	1	nogas	100.205	1.103	441219	1.08	100	100.2	90	110	
Ag	107	1	nogas	98.572	0.934	1134166	0.99	100	98.6	90	110	
Cd	111	1	nogas	99.621	0.587	234178	0.21	100	99.6	90	110	
Sn	118	1	nogas	96.433	0.740	734493	0.79	100	96.4	90	110	
Sb	121	1	nogas	97.669	0.407	966764	1.44	100	97.7	90	110	
Ba	137	1	nogas	100.715	0.687	382830	0.45	100	100.7	90	110	
Tl	205	1	nogas	95.580	7.569	2739531	1.97	100	95.6	90	110	
Pb	208	1	nogas	100.448	7.431	3703236	1.47	100	100.4	90	110	
U	238	1	nogas	102.627	6.613	4556336	0.56	100	102.6	90	110	
Li	7	1	nogas	94.347	0.618	673184	0.19	100	94.3	90	110	
Tl	203	1	nogas	98.521	6.401	1098238	0.34	100	98.5	90	110	
Na	23	2	He	9947.529	2.099	6454345	1.40	10000	99.5	90	110	
Mg	24	2	He	9956.295	1.562	3755519	1.16	10000	99.6	90	110	
Al	27	2	He	101.063	3.168	21446	2.40	100	101.1	90	110	
K	39	2	He	10074.588	0.364	3978440	0.88	10000	100.7	90	110	
Ca	43	2	He	10259.558	2.034	12928	2.67	10000	102.6	90	110	
Ca	44	2	He	9901.665	1.121	212730	0.35	10000	99.0	90	110	
V	51	2	He	99.395	0.351	356403	0.45	100	99.4	90	110	
Cr	52	2	He	99.533	1.089	413914	0.36	100	99.5	90	110	
Mn	55	2	He	99.830	1.227	304233	0.88	100	99.8	90	110	
Fe	56	2	He	9955.974	0.649	38879919	1.16	10000	99.6	90	110	
Co	59	2	He	100.549	0.242	619623	0.86	100	100.5	90	110	
Ni	60	2	He	99.989	1.138	154425	0.37	100	100.0	90	110	
Cu	63	2	He	100.792	0.380	407581	0.55	100	100.8	90	110	
Zn	66	2	He	101.317	2.661	79944	1.87	100	101.3	90	110	
As	75	2	He	99.332	0.491	53609	0.49	100	99.3	90	110	
Sn	118	2	He	99.179	0.370	357926	0.34	100	99.2	90	110	
Sb	121	2	He	101.505	0.888	464033	0.34	100	101.5	90	110	
Se	78	2	He	96.426	3.376	4999	2.97	100	96.4	90	110	
Ti	47	2	He	100.218	3.122	12851	3.46	100	100.2	90	110	
Al	27	1	nogas	97.901	1.154	919235	1.41	100	97.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1110431	1.10	1177118	94.33	70	120	
In	115	1	nogas	2482537	0.38	2637598	94.12	70	120	
Li	6	1	nogas	505646	0.76	567320	89.13	70	120	
Bi	209	1	nogas	2913287	6.24	2933303	99.32	70	120	
Ge	72	2	He	304268	0.77	330630	92.03	70	120	
In	115	2	He	985068	0.67	1038219	94.88	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	048_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T13:11:06-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.077	8.1	175	7.6	1	
B	11	1	nogas	6.792	11.9	29475	2.8	10	
Ca	44	1	nogas	6.868	43.3	14603	5.7	100	
Ti	47	1	nogas	0.191	17.1	343	8.9	2.5	
Cr	52	1	nogas	-0.522	-4.6	22221	2.1	2.5	
Ni	60	1	nogas	0.027	109.1	983	8.2	2.5	
Cu	63	1	nogas	0.032	105.1	2424	8.9	2	
Zn	66	1	nogas	-0.071	-69.2	837	12.9	2.5	
Se	82	1	nogas	0.576	32.6	350	7.6	2	
Sr	88	1	nogas	0.102	14.9	3227	9.3	2.5	
Mo	95	1	nogas	0.270	43.6	1983	26.0	2.5	
Ag	107	1	nogas	0.056	17.9	913	13.6	2.5	
Cd	111	1	nogas	0.057	19.2	140	18.9	1	
Sn	118	1	nogas	0.953	15.9	9266	11.9	5	
Sb	121	1	nogas	1.203	17.8	13843	14.2	2.5	
Ba	137	1	nogas	-0.002	-187.0	650	2.7	2.5	
Tl	205	1	nogas	0.216	35.9	6788	39.6	1	
Pb	208	1	nogas	0.055	21.8	3794	16.8	2.5	
U	238	1	nogas	0.076	13.8	3637	18.8	2.5	
Na	23	2	He	19.598	9.1	36640	4.5	100	
Mg	24	2	He	3.749	7.8	2384	4.1	100	
Al	27	2	He	0.886	17.9	677	4.5	5	
K	39	2	He	2.394	79.7	39256	2.8	100	
Ca	43	2	He	7.844	280.6	17	173.2	100	
Ca	44	2	He	11.200	23.4	530	10.5	100	
V	51	2	He	-0.207	-34.9	2112	11.0	2.5	
Cr	52	2	He	0.064	19.2	1143	5.8	2.5	
Mn	55	2	He	0.045	117.5	663	24.2	2.5	
Fe	56	2	He	3.776	6.6	30476	4.3	100	
Co	59	2	He	0.043	38.8	393	25.5	2.5	
Ni	60	2	He	-0.049	-167.1	267	50.4	2.5	
Cu	63	2	He	-0.009	-239.8	1070	8.1	2	
Zn	66	2	He	-0.008	-1347.4	390	22.4	2.5	
As	75	2	He	0.025	168.4	77	30.1	2.5	
Sb	121	2	He	0.710	23.8	4177	19.0	2.5	
Se	78	2	He	0.144	226.8	57	29.7	2	
Ti	47	2	He	0.180	1.9	30	0.0	2.5	

QC ISTD Table

Continuing Calibration Blank (CCB) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1118298	1.14	1177118	95.00	70	120	
In	115	1	nogas	2554902	1.36	2637598	96.86	70	120	
Li	6	1	nogas	530313	0.68	567320	93.48	70	120	
Bi	209	1	nogas	2971447	5.66	2933303	101.30	70	120	
Ge	72	2	He	312453	1.52	330630	94.50	70	120	
In	115	2	He	1013024	0.25	1038219	97.57	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	096_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T15:35:09-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.856	0.841	161609	0.61	100	97.9	90	110	
B	11	1	nogas	510.527	0.918	531379	0.72	500	102.1	90	110	
Ca	44	1	nogas	9790.178	0.093	2926141	0.58	10000	97.9	90	110	
Ti	47	1	nogas	97.431	0.832	88393	0.77	100	97.4	90	110	
Cr	52	1	nogas	97.712	0.402	1123656	0.59	100	97.7	90	110	
Ni	60	1	nogas	100.358	0.074	258821	0.56	100	100.4	90	110	
Cu	63	1	nogas	98.420	1.118	637395	1.11	100	98.4	90	110	
Zn	66	1	nogas	100.843	0.441	185245	0.92	100	100.8	90	110	
Se	82	1	nogas	103.408	2.545	13285	2.68	100	103.4	90	110	
Sr	88	1	nogas	99.033	2.092	2030709	0.44	100	99.0	90	110	
Mo	95	1	nogas	97.695	1.427	404445	1.48	100	97.7	90	110	
Ag	107	1	nogas	96.412	1.360	1042881	0.31	100	96.4	90	110	
Cd	111	1	nogas	98.857	1.727	218465	1.16	100	98.9	90	110	
Sn	118	1	nogas	96.564	1.212	691448	0.45	100	96.6	90	110	
Sb	121	1	nogas	99.990	0.850	899107	1.23	100	100.0	90	110	
Ba	137	1	nogas	100.788	1.496	360177	1.20	100	100.8	90	110	
Tl	205	1	nogas	96.515	2.716	2697843	0.66	100	96.5	90	110	
Pb	208	1	nogas	100.998	3.315	3630880	0.65	100	101.0	90	110	
U	238	1	nogas	103.613	3.942	4483558	0.63	100	103.6	90	110	
Li	7	1	nogas	95.694	0.565	602291	0.34	100	95.7	90	110	
Tl	203	1	nogas	98.378	4.156	1068719	1.06	100	98.4	90	110	
Na	23	2	He	9886.932	1.419	5889838	0.37	10000	98.9	90	110	
Mg	24	2	He	9867.008	1.202	3417282	1.65	10000	98.7	90	110	
Al	27	2	He	97.412	2.547	19000	3.48	100	97.4	90	110	
K	39	2	He	9947.965	0.657	3607020	0.59	10000	99.5	90	110	
Ca	43	2	He	9714.137	2.456	11237	2.18	10000	97.1	90	110	
Ca	44	2	He	9804.439	1.335	193388	0.39	10000	98.0	90	110	
V	51	2	He	97.441	1.283	320813	0.13	100	97.4	90	110	
Cr	52	2	He	97.689	1.319	372977	0.28	100	97.7	90	110	
Mn	55	2	He	97.702	0.962	273372	0.52	100	97.7	90	110	
Fe	56	2	He	9733.787	1.348	34895960	0.16	10000	97.3	90	110	
Co	59	2	He	98.668	1.552	558181	0.39	100	98.7	90	110	
Ni	60	2	He	99.092	2.521	140496	1.64	100	99.1	90	110	
Cu	63	2	He	98.821	1.198	366890	0.88	100	98.8	90	110	
Zn	66	2	He	100.177	4.128	72563	3.00	100	100.2	90	110	
As	75	2	He	98.416	1.603	48764	1.51	100	98.4	90	110	
Sn	118	2	He	99.711	0.156	336563	1.26	100	99.7	90	110	
Sb	121	2	He	104.659	1.020	439256	1.09	100	104.7	90	110	
Se	78	2	He	94.136	2.202	4482	1.39	100	94.1	90	110	
Ti	47	2	He	101.105	2.391	11904	3.19	100	101.1	90	110	
Al	27	1	nogas	99.861	2.640	827247	2.07	100	99.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1008799	0.49	1177118	85.70	70	120	
In	115	1	nogas	2334194	1.65	2637598	88.50	70	120	
Li	6	1	nogas	446361	0.50	567320	78.68	70	120	
Bi	209	1	nogas	2834168	3.38	2933303	96.62	70	120	
Ge	72	2	He	279356	1.23	330630	84.49	70	120	
In	115	2	He	921344	1.36	1038219	88.74	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	097_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T15:37:09-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.068	21.5	137	18.4	1	
B	11	1	nogas	23.397	6.1	42739	3.1	10	CCB Main CR1 Failed
Ca	44	1	nogas	2.783	37.7	11947	4.3	100	
Ti	47	1	nogas	0.237	42.4	350	24.4	2.5	
Cr	52	1	nogas	-0.375	-21.2	21657	2.5	2.5	
Ni	60	1	nogas	0.010	225.5	840	5.2	2.5	
Cu	63	1	nogas	0.170	39.1	3070	12.4	2	
Zn	66	1	nogas	-0.048	-18.6	793	0.7	2.5	
Se	82	1	nogas	0.446	182.3	300	36.1	2	
Sr	88	1	nogas	0.085	17.9	2624	11.4	2.5	
Mo	95	1	nogas	0.265	50.1	1817	30.3	2.5	
Ag	107	1	nogas	0.066	45.6	957	34.5	2.5	
Cd	111	1	nogas	0.076	34.1	173	33.3	1	
Sn	118	1	nogas	1.087	12.2	9553	9.5	5	
Sb	121	1	nogas	1.324	12.2	13552	9.2	2.5	
Ba	137	1	nogas	-0.028	-42.4	510	8.5	2.5	
Tl	205	1	nogas	0.236	27.5	7148	29.5	1	
Pb	208	1	nogas	0.071	18.2	4270	13.9	2.5	
U	238	1	nogas	0.091	17.4	4197	19.8	2.5	
Na	23	2	He	79.256	1.8	68613	1.4	100	
Mg	24	2	He	4.651	17.5	2460	11.7	100	
Al	27	2	He	1.132	46.2	657	15.6	5	
K	39	2	He	-0.646	-312.1	34226	1.9	100	
Ca	43	2	He	6.548	301.9	13	173.2	100	
Ca	44	2	He	9.831	5.7	450	2.2	100	
V	51	2	He	-0.075	-50.4	2338	5.6	2.5	
Cr	52	2	He	0.076	54.9	1073	14.9	2.5	
Mn	55	2	He	0.167	30.7	940	15.1	2.5	
Fe	56	2	He	4.047	14.2	28403	7.6	100	
Co	59	2	He	0.048	48.7	383	34.7	2.5	
Ni	60	2	He	0.008	596.7	320	20.5	2.5	
Cu	63	2	He	0.036	75.7	1130	9.4	2	
Zn	66	2	He	-0.074	-177.7	303	32.0	2.5	
As	75	2	He	0.098	25.1	106	12.0	2.5	
Sb	121	2	He	0.841	8.7	4314	7.5	2.5	
Se	78	2	He	0.207	135.4	55	24.4	2	
Ti	47	2	He	0.177	98.7	27	78.1	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	1007197	1.72	1177118	85.56	70	120	
In	115	1	nogas	2366060	0.72	2637598	89.71	70	120	

Continuing Calibration Blank (CCB) Report

Li	6	1	nogas	459616	0.40	567320	81.02	70	120	
Bi	209	1	nogas	2897813	3.21	2933303	98.79	70	120	
Ge	72	2	He	281184	0.33	330630	85.05	70	120	
In	115	2	He	931364	0.34	1038219	89.71	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	108_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T16:10:43-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	98.993	1.794	159655	0.76	100	99.0	90	110	
B	11	1	nogas	511.750	2.031	520139	1.39	500	102.4	90	110	
Ca	44	1	nogas	9728.303	0.271	2871745	1.05	10000	97.3	90	110	
Ti	47	1	nogas	95.999	1.792	86012	1.30	100	96.0	90	110	
Cr	52	1	nogas	96.409	0.431	1095294	0.86	100	96.4	90	110	
Ni	60	1	nogas	99.390	0.745	253151	0.52	100	99.4	90	110	
Cu	63	1	nogas	98.208	0.299	628175	1.22	100	98.2	90	110	
Zn	66	1	nogas	99.902	0.647	181259	1.57	100	99.9	90	110	
Se	82	1	nogas	100.681	3.655	12778	2.71	100	100.7	90	110	
Sr	88	1	nogas	100.168	2.060	2038036	1.78	100	100.2	90	110	
Mo	95	1	nogas	97.353	1.563	399868	1.63	100	97.4	90	110	
Ag	107	1	nogas	96.861	1.059	1039555	0.96	100	96.9	90	110	
Cd	111	1	nogas	99.851	1.000	218939	0.82	100	99.9	90	110	
Sn	118	1	nogas	97.002	0.435	689153	0.63	100	97.0	90	110	
Sb	121	1	nogas	101.662	1.107	902760	1.10	100	101.7	90	110	
Ba	137	1	nogas	101.196	1.195	358801	1.27	100	101.2	90	110	
Tl	205	1	nogas	94.416	4.935	2662766	0.48	100	94.4	90	110	
Pb	208	1	nogas	100.653	5.937	3650101	1.38	100	100.7	90	110	
U	238	1	nogas	103.275	5.286	4509600	0.90	100	103.3	90	110	
Li	7	1	nogas	96.118	0.708	590687	0.46	100	96.1	90	110	
Tl	203	1	nogas	97.687	6.274	1070577	1.79	100	97.7	90	110	
Na	23	2	He	9903.873	0.931	5819976	0.87	10000	99.0	90	110	
Mg	24	2	He	10035.800	0.791	3428229	0.23	10000	100.4	90	110	
Al	27	2	He	98.139	2.212	18873	1.60	100	98.1	90	110	
K	39	2	He	9816.197	0.625	3511245	0.31	10000	98.2	90	110	
Ca	43	2	He	9693.492	5.133	11060	4.93	10000	96.9	90	110	
Ca	44	2	He	9826.912	0.313	191206	0.57	10000	98.3	90	110	
V	51	2	He	97.099	1.332	315354	0.83	100	97.1	90	110	
Cr	52	2	He	98.351	1.006	370406	0.70	100	98.4	90	110	
Mn	55	2	He	98.247	0.662	271156	0.10	100	98.2	90	110	
Fe	56	2	He	9879.027	1.341	34935429	0.82	10000	98.8	90	110	
Co	59	2	He	98.055	0.621	547199	0.06	100	98.1	90	110	
Ni	60	2	He	98.368	1.065	137587	0.54	100	98.4	90	110	
Cu	63	2	He	100.049	0.810	366388	0.49	100	100.0	90	110	
Zn	66	2	He	100.644	0.796	71927	0.79	100	100.6	90	110	
As	75	2	He	99.697	0.498	48726	0.24	100	99.7	90	110	
Sn	118	2	He	100.735	0.049	338722	0.65	100	100.7	90	110	
Sb	121	2	He	106.040	0.392	438983	0.19	100	106.0	90	110	
Se	78	2	He	96.836	3.432	4547	3.10	100	96.8	90	110	
Ti	47	2	He	93.777	2.368	10890	2.53	100	93.8	90	110	
Al	27	1	nogas	100.356	0.796	811891	0.54	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	996324	1.06	1177118	84.64	70	120	
In	115	1	nogas	2315647	0.28	2637598	87.79	70	120	
Li	6	1	nogas	435950	1.13	567320	76.84	70	120	
Bi	209	1	nogas	2862129	4.69	2933303	97.57	70	120	
Ge	72	2	He	275544	0.56	330630	83.34	70	120	
In	115	2	He	917839	0.66	1038219	88.41	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	109_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq Date Time	2020-12-11T16:12:43-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	017CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.072	29.2	140	25.0	1	
B	11	1	nogas	20.612	3.8	39114	1.9	10	CCB Main CR1 Failed
Ca	44	1	nogas	4.003	29.7	12024	2.7	100	
Ti	47	1	nogas	0.351	11.5	443	7.3	2.5	
Cr	52	1	nogas	-0.465	-15.4	20178	3.2	2.5	
Ni	60	1	nogas	0.057	87.3	940	12.5	2.5	
Cu	63	1	nogas	0.132	35.5	2764	9.9	2	
Zn	66	1	nogas	0.095	110.6	1030	17.6	2.5	
Se	82	1	nogas	0.349	132.2	280	19.9	2	
Sr	88	1	nogas	0.097	14.0	2860	9.0	2.5	
Mo	95	1	nogas	0.317	31.7	2020	19.6	2.5	
Ag	107	1	nogas	0.056	20.5	837	13.8	2.5	
Cd	111	1	nogas	0.086	36.8	193	35.2	1	
Sn	118	1	nogas	1.348	8.9	11354	6.6	5	
Sb	121	1	nogas	1.412	21.9	14009	18.6	2.5	
Ba	137	1	nogas	0.058	21.0	813	5.5	2.5	
Tl	205	1	nogas	0.233	30.7	6962	30.8	1	
Pb	208	1	nogas	0.079	17.4	4500	13.0	2.5	
U	238	1	nogas	0.099	22.9	4514	23.4	2.5	
Na	23	2	He	70.596	4.1	62759	1.9	100	
Mg	24	2	He	5.200	2.5	2624	2.2	100	
Al	27	2	He	1.486	18.5	717	7.7	5	
K	39	2	He	-1.650	-178.9	33504	3.0	100	
Ca	43	2	He	3.860	227.3	10	100.0	100	
Ca	44	2	He	10.431	33.7	457	14.2	100	
V	51	2	He	-0.149	-9.7	2073	3.1	2.5	
Cr	52	2	He	0.045	122.8	943	21.7	2.5	
Mn	55	2	He	0.201	5.8	1023	2.3	2.5	
Fe	56	2	He	4.463	16.2	29571	7.9	100	
Co	59	2	He	0.047	6.8	377	5.5	2.5	
Ni	60	2	He	-0.002	-3364.5	303	28.0	2.5	
Cu	63	2	He	0.058	115.4	1197	19.6	2	
Zn	66	2	He	0.106	134.9	430	24.5	2.5	
As	75	2	He	0.163	16.6	137	10.6	2.5	
Sb	121	2	He	0.894	14.8	4484	11.4	2.5	
Se	78	2	He	0.177	52.3	53	7.9	2	
Ti	47	2	He	0.293	49.6	40	43.3	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	984143	0.81	1177118	83.61	70	120	
In	115	1	nogas	2348497	0.95	2637598	89.04	70	120	

Continuing Calibration Blank (CCB) Report

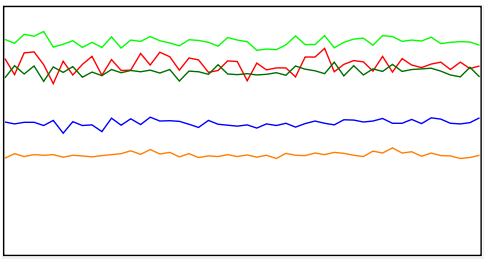
Li	6	1	nogas	451031	0.11	567320	79.50	70	120	
Bi	209	1	nogas	2858355	1.83	2933303	97.44	70	120	
Ge	72	2	He	278222	0.90	330630	84.15	70	120	
In	115	2	He	927152	0.28	1038219	89.30	70	120	

Tune Check Report

Operator Name	ALSHS NoUser
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\121120A.b
Acq. Date-Time	12/11/2020 10:17:49 AM
Report Comment	---
Instrument Name	G3281A JP09420132

[nogas]

Sensitivity



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

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	2000	1538	15384.22		
24	10000	8619	86191.99		
59	20000	10647	106466.88		
115	50000	20162	201618.63		
208	20000	14810	148096.46		

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

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	4.073	5.000	
24	2.041	5.000	
59	2.524	5.000	
115	2.235	5.000	
208	2.328	5.000	

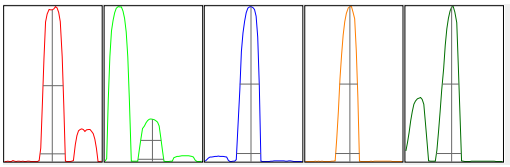
Mass	Background	Background (Required)	Background (Flag)
9	0.300		
24	0.300		
59	0.400		
115	0.300		
208	2.400		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.006 %
Doubly Charged	70 / 140 0.790 %

Tune Check Report

Resolution/Axis



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

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	1503.32	9.00	8.90 - 9.10	
24	8509.56	24.00	23.90 - 24.10	
59	10815.74	58.95	58.90 - 59.10	
115	20570.35	114.90	114.90 - 115.10	
208	14763.97	207.95	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.61	0.766		
24	0.62	0.783		
59	0.59	0.735		
115	0.54	0.728		
208	0.50	0.758		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.43 L/min	Dilution Gas	0.57 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	---
RF Matching	1.70 V	Nebulizer Pump	0.10 rps	Plasma Gas	---
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.0 V	Deflect	10.0 V
Extract 2	-180.0 V	Cell Entrance	-30 V	Plate Bias	-40 V
Omega Bias	-80 V	Cell Exit	-50 V		

Cell Parameters

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

QP Parameters

Mass Gain	144	Axis Gain	0.9935	QP Bias	-3.0 V
Mass Offset	128	Axis Offset	0.09		

Hardware Settings

Torch

Torch H	-0.7 mm	Torch V	0.6 mm

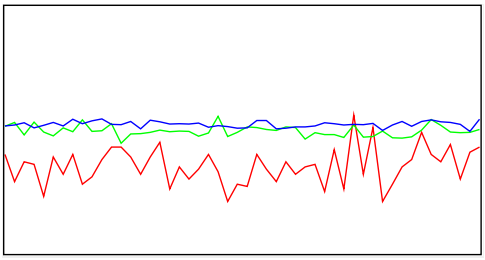
EM

Discriminator	5.0 mV	Analog HV	1920 V	Pulse HV	1601 V

[He]

Tune Check Report

Sensitivity



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

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	100	35	353.80		
24	1000	495	4953.45		
59	10000	5227	52270.80		

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

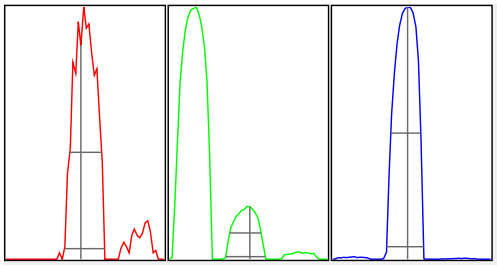
Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	21.127	5.000	Fail
24	4.450	5.000	
59	2.341	5.000	

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

Oxide/Doubly Charged Ratio

Oxide 156 / 140 0.412 %
Doubly Charged 70 / 140 0.805 %

Resolution/Axis



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

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	33.33	8.95	8.90 - 9.10	
24	516.42	24.05	23.90 - 24.10	
59	5241.38	58.95	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.60	0.753		
24	0.59	0.738		

Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
59	0.56	0.691		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.43 L/min	Dilution Gas	0.57 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	---
RF Matching	1.70 V	Nebulizer Pump	0.10 rps	Plasma Gas	---
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.0 V	Deflect	0.0 V
Extract 2	-180.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.6 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	180 V		

QP Parameters

Mass Gain	144	Axis Gain	0.9935	QP Bias	-13.0 V
Mass Offset	128	Axis Offset	0.09		

Hardware Settings

Torch

Torch H	-0.7 mm	Torch V	0.6 mm

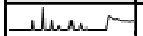
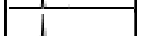
EM

Discriminator	5.0 mV	Analog HV	1920 V	Pulse HV	1601 V

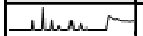
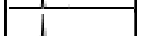
HS20111260 Wet Chem Raw Data (9056_anions_W)

ALS WO# HS20111260

Sequence: 121020
Last Update Operator: alshs.nouser

ECD_1	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume [µl]
	STD1		Calibration	GE1	1.00	01	ICS2100	Anion Processing Method 091720	10.0
	STD2		Calibration	GE2	1.00	02	ICS2100	Anion Processing Method 091720	10.0
	STD3		Calibration	GE3	1.00	03	ICS2100	Anion Processing Method 091720	10.0
	STD4		Calibration	GE4	1.00	04	ICS2100	Anion Processing Method 091720	10.0
	STD5		Calibration	GE5	1.00	05	ICS2100	Anion Processing Method 091720	10.0
	STD6		Calibration	GE6	1.00	06	ICS2100	Anion Processing Method 091720	10.0
	ICV		Unknown	GE7	1.00		ICS2100	Anion Processing Method 091720	10.0
	ICB		Unknown	GE8	1.00		ICS2100	Anion Processing Method 091720	10.0
	CCV1		Unknown	BA8	1.00		ICS2100	Anion Processing Method 091720	10.0
	CCB		Unknown	B5	1.00		ICS2100	Anion Processing Method 091720	10.0
	HS20111260-01		Unknown	GE5	1.00		ICS2100	Anion Processing Method 091720	10.0
	HS20111260-01DF20		Unknown	GE6	20.00		ICS2100	Anion Processing Method 091720	10.0
	HS20120243-01DF20		Unknown	RD2	20.00		ICS2100	Anion Processing Method 091720	10.0
	HS20120243-01MSDF20		Unknown	RD3	20.00		ICS2100	Anion Processing Method 091720	10.0
	HS20120243-01MSDDF20		Unknown	RD4	20.00		ICS2100	Anion Processing Method 091720	10.0
	CCV		Unknown	G1	1.00		ICS2100	Anion Processing Method 091720	10.0
	CCB		Unknown	B4	1.00		ICS2100	Anion Processing Method 091720	10.0
	MBLK-		Unknown	B5	1.00		ICS2100	Anion Processing Method 091720	10.0
	LCS-		Unknown	G2	1.00		ICS2100	Anion Processing Method 091720	10.0
	CCV1		Unknown	BA8	1.00		ICS2100	Anion Processing Method 091720	10.0
	CCB		Unknown	B5	1.00		ICS2100	Anion Processing Method 091720	10.0

Sequence: 121020
Last Update Operator: alshs.nouser

ECD_1	Name	Status	Inject Time
	STD1	Finished	12/1/2020 1:28:56 PM -06:00
	STD2	Finished	12/1/2020 1:45:44 PM -06:00
	STD3	Finished	12/1/2020 2:02:33 PM -06:00
	STD4	Finished	12/1/2020 2:19:22 PM -06:00
	STD5	Finished	12/1/2020 2:36:11 PM -06:00
	STD6	Finished	12/1/2020 2:53:04 PM -06:00
	ICV	Finished	12/1/2020 3:09:53 PM -06:00
	ICB	Finished	12/1/2020 3:26:46 PM -06:00
	CCV1	Finished	12/11/2020 5:28:22 AM -06:00
	CCB	Finished	12/11/2020 5:46:33 AM -06:00
	HS20111260-01	Finished	12/11/2020 6:22:44 AM -06:00
	HS20111260-01DF20	Finished	12/11/2020 6:40:50 AM -06:00
	HS20120243-01DF20	Finished	12/11/2020 7:53:20 AM -06:00
	HS20120243-01MSDF20	Finished	12/11/2020 8:11:30 AM -06:00
	HS20120243-01MSDDF20	Finished	12/11/2020 8:29:36 AM -06:00
	CCV	Finished	12/11/2020 9:23:59 AM -06:00
	CCB	Finished	12/11/2020 9:42:04 AM -06:00
	MBLK-	Finished	12/11/2020 10:00:11 AM -06:00
	LCS-	Finished	12/11/2020 11:47:39 AM -06:00
	CCV1	Finished	12/11/2020 12:55:02 PM -06:00
	CCB	Finished	12/11/2020 1:11:50 PM -06:00

Sequence: 121020
Injection #6: STD6

Calibration

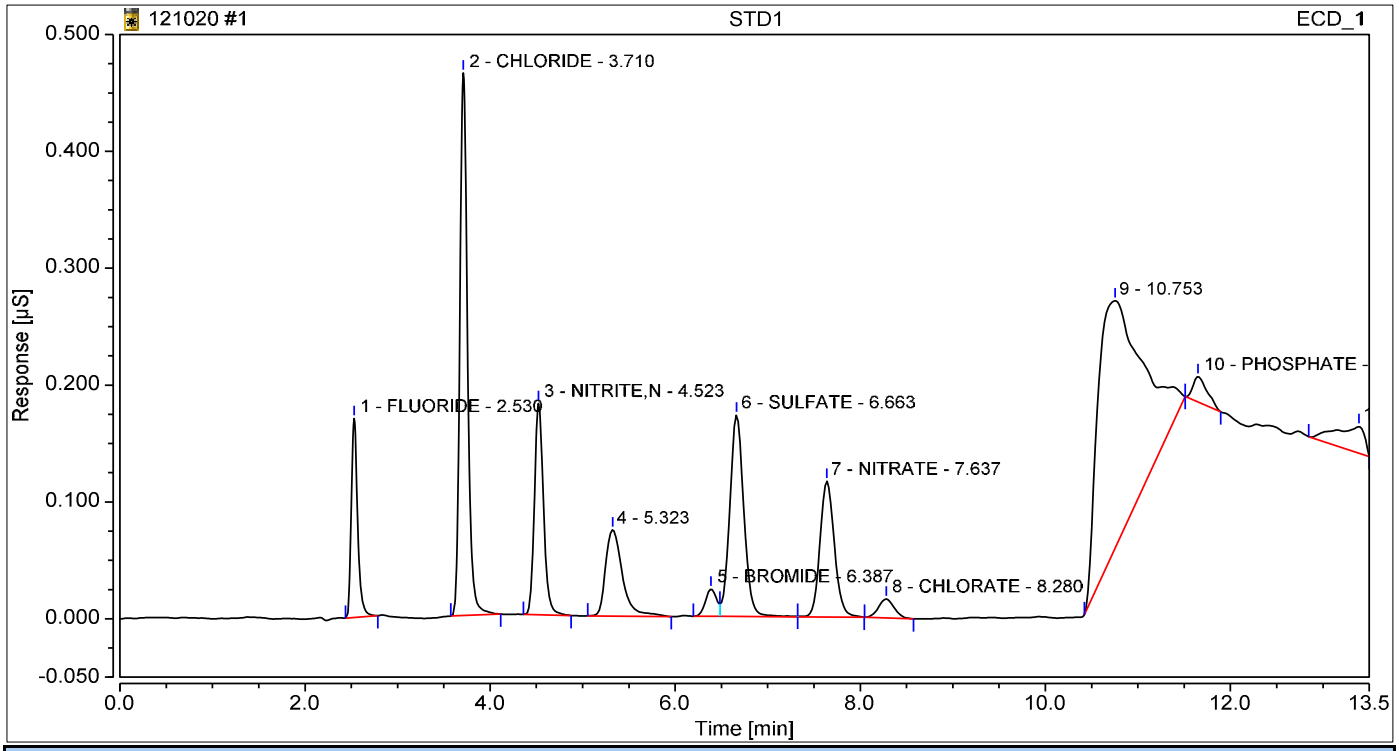
Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
n.a.	*Component 1*	*Lin, WithOffset, 1/*	*Area*	*0*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
1	FLUORIDE	Lin, WithOffset, 1/	Area	6	20.9372	0.99770	-0.0002	0.1603	0.0000
2	CHLORIDE	Lin, WithOffset, 1/	Area	6	2.5921	0.99997	-0.0026	0.0953	0.0000
3	NITRITE,N	Lin, WithOffset, 1/	Area	6	19.3551	0.99783	0.0042	0.2024	0.0000
5	BROMIDE	Lin, WithOffset, 1/	Area	6	14.2594	0.99893	0.0000	0.0339	0.0000
6	SULFATE	Lin, WithOffset, 1/	Area	6	3.0244	0.99996	-0.0065	0.0723	0.0000
7	NITRATE	Lin, WithOffset, 1/	Area	6	3.5001	0.99994	-0.0024	0.2359	0.0000
8	CHLORATE	Lin, WithOffset, 1/	Area	6	10.8925	0.99944	-0.0009	0.0367	0.0000
11	PHOSPHATE	Lin, WithOffset, 1/	Area	6	20.3748	0.99848	-0.0070	0.0935	0.0000
Maximum					**20.9372**	0.99997			
Minimum					2.5921	**0.99770**			

Chromatogram and Results

Injection Details

Injection Name:	**STD1**	***Run Time (min):***	**13.50**
Vial Number:	**GE1**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**01**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 13:28**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

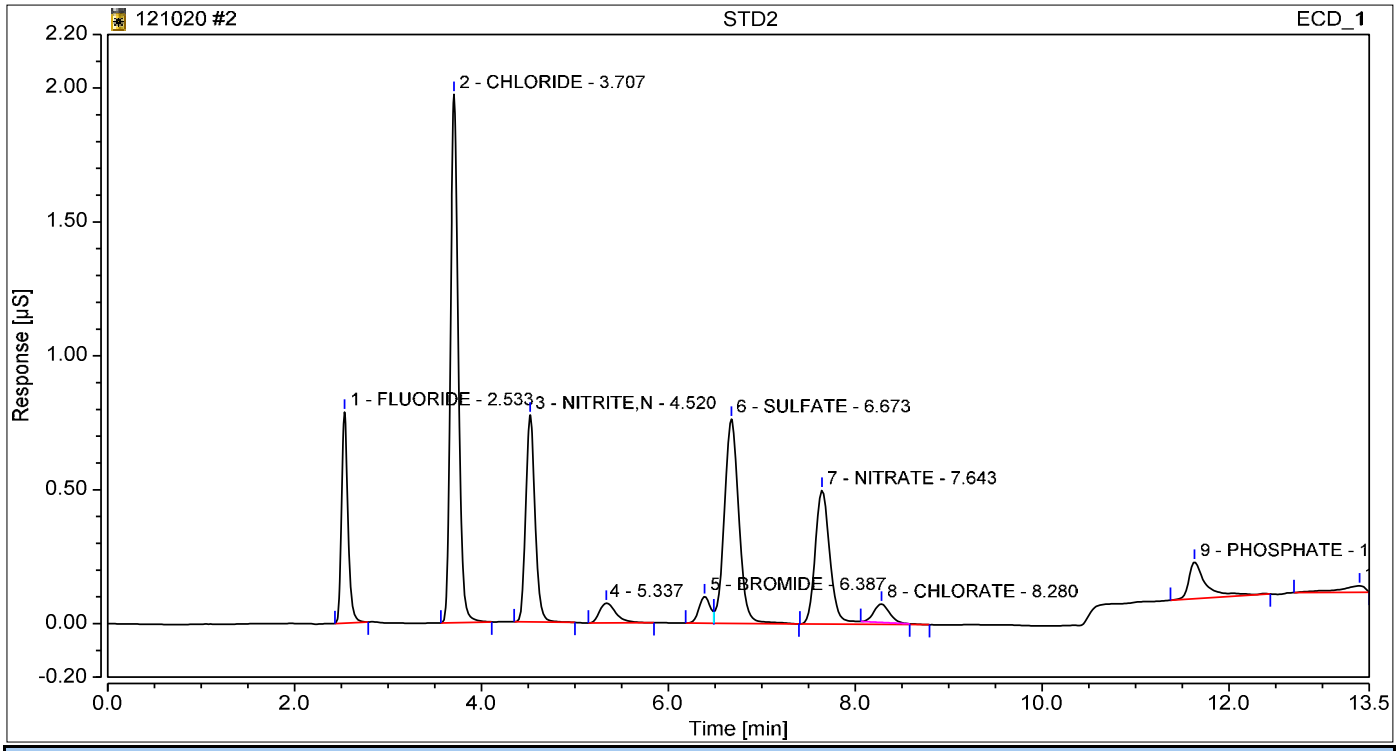
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.530	0.013	0.170	4.78	11.55	0.0853
2	CHLORIDE	3.710	0.045	0.464	15.93	31.50	0.4979
3	NITRITE,N	4.523	0.020	0.181	7.27	12.26	0.0801
4		5.323	0.016	0.074	5.53	5.01	n.a.
5	BROMIDE	6.387	0.003	0.023	1.16	1.59	0.0964
6	SULFATE	6.663	0.030	0.172	10.81	11.69	0.5103
7	NITRATE	7.637	0.021	0.116	7.45	7.89	0.0991
8	CHLORATE	8.280	0.003	0.016	1.14	1.11	0.1119
9		10.753	0.117	0.212	41.75	14.37	n.a.
10	PHOSPHATE	11.650	0.004	0.022	1.40	1.48	0.1175
11		13.390	0.008	0.023	2.79	1.56	n.a.
Total:			**0.281**	**1.474**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD2**	***Run Time (min):***	**13.50**
Vial Number:	**GE2**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**02**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 13:45**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

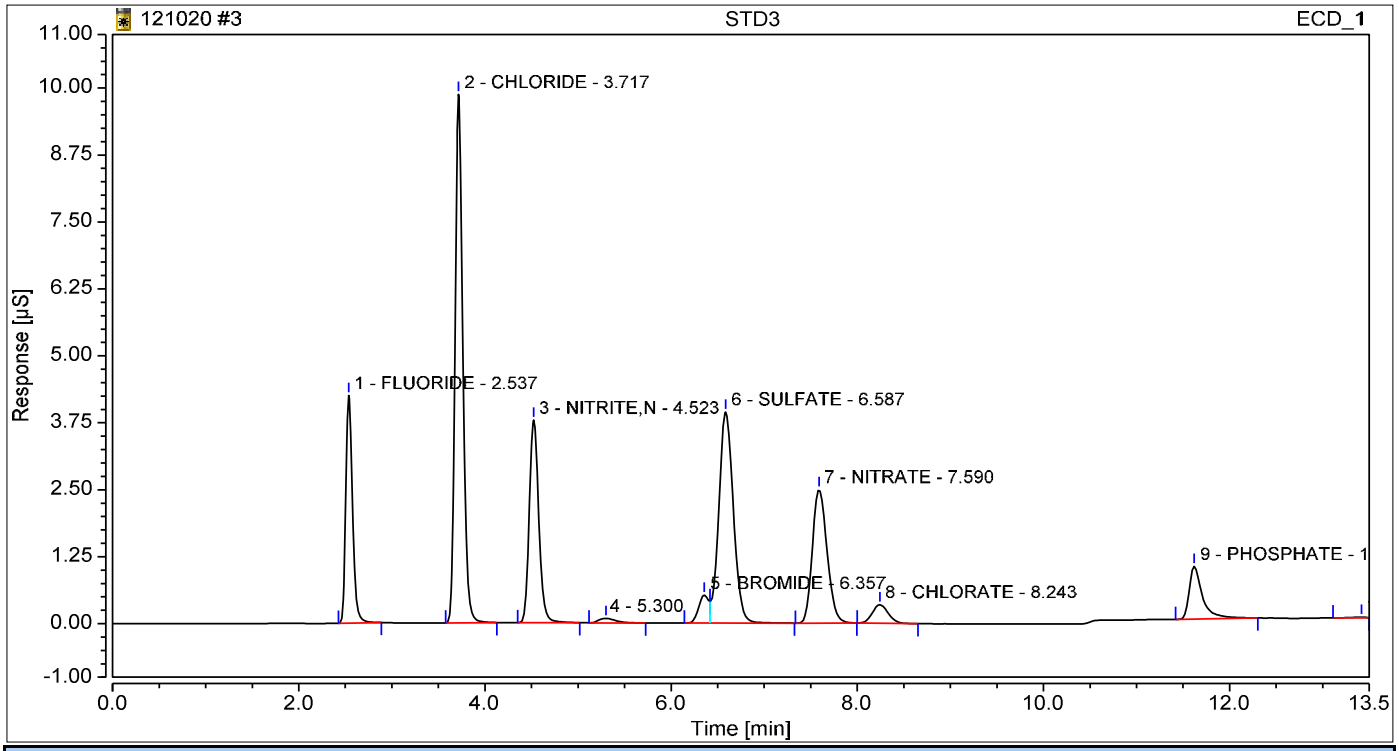
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.533	0.063	0.788	9.56	15.15	0.3924
2	CHLORIDE	3.707	0.191	1.973	29.15	37.94	2.0320
3	NITRITE,N	4.520	0.089	0.772	13.57	14.86	0.4185
4		5.337	0.015	0.073	2.30	1.41	n.a.
5	BROMIDE	6.387	0.014	0.099	2.14	1.91	0.4128
6	SULFATE	6.673	0.138	0.763	21.01	14.68	1.9945
7	NITRATE	7.643	0.095	0.500	14.55	9.61	0.4145
8	CHLORATE	8.280	0.013	0.069	2.02	1.32	0.3859
9	PHOSPHATE	11.630	0.029	0.137	4.44	2.63	0.3866
10		13.397	0.008	0.025	1.25	0.47	n.a.
Total:			**0.655**	**5.199**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD3**	***Run Time (min):***	**13.50**
Vial Number:	**GE3**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**03**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 14:02**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

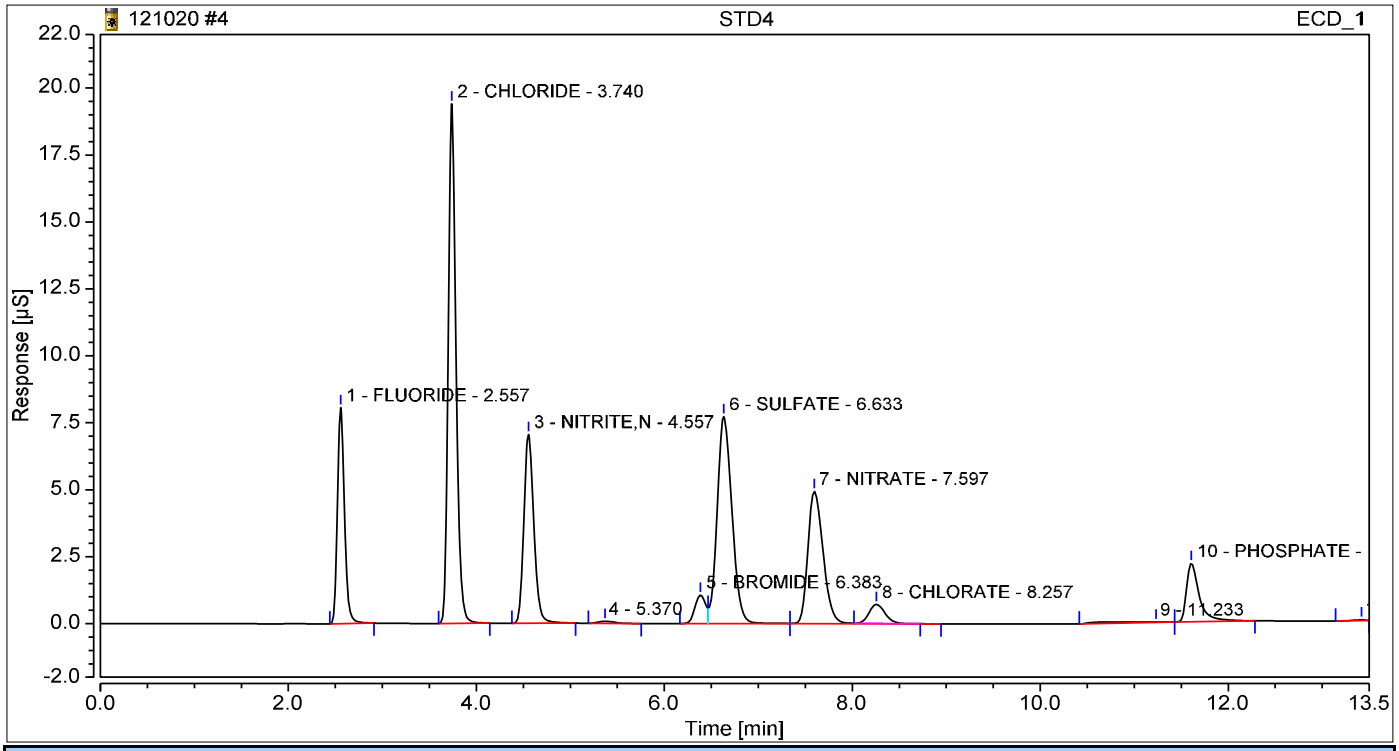
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.537	0.353	4.253	10.91	16.18	2.2031
2	CHLORIDE	3.717	0.950	9.866	29.35	37.54	9.9940
3	NITRITE,N	4.523	0.447	3.783	13.82	14.39	2.1890
4		5.300	0.017	0.082	0.54	0.31	n.a.
5	BROMIDE	6.357	0.064	0.520	1.99	1.98	1.9005
6	SULFATE	6.587	0.713	3.941	22.03	14.99	9.9525
7	NITRATE	7.590	0.457	2.495	14.13	9.49	1.9482
8	CHLORATE	8.243	0.068	0.345	2.11	1.31	1.8869
9	PHOSPHATE	11.620	0.162	0.982	5.01	3.73	1.8096
10		13.417	0.003	0.018	0.10	0.07	n.a.
Total:			**3.236**	**26.285**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD4**	***Run Time (min):***	**13.50**
Vial Number:	**GE4**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**04**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 14:19**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

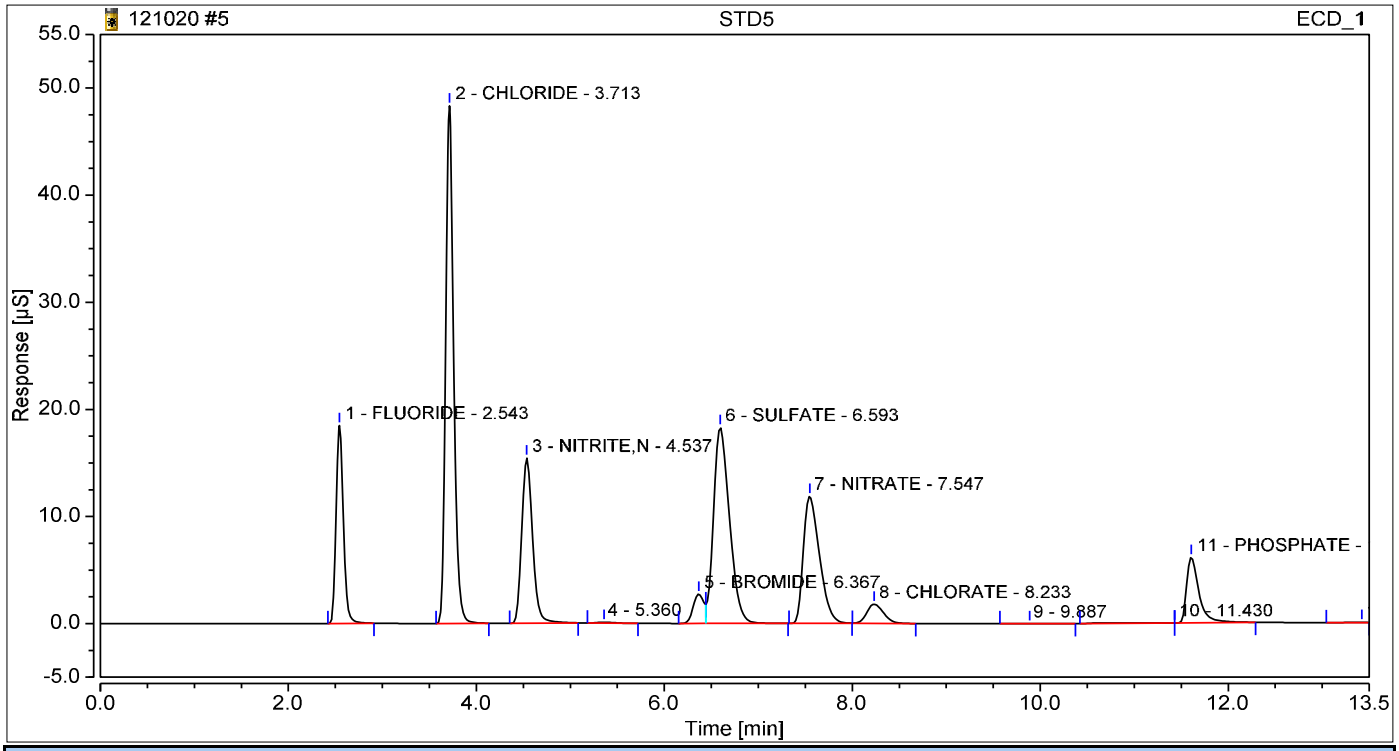
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.557	0.691	8.063	10.69	15.73	4.3099
2	CHLORIDE	3.740	1.874	19.402	29.01	37.84	19.6917
3	NITRITE,N	4.557	0.869	7.048	13.45	13.75	4.2721
4		5.370	0.016	0.079	0.25	0.15	n.a.
5	BROMIDE	6.383	0.141	1.065	2.18	2.08	4.1476
6	SULFATE	6.633	1.416	7.734	21.92	15.08	19.6817
7	NITRATE	7.597	0.939	4.942	14.53	9.64	3.9886
8	CHLORATE	8.257	0.140	0.709	2.17	1.38	3.8371
9		11.233	0.028	0.016	0.44	0.03	n.a.
10	PHOSPHATE	11.607	0.341	2.179	5.28	4.25	3.7234
11		13.417	0.005	0.032	0.08	0.06	n.a.
Total:			**6.460**	**51.270**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD5**	***Run Time (min):***	**13.50**
Vial Number:	**GE5**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**05**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 14:36**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

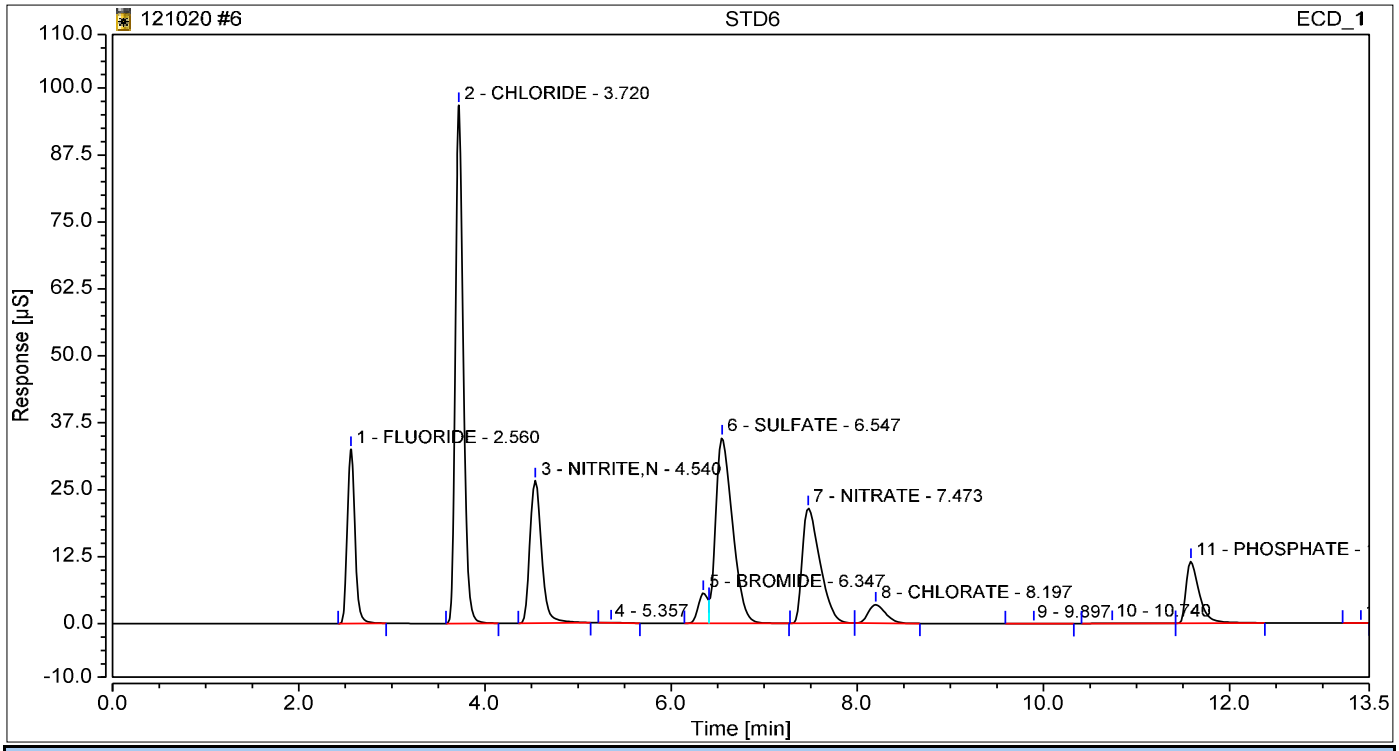
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.543	1.639	18.498	10.15	15.02	10.2281
2	CHLORIDE	3.713	4.776	48.330	29.58	39.24	50.1369
3	NITRITE,N	4.537	2.081	15.453	12.89	12.55	10.2576
4		5.360	0.018	0.080	0.11	0.07	n.a.
5	BROMIDE	6.367	0.352	2.733	2.18	2.22	10.3919
6	SULFATE	6.593	3.602	18.302	22.31	14.86	49.9233
7	NITRATE	7.547	2.354	11.867	14.58	9.63	9.9898
8	CHLORATE	8.233	0.366	1.780	2.27	1.44	9.9946
9		9.887	0.002	0.007	0.01	0.01	n.a.
10		11.430	0.024	0.000	0.15	0.00	n.a.
11	PHOSPHATE	11.607	0.928	6.107	5.75	4.96	10.0007
12		13.420	0.003	0.016	0.02	0.01	n.a.
Total:			**16.145**	**123.173**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD6**	***Run Time (min):***	**13.50**
Vial Number:	**GE6**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**06**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 14:53**	***Sample Weight:***	**1.0000**

Chromatogram



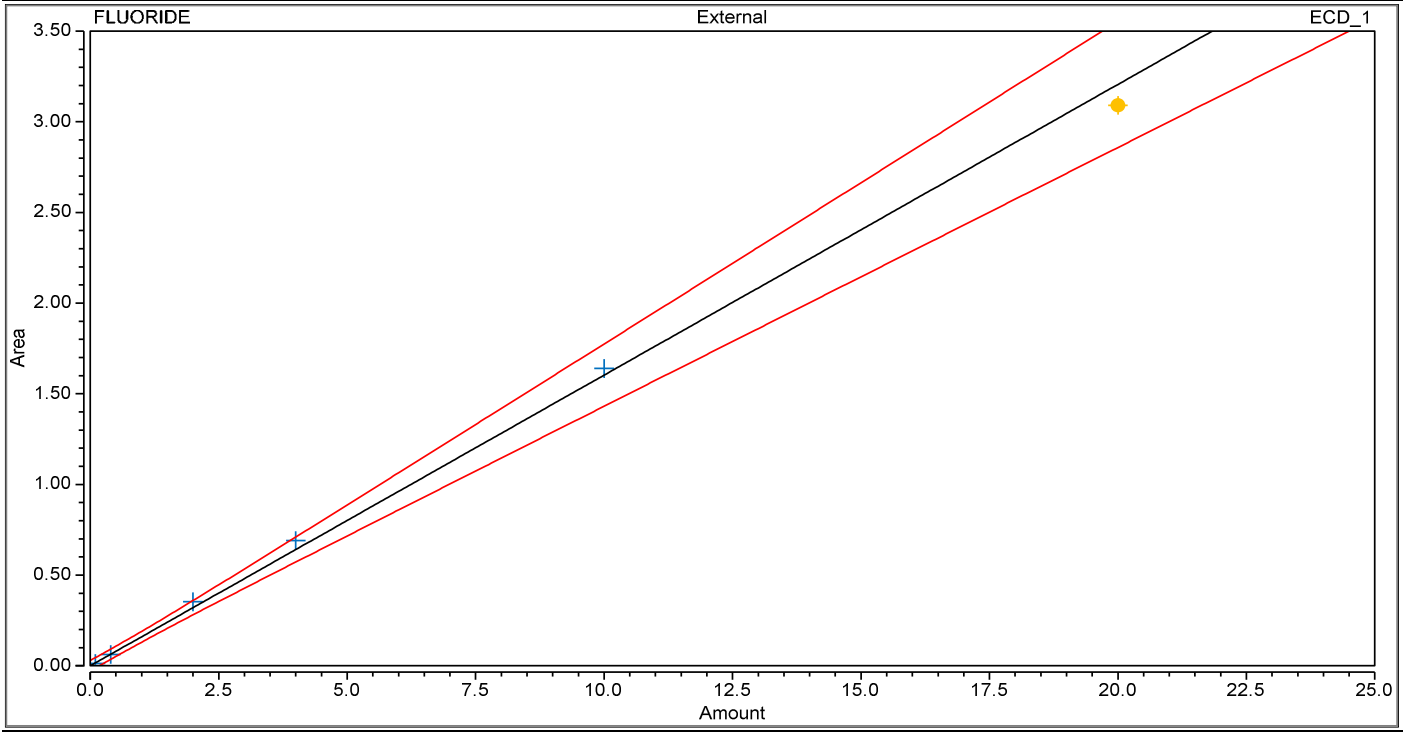
Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.560	3.091	32.572	9.69	13.98	19.2811
2	CHLORIDE	3.720	9.542	96.792	29.93	41.56	100.1475
3	NITRITE,N	4.540	3.907	26.633	12.26	11.44	19.2828
4		5.357	0.014	0.061	0.04	0.03	n.a.
5	BROMIDE	6.347	0.663	5.653	2.08	2.43	19.5508
6	SULFATE	6.547	7.253	34.662	22.75	14.88	100.4377
7	NITRATE	7.473	4.730	21.461	14.84	9.21	20.0599
8	CHLORATE	8.197	0.743	3.449	2.33	1.48	20.2836
9		9.897	0.004	0.015	0.01	0.01	n.a.
10		10.740	0.025	0.046	0.08	0.02	n.a.
11	PHOSPHATE	11.583	1.907	11.554	5.98	4.96	20.4622
12		13.410	0.002	0.011	0.00	0.00	n.a.
Total:			**31.881**	**232.908**	**100.00**	**100.00**	

Calibration

Calibration Details	FLUORIDE		
Calibration Type	Lin, WithOffset, 1/A	***Offset (C0)***	-0.0002
Evaluation Type	Area	***Slope (C1)***	0.1603
Number of Calibration Points	6	***Curve (C2)***	0.0000
Number of disabled Calibration Points	0	***R-Square***	0.9977

Calibration Plot **FLUORIDE**



Calibration Results **FLUORIDE**

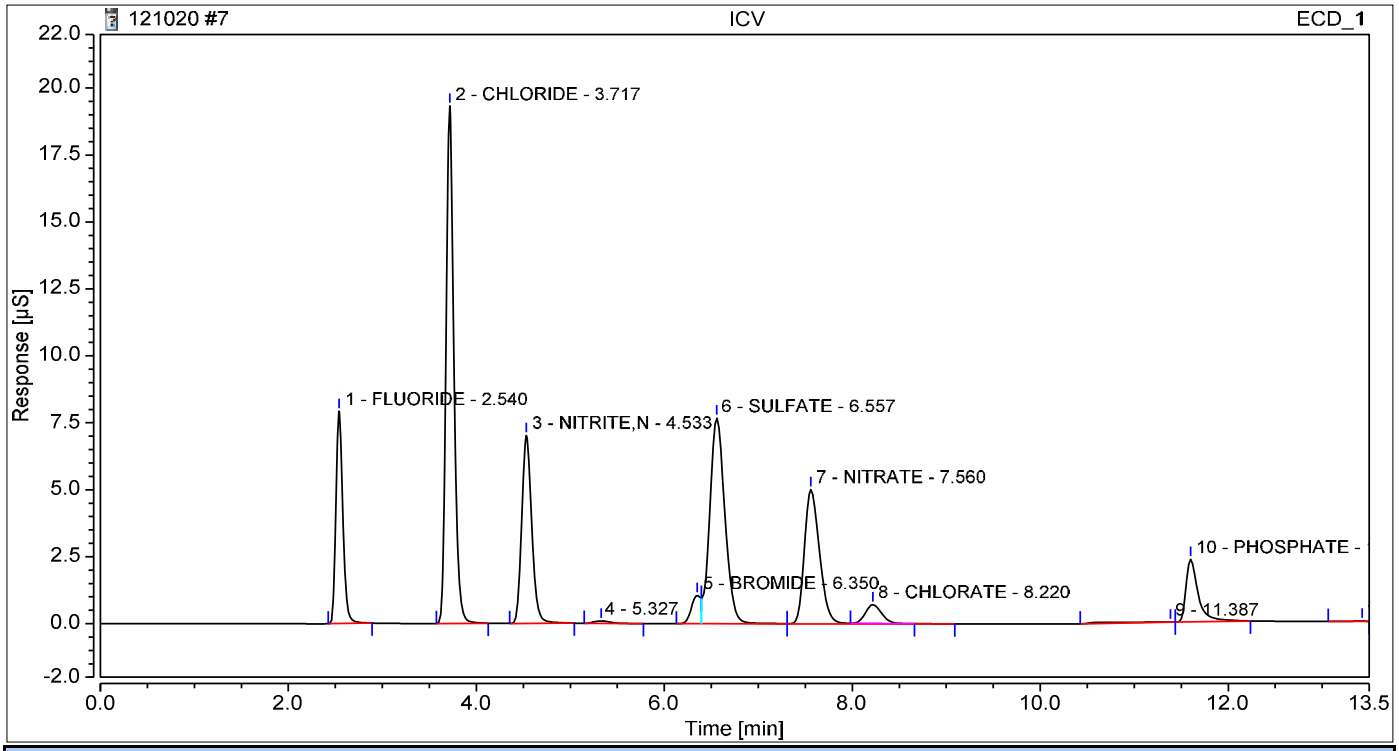
No.	Injection Name	Calibration Level	X Value ECD_1 FLUORIDE	Y Value ECD_1 FLUORIDE	Y Value ECD_1 FLUORIDE	Area µS*min ECD_1 FLUORIDE	Height µS ECD_1 FLUORIDE
1	STD1	01	0.1000	0.0134	0.0134	0.013	0.170
2	STD2	02	0.4000	0.0627	0.0627	0.063	0.788
3	STD3	03	2.0000	0.3529	0.3529	0.353	4.253
4	STD4	04	4.0000	0.6907	0.6907	0.691	8.063
5	STD5	05	10.0000	1.6394	1.6394	1.639	18.498
6	STD6	06	20.0000	3.0907	3.0907	3.091	32.572

Chromatogram and Results

Injection Details

Injection Name:	**ICV**	***Run Time (min):***	**13.50**
Vial Number:	**GE7**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 15:09**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

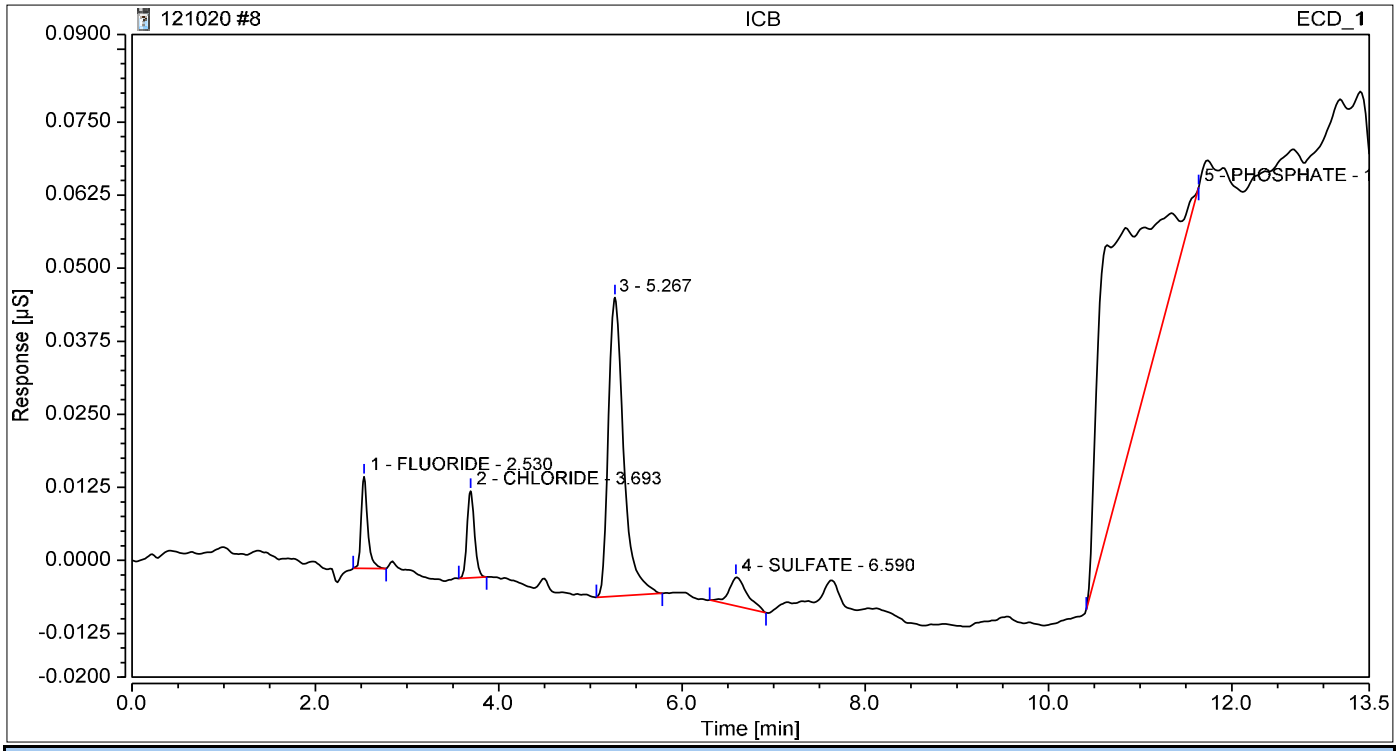
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.540	0.668	7.927	10.35	15.50	4.1691
2	CHLORIDE	3.717	1.882	19.322	29.15	37.77	19.7745
3	NITRITE,N	4.533	0.872	7.013	13.50	13.71	4.2864
4		5.327	0.019	0.089	0.30	0.17	n.a.
5	BROMIDE	6.350	0.120	1.059	1.85	2.07	3.5248
6	SULFATE	6.557	1.437	7.686	22.26	15.02	19.9695
7	NITRATE	7.560	0.943	5.016	14.60	9.80	4.0065
8	CHLORATE	8.220	0.139	0.700	2.16	1.37	3.8244
9		11.387	0.024	0.004	0.37	0.01	n.a.
10	PHOSPHATE	11.600	0.350	2.329	5.42	4.55	3.8150
11		13.423	0.002	0.011	0.03	0.02	n.a.
Total:			**6.456**	**51.156**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB**	***Run Time (min):***	**13.50**
Vial Number:	**GE8**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 15:26**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

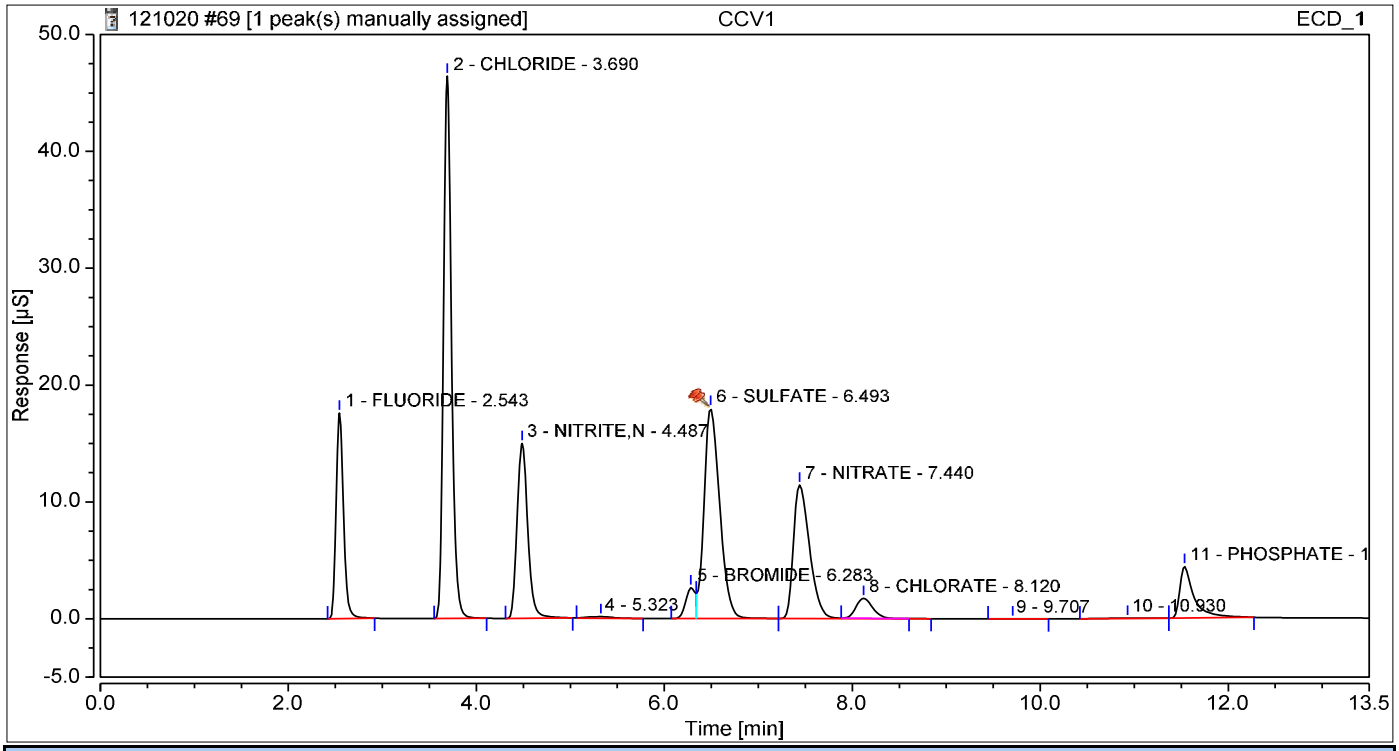
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.530	0.001	0.016	2.98	18.15	0.0095
2	CHLORIDE	3.693	0.001	0.015	3.20	17.14	0.0421
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		5.267	0.010	0.051	22.75	59.02	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	SULFATE	6.590	0.001	0.005	2.67	5.69	0.1054
n.a.	NITRATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	PHOSPHATE	11.637	0.030	0.000	68.41	0.00	0.3933
Total:			**0.043**	**0.087**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV1**	***Run Time (min):***	**13.50**
Vial Number:	**BA8**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 05:28**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

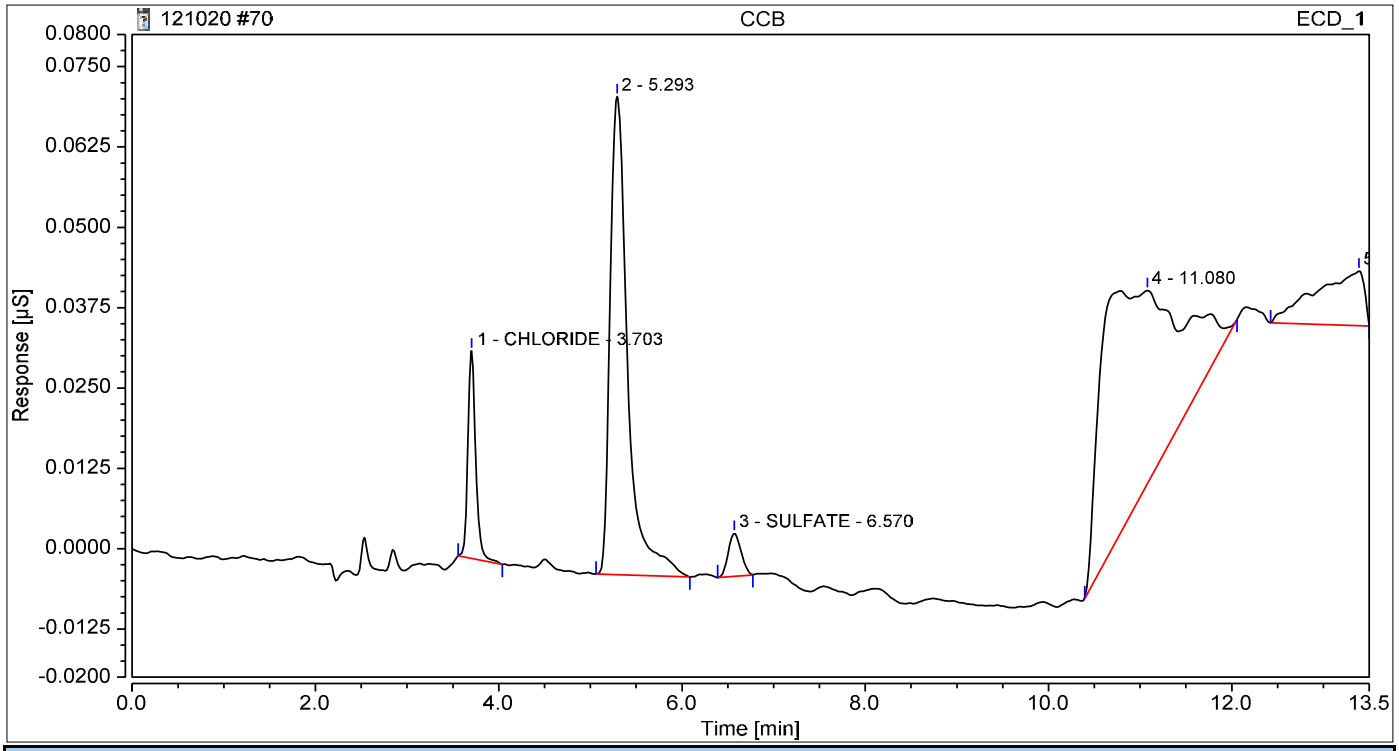
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.543	1.583	17.602	10.30	15.01	9.8790
2	CHLORIDE	3.690	4.568	46.406	29.72	39.57	47.9563
3	NITRITE,N	4.487	1.977	14.963	12.87	12.76	9.7485
4		5.323	0.038	0.126	0.25	0.11	n.a.
5	BROMIDE	6.283	0.307	2.636	1.99	2.25	9.0364
6	SULFATE	6.493	3.473	17.982	22.59	15.33	48.1370
7	NITRATE	7.440	2.278	11.415	14.82	9.73	9.6659
8	CHLORATE	8.120	0.347	1.697	2.26	1.45	9.4888
9		9.707	0.001	0.006	0.01	0.00	n.a.
10		10.930	0.015	0.024	0.10	0.02	n.a.
11	PHOSPHATE	11.533	0.783	4.421	5.09	3.77	8.4435
Total:			**15.370**	**117.280**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB**	***Run Time (min):***	**13.50**
Vial Number:	**B5**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 05:46**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

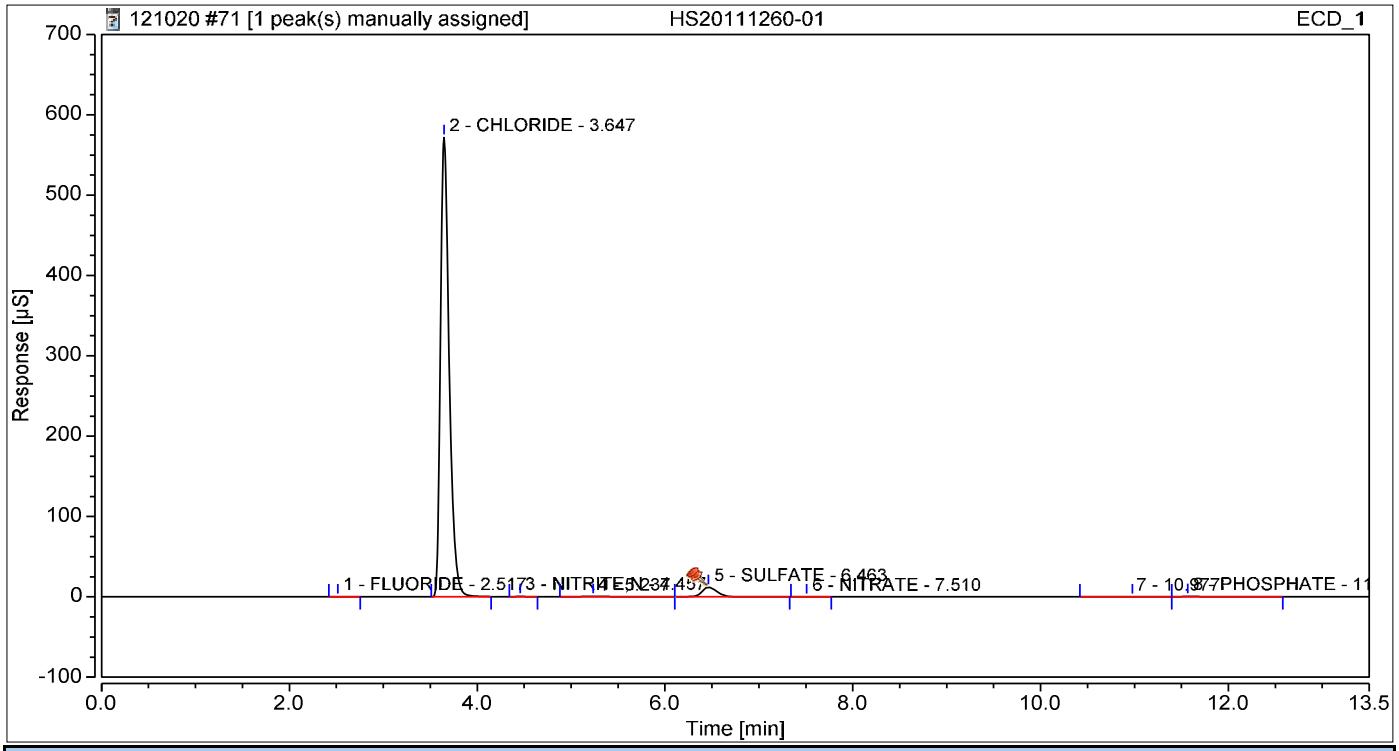
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.703	0.003	0.032	5.39	21.25	0.0610
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.293	0.017	0.074	28.03	48.97	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	SULFATE	6.570	0.001	0.007	1.83	4.40	0.1043
n.a.	NITRATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		11.080	0.033	0.030	55.95	19.78	n.a.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		13.387	0.005	0.009	8.79	5.60	n.a.
Total:			**0.059**	**0.152**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS20111260-01**	***Run Time (min):***	**13.50**
Vial Number:	**GE5**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 06:22**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

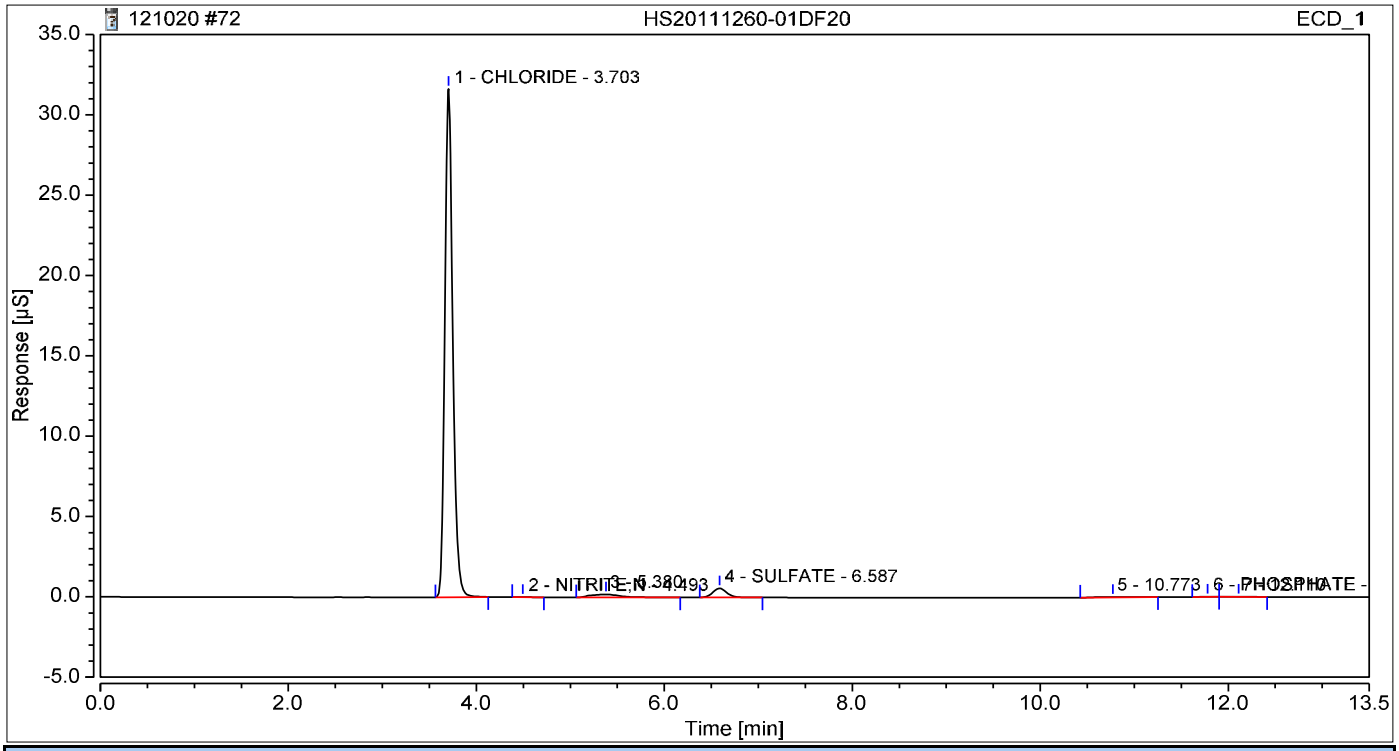
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.517	0.016	0.186	0.03	0.03	0.1025
2	CHLORIDE	3.647	61.471	571.708	95.71	97.67	644.9891
3	NITRITE,N	4.457	0.051	0.473	0.08	0.08	0.2289
4		5.237	0.236	0.410	0.37	0.07	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	SULFATE	6.463	2.256	11.830	3.51	2.02	31.3071
6	NITRATE	7.510	0.002	0.013	0.00	0.00	0.0199
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7		10.977	0.018	0.027	0.03	0.00	n.a.
8	PHOSPHATE	11.567	0.177	0.707	0.27	0.12	1.9631
Total:			**64.227**	**585.355**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS20111260-01DF20**	***Run Time (min):***	**13.50**
Vial Number:	**GE6**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**20.0000**
Injection Date/Time:	**11/Dec/20 06:40**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

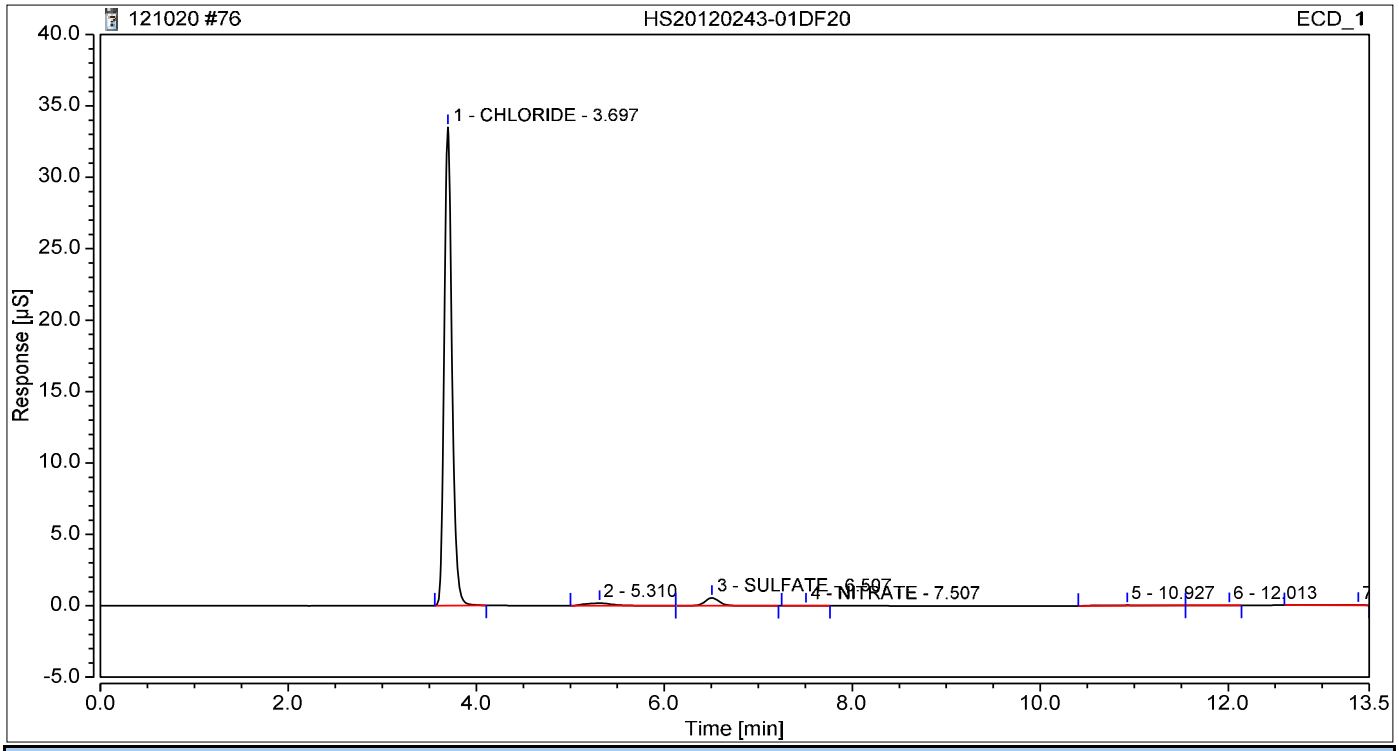
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.703	3.109	31.630	94.48	97.52	653.0050
2	NITRITE,N	4.493	0.002	0.016	0.06	0.05	n.a.
3		5.380	0.067	0.186	2.04	0.57	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	SULFATE	6.587	0.094	0.559	2.87	1.72	27.9338
n.a.	NITRATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		10.773	0.016	0.031	0.49	0.10	n.a.
6	PHOSPHATE	11.780	0.001	0.007	0.03	0.02	1.7531
7		12.110	0.001	0.004	0.03	0.01	n.a.
Total:			**3.291**	**32.433**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS20120243-01DF20**	***Run Time (min):***	**13.50**
Vial Number:	**RD2**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**20.0000**
Injection Date/Time:	**11/Dec/20 07:53**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

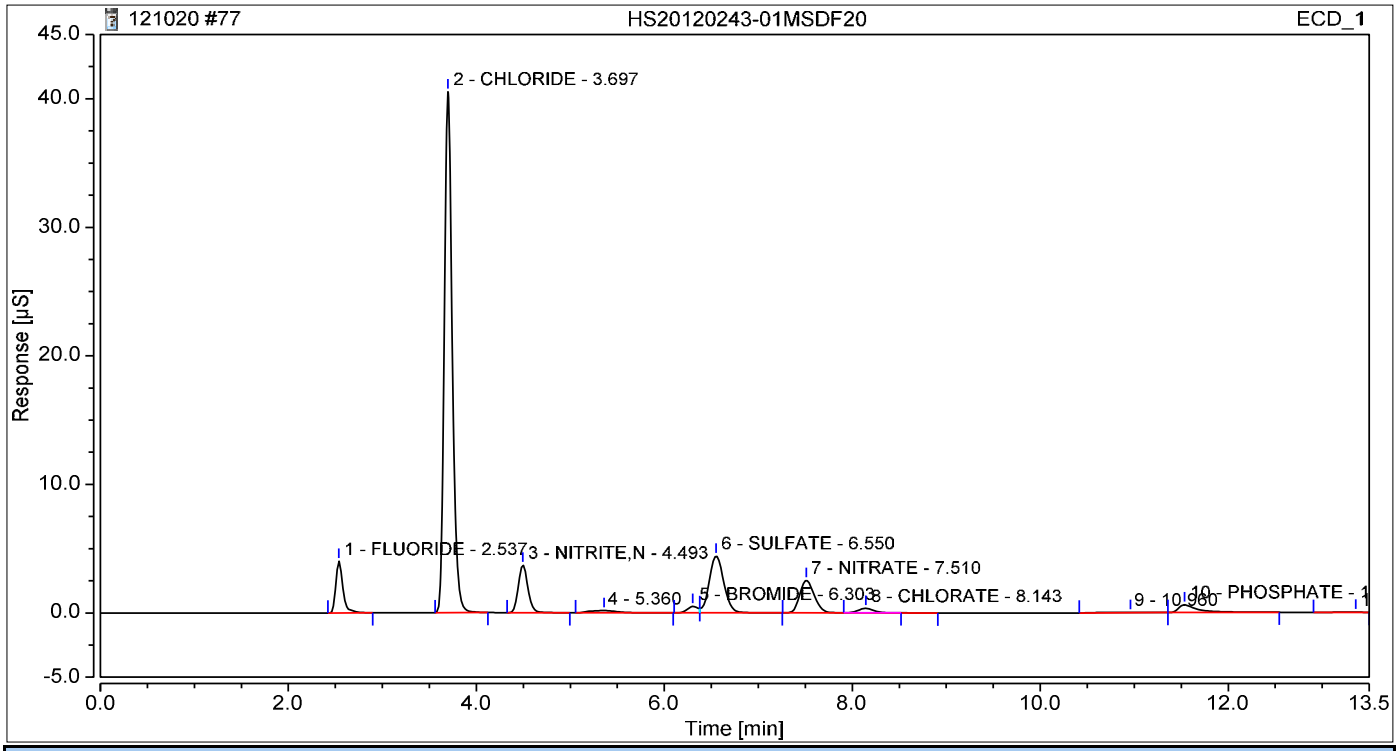
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.697	3.228	33.498	94.40	97.72	678.0045
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.310	0.064	0.179	1.87	0.52	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	SULFATE	6.507	0.099	0.552	2.90	1.61	29.2496
4	NITRATE	7.507	0.002	0.010	0.05	0.03	0.3600
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		10.927	0.021	0.029	0.61	0.09	n.a.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6		12.013	0.001	0.003	0.04	0.01	n.a.
7		13.383	0.004	0.009	0.12	0.03	n.a.
Total:			**3.420**	**34.280**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS20120243-01MSDF20**	***Run Time (min):***	**13.50**
Vial Number:	**RD3**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**20.0000**
Injection Date/Time:	**11/Dec/20 08:11**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

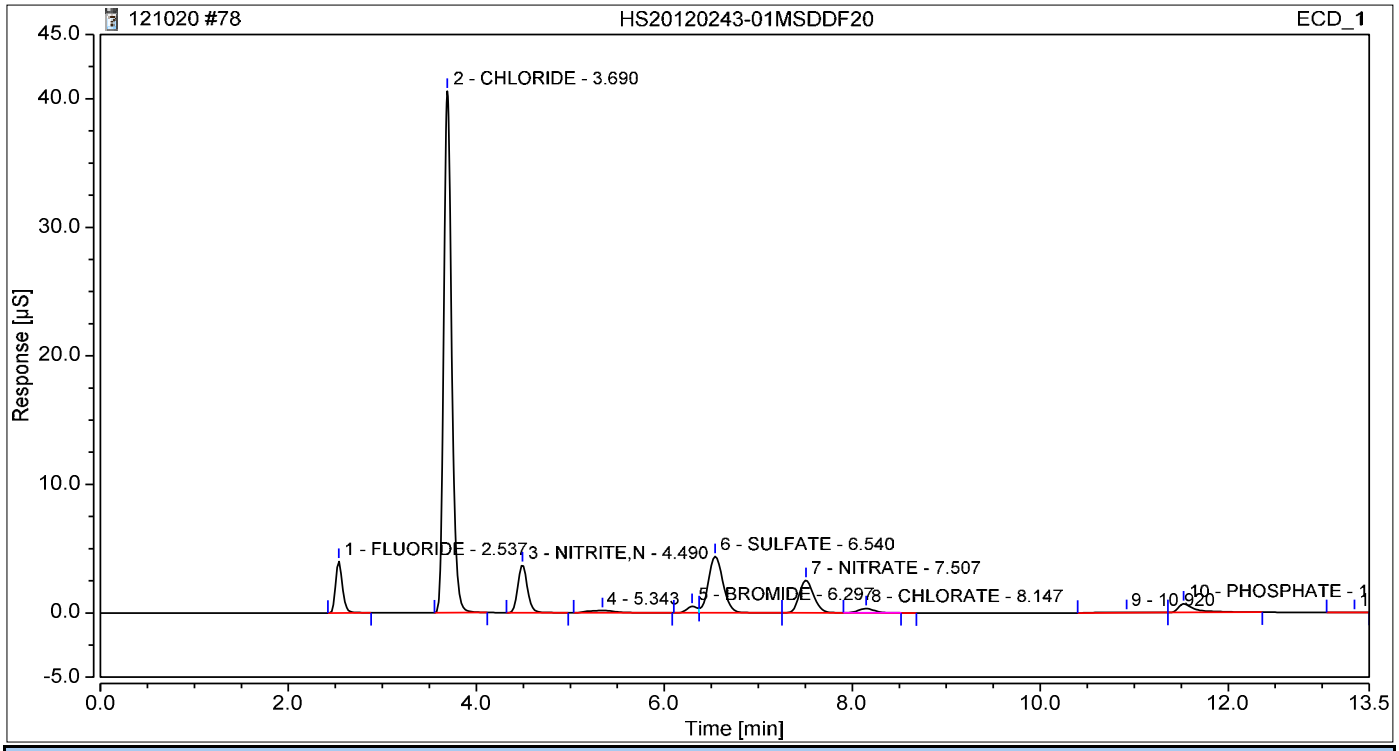
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.537	0.347	4.013	5.44	7.06	43.2822
2	CHLORIDE	3.697	3.979	40.538	62.42	71.30	835.5003
3	NITRITE,N	4.493	0.440	3.702	6.90	6.51	43.0423
4		5.360	0.061	0.174	0.95	0.31	n.a.
5	BROMIDE	6.303	0.065	0.507	1.02	0.89	38.4883
6	SULFATE	6.550	0.796	4.423	12.49	7.78	222.1668
7	NITRATE	7.510	0.457	2.528	7.17	4.45	38.9706
8	CHLORATE	8.143	0.065	0.345	1.03	0.61	36.1546
9		10.960	0.017	0.024	0.27	0.04	n.a.
10	PHOSPHATE	11.533	0.143	0.591	2.24	1.04	32.0703
11		13.357	0.004	0.012	0.06	0.02	n.a.
Total:			**6.375**	**56.856**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS20120243-01MSDDF20**	***Run Time (min):***	**13.50**
Vial Number:	**RD4**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**20.0000**
Injection Date/Time:	**11/Dec/20 08:29**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

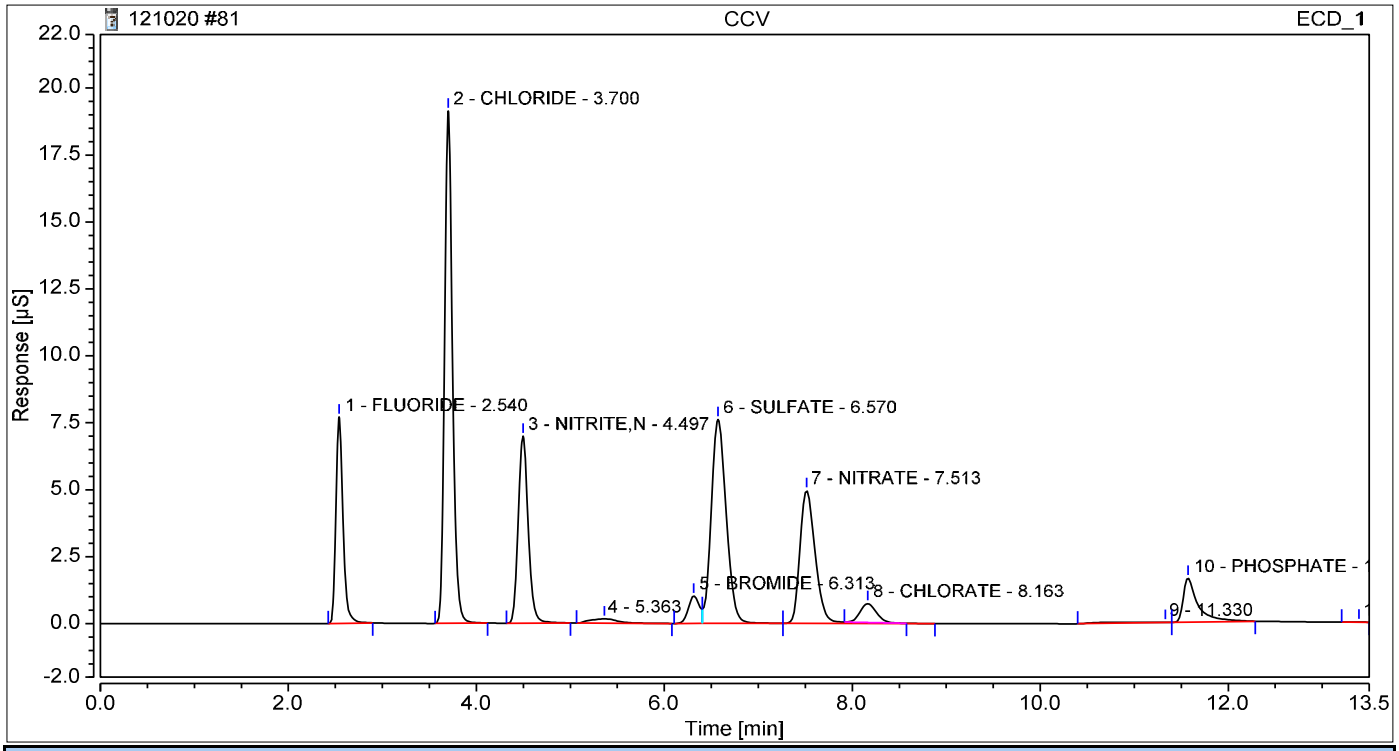
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.537	0.336	4.024	5.30	7.07	41.9802
2	CHLORIDE	3.690	3.971	40.579	62.58	71.25	833.8217
3	NITRITE,N	4.490	0.440	3.723	6.93	6.54	43.0213
4		5.343	0.061	0.174	0.95	0.31	n.a.
5	BROMIDE	6.297	0.066	0.509	1.03	0.89	38.6775
6	SULFATE	6.540	0.794	4.392	12.51	7.71	221.4043
7	NITRATE	7.507	0.457	2.521	7.20	4.43	38.9297
8	CHLORATE	8.147	0.064	0.330	1.01	0.58	35.5165
9		10.920	0.017	0.023	0.26	0.04	n.a.
10	PHOSPHATE	11.523	0.140	0.674	2.20	1.18	31.3869
11		13.343	0.002	0.007	0.03	0.01	n.a.
Total:			**6.346**	**56.956**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV**	***Run Time (min):***	**13.50**
Vial Number:	**G1**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 09:23**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

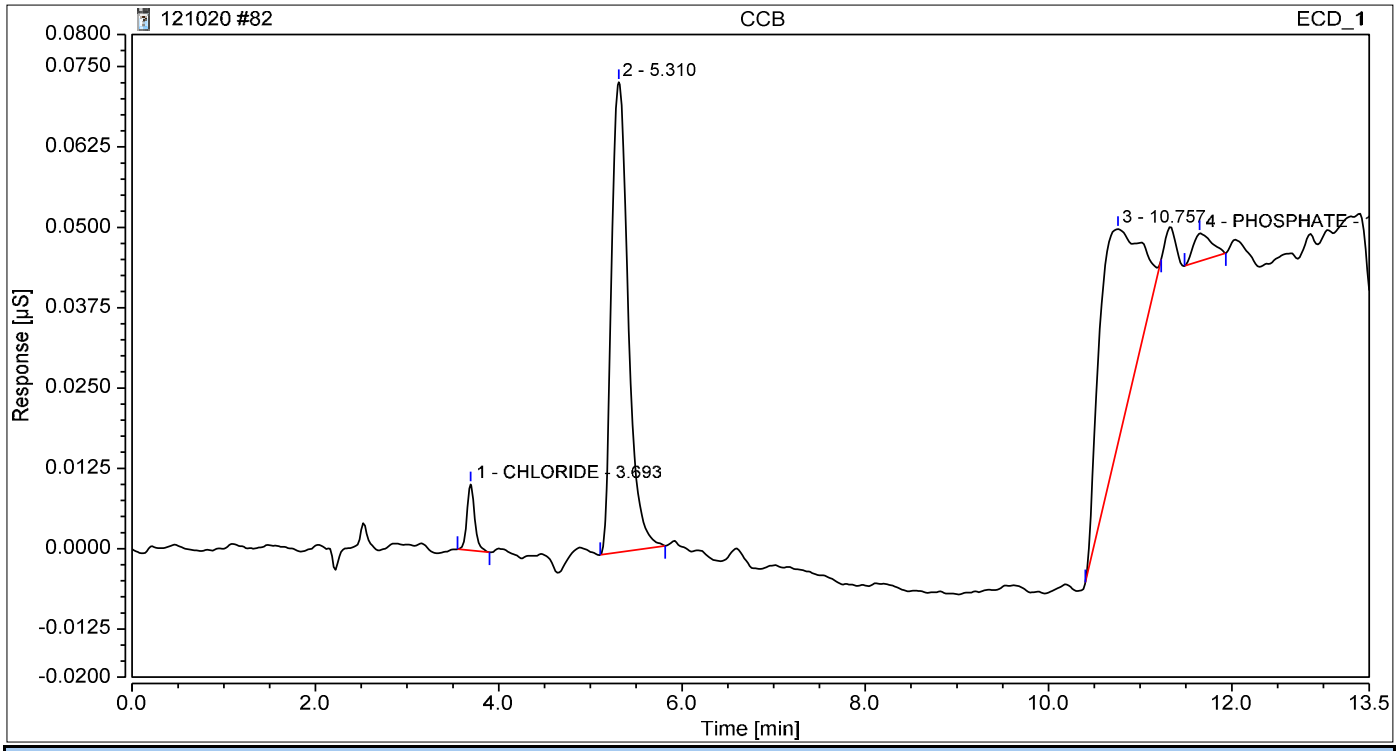
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.540	0.663	7.710	10.37	15.43	4.1401
2	CHLORIDE	3.700	1.870	19.136	29.23	38.30	19.6434
3	NITRITE,N	4.497	0.860	6.980	13.44	13.97	4.2260
4		5.363	0.056	0.163	0.88	0.33	n.a.
5	BROMIDE	6.313	0.138	1.026	2.16	2.05	4.0764
6	SULFATE	6.570	1.401	7.617	21.91	15.25	19.4784
7	NITRATE	7.513	0.948	4.963	14.83	9.93	4.0294
8	CHLORATE	8.163	0.141	0.706	2.20	1.41	3.8644
9		11.330	0.019	0.004	0.29	0.01	n.a.
10	PHOSPHATE	11.573	0.297	1.644	4.65	3.29	3.2533
11		13.390	0.002	0.011	0.03	0.02	n.a.
Total:			**6.395**	**49.962**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB**	***Run Time (min):***	**13.50**
Vial Number:	**B4**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 09:42**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

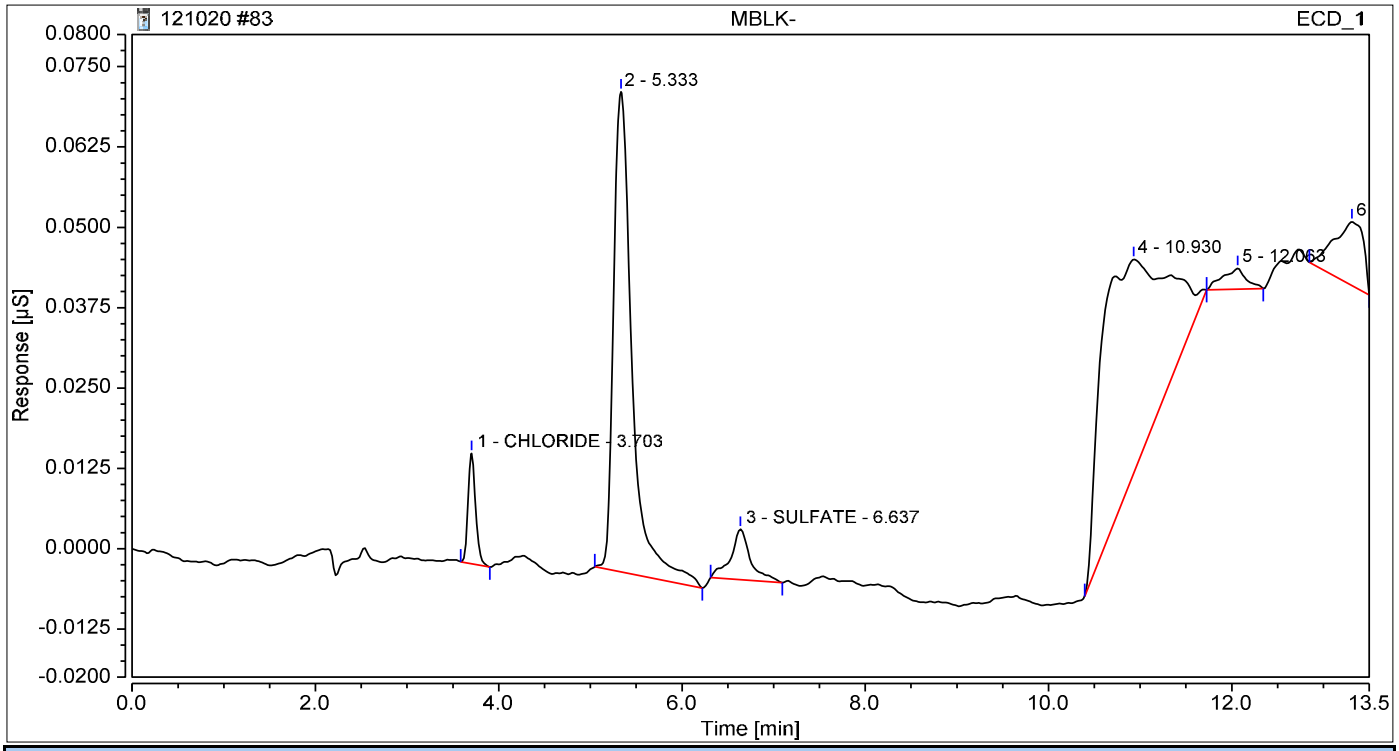
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.693	0.001	0.010	2.95	8.48	0.0381
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.310	0.016	0.073	45.46	60.32	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	NITRATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		10.757	0.017	0.034	48.70	27.62	n.a.
4	PHOSPHATE	11.650	0.001	0.004	2.89	3.58	0.0860
Total:			**0.034**	**0.121**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MBLK-**	***Run Time (min):***	**13.50**
Vial Number:	**B5**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 10:00**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

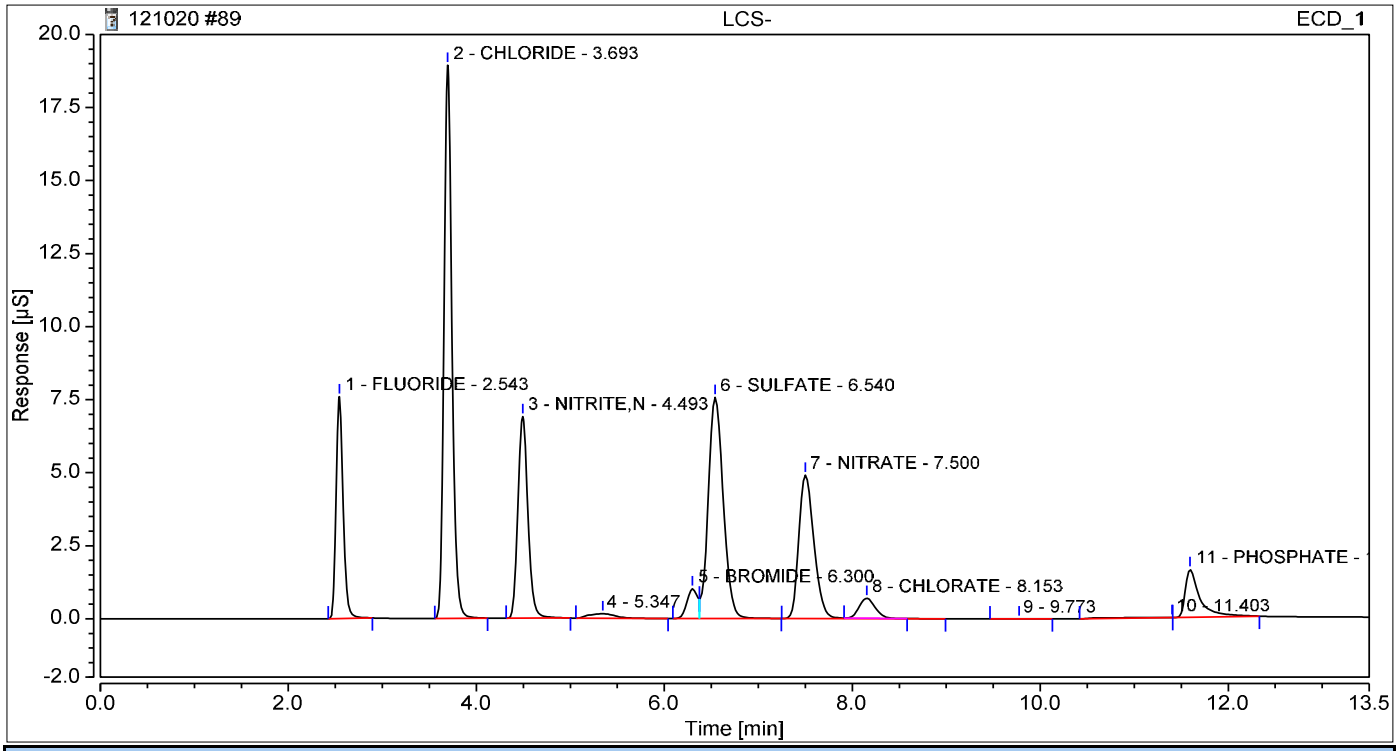
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.703	0.002	0.017	3.03	11.74	0.0446
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.333	0.018	0.075	32.61	51.15	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	SULFATE	6.637	0.002	0.008	3.67	5.37	0.1167
n.a.	NITRATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		10.930	0.028	0.033	52.05	22.77	n.a.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		12.063	0.001	0.003	1.80	2.20	n.a.
6		13.310	0.004	0.010	6.83	6.78	n.a.
Total:			**0.054**	**0.146**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-**	***Run Time (min):***	**13.50**
Vial Number:	**G2**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 11:47**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

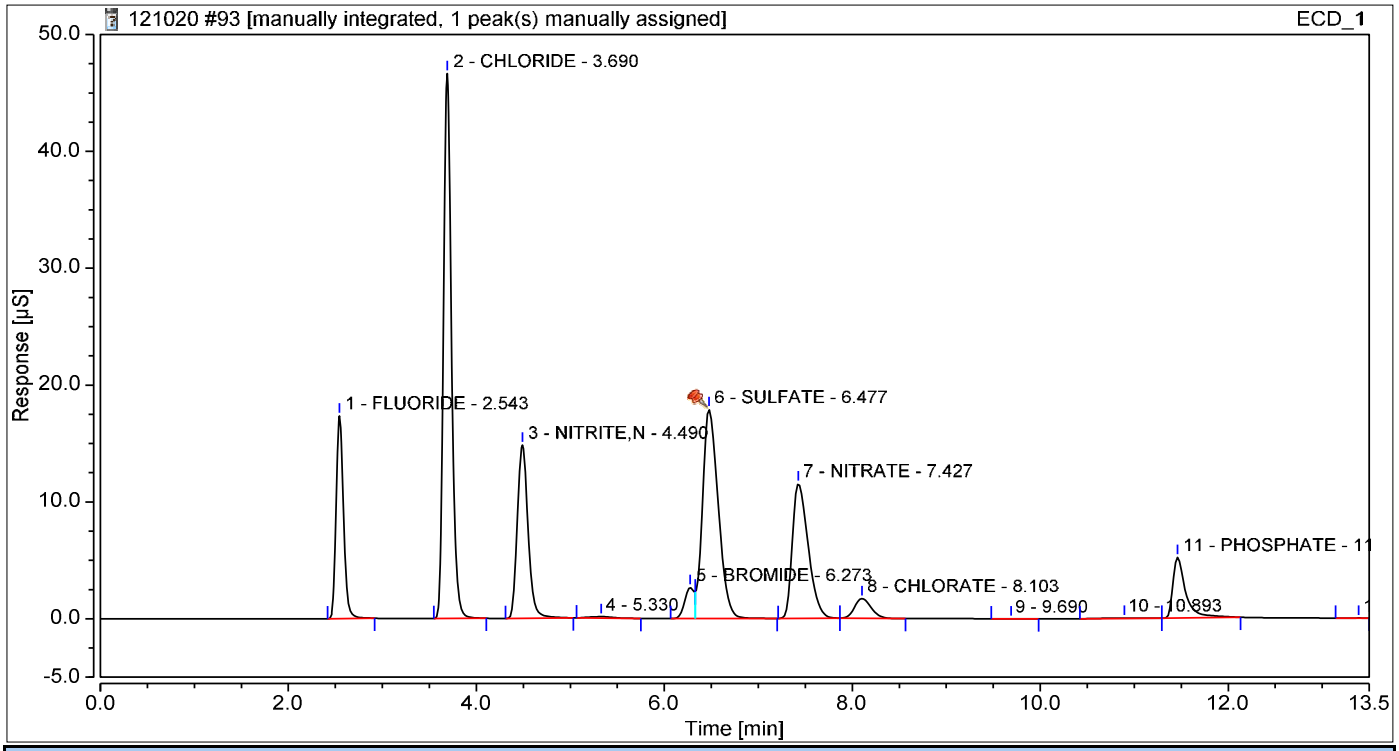
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.543	0.650	7.597	10.30	15.38	4.0548
2	CHLORIDE	3.693	1.855	18.938	29.41	38.33	19.4860
3	NITRITE,N	4.493	0.855	6.903	13.56	13.97	4.2029
4		5.347	0.051	0.154	0.81	0.31	n.a.
5	BROMIDE	6.300	0.132	1.016	2.09	2.06	3.8888
6	SULFATE	6.540	1.396	7.569	22.14	15.32	19.4096
7	NITRATE	7.500	0.922	4.908	14.62	9.93	3.9178
8	CHLORATE	8.153	0.135	0.683	2.14	1.38	3.7006
9		9.773	0.001	0.004	0.02	0.01	n.a.
10		11.403	0.015	0.000	0.23	0.00	n.a.
11	PHOSPHATE	11.593	0.295	1.633	4.68	3.31	3.2319
Total:			**6.306**	**49.405**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV1**	***Run Time (min):***	**13.50**
Vial Number:	**BA8**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 12:55**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

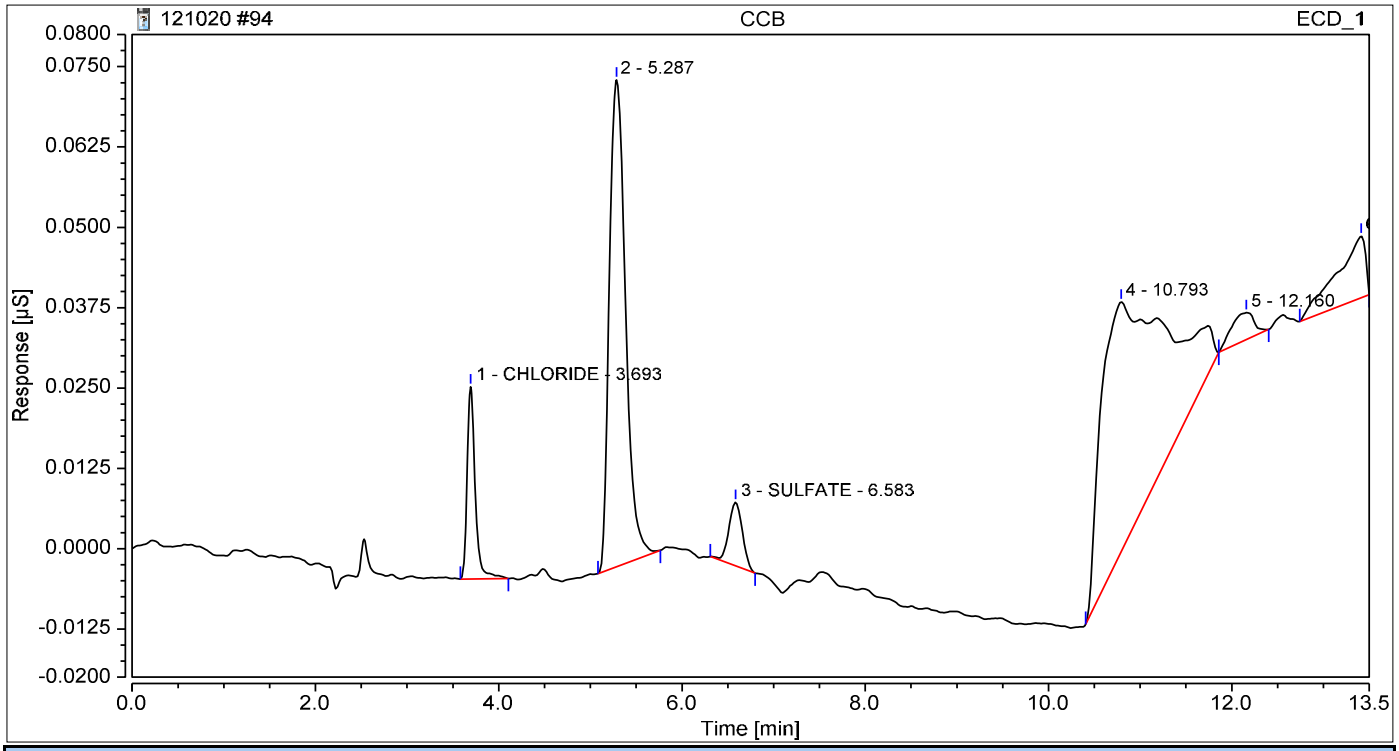
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.543	1.557	17.357	10.12	14.72	9.7160
2	CHLORIDE	3.690	4.593	46.630	29.85	39.54	48.2126
3	NITRITE,N	4.490	1.978	14.831	12.86	12.58	9.7504
4		5.330	0.038	0.127	0.25	0.11	n.a.
5	BROMIDE	6.273	0.313	2.649	2.03	2.25	9.2174
6	SULFATE	6.477	3.472	17.896	22.57	15.18	48.1299
7	NITRATE	7.427	2.251	11.512	14.64	9.76	9.5536
8	CHLORATE	8.103	0.346	1.690	2.25	1.43	9.4563
9		9.690	0.001	0.005	0.01	0.00	n.a.
10		10.893	0.016	0.028	0.10	0.02	n.a.
11	PHOSPHATE	11.460	0.817	5.188	5.31	4.40	8.8157
12		13.387	0.002	0.010	0.01	0.01	n.a.
Total:			**15.384**	**117.923**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB**	***Run Time (min):***	**13.50**
Vial Number:	**B5**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 13:11**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.693	0.003	0.030	5.44	17.78	0.0594
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.287	0.016	0.076	27.82	45.03	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	SULFATE	6.583	0.002	0.010	3.05	5.88	0.1129
n.a.	NITRATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		10.793	0.031	0.039	54.95	23.12	n.a.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		12.160	0.001	0.004	2.27	2.49	n.a.
6		13.413	0.004	0.010	6.46	5.70	n.a.
Total:			**0.056**	**0.168**	**100.00**	**100.00**	

HS20111260 Wet Chem Raw Data (COD)

ALS WO# HS20111260

ALS Laboratory Group — **COD Analysis** — **Logbook# 31508**

Method: HACH 8000 / EPA 410.4	Date: 12-8-20 9TH 12-9-20	Low COD–420nm	Analyst:
SOP #: HS-WC025	Time: 10:30	High COD–620nm	TH

WO # / SX #	Bottle #	Init Sample Vol (mL)	Prep Final Volume (mL)	Dilution Factor	Init Conc. (mg/L)	Final Conc. (mg/L)	Comments
CCV50		2	2	1	51		
MBLK					0		
LCS					98		
HS20120271-01					6		
-01MS					53		
-01MSD					55		
HS20120355-01					13		
-02					20		
-03					17		
-04					22		
-05					13		
CCV100		2	2	1	101		
HS20120343-01					31		
HS20120251-01					30		
HS20120258-01					8		
HS20120260-01					14		
HS20120299-01				2	110		
HS20120205-01				1	53		
HS20120326-01					32		
HS20120083-01					34		
CCV50		2	2	1	51		
HS20120105-01					59		
-02					37		
HS20120161-01					19		
HS20120222-01					43		
HS20120226-01					21		
HS20120354-01					60		
CCV100		2	2	1	101		

LCS ID #	CCV1 ID#	CCV2 ID#	Vial Lot#:	Reviewed By:
315.010.101	315.010.102	315.010.103	310.060.3101	pmst 12/14/20
LCS Prep Date:	**Prep Date:**	**Prep Date:**	**MS ID:**	***Pipette ID:***
10-23-20	→	→	310.060.2311	WC9. COD
Digestor ID:	**Digestor *Temp* (°C):**	**Date/Time In Digestor:**	**Date/Time Off Digestor:**	**Batch ID:**
DRB 200	150°	12-9-20 8:00	12-9-20 10:00	374243

 © 2020 ALS Laboratory Group

HS20111260 Wet Chem Raw Data (O&G_1664_W_HS)

ALS WO# HS20111260

ALS Laboratory Group Confidential

121120O&GW

Method: O&G, HEM by EPA 1664A (SOP HS-WC036, Current Revision)

Analyst:	KAH
Review By:	
Batch ID:	
LCS/MS Spike ID:	3110603015
Hexane ID:	3100602817
Filter Lot:	3100602214
Silica Gel:	

Methanol ID:	3100601405	
1:1 HCl ID:	309116109	
Na2SO4 Cartridge ID:	3100602813	
Thermo HotBlock Setting (°C):	40	
pH Paper ID:	300107019-06	
Pipette ID	TDS	

Temp Ranges (°C)
Pan Drying: 105-115
Hex Evap: 68-72
HotBlock: 35-50

	grams	mg	Accept.
Init 2.0 mg wt (1.8mg to 2.2mg required):	0.0020	2.0	Yes
Init 1000 mg wt (995mg to 1005mg required):	0.9999	999.9	Yes
Final 2.0 mg wt (1.8mg to 2.2mg required):	0.0020	2.0	Yes
Final 1000 mg wt (995mg to 1005mg required):	1.0000	1000	Yes

Pan	Temp Deg C	Actual Deg C	Date	Time
Pan 1st In:	105-115	104	12/11/2020	7:40AM
Pan 1st Out:	105-115	104	12/11/2020	9:00AM
Pan 2nd In:	105-115	104	12/11/2020	9:30AM
Pan 2nd Out:	105-115	104	12/11/2020	10:35AM
Pan 3rd In:	105-115			
Pan 3rd Out:	105-115			
Oven ID:	WC Oven 4			
Balance ID:	WC Balance-03			

O&G	Temp Deg C	Actual Deg C	Date	Time
O&G 1st In:	68-72	68	12/11/2020	2:20PM
O&G 1st Out:	68-72	68	12/11/2020	2:30PM
O&G 2nd In:	68-72	68	12/11/2020	2:45PM
O&G 2nd Out:	68-72	68	12/11/2020	2:55PM
O&G 3rd In:	68-72			
O&G 3rd Out:	68-72			
Oven ID:	WC Oven 1A			
Balance ID:	WC Balance-03			

$$\text{O \& G (HEM), mg/L} = \frac{\text{Weight (HEM, mg)}}{\text{Volume (Sample Extracted, L)}}$$

Dish ID	Work Order #	Bottle Number	SGT	Sample Type	pH Check	1st Dry Pan Wt (g)	2nd Dry Pan Wt (g)	3rd Dry Pan Wt (g)	Passes Difference Criteria (Change is <0.0005 g)	Passes % Weight Criteria (Change is <4%)	Pan Weight (g)	Sample Vol (mL)	70 deg C O&G 1st dry Wt (g)	70 deg C O&G 2nd dry Wt (g)	70 deg C O&G 3rd dry Wt (g)	Passes Difference Criteria (Change is <0.0005 g)	Passes % Weight Criteria (Change is <4%)	O&G Weight (g)	O&G (mg/L)
1	WBLKW-121120	1 of 1		MBLK	<2	6.2550	6.2550		Yes	Yes	6.2550	1000	6.2551	6.2551		Yes	Yes	0.0001	0.1
2	WLCSW-121120	1 of 1		LCS	<2	6.2529	6.2529		Yes	Yes	6.2529	1000	6.2903	6.2904		Yes	Yes	0.0375	37.5
3	WLCSDW-121120	1 of 1		LCSD	<2	6.2751	6.2749		Yes	Yes	6.2749	1000	6.3141	6.3143		Yes	Yes	0.0394	39.4
4	HS20120088-01MS	2 of 2		MS	<2	6.2839	6.2838		Yes	Yes	6.2838	1000	6.3212	6.3213		Yes	Yes	0.0375	37.5
5	HS20111258-01	1 of 1		Sample	<2	6.2399	6.2395		Yes	Yes	6.2395	1000	6.2404	6.2401		Yes	Yes	0.0006	0.6
6	HS20111260-01	1 of 1		Sample	<2	6.2383	6.2383		Yes	Yes	6.2383	1000	6.2388	6.2385		Yes	Yes	0.0002	0.2
7	HS20111261-01	1 of 2		Sample	<2	6.2330	6.2330		Yes	Yes	6.2330	234	6.2334	6.2330		Yes	Yes	0.0000	0.0
8	HS20111299-02	1 of 2		Sample	<2	6.2559	6.2559		Yes	Yes	6.2559	233	6.2561	6.2561		Yes	Yes	0.0002	0.9
9	HS20120080-01	1 of 2		Sample	<2	6.2809	6.2807		Yes	Yes	6.2807	232	6.2810	6.2808		Yes	Yes	0.0001	0.4
10	HS20120088-01	1 of 2		Sample	<2	6.4102	6.4102		Yes	Yes	6.4102	230	6.4102	6.4101		Yes	Yes	-0.0001	-0.4
11	HS20120183-03	1 of 2		Sample	<2	6.2348	6.2348		Yes	Yes	6.2348	235	6.2348	6.2348		Yes	Yes	0.0000	0.0
12	HS20120185-02	1 of 2		Sample	<2	6.2199	6.2196		Yes	Yes	6.2196	230	6.2195	6.2197		Yes	Yes	0.0001	0.4
13	HS20120187-02	1 of 2		Sample	<2	6.2359	6.2361		Yes	Yes	6.2361	231	6.2363	6.2364		Yes	Yes	0.0003	1.3
14	HS20120237-01	1 of 2		Sample	<2	6.2367	6.2367		Yes	Yes	6.2367	242	6.2369	6.2369		Yes	Yes	0.0002	0.8
15	HS20120250-02	1 of 2		Sample	<2	6.1818	6.1818		Yes	Yes	6.1818	233	6.1817	6.1817		Yes	Yes	-0.0001	-0.4
16	HS20120271-01	1 of 2		Sample	<2	6.2655	6.2656		Yes	Yes	6.2656	231	6.2659	6.2657		Yes	Yes	0.0001	0.4
17	HS20120295-01	1 of 2		Sample	<2	6.2662	6.2662		Yes	Yes	6.2662	232	6.2667	6.2667		Yes	Yes	0.0005	2.2
18	HS20120296-01	1 of 2		Sample	<2	6.2374	6.2374		Yes	Yes	6.2374	232	6.2378	6.2376		Yes	Yes	0.0002	0.9
19	HS20120296-02	1 of 2		Sample	<2	6.2509	6.2510		Yes	Yes	6.2510	230	6.2514	6.2512		Yes	Yes	0.0002	0.9
20	HS20120296-03	1 of 2		Sample	<2	6.2708	6.2708		Yes	Yes	6.2708	230	6.2712	6.2711		Yes	Yes	0.0003	1.3
21	HS20120296-04	1 of 2		Sample	<2	6.2946	6.2946		Yes	Yes	6.2946	230	6.2946	6.2945		Yes	Yes	-0.0001	-0.4
22	HS20120298-01	1 of 2		Sample	<2	6.3459	6.3459		Yes	Yes	6.3459	233	6.3460	6.3460		Yes	Yes	0.0001	0.4
23	HS20120299-01	1 of 2		Sample	<2	6.3055	6.3056		Yes	Yes	6.3056	238	6.3091	6.3091		Yes	Yes	0.0035	14.7
24	HS20120384-01	3 of 4		Sample	<2	6.2261	6.2265		Yes	Yes	6.2265	960	6.2264	6.2264		Yes	Yes	-0.0001	-0.1

O&G	Temp Deg C	Actual Deg C	Date	Time
Silica Gel O&G 1st In:	68-72			
Silica Gel O&G 1st Out:	68-72			
Silica Gel O&G 2nd In:	68-72			
Silica Gel O&G 2nd Out:	68-72			
Silica Gel O&G 3rd In:	68-72			
Silica Gel O&G 3rd Out:	68-72			
Oven ID:				
Balance ID:				

$$\text{O \& G (SGT - HEM), mg/L} = \frac{\text{Weight (SGT - HEM, mg)}}{\text{Volume (Sample Extracted, L)}}$$

Dish ID	Work Order #	Silca Gel O&G 70 deg C 1st dry Wt (g)	Silca Gel O&G 70 deg C 2nd dry Wt (g)	Silca Gel O&G 70 deg C 3rd dry Wt (g)	Silica Gell Passes Difference Criteria	Silica Gell Passes % Weight Criteria	Silca Gel O&G Weight (g)	Silica Gel O&G (mg/L)
1	WBLKW-121120							#VALUE!
2	WLCSW-121120							#VALUE!
3	WLCSDW-121120							#VALUE!
4	HS20120088-01MS							#VALUE!
5	HS20111258-01							#VALUE!
6	HS20111260-01							#VALUE!
7	HS20111261-01							#VALUE!
8	HS20111299-02							#VALUE!
9	HS20120080-01							#VALUE!
10	HS20120088-01							#VALUE!
11	HS20120183-03							#VALUE!
12	HS20120185-02							#VALUE!
13	HS20120187-02							#VALUE!
14	HS20120237-01							#VALUE!
15	HS20120250-02							#VALUE!
16	HS20120271-01							#VALUE!
17	HS20120295-01							#VALUE!
18	HS20120296-01							#VALUE!
19	HS20120296-02							#VALUE!
20	HS20120296-03							#VALUE!
21	HS20120296-04							#VALUE!
22	HS20120298-01							#VALUE!
23	HS20120299-01							#VALUE!
24	HS20120384-01							#VALUE!

HS20111260 - Sub Perch Report IV (E2001169)

ALS WO# HS20111260

December 15, 2020 Service Request No:E2001169

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

Laboratory Results for: HS20111260

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory November 25, 2020
For your reference, these analyses have been assigned our service request number **E2001169.**

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.:**	E2001169
Project:	HS20111260	**Date Received:**	11/25/20
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 11/25/20.

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:

EQ2000652: 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:**E2001169
Project: HS20111260

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2001169-001	LH18/24-SP650_112420_AIX	11/24/2020	1400

Service Request Summary

Folder #: **E2001169**
Client Name: ALS Environmental - US
Project Name: HS20111260
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: 11/25/20
Internal Due Date: 12/11/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20111260
EDD: No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
Location: EHRMS-WIC 3B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2001169-001	LH18/24-SP650_112420_AIX	Water	11/24/20 1400	**IV**

Service Request Summary

Folder #: **E2001169**
Client Name: ALS Environmental - US
Project Name: HS20111260
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: 11/25/20
Internal Due Date: 12/11/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20111260
EDD: No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
Location: EHRMS-WIC 3B
Pressure Gas:

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

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

ALS

Chain of Custody

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

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Colorado** **COC ID:** **15224**

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:	HS20111260
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20111260-02**	**LH18/24-SP650_112420_AIX**	**Water**	**24 Nov 2020 14:00**
	SUB_Perch-6850			11 Dec 2020

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. Mahaffey Date/Time: 11/25/20

Received By: [illegible] Date/Time: 11/25/20 1200

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS-H

Thermometer ID IR31

Date/Time Received: 11/25/20 Initials: CH Date/Time Logged in: 11/25/20 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?
NA		11/25/20	1200	CH	3.3	☒
						☐
						☐
						☐

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#: 371244 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/9/20 13:32

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2001169-001	LH18/24-SP650_112420_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2001170-001	LH18/24-SP140_112420	.01	6850/ClO4 DOD			Water	10mL	
3	E2001171-001	LH18/24-SP650_112420_AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2001182-001	HBW7_120320	.01	6850/ClO4 DOD			Water	10mL	
5	E2001182-002	HBW10_120320	.01	6850/ClO4 DOD			Water	10mL	
6	E2001182-003	HBW1_120320	.01	6850/ClO4 DOD			Water	10mL	
7	E2001182-004	HBW1_120320_a	.01	6850/ClO4 DOD			Water	10mL	
8	E2001182-005	GPW1_120320	.01	6850/ClO4 DOD			Water	10mL	
9	E2001182-006	GPW3_120320	.01	6850/ClO4 DOD			Water	10mL	
10	E2001186-001	LH18/24-SP650_120220-AIX	.01	6850/ClO4 DOD			Water	10mL	
11	E2001186-002	LH18/24-SP650_120220-Between	.01	6850/ClO4 DOD			Water	10mL	
12	EQ2000652-01	MB		6850/ClO4 DOD			Liquid	10mL	
13	EQ2000652-02	LCS		6850/ClO4 DOD			Liquid	10mL	
14	EQ2000652-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2000652-01 1.00µL EQ2000652-02 1.00µL EQ2000652-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 214133 Logbook Ref: Sodium Perchlorate Expires On: 08/13/2022

E2001169-001 100.00µL E2001170-001 100.00µL E2001171-001 100.00µL E2001182-001 100.00µL E2001182-002 100.00µL E2001182-003 100.00µL
E2001182-004 100.00µL E2001182-005 100.00µL E2001182-006 100.00µL E2001186-001 100.00µL E2001186-002 100.00µL EQ2000652-01 100.00µL
EQ2000652-02 100.00µL EQ2000652-03 100.00µL

Preparation Steps

Step: Preparation
Started: 12/9/20 13:32
Finished: 12/9/20 15:00
By: GRIVERA
Comments

Comments:

Preparation Information Benchsheet

Prep Run#: 371244
Team: Semivoa GCMS/GRIVERA
Prep WorkFlow: GenExt28Day
Prep Method: Method
Status: Prepped
Prep Date/Time: 12/9/20 13:32

Reviewed By: GR Date: 12/9/20

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001169
Project:	HS20111260	**Date Collected:**	11/24/20 1400
Sample Matrix:	Water	**Date Received:**	11/25/20
Sample Name:	LH18/24-SP650_112420_AIX	**Units:**	µg/L
Lab Code:	E2001169-001	**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	0.500	0.250	0.125	5	12/ 9/20	12/14/20 10:46	371244	706941	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001169
Project:	HS20111260	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000652-01	**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	12/ 9/20	12/13/20 20:09	371244	706933	

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: HS20111260
Sample Matrix: Water

Service Request: E2001169
Date Analyzed: 12/13/20

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: 371244

	Lab Control Sample EQ2000652-02			Duplicate Lab Control Sample EQ2000652-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.112	0.100	112	0.111	0.100	111	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:**	E2001169
Project:	HS20111260	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000652-02	**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	**0.112**		0.100	0.0500	0.0250	1	12/ 9/20	12/13/20 20:17	371244	706933	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001169
Project:	HS20111260	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000652-03	**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	**0.111**		0.100	0.0500	0.0250	1	12/ 9/20	12/13/20 20:25	371244	706933	

Initial Calibration

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

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: EC2000058

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201213_006	Perchlorate6850b.lcm	1x	☒	3100808-05	12/13/2020 12:49
2	PERCHLORATE2		20201213_007	Perchlorate6850b.lcm	1x	☒	3100808-06	12/13/2020 12:57
3	PERCHLORATE3		20201213_008	Perchlorate6850b.lcm	1x	☒	3100808-07	12/13/2020 13:05
4	PERCHLORATE4		20201213_009	Perchlorate6850b.lcm	1x	☒	3100808-08	12/13/2020 13:13
5	PERCHLORATE5		20201213_010	Perchlorate6850b.lcm	1x	☒	3100808-09	12/13/2020 13:20
6	PERCHLORATE6		20201213_011	Perchlorate6850b.lcm	1x	☒	3100809-01	12/13/2020 13:28
7	PERCHLORATE7		20201213_012	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 13:36
8	PERCHLORATE8		20201213_013	Perchlorate6850b.lcm	1x	☒	3100809-03	12/13/2020 13:44
9	PERCHLORATE9		20201213_014	Perchlorate6850b.lcm	1x	☒	3100809-04	12/13/2020 13:52
10	PERCHLORATE10		20201213_015	Perchlorate6850b.lcm	1x	☒	3100809-05	12/13/2020 14:00
11	ICS		20201213_016	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:08
12	PERCHLORATEICV		20201213_017	Perchlorate6850b.lcm	1x	☒	3100809-06	12/13/2020 14:16
13	LODV		20201213_019	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:32
14	PERCHLORATE7		20201213_021	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 14:47
15	E2001161-019		20201213_023	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:17
16	E2001161-020		20201213_024	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:25
17	E2001161-021		20201213_025	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:33
18	E2001161-022		20201213_026	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:41
19	E2001161-023		20201213_027	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:49
20	E2001161-024		20201213_028	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:57
21	E2001161-025X2		20201213_029	Perchlorate6850b.lcm	2x	☒		12/13/2020 16:04
22	E2001161-026		20201213_030	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:12
23	E2001161-028		20201213_031	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:20
24	E2001161-029		20201213_032	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:28
25	PERCHLORATE7		20201213_033	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 16:36
26	E2001161-006X5		20201213_034	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:44
27	E2001161-009X5		20201213_035	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:52
28	E2001161-011X5		20201213_036	Perchlorate6850b.lcm	5X	☒		12/13/2020 17:00
29	E2001161-020X2		20201213_037	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:08
30	E2001161-022X2		20201213_038	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:15
31	E2001161-028X2		20201213_039	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:23
32	PERCHLORATE7		20201213_040	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 17:31
33	EQ2000651-01		20201213_041	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:39
34	EQ2000651-02		20201213_042	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:47
35	EQ2000651-03		20201213_043	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:55
36	E2001166-001		20201213_044	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:03
37	E2001166-002		20201213_045	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:11
38	E2001166-003		20201213_046	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:19
39	E2001166-004		20201213_047	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:26
40	E2001166-005		20201213_048	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:34
41	E2001166-006		20201213_049	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:42
42	E2001166-007		20201213_050	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:50
43	PERCHLORATE7		20201213_051	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 18:58
44	E2001166-008		20201213_052	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:06
45	E2001166-009		20201213_053	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:14
46	E2001166-010		20201213_054	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:22
47	E2001166-011		20201213_055	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:30
48	E2001166-012		20201213_056	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:37
49	E2001166-013		20201213_057	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:45
50	E2001166-014		20201213_058	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:53
51	PERCHLORATE7		20201213_059	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 20:01
52	EQ2000652-01		20201213_060	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:09
53	EQ2000652-02		20201213_061	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:17
54	EQ2000652-03		20201213_062	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:25
55	E2001169-001		20201213_063	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:33
56	E2001170-001X500		20201213_064	Perchlorate6850b.lcm	500X	☒		12/13/2020 20:41
57	E2001171-001		20201213_065	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:48
58	E2001182-001		20201213_066	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:56
59	E2001182-002		20201213_067	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:04
60	E2001182-003		20201213_068	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:12
61	E2001182-004		20201213_069	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:20

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	PERCHLORATE7		20201213_070	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 21:28
63	E2001182-005		20201213_071	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:36
64	E2001182-006		20201213_072	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:44
65	E2001186-001		20201213_073	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:52
66	E2001186-002		20201213_074	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:00
67	PERCHLORATE7		20201213_075	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 22:07
68	EQ2000653-01		20201213_076	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:15
69	EQ2000653-02		20201213_077	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:23
70	EQ2000653-03		20201213_078	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:31
71	E2001175-001		20201213_079	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:39
72	E2001175-002		20201213_080	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:47
73	E2001175-003		20201213_081	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:55
74	E2001175-004X5		20201213_082	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:03
75	E2001175-005X2		20201213_083	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:11
76	E2001175-006		20201213_084	Perchlorate6850b.lcm	1x	☒		12/13/2020 23:19
77	E2001175-007X5		20201213_085	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:26
78	PERCHLORATE7		20201213_086	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 23:34
79	E2001175-008X2		20201213_087	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:42
80	E2001175-009X2		20201213_088	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:50
81	E2001175-010X2		20201213_089	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:58
82	E2001175-011X5		20201213_090	Perchlorate6850b.lcm	5X	☒		12/14/2020 0:06
83	E2001175-012X20		20201213_091	Perchlorate6850b.lcm	20X	☒		12/14/2020 0:14
84	E2001175-013		20201213_092	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:22
85	E2001175-014		20201213_093	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:30
86	E2001185-001		20201213_094	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:38
87	E2001185-002		20201213_095	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:45
88	E2001185-003		20201213_096	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:53
89	PERCHLORATE7		20201213_097	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:01
90	E2001185-004		20201213_098	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:09
91	E2001185-005		20201213_099	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:17
92	E2001185-006		20201213_100	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:25
93	PERCHLORATE7		20201213_101	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:33
94								

Initial Calibration - Detailed Report

Calibration ID: EC2000058 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000058-01	PERCHLORATE1	20201213_006	12/13/2020 12:49
02	EC2000058-02	PERCHLORATE2	20201213_007	12/13/2020 12:57
03	EC2000058-03	PERCHLORATE3	20201213_008	12/13/2020 13:05
04	EC2000058-04	PERCHLORATE4	20201213_009	12/13/2020 13:13
05	EC2000058-05	PERCHLORATE5	20201213_010	12/13/2020 13:20
06	EC2000058-06	PERCHLORATE6	20201213_011	12/13/2020 13:28
07	EC2000058-07	PERCHLORATE7	20201213_012	12/13/2020 13:36
08	EC2000058-08	PERCHLORATE8	20201213_013	12/13/2020 13:44
09	EC2000058-09	PERCHLORATE9	20201213_014	12/13/2020 13:52
10	EC2000058-10	PERCHLORATE10	20201213_015	12/13/2020 14:00

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

Perchlorate **Average RF** **RSD = 5.994** **Average RF = 0.1361**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1219	02	0.5000	0.142	03	0.7000	0.1452	04	1.0000	0.1394
05	2.0000	0.1451	06	5.0000	0.1424	07	10.0000	0.1339	08	20.0000	0.1304
09	30.0000	0.1353	10	50.0000	0.1255						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.0896	-10.4	02	0.5000	0.522	4.3	03	0.7000	0.747	6.7
04	1.0000	1.02	2.4	05	2.0000	2.13	6.6	06	5.0000	5.23	4.6
07	10.0000	9.84	-1.6	08	20.0000	19.2	-4.2	09	30.0000	29.8	-0.6
10	50.0000	46.1	-7.8								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000058	**Instrument ID:**	E-LCMS-01
Datafile ID:	20201213_017	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000058-11	T	Average RF	10	9.213	ng/mL	-7.9	<= 15

ALS Group Houston

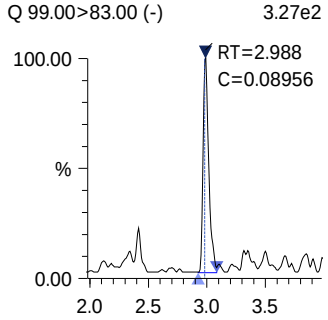
PERCHLORATE1

Date acquired: 12/13/2020 12:49:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_006.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	12/13/2020 12:49:24 PM	1098	0.08956	20201213_006	2.988	25.0000	1.0000	22
Sodium Perchlorate-18O4_IS	PERCHLORATE1	12/13/2020 12:49:24 PM	90045	1.00000	20201213_006	2.986	25.0000	1.0000	22

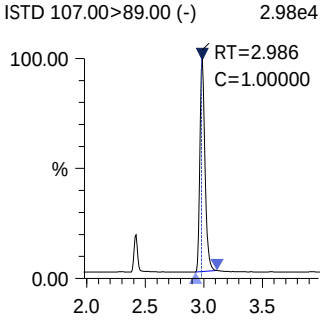
Perchlorate

Conc 0.08956
Area 1098



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 90045



ALS Group Houston

PERCHLORATE2

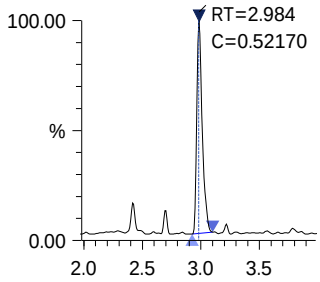
Date acquired: 12/13/2020 12:57:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_007.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	12/13/2020 12:57:20 PM	6242	0.52170	20201213_007	2.984	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	PERCHLORATE2	12/13/2020 12:57:20 PM	87904	1.00000	20201213_007	2.984	25.0000	1.0000	23

Perchlorate

Conc 0.52170
Area 6242

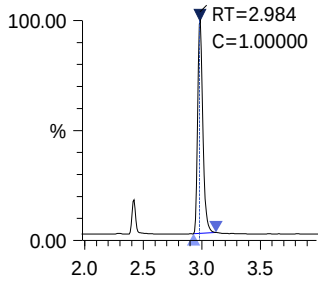
Q 99.00>83.00 (-) 1.94e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 87904

ISTD 107.00>89.00 (-) 2.84e4



ALS Group Houston

PERCHLORATE3

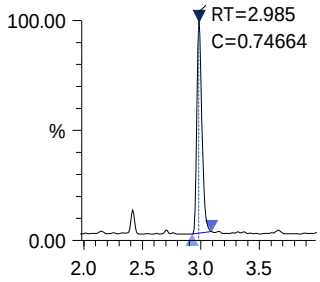
Date acquired: 12/13/2020 1:05:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_008.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	12/13/2020 1:05:13 PM	8872	0.74664	20201213_008	2.985	25.0000	1.0000	24
Sodium Perchlorate-18O4_IS	PERCHLORATE3	12/13/2020 1:05:13 PM	87298	1.00000	20201213_008	2.984	25.0000	1.0000	24

Perchlorate

Conc 0.74664
Area 8872

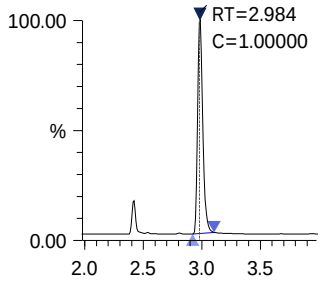
Q 99.00>83.00 (-) 2.99e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 87298

ISTD 107.00>89.00 (-) 2.82e4



ALS Group Houston

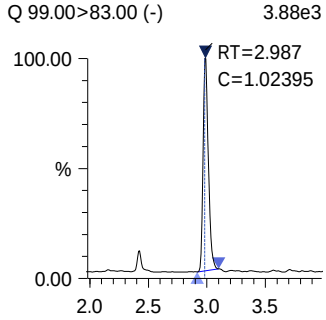
PERCHLORATE4

Date acquired: 12/13/2020 1:13:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_009.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	12/13/2020 1:13:05 PM	11913	1.02395	20201213_009	2.987	25.0000	1.0000	25
Sodium Perchlorate-18O4_IS	PERCHLORATE4	12/13/2020 1:13:05 PM	85470	1.00000	20201213_009	2.986	25.0000	1.0000	25

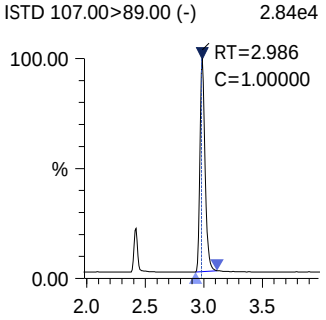
Perchlorate

Conc 1.02395
Area 11913



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 85470



ALS Group Houston

PERCHLORATE5

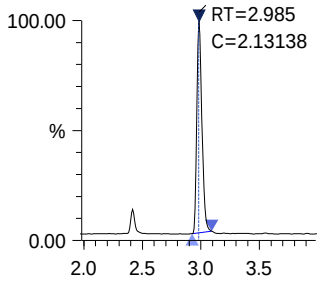
Date acquired: 12/13/2020 1:20:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_010.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	12/13/2020 1:20:58 PM	24278	2.13138	20201213_010	2.985	25.0000	1.0000	26
Sodium Perchlorate-18O4_IS	PERCHLORATE5	12/13/2020 1:20:58 PM	83679	1.00000	20201213_010	2.984	25.0000	1.0000	26

Perchlorate

Conc 2.13138
Area 24278

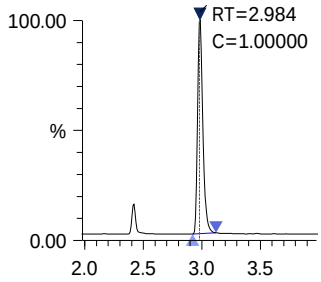
Q 99.00>83.00 (-) 8.14e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 83679

ISTD 107.00>89.00 (-) 2.65e4



ALS Group Houston

PERCHLORATE6

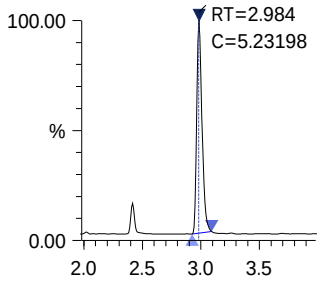
Date acquired: 12/13/2020 1:28:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_011.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	12/13/2020 1:28:51 PM	55433	5.23198	20201213_011	2.984	25.0000	1.0000	27
Sodium Perchlorate-18O4_IS	PERCHLORATE6	12/13/2020 1:28:51 PM	77835	1.00000	20201213_011	2.983	25.0000	1.0000	27

Perchlorate

Conc 5.23198
Area 55433

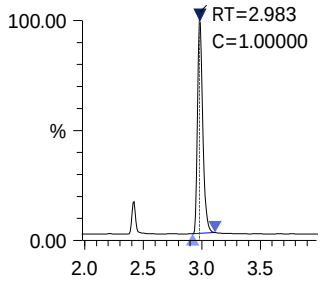
Q 99.00>83.00 (-) 1.79e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 77835

ISTD 107.00>89.00 (-) 2.46e4



ALS Group Houston

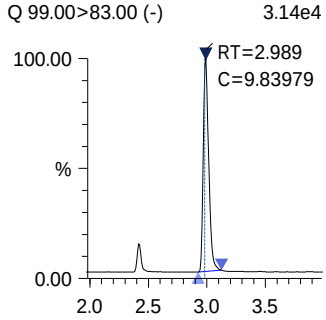
PERCHLORATE7

Date acquired: 12/13/2020 1:36:47 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_012.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/13/2020 1:36:47 PM	99306	9.83979	20201213_012	2.989	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/13/2020 1:36:47 PM	74142	1.00000	20201213_012	2.988	25.0000	1.0000	21

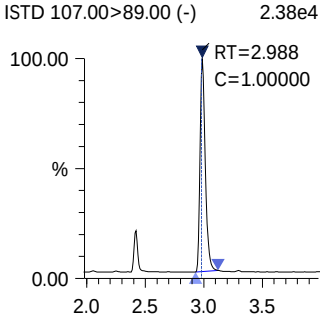
Perchlorate

Conc 9.83979
Area 99306



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 74142



ALS Group Houston

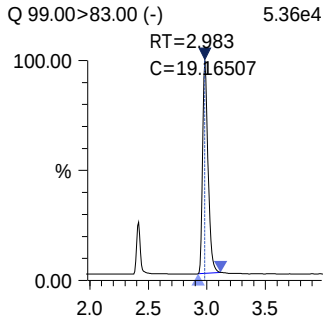
PERCHLORATE8

Date acquired: 12/13/2020 1:44:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_013.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	12/13/2020 1:44:41 PM	171329	19.16507	20201213_013	2.983	25.0000	1.0000	28
Sodium Perchlorate-18O4_IS	PERCHLORATE8	12/13/2020 1:44:41 PM	65674	1.00000	20201213_013	2.982	25.0000	1.0000	28

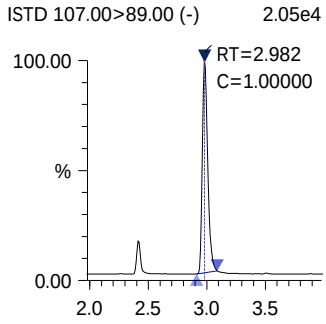
Perchlorate

Conc 19.16507
Area 171329



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 65674



ALS Group Houston

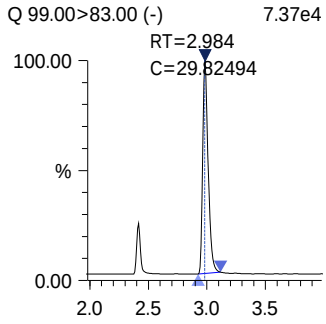
PERCHLORATE9

Date acquired: 12/13/2020 1:52:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_014.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	12/13/2020 1:52:33 PM	234759	29.82494	20201213_014	2.984	25.0000	1.0000	29
Sodium Perchlorate-18O4_IS	PERCHLORATE9	12/13/2020 1:52:33 PM	57825	1.00000	20201213_014	2.983	25.0000	1.0000	29

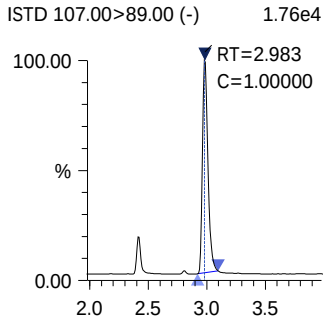
Perchlorate

Conc 29.82494
Area 234759



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 57825



ALS Group Houston

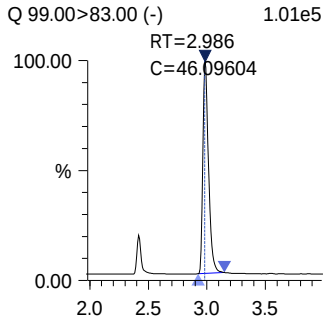
PERCHLORATE10

Date acquired: 12/13/2020 2:00:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_015.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	12/13/2020 2:00:26 PM	331808	46.09604	20201213_015	2.986	25.0000	1.0000	30
Sodium Perchlorate-18O4_IS	PERCHLORATE10	12/13/2020 2:00:26 PM	52880	1.00000	20201213_015	2.985	25.0000	1.0000	30

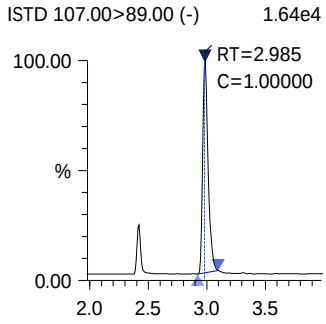
Perchlorate

Conc 46.09604
Area 331808



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 52880



ALS Group Houston

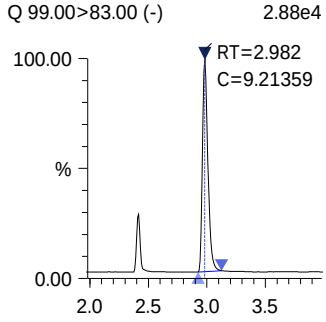
PERCHLORATEICV

Date acquired: 12/13/2020 2:16:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_017.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	12/13/2020 2:16:15 PM	92339	9.21359	20201213_017	2.982	25.0000	1.0000	31
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	12/13/2020 2:16:15 PM	73626	1.00000	20201213_017	2.980	25.0000	1.0000	31

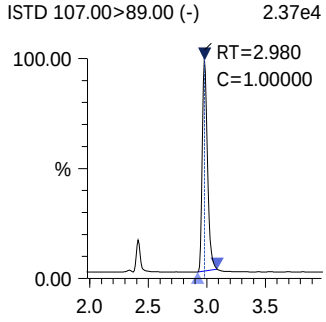
Perchlorate

Conc 9.21359
Area 92339



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 73626



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

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: EC2000058

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201213_006	Perchlorate6850b.lcm	1x	☒	3100808-05	12/13/2020 12:49
2	PERCHLORATE2		20201213_007	Perchlorate6850b.lcm	1x	☒	3100808-06	12/13/2020 12:57
3	PERCHLORATE3		20201213_008	Perchlorate6850b.lcm	1x	☒	3100808-07	12/13/2020 13:05
4	PERCHLORATE4		20201213_009	Perchlorate6850b.lcm	1x	☒	3100808-08	12/13/2020 13:13
5	PERCHLORATE5		20201213_010	Perchlorate6850b.lcm	1x	☒	3100808-09	12/13/2020 13:20
6	PERCHLORATE6		20201213_011	Perchlorate6850b.lcm	1x	☒	3100809-01	12/13/2020 13:28
7	PERCHLORATE7		20201213_012	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 13:36
8	PERCHLORATE8		20201213_013	Perchlorate6850b.lcm	1x	☒	3100809-03	12/13/2020 13:44
9	PERCHLORATE9		20201213_014	Perchlorate6850b.lcm	1x	☒	3100809-04	12/13/2020 13:52
10	PERCHLORATE10		20201213_015	Perchlorate6850b.lcm	1x	☒	3100809-05	12/13/2020 14:00
11	ICS		20201213_016	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:08
12	PERCHLORATEICV		20201213_017	Perchlorate6850b.lcm	1x	☒	3100809-06	12/13/2020 14:16
13	LODV		20201213_019	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:32
14	PERCHLORATE7		20201213_021	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 14:47
15	E2001161-019		20201213_023	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:17
16	E2001161-020		20201213_024	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:25
17	E2001161-021		20201213_025	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:33
18	E2001161-022		20201213_026	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:41
19	E2001161-023		20201213_027	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:49
20	E2001161-024		20201213_028	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:57
21	E2001161-025X2		20201213_029	Perchlorate6850b.lcm	2x	☒		12/13/2020 16:04
22	E2001161-026		20201213_030	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:12
23	E2001161-028		20201213_031	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:20
24	E2001161-029		20201213_032	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:28
25	PERCHLORATE7		20201213_033	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 16:36
26	E2001161-006X5		20201213_034	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:44
27	E2001161-009X5		20201213_035	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:52
28	E2001161-011X5		20201213_036	Perchlorate6850b.lcm	5X	☒		12/13/2020 17:00
29	E2001161-020X2		20201213_037	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:08
30	E2001161-022X2		20201213_038	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:15
31	E2001161-028X2		20201213_039	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:23
32	PERCHLORATE7		20201213_040	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 17:31
33	EQ2000651-01		20201213_041	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:39
34	EQ2000651-02		20201213_042	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:47
35	EQ2000651-03		20201213_043	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:55
36	E2001166-001		20201213_044	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:03
37	E2001166-002		20201213_045	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:11
38	E2001166-003		20201213_046	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:19
39	E2001166-004		20201213_047	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:26
40	E2001166-005		20201213_048	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:34
41	E2001166-006		20201213_049	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:42
42	E2001166-007		20201213_050	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:50
43	PERCHLORATE7		20201213_051	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 18:58
44	E2001166-008		20201213_052	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:06
45	E2001166-009		20201213_053	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:14
46	E2001166-010		20201213_054	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:22
47	E2001166-011		20201213_055	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:30
48	E2001166-012		20201213_056	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:37
49	E2001166-013		20201213_057	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:45
50	E2001166-014		20201213_058	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:53
51	PERCHLORATE7		20201213_059	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 20:01
52	EQ2000652-01		20201213_060	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:09
53	EQ2000652-02		20201213_061	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:17
54	EQ2000652-03		20201213_062	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:25
55	E2001169-001		20201213_063	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:33
56	E2001170-001X500		20201213_064	Perchlorate6850b.lcm	500X	☒		12/13/2020 20:41
57	E2001171-001		20201213_065	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:48
58	E2001182-001		20201213_066	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:56
59	E2001182-002		20201213_067	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:04
60	E2001182-003		20201213_068	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:12
61	E2001182-004		20201213_069	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:20

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	PERCHLORATE7		20201213_070	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 21:28
63	E2001182-005		20201213_071	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:36
64	E2001182-006		20201213_072	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:44
65	E2001186-001		20201213_073	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:52
66	E2001186-002		20201213_074	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:00
67	PERCHLORATE7		20201213_075	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 22:07
68	EQ2000653-01		20201213_076	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:15
69	EQ2000653-02		20201213_077	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:23
70	EQ2000653-03		20201213_078	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:31
71	E2001175-001		20201213_079	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:39
72	E2001175-002		20201213_080	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:47
73	E2001175-003		20201213_081	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:55
74	E2001175-004X5		20201213_082	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:03
75	E2001175-005X2		20201213_083	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:11
76	E2001175-006		20201213_084	Perchlorate6850b.lcm	1x	☒		12/13/2020 23:19
77	E2001175-007X5		20201213_085	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:26
78	PERCHLORATE7		20201213_086	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 23:34
79	E2001175-008X2		20201213_087	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:42
80	E2001175-009X2		20201213_088	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:50
81	E2001175-010X2		20201213_089	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:58
82	E2001175-011X5		20201213_090	Perchlorate6850b.lcm	5X	☒		12/14/2020 0:06
83	E2001175-012X20		20201213_091	Perchlorate6850b.lcm	20X	☒		12/14/2020 0:14
84	E2001175-013		20201213_092	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:22
85	E2001175-014		20201213_093	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:30
86	E2001185-001		20201213_094	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:38
87	E2001185-002		20201213_095	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:45
88	E2001185-003		20201213_096	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:53
89	PERCHLORATE7		20201213_097	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:01
90	E2001185-004		20201213_098	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:09
91	E2001185-005		20201213_099	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:17
92	E2001185-006		20201213_100	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:25
93	PERCHLORATE7		20201213_101	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:33
94								

20201214

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20201214_001	Perchlorate6850b.lcm	1x	☒		12/14/2020 9:48
2	null		20201214_002	Perchlorate6850b.lcm	1x	☒		12/14/2020 9:53
3	IB		20201214_003	Perchlorate6850b.lcm	1x	☒		12/14/2020 9:58
4	IB		20201214_004	Perchlorate6850b.lcm	1x	☒		12/14/2020 10:06
5	IB		20201214_005	Perchlorate6850b.lcm	1x	☒		12/14/2020 10:14
6	PERCHLORATE7		20201214_006	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 10:22
7	E2001166-010X2		20201214_007	Perchlorate6850b.lcm	2X	☒		12/14/2020 10:30
8	E2001166-011X2		20201214_008	Perchlorate6850b.lcm	2X	☒		12/14/2020 10:38
9	E2001169-001X5		20201214_009	Perchlorate6850b.lcm	5X	☒		12/14/2020 10:46
10	E2001171-001X5		20201214_010	Perchlorate6850b.lcm	5X	☒		12/14/2020 10:54
11	E2001186-001X5		20201214_011	Perchlorate6850b.lcm	5X	☒		12/14/2020 11:01
12	E2001186-002X5		20201214_012	Perchlorate6850b.lcm	5X	☒		12/14/2020 11:09
13	PERCHLORATE7		20201214_013	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 11:17
14	E2001175-005X10		20201214_014	Perchlorate6850b.lcm	10X	☒		12/14/2020 11:25
15	E2001175-010X10		20201214_015	Perchlorate6850b.lcm	10X	☒		12/14/2020 11:33
16	E2001185-002X5		20201214_016	Perchlorate6850b.lcm	5X	☒		12/14/2020 11:41
17	E2001185-003X5		20201214_017	Perchlorate6850b.lcm	5X	☒		12/14/2020 11:49
18	E2001185-004X10		20201214_018	Perchlorate6850b.lcm	10X	☒		12/14/2020 11:57
19	E2001185-005X5		20201214_019	Perchlorate6850b.lcm	5X	☒		12/14/2020 12:05
20	PERCHLORATE7		20201214_020	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 12:12
21	PERCHLORATE7		20201214_021	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 14:49
22	EQ2000627-01		20201214_022	Perchlorate6850b.lcm	1x	☒		12/14/2020 14:57
23	EQ2000627-02		20201214_023	Perchlorate6850b.lcm	1x	☒		12/14/2020 15:05
24	EQ2000627-03		20201214_024	Perchlorate6850b.lcm	1x	☒		12/14/2020 15:13
25	PERCHLORATE7		20201214_027	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 15:36
26	RINSE		20201214_028	Perchlorate6850b.lcm	1x	☒		12/14/2020 16:14
27	EQ2000627-04		20201214_029	Perchlorate6850b.lcm	1x	☒		12/14/2020 16:22
28	EQ2000627-05		20201214_030	Perchlorate6850b.lcm	1x	☒		12/14/2020 16:30
29	PERCHLORATE7		20201214_031	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 16:38
30								

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20111260

Service Request: E2001169
Date Analyzed: 12/13/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201213\20201213_059

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706933
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.62	0.1361	0.1310	-3.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20111260

Service Request: E2001169
Date Analyzed: 12/13/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201213\20201213_070

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706933
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.66	0.1361	0.1315	-3.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20111260

Service Request: E2001169
Date Analyzed: 12/13/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201213\20201213_075

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706933
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.51	0.1361	0.1294	-4.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20111260

Service Request: E2001169
Date Analyzed: 12/14/20

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\20201214\20201214_006

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706941
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.67	0.1361	0.1317	-3.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20111260

Service Request: E2001169
Date Analyzed: 12/14/20

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\20201214\20201214_013

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706941
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.66	0.1361	0.1315	-3.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2001169
Project:	HS20111260	**Date Analyzed:**	12/13/20 20:01

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201213\20201213_059	**Lab Code:**	EQ2000672-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	706933
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000672-01	65,522	2.97
Method Blank	EQ2000652-01	72,694	2.97
Lab Control Sample	EQ2000652-02	74,285	2.97
Duplicate Lab Control Sample	EQ2000652-03	73,673	2.97

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:**	E2001169
Project:	HS20111260	**Date Analyzed:**	12/13/20 21:28

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201213\20201213_070	**Lab Code:**	EQ2000672-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	706933
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000672-02	64,408	2.97

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:**	E2001169
Project:	HS20111260	**Date Analyzed:**	12/13/20 22:07

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201213\20201213_075	**Lab Code:**	EQ2000672-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	706933
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000672-03	63,148	2.97

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:**	E2001169
Project:	HS20111260	**Date Analyzed:**	12/14/20 10:22

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201214\20201214_006	**Lab Code:**	EQ2000673-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	706941
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000673-01	60,666	2.98
LH18/24-SP650_112420_AIX	E2001169-001	44,390	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:**	E2001169
Project:	HS20111260	**Date Analyzed:**	12/14/20 11:17

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201214\20201214_013	**Lab Code:**	EQ2000673-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	706941
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000673-02	59,214	2.98

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

ALS Group Houston

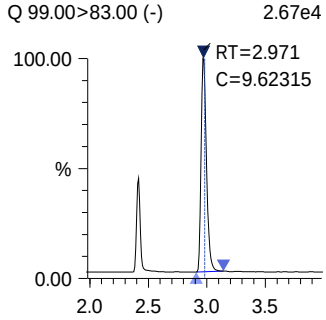
PERCHLORATE7

Date acquired: 12/13/2020 8:01:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_059.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/13/2020 8:01:34 PM	85828	9.62315	20201213_059	2.971	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/13/2020 8:01:34 PM	65522	1.00000	20201213_059	2.969	25.0000	1.0000	21

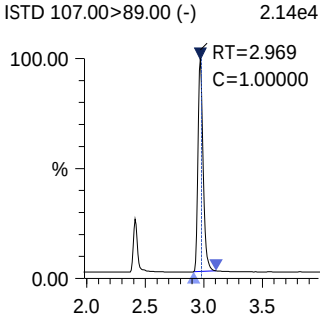
Perchlorate

Conc 9.62315
Area 85828



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 65522



ALS Group Houston

EQ2000652-01

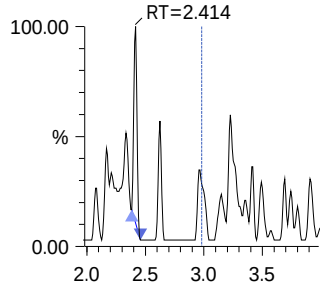
Date acquired: 12/13/2020 8:09:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_060.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000652-01	12/13/2020 8:09:29 PM	----	----	20201213_060	----	25.0000	1.0000	1
Sodium Perchlorate-18O4_IS	EQ2000652-01	12/13/2020 8:09:29 PM	72694	1.00000	20201213_060	2.970	25.0000	1.0000	1

Perchlorate

Conc ----
Area ----

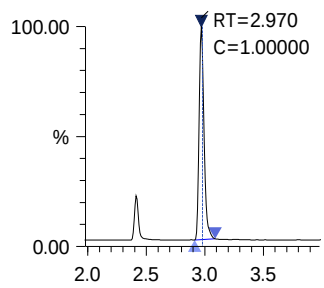
Q 99.00>83.00 (-) 7.00e1



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 72694

ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

EQ2000652-02

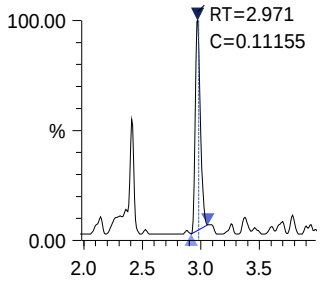
Date acquired: 12/13/2020 8:17:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_061.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000652-02	12/13/2020 8:17:25 PM	1128	0.11155	20201213_061	2.971	25.0000	1.0000	2
Sodium Perchlorate-18O4_IS	EQ2000652-02	12/13/2020 8:17:25 PM	74285	1.00000	20201213_061	2.970	25.0000	1.0000	2

Perchlorate

Conc 0.11155
Area 1128

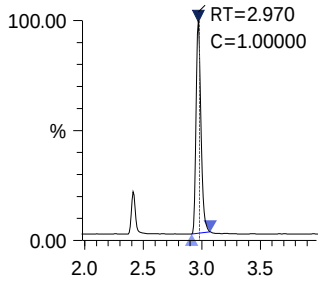
Q 99.00>83.00 (-) 3.74e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 74285

ISTD 107.00>89.00 (-) 2.54e4



ALS Group Houston

EQ2000652-03

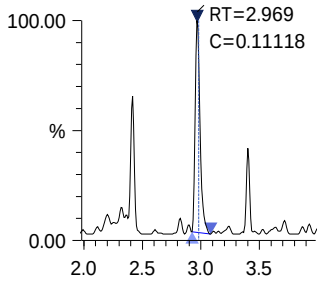
Date acquired: 12/13/2020 8:25:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_062.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000652-03	12/13/2020 8:25:17 PM	1115	0.11118	20201213_062	2.969	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	EQ2000652-03	12/13/2020 8:25:17 PM	73673	1.00000	20201213_062	2.970	25.0000	1.0000	3

Perchlorate

Conc 0.11118
Area 1115

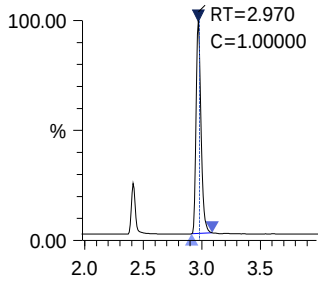
Q 99.00>83.00 (-) 3.84e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 73673

ISTD 107.00>89.00 (-) 2.49e4



ALS Group Houston

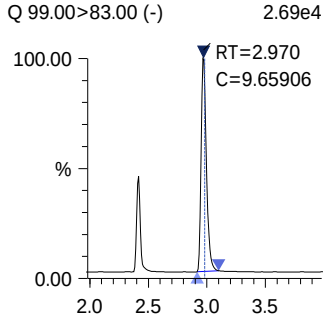
PERCHLORATE7

Date acquired: 12/13/2020 9:28:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_070.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/13/2020 9:28:29 PM	84685	9.65906	20201213_070	2.970	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/13/2020 9:28:29 PM	64408	1.00000	20201213_070	2.970	25.0000	1.0000	21

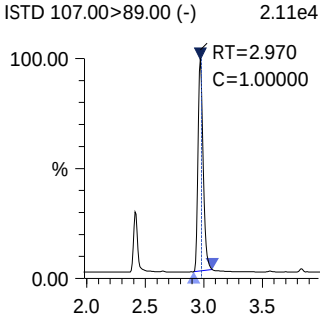
Perchlorate

Conc 9.65906
Area 84685



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 64408



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

WorkOrder: HS20120241

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

22-Dec-2020

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
T : +1 281 530 5656
F : +1 281 530 5887
www.alsglobal.com

Table of Contents

HS20120241 Cover Page
- CoverPage
- HS20120241 Longhorn GW Treatment Plant Weekly Samples Final
  - CoverLetter
  - Sample Summary
  - CaseNarrative
  - LH18/24-SP650_120220
  - LH18/24-SP650_120220-AIX
  - LH18/24-SP650_120220-Between
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList
  - COC
  - HS20120241 - Sub Perch Report II (E2001186)
  - HS20120241 ALS Kelso Report K2011420_Tier II
- HS20120241 Wet Chem Raw Data (NIT-AMM_W- E350.3 - ISE)
- HS20120241 Wet Chem Raw Data (P-ORTHO)
- HS20120241 ALS Kelso Report K2011420_Tier IV
  - Table of Contents

Table of Contents (continued)

Case Narrative

Chain of Custody

General Chemistry

Raw Data

HS20120241 - Sub Perch Report IV (E2001186)

CoverLetter

Certificate of Analysis

Chain of Custody

Preparation Sheets

Analytical Results

Accuracy and Precision

Initial Calibration

Chromatogram

HS20120241 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS20120241

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

December 18, 2020

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

Work Order: **HS20120241**

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

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Dec 04, 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-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20120241

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20120241-01	LH18/24-SP650_120220	Water		02-Dec-2020 14:00	04-Dec-2020 10:15	☐
HS20120241-02	LH18/24-SP650_120220-AIX	Water		02-Dec-2020 14:00	04-Dec-2020 10:15	☐
HS20120241-03	LH18/24-SP650_120220-Between	Water		02-Dec-2020 14:00	04-Dec-2020 10:15	☐

ALS Houston, US Date: 18-Dec-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20120241

Work Order Comments

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

The analysis for Perchlorate was subcontracted to ALS High Res Lab Houston, TX. Final report attached

WetChemistry by Method E350.3

Batch ID: R374117

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

WetChemistry by Method E365.3

Batch ID: R374022

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

ALS Houston, US Date: 18-Dec-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20120241
Sample ID: LH18/24-SP650_120220
Lab ID:HS20120241-01
Collection Date: 02-Dec-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: MZD
Nitrogen, Ammonia (As N)	**0.48**	a	**0.10**	**0.20**	**0.20**	**mg/L**	1	08-Dec-2020 08:50
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**1.76**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	04-Dec-2020 12:01
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	18-Dec-2020 10:40

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

ALS Houston, US Date: 18-Dec-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20120241
Sample ID: LH18/24-SP650_120220-AIX
Lab ID:HS20120241-02
Collection Date: 02-Dec-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	15-Dec-2020 18:35

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

ALS Houston, US Date: 18-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Sample ID: LH18/24-SP650_120220-Between
Collection Date: 02-Dec-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20120241
Lab ID:HS20120241-03
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	15-Dec-2020 18:35

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

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20120241

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R374022 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20120241-01	LH18/24-SP650_120220	02 Dec 2020 14:00			04 Dec 2020 12:01	10
Batch ID: R374117 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20120241-01	LH18/24-SP650_120220	02 Dec 2020 14:00			08 Dec 2020 08:50	1
Batch ID: R374695 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20120241-02	LH18/24-SP650_120220-AIX	02 Dec 2020 14:00			15 Dec 2020 18:35	1
HS20120241-03	LH18/24-SP650_120220-Between	02 Dec 2020 14:00			15 Dec 2020 18:35	1
Batch ID: R374903 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20120241-01	LH18/24-SP650_120220	02 Dec 2020 14:00			18 Dec 2020 10:40	1

ALS Houston, US Date: 18-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20120241

QC BATCH REPORT

Batch ID: R374022 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

MBLK Sample ID: **MBLK-374022** Units: **mg/L** Analysis Date: **04-Dec-2020 12:01**
Client ID: Run ID: **UV-2450_374022** SeqNo: **5865364** 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-374022** Units: **mg/L** Analysis Date: **04-Dec-2020 12:01**
Client ID: Run ID: **UV-2450_374022** SeqNo: **5865365** 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)	0.258	0.0250	0.25	0	103	85 - 115				

MS Sample ID: **HS20120150-01MS** Units: **mg/L** Analysis Date: **04-Dec-2020 12:01**
Client ID: Run ID: **UV-2450_374022** SeqNo: **5865367** 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)	0.286	0.0250	0.25	0.016	108	80 - 120				

MSD Sample ID: **HS20120150-01MSD** Units: **mg/L** Analysis Date: **04-Dec-2020 12:01**
Client ID: Run ID: **UV-2450_374022** SeqNo: **5865368** 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)	0.284	0.0250	0.25	0.016	107	80 - 120	0.286	0.702	20	

The following samples were analyzed in this batch: HS20120241-01

ALS Houston, US Date: 18-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20120241

QC BATCH REPORT

Batch ID: R374117 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-374117** Units: **mg/L** Analysis Date: **08-Dec-2020 08:50**
Client ID: Run ID: **WetChem_HS_374117** SeqNo: **5867502** 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-374117** Units: **mg/L** Analysis Date: **08-Dec-2020 08:50**
Client ID: Run ID: **WetChem_HS_374117** SeqNo: **5867503** 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)	10.58	0.20	10	0	106	80 - 120				

MS Sample ID: **HS20120308-06MS** Units: **mg/L** Analysis Date: **08-Dec-2020 08:50**
Client ID: Run ID: **WetChem_HS_374117** SeqNo: **5867505** 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)	11.13	0.20	10	0.177	110	80 - 120				

MSD Sample ID: **HS20120308-06MSD** Units: **mg/L** Analysis Date: **08-Dec-2020 08:50**
Client ID: Run ID: **WetChem_HS_374117** SeqNo: **5867506** 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)	11.24	0.20	10	0.177	111	80 - 120	11.13	1.05	20	

The following samples were analyzed in this batch: HS20120241-01

ALS Houston, US Date: 18-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20120241**

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
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 18-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20120241

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20120241-01	LH18/24-SP650_120220	Login	12/4/2020 11:31:02 AM	JRM	WET139
HS20120241-01	LH18/24-SP650_120220	Login	12/4/2020 11:31:02 AM	JRM	WET139
HS20120241-01	LH18/24-SP650_120220	Login	12/4/2020 11:31:02 AM	JRM	Sub
HS20120241-02	LH18/24-SP650_120220-AIX	Login	12/4/2020 11:31:02 AM	JRM	Sub

ALS Houston, US Date: 18-Dec-20

Sample Receipt Checklist

Work Order ID: HS20120241 **Date/Time Received:** **04-Dec-2020 10:15**

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

Completed By:	/S/ Jared R. Makan	04-Dec-2020 11:33	**Reviewed by:**	/S/ RJ Modashia	04-Dec-2020 16:26
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐		
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐		
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑		
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑		
Chain of custody present?	Yes ☑	No ☐	1 Page(s)		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐			
Samplers name present on COC?	Yes ☑	No ☐			
Chain of custody agrees with sample labels?	Yes ☑	No ☐			
Samples in proper container/bottle?	Yes ☑	No ☐			
Sample containers intact?	Yes ☑	No ☐			
Sufficient sample volume for indicated test?	Yes ☑	No ☐			
All samples received within holding time?	Yes ☑	No ☐			
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐			
Temperature(s)/Thermometer(s):	1.3°C/1.3°C UC/C	IR25			
Cooler(s)/Kit(s):	46374				
Date/Time sample(s) sent to storage:	12/04/2020 11:34				
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑		
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐		
pH adjusted?	Yes ☐	No ☑	N/A ☐		
pH adjusted by:					

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

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

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE							Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_120220	Water	12/02/20 / 14:00		3	X	X									H2SO4	
LH18/24-SP650_120220	Water	12/02/20 / 14:00		1			X								NONE	
LH18/24–SP650_120220_AIX	Water	12/02/20 / 14:00		1				X							NONE	
LH18/24-SP650_120220_Between	Water	12/02/20 / 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	12/02/20	14:30									

For Lab Use Only

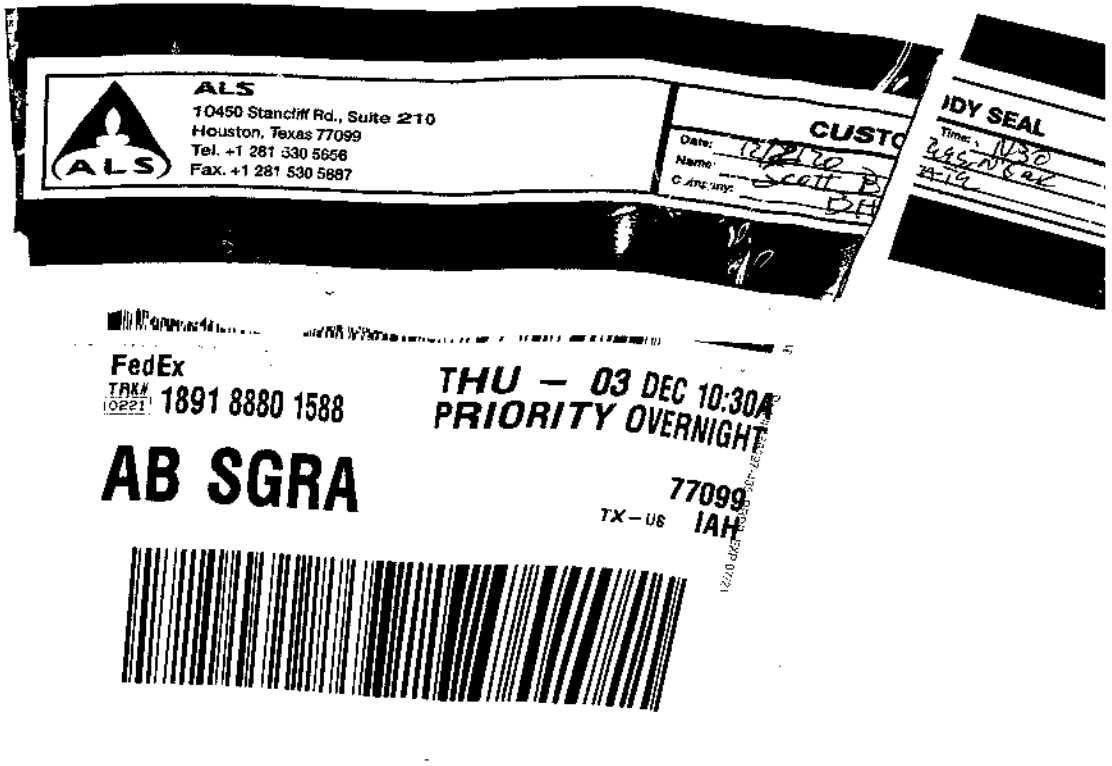
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Vincent	12/04/20	10:15							

Remarks:
Cooler 46374 1025
Temp 3°C CFO

HS20120241

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

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


ALS
10450 Stanciff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CUSTO
Date:
Name:
Company:
Scott B
DH
DY SEAL
Time:
N30
245 N Sal
FedEx
TRK# 0221 1891 8880 1588
THU – 03 DEC 10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX – US
IAH

December 15, 2020 Service Request No:E2001186

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

Laboratory Results for: HS20120241

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 04, 2020
For your reference, these analyses have been assigned our service request number **E2001186.**

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.:**	E2001186
Project:	HS20120241	**Date Received:**	12/04/20
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 II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two samples were received for analysis at ALS Environmental in Houston on 12/04/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000652: 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:**E2001186
Project: HS20120241

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2001186-001	LH18/24-SP650_120220-AIX	12/2/2020	1400
E2001186-002	LH18/24-SP650_120220-Between	12/2/2020	1400

Service Request Summary

Folder #: **E2001186**
Client Name: ALS Environmental - US
Project Name: HS20120241
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: 12/04/20
Internal Due Date: 12/18/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20120241
EDD: No EDD Specified

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-WIC 1E
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2001186-001	LH18/24-SP650_120220-AIX	Water	12/02/20 1400	**IV**
E2001186-002	LH18/24-SP650_120220-Between	Water	12/02/20 1400	**IV**

Service Request Summary

Folder #: **E2001186**
Client Name: ALS Environmental - US
Project Name: HS20120241
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: 12/04/20
Internal Due Date: 12/18/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20120241
EDD: No EDD Specified

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-WIC 1E
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	2	level II 12/18,level IV due 12/28

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

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

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:** **15270**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

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

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20120241
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120241-02**	**LH18/24-SP650_120220-AIX**	**Water**	**02 Dec 2020 14:00**
	Provide Level II and Level IV reports in separate pdf			17 Dec 2020
2.	**HS20120241-03**	**LH18/24-SP650_120220-Between**	**Water**	**02 Dec 2020 14:00**
	Provide Level II and Level IV reports in separate pdf			17 Dec 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. Jumoke Date/Time: 12/4/20 12:05

Received By: [illegible] Date/Time: 12/4/20 1205

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALH-T1

Thermometer ID 1231

Date/Time Received: 12/4/20 Initials: CH Date/Time Logged in: 12/4/20 Initials CH

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ Courier (ALH) ○ 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?
NA		12/4/20	1205	CH	1.9	X
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

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

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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

Preparation Information Benchsheet

Prep Run#: 371244 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/9/20 13:32

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2001169-001	LH18/24-SP650_112420_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2001170-001	LH18/24-SP140_112420	.01	6850/ClO4 DOD			Water	10mL	
3	E2001171-001	LH18/24-SP650_112420_AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2001182-001	HBW7_120320	.01	6850/ClO4 DOD			Water	10mL	
5	E2001182-002	HBW10_120320	.01	6850/ClO4 DOD			Water	10mL	
6	E2001182-003	HBW1_120320	.01	6850/ClO4 DOD			Water	10mL	
7	E2001182-004	HBW1_120320_a	.01	6850/ClO4 DOD			Water	10mL	
8	E2001182-005	GPW1_120320	.01	6850/ClO4 DOD			Water	10mL	
9	E2001182-006	GPW3_120320	.01	6850/ClO4 DOD			Water	10mL	
10	E2001186-001	LH18/24-SP650_120220-AIX	.01	6850/ClO4 DOD			Water	10mL	
11	E2001186-002	LH18/24-SP650_120220-Between	.01	6850/ClO4 DOD			Water	10mL	
12	EQ2000652-01	MB		6850/ClO4 DOD			Liquid	10mL	
13	EQ2000652-02	LCS		6850/ClO4 DOD			Liquid	10mL	
14	EQ2000652-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2000652-01 1.00µL EQ2000652-02 1.00µL EQ2000652-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 214133 Logbook Ref: Sodium Perchlorate Expires On: 08/13/2022

E2001169-001 100.00µL E2001170-001 100.00µL E2001171-001 100.00µL E2001182-001 100.00µL E2001182-002 100.00µL E2001182-003 100.00µL
E2001182-004 100.00µL E2001182-005 100.00µL E2001182-006 100.00µL E2001186-001 100.00µL E2001186-002 100.00µL EQ2000652-01 100.00µL
EQ2000652-02 100.00µL EQ2000652-03 100.00µL

Preparation Steps

Step: Preparation
Started: 12/9/20 13:32
Finished: 12/9/20 15:00
By: GRIVERA
Comments

Comments:

Preparation Information Benchsheet

Prep Run#: 371244
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/9/20 13:32

Reviewed By: GR Date: 12/9/20

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001186
Project:	HS20120241	**Date Collected:**	12/ 2/20 1400
Sample Matrix:	Water	**Date Received:**	12/ 4/20
Sample Name:	LH18/24-SP650_120220-AIX	**Units:**	µg/L
Lab Code:	E2001186-001	**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	0.500	0.250	0.125	5	12/ 9/20	12/14/20 11:01	371244	706941	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001186
Project:	HS20120241	**Date Collected:**	12/ 2/20 1400
Sample Matrix:	Water	**Date Received:**	12/ 4/20
Sample Name:	LH18/24-SP650_120220-Between	**Units:**	µg/L
Lab Code:	E2001186-002	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**3.17**		0.500	0.250	0.125	5	12/ 9/20	12/14/20 11:09	371244	706941	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001186
Project:	HS20120241	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000652-01	**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	12/ 9/20	12/13/20 20:09	371244	706933	

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: HS20120241
Sample Matrix: Water

Service Request: E2001186
Date Analyzed: 12/13/20

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: 371244

	Lab Control Sample EQ2000652-02			Duplicate Lab Control Sample EQ2000652-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.112	0.100	112	0.111	0.100	111	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:**	E2001186
Project:	HS20120241	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000652-02	**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	**0.112**		0.100	0.0500	0.0250	1	12/ 9/20	12/13/20 20:17	371244	706933	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001186
Project:	HS20120241	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000652-03	**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	**0.111**		0.100	0.0500	0.0250	1	12/ 9/20	12/13/20 20:25	371244	706933	

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

December 17, 2020 **Analytical Report for Service Request No:** K2011420

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

RE: ALS Houston DOD TOC

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 08, 2020
For your reference, these analyses have been assigned our service request number **K2011420.**

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

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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

Acronyms
Qualifiers
State Certifications, Accreditations, And Licenses
Case Narrative
Chain of Custody
General Chemistry

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
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

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

Service Request: K2011420
Date Received: 12/08/2020

CASE NARRATIVE

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

Sample Receipt:

One water sample was received for analysis at ALS Environmental on 12/08/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Sydney A Wolfe Date 12/17/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

K2011420

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:** **15269**

SUBCONTRACT TO:

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

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

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

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20120241
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120241-01**	**LH18/24-SP650_120220**	**Water**	**02 Dec 2020 14:00**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			17 Dec 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: 12/7/2020 1800

Received By: _____ Date/Time: 12/8/20 1000

Cooler ID(s): _____ Temperature(s): _____

PM KL

Cooler Receipt and Preservation Form

ient AS Houston Service Request K20 11420

ceived: 12/8/20 Opened: 12/8/20 By: AP Unloaded: 12/8/20 By: AP

Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*

Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*

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

Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column below:

If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":

Were samples received within the method specified temperature ranges? NA (Y) N

If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. (NA) Y N

pplicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

emp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
L.1	—	IR02	15269	—	—	1891 8883 4329	

Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____

Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N

Were samples received in good condition (unbroken) NA (Y) N

Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N

. Did all sample labels and tags agree with custody papers? NA (Y) N

. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N

. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N

. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N

. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

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

lotes, Discrepancies, Resolutions: _____

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2011420
Project:	ALS Houston DOD TOC	**Date Collected:**	12/2/20
Sample Matrix:	Water	**Date Received:**	12/8/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
LH18/24-SP650_120220	K2011420-001	**1.14**	0.50	0.20	0.07	1	12/16/20 14:30	
Method Blank	K2011420-MB	ND U	0.50	0.20	0.07	1	12/16/20 14:30	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011420
Project:	ALS Houston DOD TOC	**Date Analyzed:**	12/16/20
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:	707179

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2011420-LCS	24.2	25.0	97	83-117

HS20120241 Wet Chem Raw Data (NIT-AMM_W- E350.3 - ISE)

ALS WO# HS20120241

NIT-AMN-ISE_W-3503.

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Logbook **31514**

Ion Selective Electrode Logbook

Analyst: MD	Date: 12/8/20 8:50AM
Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F	

Probe Calibration Date: 12/8/20		Cal Std ID: 315013101(01-08)		Probe ID: X01-11806		
Std Level		mV	Conc., mg/L:	Sodium Thiosulfate ID:		
STD 1 (mg/L):	0.2	141.1	0.203	Std Level	mV	Conc., mg/L:
STD 2 (mg/L):	1	101.2	1.016	STD 4 (mg/L): 10	39.6	10.048
STD 3 (mg/L):	5	57.6	5.038	STD 5 (mg/L): 50	-4.1	50.001
LSC / MS Spike ID: 3100602922				ICAL Date & Slope:		
ICV Cal STD ID: 31501 3101				101.0 % / -60.0 mV		
DPD Reagent ID: 3100602819						

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		10.169			
CCB					0.009			
MBLK					0.010			
LCS					10.584			
HS201202 41-01					0.478		-ve	
250-01					5.371		+ve	Rechecked
308-06					0.177		-ve	
308-06MS					11.128			
308-06 MSD					11.245			
348-01		1ml		50X	11.775		+ve	
348-02				50X	8.824		+ve	
348-03				5X	1.193		-ve	limited sample volume
CCV		50ml			10.089			
CCB					0.008			

Batch ID: 374117 / 374119	Reported By: MD	Reviewed By: KL

©2018 ALS Laboratory Group

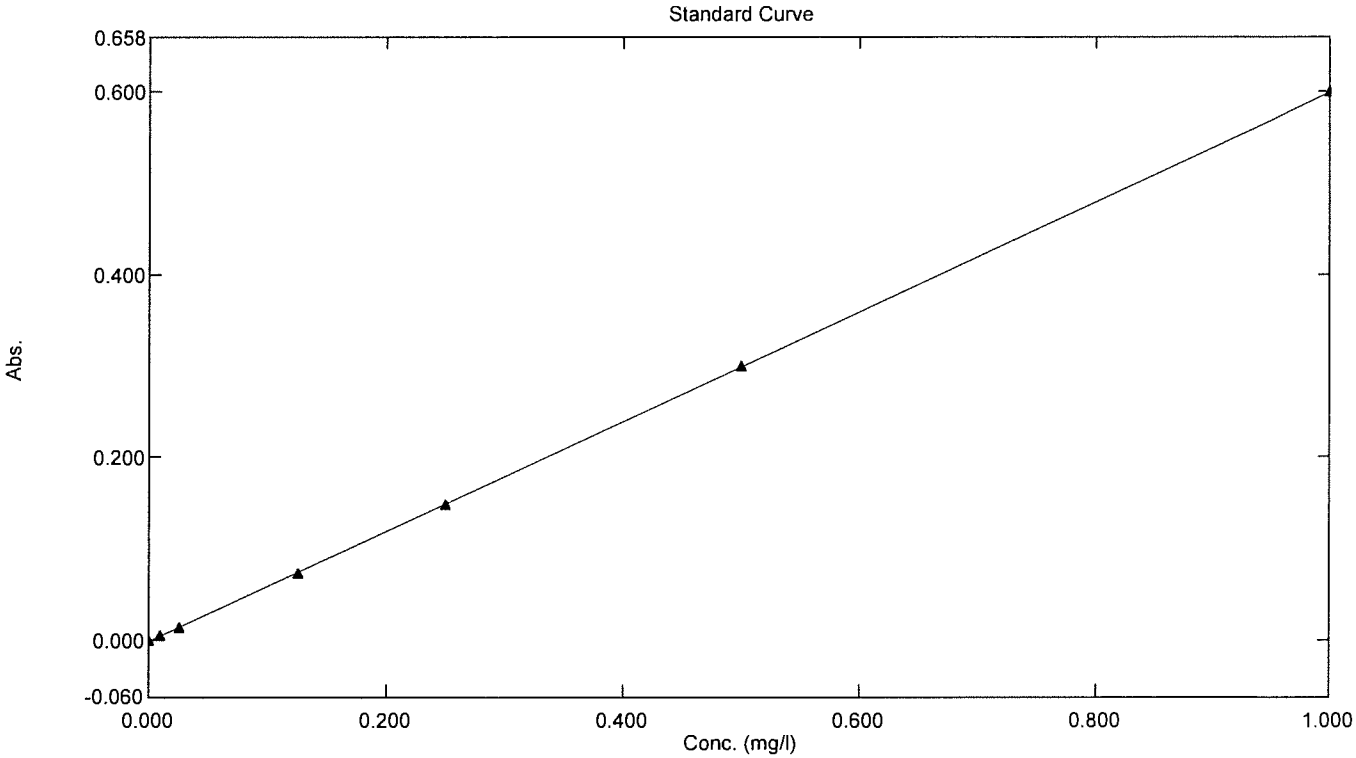
HS20120241 Wet Chem Raw Data (P-ORTHO)

ALS WO# HS20120241

Standard Table Report

12/18/2020 04:32:17 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\12042020_P_ORTHO_W.p



Correlation Coefficient r2 = 0.99999

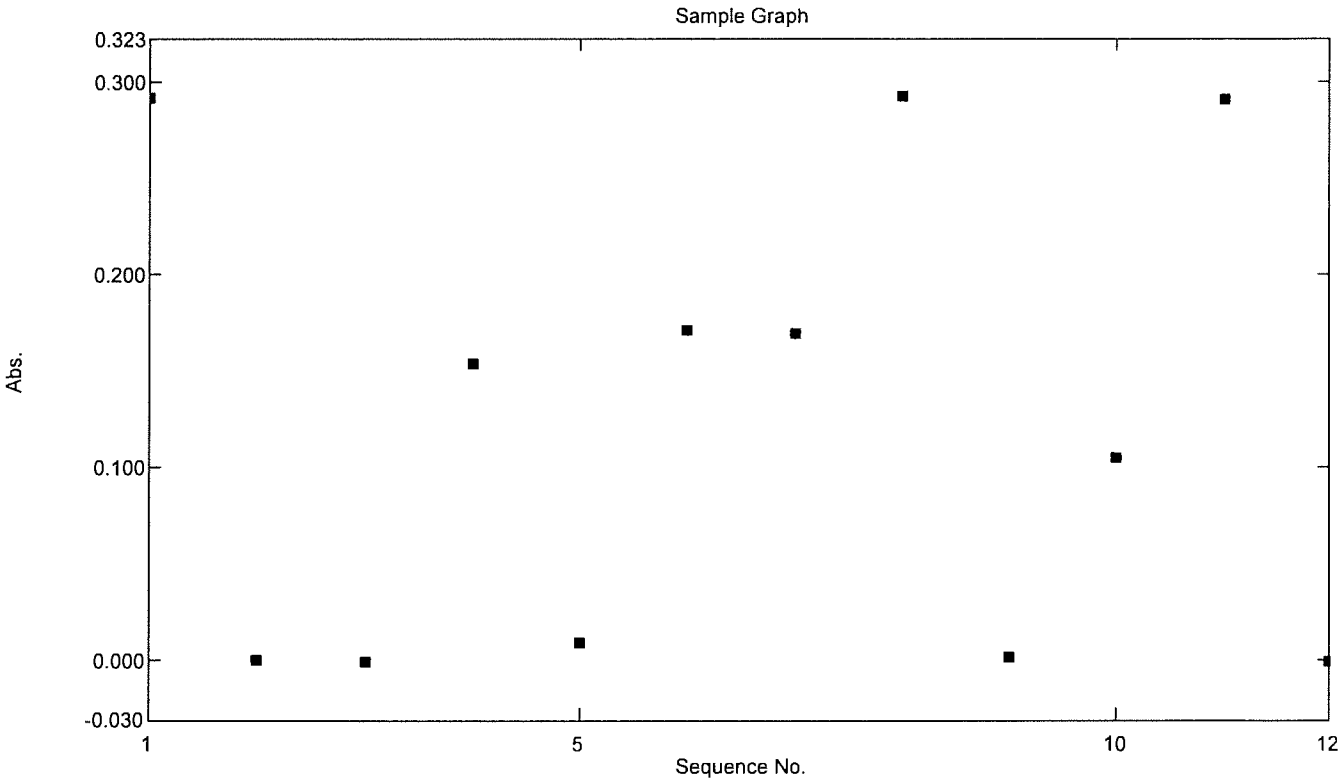
Standard Table

	Sample ID	Type	Ex	Conc	WL880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	0.000	1.000	
2	STD2	Standard		0.010	0.007	1.000	
3	STD3	Standard		0.025	0.015	1.000	
4	STD4	Standard		0.125	0.074	1.000	
5	STD5	Standard		0.250	0.148	1.000	
6	STD6	Standard		0.500	0.300	1.000	
7	STD7	Standard		1.000	0.599	1.000	
8							

Sample Table Report

12/18/2020 04:32:24 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\12042020_P_ORTHO_W.



Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.488	0.292	3105012501 WC-14
2	CCB	Unknown		0.000	-0.000	
3	MBLK	Unknown		-0.001	-0.001	
4	LCS	Unknown		0.258	0.154	315012412 WC-14
5	HS20120150.01	Unknown		0.016	0.009	08:06AM
6	HS20120150.01MS	Unknown		0.286	0.171	08:06AM
7	HS20120150.01MS	Unknown		0.284	0.170	08:06AM
8	CCV2	Unknown		0.490	0.293	
9	CCB2	Unknown		0.003	0.001	C-315012903 UV-11
10	HS20120241.01	Unknown		0.176	0.105	120:01PM,PF:10X
11	CCV3	Unknown		0.487	0.291	
12	CCB3	Unknown		-0.001	-0.001	
13						

HS20120241 ALS Kelso Report K2011420_Tier IV

ALS WO# HS20120241

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

December 17, 2020 **Analytical Report for Service Request No:** K2011420

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

RE: ALS Houston DOD TOC

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 08, 2020
For your reference, these analyses have been assigned our service request number **K2011420.**

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

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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

Acronyms
Qualifiers
State Certifications, Accreditations, And Licenses
Case Narrative
Chain of Custody
General Chemistry
Raw Data
    General Chemistry

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
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

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

Service Request: K2011420
Date Received: 12/08/2020

CASE NARRATIVE

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

Sample Receipt:

One water sample was received for analysis at ALS Environmental on 12/08/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Sydney A Wolf Date 12/17/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

K2011420

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:** **15269**

SUBCONTRACT TO:

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

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

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

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20120241
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120241-01**	**LH18/24-SP650_120220**	**Water**	**02 Dec 2020 14:00**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			17 Dec 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: 12/7/2020 1800

Received By: NReadersen Date/Time: 12/8/20 1000

Cooler ID(s): _____ Temperature(s): _____

PM KL

Cooler Receipt and Preservation Form

ient AS Houston Service Request K20 11420

ceived: 12/8/20 Opened: 12/8/20 By: AP Unloaded: 12/8/20 By: AP

Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*

Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*

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

Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column below:

If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":

Were samples received within the method specified temperature ranges? NA (Y) N

If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. (NA) Y N

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

emp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
1.1	—	IR02	15269	—	—	1891 8883 4329	

Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____

Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N

Were samples received in good condition (unbroken) NA (Y) N

Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N

. Did all sample labels and tags agree with custody papers? NA (Y) N

. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N

. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N

. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N

. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

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

lotes, Discrepancies, Resolutions: _____

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2011420
Project:	ALS Houston DOD TOC	**Date Collected:**	12/2/20
Sample Matrix:	Water	**Date Received:**	12/8/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
LH18/24-SP650_120220	K2011420-001	**1.14**	0.50	0.20	0.07	1	12/16/20 14:30	
Method Blank	K2011420-MB	ND U	0.50	0.20	0.07	1	12/16/20 14:30	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011420
Project:	ALS Houston DOD TOC	**Date Analyzed:**	12/16/20
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:	707179

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2011420-LCS	24.2	25.0	97	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2011420
Project: ALS Houston DOD TOC

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	707179	KQ2020319-01	12/16/20 14:30	25.0	25.5	102	90-110
CCV2	707179	KQ2020319-02	12/16/20 14:30	25.0	25.3	101	90-110
CCV3	707179	KQ2020319-03	12/16/20 14:30	25.0	26.4	106	90-110
CCV4	707179	KQ2020319-04	12/16/20 14:30	25.0	24.8	99	90-110
CCV5	707179	KQ2020319-05	12/16/20 14:30	25.0	24.8	99	90-110
CCV6	707179	KQ2020319-06	12/16/20 14:30	25.0	25.1	100	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2011420
Project: ALS Houston DOD TOC

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	707179	KQ2020319-07	12/16/20 14:30	0.50	0.20	0.07	ND	U
CCB2	707179	KQ2020319-08	12/16/20 14:30	0.50	0.20	0.07	ND	U
CCB3	707179	KQ2020319-09	12/16/20 14:30	0.50	0.20	0.07	ND	U
CCB4	707179	KQ2020319-10	12/16/20 14:30	0.50	0.20	0.07	ND	U
CCB5	707179	KQ2020319-11	12/16/20 14:30	0.50	0.20	0.07	0.30	J
CCB6	707179	KQ2020319-12	12/16/20 14:30	0.50	0.20	0.07	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2011420
Project:	ALS Houston DOD TOC	**Date Collected:**	12/2/20
Sample Matrix:	Water	**Date Received:**	12/8/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
LH18/24-SP650_120220	K2011420-001	**1.14**	0.50	0.20	0.07	1	12/16/20 14:30	
Method Blank	K2011420-MB	ND U	0.50	0.20	0.07	1	12/16/20 14:30	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011420
Project:	ALS Houston DOD TOC	**Date Analyzed:**	12/16/20
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:	707179

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2011420-LCS	24.2	25.0	97	83-117

Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Work Request # Original ( ) K2011074,1079,1151,1176,1194,1317,1336,1420,1453

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

Date Analyzed: 12/16/20

Analyst: MAS Run # 707179

Analysis: SM 5310 C/TOC T

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:

Low recovery on Matrix Spike, Matrix interference

Final Approved by: _____ Date: 12/17/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** MSPECHT **Analysis Lot:** 707179 **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
K2011074-007	Carbon, Total Organic	N/A		Water	0.82 mg/L	10 mL	0.82 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	II
K2011074-008	Carbon, Total Organic	N/A		Water	0.66 mg/L	10 mL	0.66 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	II
K2011074-009	Carbon, Total Organic	N/A		Water	0.59 mg/L	10 mL	0.59 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	II
K2011074-010	Carbon, Total Organic	N/A		Water	1.10 mg/L	10 mL	1.10 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	II
K2011074-011	Carbon, Total Organic	N/A		Water	9.98 mg/L	10 mL	9.98 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	II
K2011074-013	Carbon, Total Organic	N/A		Water	4.03 mg/L	10 mL	4.03 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	II
K2011079-001	Carbon, Total Organic	N/A		Water	1.44 mg/L	10 mL	1.44 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	I
K2011151-001	Carbon, Total Organic	N/A		Drinking Water	0.33 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/16/20 14:30:00	N	I
K2011176-001	Carbon, Total Organic	N/A		Water	7.89 mg/L	10 mL	7.89 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	II
K2011194-001	Carbon, Total Organic	N/A		Drinking Water	0.40 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/16/20 14:30:00	N	II
K2011194-003	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/16/20 14:30:00	N	II
K2011317-001	Carbon, Total Organic	N/A		Ground Water	19.98 mg/L	10 mL	99.9 mg/L	5	0.4	2.5			12/16/20 14:30:00	N	IV
K2011317-002	Carbon, Total Organic	N/A		Ground Water	16.50 mg/L	10 mL	165 mg/L	10	0.7	5.0			12/16/20 14:30:00	N	IV
K2011317-003	Carbon, Total Organic	N/A		Ground Water	3.63 mg/L	10 mL	3.63 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	IV
K2011317-004	Carbon, Total Organic	N/A		Ground Water	3.81 mg/L	10 mL	3.81 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	IV
K2011317-005	Carbon, Total Organic	N/A		Ground Water	8.67 mg/L	10 mL	8.67 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	IV
K2011336-001	Carbon, Total Organic	N/A		Water	4.38 mg/L	10 mL	4.38 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	II
K2011336-003	Carbon, Total Organic	N/A		Water	2.81 mg/L	10 mL	2.81 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	II
K2011420-001	Carbon, Total Organic	N/A		Water	1.14 mg/L	10 mL	1.14 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	IV
K2011453-001	Carbon, Total Organic	N/A		Water	0.65 mg/L	10 mL	0.65 mg/L	1	0.07	0.50			12/16/20 14:30:00	N	II
KQ2020319-01	Carbon, Total Organic	CCV		Water	25.52 mg/L	10 mL	25.5 mg/L	1					12/16/20 14:30:00	N	II
KQ2020319-02	Carbon, Total Organic	CCV		Water	25.30 mg/L	10 mL	25.3 mg/L	1					12/16/20 14:30:00	N	II
KQ2020319-03	Carbon, Total Organic	CCV		Water	26.43 mg/L	10 mL	26.4 mg/L	1					12/16/20 14:30:00	N	II
KQ2020319-04	Carbon, Total Organic	CCV		Water	24.82 mg/L	10 mL	24.8 mg/L	1					12/16/20 14:30:00	N	II
KQ2020319-05	Carbon, Total Organic	CCV		Water	24.83 mg/L	10 mL	24.8 mg/L	1					12/16/20 14:30:00	N	II
KQ2020319-06	Carbon, Total Organic	CCV		Water	25.07 mg/L	10 mL	25.1 mg/L	1					12/16/20 14:30:00	N	II
KQ2020319-07	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/16/20 14:30:00	N	II
KQ2020319-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/16/20 14:30:00	N	II
KQ2020319-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/16/20 14:30:00	N	II
KQ2020319-10	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/16/20 14:30:00	N	II
KQ2020319-11	Carbon, Total Organic	CCB		Water	0.30 mg/L	10 mL	0.30 mg/L J	1	0.07	0.50			12/16/20 14:30:00	N	II
KQ2020319-12	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/16/20 14:30:00	N	II
KQ2020319-13	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/16/20 14:30:00	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:** MSPECHT **Analysis Lot:** 707179 **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
KQ2020319-14	Carbon, Total Organic	LCS		Water	24.24 mg/L	10 mL	24.2 mg/L	1	0.07	0.50	97		12/16/20 14:30:00	N	II
KQ2020319-15	Carbon, Total Organic	MS	K2011317-005	Ground Water	28.88 mg/L	10 mL	28.9 mg/L	1	0.07	0.50	81*		12/16/20 14:30:00	N	IV
KQ2020319-16	Carbon, Total Organic	DUP	K2011317-005	Ground Water	8.57 mg/L	10 mL	8.57 mg/L	1	0.07	0.50		1	12/16/20 14:30:00	N	IV

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

Schedule: 12162020A

Version: 3
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/12/16 14:30 - Wednesday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	False	Ready
(Clean)	Clean	Clean		1	False	Ready
(Clean)	Clean	Clean		1	False	Ready
(Blank)	Blank	Reagent/Acid Blank		1	False	Ready
A	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	False	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	K2011074-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2011074-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2011074-009	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2011074-010	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2011074-011	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2011074-013	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2011079-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2011151-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2011176-001 10X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2011194-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2011194-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2011317-001 5X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2011317-002 10X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2011317-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2011317-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2011317-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2011317-005 DUP	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
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2011317-005 MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2011336-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2011336-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2011420-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2011453-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
27	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
28	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
29	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
30	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
31	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
32	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
33	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
34	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
35	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
36	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
37	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
38	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
39	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready

Schedule: 12162020A

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
40	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
41	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	False	Ready
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	False	Ready
					False	

Fusion Report - 12162020A
Wednesday, December 16, 2020 02:30 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/12/17 09:58 - Thursday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	12162020A	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: 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)	25.5161 ppm (PASS)	0.0000 ppm	0%	2020/12/16 14:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.5161	255.1609	188.88	201.36	12.48	50.44	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
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/16 14:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	7.09	19.91	12.82	50.41	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos A
Success - Criteria	Do Nothing	CAS_salt_010711	CAS_salt_010711	0 ppmC

met.	(v4)	(v38)

Sample Type: Sample — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	ICS	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/16 15:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	9.08	21.57	12.48	50.41	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/16 15:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.75	19.15	12.40	50.41	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.2426 ppm (PASS)	0.0000 ppm	0%	2020/12/16 15:29

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.2426	242.4264	179.95	192.43	12.48	50.44	10:29

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

Sample Type: Sample — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2011074-007	0.8229 ppm	0.0085 ppm	1.0300%	2020/12/16 15:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8288	8.2885	15.09	27.59	12.50	50.41	10:25
2	TOC	0.8169	8.1687	15.00	27.52	12.52	50.46	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2011074-008	0.6550 ppm	0.0152 ppm	2.3200%	2020/12/16 16:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6658	6.6576	13.94	26.59	12.64	50.45	10:29
2	TOC	0.6442	6.4424	13.79	26.28	12.49	50.48	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2011074-009	0.5933 ppm	0.0118 ppm	1.9900%	2020/12/16 16:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6016	6.0161	13.49	25.81	12.32	50.49	10:25
2	TOC	0.5849	5.8494	13.38	25.87	12.49	50.46	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2011074-010	1.0993 ppm	0.0275 ppm	2.5000%	2020/12/16 17:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1188	11.1880	17.12	29.46	12.34	50.44	10:28
2	TOC	1.0799	10.7989	16.85	29.22	12.38	50.43	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2011074-011	9.9813 ppm	0.0974 ppm	0.9800%	2020/12/16 17:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.9125	99.1246	78.81	91.08	12.27	50.42	10:26
2	TOC	10.0502	100.5017	79.77	92.28	12.51	50.42	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2011074-013	4.0281 ppm	0.0409 ppm	1.0200%	2020/12/16 18:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.0570	40.5701	37.73	50.26	12.53	50.42	10:28
2	TOC	3.9991	39.9913	37.33	49.79	12.47	50.41	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2011079-001	1.4445 ppm	0.0227 ppm	1.5700%	2020/12/16 18:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4605	14.6051	19.52	32.01	12.49	50.41	10:29
2	TOC	1.4284	14.2843	19.29	31.75	12.46	50.40	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	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)	25.2970 ppm (PASS)	0.0000 ppm	0%	2020/12/16 19:00

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.2970	252.9698	187.35	199.97	12.62	50.39	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
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/16 19:15

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	7.02	19.50	12.48	50.39	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos A
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	K2011151-001	0.3344 ppm	0.0559 ppm	16.7300%	2020/12/16 19:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2948	2.9484	11.34	23.95	12.61	50.38	10:32
2	TOC	0.3740	3.7395	11.90	24.24	12.34	50.38	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2011176-001 10X	0.3723 ppm	0.0132 ppm	3.5500%	2020/12/16 19:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3817	3.8165	11.95	24.52	12.57	50.39	10:29
2	TOC	0.3630	3.6298	11.82	24.30	12.48	50.40	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2011194-001	0.3989 ppm	0.0077 ppm	1.9200%	2020/12/16 20:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3935	3.9348	12.03	24.47	12.43	50.38	10:30
2	TOC	0.4043	4.0432	12.11	24.57	12.46	50.39	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2011194-003	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/16 20:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.28	19.67	12.39	50.40	10:29
2	TOC	0.0000	0.0000	7.33	19.83	12.50	50.40	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2011317-001 5X	19.9777 ppm	0.1365 ppm	0.6800%	2020/12/16 21:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	19.8812	198.8121	148.74	161.32	12.58	50.40	10:26
2	TOC	20.0742	200.7423	150.09	162.73	12.64	50.41	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2011317-002 10X	16.5042 ppm	0.0109 ppm	0.0700%	2020/12/16 21:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.5119	165.1191	125.10	137.51	12.41	50.40	10:31
2	TOC	16.4965	164.9652	124.99	137.64	12.64	50.42	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2011317-003	3.6310 ppm	0.0846 ppm	2.3300%	2020/12/16 22:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.6908	36.9079	35.16	47.52	12.36	50.45	10:30
2	TOC	3.5712	35.7118	34.32	46.75	12.42	50.43	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2011317-004	3.8091 ppm	0.0065 ppm	0.1700%	2020/12/16 22:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.8137	38.1367	36.03	48.59	12.57	50.46	10:32
2	TOC	3.8045	38.0454	35.96	48.60	12.64	50.47	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2011317-005	8.6720 ppm	0.0934 ppm	1.0800%	2020/12/16 23:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.7381	87.3809	70.57	82.76	12.20	50.46	10:30
2	TOC	8.6059	86.0595	69.64	82.22	12.58	50.49	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2011317-005 DUP	8.5730 ppm	0.0643 ppm	0.7500%	2020/12/16 23:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.6185	86.1849	69.73	82.38	12.65	50.48	10:29
2	TOC	8.5275	85.2754	69.09	81.73	12.64	50.53	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	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)	26.4289 ppm (PASS)	0.0000 ppm	0%	2020/12/17 00:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.4289	264.2887	195.29	207.69	12.40	50.64	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
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/17 00:25

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	9.72	22.23	12.51	50.73	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos A
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%	2020/12/17 00:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	0.0000	0.0000	7.48	20.16	12.68	50.70	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.1689 ppm (PASS)	0.0000 ppm	0%	2020/12/17 00:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.1689	241.6894	179.43	192.11	12.67	50.73	10:32

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

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	K2011317-005 MS	28.8768 ppm	0.1376 ppm	0.4800%	2020/12/17 01:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.9741	289.7409	212.52	225.06	12.53	50.76	10:28
2	TOC	28.7795	287.7950	211.16	223.82	12.67	50.77	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2011336-001	4.3825 ppm	0.5896 ppm	13.4500%	2020/12/17 01:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.7994	47.9944	42.94	55.64	12.70	50.81	10:25
2	TOC	3.9656	39.6563	37.09	49.75	12.66	50.80	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2011336-003	2.8094 ppm	0.0076 ppm	0.2700%	2020/12/17 02:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	2.8148	28.1478	29.02	41.75	12.73	50.84	10:26
2	TOC	2.8041	28.0409	28.94	41.68	12.74	50.82	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	K2011420-001	1.1396 ppm	0.0288 ppm	2.5300%	2020/12/17 02:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1600	11.6000	17.41	30.20	12.79	50.86	10:27
2	TOC	1.1192	11.1923	17.12	30.07	12.95	50.88	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2011453-001	0.6456 ppm	0.0311 ppm	4.8200%	2020/12/17 03:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6676	6.6762	13.96	26.81	12.86	50.86	10:26
2	TOC	0.6236	6.2357	13.65	26.47	12.83	50.88	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	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)	24.8224 ppm (PASS)	0.0000 ppm	0%	2020/12/17 03:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8224	248.2242	184.02	196.94	12.92	50.87	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
◈	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/17 03:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	6.86	19.68	12.83	50.89	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos A
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
v1495	1.8497	-0.0560	0.0000	0.0000	0.0000	2020/12/16 11:47	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	2020/12/17 04:00

Fusion Report - 12162020B
Thursday, December 17, 2020 10:04 AM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/12/17 11:56 - Thursday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	12162020B	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v1)		
Comment:			

Report Results

Sample Type: Sample — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	A	TOC	RB	0.2943 ppm	0.0000 ppm	0.0000%	2020/12/17 10:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2943	2.9427	11.34	24.39	13.05	50.68	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm — From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◉	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8331 ppm (PASS)	0.0000 ppm	0%	2020/12/17 10:19

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8331	248.3311	184.09	196.86	12.77	50.65	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 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.2962 ppm (PASS)	0.0000 ppm	0%	2020/12/17 10:33

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.2962	2.9622	11.97	25.04	13.07	50.63	10:33

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

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2011176-001 1X	7.8948 ppm	0.1112 ppm	1.4100%	2020/12/17 10:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.8162	78.1619	64.10	76.95	12.85	50.66	10:25
2	TOC	7.9734	79.7343	65.20	77.94	12.73	50.68	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2728 (IC) (v1495)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0706 ppm (PASS)	0.0000 ppm	0%	2020/12/17 11:16

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0706	250.7061	185.76	198.63	12.87	50.72	10:31

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

Sample Type: Check Standard --> CCB From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/17 11:31

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	7.18	20.17	13.00	50.77	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos A
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
v1495	1.8497	-0.0560	0.0000	0.0000	0.0000	2020/12/16 11:47	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	2020/12/17 11:46

ALS Environmental

StarLIMS Run: 707179

Analysis: DOC/TOC

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

CCV: 19-GEN-8-55J 50 ppm LCS: 19-GEN-8-57K 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-58F

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-55I 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-61M

21 % H3PO4: 19-GEN-08-61L

Equipment ID: K-TOC-03

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

FILTER ID: 16967789

Analyzed By: MAS	Date Analyzed: 12/16/2020
Reviewed By:	Date Reviewed: 12/17/20

HS20120241 - Sub Perch Report IV (E2001186)

ALS WO# HS20120241

December 15, 2020 Service Request No:E2001186

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

Laboratory Results for: HS20120241

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 04, 2020
For your reference, these analyses have been assigned our service request number **E2001186.**

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.:**	E2001186
Project:	HS20120241	**Date Received:**	12/04/20
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

Two samples were received for analysis at ALS Environmental in Houston on 12/04/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000652: 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:**E2001186
Project: HS20120241

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2001186-001	LH18/24-SP650_120220-AIX	12/2/2020	1400
E2001186-002	LH18/24-SP650_120220-Between	12/2/2020	1400

Service Request Summary

Folder #: **E2001186**
Client Name: ALS Environmental - US
Project Name: HS20120241
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: 12/04/20
Internal Due Date: 12/18/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20120241
EDD: No EDD Specified

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-WIC 1E
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2001186-001	LH18/24-SP650_120220-AIX	Water	12/02/20 1400	**IV**
E2001186-002	LH18/24-SP650_120220-Between	Water	12/02/20 1400	**IV**

Service Request Summary

Folder #: **E2001186**
Client Name: ALS Environmental - US
Project Name: HS20120241
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: 12/04/20
Internal Due Date: 12/18/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20120241
EDD: No EDD Specified

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-WIC 1E
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	2	level II 12/18,level IV due 12/28

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

State Certifications, Accreditations, and Licenses

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

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: 15270**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

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

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20120241
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120241-02**	**LH18/24-SP650_120220-AIX**	**Water**	**02 Dec 2020 14:00**
	Provide Level II and Level IV reports in separate pdf			17 Dec 2020
2.	**HS20120241-03**	**LH18/24-SP650_120220-Between**	**Water**	**02 Dec 2020 14:00**
	Provide Level II and Level IV reports in separate pdf			17 Dec 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. Innegan Date/Time: 12/4/20 1205

Received By: [illegible] Date/Time: 12/4/20 1205

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALH-T1

Thermometer ID 1031

Date/Time Received: 12/4/20 Initials: CH

Date/Time Logged in: 12/4/20 Initials CH

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ Courier (ALH) ○ 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?
NA		12/4/20	1205	CH	1.9	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

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#: 371244 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/9/20 13:32

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2001169-001	LH18/24-SP650_112420_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2001170-001	LH18/24-SP140_112420	.01	6850/ClO4 DOD			Water	10mL	
3	E2001171-001	LH18/24-SP650_112420_AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2001182-001	HBW7_120320	.01	6850/ClO4 DOD			Water	10mL	
5	E2001182-002	HBW10_120320	.01	6850/ClO4 DOD			Water	10mL	
6	E2001182-003	HBW1_120320	.01	6850/ClO4 DOD			Water	10mL	
7	E2001182-004	HBW1_120320_a	.01	6850/ClO4 DOD			Water	10mL	
8	E2001182-005	GPW1_120320	.01	6850/ClO4 DOD			Water	10mL	
9	E2001182-006	GPW3_120320	.01	6850/ClO4 DOD			Water	10mL	
10	E2001186-001	LH18/24-SP650_120220-AIX	.01	6850/ClO4 DOD			Water	10mL	
11	E2001186-002	LH18/24-SP650_120220-Between	.01	6850/ClO4 DOD			Water	10mL	
12	EQ2000652-01	MB		6850/ClO4 DOD			Liquid	10mL	
13	EQ2000652-02	LCS		6850/ClO4 DOD			Liquid	10mL	
14	EQ2000652-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2000652-01 1.00µL EQ2000652-02 1.00µL EQ2000652-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 214133 Logbook Ref: Sodium Perchlorate Expires On: 08/13/2022

E2001169-001 100.00µL E2001170-001 100.00µL E2001171-001 100.00µL E2001182-001 100.00µL E2001182-002 100.00µL E2001182-003 100.00µL
E2001182-004 100.00µL E2001182-005 100.00µL E2001182-006 100.00µL E2001186-001 100.00µL E2001186-002 100.00µL EQ2000652-01 100.00µL
EQ2000652-02 100.00µL EQ2000652-03 100.00µL

Preparation Steps

Step: Preparation
Started: 12/9/20 13:32
Finished: 12/9/20 15:00
By: GRIVERA
Comments

Comments:

Preparation Information Benchsheet

Prep Run#: 371244
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/9/20 13:32

Reviewed By: GR Date: 12/9/20

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001186
Project:	HS20120241	**Date Collected:**	12/ 2/20 1400
Sample Matrix:	Water	**Date Received:**	12/ 4/20
Sample Name:	LH18/24-SP650_120220-AIX	**Units:**	µg/L
Lab Code:	E2001186-001	**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	0.500	0.250	0.125	5	12/ 9/20	12/14/20 11:01	371244	706941	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001186
Project:	HS20120241	**Date Collected:**	12/ 2/20 1400
Sample Matrix:	Water	**Date Received:**	12/ 4/20
Sample Name:	LH18/24-SP650_120220-Between	**Units:**	µg/L
Lab Code:	E2001186-002	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**3.17**		0.500	0.250	0.125	5	12/ 9/20	12/14/20 11:09	371244	706941	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001186
Project:	HS20120241	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000652-01	**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	12/ 9/20	12/13/20 20:09	371244	706933	

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: HS20120241
Sample Matrix: Water

Service Request: E2001186
Date Analyzed: 12/13/20

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: 371244

	Lab Control Sample EQ2000652-02			Duplicate Lab Control Sample EQ2000652-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.112	0.100	112	0.111	0.100	111	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:**	E2001186
Project:	HS20120241	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000652-02	**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	**0.112**		0.100	0.0500	0.0250	1	12/ 9/20	12/13/20 20:17	371244	706933	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001186
Project:	HS20120241	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000652-03	**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	**0.111**		0.100	0.0500	0.0250	1	12/ 9/20	12/13/20 20:25	371244	706933	

Initial Calibration

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

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: EC2000058

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201213_006	Perchlorate6850b.lcm	1x	☒	3100808-05	12/13/2020 12:49
2	PERCHLORATE2		20201213_007	Perchlorate6850b.lcm	1x	☒	3100808-06	12/13/2020 12:57
3	PERCHLORATE3		20201213_008	Perchlorate6850b.lcm	1x	☒	3100808-07	12/13/2020 13:05
4	PERCHLORATE4		20201213_009	Perchlorate6850b.lcm	1x	☒	3100808-08	12/13/2020 13:13
5	PERCHLORATE5		20201213_010	Perchlorate6850b.lcm	1x	☒	3100808-09	12/13/2020 13:20
6	PERCHLORATE6		20201213_011	Perchlorate6850b.lcm	1x	☒	3100809-01	12/13/2020 13:28
7	PERCHLORATE7		20201213_012	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 13:36
8	PERCHLORATE8		20201213_013	Perchlorate6850b.lcm	1x	☒	3100809-03	12/13/2020 13:44
9	PERCHLORATE9		20201213_014	Perchlorate6850b.lcm	1x	☒	3100809-04	12/13/2020 13:52
10	PERCHLORATE10		20201213_015	Perchlorate6850b.lcm	1x	☒	3100809-05	12/13/2020 14:00
11	ICS		20201213_016	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:08
12	PERCHLORATEICV		20201213_017	Perchlorate6850b.lcm	1x	☒	3100809-06	12/13/2020 14:16
13	LODV		20201213_019	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:32
14	PERCHLORATE7		20201213_021	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 14:47
15	E2001161-019		20201213_023	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:17
16	E2001161-020		20201213_024	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:25
17	E2001161-021		20201213_025	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:33
18	E2001161-022		20201213_026	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:41
19	E2001161-023		20201213_027	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:49
20	E2001161-024		20201213_028	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:57
21	E2001161-025X2		20201213_029	Perchlorate6850b.lcm	2x	☒		12/13/2020 16:04
22	E2001161-026		20201213_030	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:12
23	E2001161-028		20201213_031	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:20
24	E2001161-029		20201213_032	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:28
25	PERCHLORATE7		20201213_033	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 16:36
26	E2001161-006X5		20201213_034	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:44
27	E2001161-009X5		20201213_035	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:52
28	E2001161-011X5		20201213_036	Perchlorate6850b.lcm	5X	☒		12/13/2020 17:00
29	E2001161-020X2		20201213_037	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:08
30	E2001161-022X2		20201213_038	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:15
31	E2001161-028X2		20201213_039	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:23
32	PERCHLORATE7		20201213_040	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 17:31
33	EQ2000651-01		20201213_041	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:39
34	EQ2000651-02		20201213_042	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:47
35	EQ2000651-03		20201213_043	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:55
36	E2001166-001		20201213_044	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:03
37	E2001166-002		20201213_045	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:11
38	E2001166-003		20201213_046	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:19
39	E2001166-004		20201213_047	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:26
40	E2001166-005		20201213_048	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:34
41	E2001166-006		20201213_049	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:42
42	E2001166-007		20201213_050	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:50
43	PERCHLORATE7		20201213_051	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 18:58
44	E2001166-008		20201213_052	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:06
45	E2001166-009		20201213_053	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:14
46	E2001166-010		20201213_054	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:22
47	E2001166-011		20201213_055	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:30
48	E2001166-012		20201213_056	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:37
49	E2001166-013		20201213_057	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:45
50	E2001166-014		20201213_058	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:53
51	PERCHLORATE7		20201213_059	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 20:01
52	EQ2000652-01		20201213_060	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:09
53	EQ2000652-02		20201213_061	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:17
54	EQ2000652-03		20201213_062	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:25
55	E2001169-001		20201213_063	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:33
56	E2001170-001X500		20201213_064	Perchlorate6850b.lcm	500X	☒		12/13/2020 20:41
57	E2001171-001		20201213_065	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:48
58	E2001182-001		20201213_066	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:56
59	E2001182-002		20201213_067	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:04
60	E2001182-003		20201213_068	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:12
61	E2001182-004		20201213_069	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:20

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	PERCHLORATE7		20201213_070	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 21:28
63	E2001182-005		20201213_071	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:36
64	E2001182-006		20201213_072	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:44
65	E2001186-001		20201213_073	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:52
66	E2001186-002		20201213_074	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:00
67	PERCHLORATE7		20201213_075	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 22:07
68	EQ2000653-01		20201213_076	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:15
69	EQ2000653-02		20201213_077	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:23
70	EQ2000653-03		20201213_078	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:31
71	E2001175-001		20201213_079	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:39
72	E2001175-002		20201213_080	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:47
73	E2001175-003		20201213_081	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:55
74	E2001175-004X5		20201213_082	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:03
75	E2001175-005X2		20201213_083	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:11
76	E2001175-006		20201213_084	Perchlorate6850b.lcm	1x	☒		12/13/2020 23:19
77	E2001175-007X5		20201213_085	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:26
78	PERCHLORATE7		20201213_086	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 23:34
79	E2001175-008X2		20201213_087	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:42
80	E2001175-009X2		20201213_088	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:50
81	E2001175-010X2		20201213_089	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:58
82	E2001175-011X5		20201213_090	Perchlorate6850b.lcm	5X	☒		12/14/2020 0:06
83	E2001175-012X20		20201213_091	Perchlorate6850b.lcm	20X	☒		12/14/2020 0:14
84	E2001175-013		20201213_092	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:22
85	E2001175-014		20201213_093	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:30
86	E2001185-001		20201213_094	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:38
87	E2001185-002		20201213_095	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:45
88	E2001185-003		20201213_096	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:53
89	PERCHLORATE7		20201213_097	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:01
90	E2001185-004		20201213_098	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:09
91	E2001185-005		20201213_099	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:17
92	E2001185-006		20201213_100	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:25
93	PERCHLORATE7		20201213_101	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:33
94								

Initial Calibration - Detailed Report

Calibration ID: EC2000058 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000058-01	PERCHLORATE1	20201213_006	12/13/2020 12:49
02	EC2000058-02	PERCHLORATE2	20201213_007	12/13/2020 12:57
03	EC2000058-03	PERCHLORATE3	20201213_008	12/13/2020 13:05
04	EC2000058-04	PERCHLORATE4	20201213_009	12/13/2020 13:13
05	EC2000058-05	PERCHLORATE5	20201213_010	12/13/2020 13:20
06	EC2000058-06	PERCHLORATE6	20201213_011	12/13/2020 13:28
07	EC2000058-07	PERCHLORATE7	20201213_012	12/13/2020 13:36
08	EC2000058-08	PERCHLORATE8	20201213_013	12/13/2020 13:44
09	EC2000058-09	PERCHLORATE9	20201213_014	12/13/2020 13:52
10	EC2000058-10	PERCHLORATE10	20201213_015	12/13/2020 14:00

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

Perchlorate **Average RF** **RSD = 5.994** **Average RF = 0.1361**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1219	02	0.5000	0.142	03	0.7000	0.1452	04	1.0000	0.1394
05	2.0000	0.1451	06	5.0000	0.1424	07	10.0000	0.1339	08	20.0000	0.1304
09	30.0000	0.1353	10	50.0000	0.1255						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.0896	-10.4	02	0.5000	0.522	4.3	03	0.7000	0.747	6.7
04	1.0000	1.02	2.4	05	2.0000	2.13	6.6	06	5.0000	5.23	4.6
07	10.0000	9.84	-1.6	08	20.0000	19.2	-4.2	09	30.0000	29.8	-0.6
10	50.0000	46.1	-7.8								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000058	**Instrument ID:**	E-LCMS-01
Datafile ID:	20201213_017	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000058-11	T	Average RF	10	9.213	ng/mL	-7.9	<= 15

ALS Group Houston

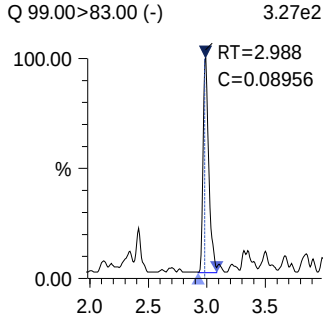
PERCHLORATE1

Date acquired: 12/13/2020 12:49:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_006.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	12/13/2020 12:49:24 PM	1098	0.08956	20201213_006	2.988	25.0000	1.0000	22
Sodium Perchlorate-18O4_IS	PERCHLORATE1	12/13/2020 12:49:24 PM	90045	1.00000	20201213_006	2.986	25.0000	1.0000	22

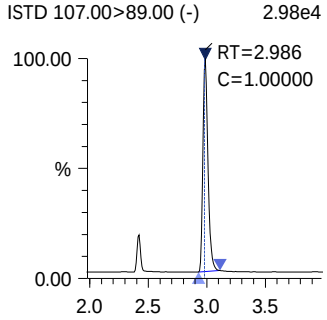
Perchlorate

Conc 0.08956
Area 1098



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 90045



ALS Group Houston

PERCHLORATE2

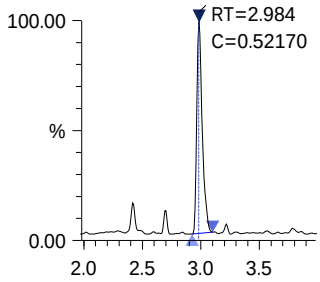
Date acquired: 12/13/2020 12:57:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_007.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	12/13/2020 12:57:20 PM	6242	0.52170	20201213_007	2.984	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	PERCHLORATE2	12/13/2020 12:57:20 PM	87904	1.00000	20201213_007	2.984	25.0000	1.0000	23

Perchlorate

Conc 0.52170
Area 6242

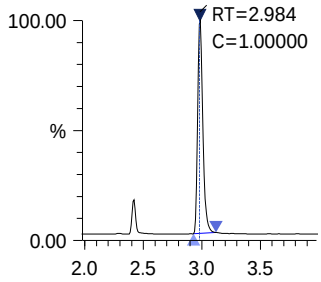
Q 99.00>83.00 (-) 1.94e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 87904

ISTD 107.00>89.00 (-) 2.84e4



ALS Group Houston

PERCHLORATE3

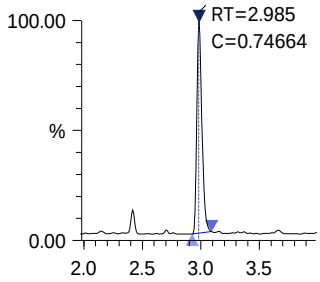
Date acquired: 12/13/2020 1:05:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_008.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	12/13/2020 1:05:13 PM	8872	0.74664	20201213_008	2.985	25.0000	1.0000	24
Sodium Perchlorate-18O4_IS	PERCHLORATE3	12/13/2020 1:05:13 PM	87298	1.00000	20201213_008	2.984	25.0000	1.0000	24

Perchlorate

Conc 0.74664
Area 8872

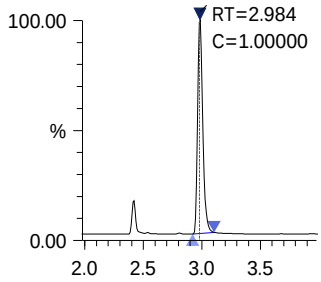
Q 99.00>83.00 (-) 2.99e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 87298

ISTD 107.00>89.00 (-) 2.82e4



ALS Group Houston

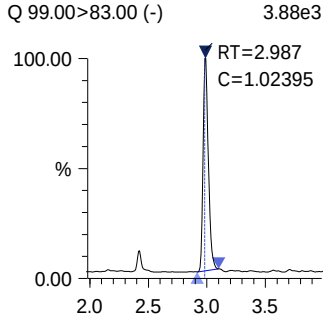
PERCHLORATE4

Date acquired: 12/13/2020 1:13:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_009.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	12/13/2020 1:13:05 PM	11913	1.02395	20201213_009	2.987	25.0000	1.0000	25
Sodium Perchlorate-18O4_IS	PERCHLORATE4	12/13/2020 1:13:05 PM	85470	1.00000	20201213_009	2.986	25.0000	1.0000	25

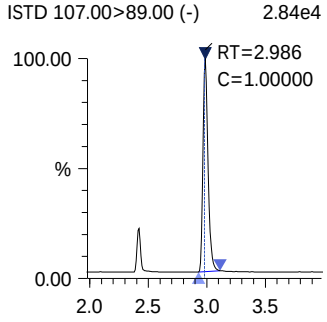
Perchlorate

Conc 1.02395
Area 11913



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 85470



ALS Group Houston

PERCHLORATE5

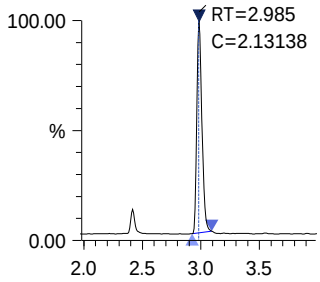
Date acquired: 12/13/2020 1:20:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_010.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	12/13/2020 1:20:58 PM	24278	2.13138	20201213_010	2.985	25.0000	1.0000	26
Sodium Perchlorate-18O4_IS	PERCHLORATE5	12/13/2020 1:20:58 PM	83679	1.00000	20201213_010	2.984	25.0000	1.0000	26

Perchlorate

Conc 2.13138
Area 24278

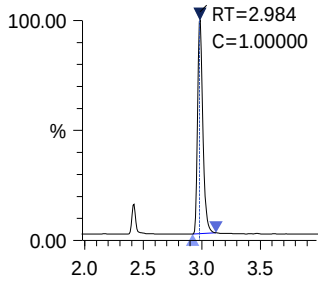
Q 99.00>83.00 (-) 8.14e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 83679

ISTD 107.00>89.00 (-) 2.65e4



ALS Group Houston

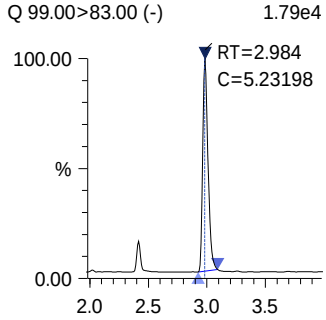
PERCHLORATE6

Date acquired: 12/13/2020 1:28:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_011.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	12/13/2020 1:28:51 PM	55433	5.23198	20201213_011	2.984	25.0000	1.0000	27
Sodium Perchlorate-18O4_IS	PERCHLORATE6	12/13/2020 1:28:51 PM	77835	1.00000	20201213_011	2.983	25.0000	1.0000	27

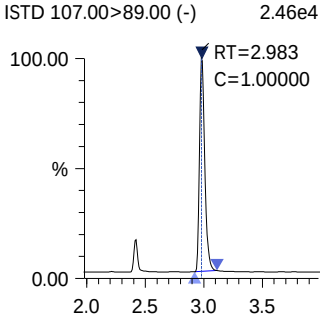
Perchlorate

Conc 5.23198
Area 55433



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 77835



ALS Group Houston

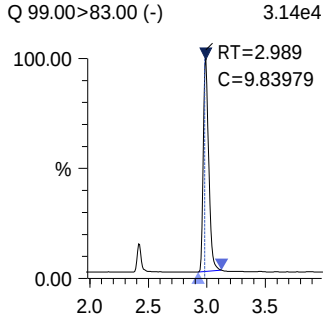
PERCHLORATE7

Date acquired: 12/13/2020 1:36:47 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_012.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/13/2020 1:36:47 PM	99306	9.83979	20201213_012	2.989	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/13/2020 1:36:47 PM	74142	1.00000	20201213_012	2.988	25.0000	1.0000	21

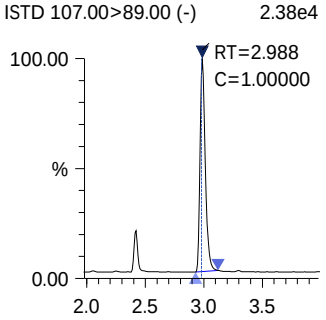
Perchlorate

Conc 9.83979
Area 99306



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 74142



ALS Group Houston

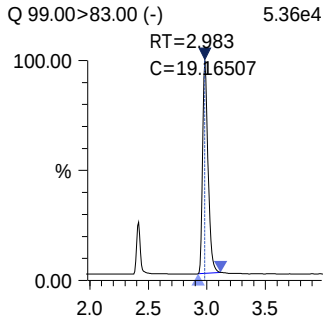
PERCHLORATE8

Date acquired: 12/13/2020 1:44:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_013.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	12/13/2020 1:44:41 PM	171329	19.16507	20201213_013	2.983	25.0000	1.0000	28
Sodium Perchlorate-18O4_IS	PERCHLORATE8	12/13/2020 1:44:41 PM	65674	1.00000	20201213_013	2.982	25.0000	1.0000	28

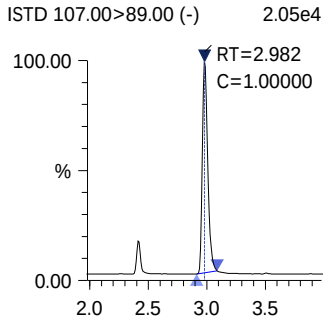
Perchlorate

Conc 19.16507
Area 171329



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 65674



ALS Group Houston

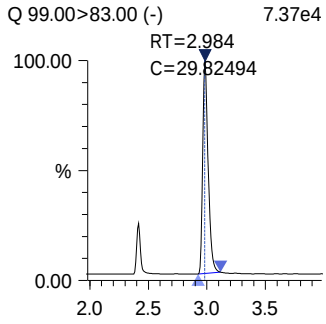
PERCHLORATE9

Date acquired: 12/13/2020 1:52:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_014.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	12/13/2020 1:52:33 PM	234759	29.82494	20201213_014	2.984	25.0000	1.0000	29
Sodium Perchlorate-18O4_IS	PERCHLORATE9	12/13/2020 1:52:33 PM	57825	1.00000	20201213_014	2.983	25.0000	1.0000	29

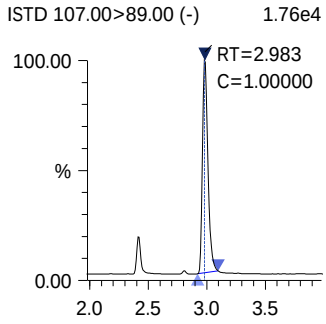
Perchlorate

Conc 29.82494
Area 234759



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 57825



ALS Group Houston

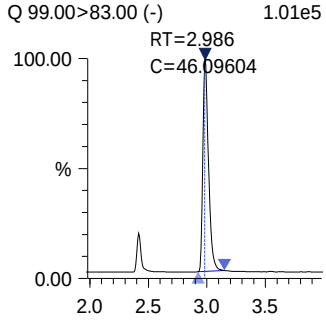
PERCHLORATE10

Date acquired: 12/13/2020 2:00:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_015.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	12/13/2020 2:00:26 PM	331808	46.09604	20201213_015	2.986	25.0000	1.0000	30
Sodium Perchlorate-18O4_IS	PERCHLORATE10	12/13/2020 2:00:26 PM	52880	1.00000	20201213_015	2.985	25.0000	1.0000	30

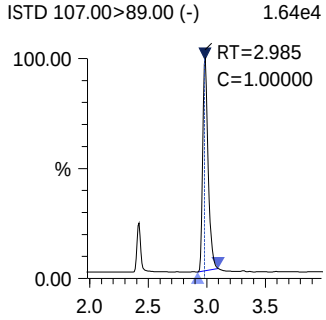
Perchlorate

Conc 46.09604
Area 331808



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 52880



ALS Group Houston

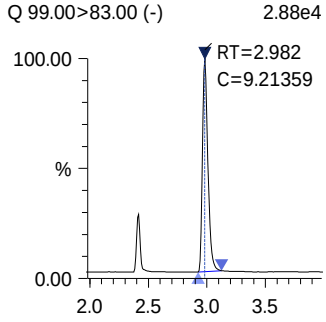
PERCHLORATEICV

Date acquired: 12/13/2020 2:16:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_017.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	12/13/2020 2:16:15 PM	92339	9.21359	20201213_017	2.982	25.0000	1.0000	31
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	12/13/2020 2:16:15 PM	73626	1.00000	20201213_017	2.980	25.0000	1.0000	31

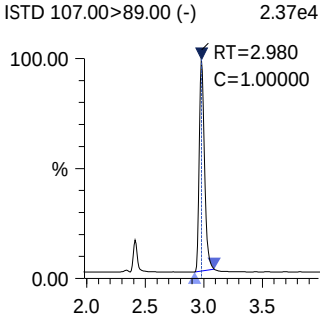
Perchlorate

Conc 9.21359
Area 92339



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 73626



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

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: EC2000058

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201213_006	Perchlorate6850b.lcm	1x	☒	3100808-05	12/13/2020 12:49
2	PERCHLORATE2		20201213_007	Perchlorate6850b.lcm	1x	☒	3100808-06	12/13/2020 12:57
3	PERCHLORATE3		20201213_008	Perchlorate6850b.lcm	1x	☒	3100808-07	12/13/2020 13:05
4	PERCHLORATE4		20201213_009	Perchlorate6850b.lcm	1x	☒	3100808-08	12/13/2020 13:13
5	PERCHLORATE5		20201213_010	Perchlorate6850b.lcm	1x	☒	3100808-09	12/13/2020 13:20
6	PERCHLORATE6		20201213_011	Perchlorate6850b.lcm	1x	☒	3100809-01	12/13/2020 13:28
7	PERCHLORATE7		20201213_012	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 13:36
8	PERCHLORATE8		20201213_013	Perchlorate6850b.lcm	1x	☒	3100809-03	12/13/2020 13:44
9	PERCHLORATE9		20201213_014	Perchlorate6850b.lcm	1x	☒	3100809-04	12/13/2020 13:52
10	PERCHLORATE10		20201213_015	Perchlorate6850b.lcm	1x	☒	3100809-05	12/13/2020 14:00
11	ICS		20201213_016	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:08
12	PERCHLORATEICV		20201213_017	Perchlorate6850b.lcm	1x	☒	3100809-06	12/13/2020 14:16
13	LODV		20201213_019	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:32
14	PERCHLORATE7		20201213_021	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 14:47
15	E2001161-019		20201213_023	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:17
16	E2001161-020		20201213_024	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:25
17	E2001161-021		20201213_025	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:33
18	E2001161-022		20201213_026	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:41
19	E2001161-023		20201213_027	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:49
20	E2001161-024		20201213_028	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:57
21	E2001161-025X2		20201213_029	Perchlorate6850b.lcm	2x	☒		12/13/2020 16:04
22	E2001161-026		20201213_030	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:12
23	E2001161-028		20201213_031	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:20
24	E2001161-029		20201213_032	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:28
25	PERCHLORATE7		20201213_033	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 16:36
26	E2001161-006X5		20201213_034	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:44
27	E2001161-009X5		20201213_035	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:52
28	E2001161-011X5		20201213_036	Perchlorate6850b.lcm	5X	☒		12/13/2020 17:00
29	E2001161-020X2		20201213_037	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:08
30	E2001161-022X2		20201213_038	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:15
31	E2001161-028X2		20201213_039	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:23
32	PERCHLORATE7		20201213_040	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 17:31
33	EQ2000651-01		20201213_041	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:39
34	EQ2000651-02		20201213_042	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:47
35	EQ2000651-03		20201213_043	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:55
36	E2001166-001		20201213_044	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:03
37	E2001166-002		20201213_045	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:11
38	E2001166-003		20201213_046	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:19
39	E2001166-004		20201213_047	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:26
40	E2001166-005		20201213_048	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:34
41	E2001166-006		20201213_049	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:42
42	E2001166-007		20201213_050	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:50
43	PERCHLORATE7		20201213_051	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 18:58
44	E2001166-008		20201213_052	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:06
45	E2001166-009		20201213_053	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:14
46	E2001166-010		20201213_054	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:22
47	E2001166-011		20201213_055	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:30
48	E2001166-012		20201213_056	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:37
49	E2001166-013		20201213_057	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:45
50	E2001166-014		20201213_058	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:53
51	PERCHLORATE7		20201213_059	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 20:01
52	EQ2000652-01		20201213_060	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:09
53	EQ2000652-02		20201213_061	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:17
54	EQ2000652-03		20201213_062	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:25
55	E2001169-001		20201213_063	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:33
56	E2001170-001X500		20201213_064	Perchlorate6850b.lcm	500X	☒		12/13/2020 20:41
57	E2001171-001		20201213_065	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:48
58	E2001182-001		20201213_066	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:56
59	E2001182-002		20201213_067	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:04
60	E2001182-003		20201213_068	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:12
61	E2001182-004		20201213_069	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:20

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	PERCHLORATE7		20201213_070	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 21:28
63	E2001182-005		20201213_071	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:36
64	E2001182-006		20201213_072	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:44
65	E2001186-001		20201213_073	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:52
66	E2001186-002		20201213_074	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:00
67	PERCHLORATE7		20201213_075	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 22:07
68	EQ2000653-01		20201213_076	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:15
69	EQ2000653-02		20201213_077	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:23
70	EQ2000653-03		20201213_078	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:31
71	E2001175-001		20201213_079	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:39
72	E2001175-002		20201213_080	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:47
73	E2001175-003		20201213_081	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:55
74	E2001175-004X5		20201213_082	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:03
75	E2001175-005X2		20201213_083	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:11
76	E2001175-006		20201213_084	Perchlorate6850b.lcm	1x	☒		12/13/2020 23:19
77	E2001175-007X5		20201213_085	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:26
78	PERCHLORATE7		20201213_086	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 23:34
79	E2001175-008X2		20201213_087	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:42
80	E2001175-009X2		20201213_088	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:50
81	E2001175-010X2		20201213_089	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:58
82	E2001175-011X5		20201213_090	Perchlorate6850b.lcm	5X	☒		12/14/2020 0:06
83	E2001175-012X20		20201213_091	Perchlorate6850b.lcm	20X	☒		12/14/2020 0:14
84	E2001175-013		20201213_092	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:22
85	E2001175-014		20201213_093	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:30
86	E2001185-001		20201213_094	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:38
87	E2001185-002		20201213_095	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:45
88	E2001185-003		20201213_096	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:53
89	PERCHLORATE7		20201213_097	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:01
90	E2001185-004		20201213_098	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:09
91	E2001185-005		20201213_099	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:17
92	E2001185-006		20201213_100	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:25
93	PERCHLORATE7		20201213_101	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:33
94								

20201214

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

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		20201214_001	Perchlorate6850b.lcm	1x	☒		12/14/2020 9:48
2	null		20201214_002	Perchlorate6850b.lcm	1x	☒		12/14/2020 9:53
3	IB		20201214_003	Perchlorate6850b.lcm	1x	☒		12/14/2020 9:58
4	IB		20201214_004	Perchlorate6850b.lcm	1x	☒		12/14/2020 10:06
5	IB		20201214_005	Perchlorate6850b.lcm	1x	☒		12/14/2020 10:14
6	PERCHLORATE7		20201214_006	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 10:22
7	E2001166-010X2		20201214_007	Perchlorate6850b.lcm	2X	☒		12/14/2020 10:30
8	E2001166-011X2		20201214_008	Perchlorate6850b.lcm	2X	☒		12/14/2020 10:38
9	E2001169-001X5		20201214_009	Perchlorate6850b.lcm	5X	☒		12/14/2020 10:46
10	E2001171-001X5		20201214_010	Perchlorate6850b.lcm	5X	☒		12/14/2020 10:54
11	E2001186-001X5		20201214_011	Perchlorate6850b.lcm	5X	☒		12/14/2020 11:01
12	E2001186-002X5		20201214_012	Perchlorate6850b.lcm	5X	☒		12/14/2020 11:09
13	PERCHLORATE7		20201214_013	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 11:17
14	E2001175-005X10		20201214_014	Perchlorate6850b.lcm	10X	☒		12/14/2020 11:25
15	E2001175-010X10		20201214_015	Perchlorate6850b.lcm	10X	☒		12/14/2020 11:33
16	E2001185-002X5		20201214_016	Perchlorate6850b.lcm	5X	☒		12/14/2020 11:41
17	E2001185-003X5		20201214_017	Perchlorate6850b.lcm	5X	☒		12/14/2020 11:49
18	E2001185-004X10		20201214_018	Perchlorate6850b.lcm	10X	☒		12/14/2020 11:57
19	E2001185-005X5		20201214_019	Perchlorate6850b.lcm	5X	☒		12/14/2020 12:05
20	PERCHLORATE7		20201214_020	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 12:12
21	PERCHLORATE7		20201214_021	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 14:49
22	EQ2000627-01		20201214_022	Perchlorate6850b.lcm	1x	☒		12/14/2020 14:57
23	EQ2000627-02		20201214_023	Perchlorate6850b.lcm	1x	☒		12/14/2020 15:05
24	EQ2000627-03		20201214_024	Perchlorate6850b.lcm	1x	☒		12/14/2020 15:13
25	PERCHLORATE7		20201214_027	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 15:36
26	RINSE		20201214_028	Perchlorate6850b.lcm	1x	☒		12/14/2020 16:14
27	EQ2000627-04		20201214_029	Perchlorate6850b.lcm	1x	☒		12/14/2020 16:22
28	EQ2000627-05		20201214_030	Perchlorate6850b.lcm	1x	☒		12/14/2020 16:30
29	PERCHLORATE7		20201214_031	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 16:38
30								

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120241

Service Request: E2001186
Date Analyzed: 12/13/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201213\20201213_059

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706933
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.62	0.1361	0.1310	-3.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120241

Service Request: E2001186
Date Analyzed: 12/13/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201213\20201213_070

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706933
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.66	0.1361	0.1315	-3.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120241

Service Request: E2001186
Date Analyzed: 12/13/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201213\20201213_075

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706933
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.51	0.1361	0.1294	-4.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120241

Service Request: E2001186
Date Analyzed: 12/14/20

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\20201214\20201214_006

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706941
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.67	0.1361	0.1317	-3.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120241

Service Request: E2001186
Date Analyzed: 12/14/20

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\20201214\20201214_013

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 706941
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.66	0.1361	0.1315	-3.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120241

Service Request: E2001186
Date Analyzed: 12/13/20 20:01

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

File ID: I:\LCMS01\DATA\20201213\20201213_059
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000672-01
Analysis Lot: 706933
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000672-01	65,522	2.97
Method Blank	EQ2000652-01	72,694	2.97
Lab Control Sample	EQ2000652-02	74,285	2.97
Duplicate Lab Control Sample	EQ2000652-03	73,673	2.97

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:**	E2001186
Project:	HS20120241	**Date Analyzed:**	12/13/20 21:28

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201213\20201213_070	**Lab Code:**	EQ2000672-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	706933
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000672-02	64,408	2.97

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:**	E2001186
Project:	HS20120241	**Date Analyzed:**	12/13/20 22:07

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201213\20201213_075	**Lab Code:**	EQ2000672-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	706933
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000672-03	63,148	2.97

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: HS20120241

Service Request: E2001186
Date Analyzed: 12/14/20 10:22

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

File ID: I:\LCMS01\DATA\20201214\20201214_006
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000673-01
Analysis Lot: 706941
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000673-01	60,666	2.98
LH18/24-SP650_120220-AIX	E2001186-001	44,102	2.98
LH18/24-SP650_120220-Between	E2001186-002	46,684	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:**	E2001186
Project:	HS20120241	**Date Analyzed:**	12/14/20 11:17

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201214\20201214_013	**Lab Code:**	EQ2000673-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	706941
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000673-02	59,214	2.98

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

ALS Group Houston

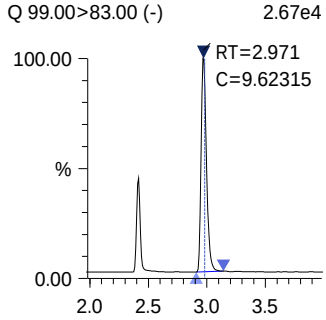
PERCHLORATE7

Date acquired: 12/13/2020 8:01:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_059.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/13/2020 8:01:34 PM	85828	9.62315	20201213_059	2.971	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/13/2020 8:01:34 PM	65522	1.00000	20201213_059	2.969	25.0000	1.0000	21

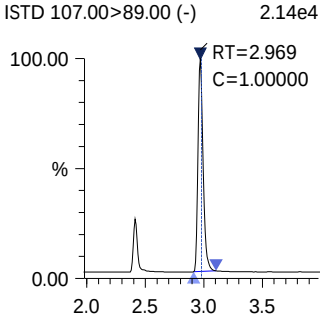
Perchlorate

Conc 9.62315
Area 85828



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 65522



ALS Group Houston

EQ2000652-01

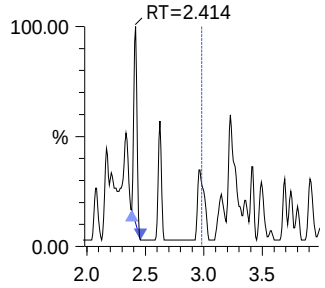
Date acquired: 12/13/2020 8:09:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_060.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000652-01	12/13/2020 8:09:29 PM	----	----	20201213_060	----	25.0000	1.0000	1
Sodium Perchlorate-18O4_IS	EQ2000652-01	12/13/2020 8:09:29 PM	72694	1.00000	20201213_060	2.970	25.0000	1.0000	1

Perchlorate

Conc ----
Area ----

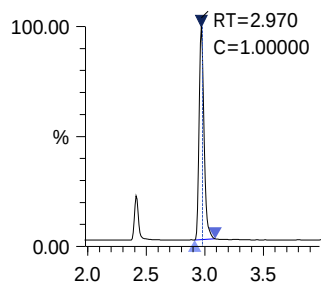
Q 99.00>83.00 (-) 7.00e1



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 72694

ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

EQ2000652-02

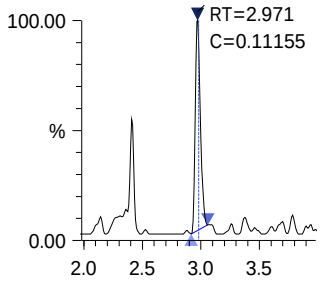
Date acquired: 12/13/2020 8:17:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_061.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000652-02	12/13/2020 8:17:25 PM	1128	0.11155	20201213_061	2.971	25.0000	1.0000	2
Sodium Perchlorate-18O4_IS	EQ2000652-02	12/13/2020 8:17:25 PM	74285	1.00000	20201213_061	2.970	25.0000	1.0000	2

Perchlorate

Conc 0.11155
Area 1128

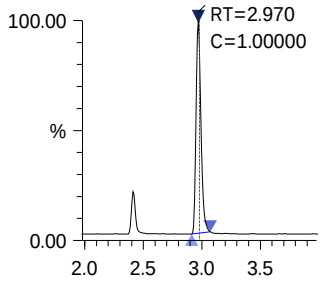
Q 99.00>83.00 (-) 3.74e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 74285

ISTD 107.00>89.00 (-) 2.54e4



ALS Group Houston

EQ2000652-03

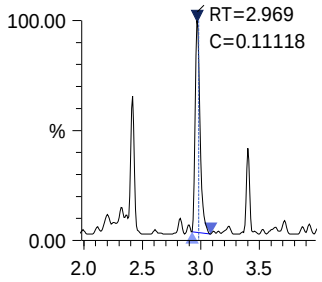
Date acquired: 12/13/2020 8:25:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_062.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000652-03	12/13/2020 8:25:17 PM	1115	0.11118	20201213_062	2.969	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	EQ2000652-03	12/13/2020 8:25:17 PM	73673	1.00000	20201213_062	2.970	25.0000	1.0000	3

Perchlorate

Conc 0.11118
Area 1115

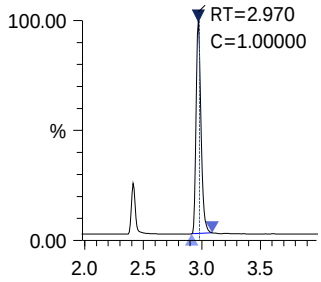
Q 99.00>83.00 (-) 3.84e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 73673

ISTD 107.00>89.00 (-) 2.49e4



ALS Group Houston

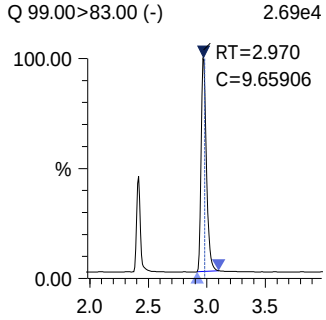
PERCHLORATE7

Date acquired: 12/13/2020 9:28:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_070.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/13/2020 9:28:29 PM	84685	9.65906	20201213_070	2.970	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/13/2020 9:28:29 PM	64408	1.00000	20201213_070	2.970	25.0000	1.0000	21

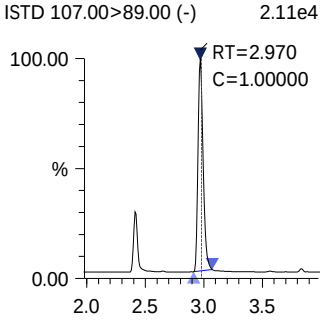
Perchlorate

Conc 9.65906
Area 84685



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 64408



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

WorkOrder: HS20120243

Longhorn GW Treatment Plant Bi Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

18-Jan-2021

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
T : +1 281 530 5656
F : +1 281 530 5887
www.alsglobal.com

Table of Contents

HS20120243 Cover Page
- CoverPage
- HS20120243 Longhorn GW Treatment Plant Bi Weekly Samples Final
  - CoverLetter
  - Sample Summary
  - CaseNarrative
  - LH18/24-SP650_120220
  - Trip Blank
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList
  - COC
- HS20120243 8260_W_DOD Raw Data
- HS20120243 Wet Chem Raw Data (9056_anions_W)

HS20120243 Longhorn GW Treatment Plant Bi Weekly Samples Final

ALS WO# HS20120243

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

December 15, 2020

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

Work Order: **HS20120243**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Dec 04, 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: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20120243

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20120243-01	LH18/24-SP650_120220	Water		02-Dec-2020 14:00	04-Dec-2020 10:15	☐
HS20120243-02	Trip Blank	Water	VBLKW-112420-41	02-Dec-2020 00:00	04-Dec-2020 10:15	☐

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20120243

GCMS Volatiles by Method SW8260

Batch ID: R374634

Sample ID: LH18/24-SP650_120220 HS20120243-01)

- The recovery of the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) associated with this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS/MSD may be due to sample matrix interference.

Sample ID: LH18/24-SP650_120220 (HS20120243-01MSD)

- The RPD between the MS and MSD was outside of the control limit.

WetChemistry by Method SW9056

Batch ID: R374453

Sample ID: LH18/24-SP650_120220 (HS20120243-01MS)

- The recovery of the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) associated with this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS/MSD may be due to sample matrix interference. (Chloride)

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20120243
Sample ID: LH18/24-SP650_120220 Lab ID:HS20120243-01
Collection Date: 02-Dec-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	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 13:40
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 13:40
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 13:40
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 13:40
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:40
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 13:40
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 13:40
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 13:40
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:40
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 13:40
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 13:40
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:40
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	14-Dec-2020 13:40
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 13:40
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:40
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	14-Dec-2020 13:40
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 13:40
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 13:40
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	14-Dec-2020 13:40
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40

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

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20120243
Sample ID: LH18/24-SP650_120220 Lab ID:HS20120243-01
Collection Date: 02-Dec-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	14-Dec-2020 13:40
cis-1,2-Dichloroethene	**7.7**		**0.20**	**0.50**	**1.0**	**ug/L**	1	14-Dec-2020 13:40
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:40
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	14-Dec-2020 13:40
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:40
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 13:40
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 13:40
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 13:40
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:40
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:40
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:40
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Trichloroethene	**1.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	14-Dec-2020 13:40
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:40
Vinyl chloride	**0.41**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	14-Dec-2020 13:40
Surr: 1,2-Dichloroethane-d4	*83.7*			**0**	*81-118*	*%REC*	*1*	*14-Dec-2020 13:40*
Surr: 4-Bromofluorobenzene	*91.0*			**0**	*85-114*	*%REC*	*1*	*14-Dec-2020 13:40*
Surr: Dibromofluoromethane	*86.5*			**0**	*80-119*	*%REC*	*1*	*14-Dec-2020 13:40*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*14-Dec-2020 13:40*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**678**		**4.00**	**10.0**	**10.0**	**mg/L**	20	11-Dec-2020 07:53
Sulfate	**29.4**		**0.200**	**0.500**	**0.500**	**mg/L**	1	11-Dec-2020 07:35

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

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder:HS20120243
Sample ID: Trip Blank
Lab ID:HS20120243-02
Collection Date: 02-Dec-2020 00:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:01
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 14:01
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:01
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:01
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:01
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 14:01
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 14:01
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:01
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 14:01
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 14:01
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:01
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:01
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:01
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:01
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 14:01
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:01
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	14-Dec-2020 14:01
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:01
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:01
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	14-Dec-2020 14:01
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 14:01
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:01
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	14-Dec-2020 14:01
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01

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

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20120243
Sample ID: Trip Blank Lab ID:HS20120243-02
Collection Date: 02-Dec-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:01
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	14-Dec-2020 14:01
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:01
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 14:01
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 14:01
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:01
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:01
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:01
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:01
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:01
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:01
Surr: 1,2-Dichloroethane-d4	*86.1*			**0**	*81-118*	*%REC*	*1*	*14-Dec-2020 14:01*
Surr: 4-Bromofluorobenzene	*93.1*			**0**	*85-114*	*%REC*	*1*	*14-Dec-2020 14:01*
Surr: Dibromofluoromethane	*88.3*			**0**	*80-119*	*%REC*	*1*	*14-Dec-2020 14:01*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*14-Dec-2020 14:01*

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

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20120243

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R374453 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS20120243-01	LH18/24-SP650_120220	02 Dec 2020 14:00			11 Dec 2020 07:53	20
HS20120243-01	LH18/24-SP650_120220	02 Dec 2020 14:00			11 Dec 2020 07:35	1
Batch ID: R374634 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20120243-01	LH18/24-SP650_120220	02 Dec 2020 14:00			14 Dec 2020 13:40	1
HS20120243-02	Trip Blank	02 Dec 2020 00:00			14 Dec 2020 14:01	1

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20120243

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-201214** Units: **ug/L** Analysis Date: **14-Dec-2020 12:58**
Client ID: Run ID: **VOA6_374634** SeqNo: **5880913** 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	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	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	0.50	1.0								U
1,3,5-Trimethylbenzene	0.50	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	0.50	1.0								U
Bromomethane	0.50	1.0								U

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20120243

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-201214** Units: **ug/L** Analysis Date: **14-Dec-2020 12:58**
Client ID: Run ID: **VOA6_374634** SeqNo: **5880913** 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	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	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	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	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	0.50	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	0.50	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	0.50	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	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.1*	*1.0*	*50*	*0*	*86.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.28*	*1.0*	*50*	*0*	*94.6*	*85 - 114*				
Surr: Dibromofluoromethane	*43.93*	*1.0*	*50*	*0*	*87.9*	*80 - 119*				
Surr: Toluene-d8	*52.45*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20120243

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-201214** Units: **ug/L** Analysis Date: **14-Dec-2020 12:16**
Client ID: Run ID: **VOA6_374634** SeqNo: **5880912** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.91	1.0	20	0	99.6	78 - 124				
1,1,1-Trichloroethane	19.72	1.0	20	0	98.6	74 - 131				
1,1,2,2-Tetrachloroethane	20.67	1.0	20	0	103	71 - 121				
1,1,2-Trichloroethane	19.38	1.0	20	0	96.9	80 - 119				
1,1-Dichloroethane	19.67	1.0	20	0	98.4	77 - 125				
1,1-Dichloroethene	18.55	1.0	20	0	92.8	71 - 131				
1,1-Dichloropropene	18.72	1.0	20	0	93.6	78 - 125				
1,2,3-Trichlorobenzene	22.85	1.0	20	0	114	69 - 129				
1,2,3-Trichloropropane	20.24	1.0	20	0	101	73 - 122				
1,2,4-Trichlorobenzene	21.78	1.0	20	0	109	69 - 130				
1,2,4-Trimethylbenzene	20.64	1.0	20	0	103	76 - 124				
1,2-Dibromo-3-chloropropane	20.11	1.0	20	0	101	62 - 128				
1,2-Dibromoethane	20.03	1.0	20	0	100	77 - 121				
1,2-Dichlorobenzene	19.85	1.0	20	0	99.2	80 - 119				
1,2-Dichloroethane	19.54	1.0	20	0	97.7	73 - 128				
1,2-Dichloropropane	19.7	1.0	20	0	98.5	78 - 122				
1,3,5-Trimethylbenzene	19.74	1.0	20	0	98.7	75 - 124				
1,3-Dichlorobenzene	19.84	1.0	20	0	99.2	80 - 119				
1,3-Dichloropropane	19.49	1.0	20	0	97.4	80 - 119				
1,4-Dichlorobenzene	20.55	1.0	20	0	103	79 - 118				
2,2-Dichloropropane	19.71	1.0	20	0	98.6	60 - 139				
2-Butanone	40.65	2.0	40	0	102	56 - 143				
2-Chlorotoluene	20.79	1.0	20	0	104	79 - 122				
2-Hexanone	37.24	2.0	40	0	93.1	57 - 139				
4-Chlorotoluene	20.6	1.0	20	0	103	78 - 122				
4-Isopropyltoluene	19.03	1.0	20	0	95.2	77 - 127				
4-Methyl-2-pentanone	36.49	2.0	40	0	91.2	67 - 130				
Acetone	44.96	2.0	40	0	112	39 - 160				
Benzene	19.24	1.0	20	0	96.2	79 - 120				
Bromobenzene	20.92	1.0	20	0	105	80 - 120				
Bromochloromethane	20.04	1.0	20	0	100	78 - 123				
Bromodichloromethane	20.6	1.0	20	0	103	79 - 125				
Bromoform	21.17	1.0	20	0	106	66 - 130				
Bromomethane	21.74	1.0	20	0	109	53 - 141				

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20120243

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-201214** Units: **ug/L** Analysis Date: **14-Dec-2020 12:16**
Client ID: Run ID: **VOA6_374634** SeqNo: **5880912** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	41.2	2.0	40	0	103	64 - 133				
Carbon tetrachloride	19.62	1.0	20	0	98.1	72 - 136				
Chlorobenzene	19.81	1.0	20	0	99.1	82 - 118				
Chloroethane	19.4	1.0	20	0	97.0	60 - 138				
Chloroform	19.65	1.0	20	0	98.2	79 - 124				
Chloromethane	17.9	1.0	20	0	89.5	50 - 139				
cis-1,2-Dichloroethene	19.68	1.0	20	0	98.4	78 - 123				
cis-1,3-Dichloropropene	20.32	1.0	20	0	102	75 - 124				
Dibromochloromethane	19.84	1.0	20	0	99.2	74 - 126				
Dibromomethane	20.57	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	18.09	1.0	20	0	90.5	32 - 152				
Ethylbenzene	19.92	1.0	20	0	99.6	79 - 121				
Hexachlorobutadiene	22.51	1.0	20	0	113	66 - 134				
Isopropylbenzene	18.7	1.0	20	0	93.5	72 - 131				
m,p-Xylene	39.21	2.0	40	0	98.0	80 - 121				
Methylene chloride	19.92	2.0	20	0	99.6	74 - 124				
Naphthalene	21.22	1.0	20	0	106	61 - 128				
n-Butylbenzene	20.18	1.0	20	0	101	75 - 128				
n-Propylbenzene	19.71	1.0	20	0	98.5	76 - 126				
o-Xylene	19.49	1.0	20	0	97.4	78 - 122				
sec-Butylbenzene	19.28	1.0	20	0	96.4	77 - 126				
Styrene	20.01	1.0	20	0	100	78 - 123				
tert-Butylbenzene	19.15	1.0	20	0	95.8	78 - 124				
Tetrachloroethene	18.87	1.0	20	0	94.4	74 - 129				
Toluene	19.84	1.0	20	0	99.2	80 - 121				
trans-1,2-Dichloroethene	20.24	1.0	20	0	101	75 - 124				
trans-1,3-Dichloropropene	20.8	1.0	20	0	104	73 - 127				
Trichloroethene	18.87	1.0	20	0	94.3	79 - 123				
Trichlorofluoromethane	18.46	1.0	20	0	92.3	65 - 141				
Vinyl chloride	18.8	1.0	20	0	94.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.11*	*1.0*	*50*	*0*	*100*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.12*	*1.0*	*50*	*0*	*104*	*85 - 114*				
Surr: Dibromofluoromethane	*48.41*	*1.0*	*50*	*0*	*96.8*	*80 - 119*				
Surr: Toluene-d8	*49.97*	*1.0*	*50*	*0*	*99.9*	*89 - 112*				

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20120243

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20120243-01MS** Units: **ug/L** Analysis Date: **14-Dec-2020 16:50**
Client ID: **LH18/24-SP650_120220** Run ID: **VOA6_374634** SeqNo: **5880924** 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	21.77	1.0	20	0	109	78 - 124				
1,1,1-Trichloroethane	18.27	1.0	20	0	91.3	74 - 131				
1,1,2,2-Tetrachloroethane	21.85	1.0	20	0	109	71 - 121				
1,1,2-Trichloroethane	21.22	1.0	20	0	106	80 - 119				
1,1-Dichloroethane	15.26	1.0	20	0	76.3	77 - 125				S
1,1-Dichloroethene	10.96	1.0	20	0	54.8	71 - 131				S
1,1-Dichloropropene	18.83	1.0	20	0	94.1	78 - 125				
1,2,3-Trichlorobenzene	21.99	1.0	20	0	110	69 - 129				
1,2,3-Trichloropropane	21.48	1.0	20	0	107	73 - 122				
1,2,4-Trichlorobenzene	22.74	1.0	20	0	114	69 - 130				
1,2,4-Trimethylbenzene	21.82	1.0	20	0	109	76 - 124				
1,2-Dibromo-3-chloropropane	20.54	1.0	20	0	103	62 - 128				
1,2-Dibromoethane	20.07	1.0	20	0	100	77 - 121				
1,2-Dichlorobenzene	20.8	1.0	20	0	104	80 - 119				
1,2-Dichloroethane	19.43	1.0	20	0	97.1	73 - 128				
1,2-Dichloropropane	19.75	1.0	20	0	98.8	78 - 122				
1,3,5-Trimethylbenzene	21.48	1.0	20	0	107	75 - 124				
1,3-Dichlorobenzene	20.55	1.0	20	0	103	80 - 119				
1,3-Dichloropropane	20.73	1.0	20	0	104	80 - 119				
1,4-Dichlorobenzene	21.39	1.0	20	0	107	79 - 118				
2,2-Dichloropropane	17.69	1.0	20	0	88.5	60 - 139				
2-Butanone	33.58	2.0	40	0	83.9	56 - 143				
2-Chlorotoluene	22.82	1.0	20	0	114	79 - 122				
2-Hexanone	42.58	2.0	40	0	106	57 - 139				
4-Chlorotoluene	21.33	1.0	20	0	107	78 - 122				
4-Isopropyltoluene	22.45	1.0	20	0	112	77 - 127				
4-Methyl-2-pentanone	39.17	2.0	40	0	97.9	67 - 130				
Acetone	28.34	2.0	40	0	70.9	39 - 160				
Benzene	18.26	1.0	20	0	91.3	79 - 120				
Bromobenzene	21.43	1.0	20	0	107	80 - 120				
Bromochloromethane	17.29	1.0	20	0	86.5	78 - 123				
Bromodichloromethane	21.03	1.0	20	0	105	79 - 125				
Bromoform	21.43	1.0	20	0	107	66 - 130				
Bromomethane	5.984	1.0	20	0	29.9	53 - 141				S

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20120243

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20120243-01MS** Units: **ug/L** Analysis Date: **14-Dec-2020 16:50**
Client ID: **LH18/24-SP650_120220** Run ID: **VOA6_374634** SeqNo: **5880924** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	17.67	2.0	40	0	44.2	64 - 133				S
Carbon tetrachloride	21.04	1.0	20	0	105	72 - 136				
Chlorobenzene	20.65	1.0	20	0	103	82 - 118				
Chloroethane	59.47	1.0	20	0	297	60 - 138				S
Chloroform	17.73	1.0	20	0	88.6	79 - 124				
Chloromethane	46.13	1.0	20	0	231	50 - 139				S
cis-1,2-Dichloroethene	25.05	1.0	20	7.65	87.0	78 - 123				
cis-1,3-Dichloropropene	20.09	1.0	20	0	100	75 - 124				
Dibromochloromethane	20.87	1.0	20	0	104	74 - 126				
Dibromomethane	19.85	1.0	20	0	99.3	79 - 123				
Dichlorodifluoromethane	2.94	1.0	20	0	14.7	32 - 152				S
Ethylbenzene	22.42	1.0	20	0	112	79 - 121				
Hexachlorobutadiene	23.03	1.0	20	0	115	66 - 134				
Isopropylbenzene	22.15	1.0	20	0	111	72 - 131				
m,p-Xylene	42.31	2.0	40	0	106	80 - 121				
Methylene chloride	13.99	2.0	20	0	70.0	74 - 124				S
Naphthalene	19.94	1.0	20	0	99.7	61 - 128				
n-Butylbenzene	23.31	1.0	20	0	117	75 - 128				
n-Propylbenzene	22.86	1.0	20	0	114	76 - 126				
o-Xylene	20.87	1.0	20	0	104	78 - 122				
sec-Butylbenzene	23.17	1.0	20	0	116	77 - 126				
Styrene	20.35	1.0	20	0	102	78 - 123				
tert-Butylbenzene	22.9	1.0	20	0	115	78 - 124				
Tetrachloroethene	21.42	1.0	20	0	107	74 - 129				
Toluene	20.63	1.0	20	0	103	80 - 121				
trans-1,2-Dichloroethene	15.09	1.0	20	0	75.5	75 - 124				
trans-1,3-Dichloropropene	20.48	1.0	20	0	102	73 - 127				
Trichloroethene	20.13	1.0	20	1.205	94.6	79 - 123				
Trichlorofluoromethane	8.367	1.0	20	0	41.8	65 - 141				S
Vinyl chloride	2.093	1.0	20	0.4082	8.42	58 - 137				S
Surr: 1,2-Dichloroethane-d4	*44.72*	*1.0*	*50*	*0*	*89.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.81*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*44.35*	*1.0*	*50*	*0*	*88.7*	*80 - 119*				
Surr: Toluene-d8	*51.89*	*1.0*	*50*	*0*	*104*	*89 - 112*				

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20120243

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120243-01MSD** Units: **ug/L** Analysis Date: **14-Dec-2020 17:11**
Client ID: **LH18/24-SP650_120220** Run ID: **VOA6_374634** SeqNo: **5880925** 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	21.24	1.0	20	0	106	78 - 124	21.77	2.49	20	
1,1,1-Trichloroethane	17.52	1.0	20	0	87.6	74 - 131	18.27	4.19	20	
1,1,2,2-Tetrachloroethane	21.97	1.0	20	0	110	71 - 121	21.85	0.582	20	
1,1,2-Trichloroethane	21	1.0	20	0	105	80 - 119	21.22	1.05	20	
1,1-Dichloroethane	15.36	1.0	20	0	76.8	77 - 125	15.26	0.616	20	S
1,1-Dichloroethene	10.99	1.0	20	0	54.9	71 - 131	10.96	0.261	20	S
1,1-Dichloropropene	18.29	1.0	20	0	91.5	78 - 125	18.83	2.87	20	
1,2,3-Trichlorobenzene	23.73	1.0	20	0	119	69 - 129	21.99	7.58	20	
1,2,3-Trichloropropane	21.58	1.0	20	0	108	73 - 122	21.48	0.464	20	
1,2,4-Trichlorobenzene	23.01	1.0	20	0	115	69 - 130	22.74	1.2	20	
1,2,4-Trimethylbenzene	22.92	1.0	20	0	115	76 - 124	21.82	4.95	20	
1,2-Dibromo-3-chloropropane	21.86	1.0	20	0	109	62 - 128	20.54	6.23	20	
1,2-Dibromoethane	20.63	1.0	20	0	103	77 - 121	20.07	2.74	20	
1,2-Dichlorobenzene	20.97	1.0	20	0	105	80 - 119	20.8	0.816	20	
1,2-Dichloroethane	19.24	1.0	20	0	96.2	73 - 128	19.43	0.953	20	
1,2-Dichloropropane	18.84	1.0	20	0	94.2	78 - 122	19.75	4.72	20	
1,3,5-Trimethylbenzene	22.01	1.0	20	0	110	75 - 124	21.48	2.44	20	
1,3-Dichlorobenzene	21.68	1.0	20	0	108	80 - 119	20.55	5.35	20	
1,3-Dichloropropane	21.14	1.0	20	0	106	80 - 119	20.73	2	20	
1,4-Dichlorobenzene	21.66	1.0	20	0	108	79 - 118	21.39	1.28	20	
2,2-Dichloropropane	16.92	1.0	20	0	84.6	60 - 139	17.69	4.49	20	
2-Butanone	32.61	2.0	40	0	81.5	56 - 143	33.58	2.94	20	
2-Chlorotoluene	23.58	1.0	20	0	118	79 - 122	22.82	3.3	20	
2-Hexanone	39.34	2.0	40	0	98.4	57 - 139	42.58	7.9	20	
4-Chlorotoluene	21.84	1.0	20	0	109	78 - 122	21.33	2.37	20	
4-Isopropyltoluene	22.66	1.0	20	0	113	77 - 127	22.45	0.933	20	
4-Methyl-2-pentanone	39.27	2.0	40	0	98.2	67 - 130	39.17	0.257	20	
Acetone	28.23	2.0	40	0	70.6	39 - 160	28.34	0.42	20	
Benzene	18.21	1.0	20	0	91.0	79 - 120	18.26	0.316	20	
Bromobenzene	20.96	1.0	20	0	105	80 - 120	21.43	2.2	20	
Bromochloromethane	16.45	1.0	20	0	82.3	78 - 123	17.29	4.98	20	
Bromodichloromethane	20.4	1.0	20	0	102	79 - 125	21.03	3.04	20	
Bromoform	21.48	1.0	20	0	107	66 - 130	21.43	0.244	20	
Bromomethane	6.914	1.0	20	0	34.6	53 - 141	5.984	14.4	20	S

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20120243

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120243-01MSD** Units: **ug/L** Analysis Date: **14-Dec-2020 17:11**
Client ID: **LH18/24-SP650_120220** Run ID: **VOA6_374634** SeqNo: **5880925** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	17.02	2.0	40	0	42.5	64 - 133	17.67	3.73	20	S
Carbon tetrachloride	20.79	1.0	20	0	104	72 - 136	21.04	1.22	20	
Chlorobenzene	20.13	1.0	20	0	101	82 - 118	20.65	2.57	20	
Chloroethane	15.09	1.0	20	0	75.5	60 - 138	59.47	119	20	R
Chloroform	17.76	1.0	20	0	88.8	79 - 124	17.73	0.204	20	
Chloromethane	3.478	1.0	20	0	17.4	50 - 139	46.13	172	20	SR
cis-1,2-Dichloroethene	24.74	1.0	20	7.65	85.4	78 - 123	25.05	1.24	20	
cis-1,3-Dichloropropene	19.24	1.0	20	0	96.2	75 - 124	20.09	4.32	20	
Dibromochloromethane	21.2	1.0	20	0	106	74 - 126	20.87	1.6	20	
Dibromomethane	19.85	1.0	20	0	99.3	79 - 123	19.85	0.00798	20	
Dichlorodifluoromethane	3.017	1.0	20	0	15.1	32 - 152	2.94	2.57	20	S
Ethylbenzene	21.97	1.0	20	0	110	79 - 121	22.42	2.02	20	
Hexachlorobutadiene	23.94	1.0	20	0	120	66 - 134	23.03	3.84	20	
Isopropylbenzene	22.22	1.0	20	0	111	72 - 131	22.15	0.322	20	
m,p-Xylene	41.98	2.0	40	0	105	80 - 121	42.31	0.799	20	
Methylene chloride	14.68	2.0	20	0	73.4	74 - 124	13.99	4.78	20	S
Naphthalene	22.35	1.0	20	0	112	61 - 128	19.94	11.4	20	
n-Butylbenzene	23.51	1.0	20	0	118	75 - 128	23.31	0.848	20	
n-Propylbenzene	23.35	1.0	20	0	117	76 - 126	22.86	2.11	20	
o-Xylene	20.67	1.0	20	0	103	78 - 122	20.87	0.956	20	
sec-Butylbenzene	23.42	1.0	20	0	117	77 - 126	23.17	1.07	20	
Styrene	19.98	1.0	20	0	99.9	78 - 123	20.35	1.83	20	
tert-Butylbenzene	23.27	1.0	20	0	116	78 - 124	22.9	1.59	20	
Tetrachloroethene	21.52	1.0	20	0	108	74 - 129	21.42	0.438	20	
Toluene	20.65	1.0	20	0	103	80 - 121	20.63	0.113	20	
trans-1,2-Dichloroethene	15.12	1.0	20	0	75.6	75 - 124	15.09	0.18	20	
trans-1,3-Dichloropropene	19.98	1.0	20	0	99.9	73 - 127	20.48	2.47	20	
Trichloroethene	19.38	1.0	20	1.205	90.9	79 - 123	20.13	3.8	20	
Trichlorofluoromethane	8.452	1.0	20	0	42.3	65 - 141	8.367	1.01	20	S
Vinyl chloride	1.971	1.0	20	0.4082	7.82	58 - 137	2.093	5.96	20	S
Surr: 1,2-Dichloroethane-d4	*43.6*	*1.0*	*50*	*0*	*87.2*	*81 - 118*	*44.72*	*2.54*	*20*	
Surr: 4-Bromofluorobenzene	*49.33*	*1.0*	*50*	*0*	*98.7*	*85 - 114*	*50.81*	*2.97*	*20*	
Surr: Dibromofluoromethane	*44.08*	*1.0*	*50*	*0*	*88.2*	*80 - 119*	*44.35*	*0.62*	*20*	
Surr: Toluene-d8	*51.77*	*1.0*	*50*	*0*	*104*	*89 - 112*	*51.89*	*0.219*	*20*	

ALS Houston, US Date: 15-Dec-20

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder:	HS20120243

QC BATCH REPORT

Batch ID:	**R374634 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20120243-01 HS20120243-02

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20120243

QC BATCH REPORT

Batch ID: R374453 (0) **Instrument:** ICS2100 **Method:** ANIONS BY SW9056A

MBLK Sample ID: **MBLK-** Units: **mg/L** Analysis Date: **11-Dec-2020 10:00**
Client ID: Run ID: **ICS2100_374453** SeqNo: **5875960** PrepDate: DF: **1**

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

LCS Sample ID: **LCS-** Units: **mg/L** Analysis Date: **11-Dec-2020 11:47**
Client ID: Run ID: **ICS2100_374453** SeqNo: **5875962** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.49	0.500	20	0	97.4	80 - 120				
Sulfate	19.41	0.500	20	0	97.0	80 - 120				

MS Sample ID: **HS20120243-01MS** Units: **mg/L** Analysis Date: **11-Dec-2020 08:11**
Client ID: **LH18/24-SP650_120220** Run ID: **ICS2100_374453** SeqNo: **5875954** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	835.5	10.0	200	678	78.8	80 - 120				S
Sulfate	222.2	10.0	200	29.25	96.5	80 - 120				

MSD Sample ID: **HS20120243-01MSD** Units: **mg/L** Analysis Date: **11-Dec-2020 08:29**
Client ID: **LH18/24-SP650_120220** Run ID: **ICS2100_374453** SeqNo: **5875955** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	833.8	10.0	200	678	77.9	80 - 120	835.5	0.201	20	S
Sulfate	221.4	10.0	200	29.25	96.1	80 - 120	222.2	0.344	20	

The following samples were analyzed in this batch: HS20120243-01

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: **HS20120243**

QUALIFIERS, ACRONYMS, UNITS

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

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

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 15-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20120243

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20120243-01	LH18/24-SP650_120220	Login	12/4/2020 12:17:02 PM	JRM	WET381
HS20120243-01	LH18/24-SP650_120220	Login	12/4/2020 12:17:02 PM	JRM	VOA177
HS20120243-02	Trip Blank	Login	12/4/2020 12:17:02 PM	JRM	VOA177

ALS Houston, US Date: 15-Dec-20

Sample Receipt Checklist

Work Order ID: HS20120243 **Date/Time Received:** 04-Dec-2020 10:15

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

Completed By:	/S/ Jared R. Makan	04-Dec-2020 12:19	**Reviewed by:**	/S/ RJ Modashia	04-Dec-2020 16:27
	eSignature	Date/Time		eSignature	Date/Time

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

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

Temperature(s)/Thermometer(s):	1.3°C/1.3°C UC/C	IR25
Cooler(s)/Kit(s):	46374	
Date/Time sample(s) sent to storage:	12/04/2020 12:20	

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

Login Notes:

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

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC	Analyses: CHLORIDE, SULFATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_120220	Water	12/02/20 / 14:00		3	3		HCL	
LH18/24-SP650_120220	Water	12/02/20 / 14:00		1		1	NONE	
Trip Blank	Water	12/02/20		2	2		HCL	

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	12/02/20	14:30									

For Lab Use Only

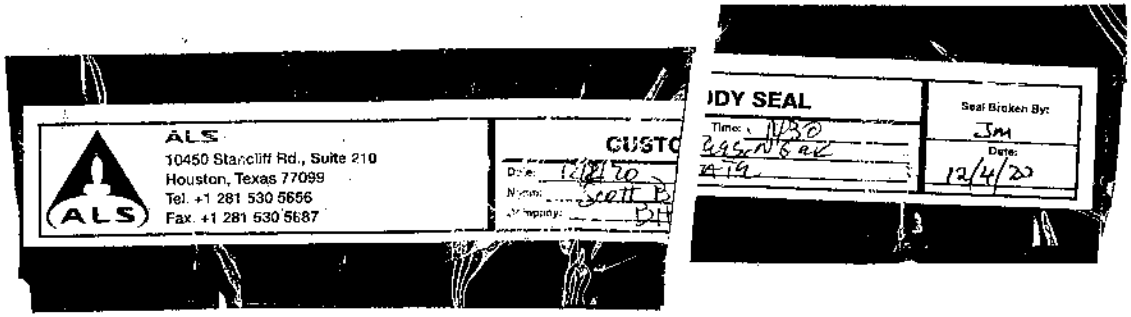
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Jimenez	12/4/20	10:45							

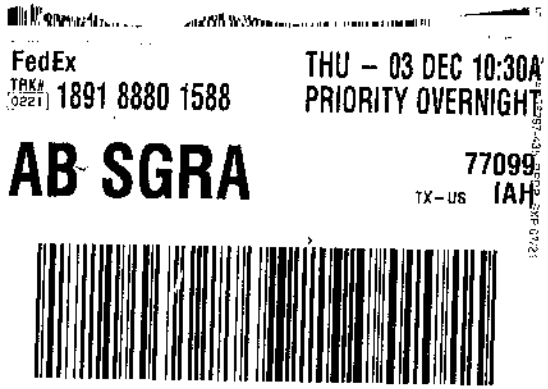
Remarks
Cooler 46314 1225
Temp 1.3°C CFO

HS20120243

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Bi Weekly Sample

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


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5687
CUSTO
DY SEAL
Seal Broken By:
Date:
12/4/20


FedEx
TRK# (0221) 1891 8880 1588
THU – 03 DEC 10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US IAH

HS20120243 8260_W_DOD Raw Data

ALS WO# HS20120243

MSVOA06 -Logbook

Batch: 42814 **Analyst:** Devak Giga

Date: 12-03-2020 **Reviewer:**

Method: 8260_W **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-03-2020 10:41 am	1.00	0.00 mL	0.00 mL	X120301.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	12-03-2020 11:01 am	1.00	5.00 mL	0.00 mL	X120302.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	12-03-2020 11:22 am	1.00	5.00 mL	0.00 mL	X120303.D	Liquid	Y	NA
4	VSTD001	ICAL3	12-03-2020 12:04 pm	1.00	5.00 mL	0.00 mL	X120304.D	Liquid	Y	NA
5	VSTD002	ICAL4	12-03-2020 12:25 pm	1.00	5.00 mL	0.00 mL	X120305.D	Liquid	Y	NA
6	VSTD005	ICAL5	12-03-2020 12:46 pm	1.00	5.00 mL	0.00 mL	X120306.D	Liquid	Y	NA
7	VSTD020	ICAL6	12-03-2020 01:07 pm	1.00	5.00 mL	0.00 mL	X120307.D	Liquid	Y	NA
8	VSTD050	ICAL7	12-03-2020 01:28 pm	1.00	5.00 mL	0.00 mL	X120308.D	Liquid	Y	NA
9	VSTD100	ICAL8	12-03-2020 01:49 pm	1.00	5.00 mL	0.00 mL	X120309.D	Liquid	Y	NA
10	VSTD150	ICAL9	12-03-2020 02:10 pm	1.00	5.00 mL	0.00 mL	X120310.D	Liquid	Y	NA
11	VSTD200	ICAL	12-03-2020 02:31 pm	1.00	5.00 mL	0.00 mL	X120311.D	Liquid	Y	NA
12	BLANK	SAMP	12-03-2020 02:52 pm	1.00	5.00 mL	0.00 mL	X120312.D	Liquid	Y	NA
13	BLANK	SAMP	12-03-2020 03:22 pm	1.00	5.00 mL	0.00 mL	X120313.D	Liquid	Y	NA
14	ICV	ICV	12-03-2020 03:43 pm	1.00	5.00 mL	0.00 mL	X120314.D	Liquid	Y	NA
15	CCB	SAMP	12-03-2020 04:04 pm	1.00	5.00 mL	0.00 mL	X120315.D	Liquid	Y	NA
16	VLCSW-201203	LCS	12-03-2020 04:25 pm	1.00	5.00 mL	0.00 mL	X120316.D	Liquid	Y	NA
17	BLANK	SAMP	12-03-2020 04:46 pm	1.00	5.00 mL	0.00 mL	X120317.D	Liquid	Y	NA
18	VBLKW-201203	MBLK	12-03-2020 05:07 pm	1.00	5.00 mL	0.00 mL	X120318.D	Liquid	Y	NA
19	HS20111074-03	SAMP	12-03-2020 05:28 pm	1.00	5.00 mL	0.00 mL	X120319.D	Liquid	Y	NA
20	HS20111080-05	SAMP	12-03-2020 05:49 pm	1.00	5.00 mL	0.00 mL	X120320.D	Liquid	Y	NA
21	HS20111074-01	SAMP	12-03-2020 06:10 pm	1.00	5.00 mL	0.00 mL	X120321.D	Liquid	Y	NA
22	HS20111074-02	SAMP	12-03-2020 06:31 pm	1.00	5.00 mL	0.00 mL	X120322.D	Liquid	Y	NA
23	HS20111080-01	SAMP	12-03-2020 06:52 pm	1.00	5.00 mL	0.00 mL	X120323.D	Liquid	Y	NA
24	HS20111080-02	SAMP	12-03-2020 07:13 pm	1.00	5.00 mL	0.00 mL	X120324.D	Liquid	Y	NA
25	HS20111080-03	SAMP	12-03-2020 07:34 pm	1.00	5.00 mL	0.00 mL	X120325.D	Liquid	Y	NA
26	HS20111080-04	SAMP	12-03-2020 07:56 pm	1.00	5.00 mL	0.00 mL	X120326.D	Liquid	Y	NA
27	HS20120097-01	SAMP	12-03-2020 08:17 pm	1000.0	5.00 mL	0.00 mL	X120327.D	Liquid	Y	NA
28	HS20111074-01MS	MS	12-03-2020 08:38 pm	1.00	5.00 mL	0.00 mL	X120328.D	Liquid	Y	NA
29	HS20111074-01MSD	MSD	12-03-2020 08:59 pm	1.00	5.00 mL	0.00 mL	X120329.D	Liquid	Y	NA
30	CCV-END	CCV	12-03-2020 09:20 pm	1.00	5.00 mL	0.00 mL	X120330.D	Liquid	Y	NA
31	BFB	TUNE	12-03-2020 09:41 pm	1.00	0.00 mL	0.00 mL	Y120301.D	Liquid	Y	NA
32	CCV	CCV	12-03-2020 10:02 pm	1.00	5.00 mL	0.00 mL	Y120302a.D	Liquid	Y	NA
33	CCV	CCV	12-03-2020 10:22 pm	1.00	5.00 mL	0.00 mL	Y120303.D	Liquid	Y	NA
34	CCB	SAMP	12-03-2020 10:44 pm	1.00	5.00 mL	0.00 mL	Y120304.D	Liquid	Y	NA
35	VLCSW-201203	LCS	12-03-2020 11:04 pm	1.00	5.00 mL	0.00 mL	Y120305.D	Liquid	Y	NA
36	BLANK	SAMP	12-03-2020 11:26 pm	1.00	5.00 mL	0.00 mL	Y120306.D	Liquid	Y	NA
37	VBLKW-201203	MBLK	12-03-2020 11:47 pm	1.00	5.00 mL	0.00 mL	Y120307.D	Liquid	Y	NA
38	MBLK-160023	MBLK	12-04-2020 12:08 am	20.00	5.00 mL	0.00 mL	Y120308.D	Liquid	Y	NA
39	HS20110992-01	SAMP	12-04-2020 12:29 am	20.00	5.00 mL	0.00 mL	Y120309.D	Liquid	Y	NA
40	HS20110992-02	SAMP	12-04-2020 12:50 am	20.00	5.00 mL	0.00 mL	Y120310.D	Liquid	Y	NA
41	HS20110992-03	SAMP	12-04-2020 01:11 am	20.00	5.00 mL	0.00 mL	Y120311.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS20110992-04	SAMP	12-04-2020 01:32 am	20.00	5.00 mL	0.00 mL	Y120312.D	Liquid	Y	NA
43	HS20110992-05	SAMP	12-04-2020 01:53 am	20.00	5.00 mL	0.00 mL	Y120313.D	Liquid	Y	NA
44	HS20110992-06	SAMP	12-04-2020 02:14 am	20.00	5.00 mL	0.00 mL	Y120314.D	Liquid	Y	NA
45	HS20110992-07	SAMP	12-04-2020 02:35 am	20.00	5.00 mL	0.00 mL	Y120315.D	Liquid	Y	NA
46	HS20110992-08	SAMP	12-04-2020 02:56 am	20.00	5.00 mL	0.00 mL	Y120316.D	Liquid	Y	NA
47	HS20110992-09	SAMP	12-04-2020 03:17 am	20.00	5.00 mL	0.00 mL	Y120317.D	Liquid	Y	NA
48	HS20110992-07MS	MS	12-04-2020 03:38 am	20.00	5.00 mL	0.00 mL	Y120318.D	Liquid	Y	NA
49	HS20111071-01	SAMP	12-04-2020 03:59 am	20.00	5.00 mL	0.00 mL	Y120319.D	Liquid	Y	NA
50	MBLK-160068	MBLK	12-04-2020 04:20 am	20.00	5.00 mL	0.00 mL	Y120320.D	Liquid	Y	NA
51	HS20110992-10	SAMP	12-04-2020 04:42 am	20.00	5.00 mL	0.00 mL	Y120321.D	Liquid	Y	NA
52	HS20110992-11	SAMP	12-04-2020 05:03 am	20.00	5.00 mL	0.00 mL	Y120322.D	Liquid	Y	NA
53	HS20110992-12	SAMP	12-04-2020 05:24 am	20.00	5.00 mL	0.00 mL	Y120323.D	Liquid	Y	NA
54	HS20110992-13	SAMP	12-04-2020 05:45 am	20.00	5.00 mL	0.00 mL	Y120324.D	Liquid	Y	NA
55	HS20110992-14	SAMP	12-04-2020 06:06 am	20.00	5.00 mL	0.00 mL	Y120325.D	Liquid	Y	NA
56	CCV-END	CCV	12-04-2020 06:27 am	1.00	5.00 mL	0.00 mL	Y120326.D	Liquid	Y	NA
57	HS20111090-01	SAMP	12-04-2020 06:48 am	20.00	5.00 mL	0.00 mL	Y120327.D	Liquid	Y	NA
58	HS20111090-02	SAMP	12-04-2020 07:09 am	20.00	5.00 mL	0.00 mL	Y120328.D	Liquid	Y	NA
59	HS20111110-01	SAMP	12-04-2020 07:30 am	20.00	5.00 mL	0.00 mL	Y120329.D	Liquid	Y	NA
60	HS20111112-01	SAMP	12-04-2020 07:51 am	20.00	5.00 mL	0.00 mL	Y120330.D	Liquid	Y	NA
61	MBLK-160185	MBLK	12-04-2020 08:12 am	20.00	5.00 mL	0.00 mL	Y120331.D	Liquid	Y	NA
62	HS20111292-01	SAMP	12-04-2020 08:33 am	20.00	5.00 mL	0.00 mL	Y120332.D	Liquid	Y	NA
63	BLANK	SAMP	12-04-2020 08:54 am	1.00	5.00 mL	0.00 mL	Y120333.D	Liquid	Y	NA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120243

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
cis-1,3-Dichloropropene	50.00	49.96	100	80-120
trans-1,3-Dichloroprope	50.00	48.88	98	80-120
1,3-Dichlorobenzene	50.00	44.58	89	80-120
2,2-Dichloropropane	50.00	45.30	91	80-120
1,1-Dichloropropene	50.00	44.88	90	80-120
Dibromomethane	50.00	48.83	98	80-120
1,2-Dibromoethane	50.00	48.39	97	80-120
trans-1,2-Dichloroethen	50.00	46.48	93	80-120
1,1,1,2-Tetrachloroetha	50.00	46.56	93	80-120
1,1,1-Trichloroethane	50.00	43.60	87	80-120
1,1,2,2-Tetrachloroetha	50.00	47.58	95	80-120
1,1,2-Trichloroethane	50.00	45.93	92	80-120
1,1-Dichloroethane	50.00	46.65	93	80-120
1,1-Dichloroethene	50.00	42.41	85	80-120
Trichloroethene	50.00	43.44	87	80-120
1,2,3-Trichlorobenzene	50.00	45.94	92	80-120
Trichlorofluoromethane	50.00	40.95	82	80-120
1,2,4-Trichlorobenzene	50.00	47.47	95	80-120
1,2,4-Trimethylbenzene	50.00	44.34	89	80-120
Tetrachloroethene	50.00	43.02	86	80-120
1,2-Dichlorobenzene	50.00	45.13	90	80-120
1,2-Dichloroethane	50.00	48.33	97	80-120
1,2-Dichloropropane	50.00	48.26	96	80-120
1,3,5-Trimethylbenzene	50.00	42.06	84	80-120
1,3-Dichloropropane	50.00	46.45	93	80-120
1,4-Dichlorobenzene	50.00	45.33	91	80-120
Toluene	50.00	45.72	91	80-120
2-Butanone	100.00	99.12	99	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120243

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
2-Chlorotoluene	50.00	45.89	92	80-120
2-Hexanone	100.00	91.56	92	80-120
4-Chlorotoluene	50.00	43.34	87	80-120
tert-Butylbenzene	50.00	41.54	83	80-120
4-Methyl-2-Pentanone	100.00	94.99	95	80-120
Acetone	100.00	98.30	98	80-120
Benzene	50.00	46.56	93	80-120
Bromobenzene	50.00	46.17	92	80-120
Bromochloromethane	50.00	47.32	95	80-120
Bromodichloromethane	50.00	49.79	100	80-120
Bromoform	50.00	50.45	101	80-120
Bromomethane	50.00	42.87	86	80-120
Carbon Disulfide	100.00	90.45	90	80-120
Carbon Tetrachloride	50.00	45.40	91	80-120
Chlorobenzene	50.00	46.37	93	80-120
Chloroethane	50.00	40.82	82	80-120
Chloroform	50.00	46.35	93	80-120
Chloromethane	50.00	45.80	92	80-120
cis-1,2-Dichloroethene	50.00	46.52	93	80-120
Dibromochloromethane	50.00	47.32	95	80-120
Dichlorodifluoromethane	50.00	40.89	82	80-120
Ethylbenzene	50.00	44.48	89	80-120
Hexachlorobutadiene	50.00	43.37	87	80-120
Isopropylbenzene	50.00	42.71	85	80-120
m,p-Xylenes	100.00	88.92	89	80-120
Methylene Chloride	50.00	45.27	90	80-120
n-Butylbenzene	50.00	40.18	80	80-120
n-Propylbenzene	50.00	43.12	86	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120243

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Naphthalene	50.00	48.06	96	80-120
o-Xylene	50.00	44.74	89	80-120
sec-Butylbenzene	50.00	40.51	81	80-120
Styrene	50.00	47.61	95	80-120
Vinyl Chloride	50.00	40.36	81	80-120
1,2,3-Trichloropropane	50.00	48.29	96	80-120
p-Isopropyltoluene	50.00	40.72	81	80-120
1,2-Dibromo-3-Chloropro	50.00	47.75	96	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120243

Lab File ID: X120301 BFB Injection Date: 12/03/20

Instrument ID: VOA6 BFB Injection Time: 1041

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	22.8
75	30.0 - 60.0% of mass 95	55.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	1.1 (1.5)1
174	Greater than 50.0% of mass 95	73.0
175	5.0 - 9.0% of mass 174	5.5 (7.5)1
176	95.0 - 101.0% of mass 174	73.7 (101.0)1
177	5.0 - 9.0% of mass 176	4.8 (6.5)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	X120302	12/03/20	1101
02	VSTD000.5	VSTD000.5	X120303	12/03/20	1122
03	VSTD001	VSTD001	X120304	12/03/20	1204
04	VSTD002	VSTD002	X120305	12/03/20	1225
05	VSTD005	VSTD005	X120306	12/03/20	1246
06	VSTD020	VSTD020	X120307	12/03/20	1307
07	VSTD050	VSTD050	X120308	12/03/20	1328
08	VSTD100	VSTD100	X120309	12/03/20	1349
09	VSTD150	VSTD150	X120310	12/03/20	1410
10	VSTD200	VSTD200	X120311	12/03/20	1431
11	ICV	ICV	X120314	12/03/20	1543
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120243

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

LAB FILE ID: RF0.25: X120302 RF0.5: X120303 RF1: X120304
RF2: X120305 RF5: X120306 RF20: X120307

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
cis-1,3-Dichloropropene		0.716	0.633	0.637	0.615	0.605
trans-1,3-Dichloropropene		0.657	0.534	0.534	0.542	0.520
1,3-Dichlorobenzene		1.902	1.572	1.509	1.413	1.475
2,2-Dichloropropane		1.167	1.141	1.068	0.942	0.987
1,1-Dichloropropene		0.543	0.506	0.497	0.482	0.440
Dibromomethane		0.270	0.260	0.233	0.262	0.251
1,2-Dibromoethane		0.427	0.409	0.344	0.398	0.367
trans-1,2-Dichloroethene		0.630	0.582	0.573	0.581	0.591
1,1,1,2-Tetrachloroethane		0.430	0.392	0.341	0.331	0.341
1,1,1-Trichloroethane		1.249	0.922	1.039	0.883	1.007
1,1,2,2-Tetrachloroethane		1.156	1.079	1.077	1.003	1.000
1,1,2-Trichloroethane		0.374	0.318	0.326	0.321	0.298
1,1-Dichloroethane		1.346	1.284	1.123	1.215	1.164
1,1-Dichloroethene		0.877	0.752	0.731	0.704	0.742
Trichloroethene		0.462	0.403	0.367	0.344	0.335
1,2,3-Trichlorobenzene		0.200	0.324	0.298	0.250	0.233
Trichlorofluoromethane		1.612	1.492	1.420	1.264	1.420
1,2,4-Trichlorobenzene		0.463	0.433	0.520	0.416	0.429
1,2,4-Trimethylbenzene		3.200	2.605	2.455	2.361	2.606
Tetrachloroethene		0.304	0.331	0.225	0.242	0.254
1,2-Dichlorobenzene		1.807	1.363	1.431	1.245	1.379
1,2-Dichloroethane		0.593	0.579	0.610	0.595	0.564
1,2-Dichloropropane		0.405	0.419	0.361	0.382	0.344
1,3,5-Trimethylbenzene		3.498	2.667	2.607	2.340	2.573
1,3-Dichloropropane		0.698	0.600	0.652	0.640	0.603
1,4-Dichlorobenzene		1.595	1.677	1.648	1.495	1.501
Toluene		1.770	1.562	1.529	1.483	1.453
2-Butanone		0.220	0.204	0.282	0.244	0.220
2-Chlorotoluene		3.016	2.328	2.316	2.130	2.269
2-Hexanone		0.291	0.249	0.284	0.232	0.221
4-Chlorotoluene		3.686	2.970	2.574	2.530	2.778
tert-Butylbenzene		2.875	2.185	2.140	1.785	2.099
4-Methyl-2-Pentanone		0.375	0.374	0.386	0.380	0.336
Acetone		7183	7661	10587	17442	49369
Benzene		1.626	1.433	1.352	1.327	1.284
Bromobenzene		1.074	0.891	0.851	0.860	0.844
Bromochloromethane		0.338	0.404	0.385	0.369	0.356
Bromodichloromethane		0.554	0.518	0.468	0.533	0.507
Bromoform		0.221	0.228	0.208	0.230	0.222
Bromomethane		2325	4928	9968	23460	87980
Carbon Disulfide		1.766	1.600	1.644	1.553	1.621
Carbon Tetrachloride		0.455	0.294	0.386	0.363	0.391
Chlorobenzene		1.126	1.048	1.049	0.968	0.970
Chloroethane		0.727	0.557	0.621	0.566	0.586

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2012024

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

LAB FILE ID: RF0.25: X120302 RF0.5: X120303 RF1: X120304
RF2: X120305 RF5: X120306 RF20: X120307

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Chloroform		1.474	1.344	1.247	1.241	1.243
Chloromethane		3221	5480	10331	25288	104619
cis-1,2-Dichloroethene		0.812	0.682	0.726	0.666	0.679
Dibromochloromethane		0.450	0.402	0.405	0.388	0.382
Dichlorodifluoromethane		1748	3828	7432	15656	76291
Ethylbenzene		0.578	0.504	0.482	0.467	0.472
Hexachlorobutadiene		433	1259	2432	4266	20353
Isopropylbenzene		1.853	1.509	1.561	1.228	1.397
m,p-Xylenes		0.782	0.622	0.621	0.562	0.605
Methylene Chloride		0.787	0.689	0.730	0.670	0.640
n-Butylbenzene		6359	10432	19960	36063	206417
n-Propylbenzene		4.896	3.788	3.962	3.434	3.747
Naphthalene		0.760	0.964	0.904	0.712	0.703
o-Xylene		0.790	0.580	0.600	0.580	0.598
sec-Butylbenzene		3.804	3.177	3.156	2.450	2.910
Styrene		1.246	1.000	0.949	0.937	1.032
Vinyl Chloride		1.002	0.914	0.890	0.852	0.866
1,2,3-Trichloropropane		1.307	1.230	1.149	1.161	1.137
p-Isopropyltoluene		3.269	2.783	2.700	2.222	2.422
1,2-Dibromo-3-Chloropropane			469	853	1406	6806
1,2-Dichloroethane-d4		3206	5576	10141	24355	88752
Dibromofluoromethane		1948	3334	7182	19795	70849
Toluene-d8		7857	12569	23817	60361	223091
4-Bromofluorobenzene		3817	5900	12242	23638	88172

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2012024

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

LAB FILE ID: RF50: X120308 RF100: X120309 RF150: X120310
RF200: X120311

COMPOUND	RF50	RF100	RF150	RF200
cis-1,3-Dichloropropene	0.657	0.624	0.673	0.622
trans-1,3-Dichloropropene	0.569	0.554	0.575	0.545
1,3-Dichlorobenzene	1.434	1.522	1.538	1.494
2,2-Dichloropropane	0.974	1.059	1.056	1.056
1,1-Dichloropropene	0.453	0.470	0.490	0.472
Dibromomethane	0.258	0.243	0.265	0.239
1,2-Dibromoethane	0.381	0.379	0.384	0.374
trans-1,2-Dichloroethene	0.561	0.615	0.618	0.645
1,1,1,2-Tetrachloroethane	0.343	0.358	0.361	0.364
1,1,1-Trichloroethane	0.986	1.083	1.096	1.095
1,1,2,2-Tetrachloroethane	0.946	0.962	0.980	0.916
1,1,2-Trichloroethane	0.307	0.316	0.302	0.302
1,1-Dichloroethane	1.059	1.229	1.172	1.217
1,1-Dichloroethene	0.654	0.785	0.762	0.821
Trichloroethene	0.340	0.342	0.354	0.338
1,2,3-Trichlorobenzene	0.255	0.279	0.288	0.260
Trichlorofluoromethane	1.242	1.462	1.472	1.534
1,2,4-Trichlorobenzene	0.454	0.496	0.530	0.487
1,2,4-Trimethylbenzene	2.613	2.866	2.898	2.862
Tetrachloroethene	0.258	0.300	0.298	0.305
1,2-Dichlorobenzene	1.342	1.451	1.515	1.497
1,2-Dichloroethane	0.575	0.513	0.568	0.490
1,2-Dichloropropane	0.380	0.359	0.377	0.357
1,3,5-Trimethylbenzene	2.547	2.911	3.013	3.073
1,3-Dichloropropane	0.619	0.628	0.605	0.611
1,4-Dichlorobenzene	1.467	1.533	1.536	1.502
Toluene	1.452	1.560	1.577	1.592
2-Butanone	0.228	0.242	0.229	0.226
2-Chlorotoluene	2.274	2.357	2.414	2.361
2-Hexanone	0.248	0.246	0.249	0.232
4-Chlorotoluene	2.698	2.999	3.100	3.101
tert-Butylbenzene	2.055	2.400	2.336	2.358
4-Methyl-2-Pentanone	0.359	0.357	0.373	0.350
Acetone	115400	230256	345461	455195
Benzene	1.347	1.252	1.364	1.252
Bromobenzene	0.837	0.871	0.902	0.850
Bromochloromethane	0.331	0.354	0.352	0.338
Bromodichloromethane	0.535	0.498	0.546	0.495
Bromoform	0.234	0.231	0.244	0.232
Bromomethane	207664	424564	691088	953139
Carbon Disulfide	1.458	1.742	1.700	1.802
Carbon Tetrachloride	0.393	0.443	0.460	0.453
Chlorobenzene	0.964	1.017	1.035	1.066
Chloroethane	0.518	0.583	0.580	0.604

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2012024

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

LAB FILE ID: RF50: X120308 RF100: X120309 RF150: X120310
RF200: X120311

COMPOUND	RF50	RF100	RF150	RF200
Chloroform	1.236	1.256	1.292	1.248
Chloromethane	263664	554456	845637	1263538
cis-1,2-Dichloroethene	0.657	0.689	0.719	0.704
Dibromochloromethane	0.400	0.408	0.410	0.408
Dichlorodifluoromethane	172818	402184	658231	961874
Ethylbenzene	0.467	0.515	0.517	0.520
Hexachlorobutadiene	52188	143368	226530	317246
Isopropylbenzene	1.432	1.649	1.623	1.661
m,p-Xylenes	0.626	0.685	0.678	0.714
Methylene Chloride	0.576	0.638	0.662	0.655
n-Butylbenzene	549126	1374517	2184866	3158558
n-Propylbenzene	3.617	4.196	4.311	4.264
Naphthalene	0.758	0.827	0.858	0.761
o-Xylene	0.598	0.649	0.664	0.685
sec-Butylbenzene	2.898	3.493	3.494	3.547
Styrene	1.087	1.133	1.180	1.206
Vinyl Chloride	0.780	0.877	0.874	0.934
1,2,3-Trichloropropane	1.058	1.125	1.122	1.078
p-Isopropyltoluene	2.430	2.928	2.929	2.936
1,2-Dibromo-3-Chloropropane	18561	37818	59701	77694
1,2-Dichloroethane-d4	243264	493358	721913	1007416
Dibromofluoromethane	188739	377139	598380	804284
Toluene-d8	636641	1342152	2026860	2874805
4-Bromofluorobenzene	240109	495764	783951	1059650

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2012024

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
cis-1,3-Dichloropropene	AVRG		0.64254312		5.386	15.000
trans-1,3-Dichloropropene	AVRG		0.55904144		7.276	15.000
1,3-Dichlorobenzene	AVRG		1.53982640		9.394	15.000
2,2-Dichloropropane	AVRG		1.05005171		7.057	15.000
1,1-Dichloropropene	AVRG		0.48369117		6.302	15.000
Dibromomethane	AVRG		0.25330747		5.007	15.000
1,2-Dibromoethane	AVRG		0.38483987		6.258	15.000
trans-1,2-Dichloroethene	AVRG		0.59961457		4.748	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.36246638		8.558	15.000
1,1,1-Trichloroethane	AVRG		1.04005748		10.437	15.000
1,1,2,2-Tetrachloroethane	AVRG		1.01340692		7.543	15.000
1,1,2-Trichloroethane	AVRG		0.31813769		7.264	15.000
1,1-Dichloroethane	AVRG		1.20117985		7.053	15.000
1,1-Dichloroethene	AVRG		0.75873181		8.559	15.000
Trichloroethene	AVRG		0.36513773		11.480	15.000
1,2,3-Trichlorobenzene	AVRG		0.26521683		13.882	15.000
Trichlorofluoromethane	AVRG		1.43556388		8.302	15.000
1,2,4-Trichlorobenzene	AVRG		0.46979034		8.719	15.000
1,2,4-Trimethylbenzene	AVRG		2.71853698		9.561	15.000
Tetrachloroethene	AVRG		0.27971775		12.687	15.000
1,2-Dichlorobenzene	AVRG		1.44767134		10.936	15.000
1,2-Dichloroethane	AVRG		0.56530920		6.931	15.000
1,2-Dichloropropane	AVRG		0.37617557		6.373	15.000
1,3,5-Trimethylbenzene	AVRG		2.80335971		12.617	15.000
1,3-Dichloropropane	AVRG		0.62844441		4.994	15.000
1,4-Dichlorobenzene	AVRG		1.55058805		4.732	15.000
Toluene	AVRG		1.55310772		6.228	15.000
2-Butanone	AVRG		0.23284903		9.420	15.000
2-Chlorotoluene	AVRG		2.38507824		10.471	15.000
2-Hexanone	AVRG		0.25018942		9.374	15.000
4-Chlorotoluene	AVRG		2.93744227		12.028	15.000
tert-Butylbenzene	AVRG		2.24820476		13.392	15.000
4-Methyl-2-Pentanone	AVRG		0.36567137		4.378	15.000
Acetone	LINR	-0.1639367	5.32621418		0.9981668	0.9900000
Benzene	AVRG		1.35965118		8.479	15.000
Bromobenzene	AVRG		0.88677933		8.261	15.000
Bromochloromethane	AVRG		0.35853310		6.632	15.000
Bromodichloromethane	AVRG		0.51693931		5.334	15.000
Bromoform	AVRG		0.22788022		4.403	15.000
Bromomethane	LINR	5.118e-003	1.28159916		0.9991066	0.9900000
Carbon Disulfide	AVRG		1.65430376		6.656	15.000
Carbon Tetrachloride	AVRG		0.40426371		13.512	15.000
Chlorobenzene	AVRG		1.02704143		5.213	15.000
Chloroethane	AVRG		0.59365963		9.775	15.000

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2012024

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Chloroform	AVRG		1.28673673		6.100	15.000
Chloromethane	LINR	2.402e-002	0.98700984		0.9985091	0.9900000
cis-1,2-Dichloroethene	AVRG		0.70381496		6.624	15.000
Dibromochloromethane	AVRG		0.40581776		4.680	15.000
Dichlorodifluoromethane	LINR	5.455e-002	1.28626354		0.9964989	0.9900000
Ethylbenzene	AVRG		0.50242379		7.153	15.000
Hexachlorobutadiene	2ORDR	4.138e-002	3.47246638	-0.2719127	0.9964134	0.9900000
Isopropylbenzene	AVRG		1.54581697		11.711	15.000
m,p-Xylenes	AVRG		0.65510485		10.133	15.000
Methylene Chloride	AVRG		0.67162003		8.922	15.000
n-Butylbenzene	2ORDR	3.078e-002	0.36714780	-3.99e-003	0.9984541	0.9900000
n-Propylbenzene	AVRG		4.02373689		11.042	15.000
Naphthalene	AVRG		0.80531932		11.097	15.000
o-Xylene	AVRG		0.63837948		10.727	15.000
sec-Butylbenzene	AVRG		3.21422744		12.997	15.000
Styrene	AVRG		1.08554655		10.433	15.000
Vinyl Chloride	AVRG		0.88770647		6.866	15.000
1,2,3-Trichloropropane	AVRG		1.15191091		6.615	15.000
p-Isopropyltoluene	AVRG		2.73547266		11.970	15.000
1,2-Dibromo-3-Chloropropane	LINR	-1.37e-002	12.6976808		0.9963770	0.9900000
1,2-Dichloroethane-d4	LINR	-1.59e-002	1.20699711		0.9994481	0.9900000
Dibromofluoromethane	LINR	-3.33e-003	1.49820370		0.9991927	0.9900000
Toluene-d8	LINR	7.594e-003	0.75478184		0.9998687	0.9900000
4-Bromofluorobenzene	LINR	-3.71e-003	2.02263830		0.9993308	0.9900000

FORM VI VOA

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120301.D

Date : 03-DEC-2020 10:41

Client ID: BFB

Instrument: voa6.i

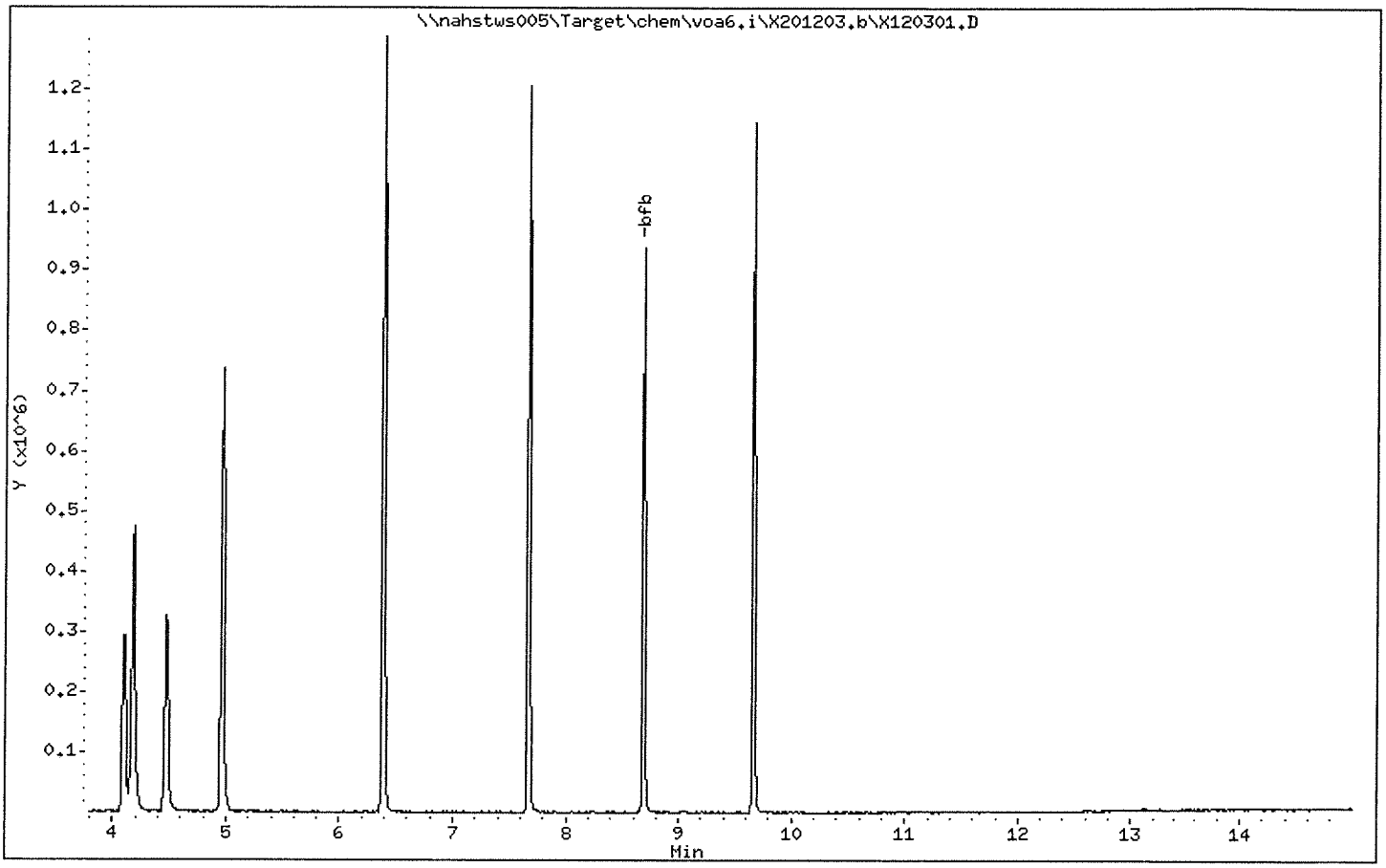
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120301.D

Date : 03-DEC-2020 10:41

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

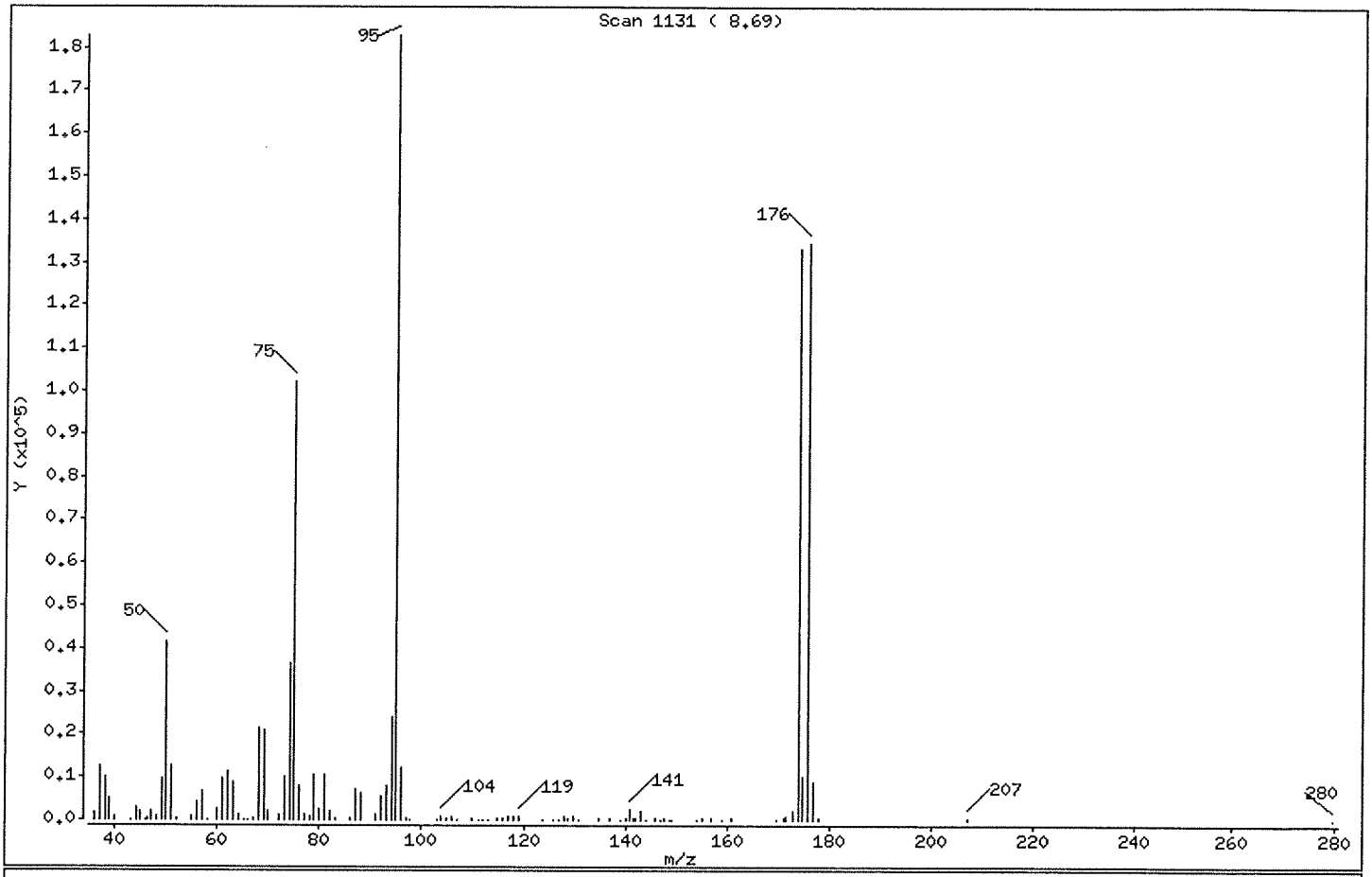
Volume Injected (uL): 2.0

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	22.79
75	30.00 - 60.00% of mass 95	55.77
96	5.00 - 9.00% of mass 95	6.65
173	Less than 2.00% of mass 174	1.10 (1.51)
174	Greater than 50.00% of mass 95	72.97
175	5.00 - 9.00% of mass 174	5.51 (7.55)
176	95.00 - 101.00% of mass 174	73.67 (100.96)
177	5.00 - 9.00% of mass 176	4.78 (6.49)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120301.D

Date : 03-DEC-2020 10:41

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: X120301.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 105

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	1679	66.90	519	102.90	181	142.10	357
37.10	12576	68.00	21608	103.90	1039	142.90	1963
38.10	10136	69.00	20912	105.00	258	144.10	136
39.00	5107	70.00	2089	105.90	992	145.80	326
40.00	770	72.00	1249	106.80	176	146.90	159
43.00	172	73.00	10004	109.80	233	147.70	493
44.00	2768	74.00	36456	111.10	139	148.80	74
45.00	2064	75.00	101936	111.80	128	149.20	67
45.90	186	76.00	7849	113.00	122	153.90	147
46.20	212	76.90	1341	114.80	281	155.00	383
47.00	2163	77.90	991	115.90	613	156.80	260
48.10	1040	78.90	10694	116.90	958	158.90	164
49.00	9601	79.90	2524	117.90	780	160.90	381
50.00	41648	80.90	10713	119.00	971	169.60	81
51.00	12750	81.90	2149	123.90	66	171.10	414
52.00	529	82.90	420	126.00	78	171.70	684
55.00	684	85.90	307	126.90	103	173.00	2011
56.00	4186	86.90	7087	127.90	969	173.90	133376
57.00	6707	87.90	6201	128.80	467	174.90	10066
58.00	210	90.90	1146	129.90	680	175.90	134656
60.00	2446	92.00	5566	131.00	180	176.90	8742
61.00	9874	93.00	7988	134.80	343	178.00	310
62.00	11193	94.00	23792	136.80	442	207.10	219
63.00	8826	95.00	182784	138.90	88	279.70	66
64.00	1142	96.00	12154	140.10	231		
65.10	112	97.00	557	140.80	2395		
66.00	119	97.80	68	141.70	287		

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120302.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 03-DEC-2020 11:01
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:31 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	274588	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	490514	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	451313	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	198730	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	1225	0.25000	0.16(aM)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	2145	0.25000	(TaM)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	7123	0.25000	0.97(a)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	5722	0.25000	1.09(a)
60 1,1,1,2-Tetrachloroethane	131	7.771	7.771	(1.013)	988	0.25000	0.30(a)
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	1759	0.25000	0.30(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1345	0.25000	0.33(aM)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	986	0.25000	0.34(a)
22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	2039	0.25000	0.30(Ta)
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	1269	0.25000	0.30(aM)
32 1,1-Dichloropropene	75	4.275	4.275	(0.861)	1706	0.25000	0.35(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	158	0.25000	0.14(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	1360	0.25000	0.29(a)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	610	0.25000	0.32(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	3505	0.25000	0.32(a)
57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	1098	0.25000	0.31(a)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	1775	0.25000	0.30(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	2082	0.25000	0.37(a)

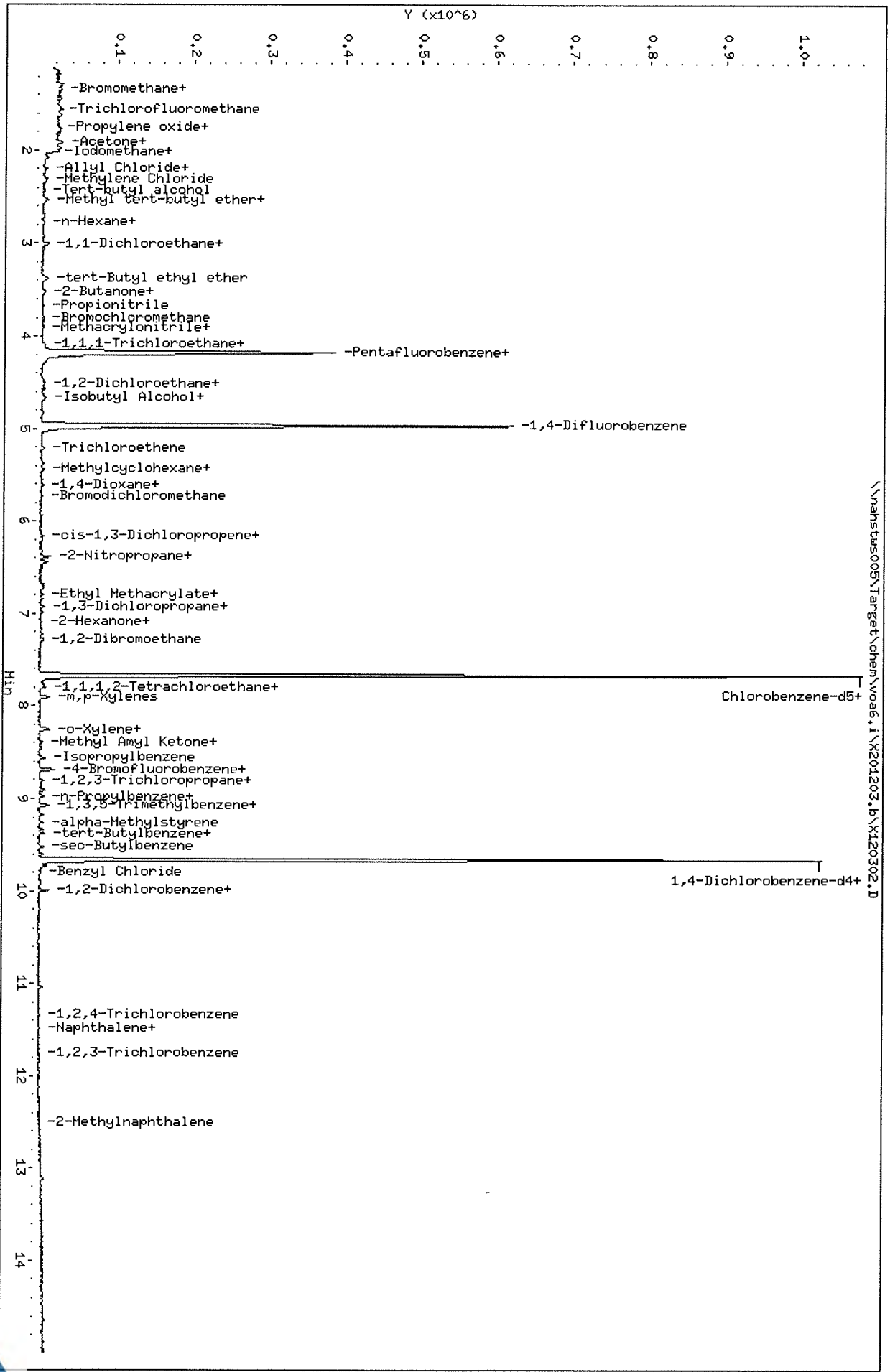
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42	1,2-Dichloropropane	63	5.436	5.436	(1.095)	1254	0.25000	0.33(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	3501	0.25000	0.31(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	1723	0.25000	0.28(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	1671	0.25000	0.29(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	2418	0.25000	0.39(a)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	2008	0.25000	0.34(aM)
24	2-Butanone	43	3.595	3.595	(0.860)	781	0.50000	0.61(aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.930)	3628	0.25000	0.38(a)
52	2-Hexanone	43	7.098	7.098	(0.925)	1564	0.50000	0.69(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	4062	0.25000	0.34(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	3441	0.25000	0.31(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	2124	0.50000	0.64(a)
10	Acetone	43	1.969	1.969	(0.471)	7129	0.50000	(a)
37	Benzene	78	4.519	4.519	(0.911)	4229	0.25000	0.31(a)
74	Bromobenzene	156	8.809	8.809	(0.912)	1161	0.25000	0.32(a)
29	Bromochloromethane	128	3.803	3.803	(0.909)	502	0.25000	0.25(aM)
39	Bromodichloromethane	83	5.729	5.729	(1.154)	1608	0.25000	0.31(aM)
66	Bromoform	173	8.416	8.416	(1.097)	528	0.25000	0.25(aM)
6	Bromomethane	94	1.338	1.338	(0.320)	1529	0.25000	0.61(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	5591	0.50000	0.61(aM)
34	Carbon Tetrachloride	117	4.268	4.268	(0.860)	1472	0.25000	0.37(aM)
59	Chlorobenzene	112	7.699	7.699	(1.004)	3473	0.25000	0.37(a)
7	Chloroethane	64	1.403	1.403	(0.336)	987	0.25000	0.30(aM)
28	Chloroform	83	3.910	3.910	(0.935)	2317	0.25000	0.32(a)
3	Chloromethane	50	1.081	1.081	(0.258)	2075	0.25000	1.57(aM)
27	cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	1059	0.25000	0.27(aM)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.241)	1963	0.25000	0.31(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	992	0.25000	0.27(a)
44	Dibromomethane	93	5.557	5.557	(1.120)	914	0.25000	0.36(aM)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1286	0.25000	3.02(aM)
61	Ethylbenzene	106	7.799	7.799	(1.017)	1661	0.25000	0.36(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	227	0.25000	2.26(aM)
67	Isopropylbenzene	105	8.559	8.559	(1.116)	3768	0.25000	0.27(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	3108	0.50000	0.52(a)
17	Methylene Chloride	84	2.298	2.298	(0.550)	1375	0.25000	0.37(a)
87	n-Butylbenzene	91	9.991	9.991	(1.034)	3166	0.25000	1.83(aM)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	5046	0.25000	0.31(a)
92	Naphthalene	128	11.546	11.546	(1.195)	1135	0.25000	0.35(a)
63	o-Xylene	106	8.236	8.236	(1.074)	1930	0.25000	0.33(a)
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	3468	0.25000	0.27(a)
64	Styrene	104	8.258	8.258	(1.077)	2374	0.25000	0.24(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	2790	0.25000	0.31(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	897	0.25000	0.35(a)
50	Toluene	91	6.446	6.446	(0.840)	4907	0.25000	0.35(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	1299	0.25000	0.39(Ta)
51	trans-1,3-Dichloropropene	75	6.696	6.696	(1.349)	1512	0.25000	0.27(a)
38	Trichloroethene	130	5.214	5.214	(1.051)	1207	0.25000	0.33(a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	2544	0.25000	0.32(a)
5	Vinyl Chloride	62	1.145	1.145	(0.274)	1625	0.25000	0.33(aM)

QC Flag Legend

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

QC Flag Legend

M - Compound response manually integrated.



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120302.D
Date : 03-DEC-2020 11:01
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 03-DEC-2020 11:22
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:31 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 11:01 Cal File: X120302.D
Als bottle: 3 Calibration Sample, Level: 2
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

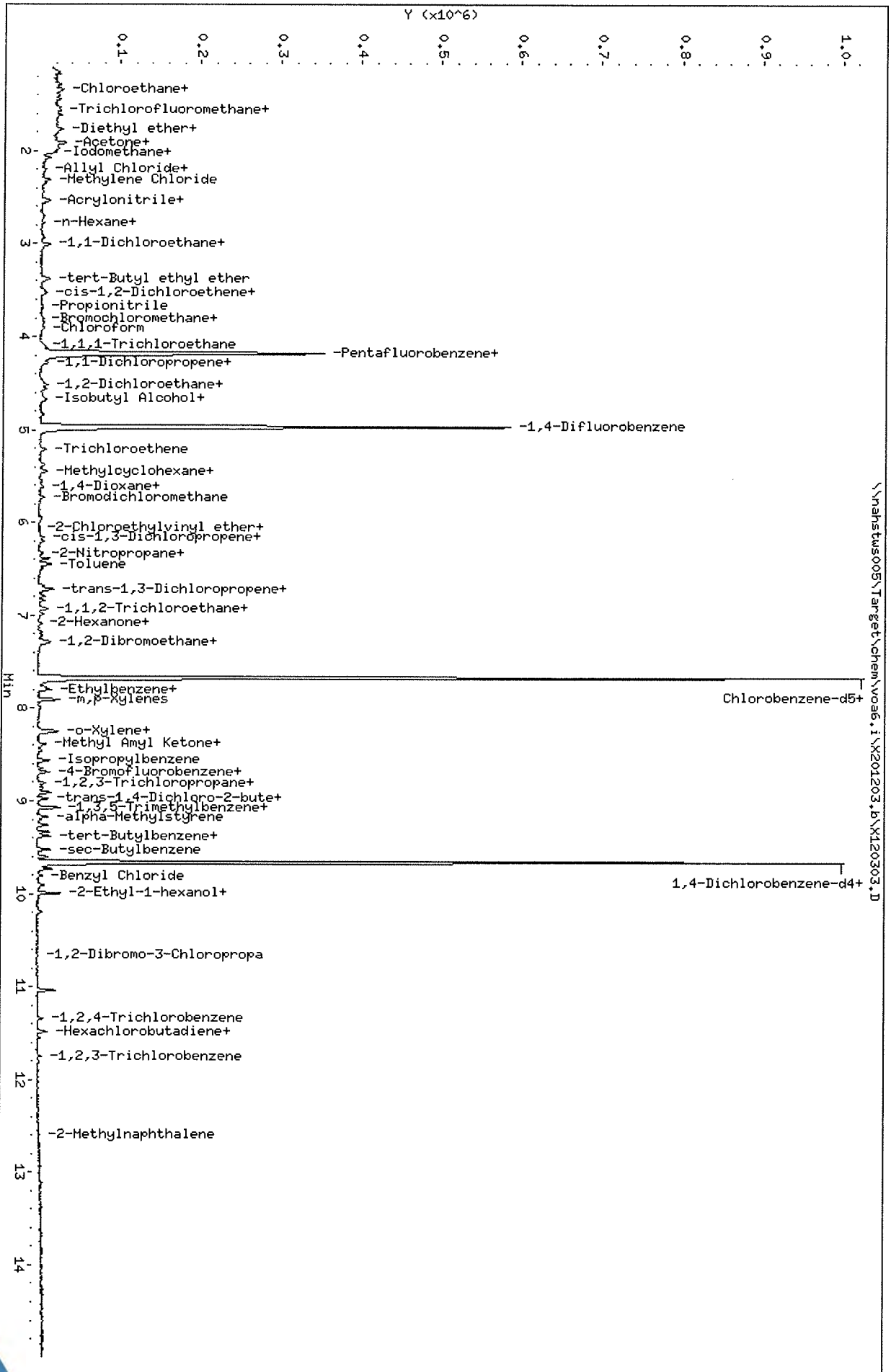
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	256515	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	457625	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	421111	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	189186	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	1948	0.50000	0.40(a)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	3206	0.50000	(Ta)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	7857	0.50000	1.08(a)
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	3817	0.50000	0.73(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1809	0.50000	0.59(aM)
	31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	3204	0.50000	0.60(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	2187	0.50000	0.57(aM)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	1576	0.50000	0.58(a)
	22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	3452	0.50000	0.56(Ta)
	11 1,1-Dichloroethene	96	1.926	1.926	(0.461)	2250	0.50000	0.57(aM)
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	2485	0.50000	0.56(a)
	93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	379	0.50000	0.37(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	2473	0.50000	0.56(a)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	876	0.50000	0.49(aM)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	6054	0.50000	0.58(aM)
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	156	0.50000	(aM)
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	1797	0.50000	0.55(a)
	88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	3418	0.50000	0.62(aM)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D Page 2
Report Date: 22-Dec-2020 16:32

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)	2712	0.50000	0.52(a)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	1853	0.50000	0.53(aM)
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	6618	0.50000	0.62(aM)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	3599	0.50000	0.61(aM)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	2938	0.50000	0.55(a)
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	3018	0.50000	0.51(aM)
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	2994	0.50000	0.55(aM)
24 2-Butanone	43	3.595	3.595	(0.860)	1128	1.00000	0.94(aM)
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	5706	0.50000	0.63(aM)
52 2-Hexanone	43	7.083	7.083	(0.923)	2455	1.00000	1.16(a)
77 4-Chlorotoluene	91	9.074	9.074	(0.939)	6973	0.50000	0.62(aM)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	6184	0.50000	0.59(aM)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	3158	1.00000	1.02(a)
10 Acetone	43	1.976	1.976	(0.473)	7183	1.00000	(a)
37 Benzene	78	4.519	4.519	(0.909)	7440	0.50000	0.59(aM)
74 Bromobenzene	156	8.809	8.809	(0.912)	2031	0.50000	0.60(a)
29 Bromochloromethane	128	3.803	3.803	(0.909)	867	0.50000	0.47(a)
39 Bromodichloromethane	83	5.729	5.729	(1.153)	2534	0.50000	0.53(aM)
66 Bromoform	173	8.408	8.408	(1.096)	929	0.50000	0.48(aM)
6 Bromomethane	94	1.338	1.338	(0.320)	2325	0.50000	0.83(aM)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	9061	1.00000	1.06(aM)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	2081	0.50000	0.56(aM)
59 Chlorobenzene	112	7.699	7.699	(1.004)	4741	0.50000	0.54(a)
7 Chloroethane	64	1.403	1.403	(0.336)	1866	0.50000	0.61(a)
28 Chloroform	83	3.910	3.910	(0.935)	3782	0.50000	0.57(a)
3 Chloromethane	50	1.073	1.073	(0.257)	3221	0.50000	1.82(aM)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	2083	0.50000	0.57(a)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	3278	0.50000	0.55(a)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	1893	0.50000	0.55(a)
44 Dibromomethane	93	5.557	5.557	(1.118)	1234	0.50000	0.53(aM)
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1748	0.50000	3.16(a)
61 Ethylbenzene	106	7.807	7.807	(1.018)	2436	0.50000	0.57(a)
91 Hexachlorobutadiene	225	11.474	11.474	(1.188)	433	0.50000	2.46(aM)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	7802	0.50000	0.59(a)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	6588	1.00000	1.19(a)
17 Methylene Chloride	84	2.305	2.305	(0.551)	2018	0.50000	0.58(aM)
87 n-Butylbenzene	91	9.999	9.999	(1.035)	6359	0.50000	2.15(aM)
73 n-Propylbenzene	91	8.910	8.910	(0.922)	9262	0.50000	0.60(aM)
92 Naphthalene	128	11.546	11.546	(1.195)	1437	0.50000	0.47(aM)
63 o-Xylene	106	8.244	8.244	(1.075)	3329	0.50000	0.61(a)
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	7196	0.50000	0.59(aM)
64 Styrene	104	8.258	8.258	(1.077)	5249	0.50000	0.57(a)
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	5439	0.50000	0.63(aM)
56 Tetrachloroethene	164	6.926	6.926	(0.903)	1279	0.50000	0.54(a)
50 Toluene	91	6.453	6.453	(0.841)	7452	0.50000	0.56(a)
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	1616	0.50000	0.52(a)
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	3007	0.50000	0.58(a)
38 Trichloroethene	130	5.206	5.206	(1.048)	2112	0.50000	0.63(a)
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	4135	0.50000	0.56(a)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	2571	0.50000	0.56(aM)

QC Flag Legend

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

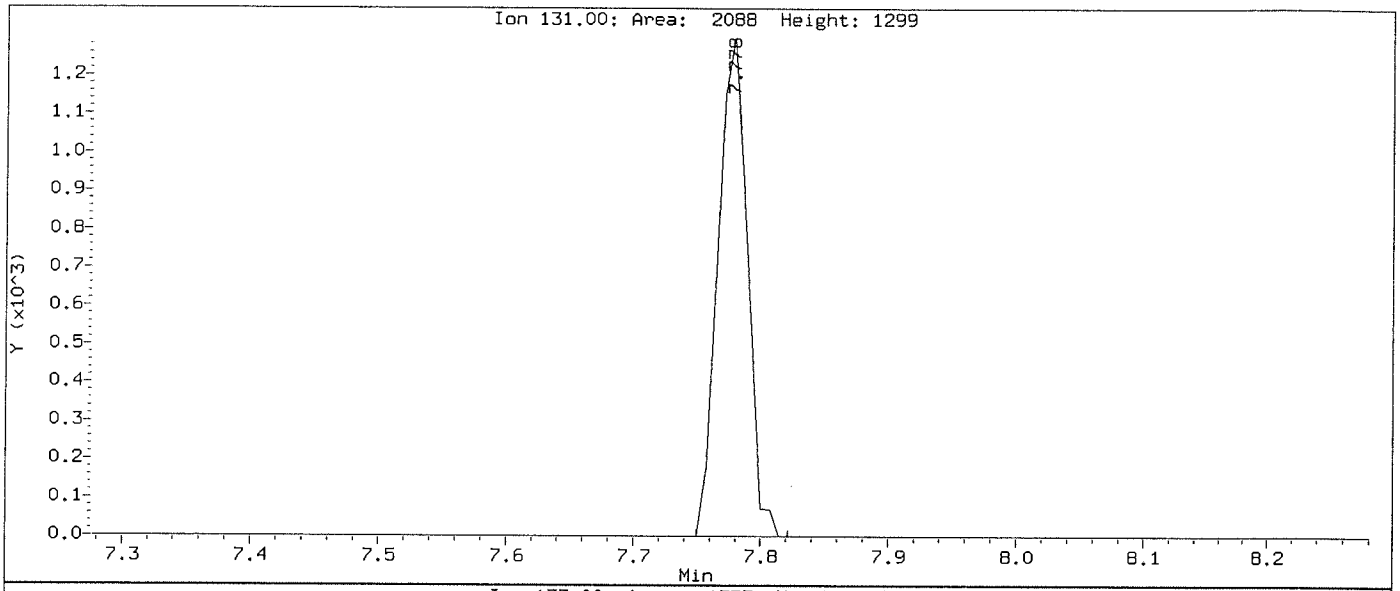


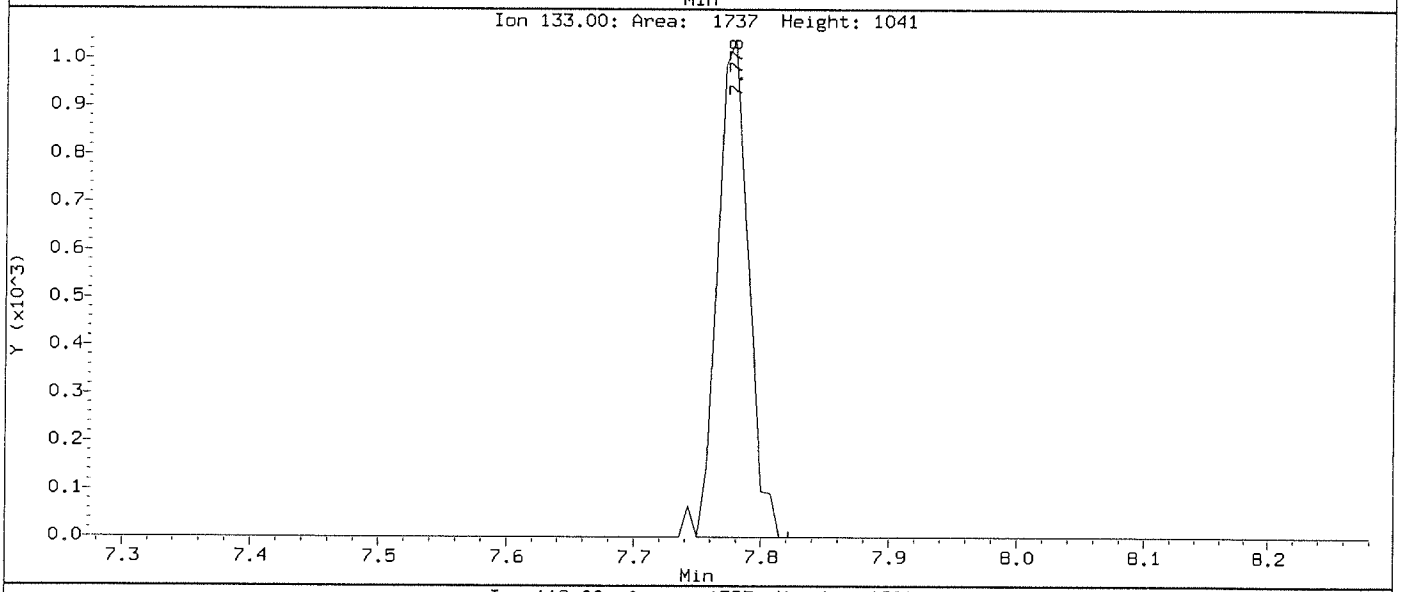
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Date : 03-DEC-2020 11:22
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

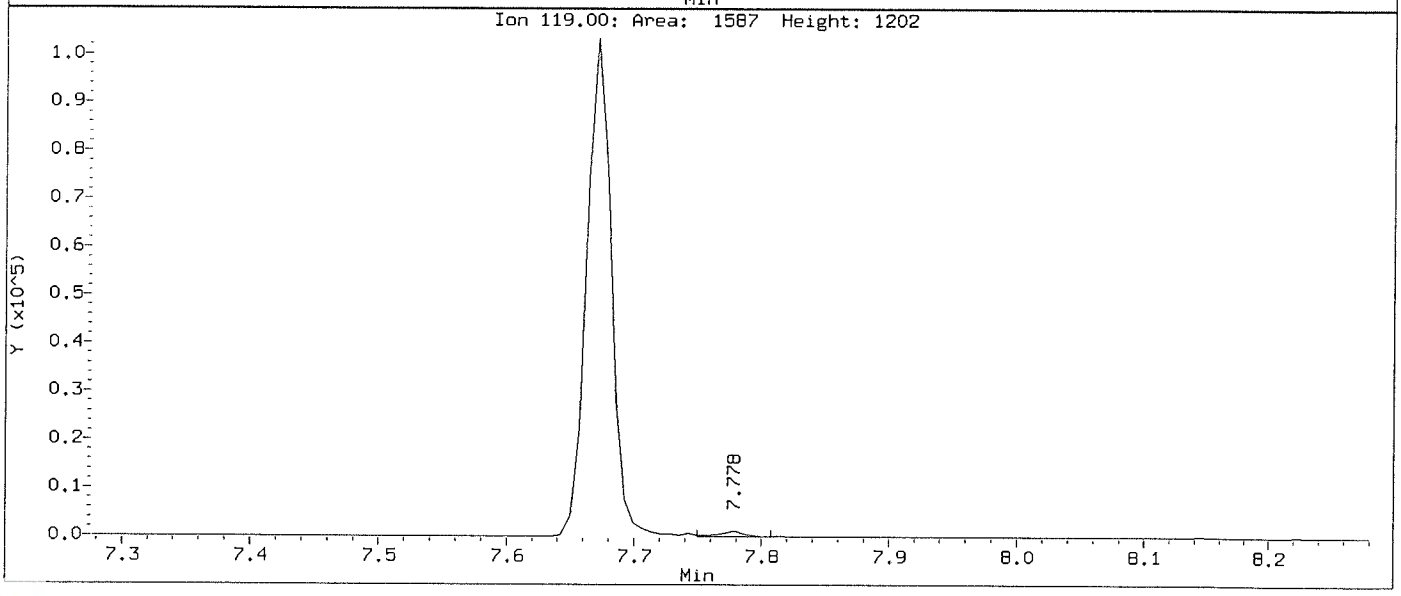
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,1,2-Tetrachloroethane
CAS Number: 630-20-6

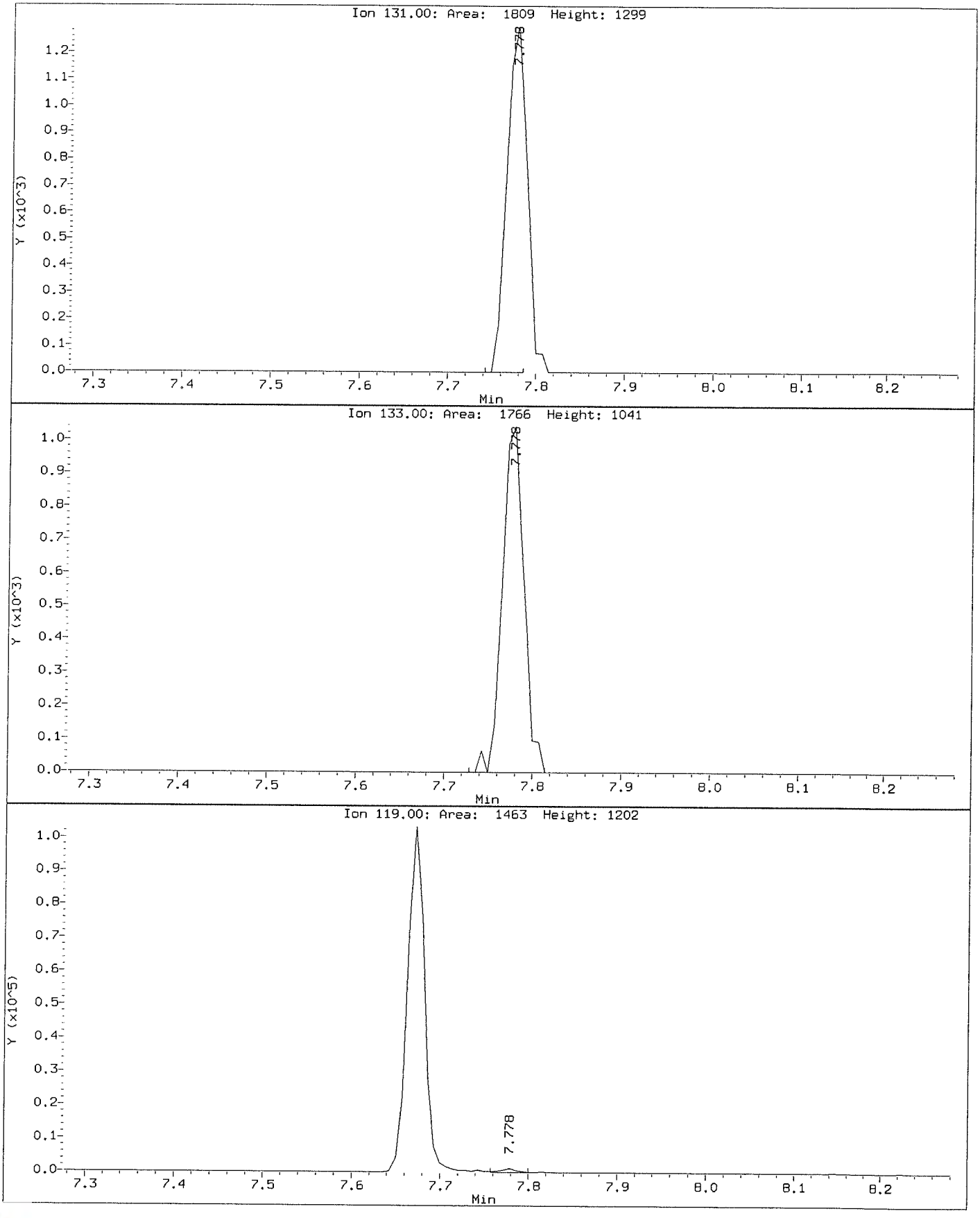






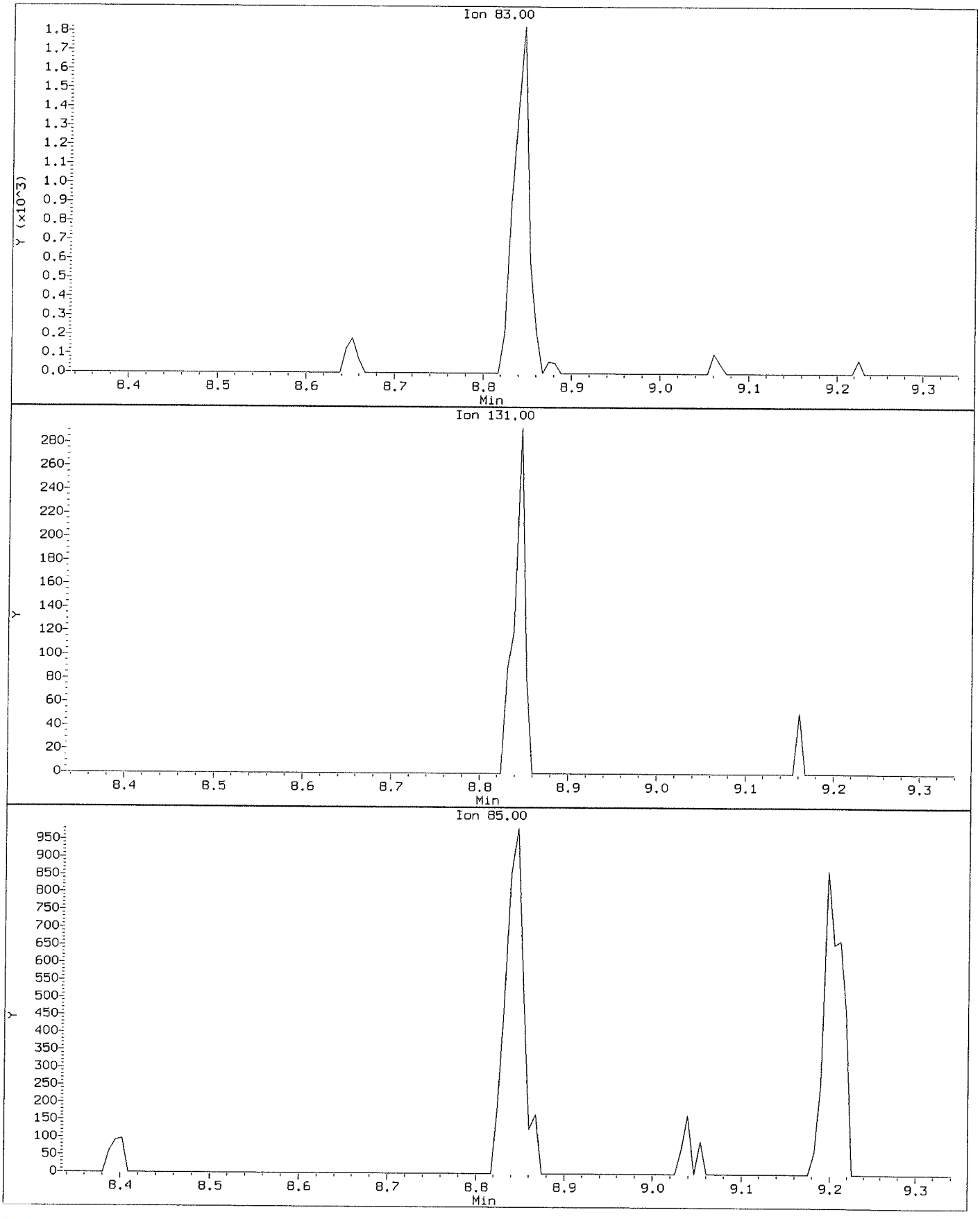
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,1,2-Tetrachloroethane
CAS Number: 630-20-6



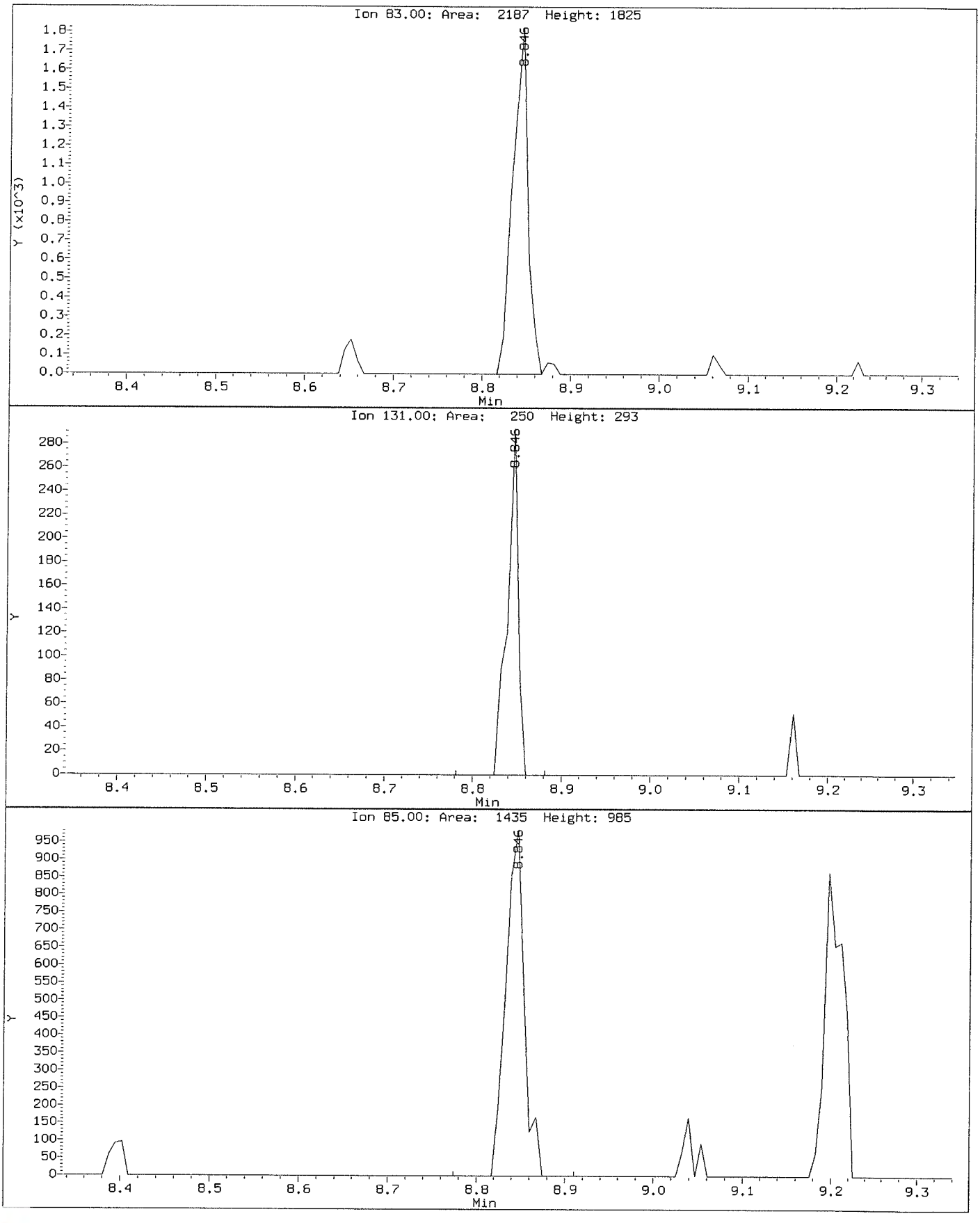
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



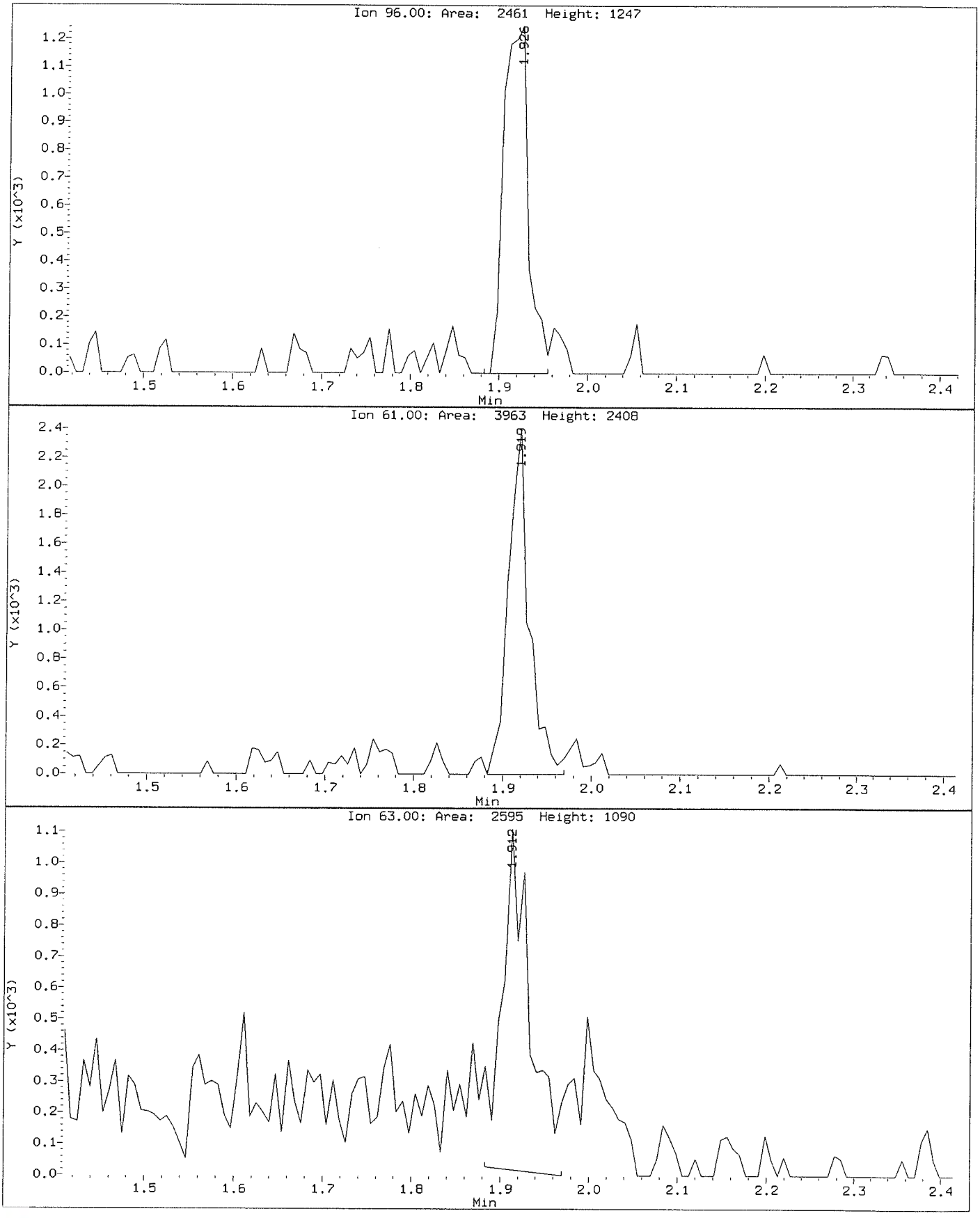
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



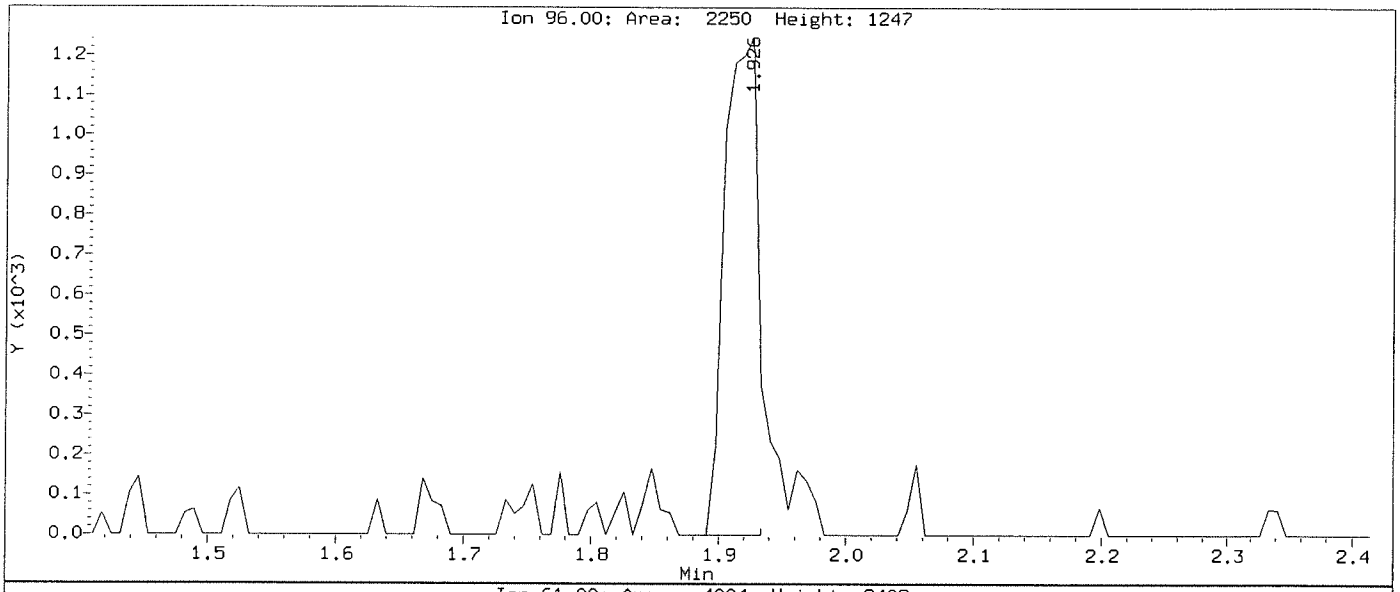
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

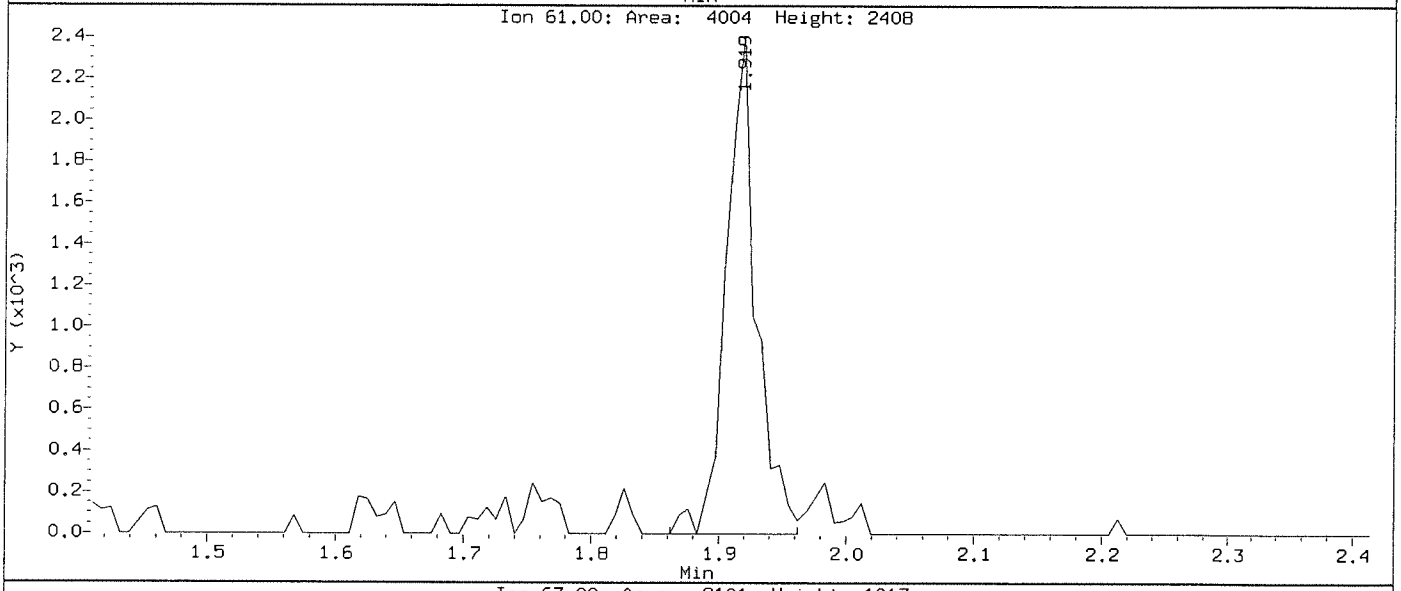
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

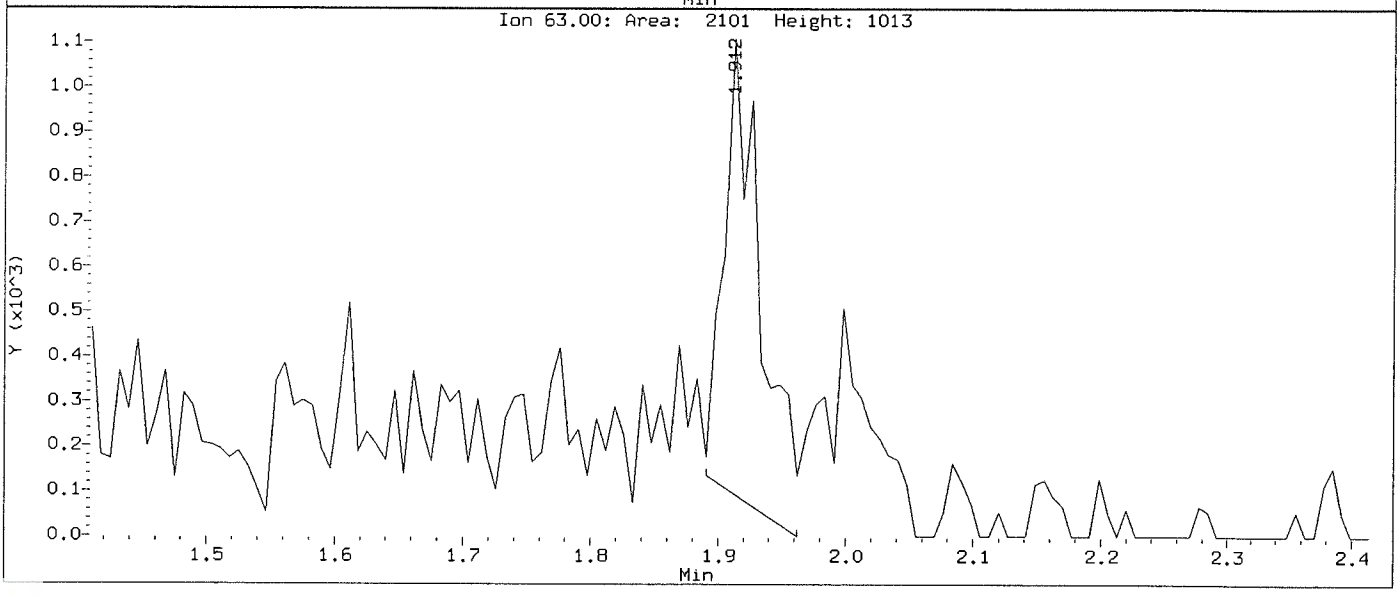


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

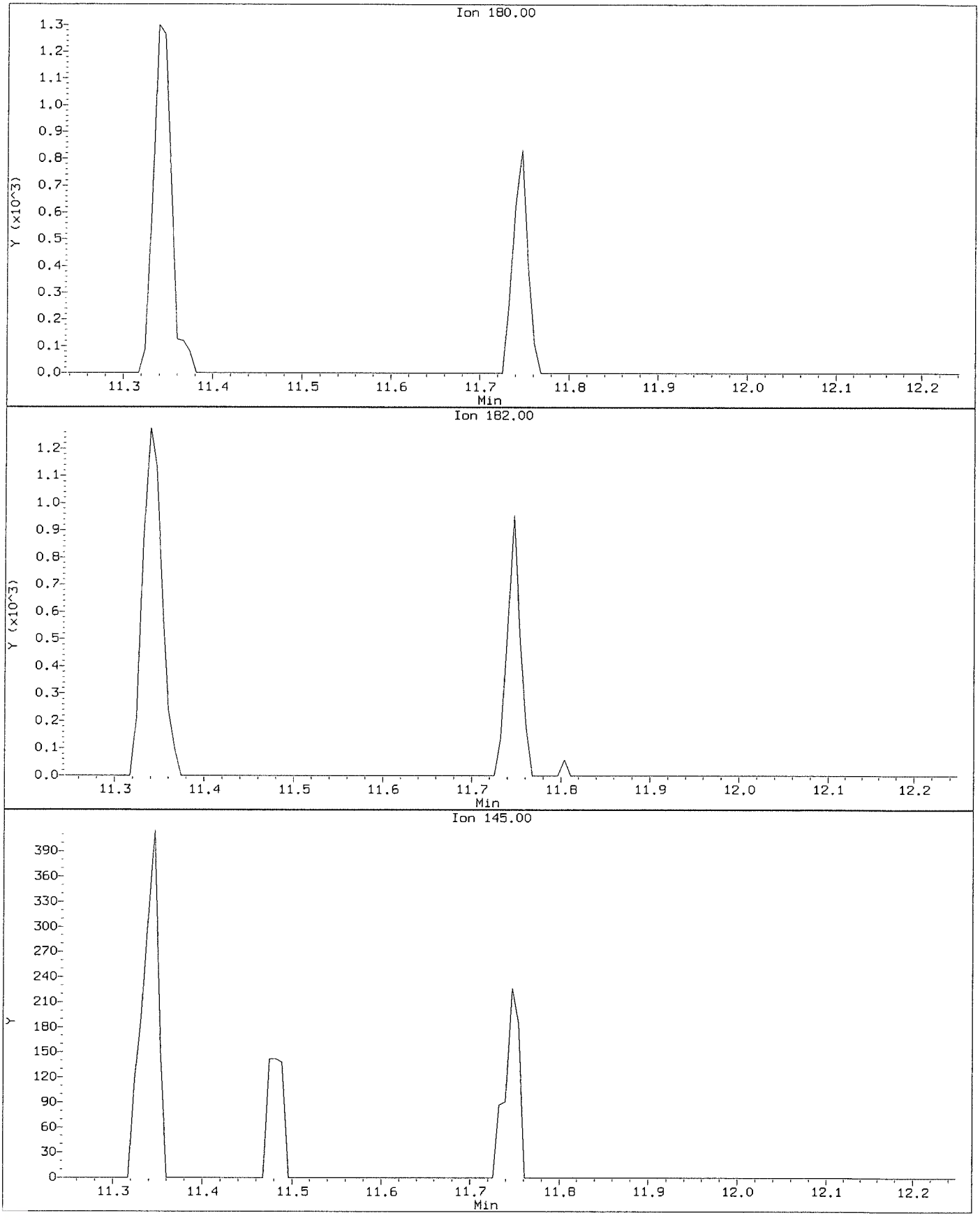






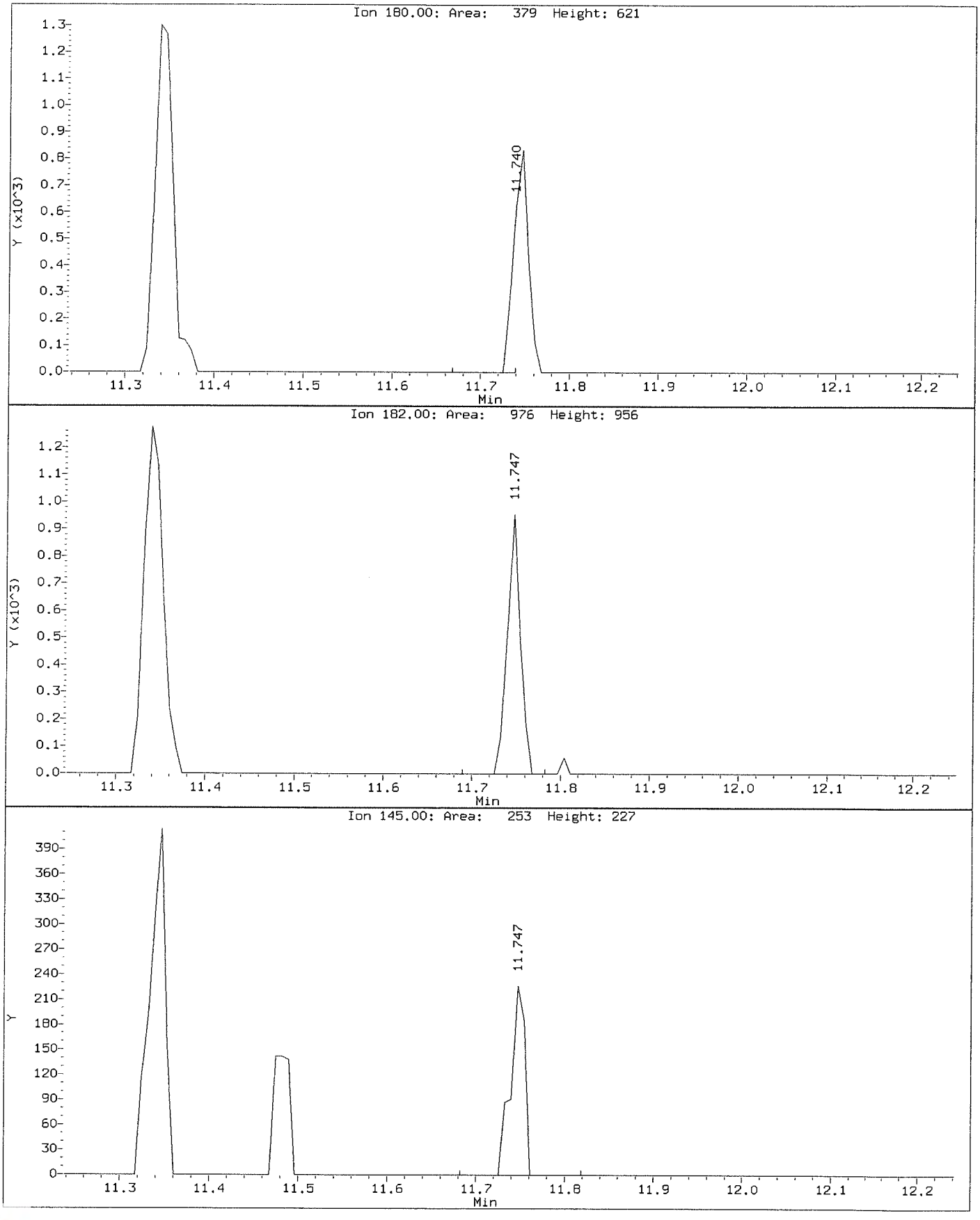
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



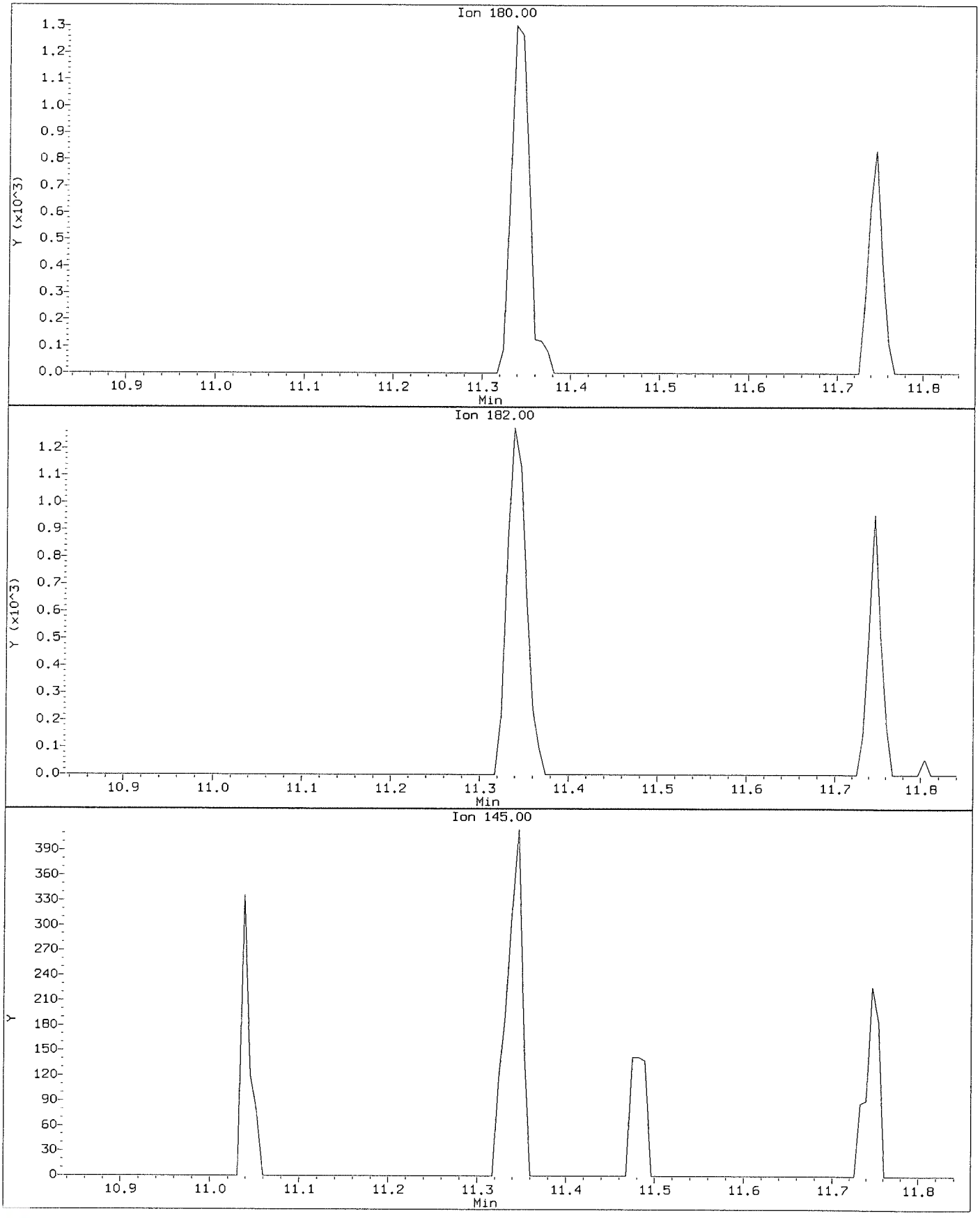
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



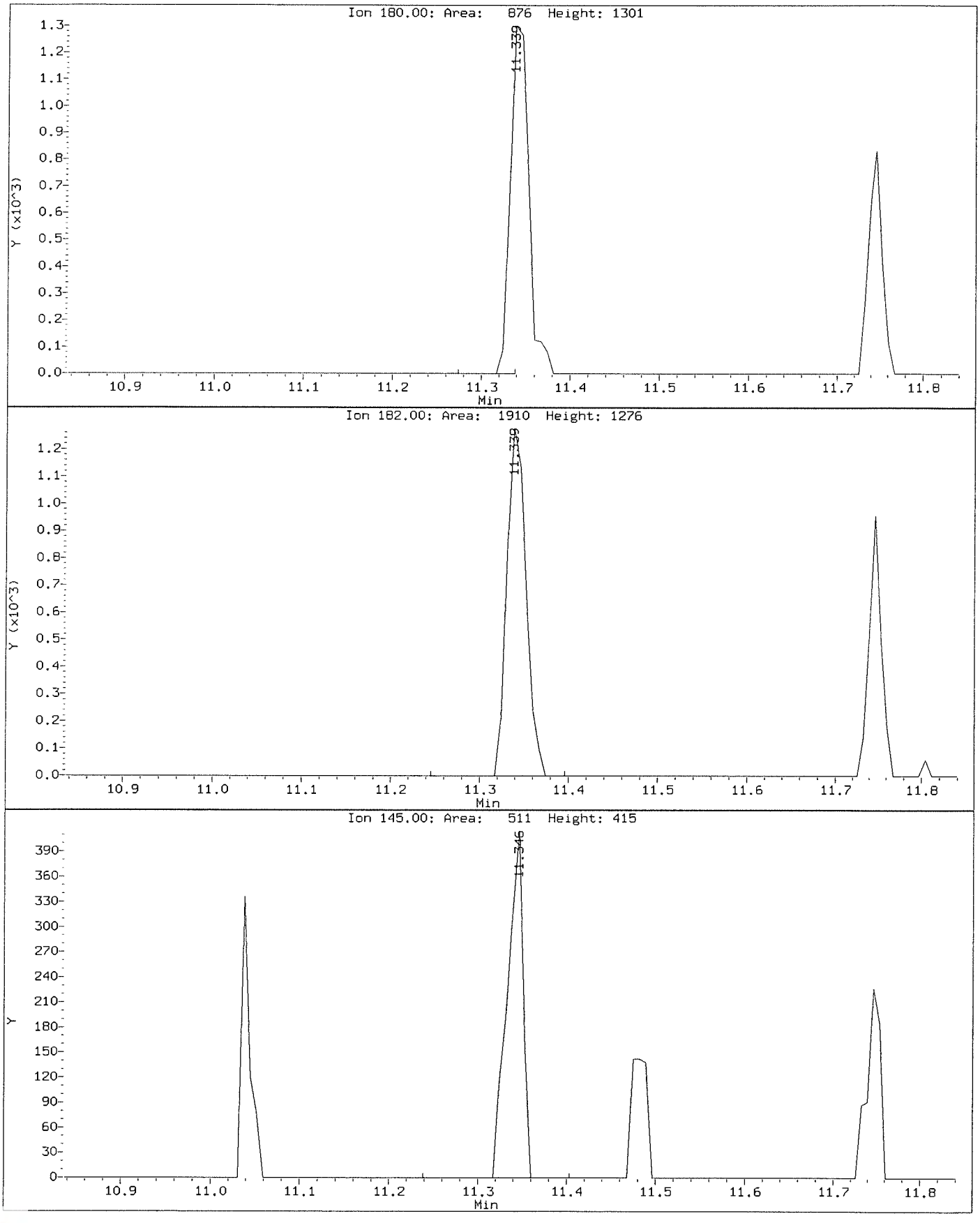
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



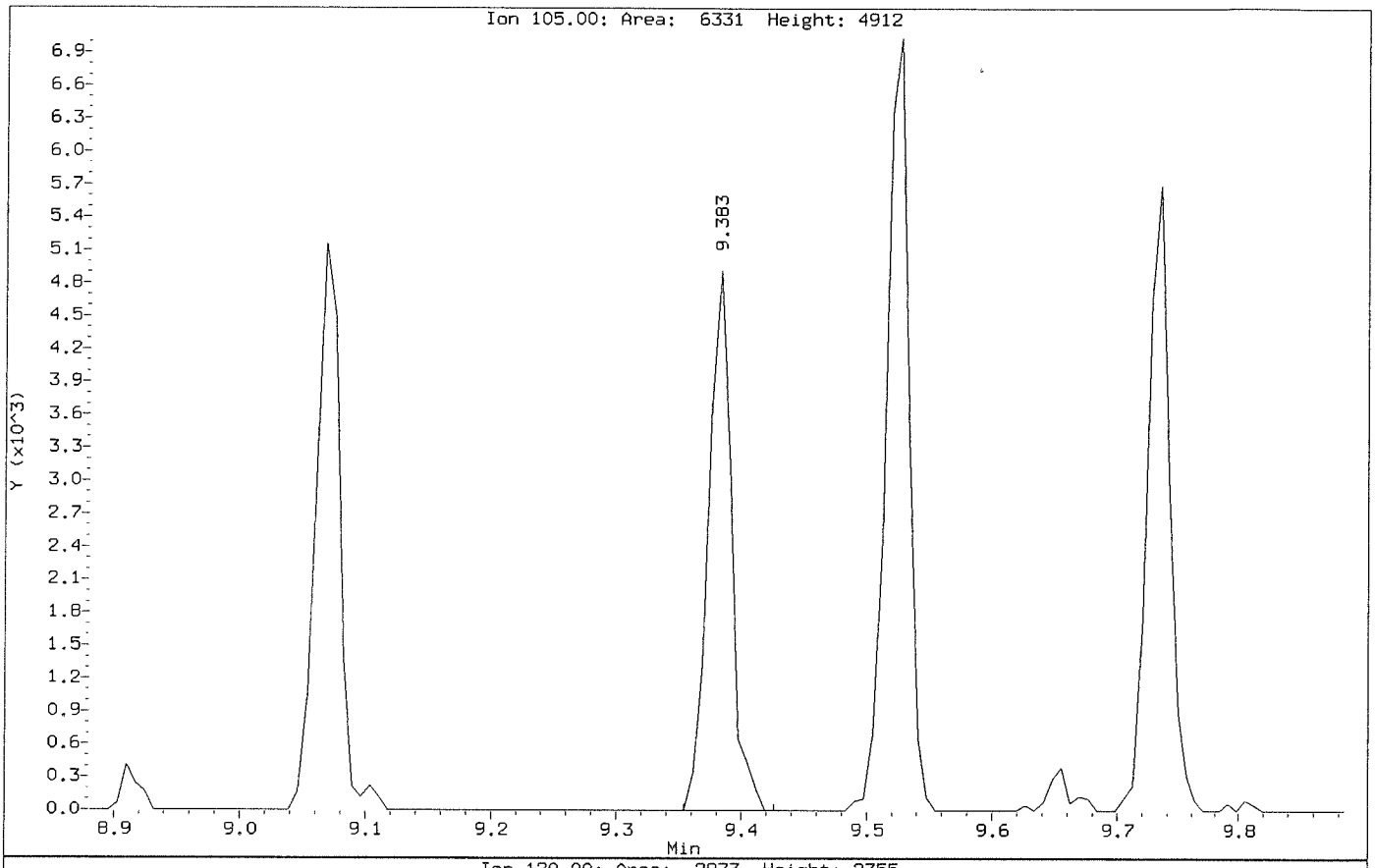
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

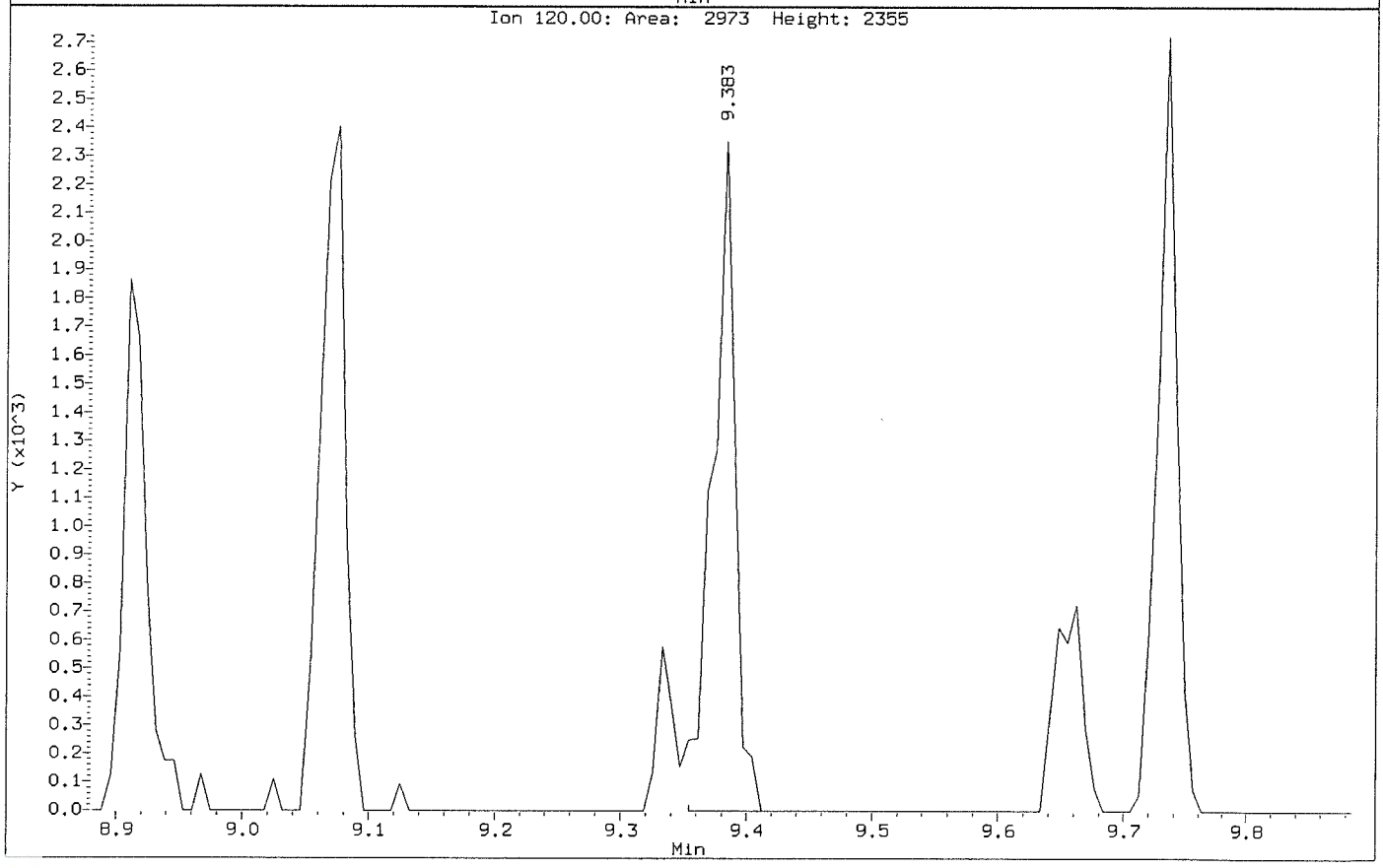
Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

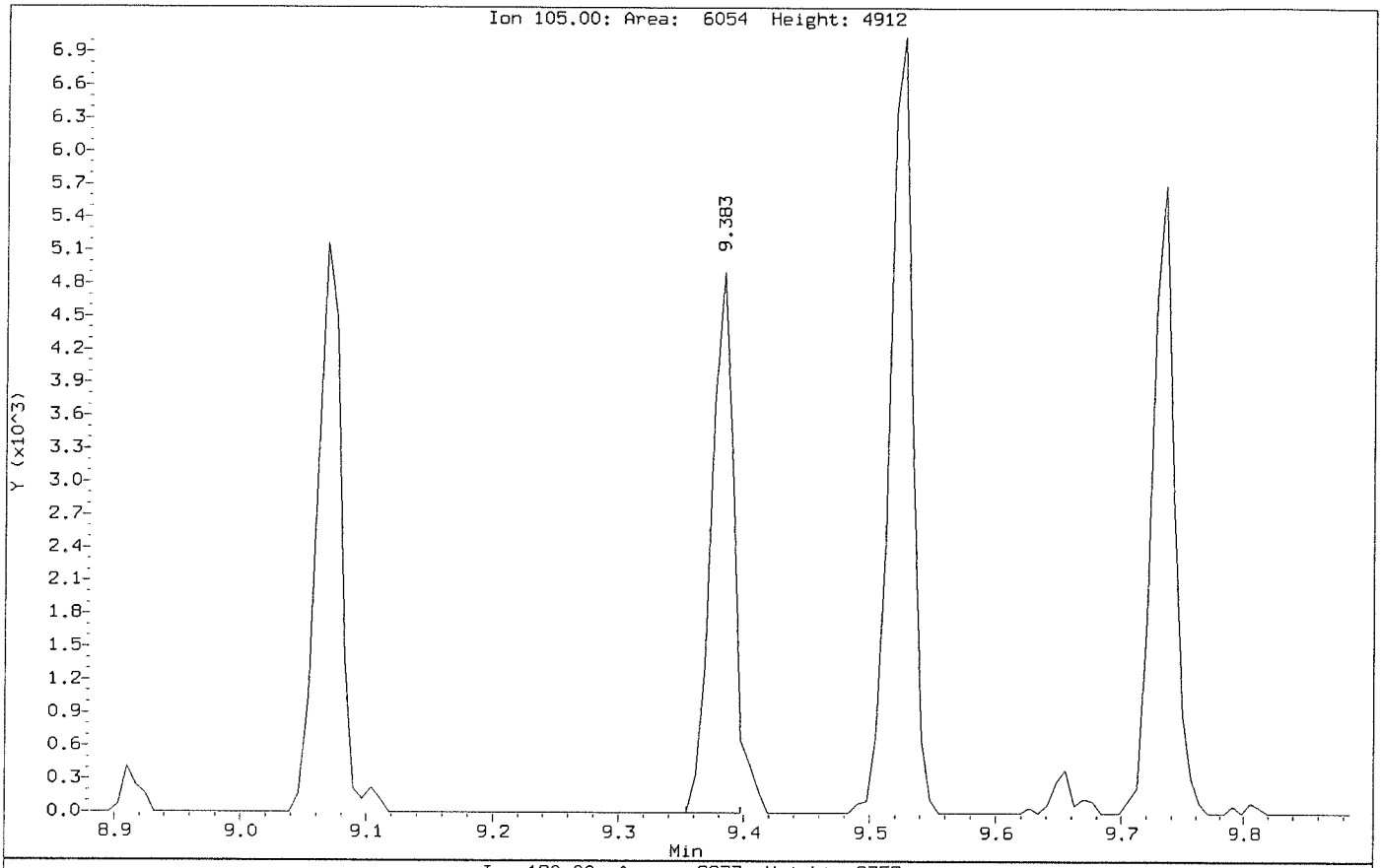
Compound: 1,2,4-Trimethylbenzene
CAS Number: 95-63-6

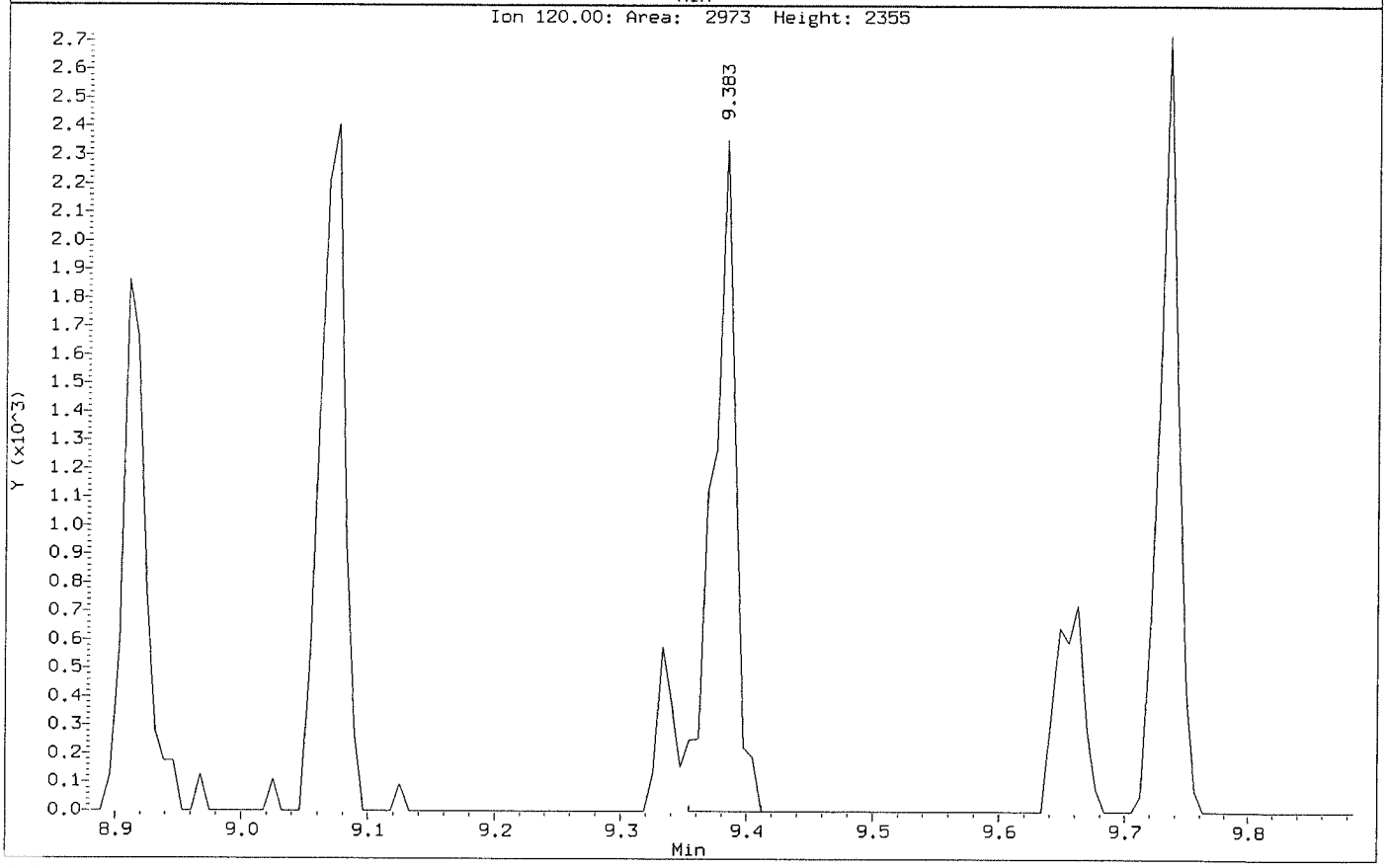




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

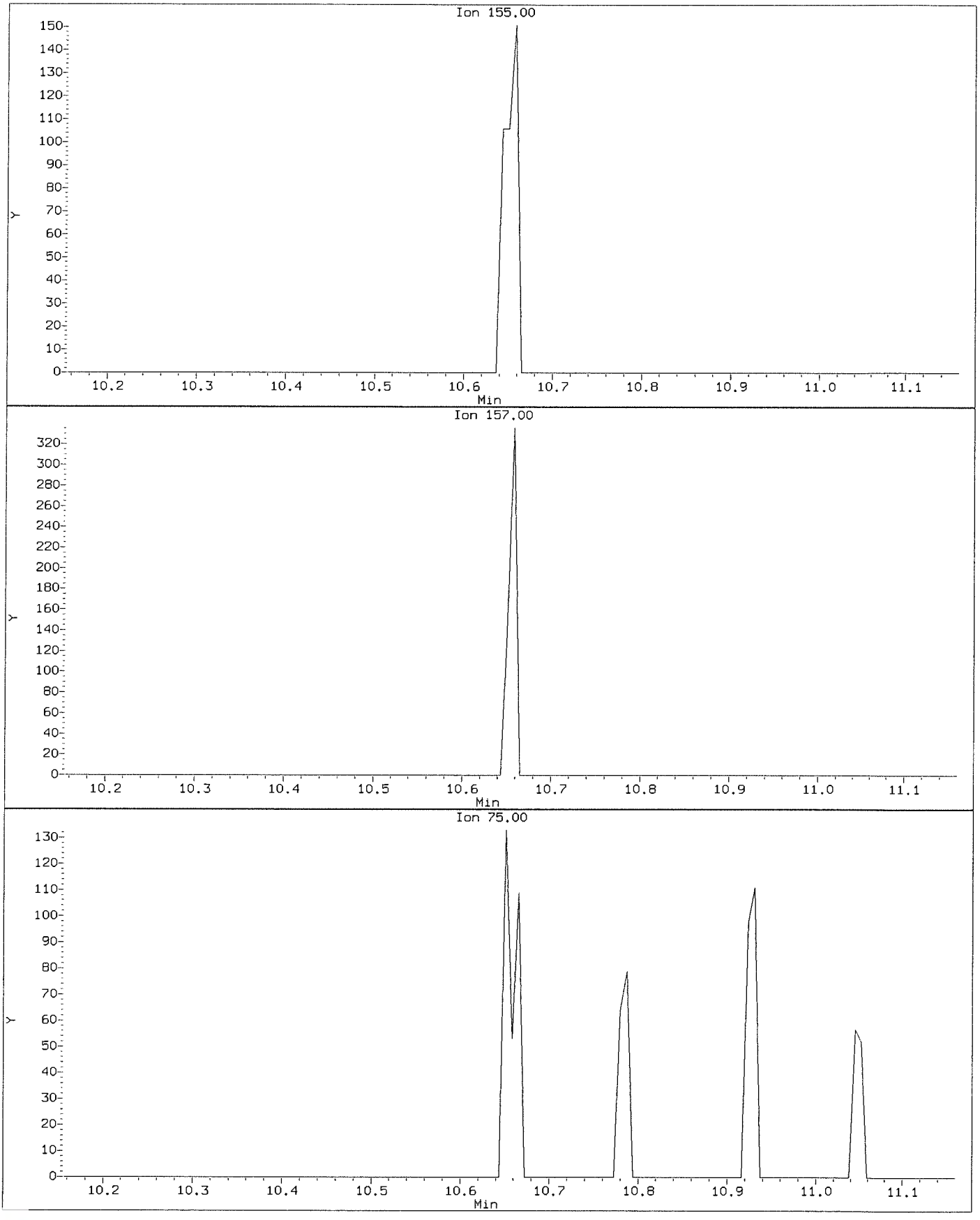
Compound: 1,2,4-Trimethylbenzene
CAS Number: 95-63-6





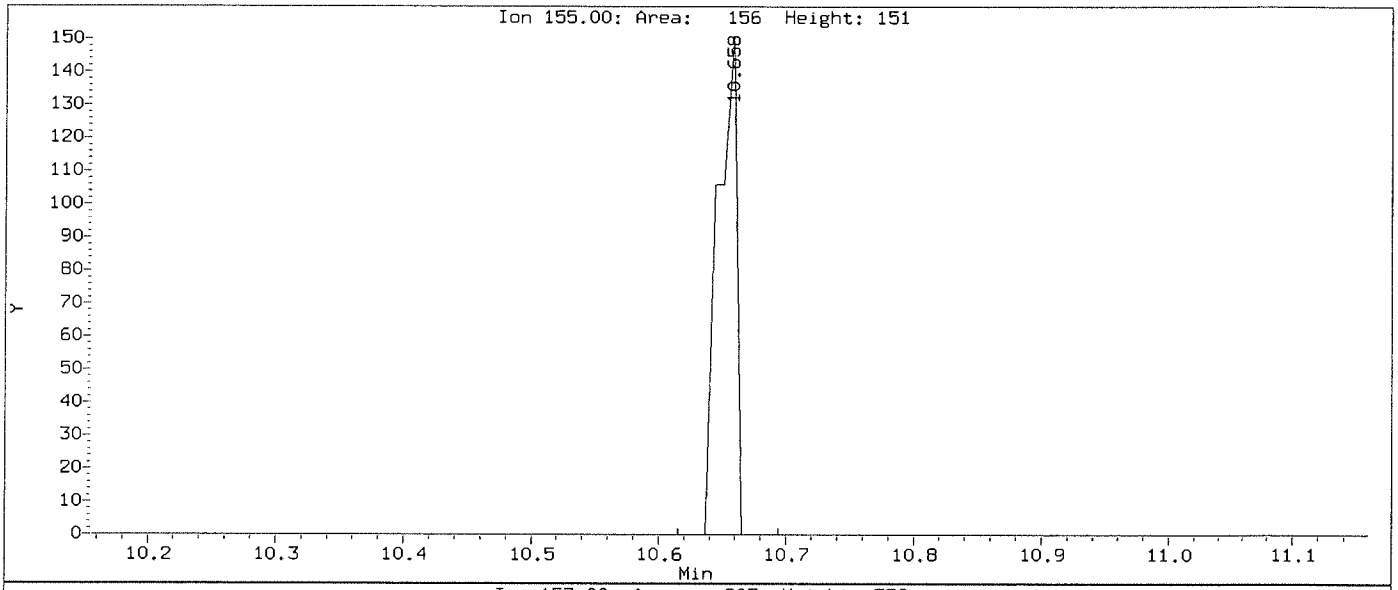
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

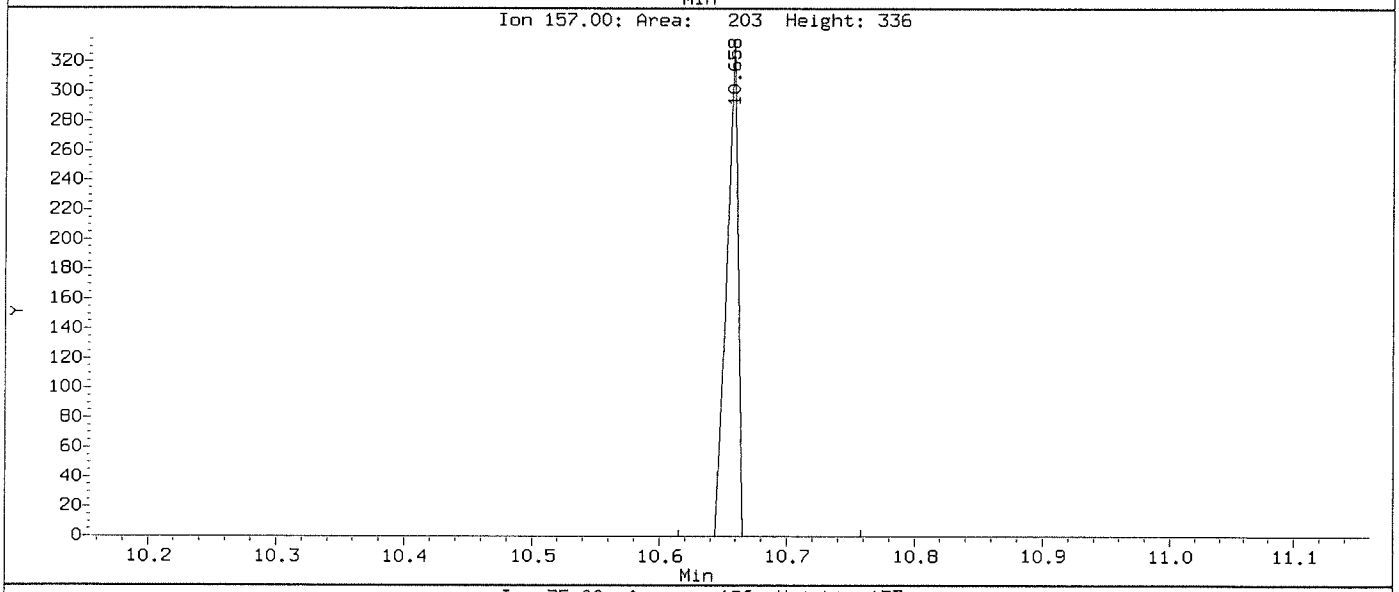
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

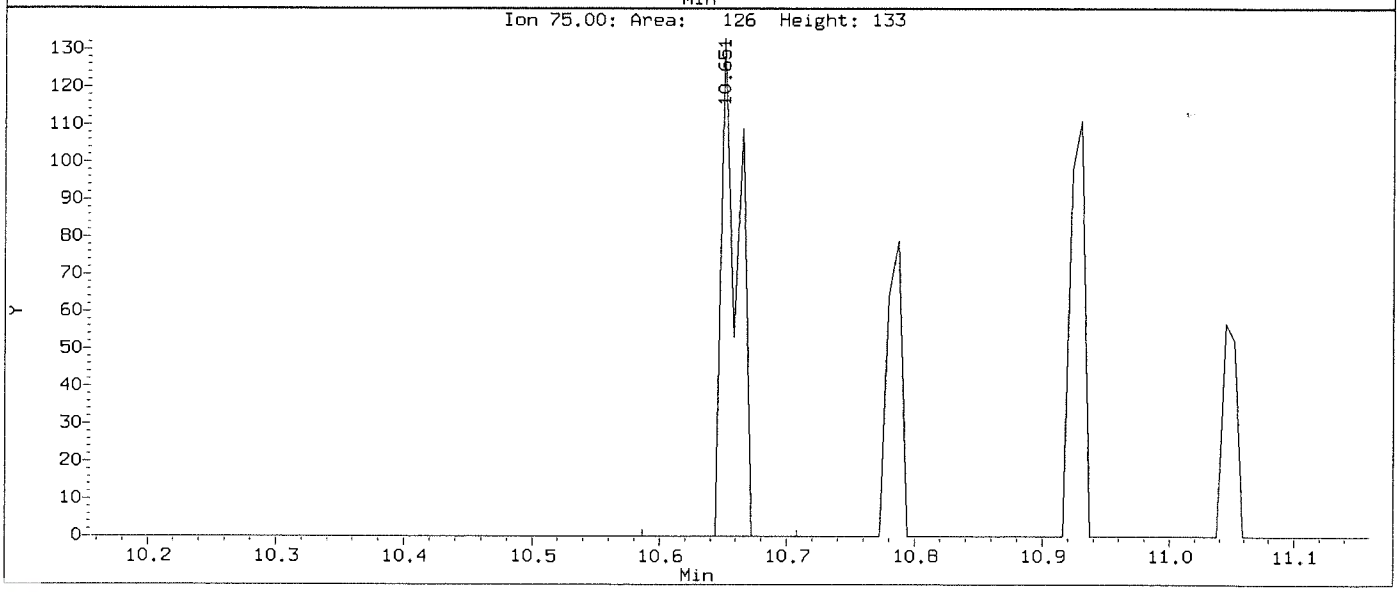


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

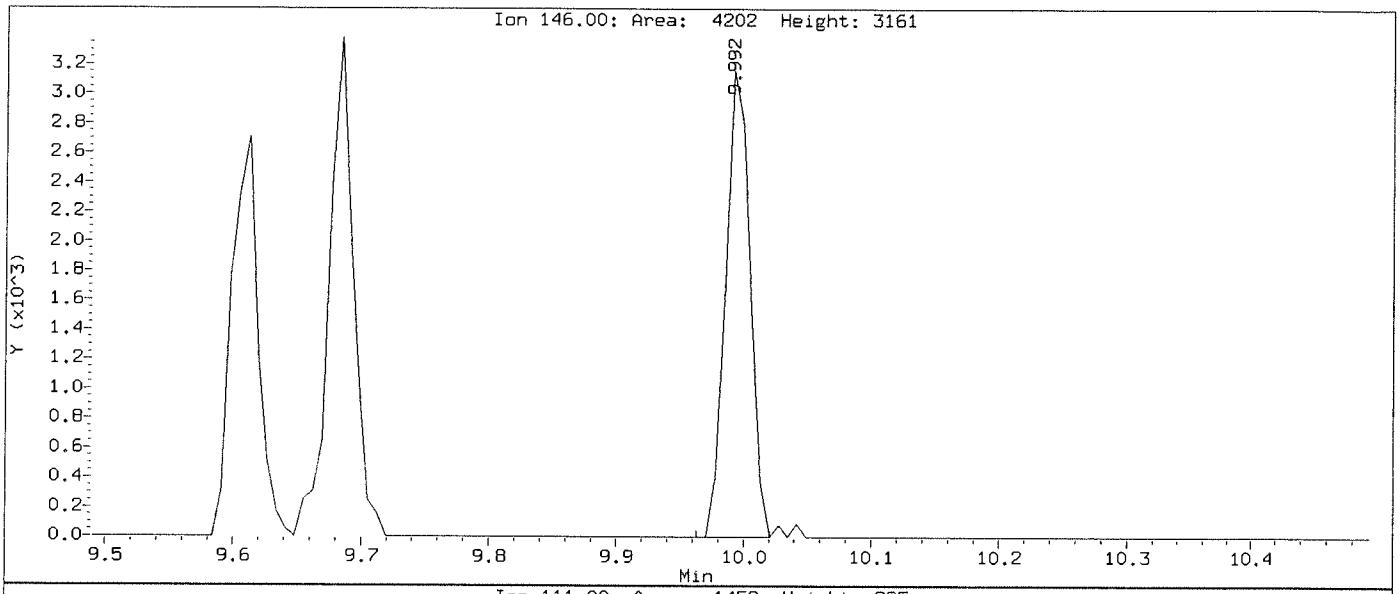


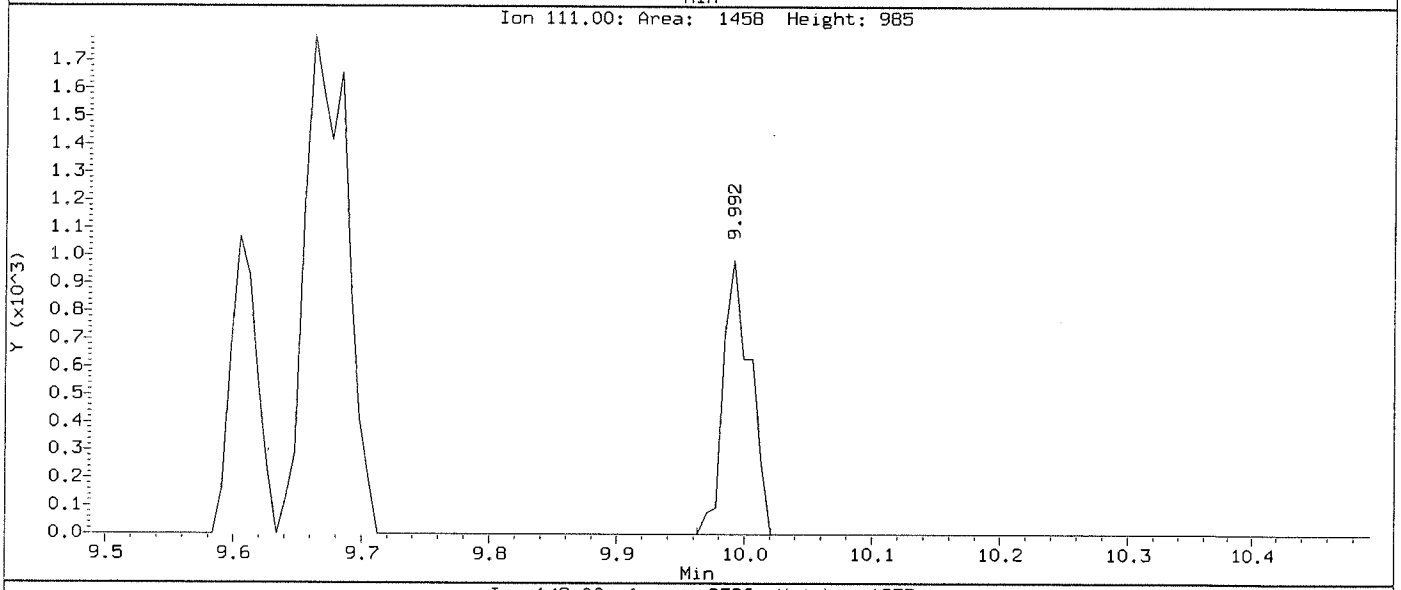


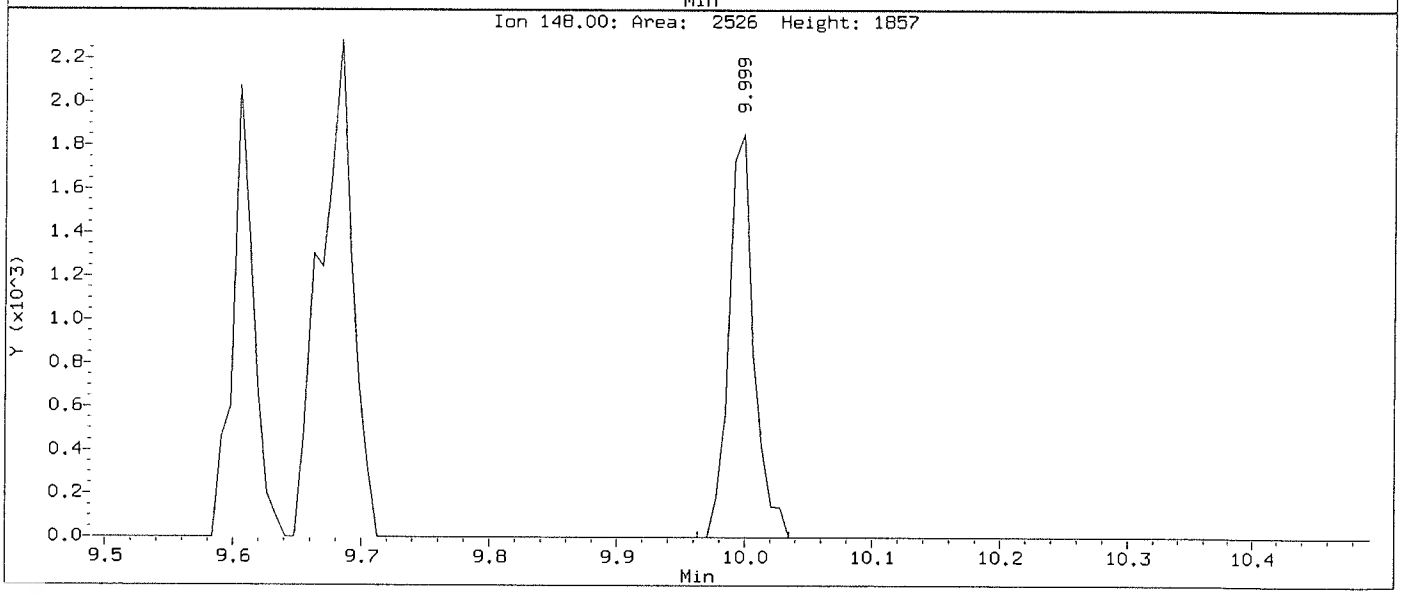


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichlorobenzene
CAS Number: 95-50-1

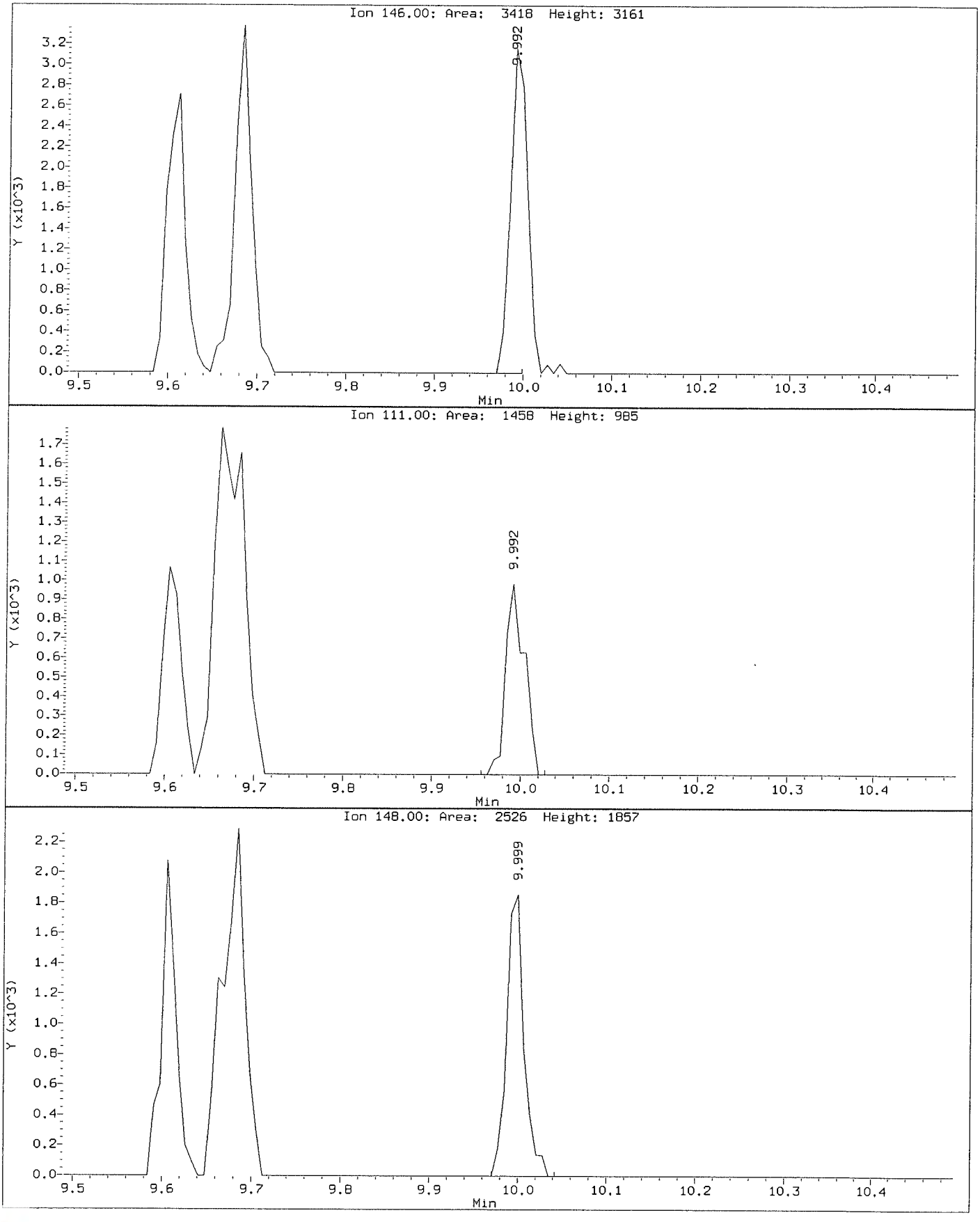






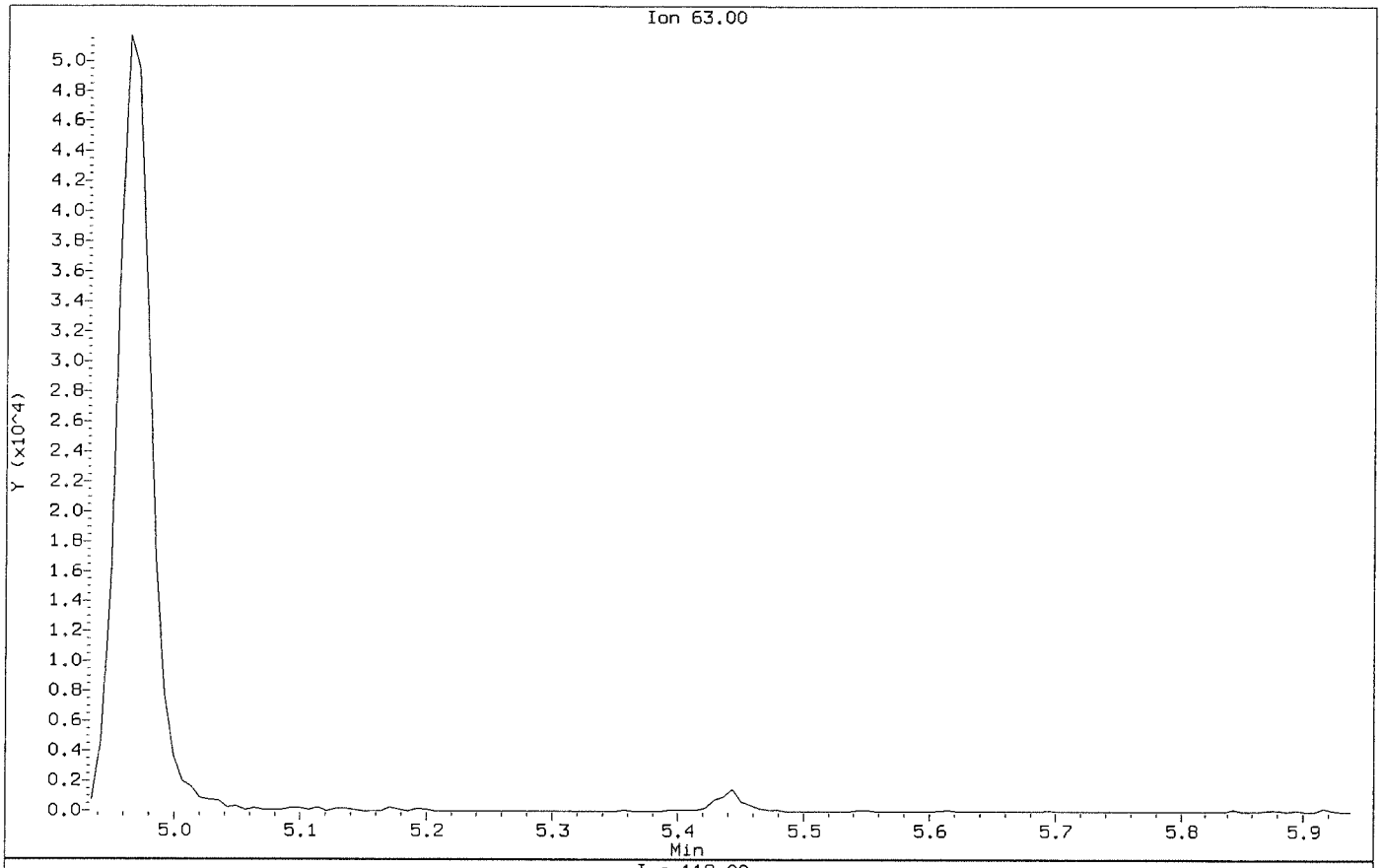
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

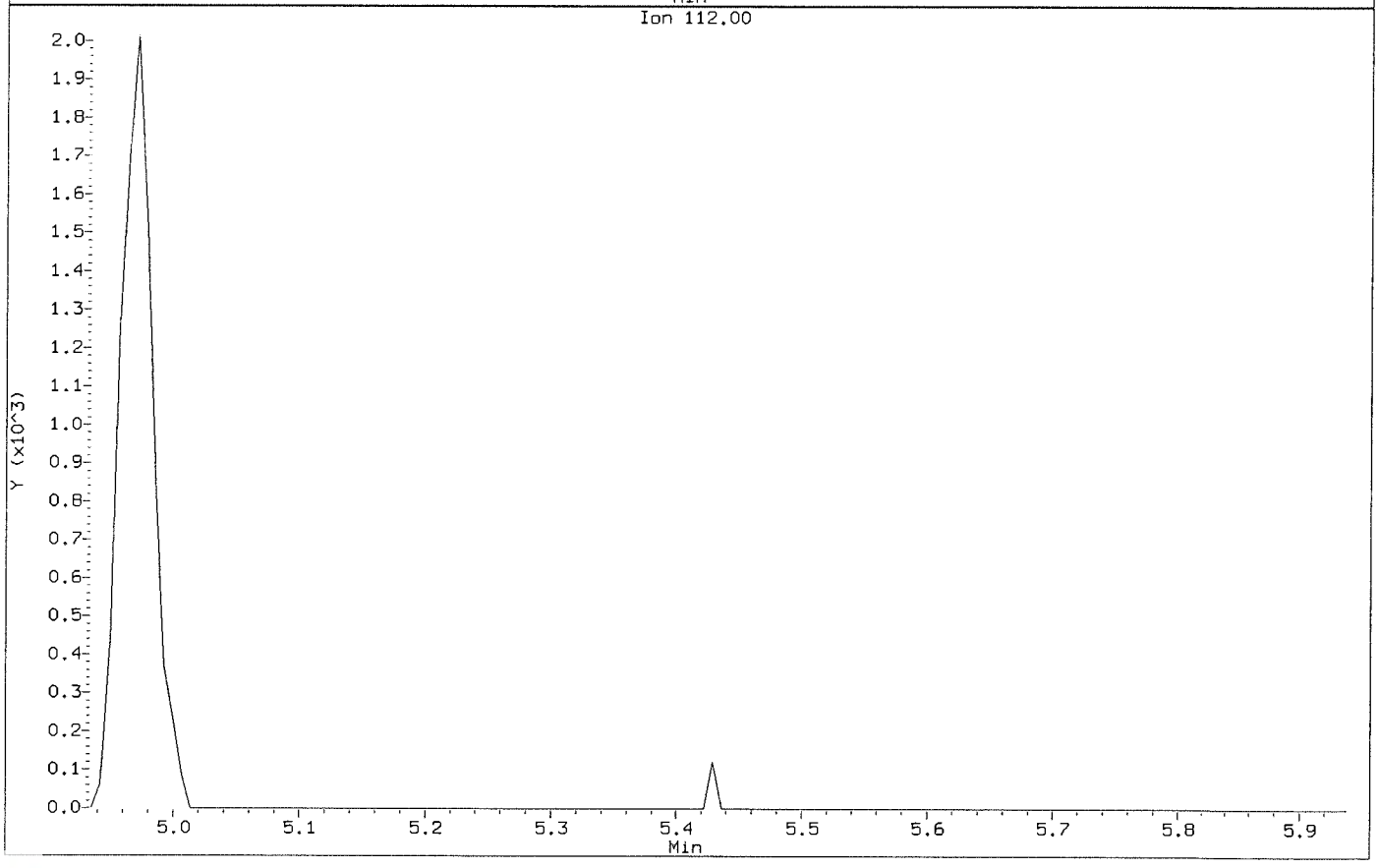
Compound: 1,2-Dichlorobenzene
CAS Number: 95-50-1



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

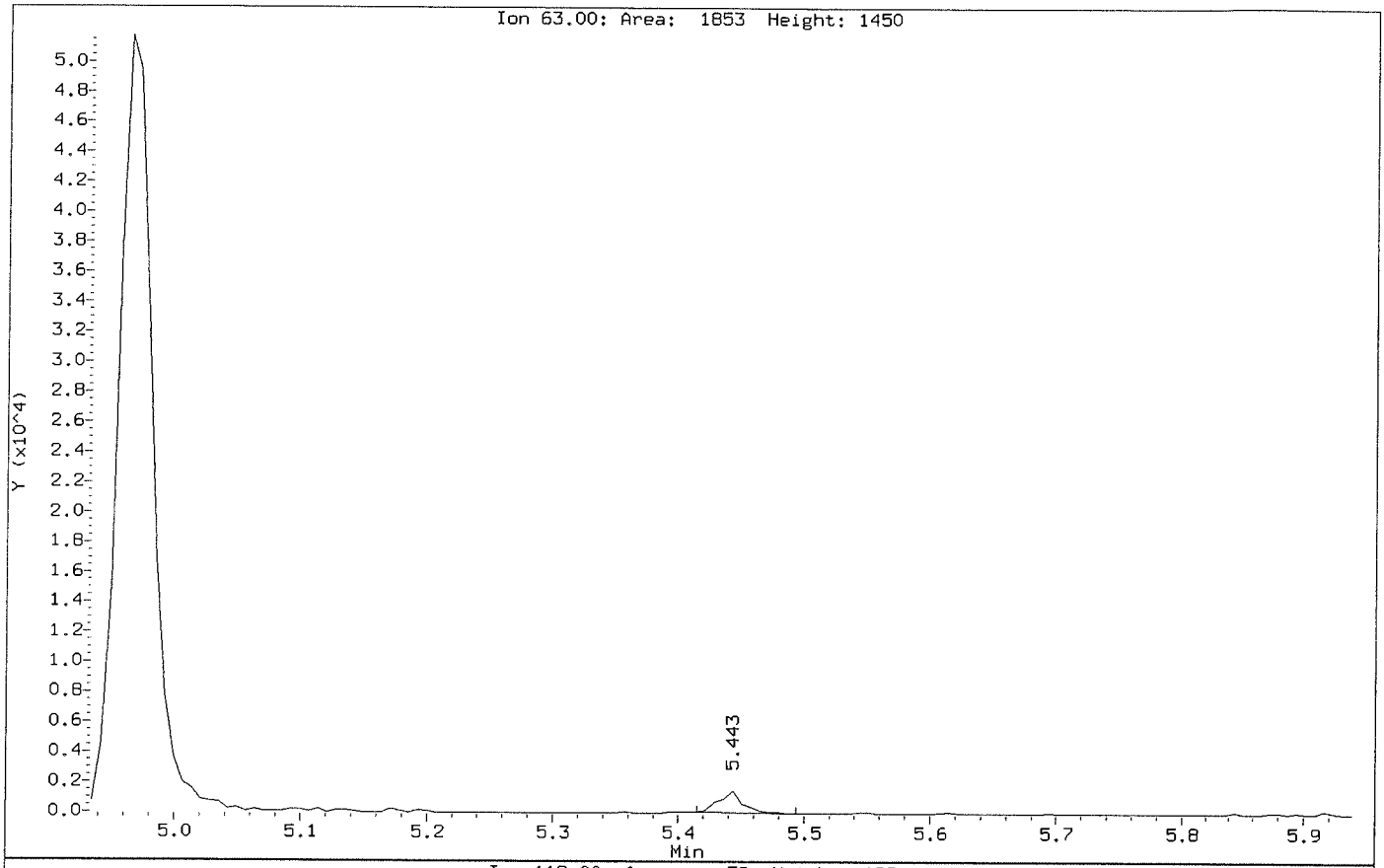
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

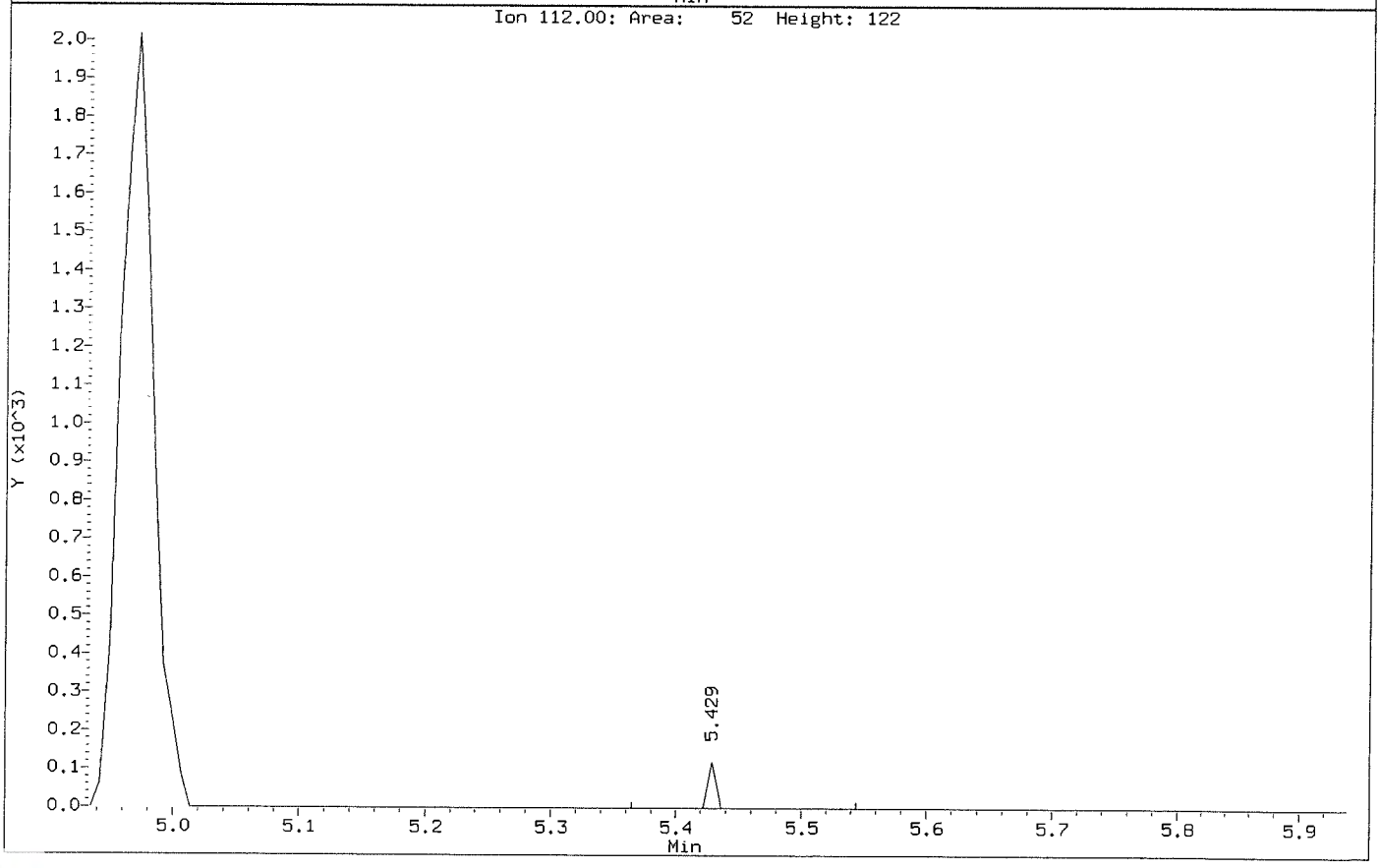




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

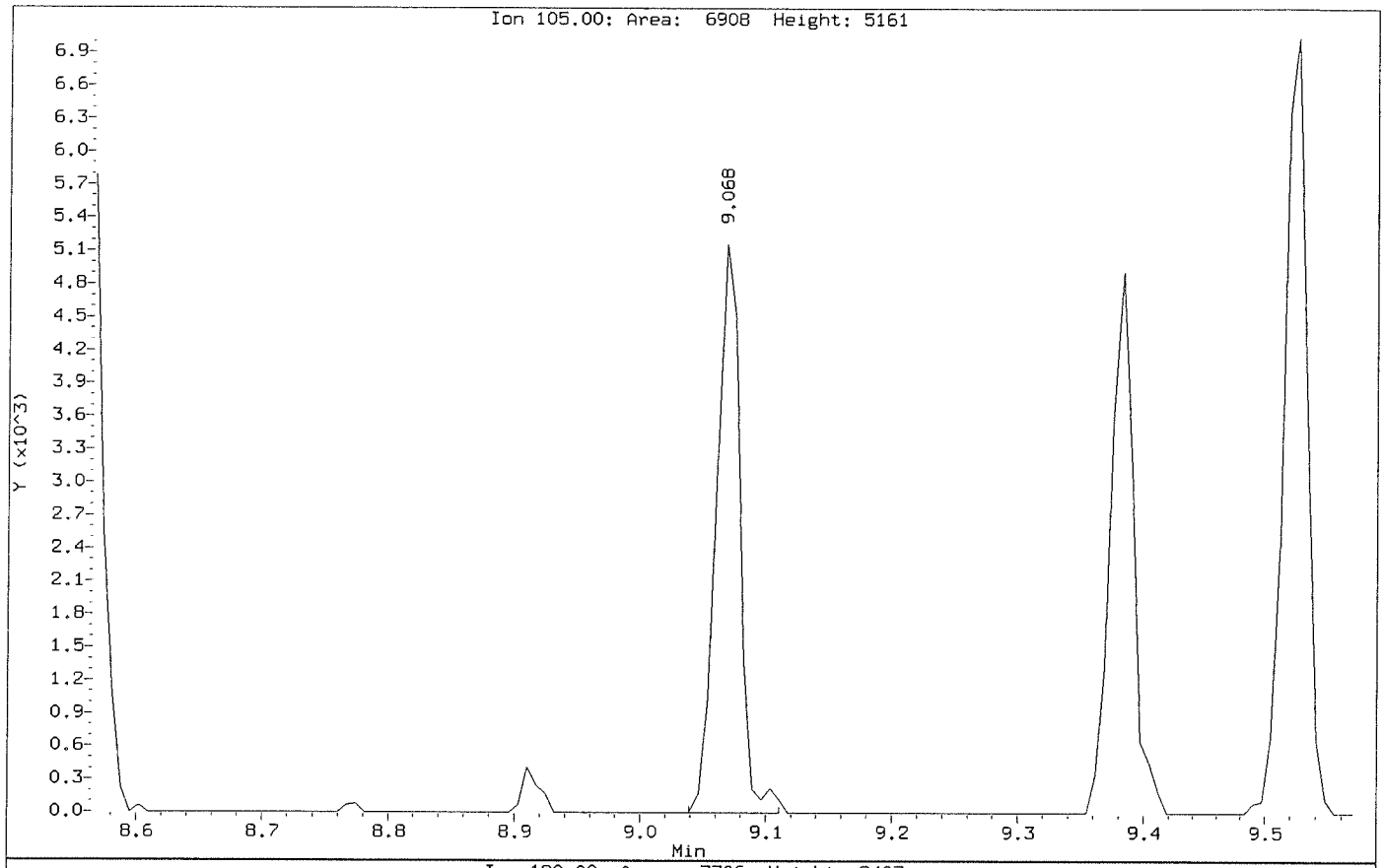
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

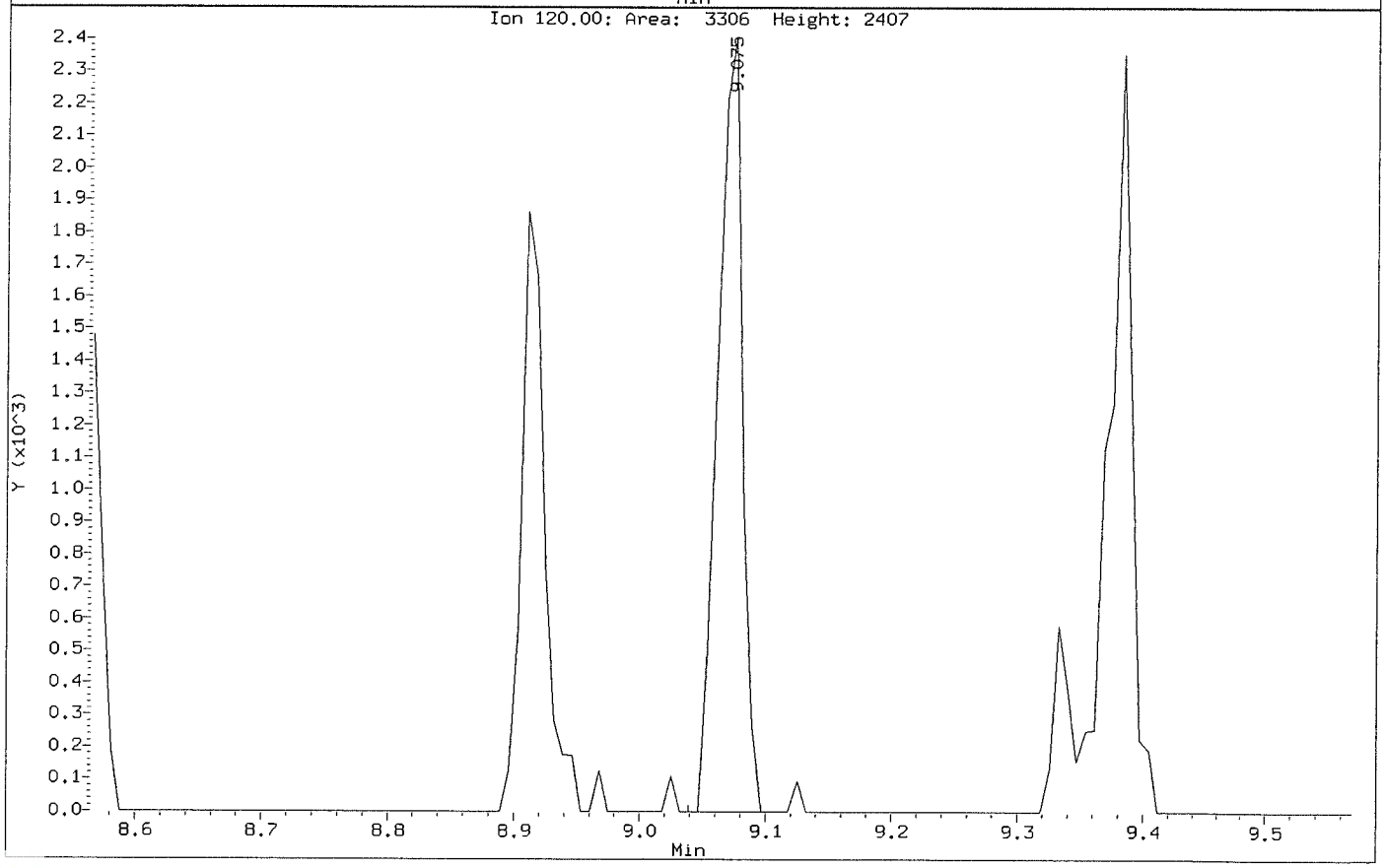




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

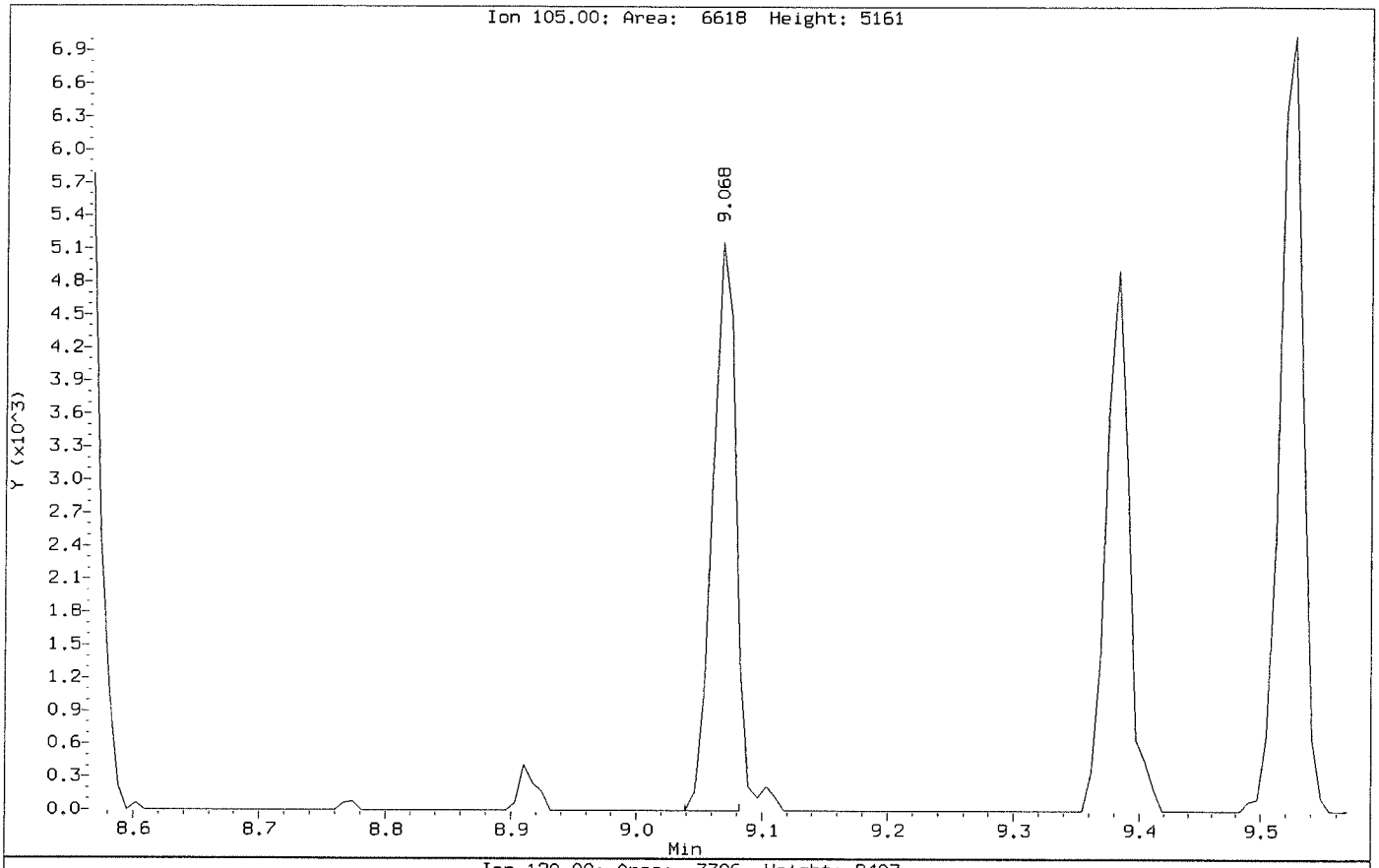
Compound: 1,3,5-Trimethylbenzene
CAS Number: 108-67-8

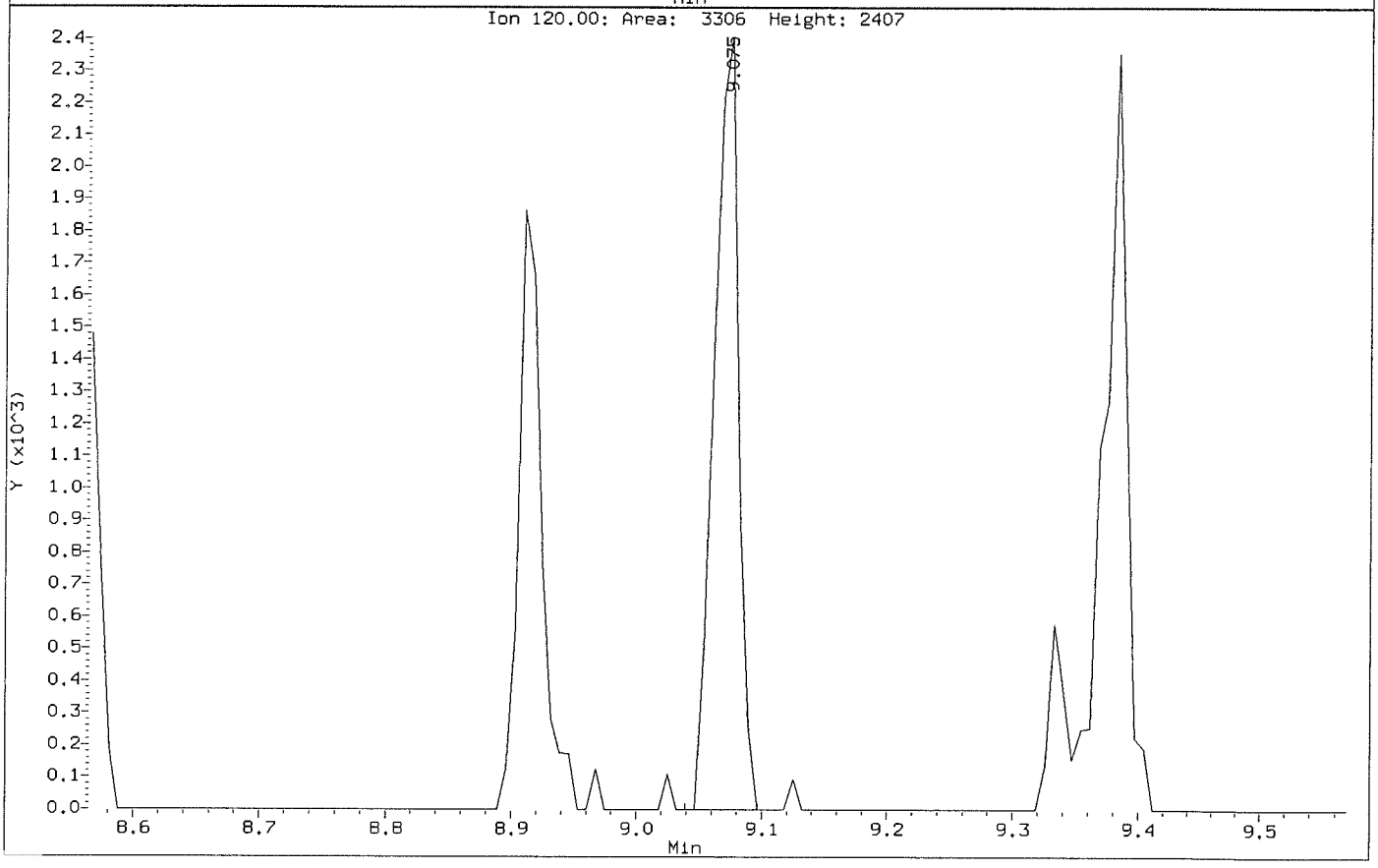




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

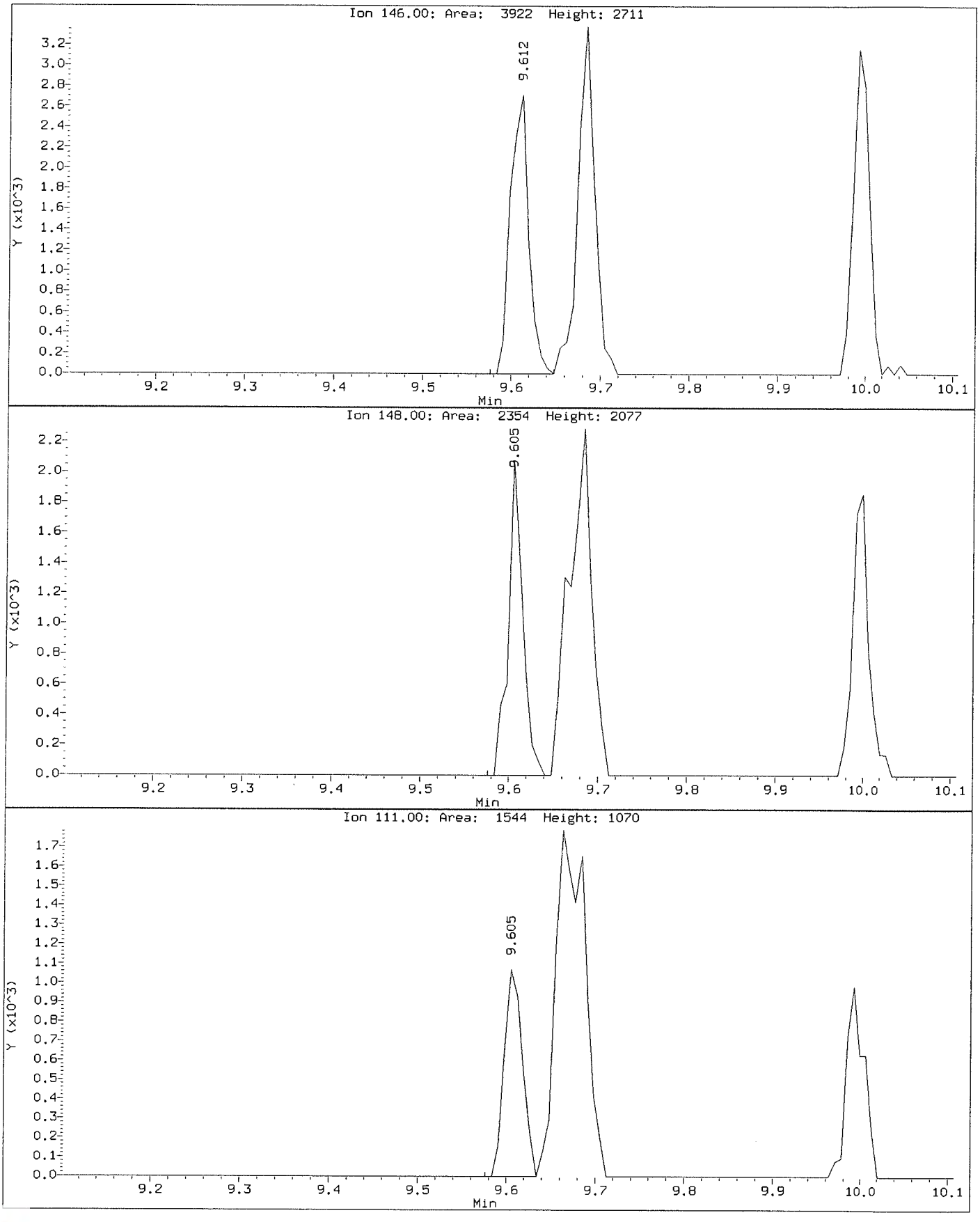
Compound: 1,3,5-Trimethylbenzene
CAS Number: 108-67-8





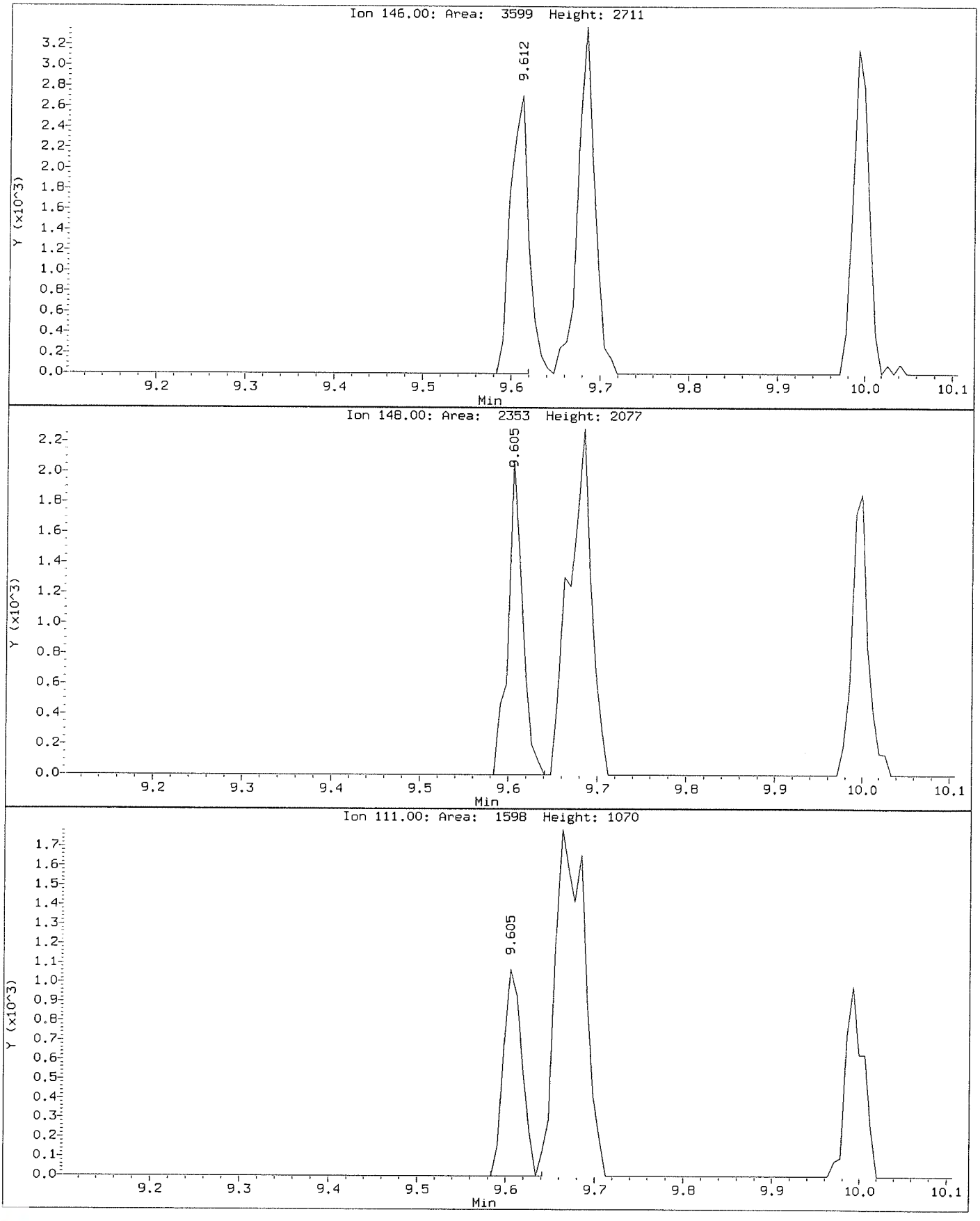
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,3-Dichlorobenzene
CAS Number: 541-73-1



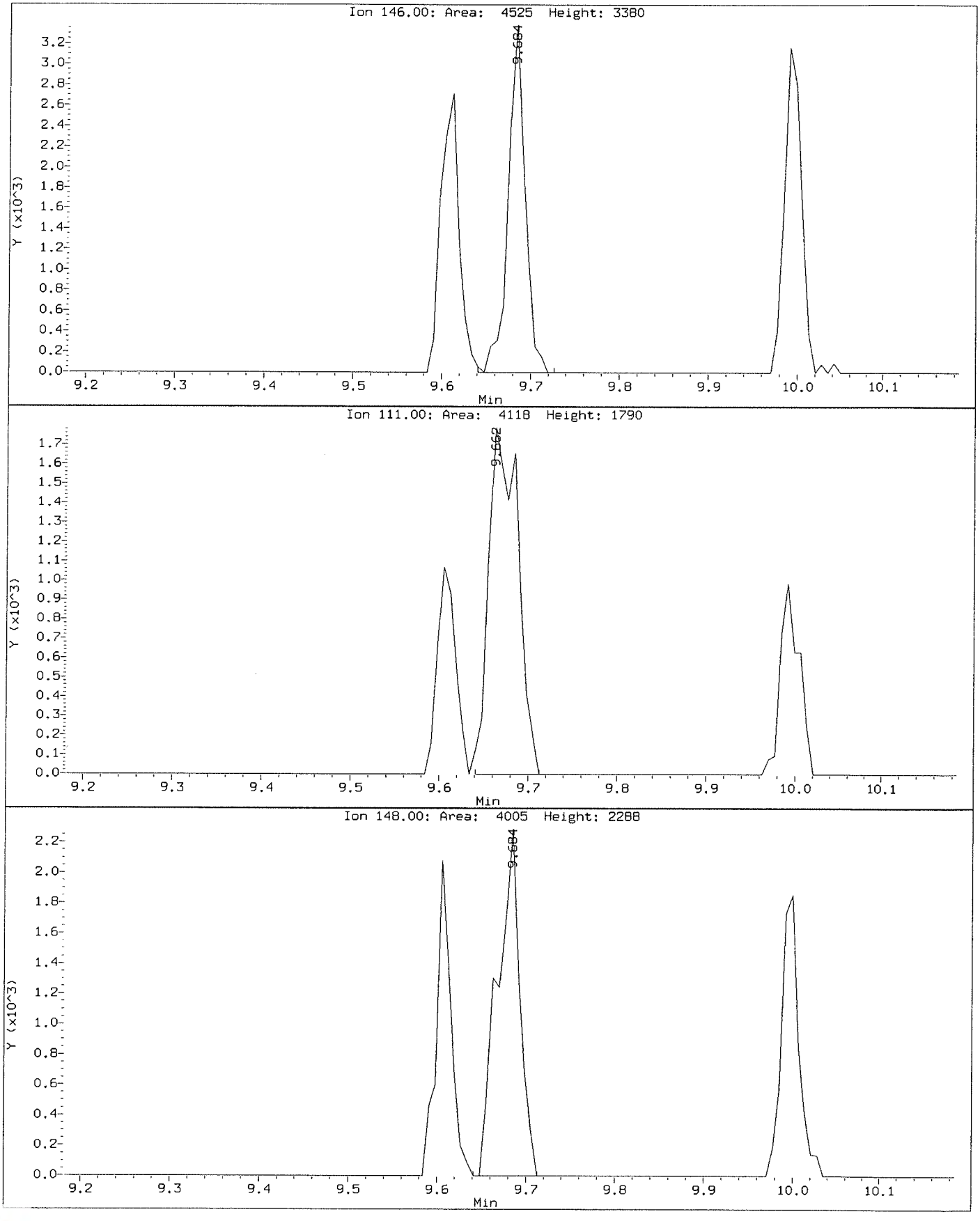
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,3-Dichlorobenzene
CAS Number: 541-73-1



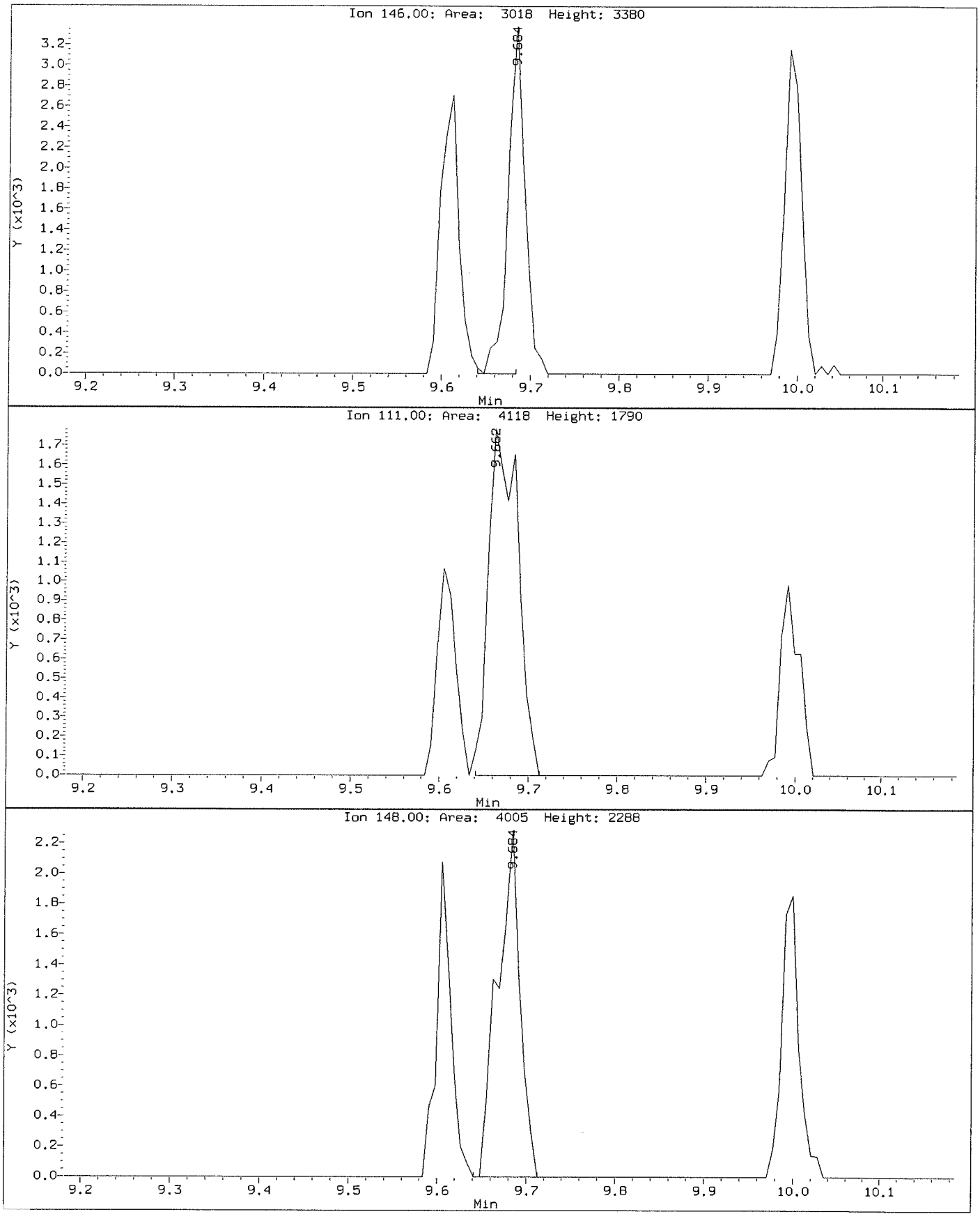
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7



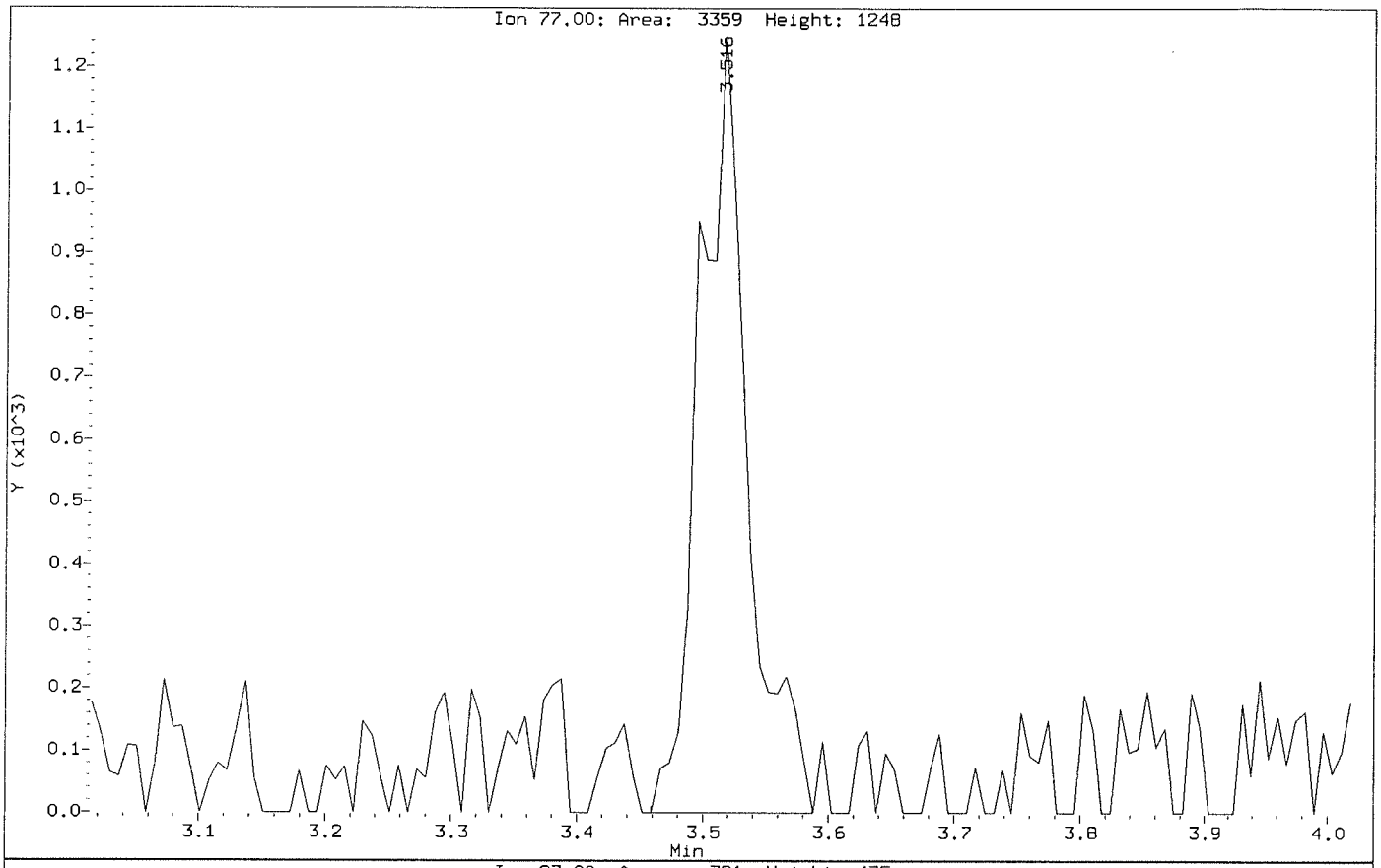
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

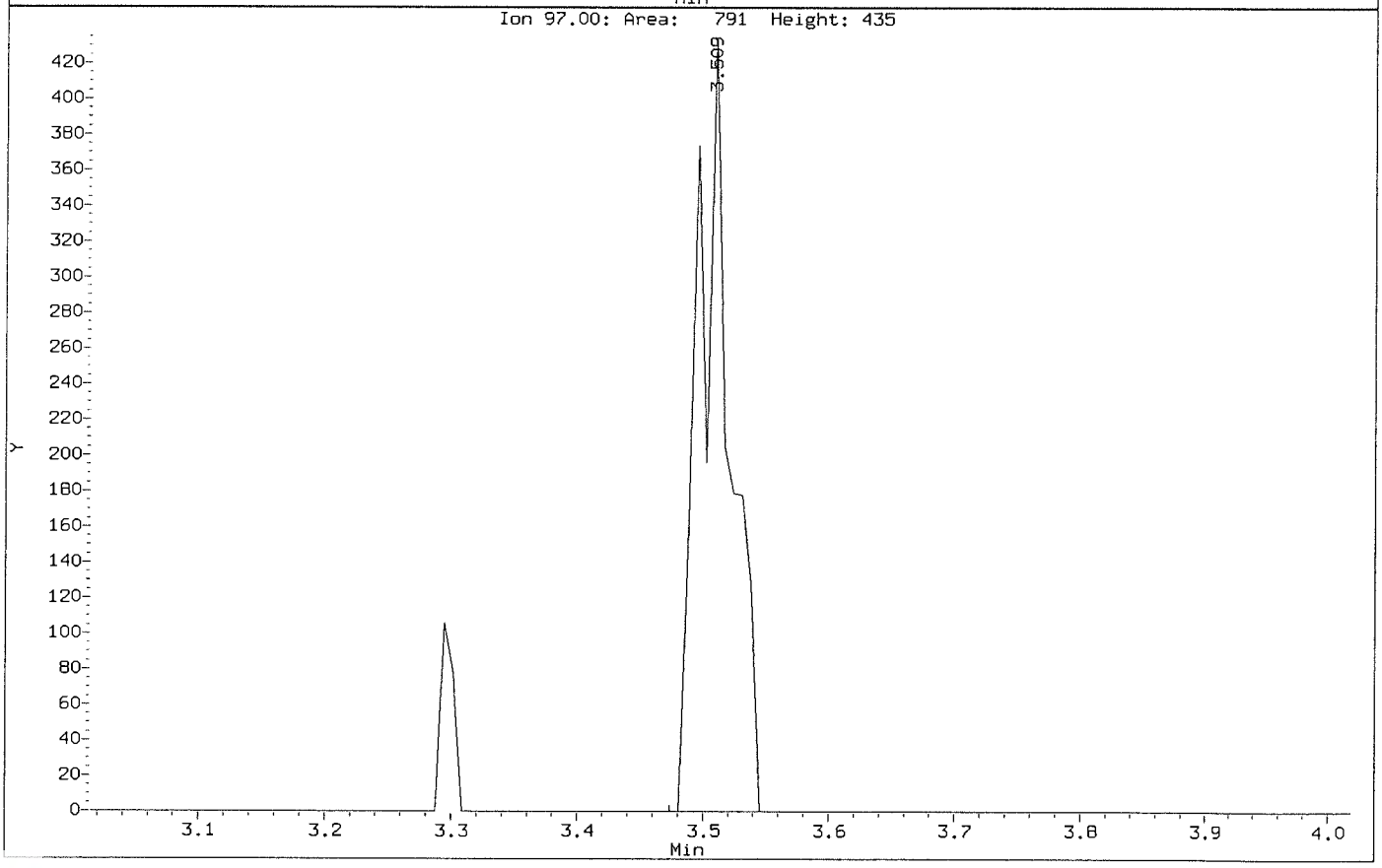
Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

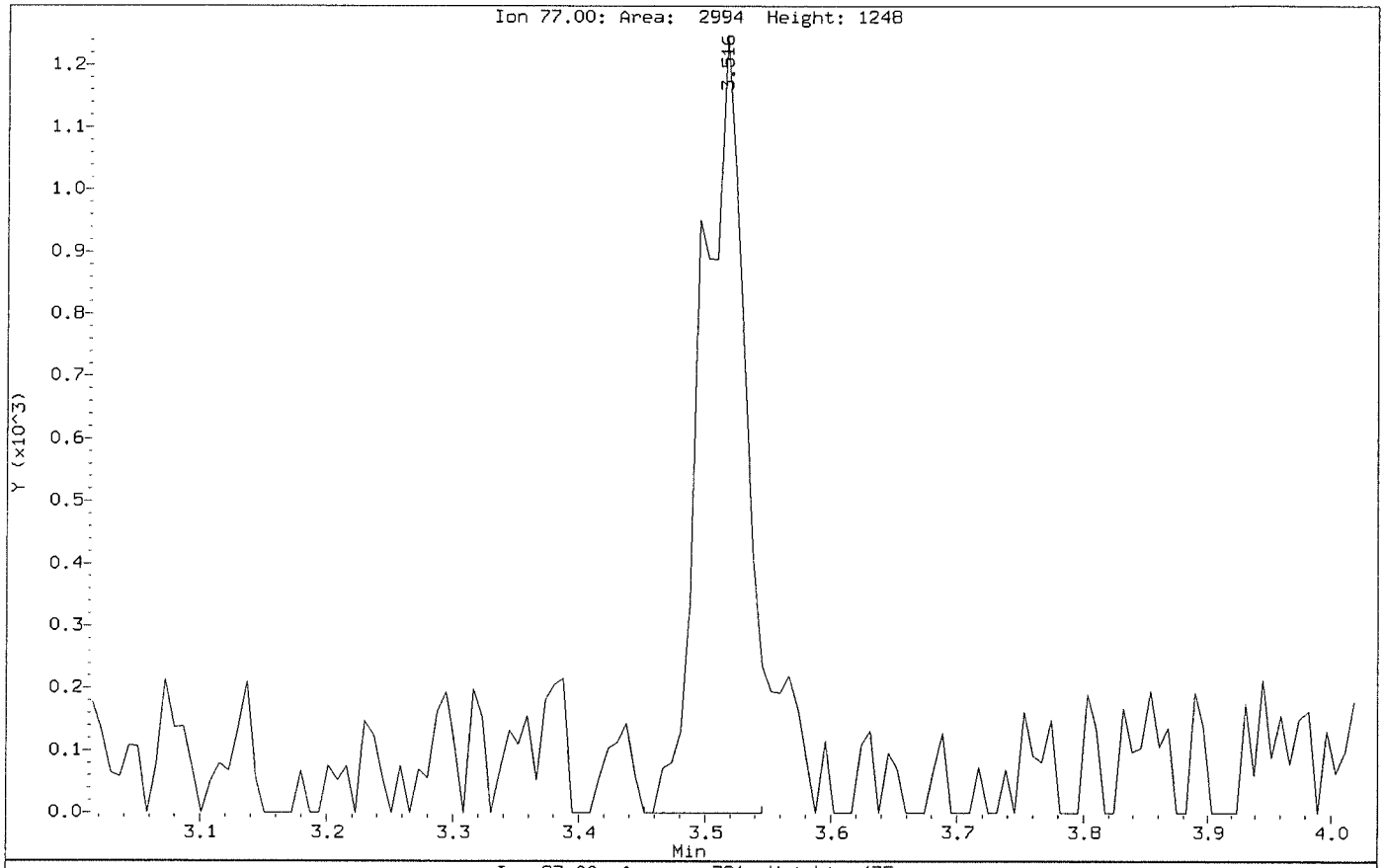
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

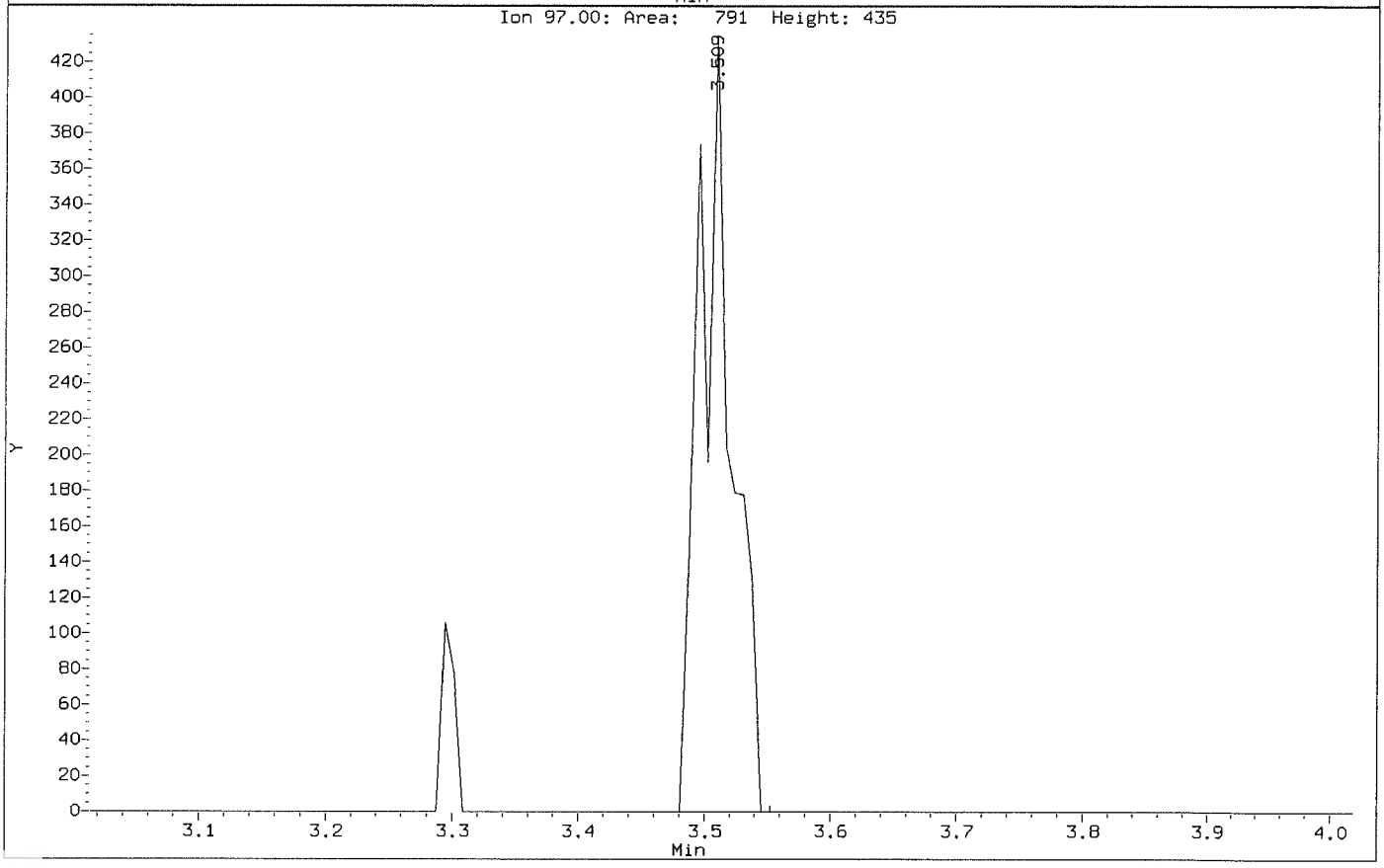




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

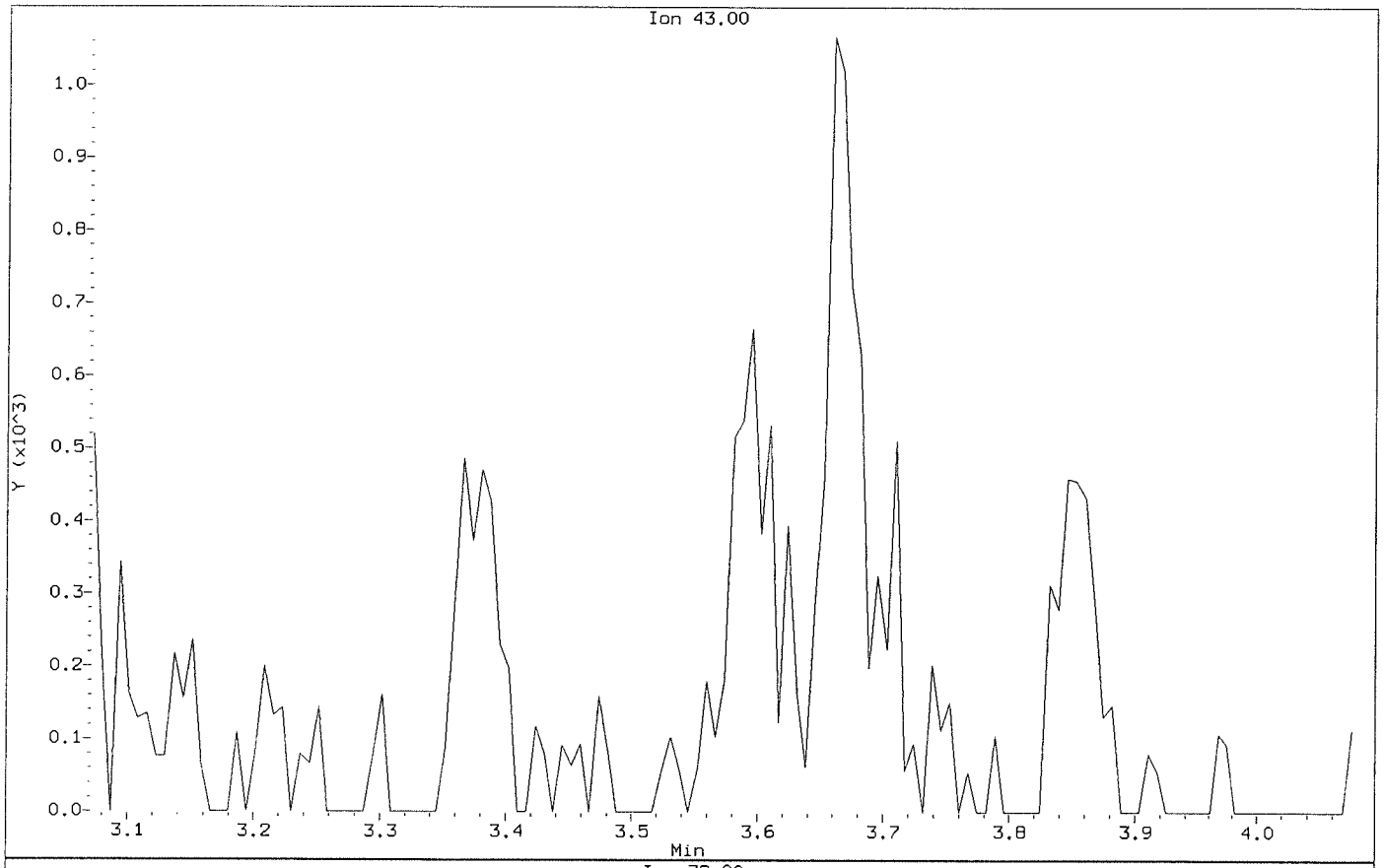
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

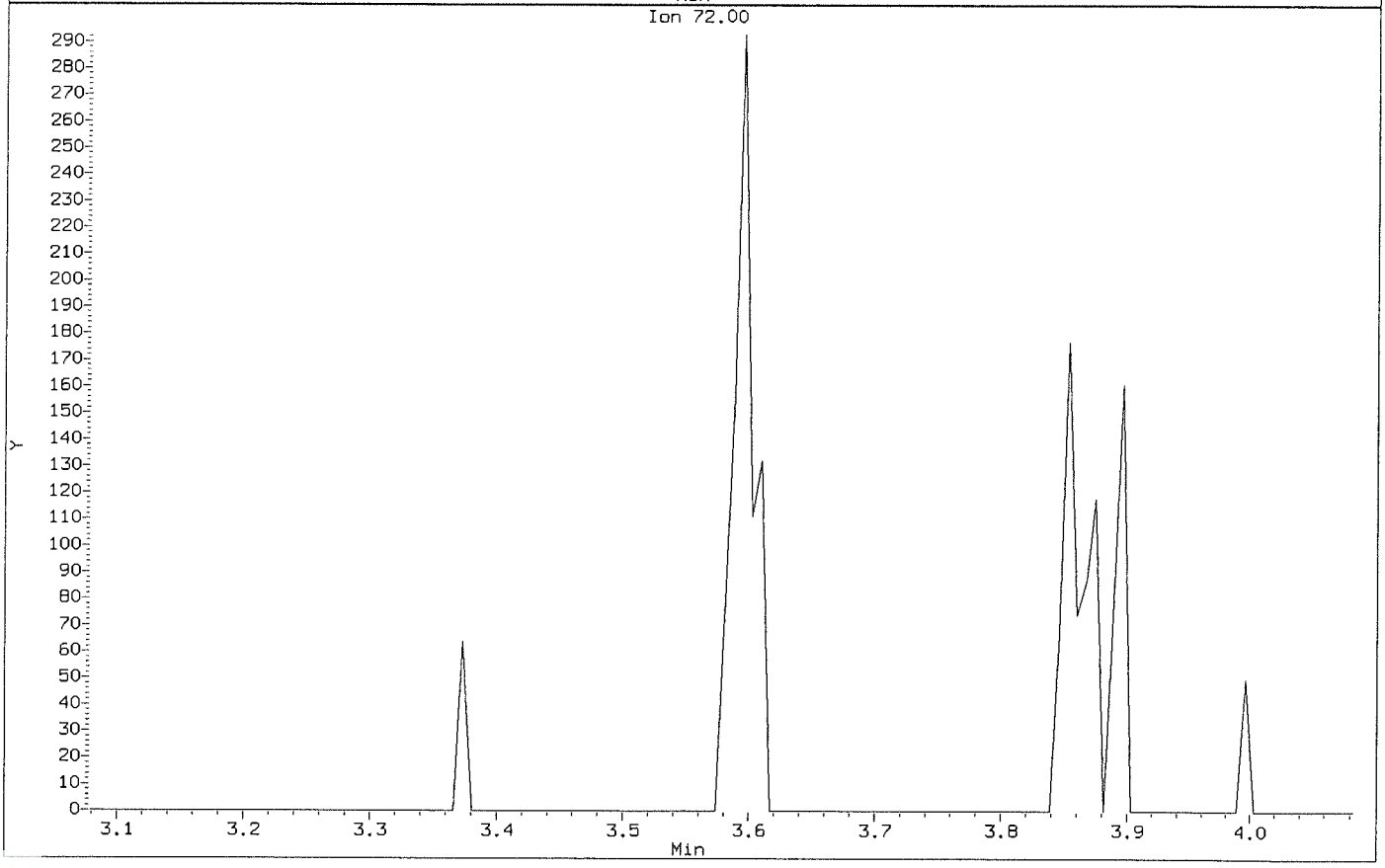




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

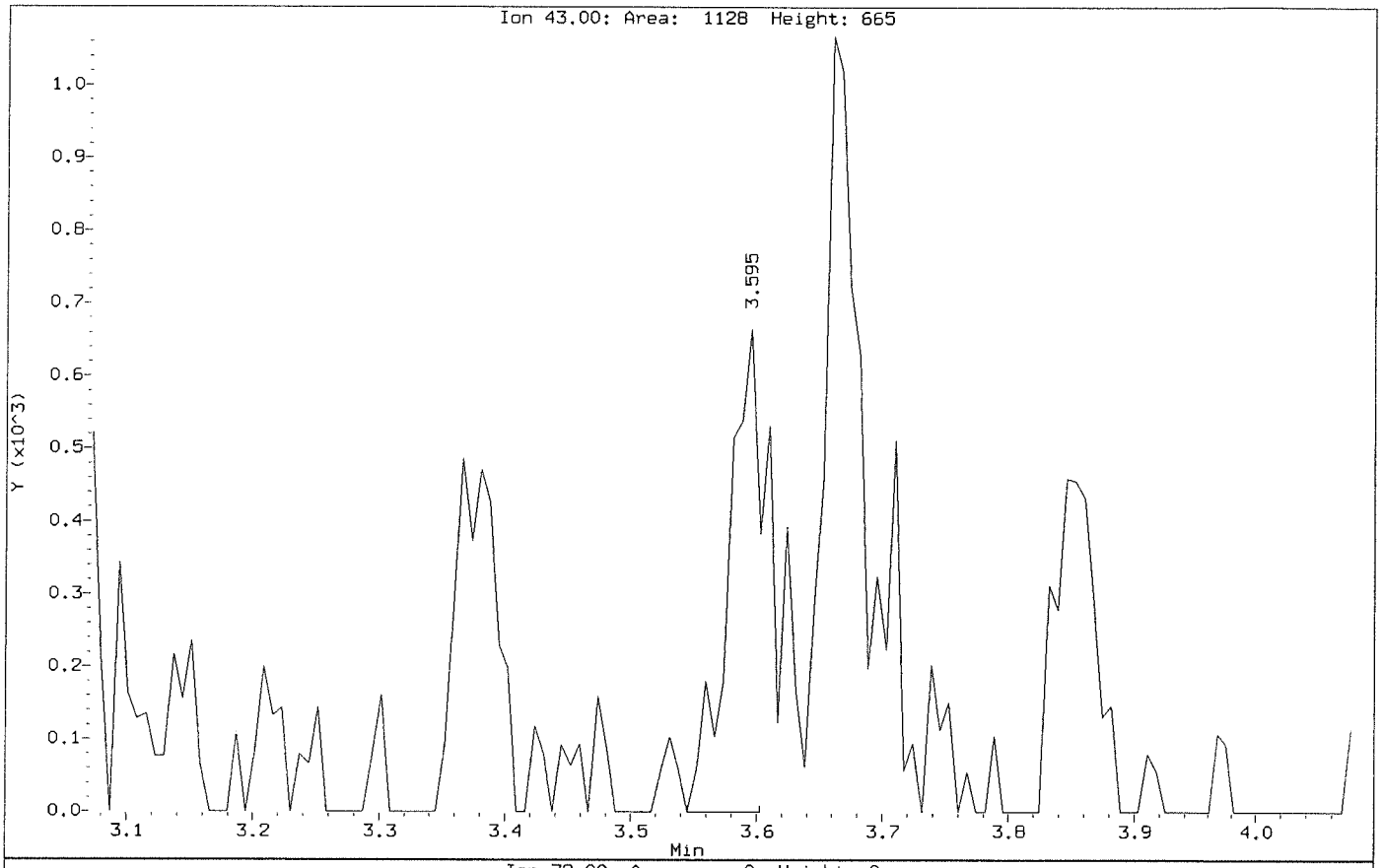
Compound: 2-Butanone
CAS Number: 78-93-3

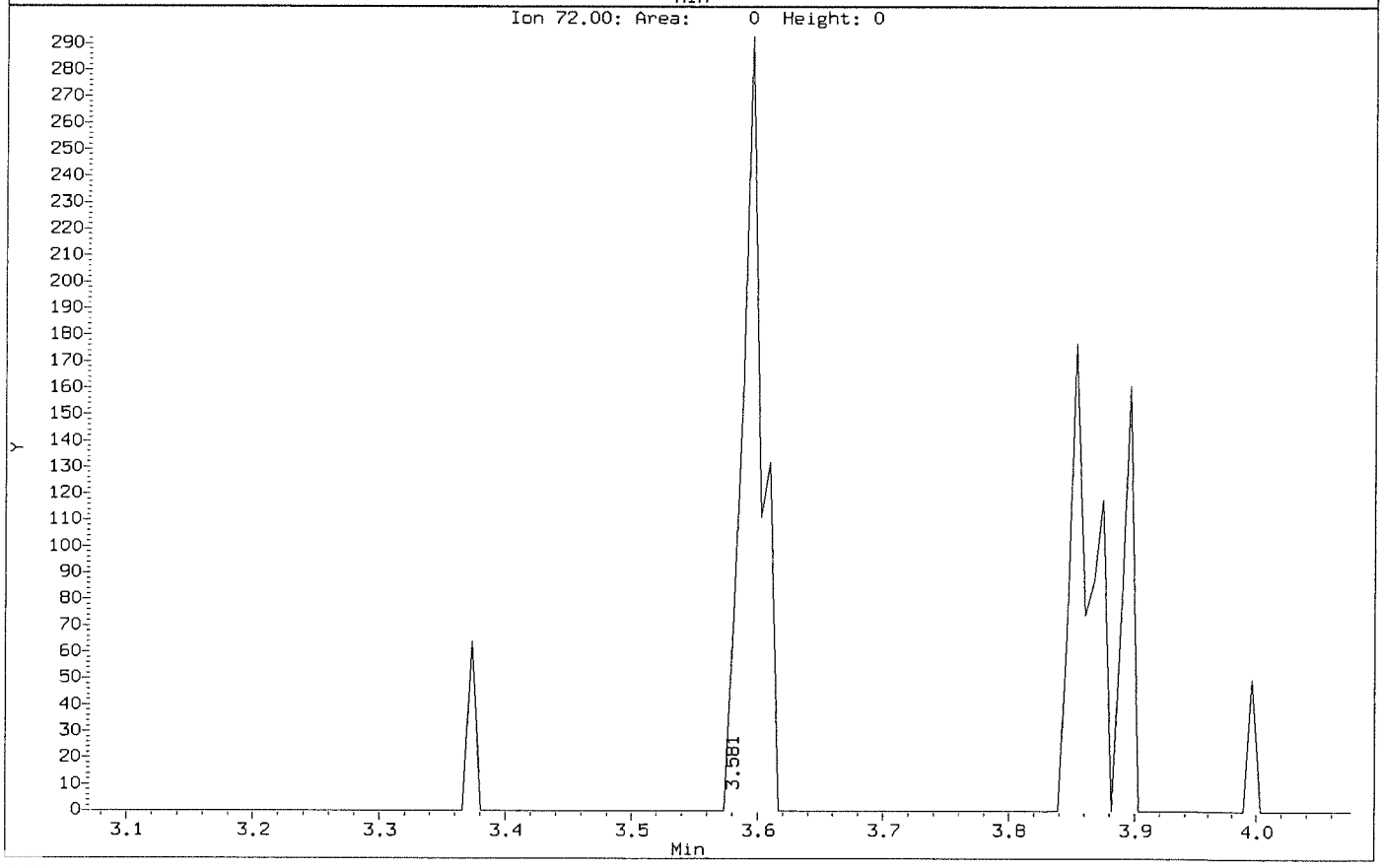




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

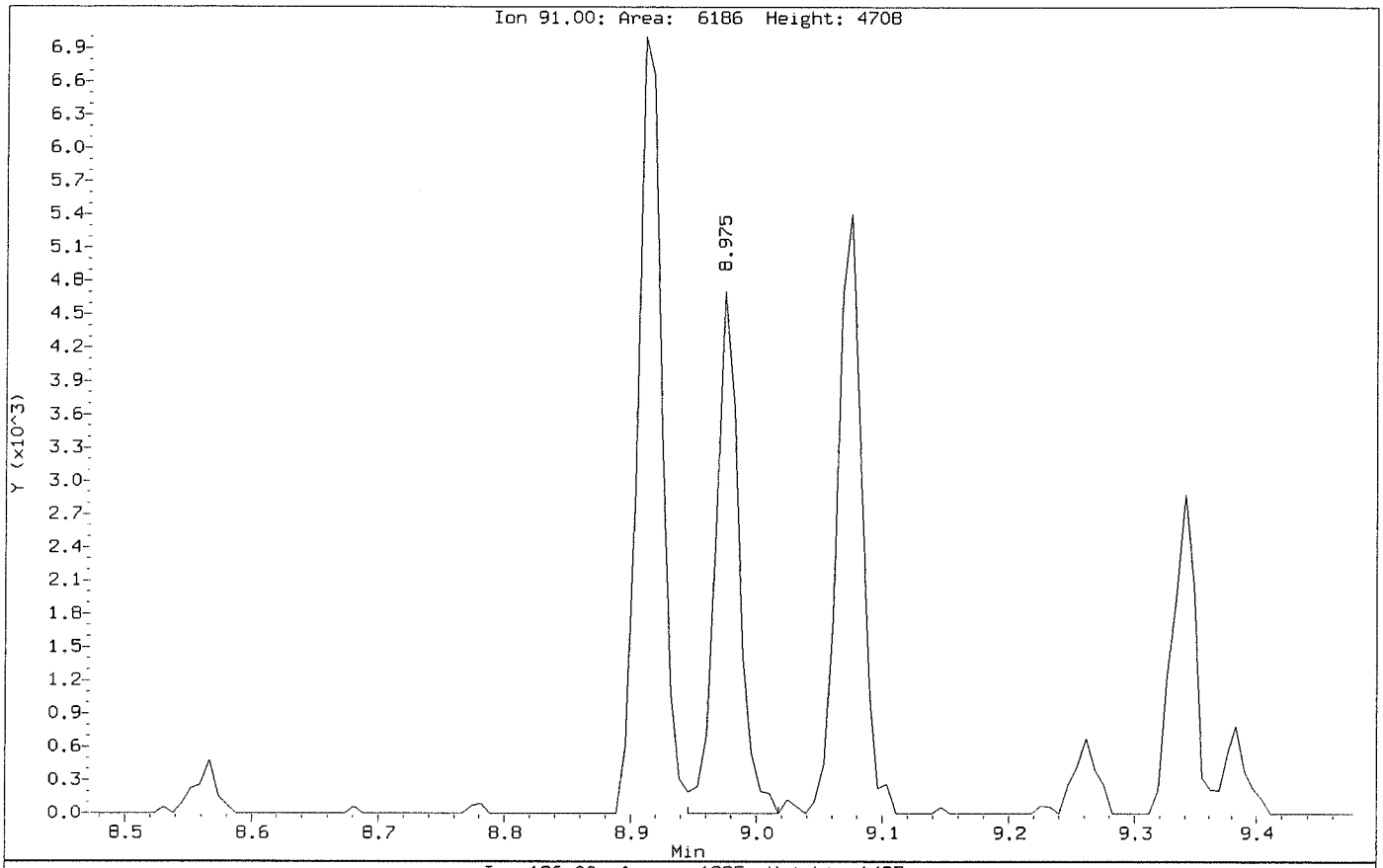
Compound: 2-Butanone
CAS Number: 78-93-3

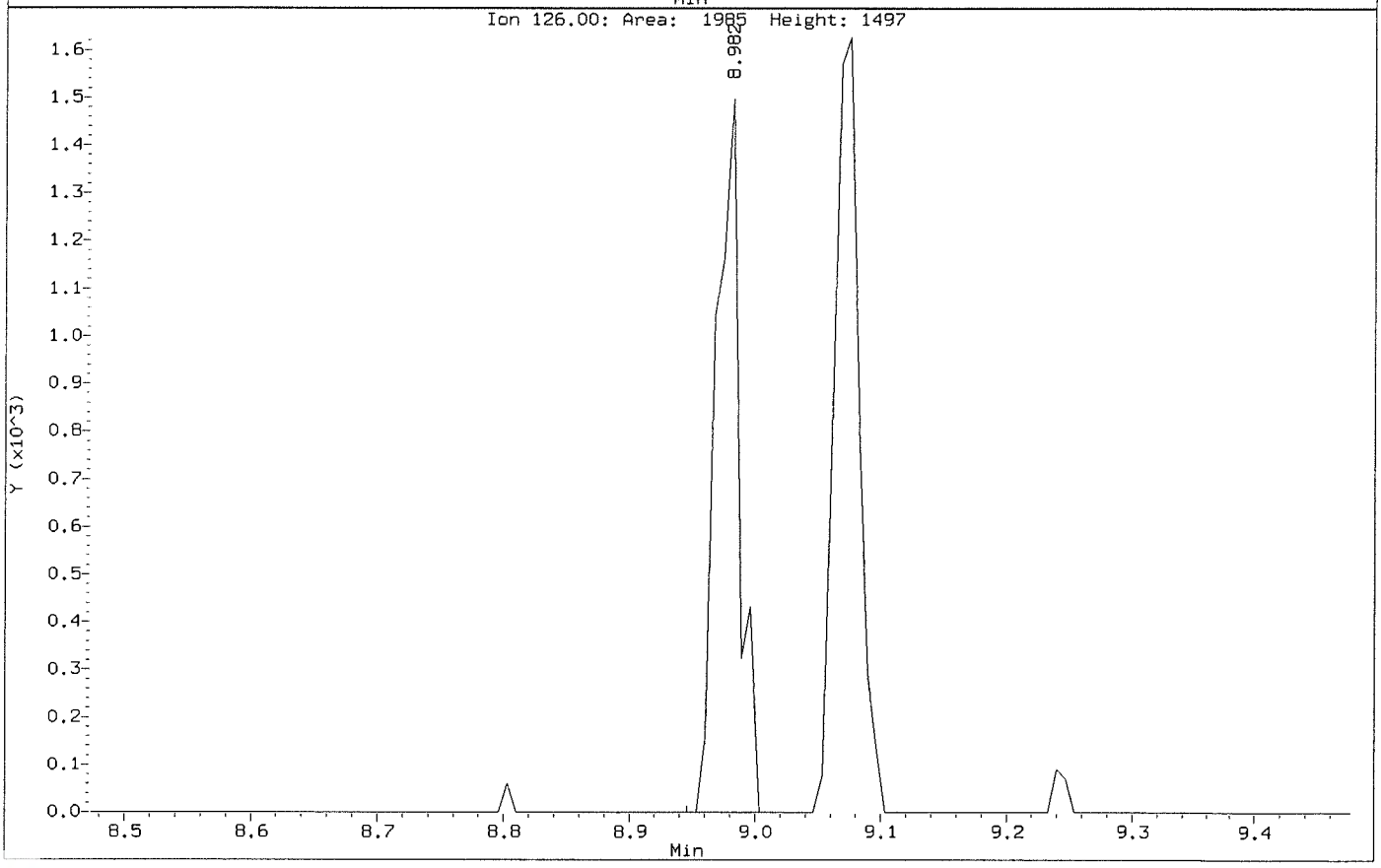




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

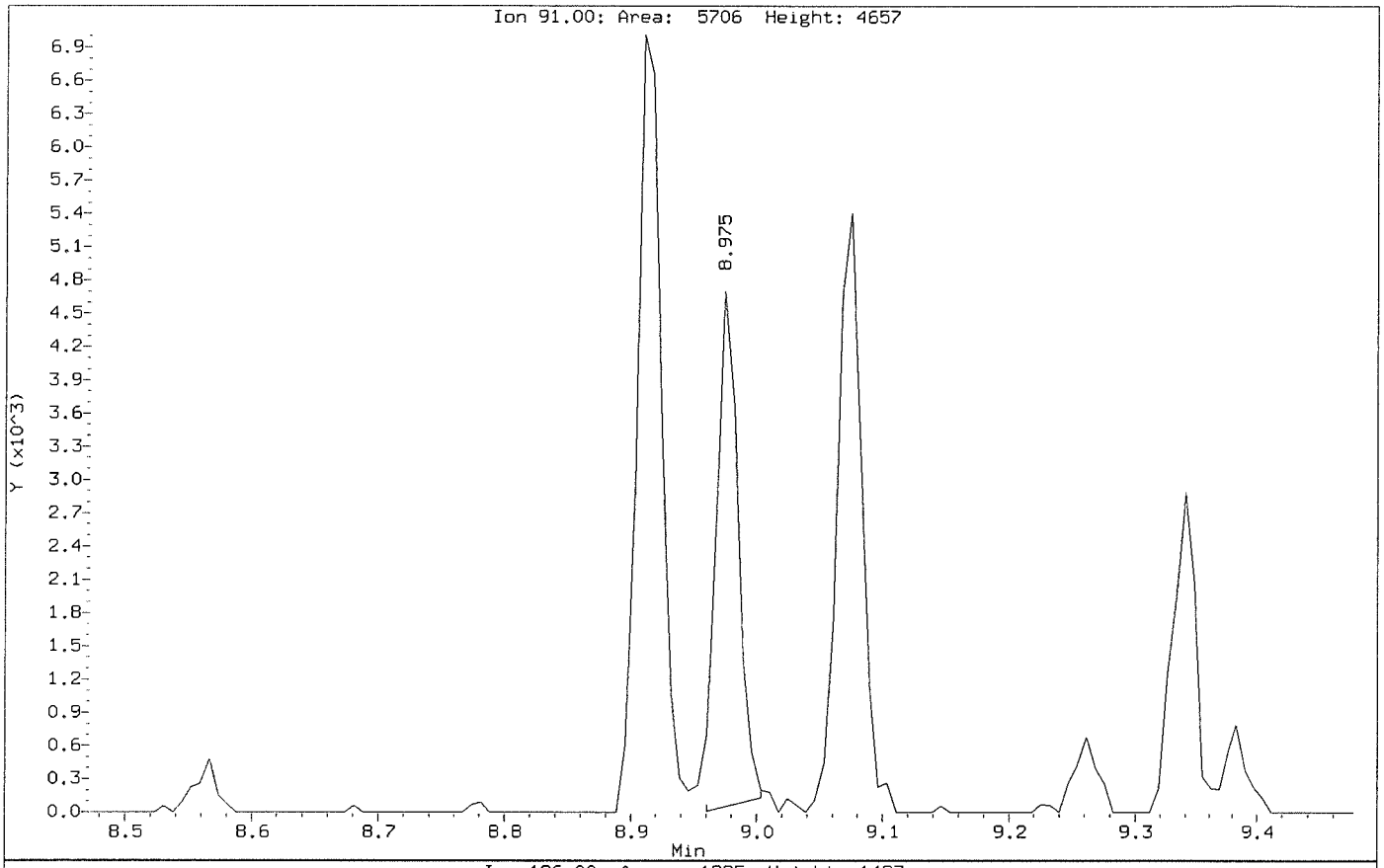
Compound: 2-Chlorotoluene
CAS Number: 95-49-8

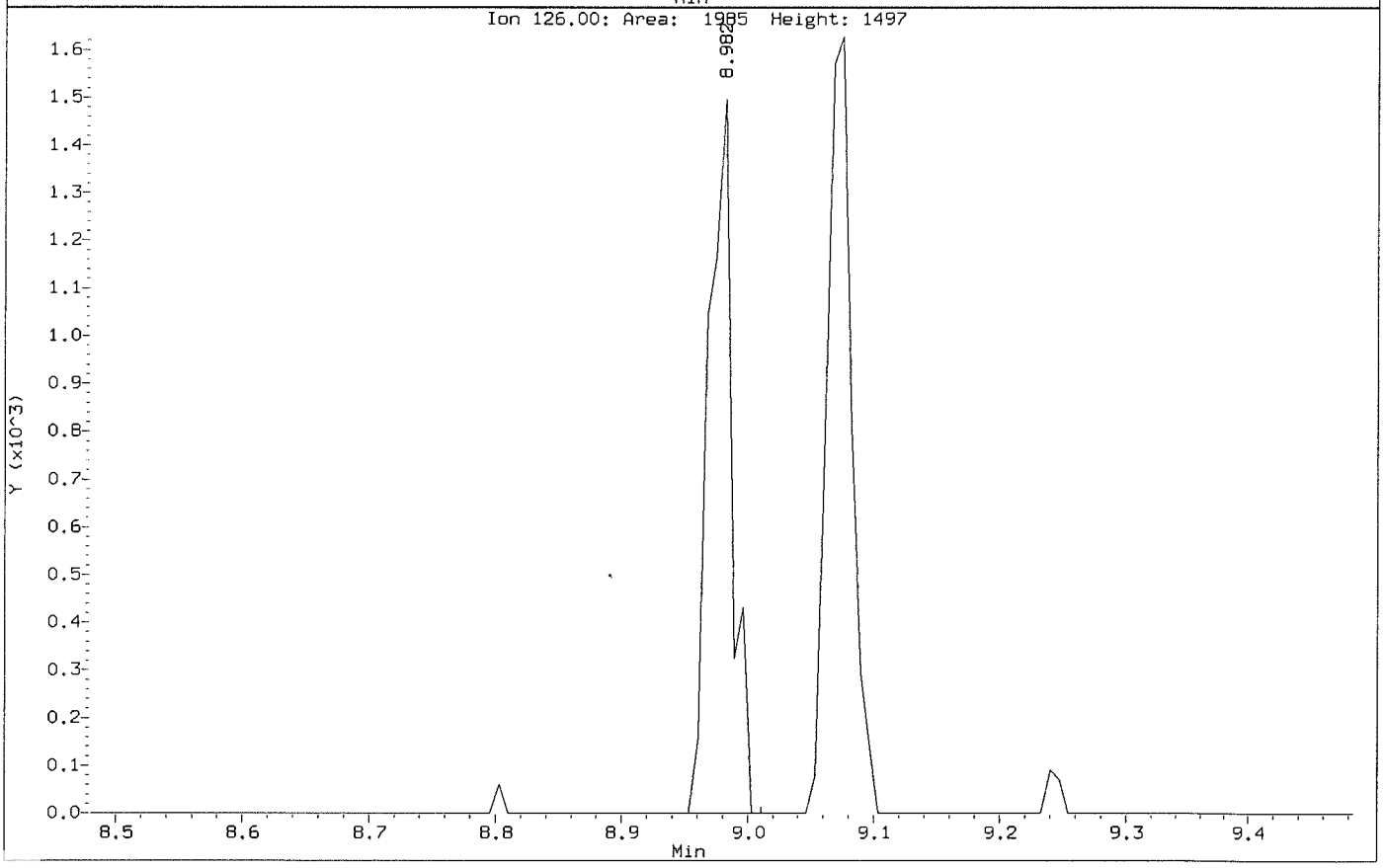




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

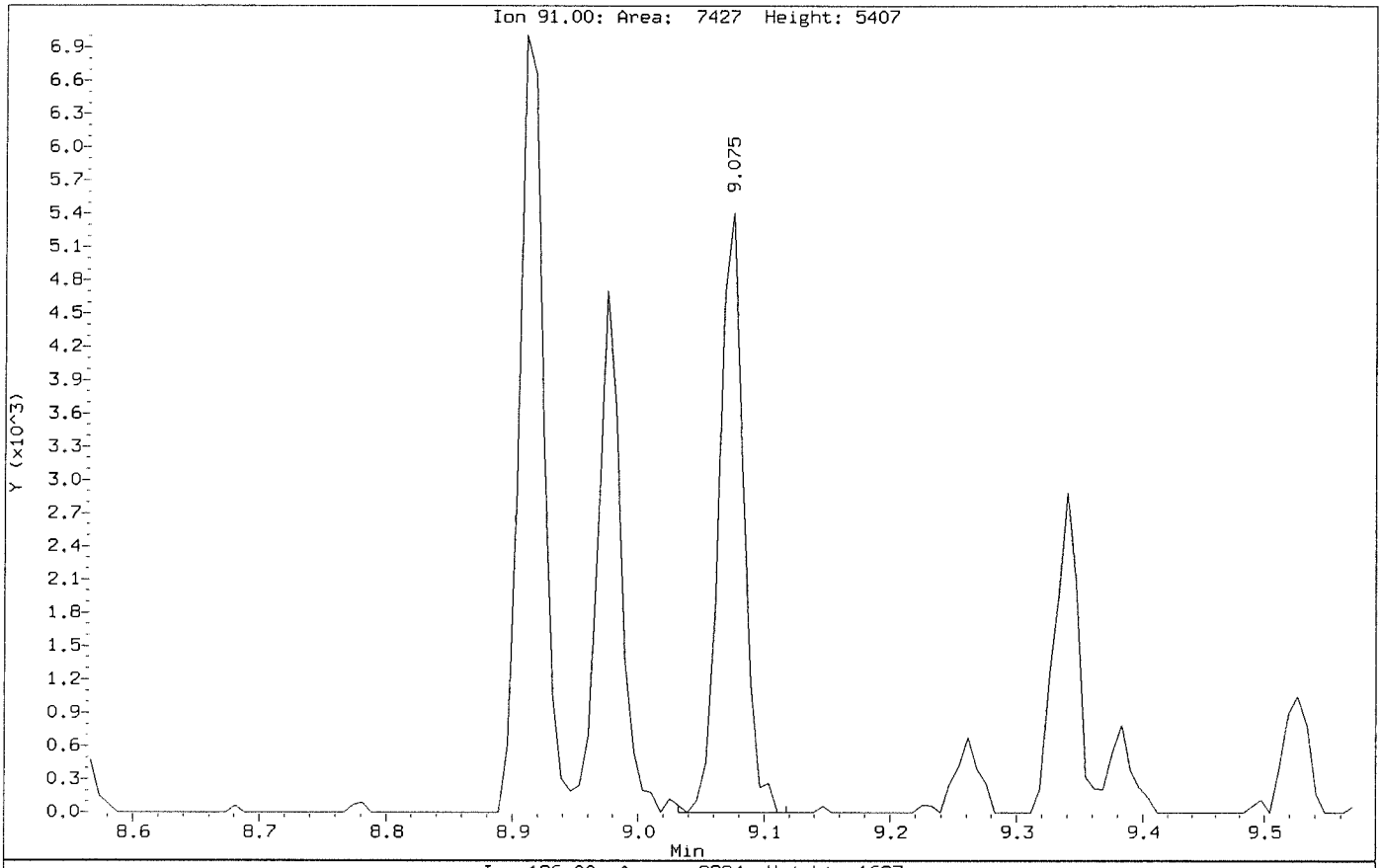
Compound: 2-Chlorotoluene
CAS Number: 95-49-8

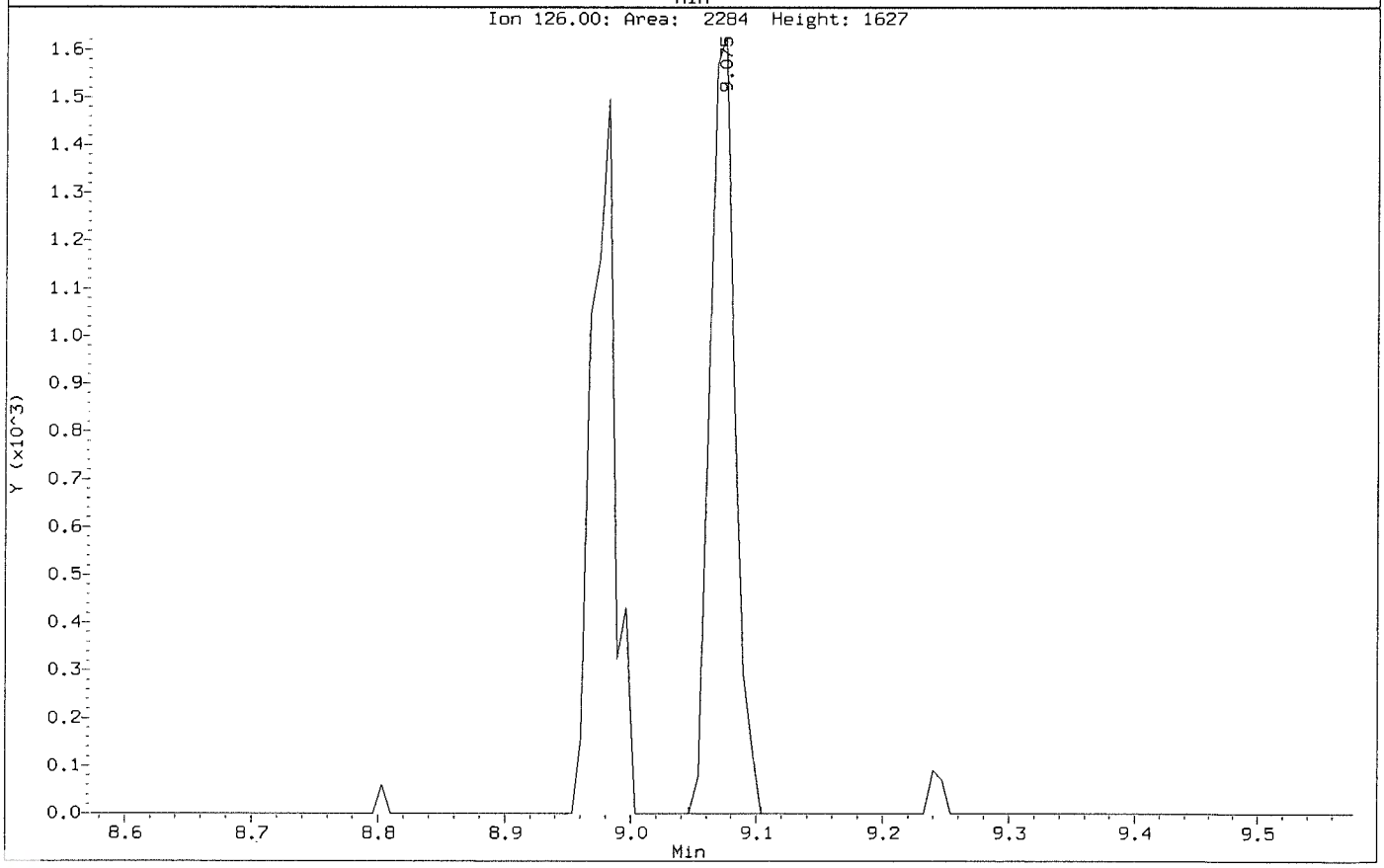




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

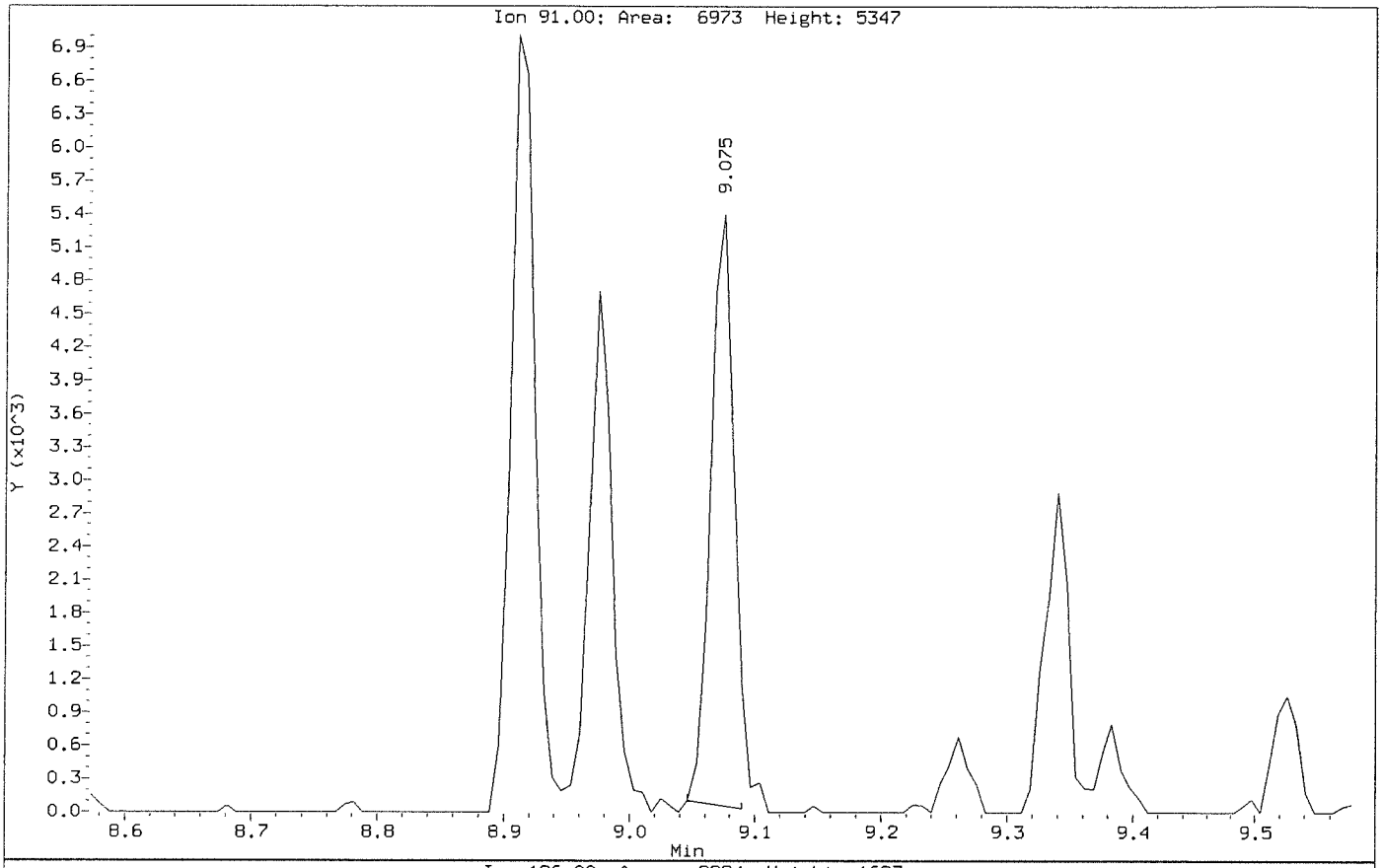
Compound: 4-Chlorotoluene
CAS Number: 106-43-4

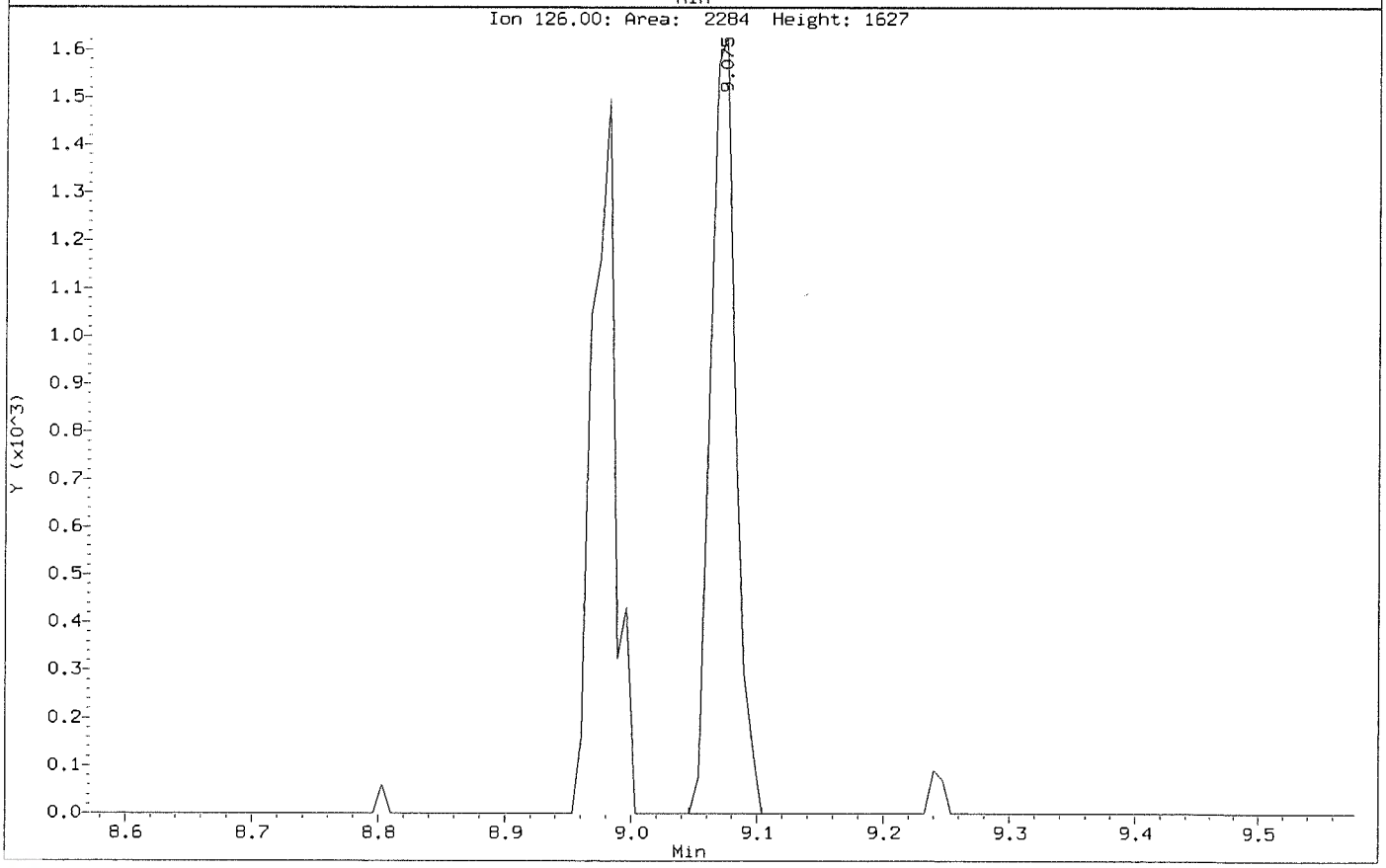




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

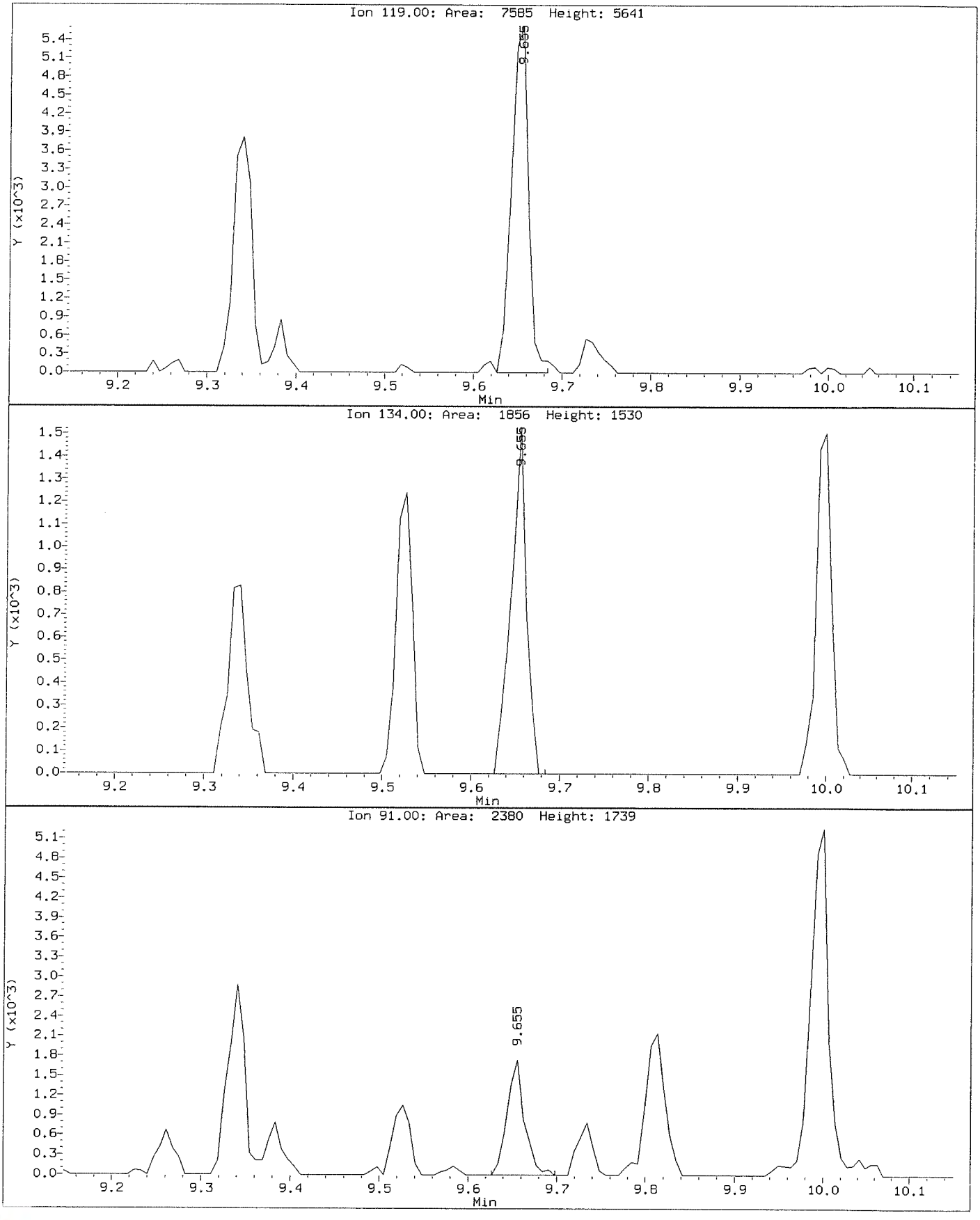
Compound: 4-Chlorotoluene
CAS Number: 106-43-4





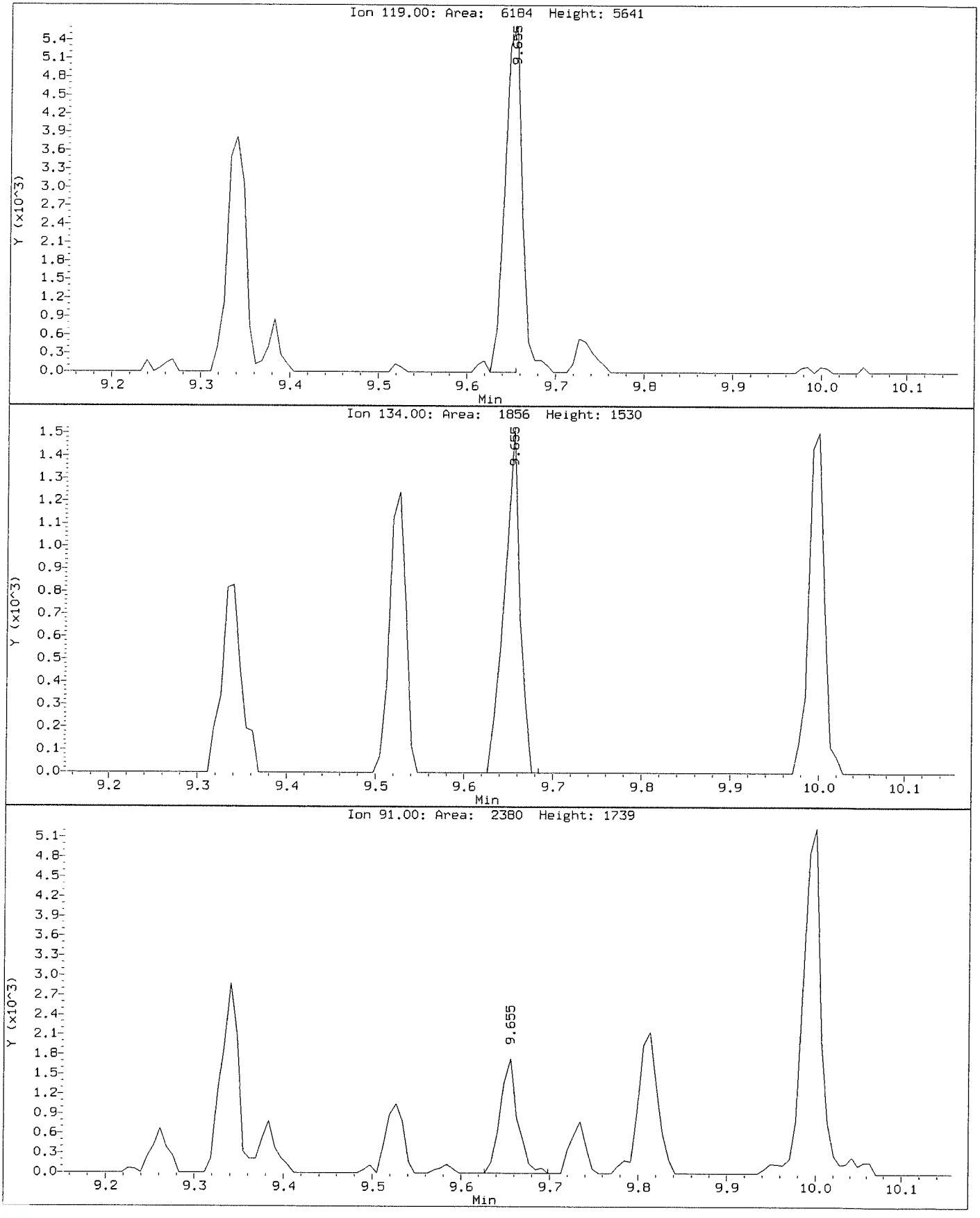
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: p-Isopropyltoluene
CAS Number: 99-87-6



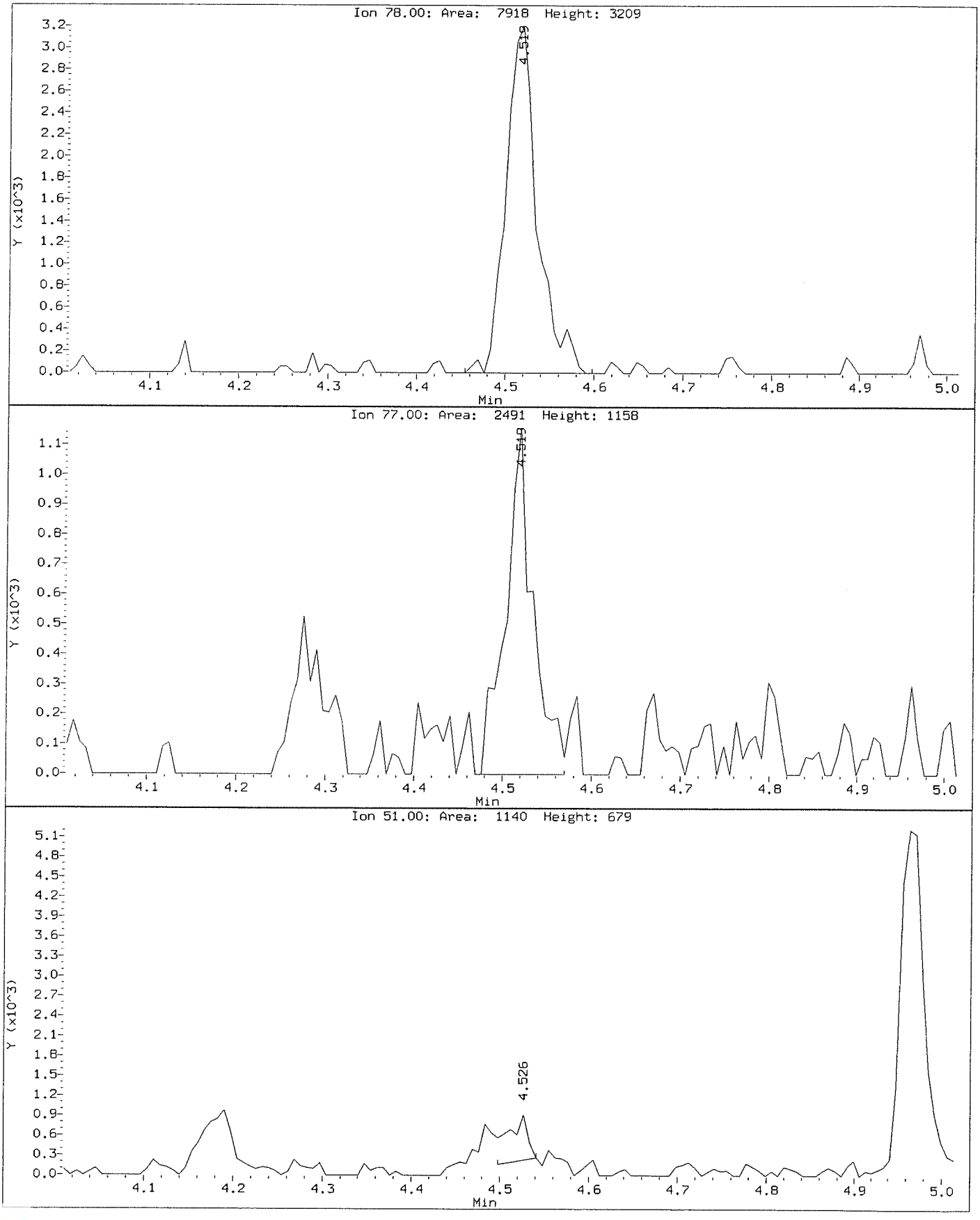
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: p-Isopropyltoluene
CAS Number: 99-87-6



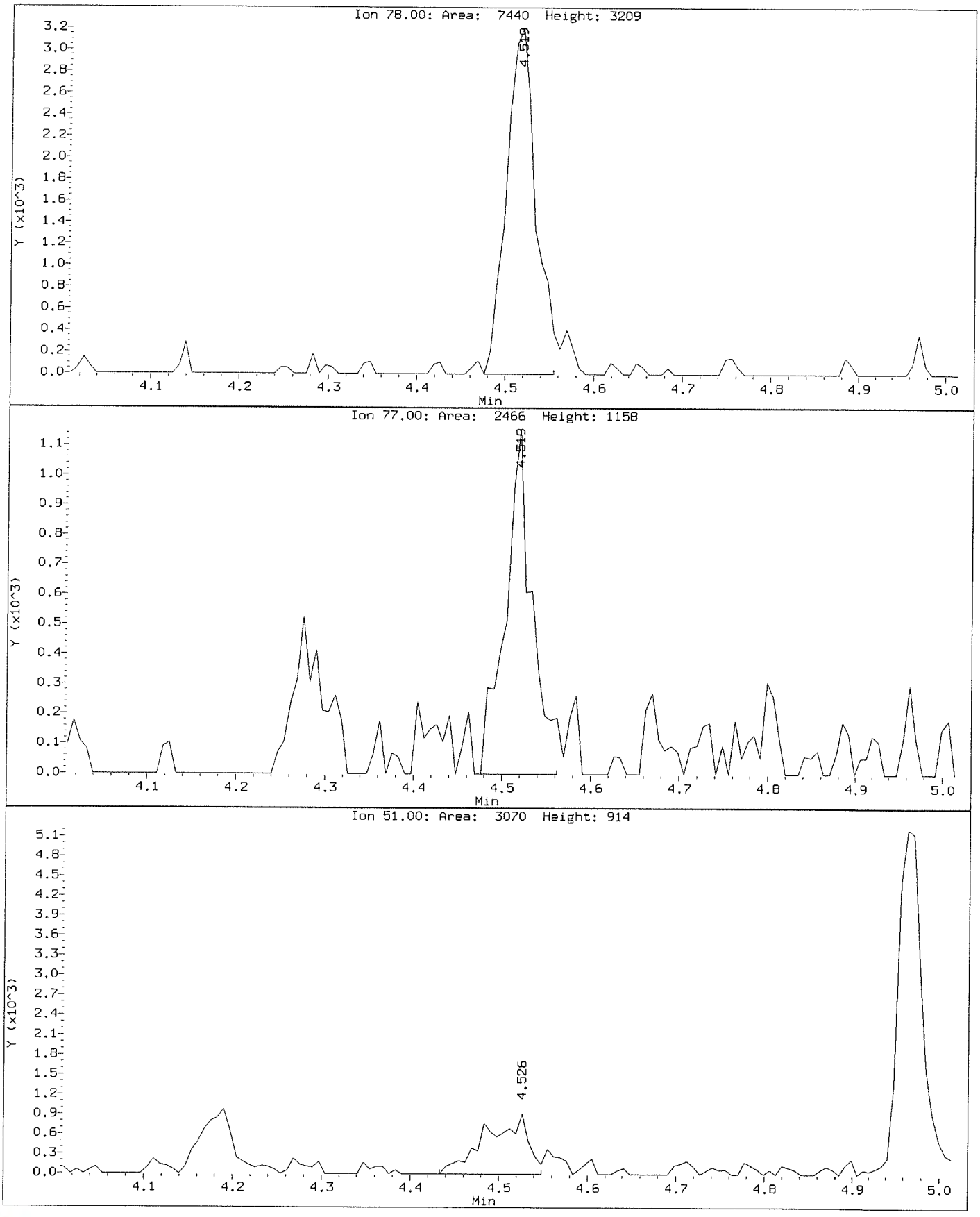
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Benzene
CAS Number: 71-43-2



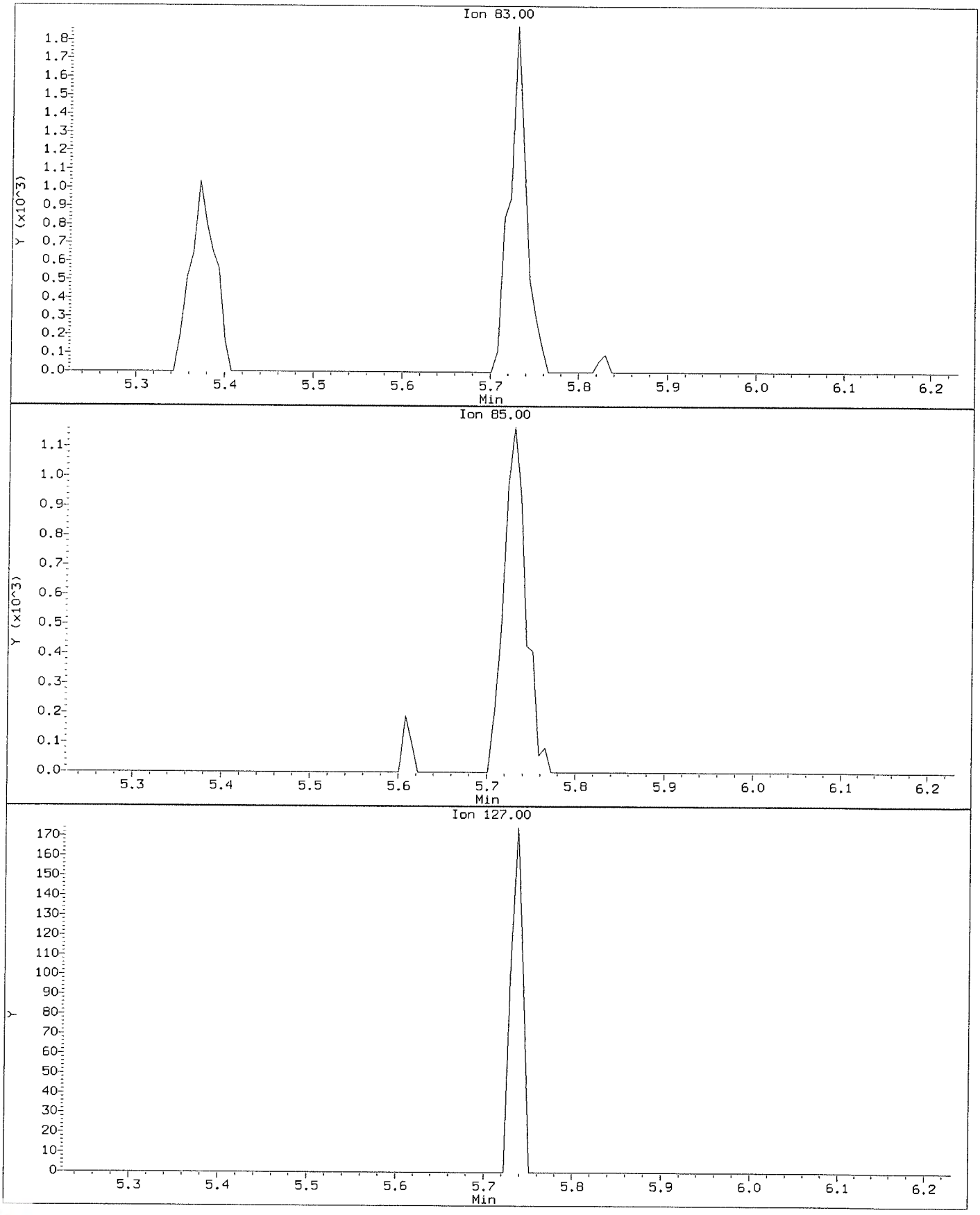
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Benzene
CAS Number: 71-43-2



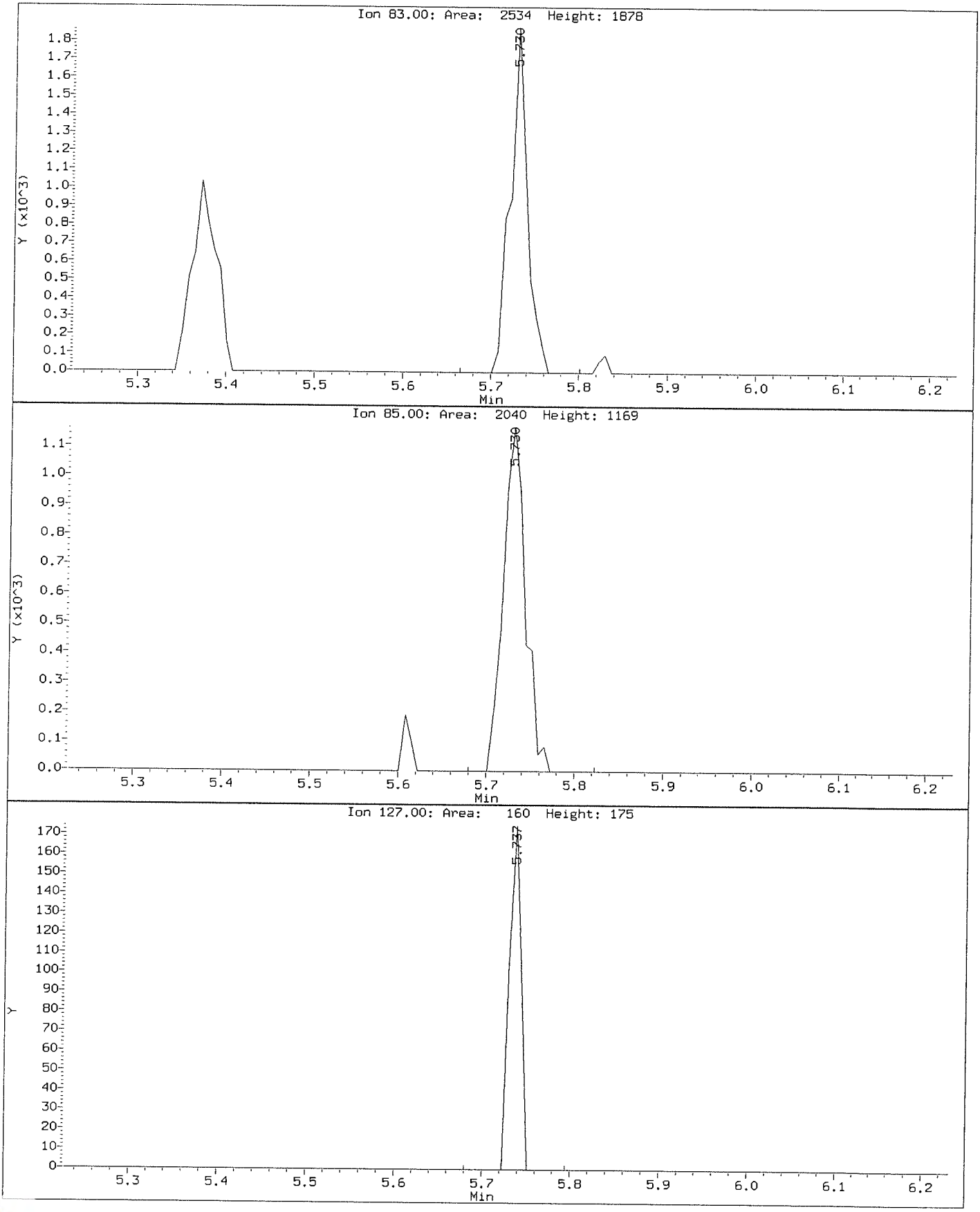
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



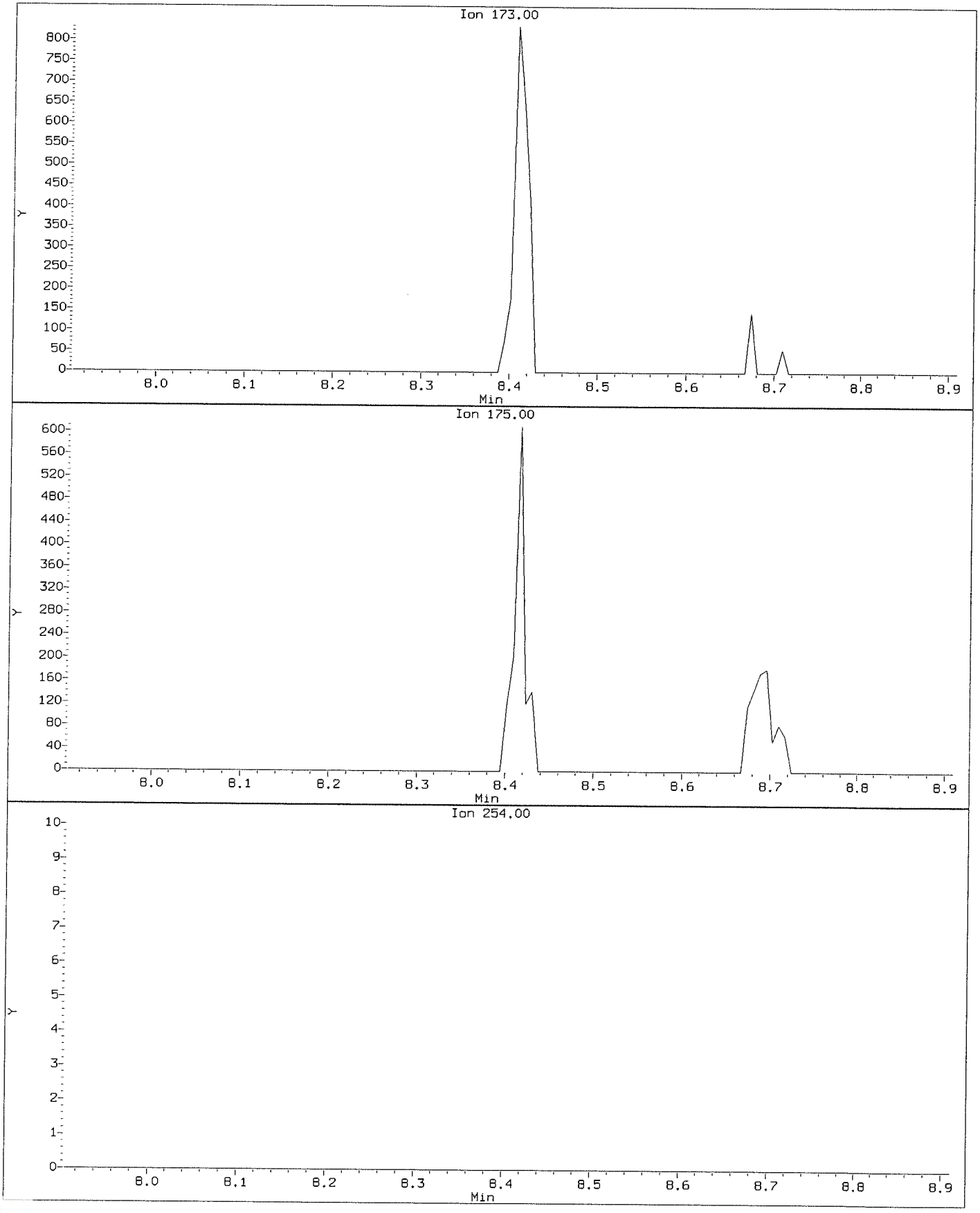
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



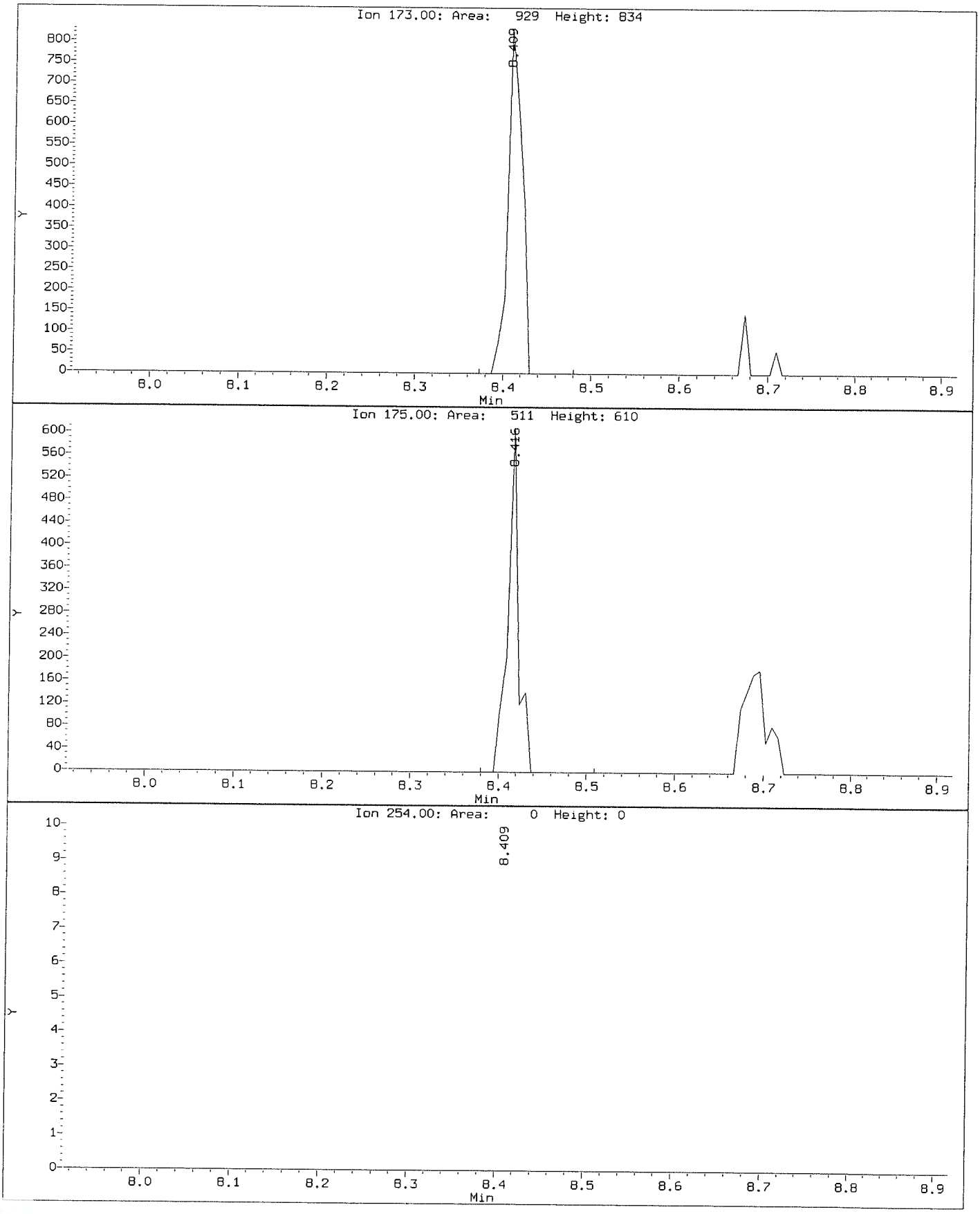
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



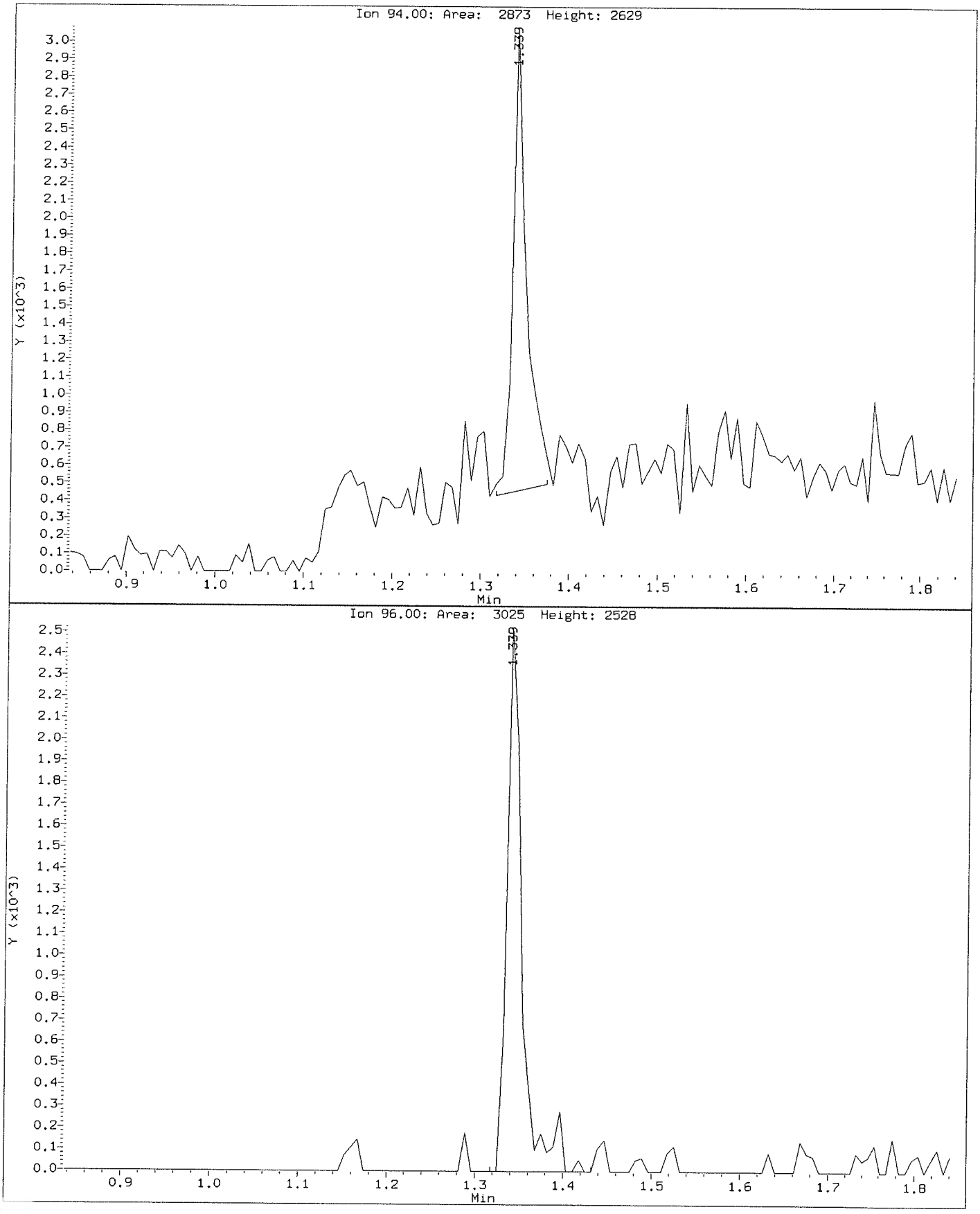
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



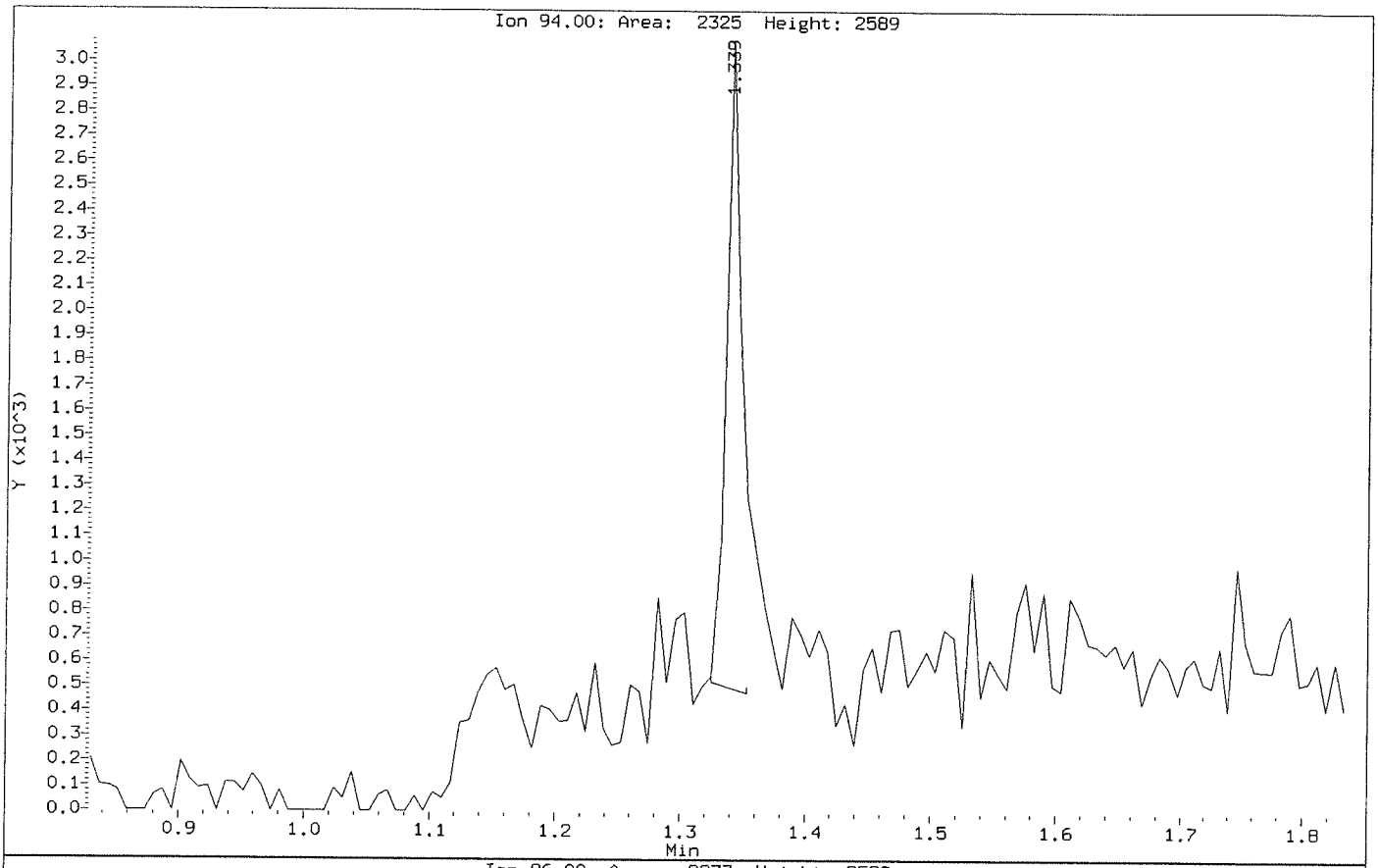
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

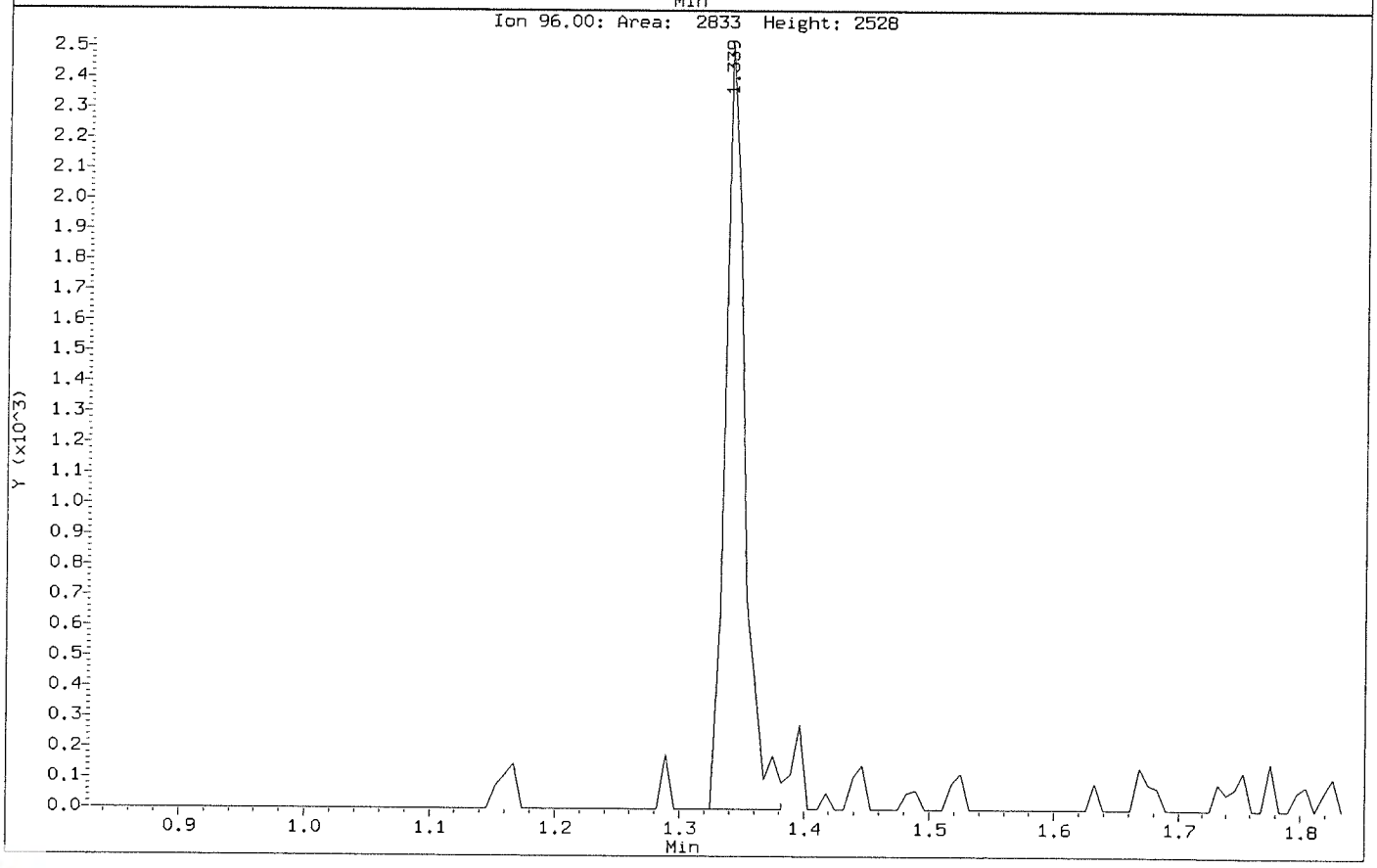
Compound: Bromomethane
CAS Number: 74-83-9



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

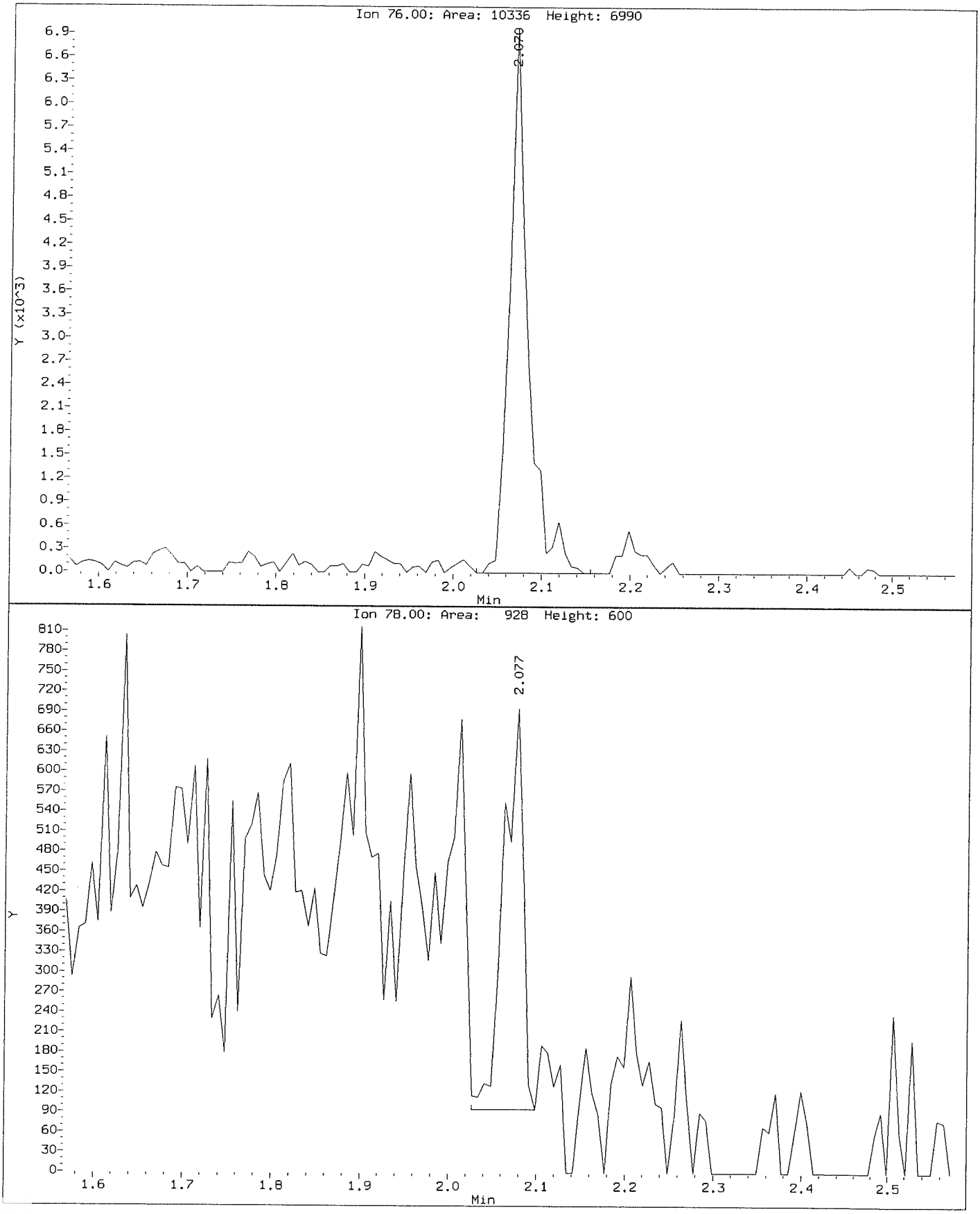
Compound: Bromomethane
CAS Number: 74-83-9





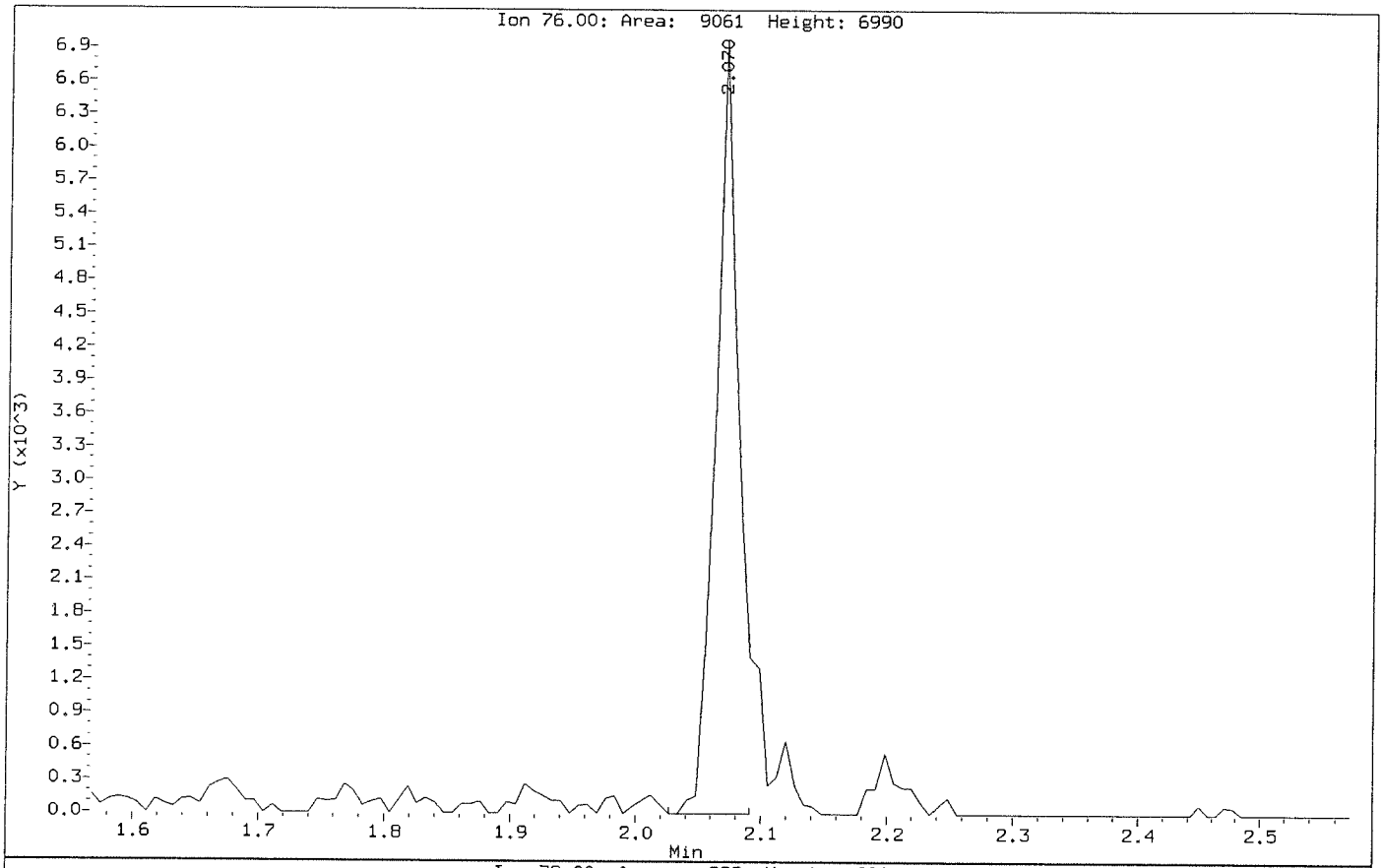
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

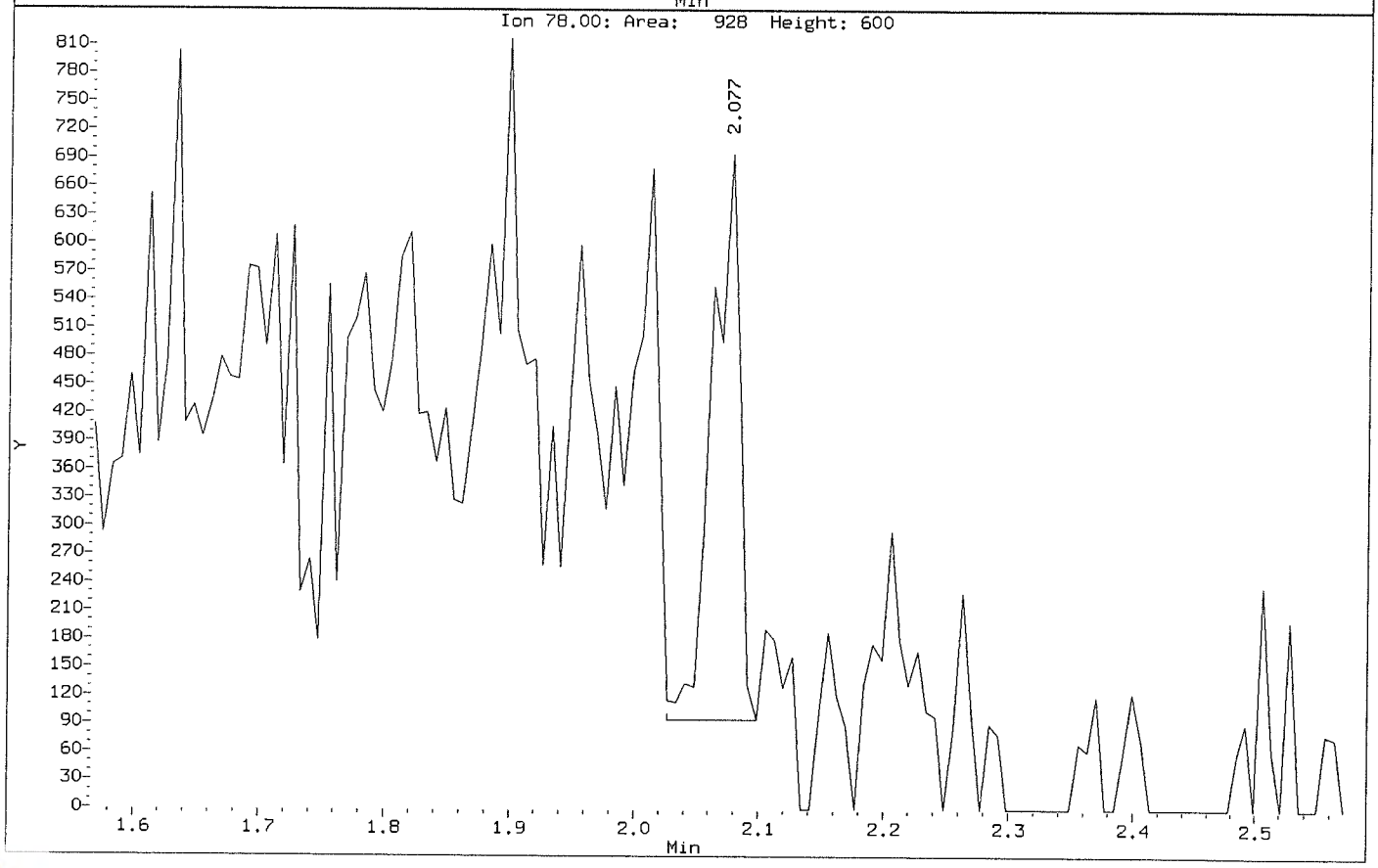
Compound: Carbon Disulfide
CAS Number: 75-15-0



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

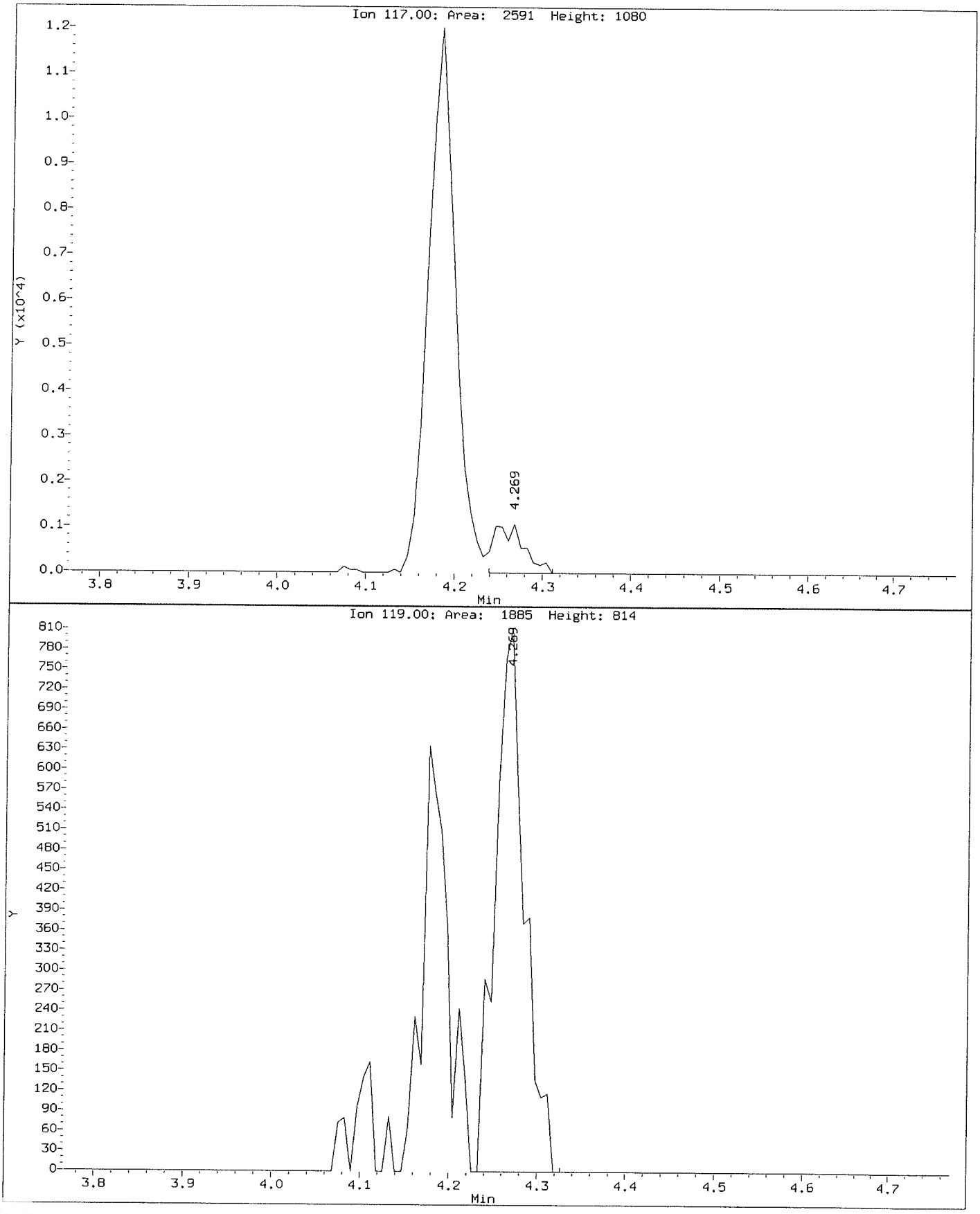
Compound: Carbon Disulfide
CAS Number: 75-15-0





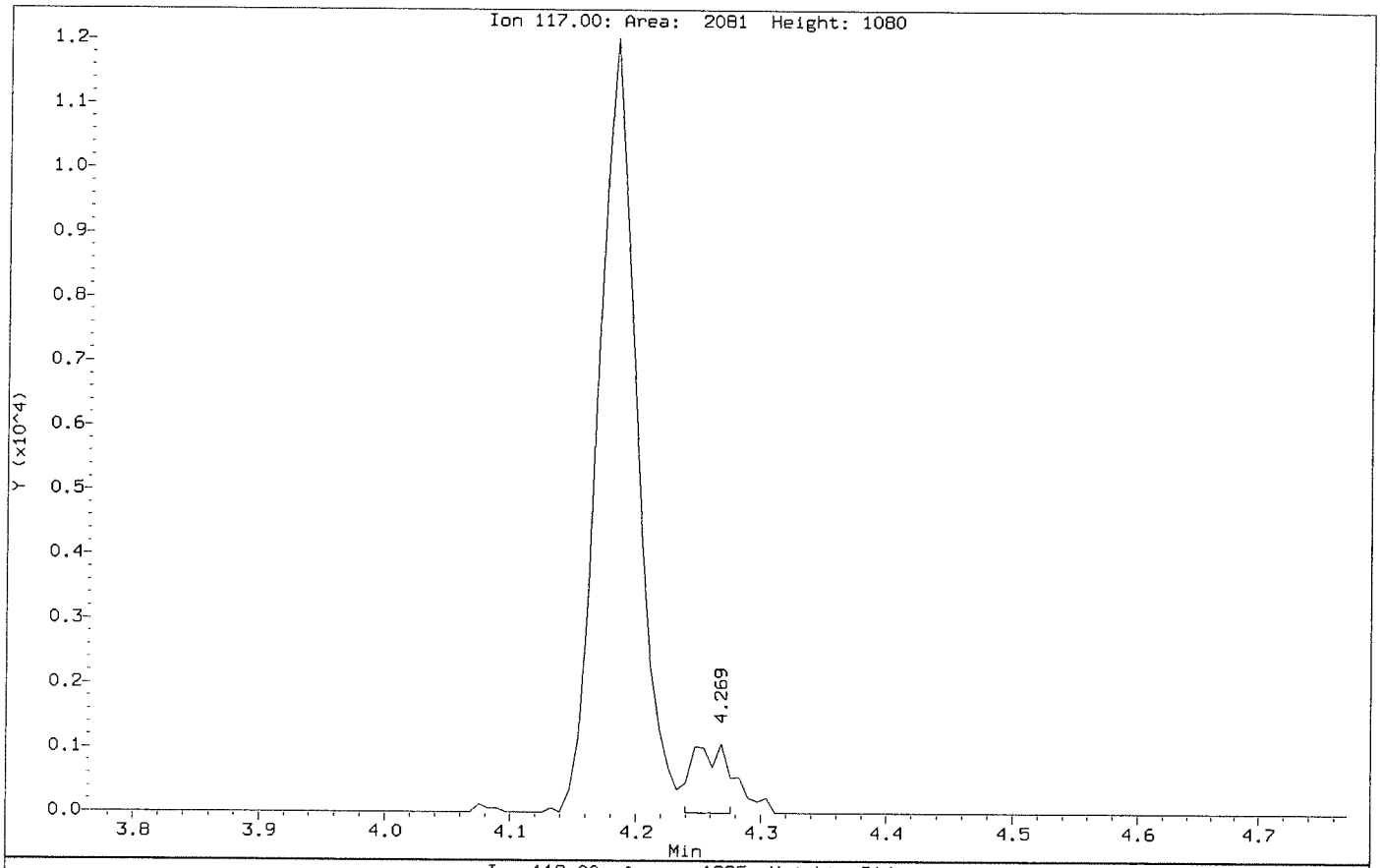
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

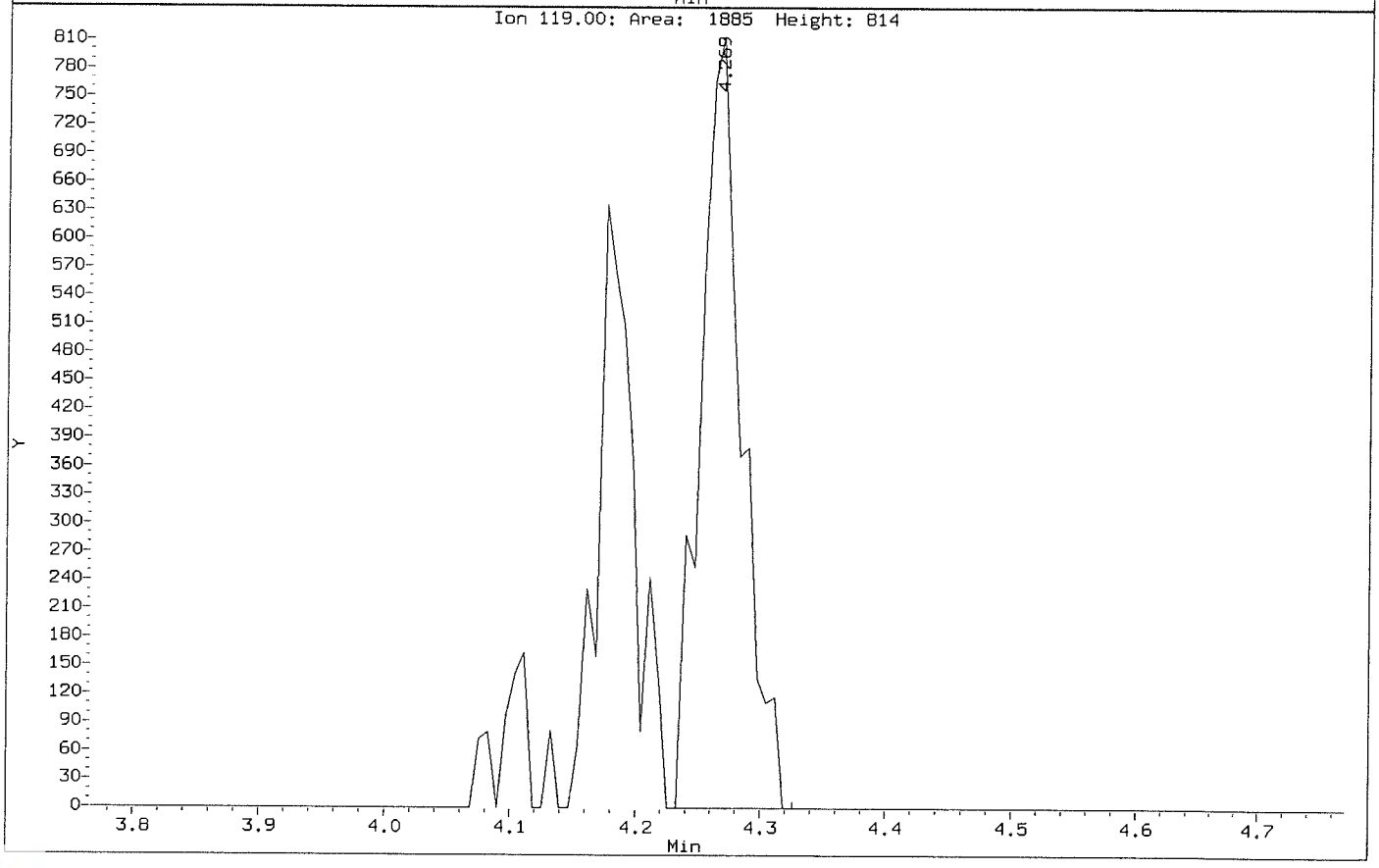
Compound: Carbon Tetrachloride
CAS Number: 56-23-5



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

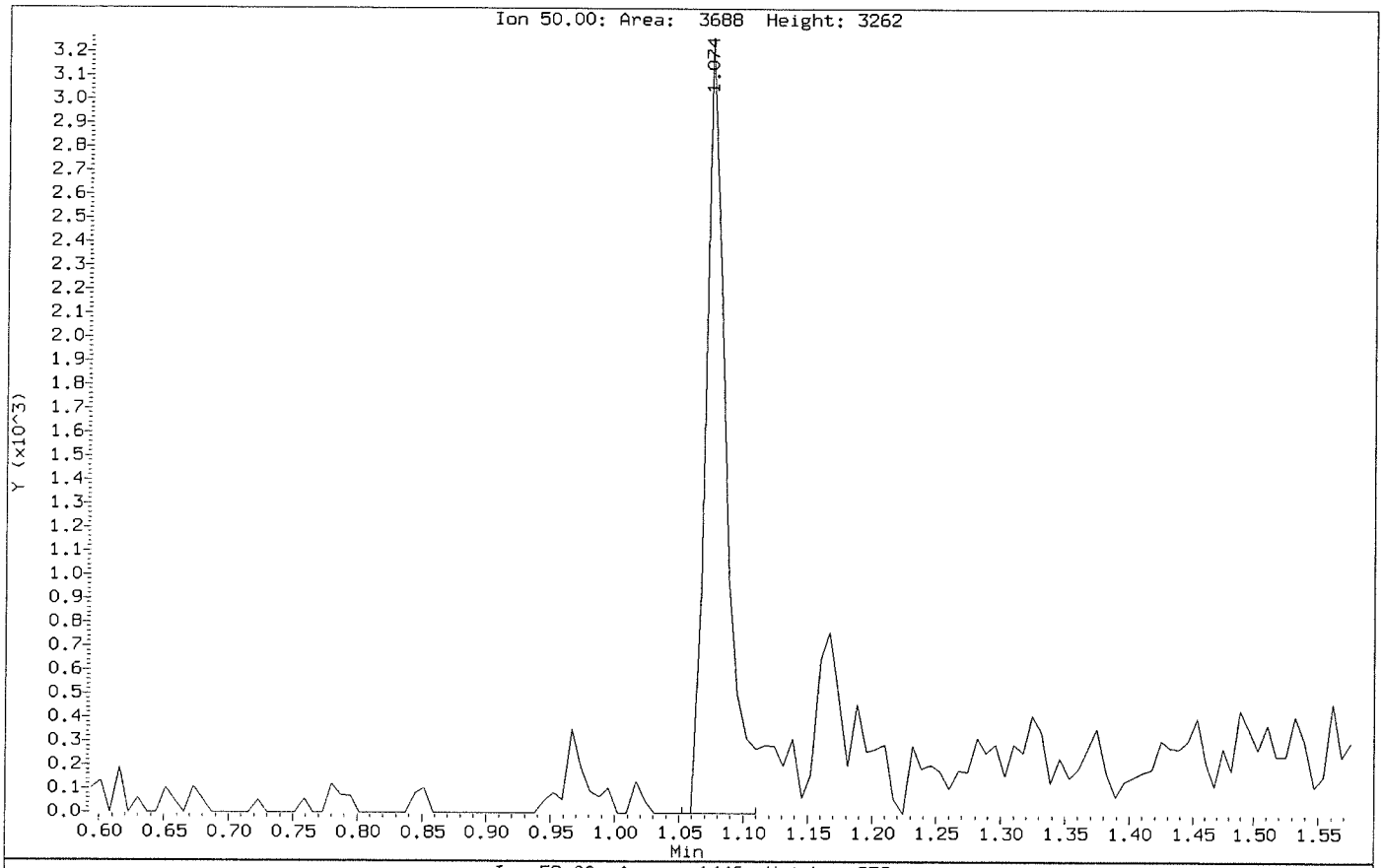
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

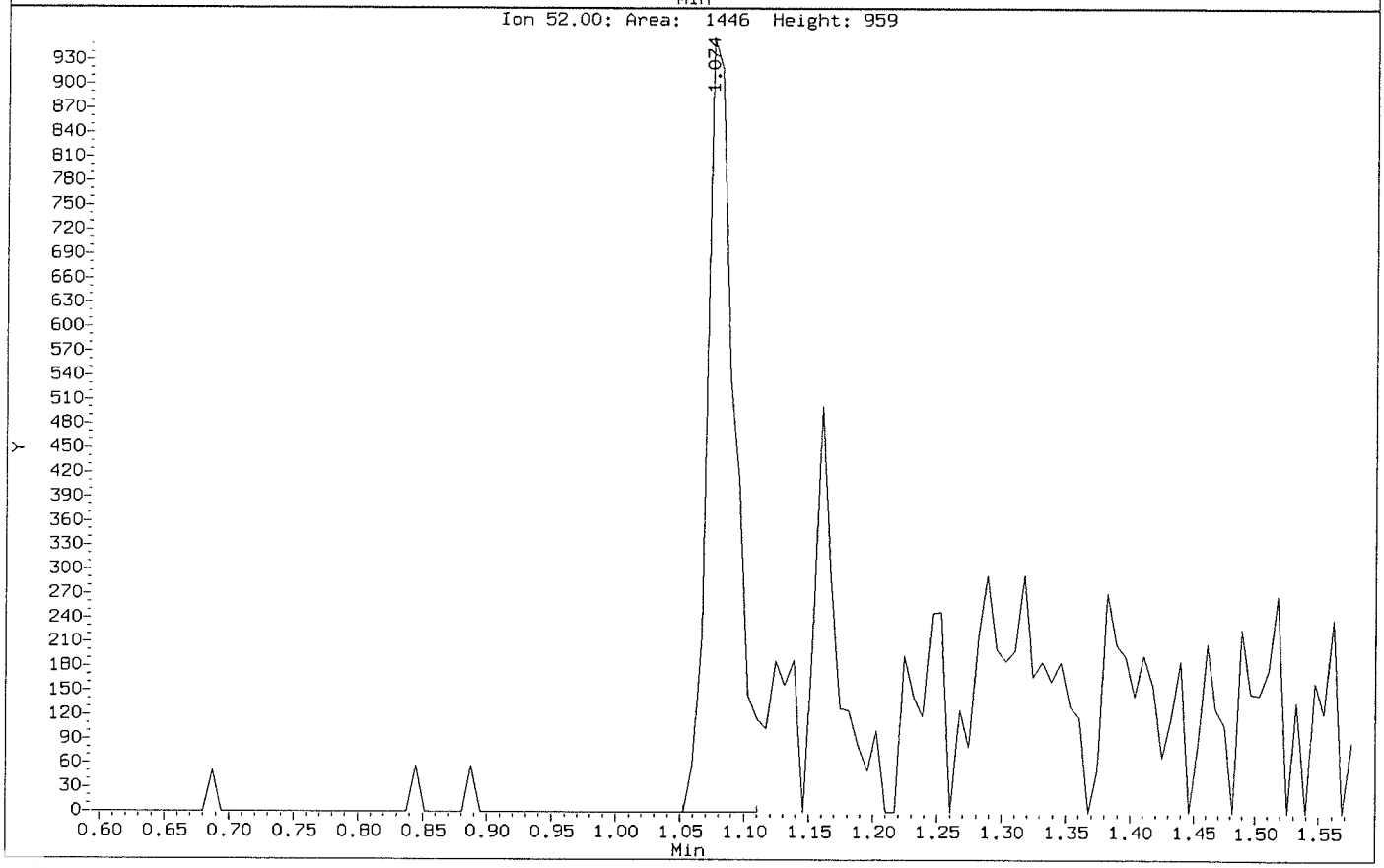




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

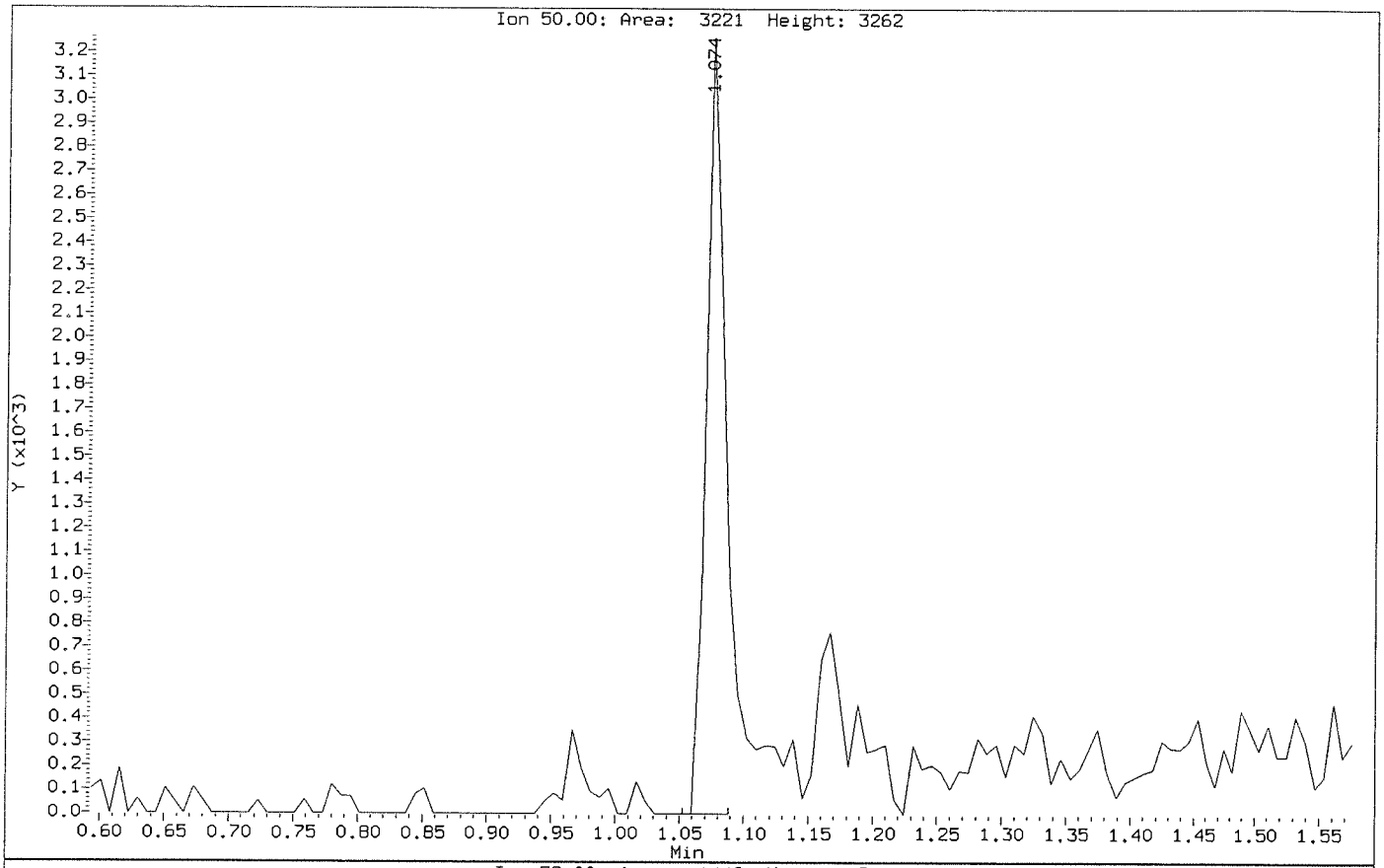
Compound: Chloromethane
CAS Number: 74-87-3

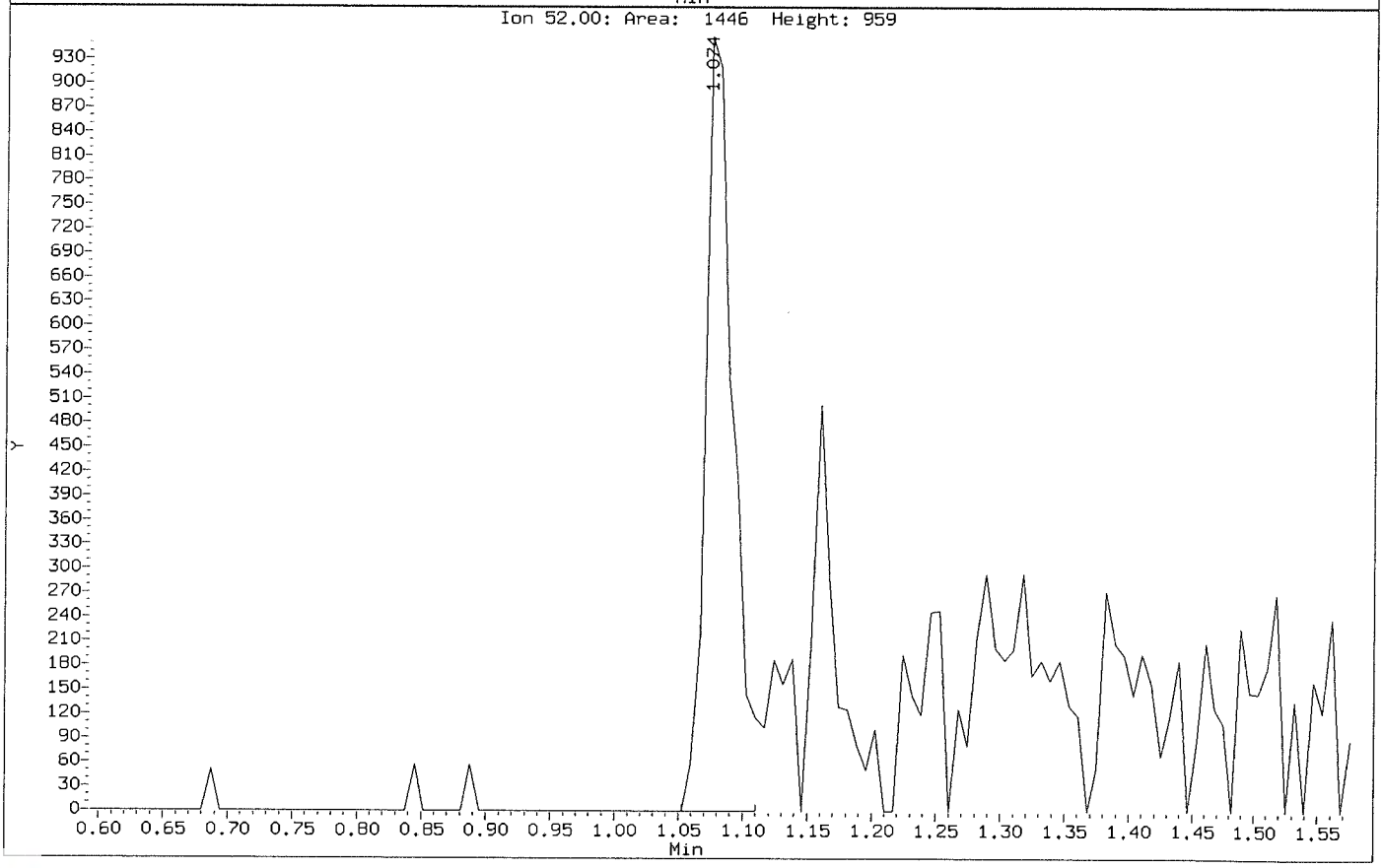




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

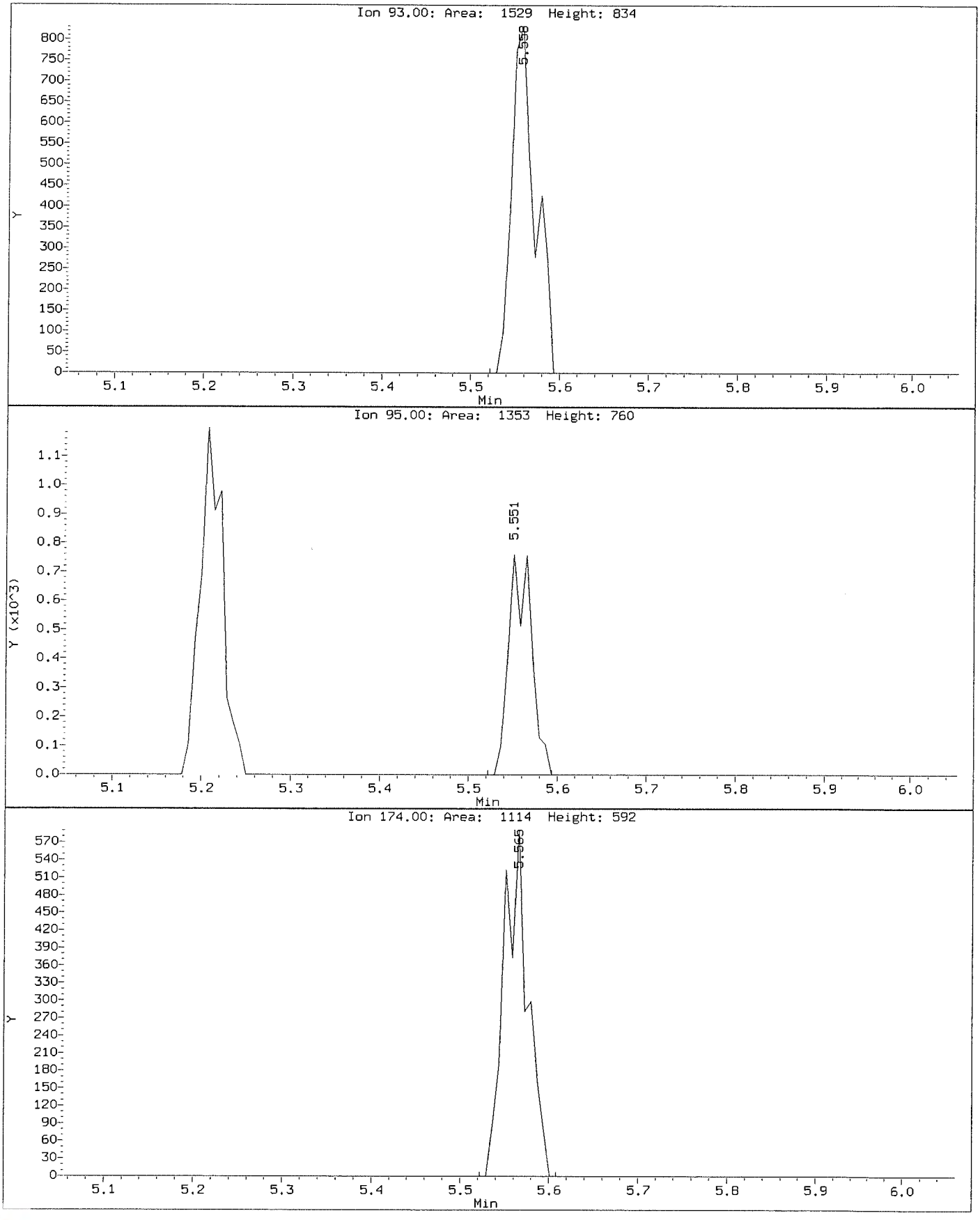
Compound: Chloromethane
CAS Number: 74-87-3





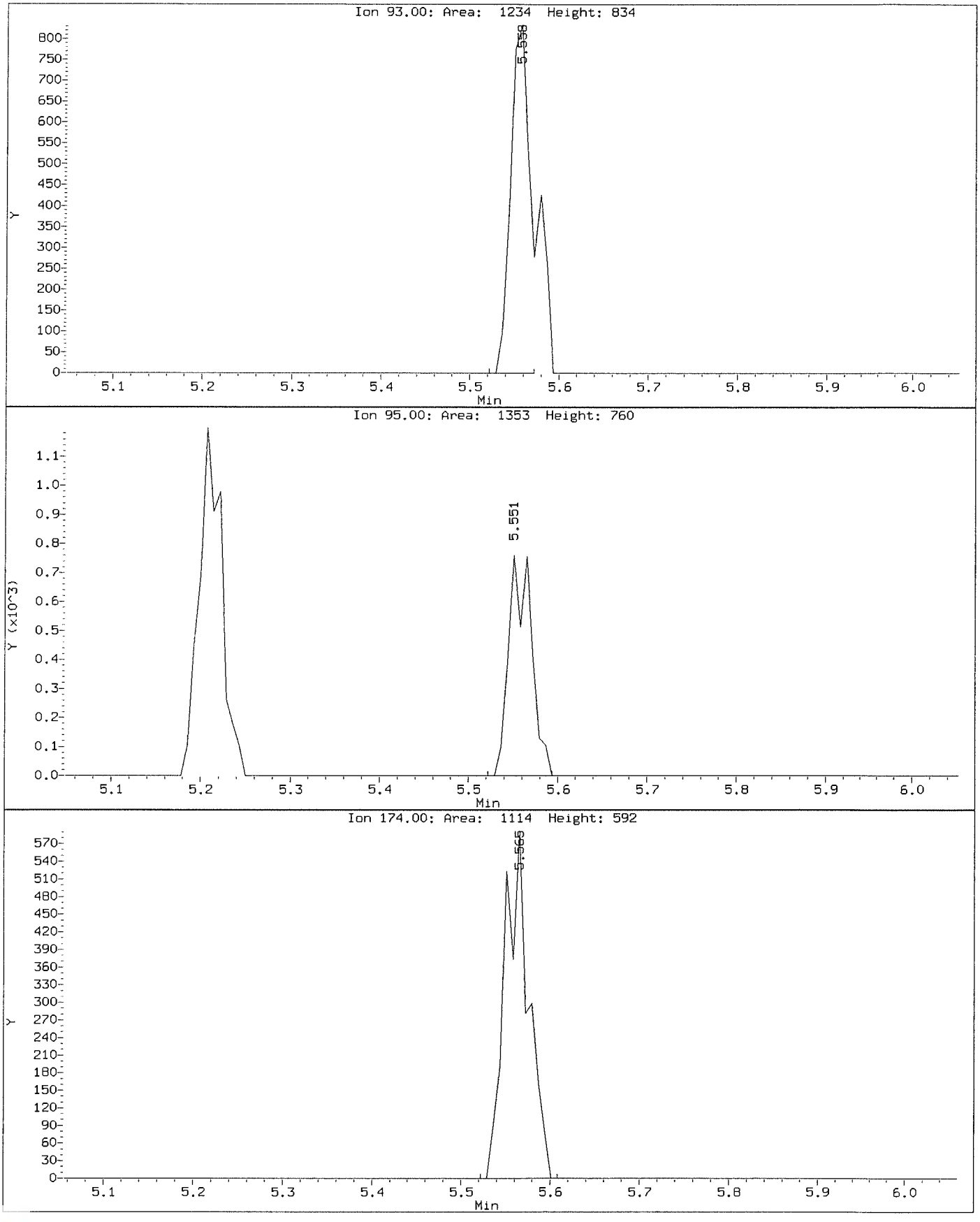
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dibromomethane
CAS Number: 74-95-3



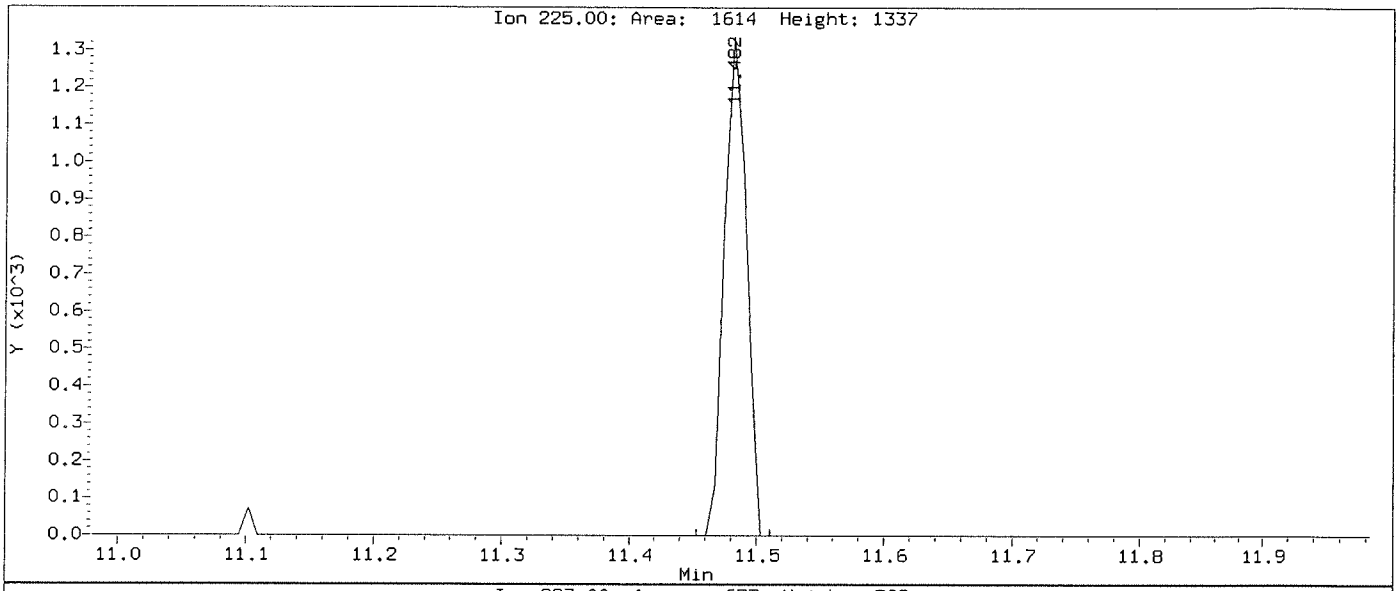
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

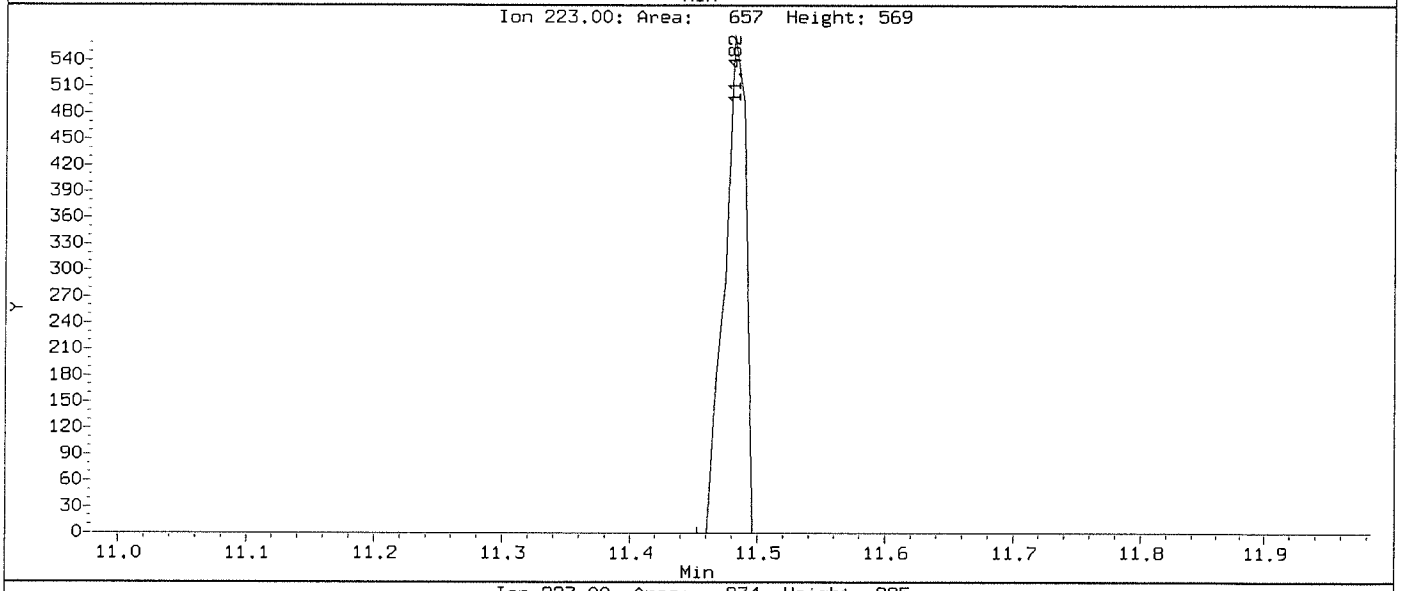
Compound: Dibromomethane
CAS Number: 74-95-3

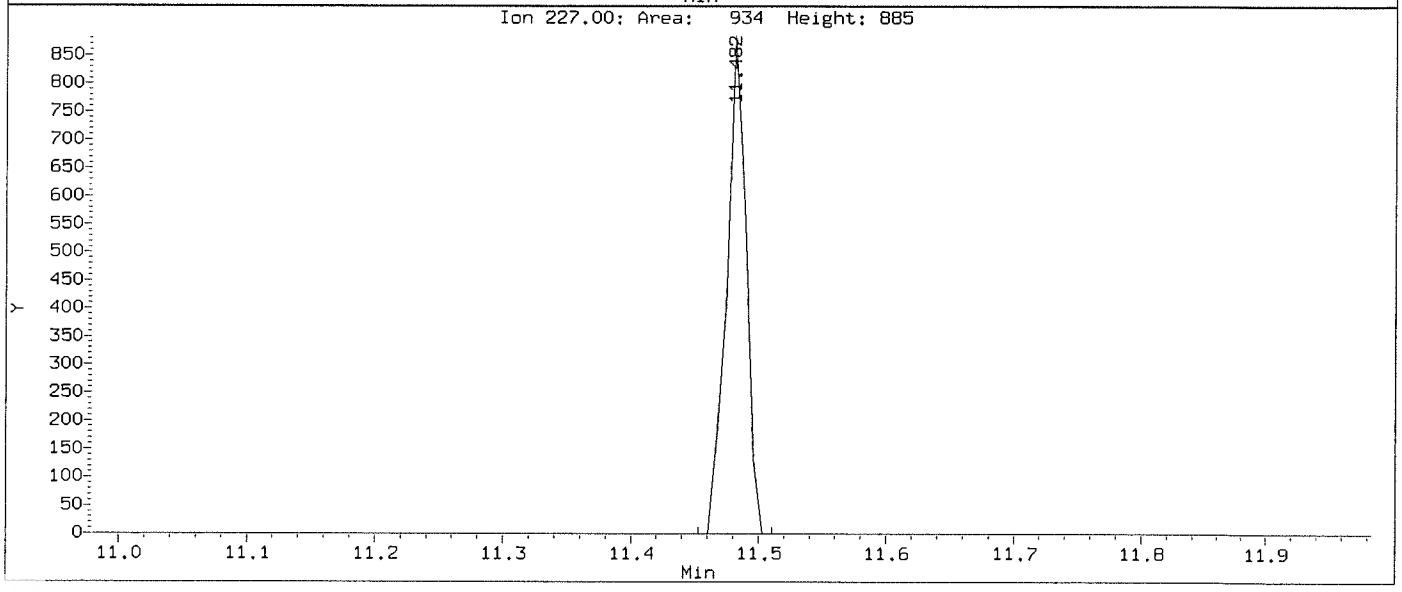


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3

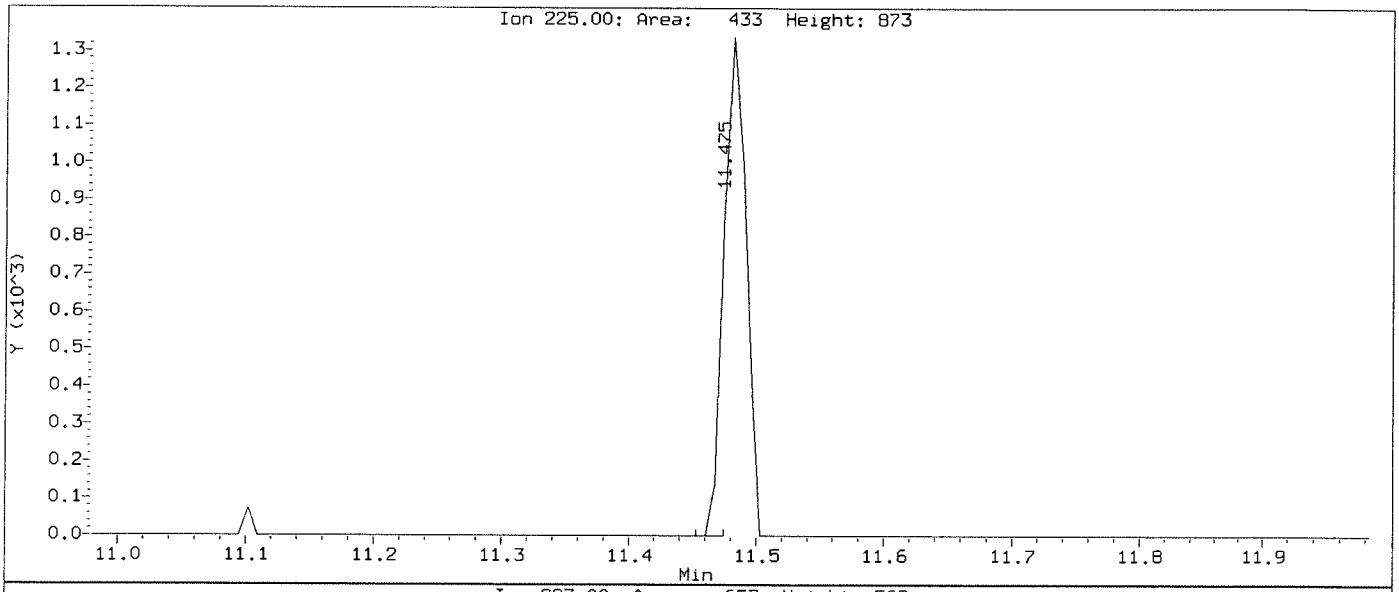


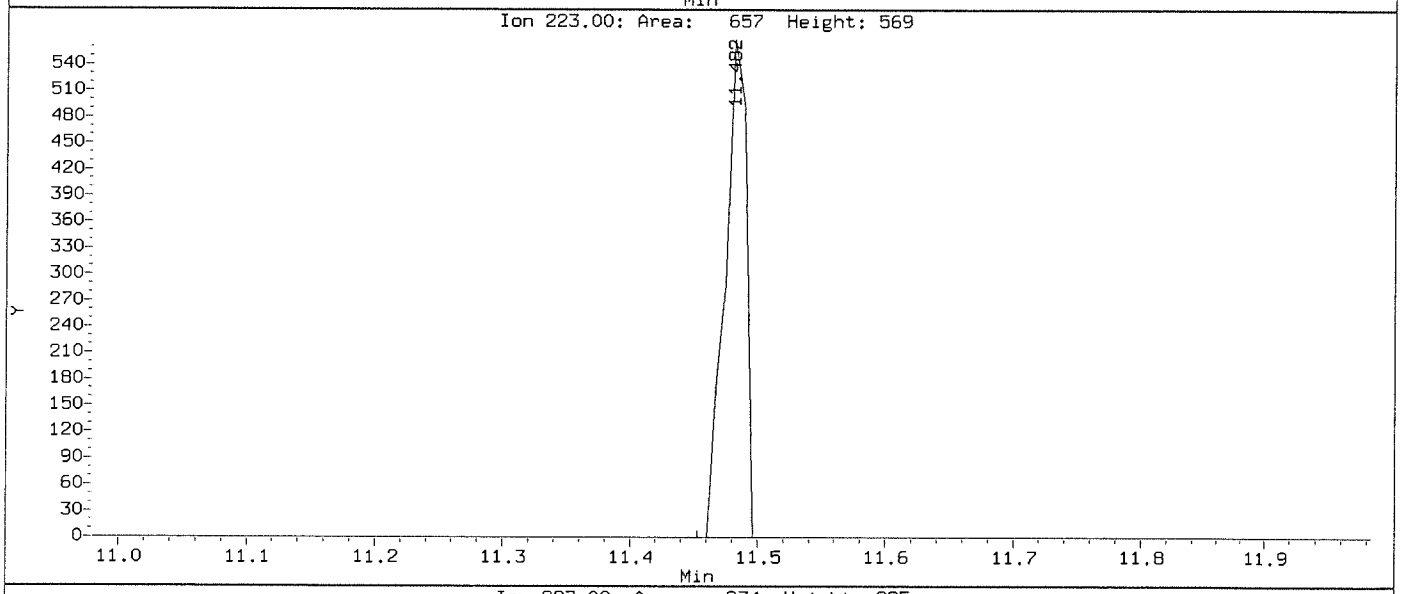


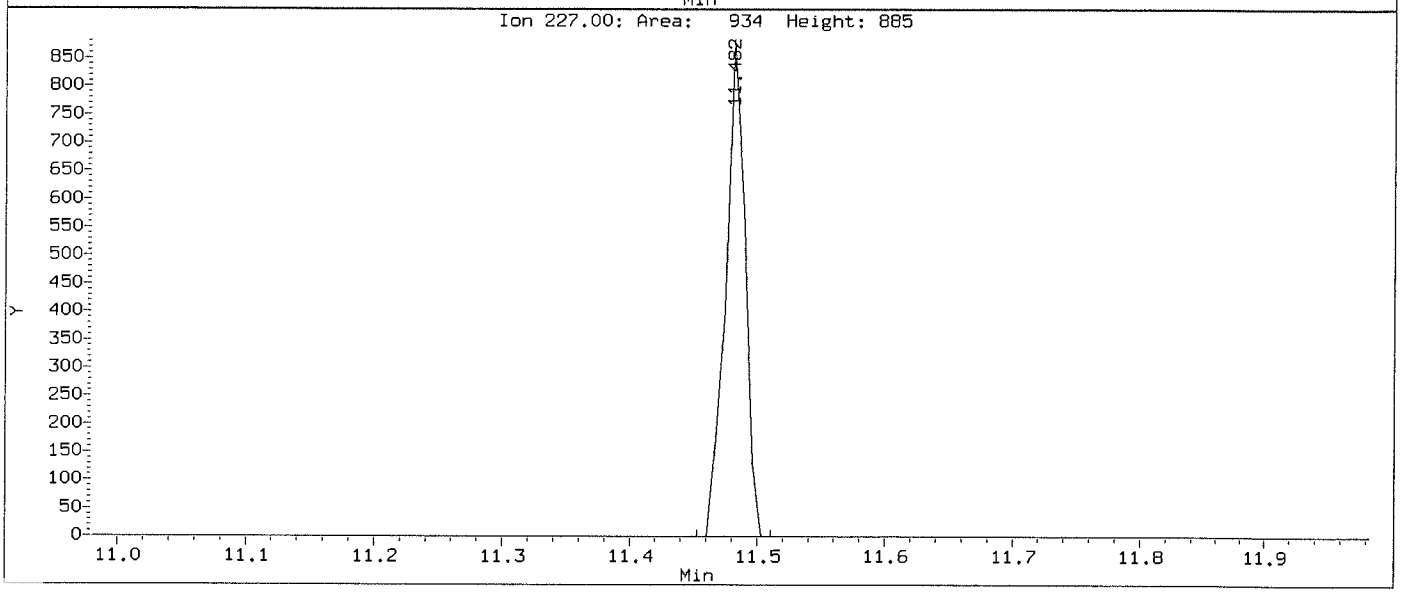


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3

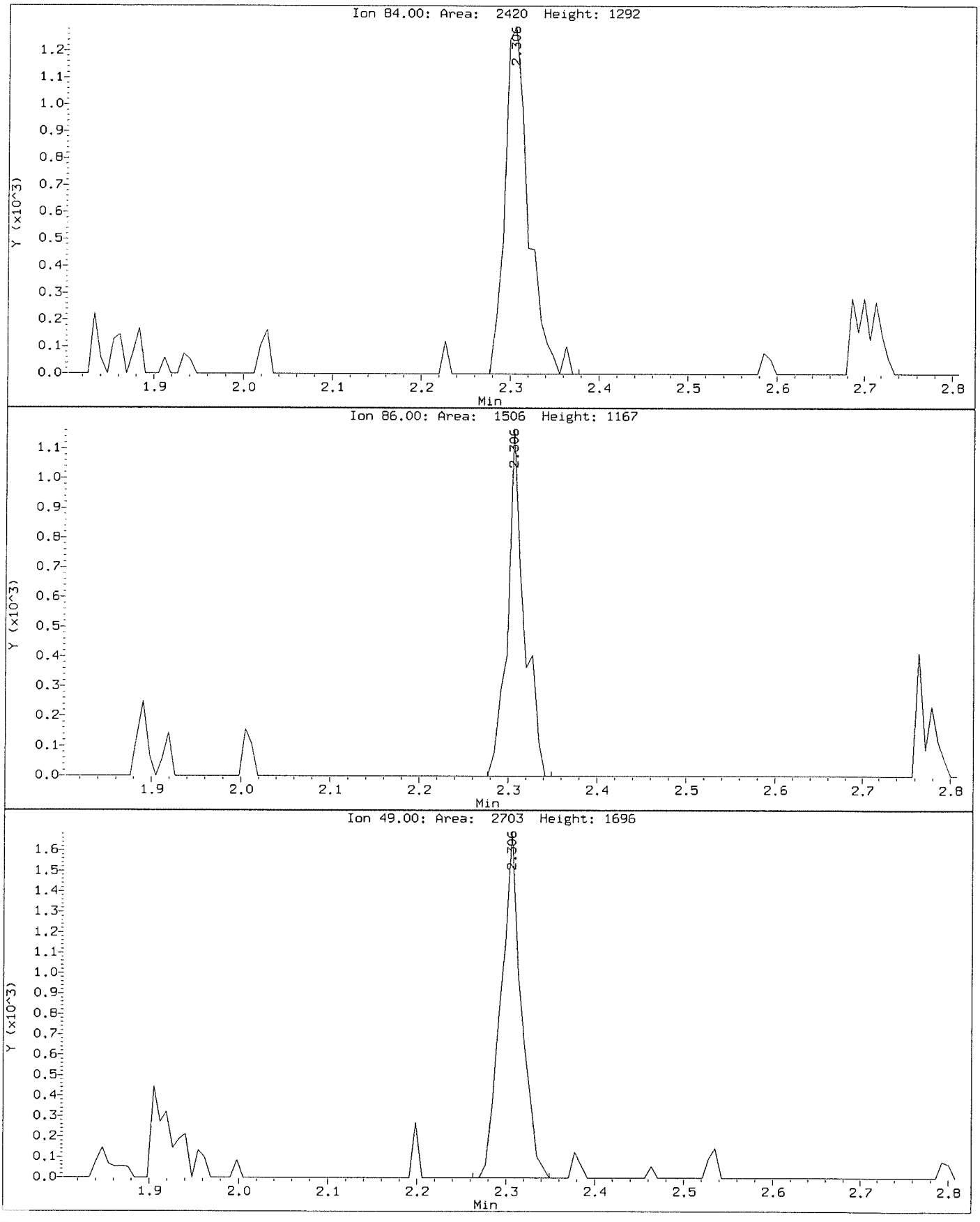






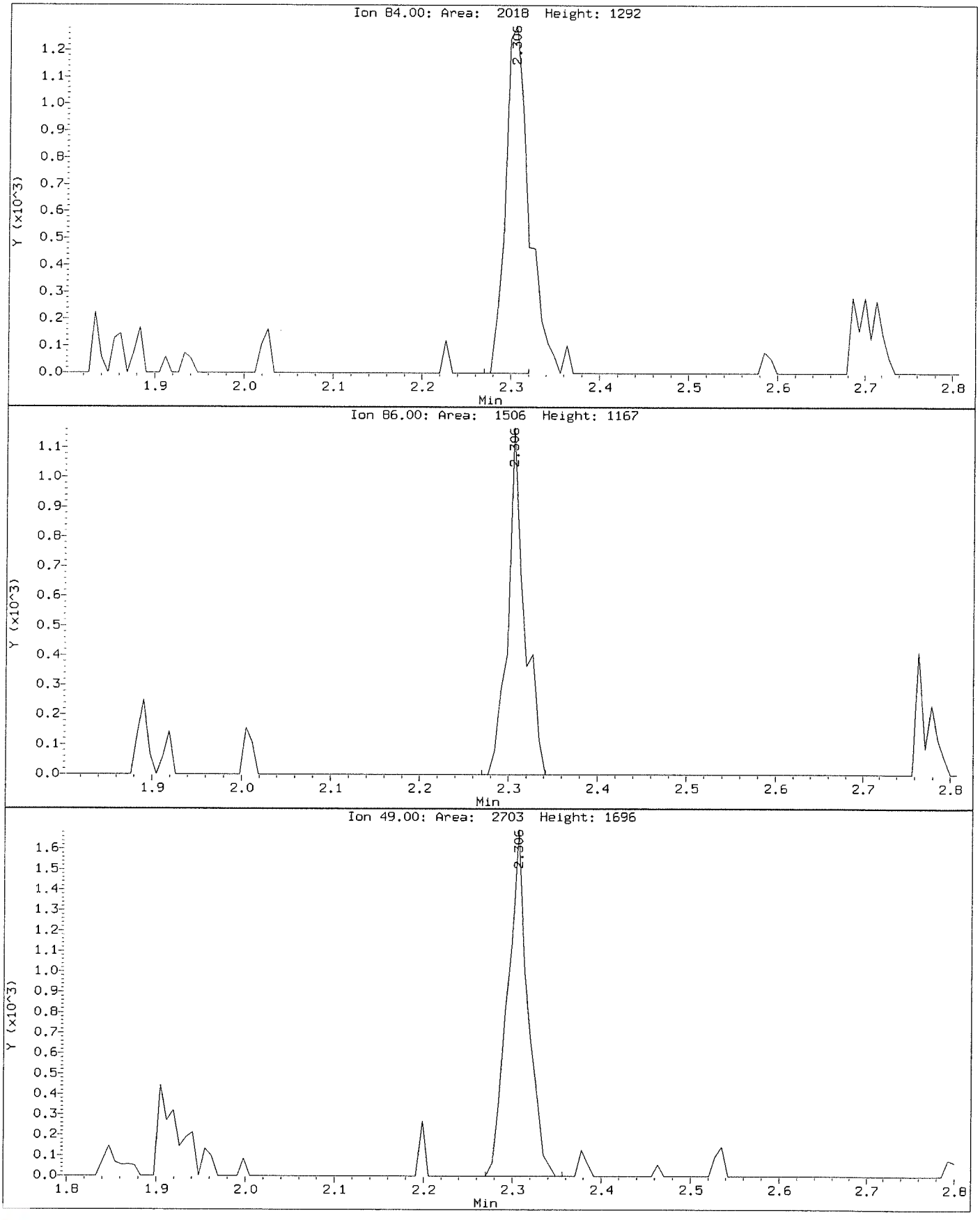
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2



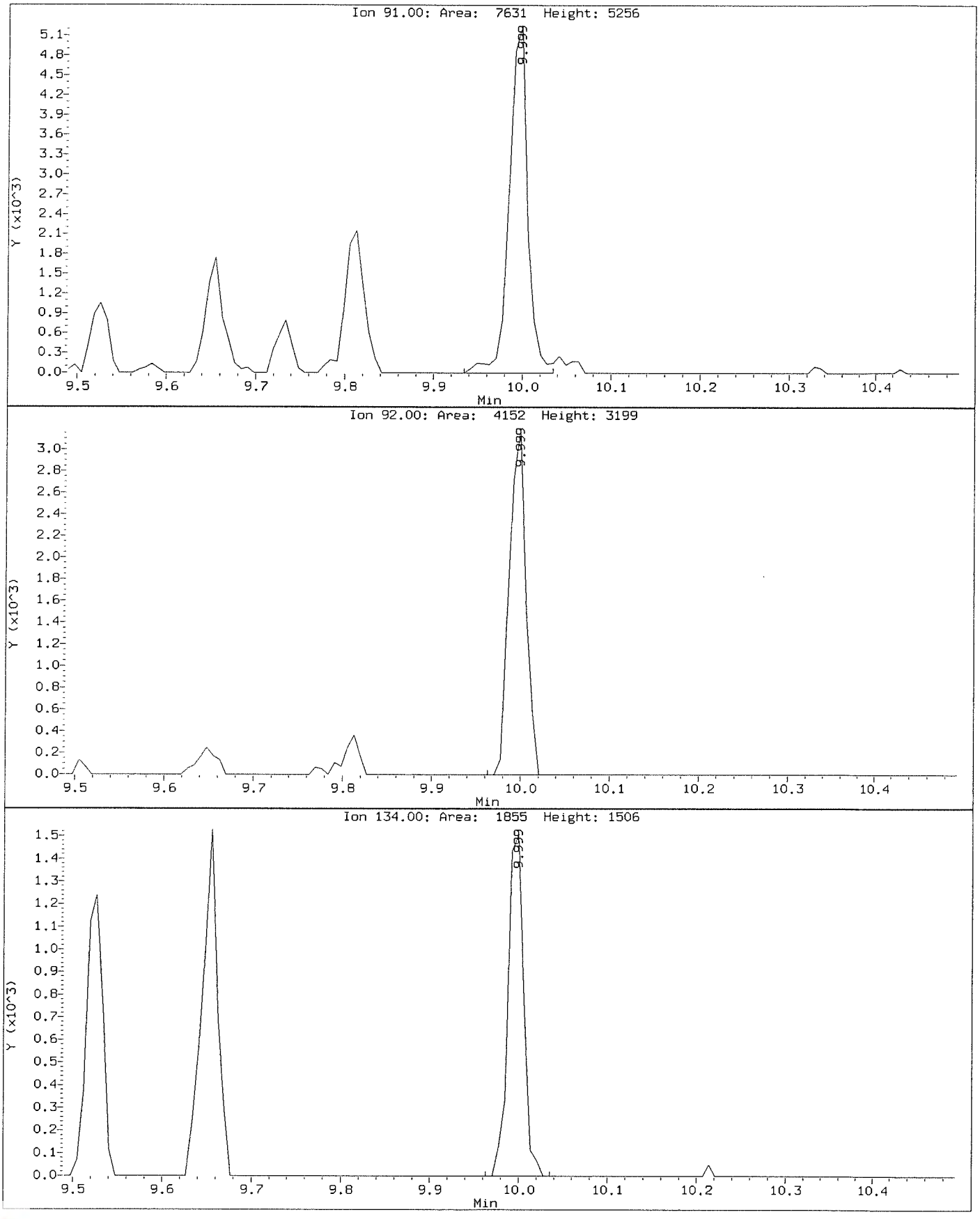
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2



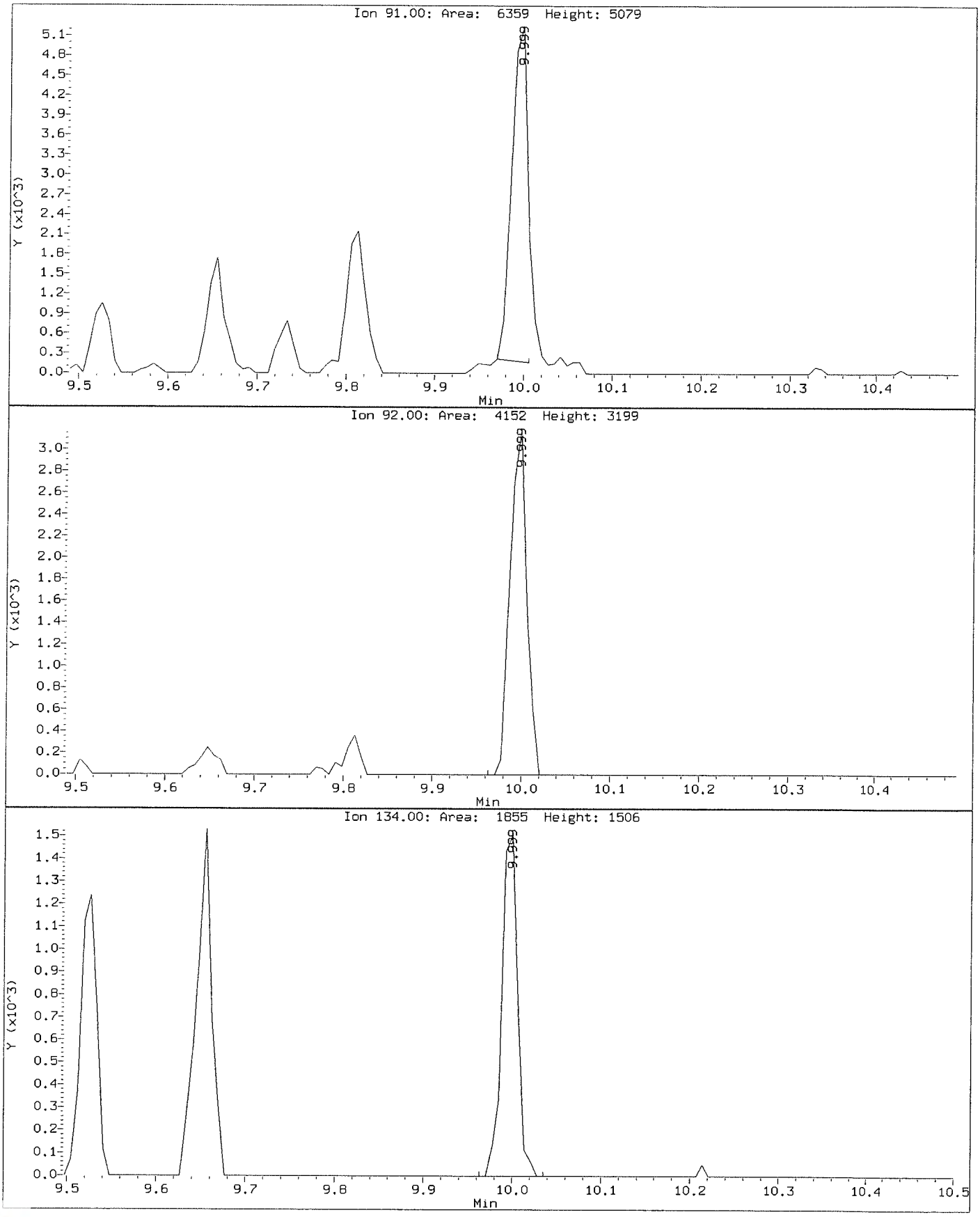
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: n-Butylbenzene
CAS Number: 104-51-8



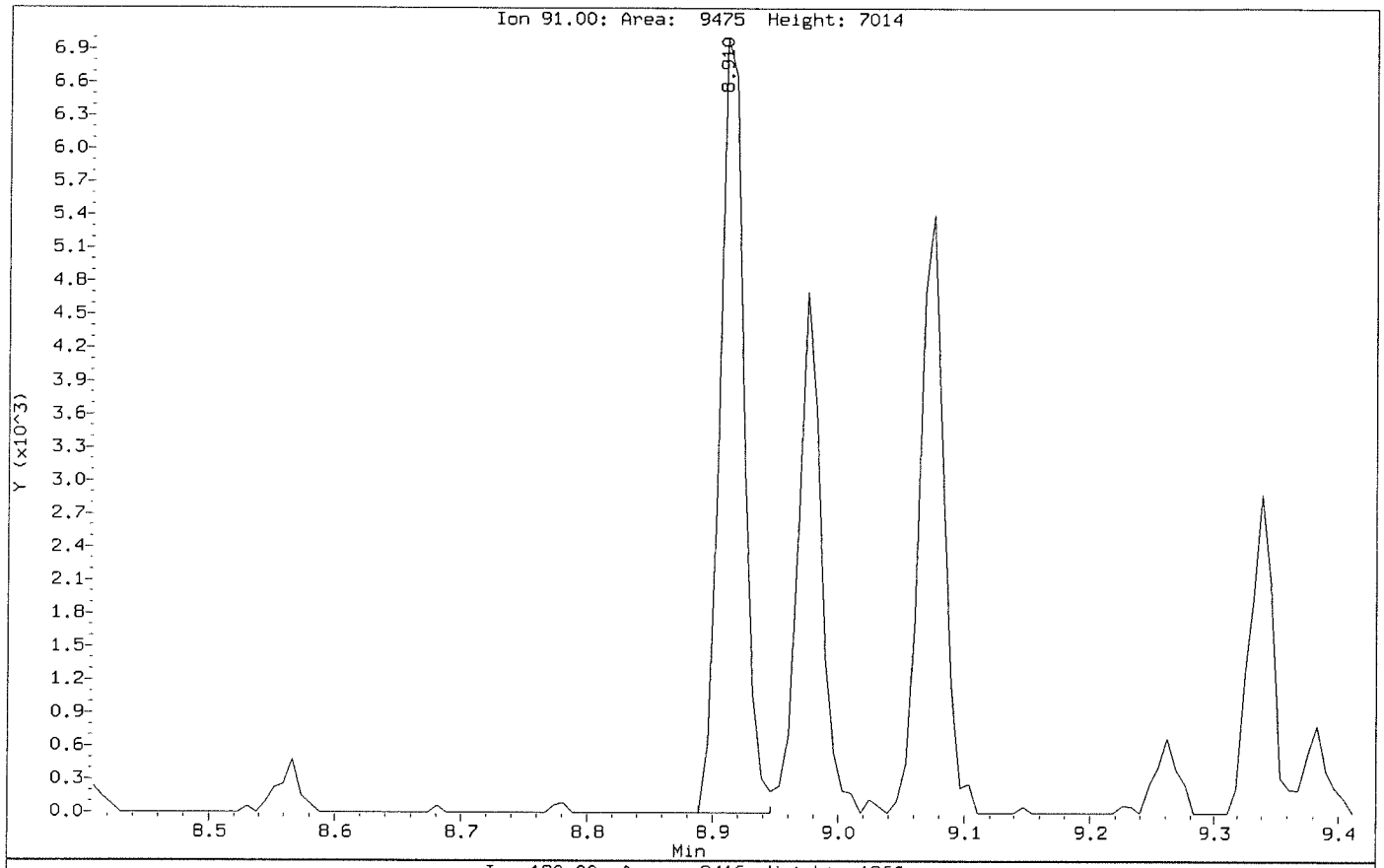
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

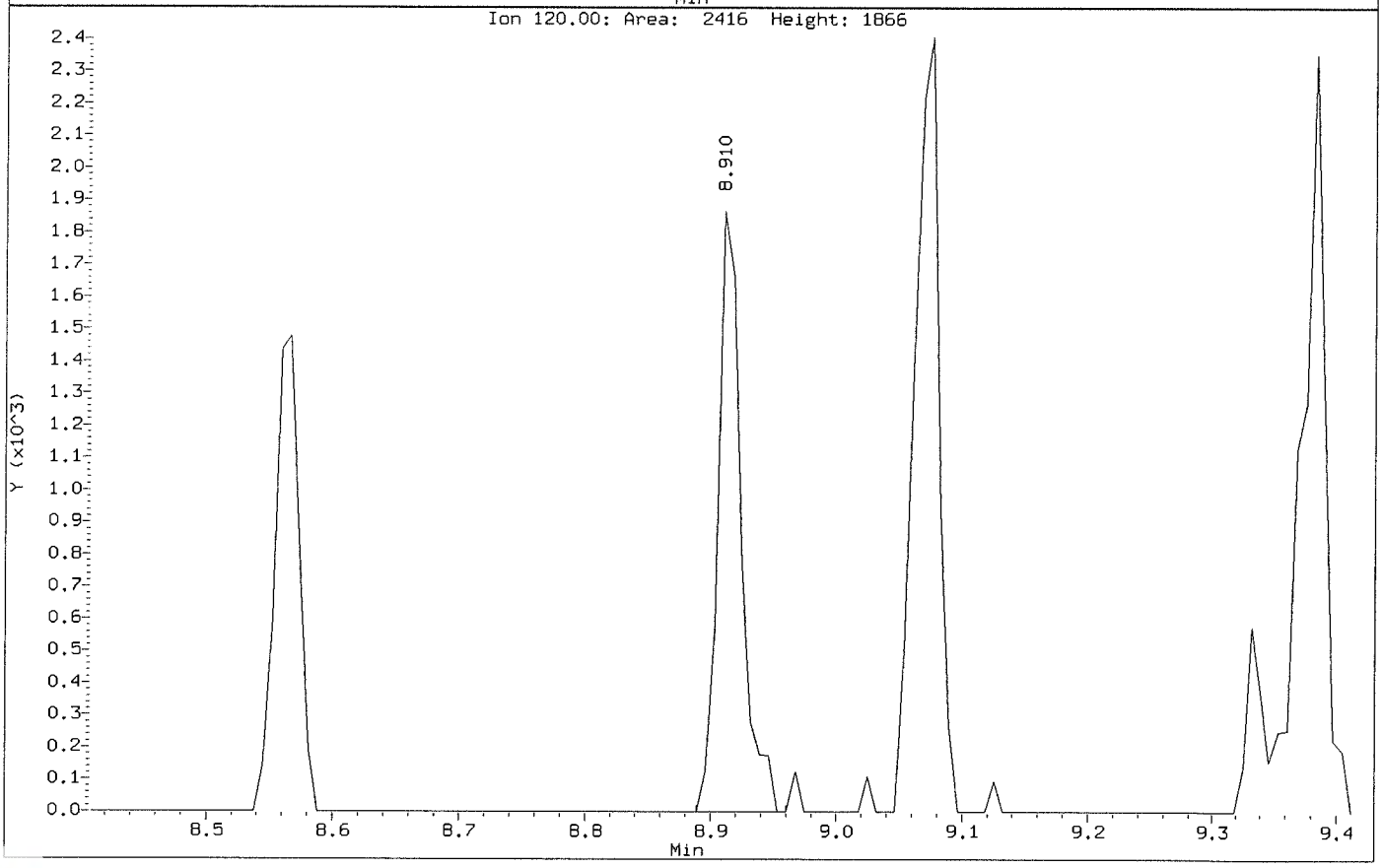
Compound: n-Butylbenzene
CAS Number: 104-51-8



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

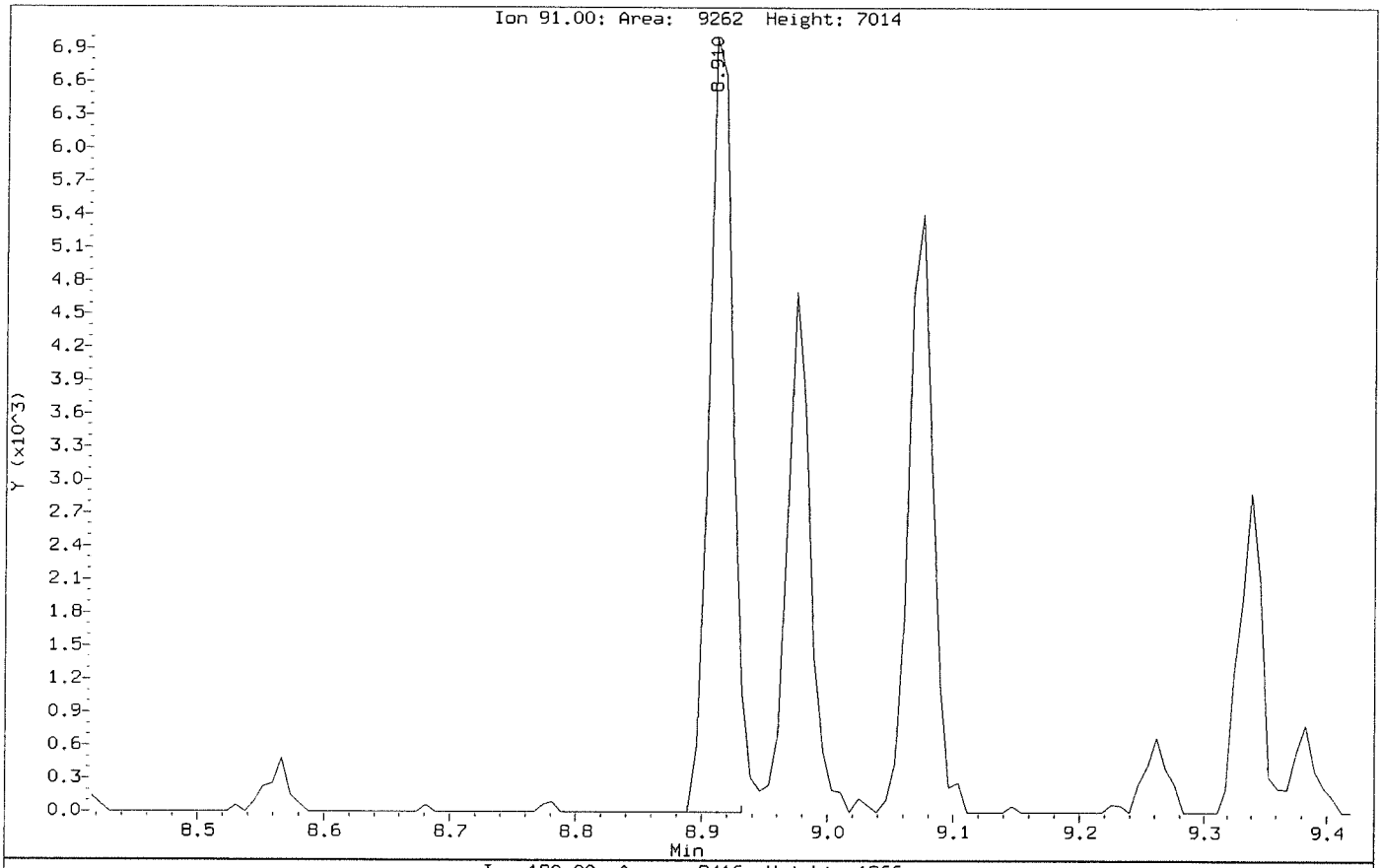
Compound: n-Propylbenzene
CAS Number: 106-65-1

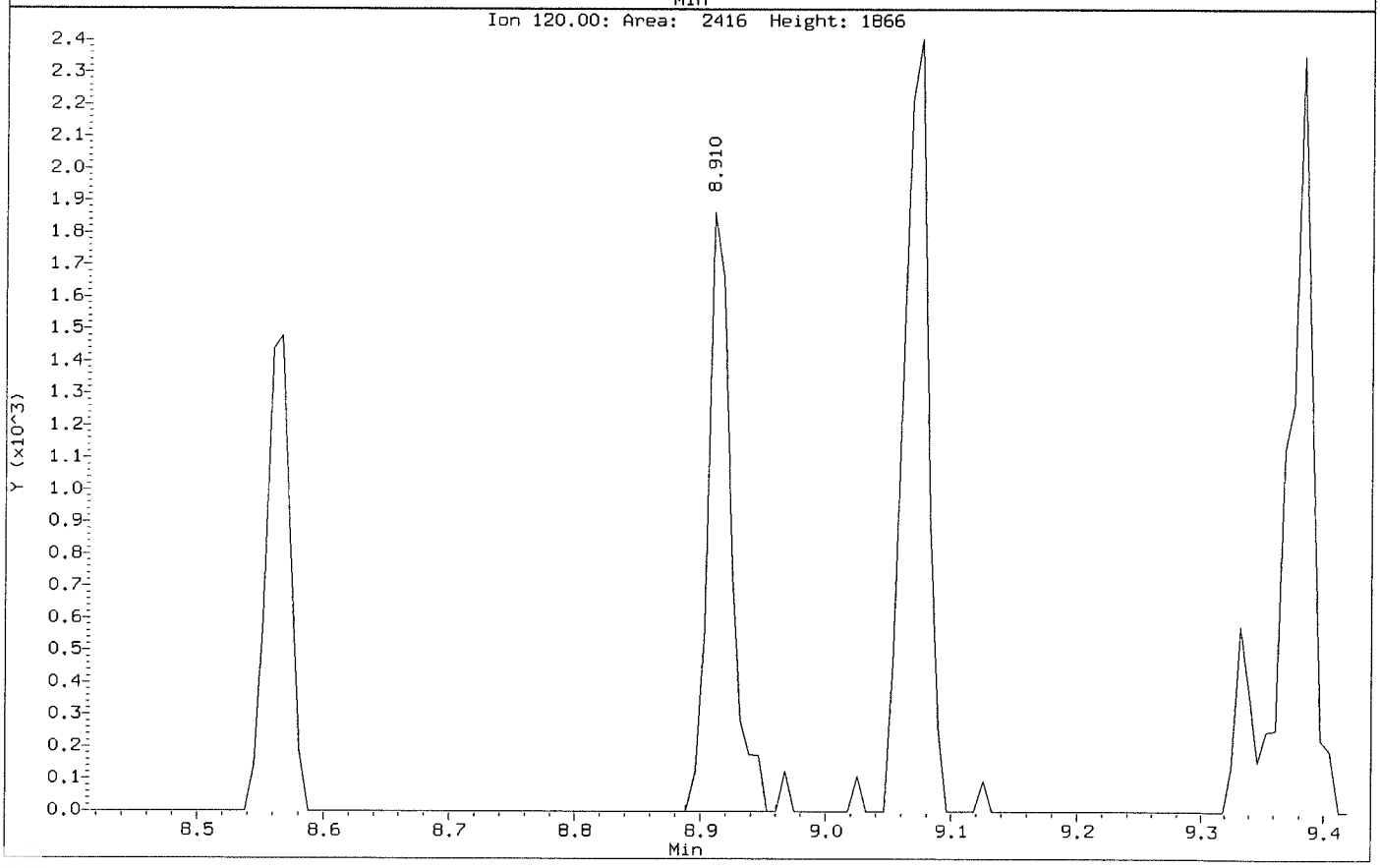




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

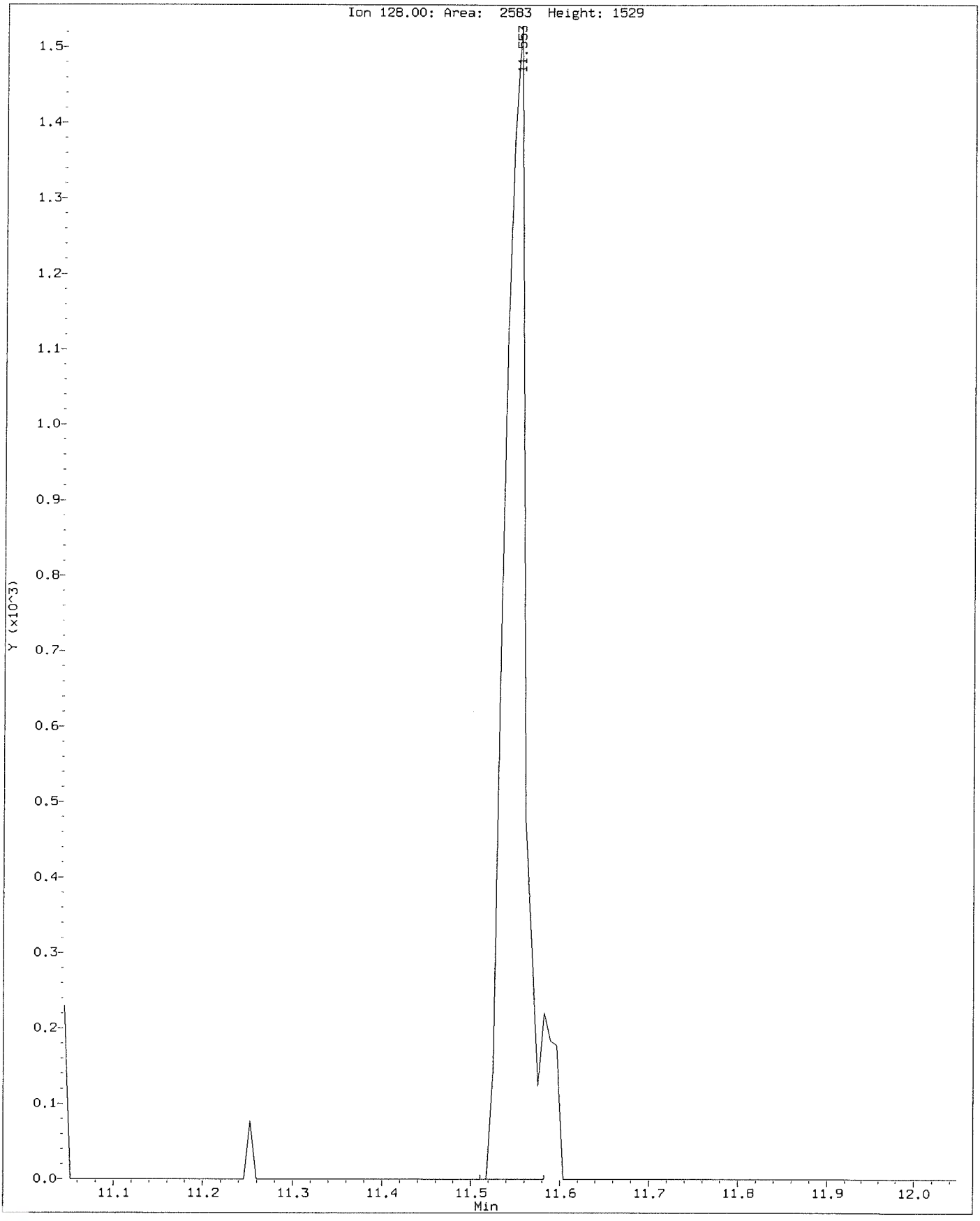
Compound: n-Propylbenzene
CAS Number: 106-65-1





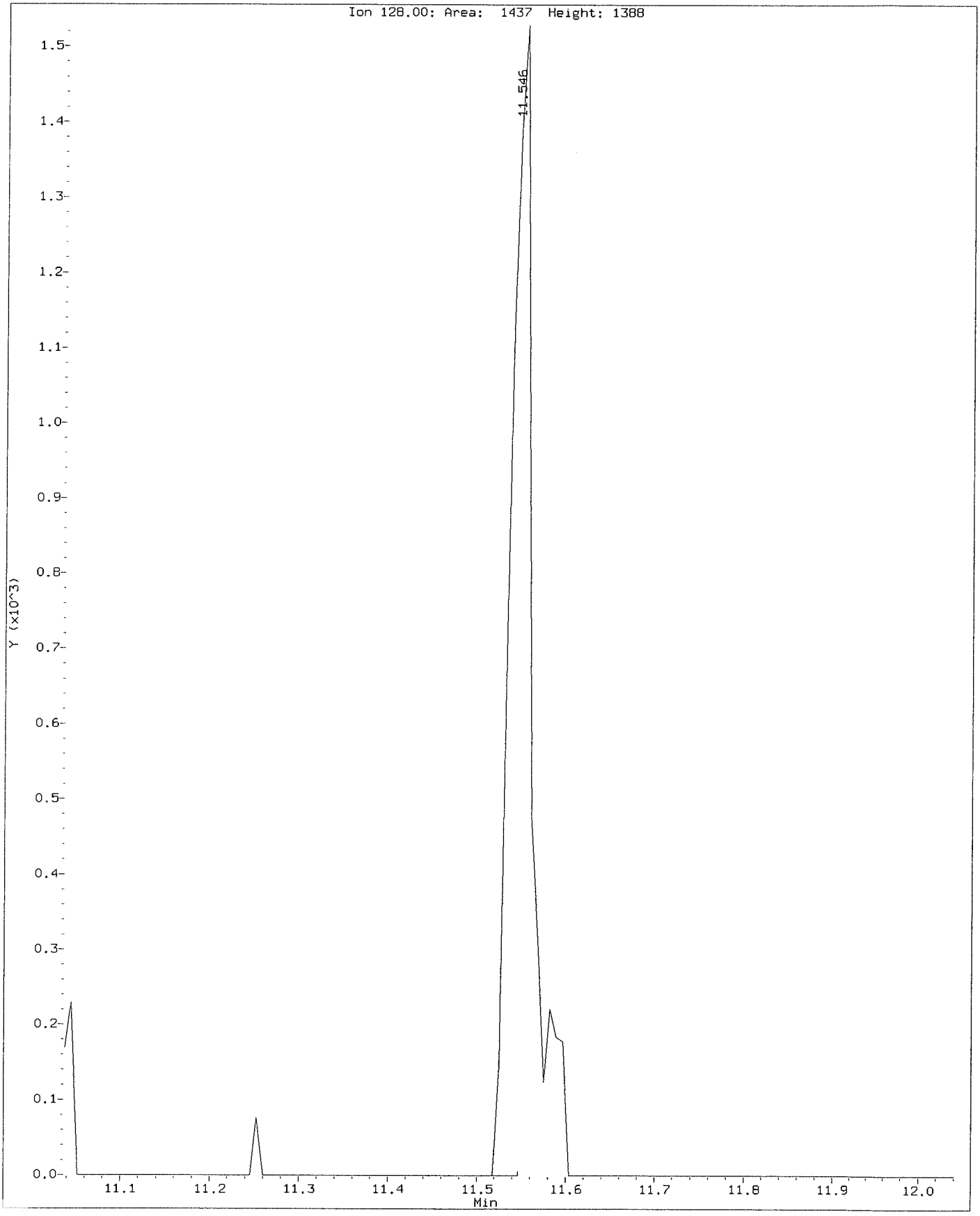
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Naphthalene
CAS Number: 91-20-3



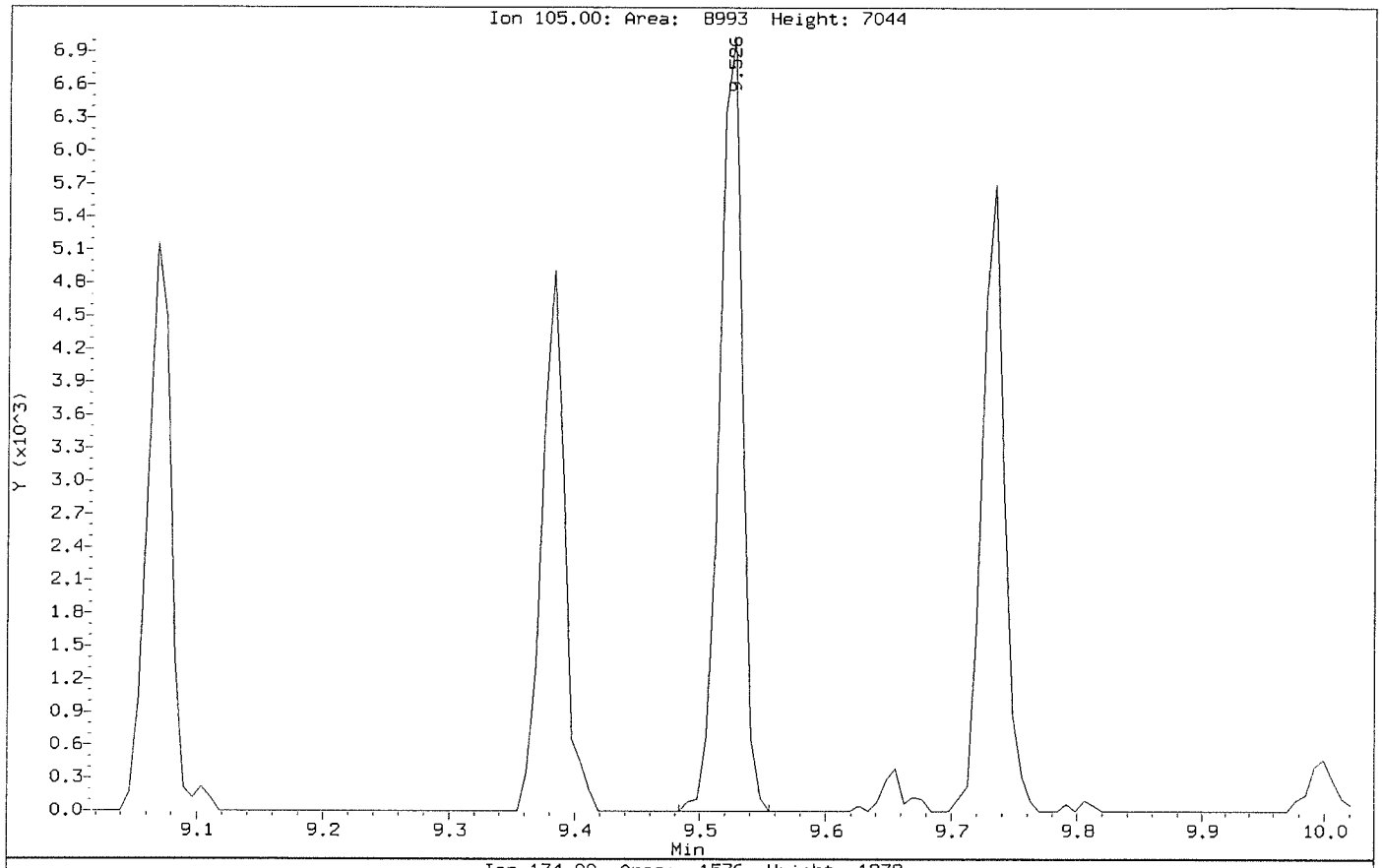
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

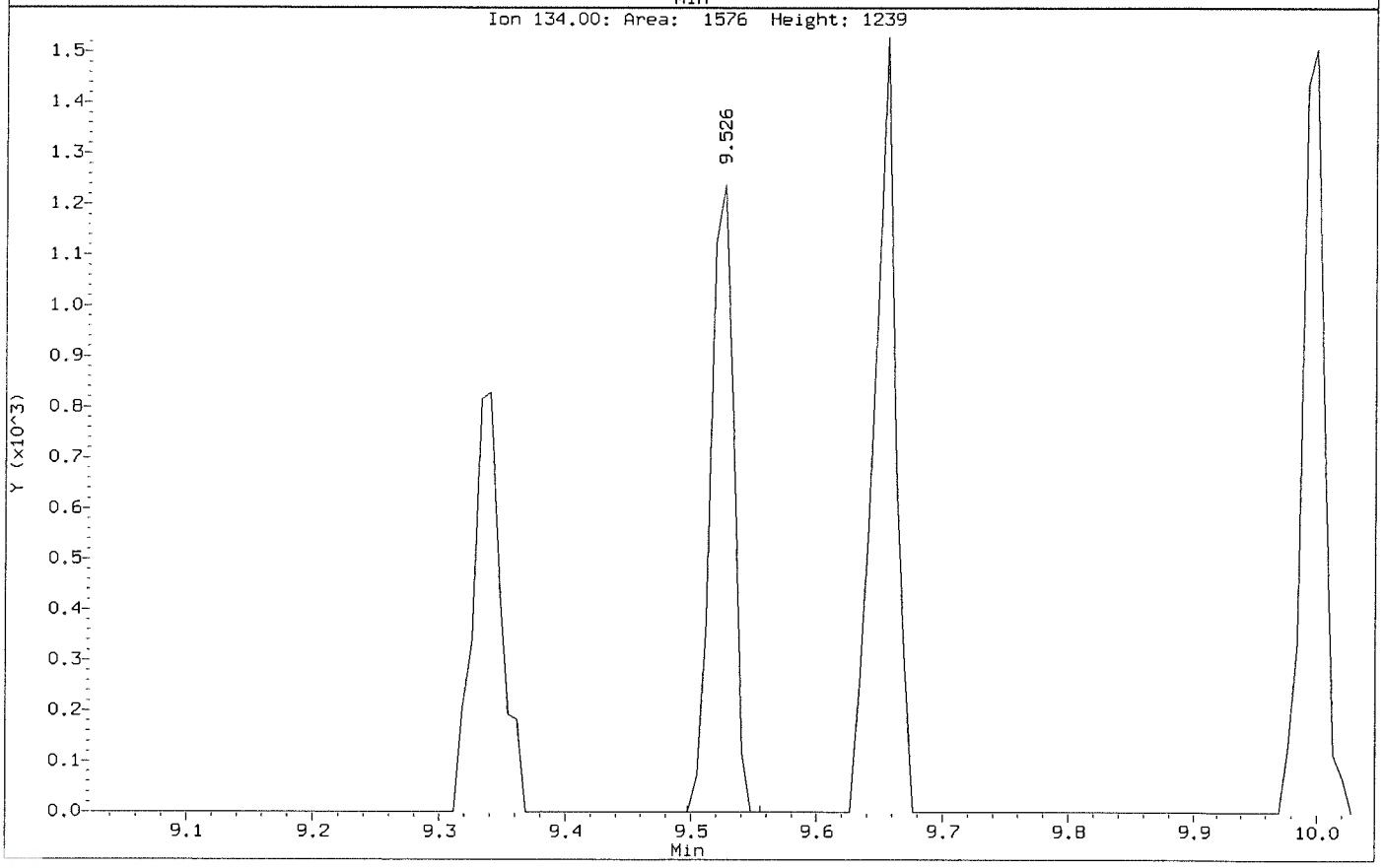
Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

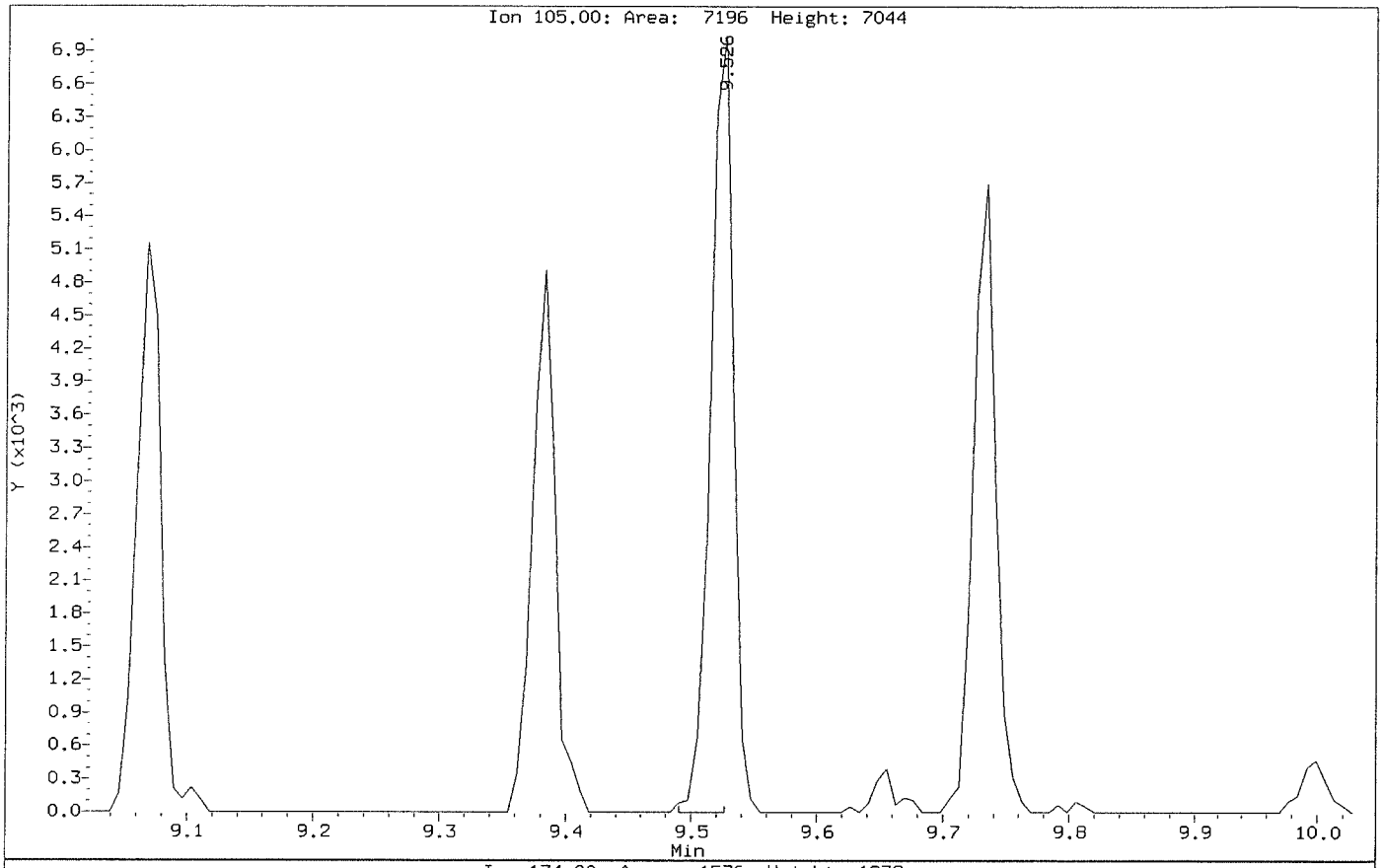
Compound: sec-Butylbenzene
CAS Number: 135-98-8

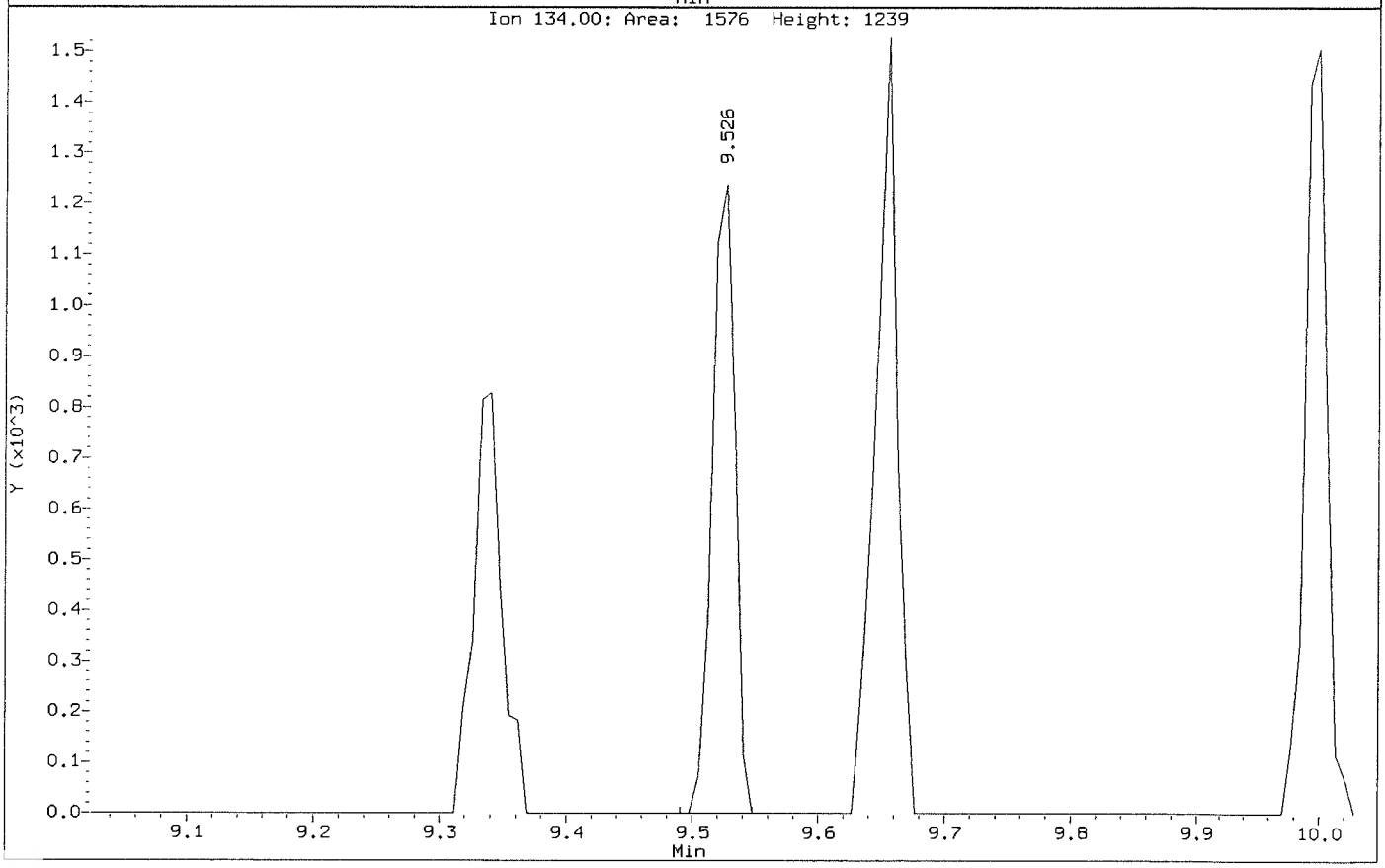




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

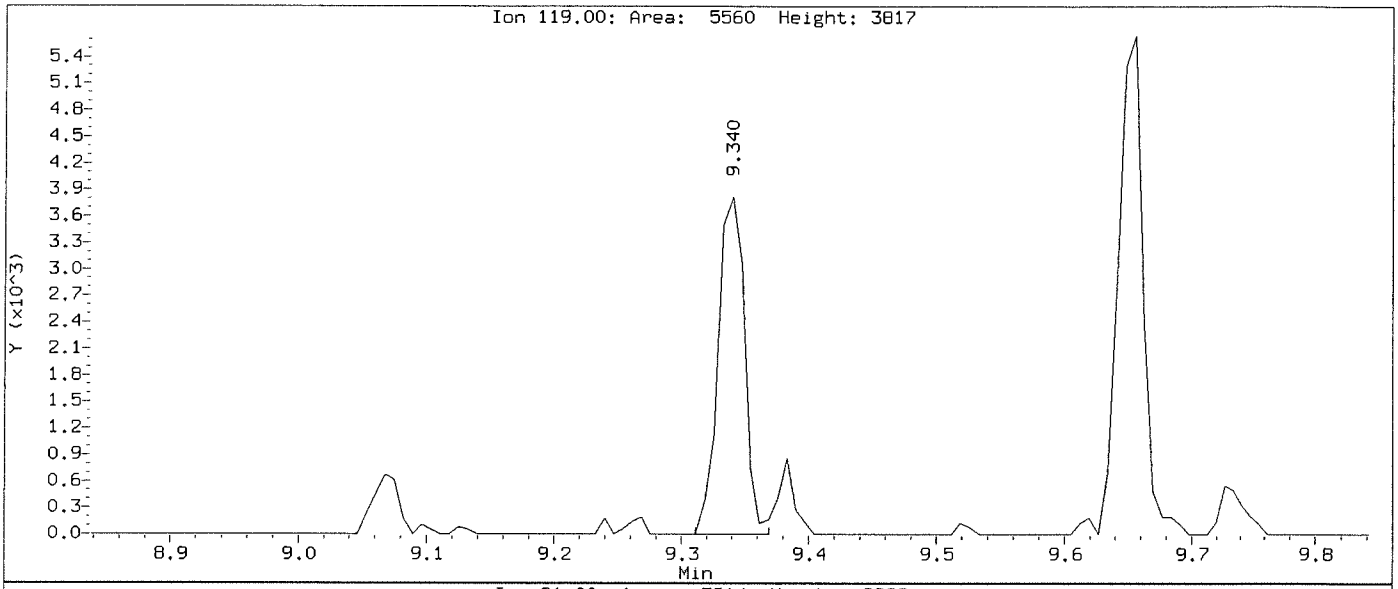
Compound: sec-Butylbenzene
CAS Number: 135-98-8

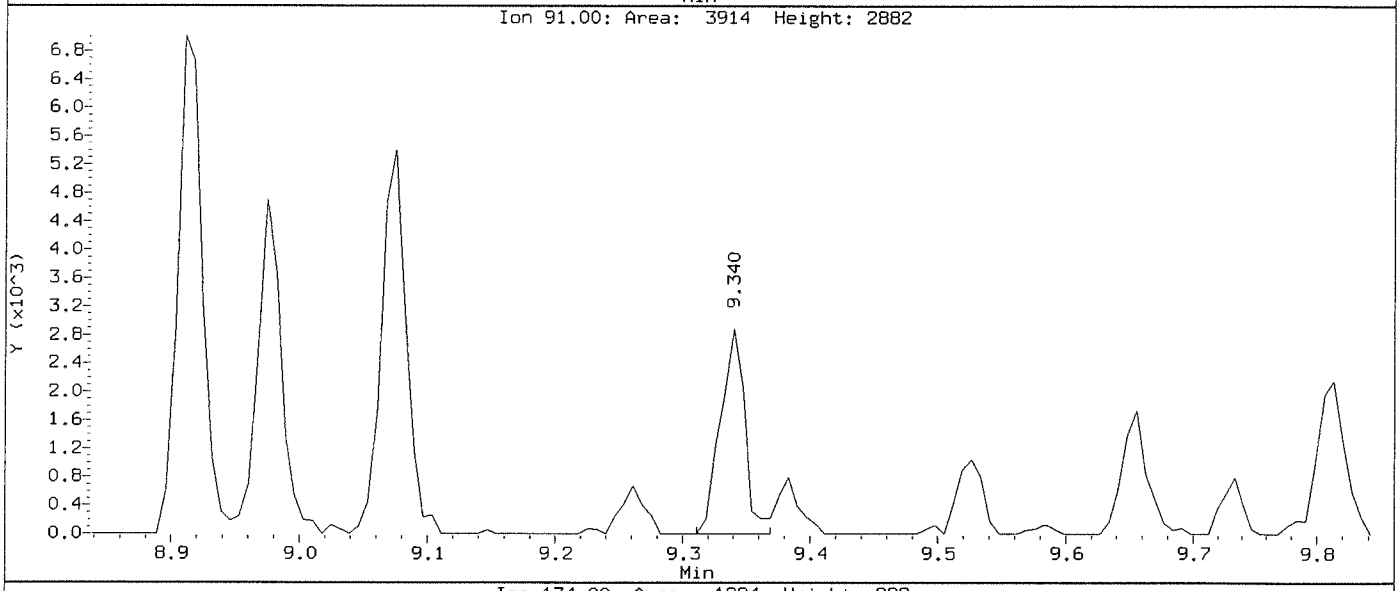


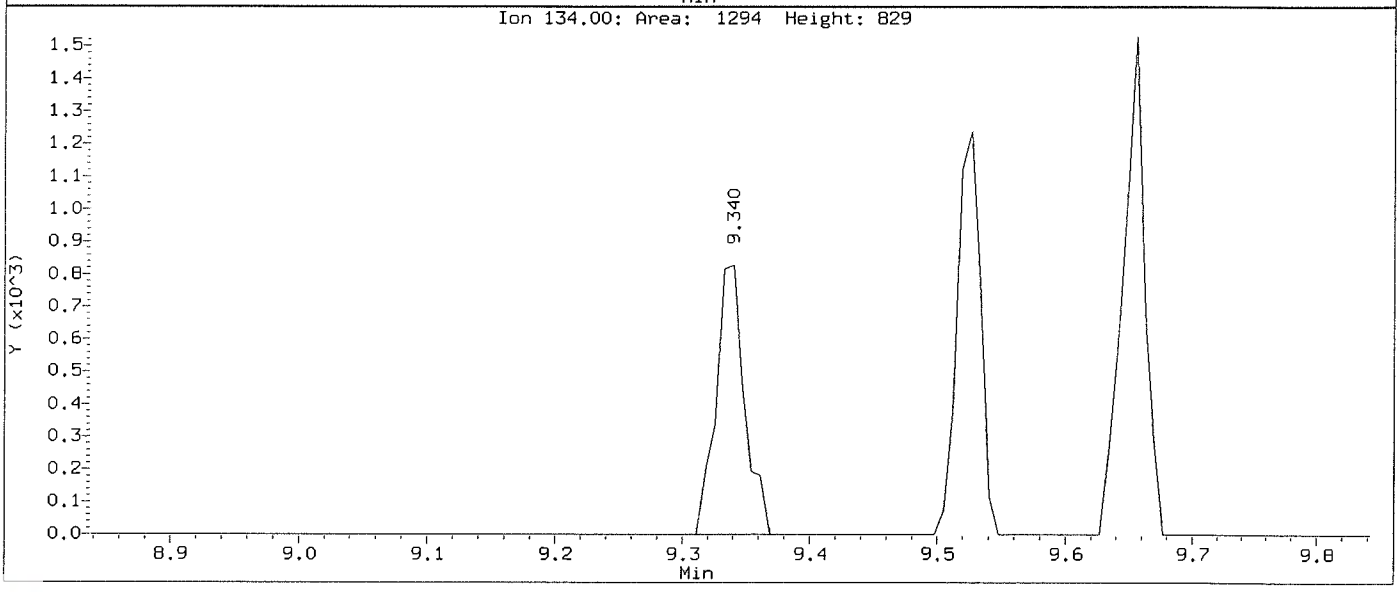


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: tert-Butylbenzene
CAS Number: 98-06-6

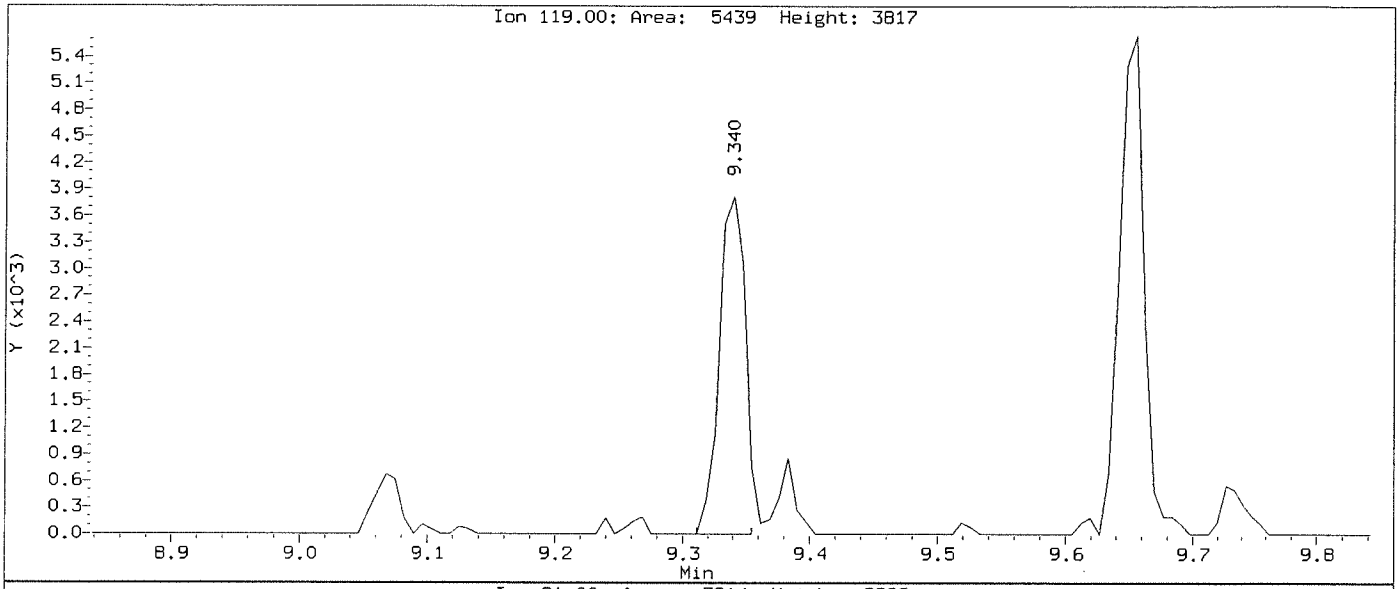


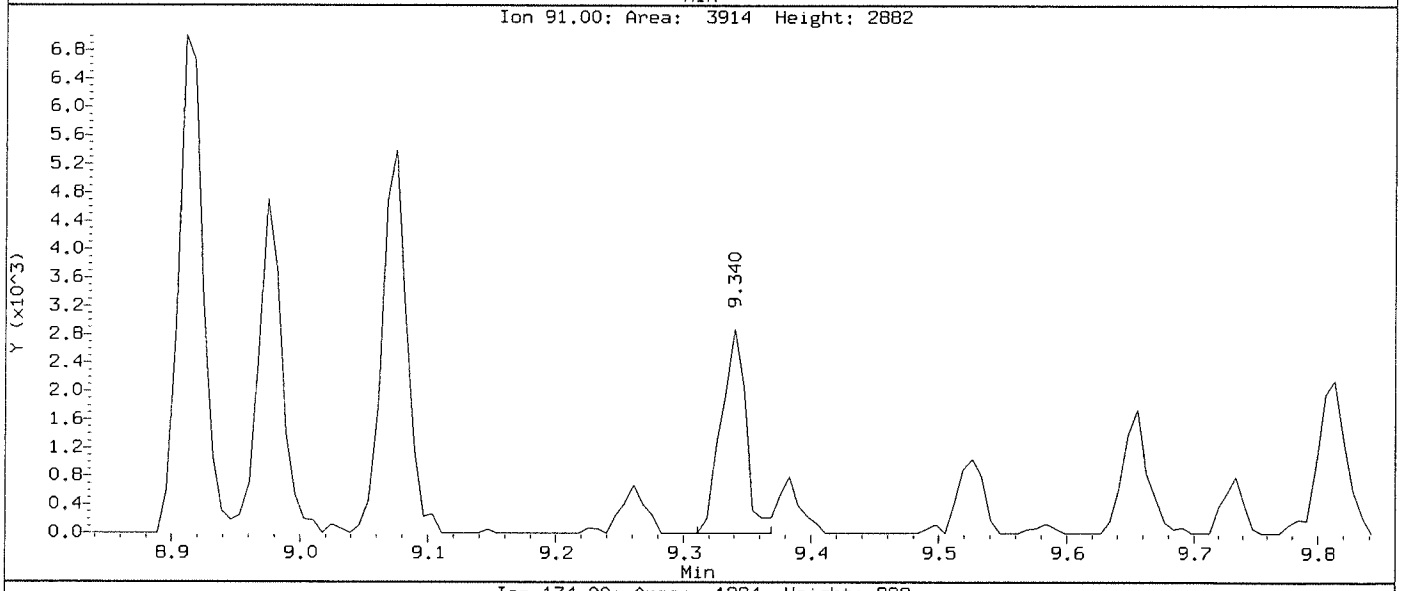


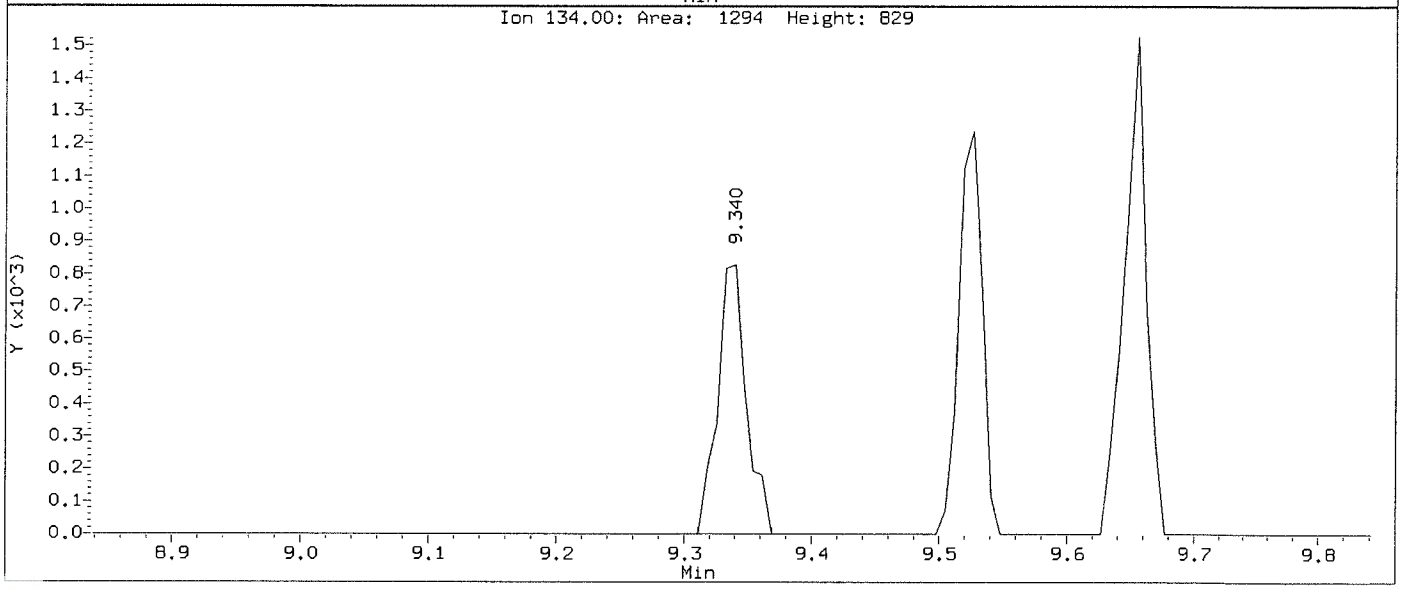


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: tert-Butylbenzene
CAS Number: 98-06-6

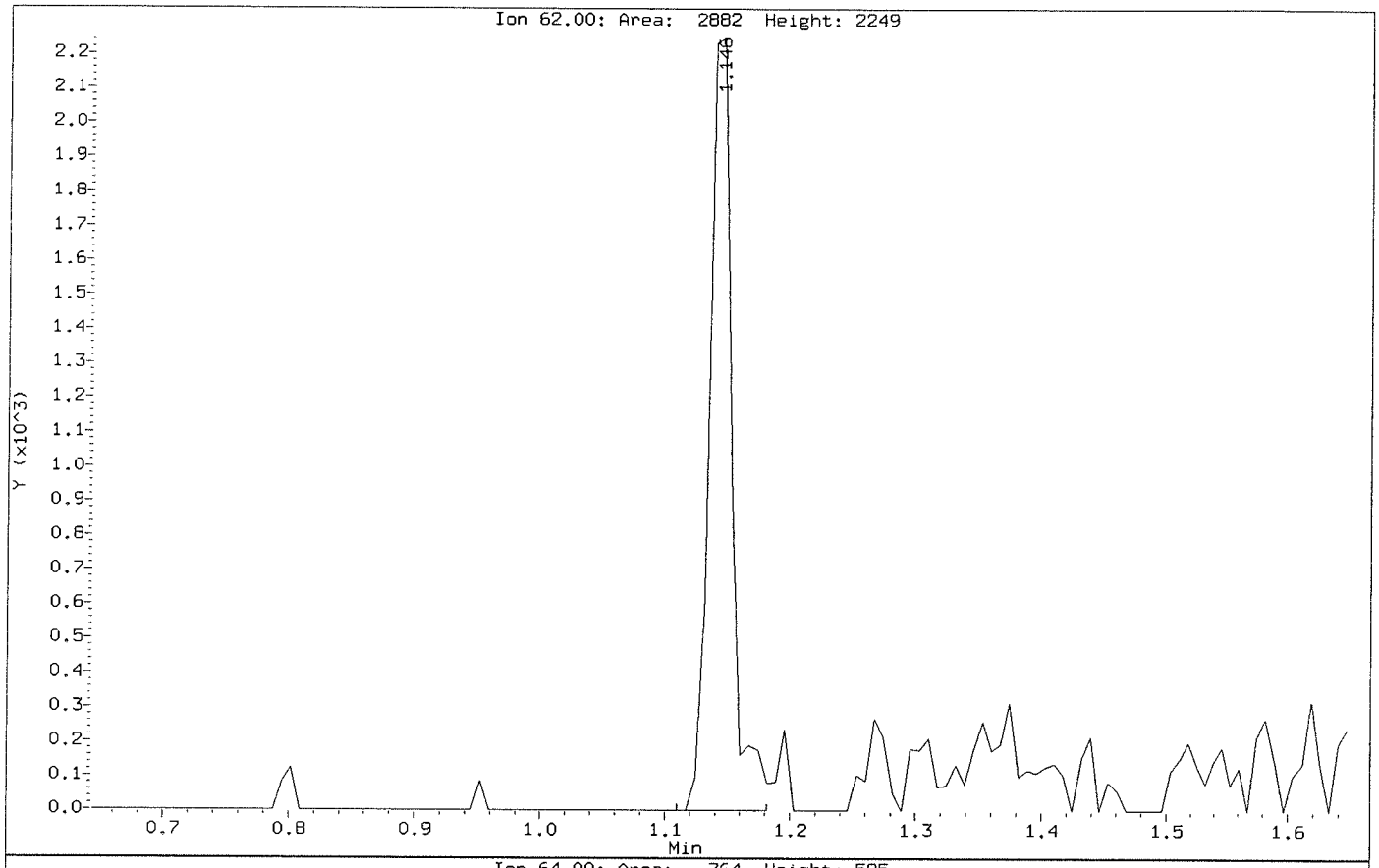


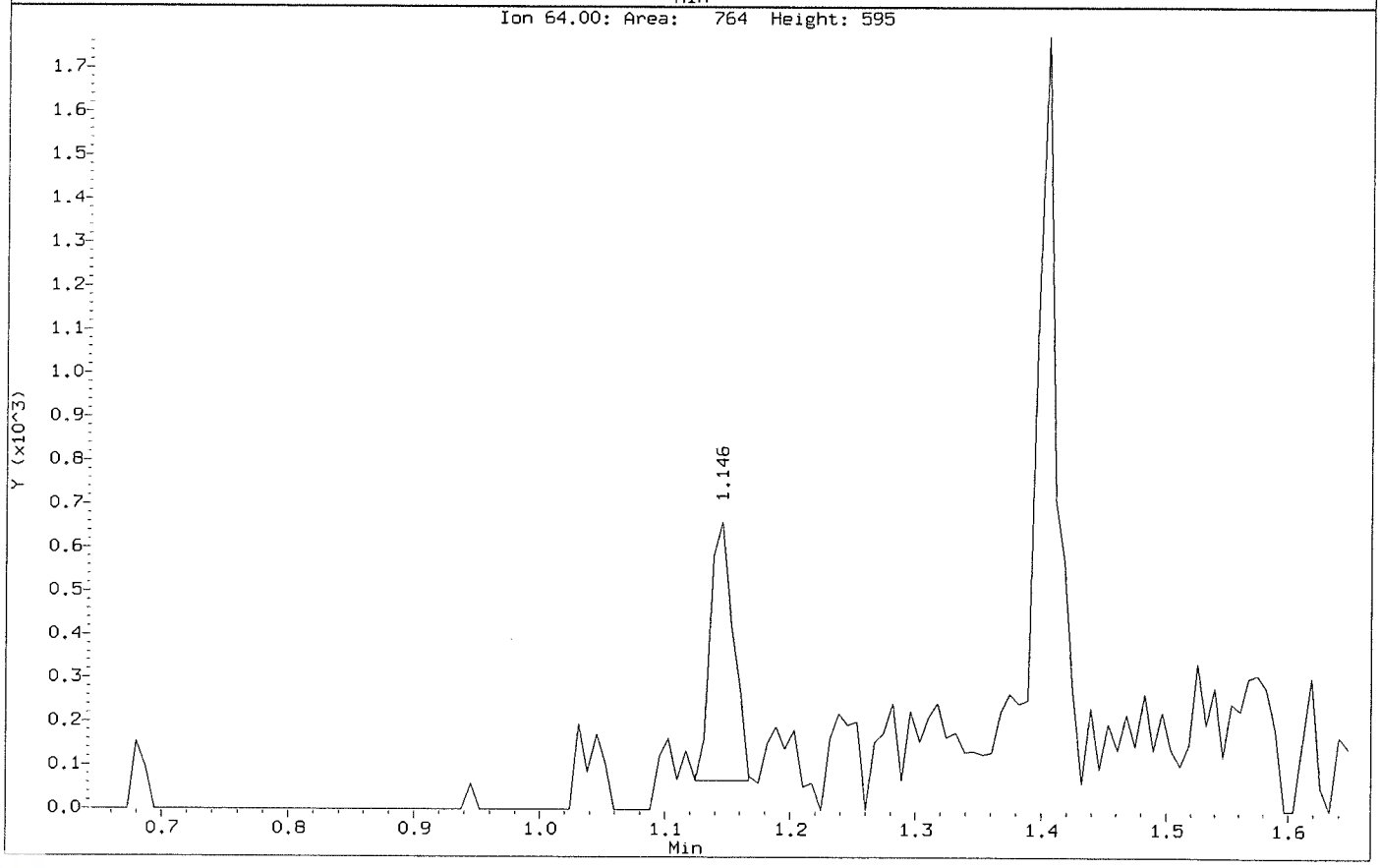




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

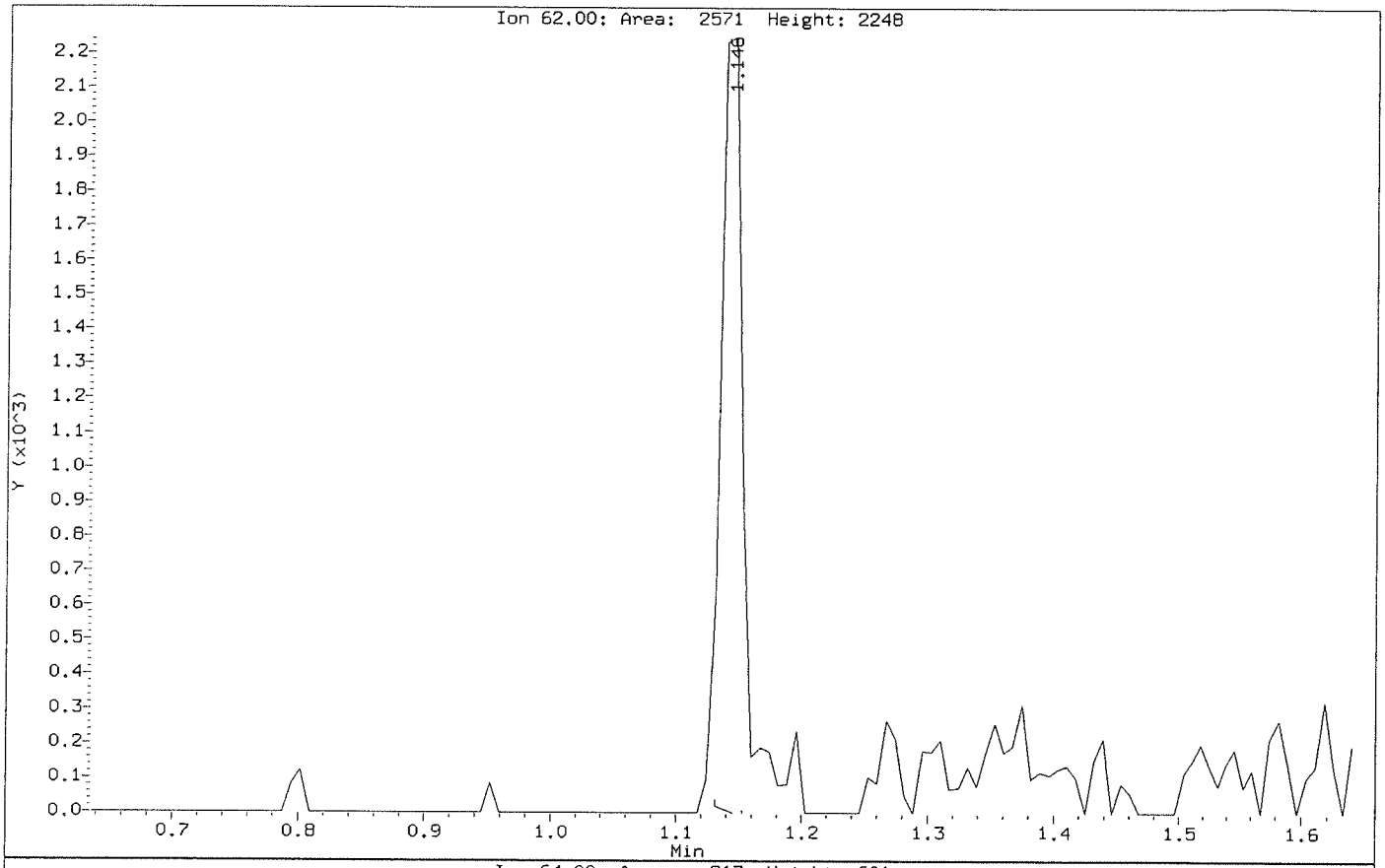
Compound: Vinyl Chloride
CAS Number: 75-01-4

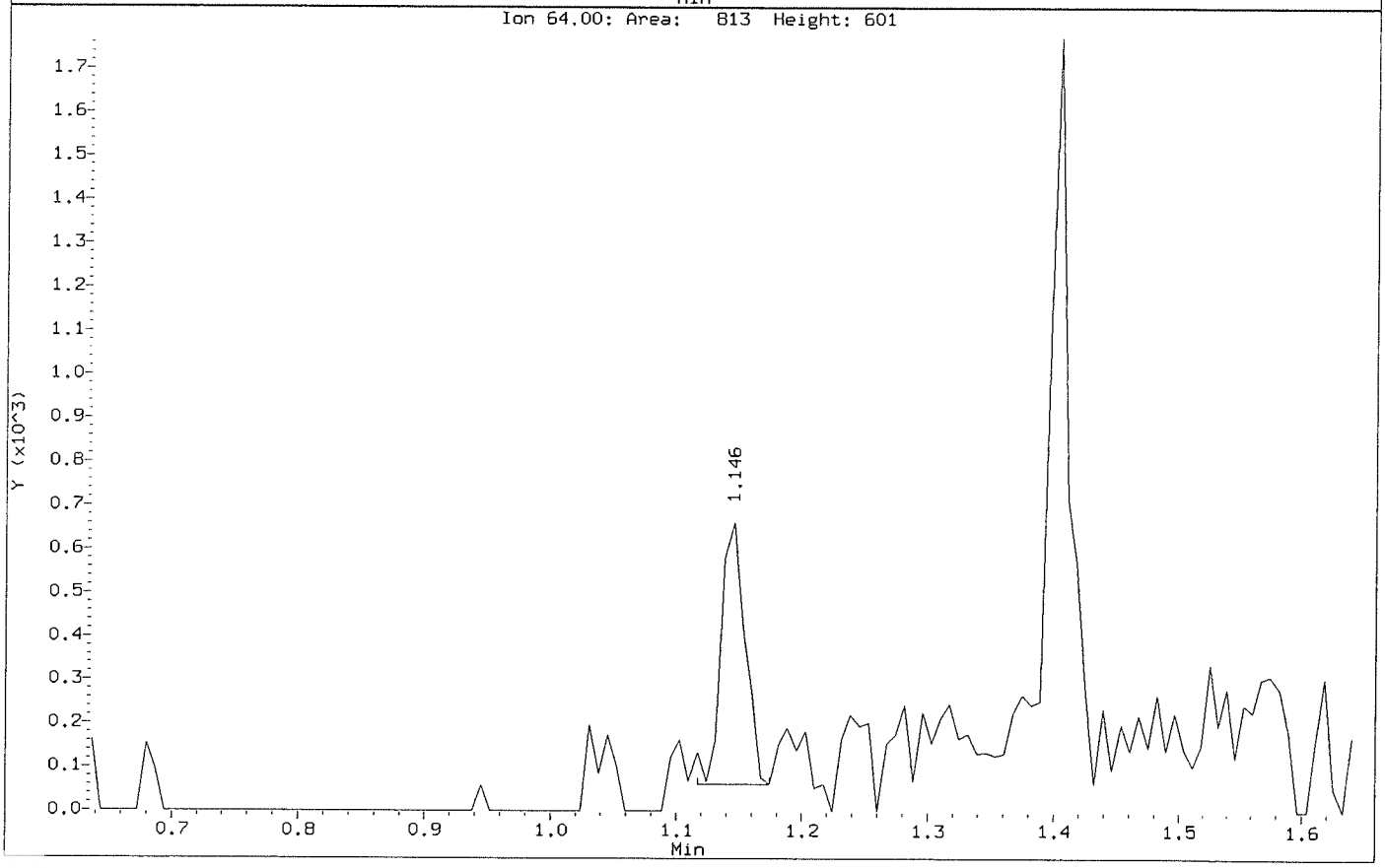




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Vinyl Chloride
CAS Number: 75-01-4





ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 03-DEC-2020 12:04
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 11:22 Cal File: X120303.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

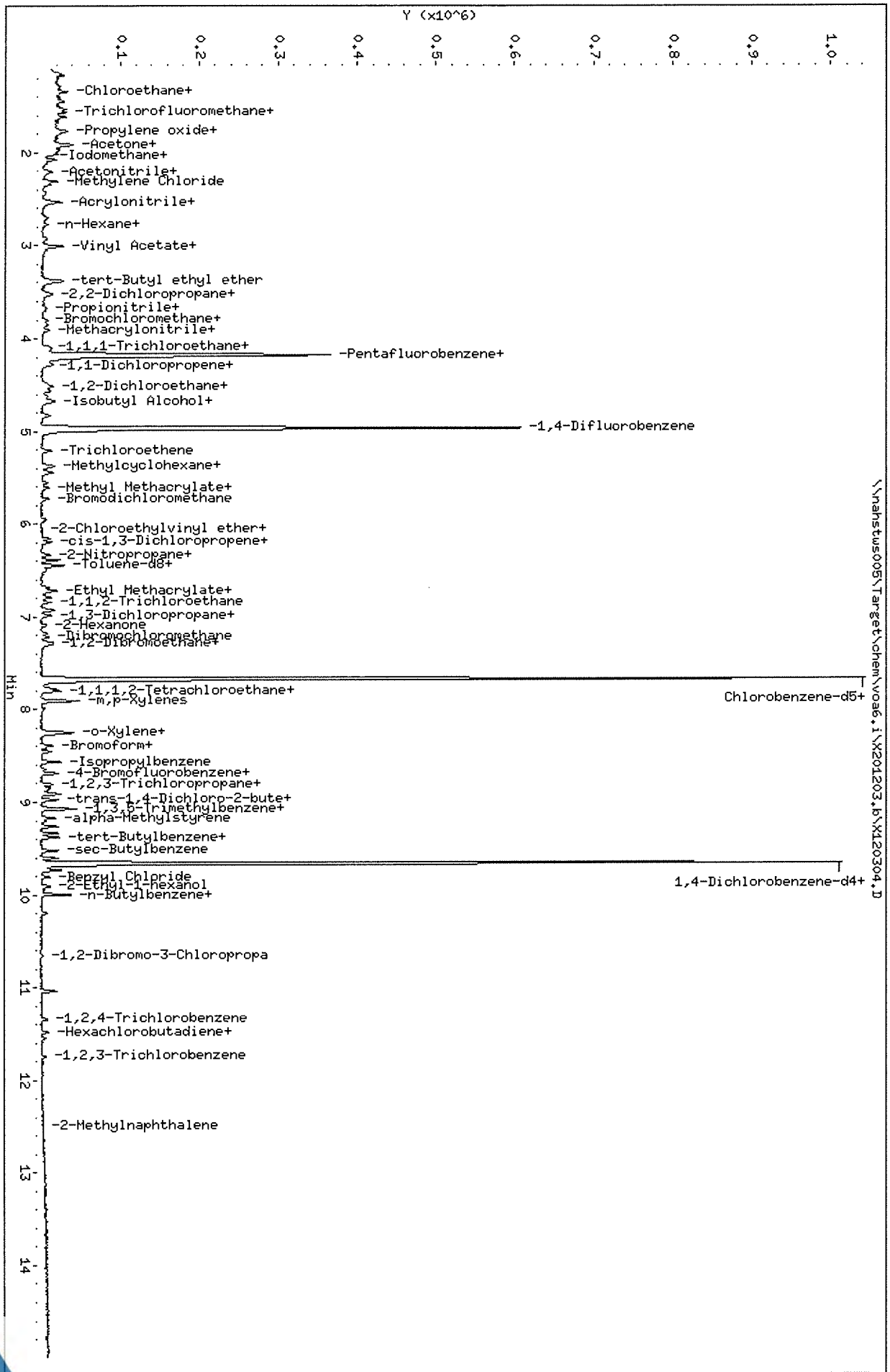
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	261739	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	475546	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	435056	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	197290	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	3334	1.00000	0.78(a)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	5576	1.00000	0.49(a)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	12569	1.00000	1.47(a)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	5900	1.00000	1.18(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	3416	1.00000	1.08(a)
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	4828	1.00000	0.88(a)
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	4259	1.00000	1.06(aM)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	2767	1.00000	0.99(a)
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	6721	1.00000	1.06(a)
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	3938	1.00000	0.99(a)
32 1,1-Dichloropropene	75	4.275	4.275	(0.860)	4817	1.00000	1.04(a)
93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	1277	1.00000	1.22(a)
71 1,2,3-Trichloropropane	75	8.860	8.860	(0.917)	4854	1.00000	1.06(a)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	1709	1.00000	0.92(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	10278	1.00000	0.95(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	469	1.00000	0.82(aM)
57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	3562	1.00000	1.06(a)
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	5377	1.00000	0.94(a)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D Page 2
Report Date: 22-Dec-2020 16:32

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	5508	1.00000	1.02(a)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	3986	1.00000	1.11(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	10524	1.00000	0.95(a)
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	6202	1.00000	1.02(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	5222	1.00000	0.95(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	6618	1.00000	1.08(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	5972	1.00000	1.08(a)
24	2-Butanone	43	3.581	3.581	(0.856)	2133	2.00000	1.74(aM)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	9185	1.00000	0.97(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	4327	2.00000	1.98(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	11720	1.00000	1.01(a)
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	10981	1.00000	1.01(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	6518	2.00000	2.04(a)
10	Acetone	43	1.976	1.976	(0.473)	7661	2.00000	(a)
37	Benzene	78	4.519	4.519	(0.909)	13626	1.00000	1.05(a)
74	Bromobenzene	156	8.802	8.802	(0.911)	3517	1.00000	1.00(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	2113	1.00000	1.12(a)
39	Bromodichloromethane	83	5.722	5.722	(1.151)	4922	1.00000	1.00(aM)
66	Bromoform	173	8.416	8.416	(1.097)	1989	1.00000	1.00(Ta)
6	Bromomethane	94	1.338	1.338	(0.320)	4928	1.00000	1.46(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	16756	2.00000	1.93(aM)
34	Carbon Tetrachloride	117	4.261	4.261	(0.857)	2801	1.00000	0.72(a)
59	Chlorobenzene	112	7.692	7.692	(1.003)	9118	1.00000	1.02(a)
7	Chloroethane	64	1.403	1.403	(0.336)	2916	1.00000	0.93(a)
28	Chloroform	83	3.910	3.910	(0.935)	7037	1.00000	1.04(a)
3	Chloromethane	50	1.073	1.073	(0.257)	5480	1.00000	2.23(aM)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	3569	1.00000	0.96(a)
46	cis-1,3-Dichloropropene	75	6.152	6.152	(1.238)	6024	1.00000	0.98(a)
55	Dibromochloromethane	129	7.184	7.184	(0.937)	3496	1.00000	0.99(a)
44	Dibromomethane	93	5.550	5.550	(1.117)	2470	1.00000	1.02(a)
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	3828	1.00000	3.66(a)
61	Ethylbenzene	106	7.800	7.800	(1.017)	4386	1.00000	1.00(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	1259	1.00000	3.17(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	13128	1.00000	0.97(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	10828	2.00000	1.89(a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	3605	1.00000	1.02(a)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	10432	1.00000	2.50(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	14948	1.00000	0.94(a)
92	Naphthalene	128	11.546	11.546	(1.195)	3806	1.00000	1.19(aM)
63	o-Xylene	106	8.244	8.244	(1.075)	5051	1.00000	0.90(a)
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	12535	1.00000	0.98(a)
64	Styrene	104	8.258	8.258	(1.077)	8698	1.00000	0.92(a)
78	tert-Butylbenzene	119	9.332	9.332	(0.966)	8623	1.00000	0.97(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	2879	1.00000	1.18(a)
50	Toluene	91	6.446	6.446	(0.840)	13593	1.00000	1.00(a)
20	trans-1,2-Dichloroethene	96	2.542	2.542	(0.608)	3047	1.00000	0.97(a)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	5081	1.00000	0.95(a)
38	Trichloroethene	130	5.207	5.207	(1.048)	3833	1.00000	1.10(a)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	7812	1.00000	1.03(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	4787	1.00000	1.03(aM)

QC Flag Legend

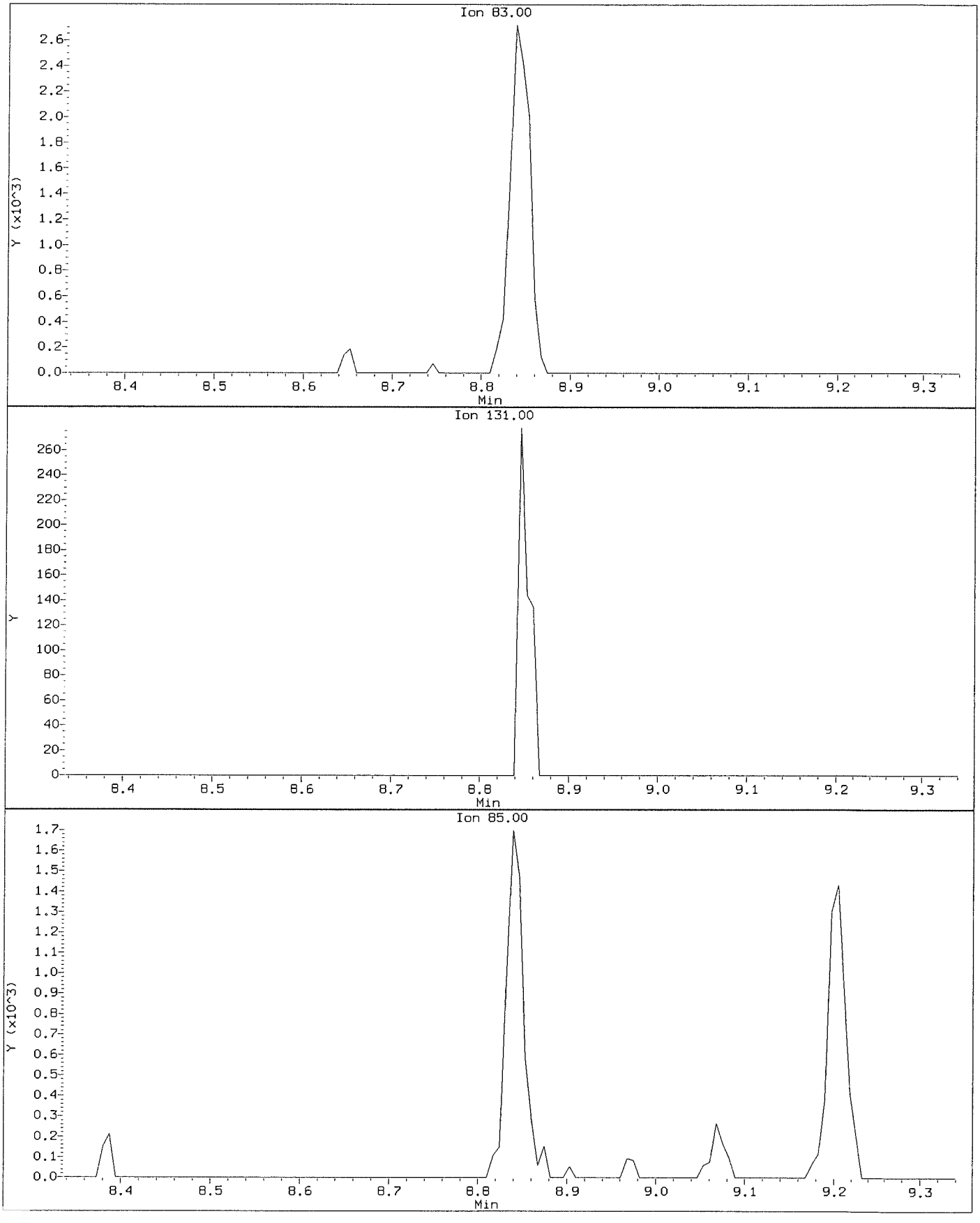
T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Date : 03-DEC-2020 12:04
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

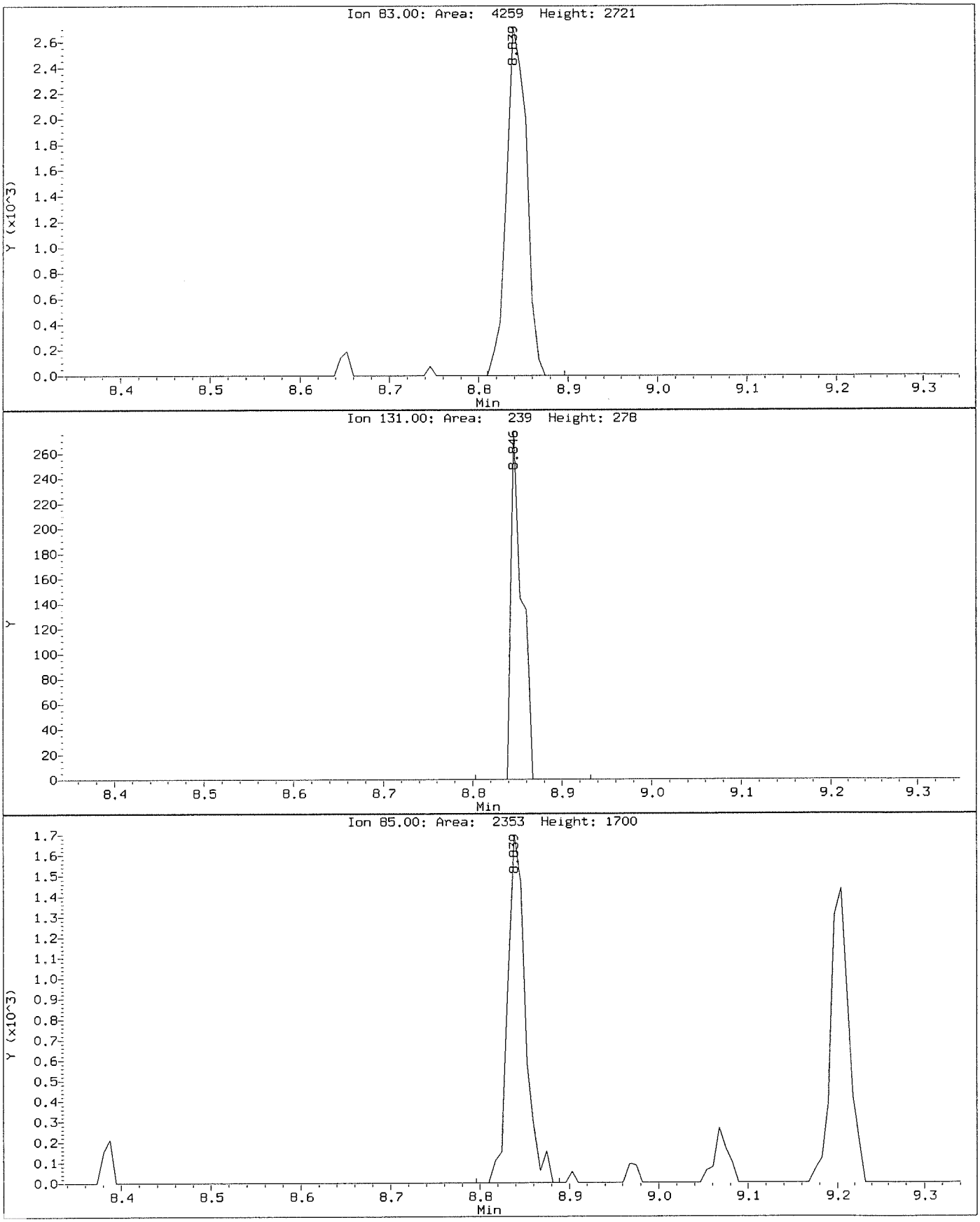
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



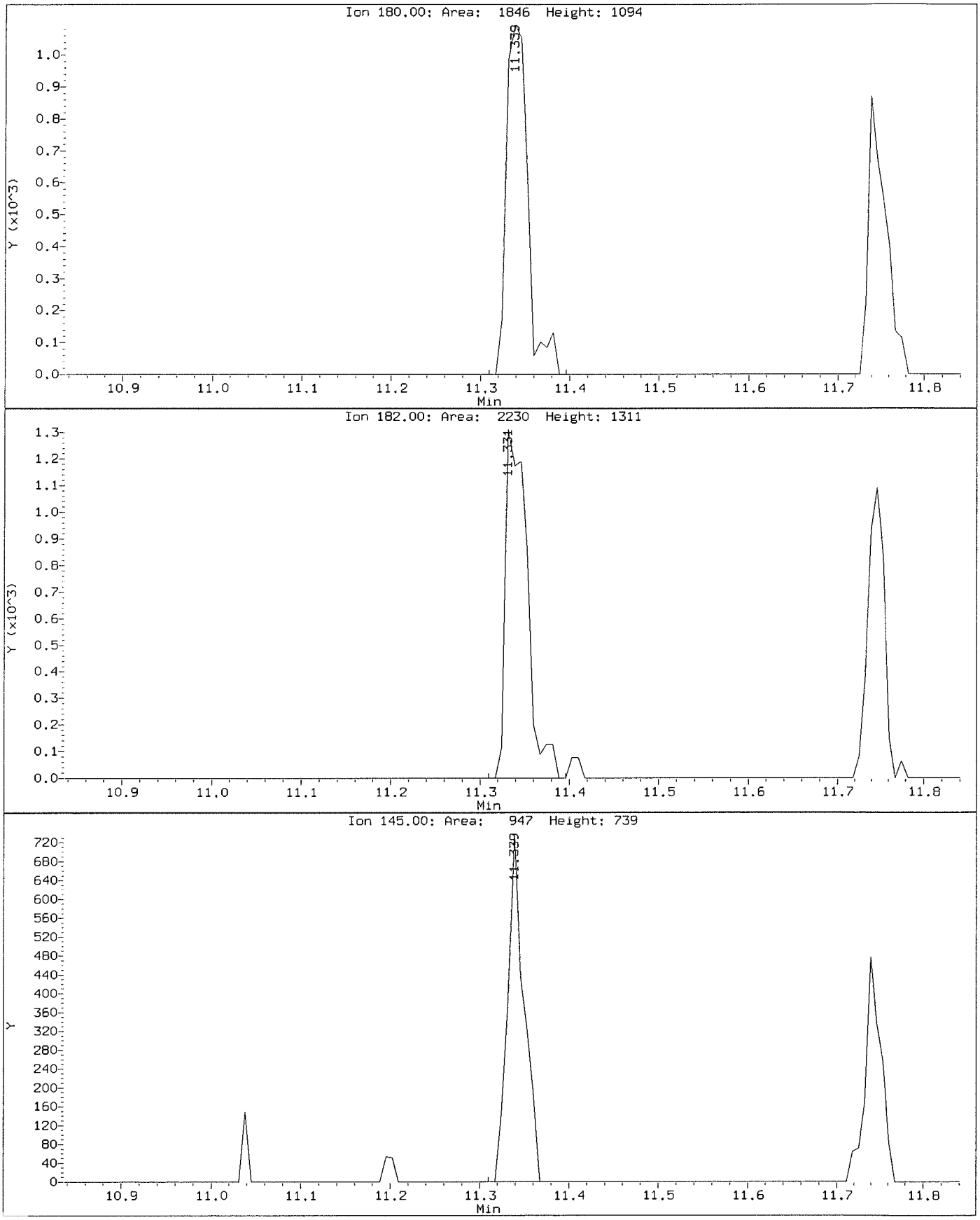
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



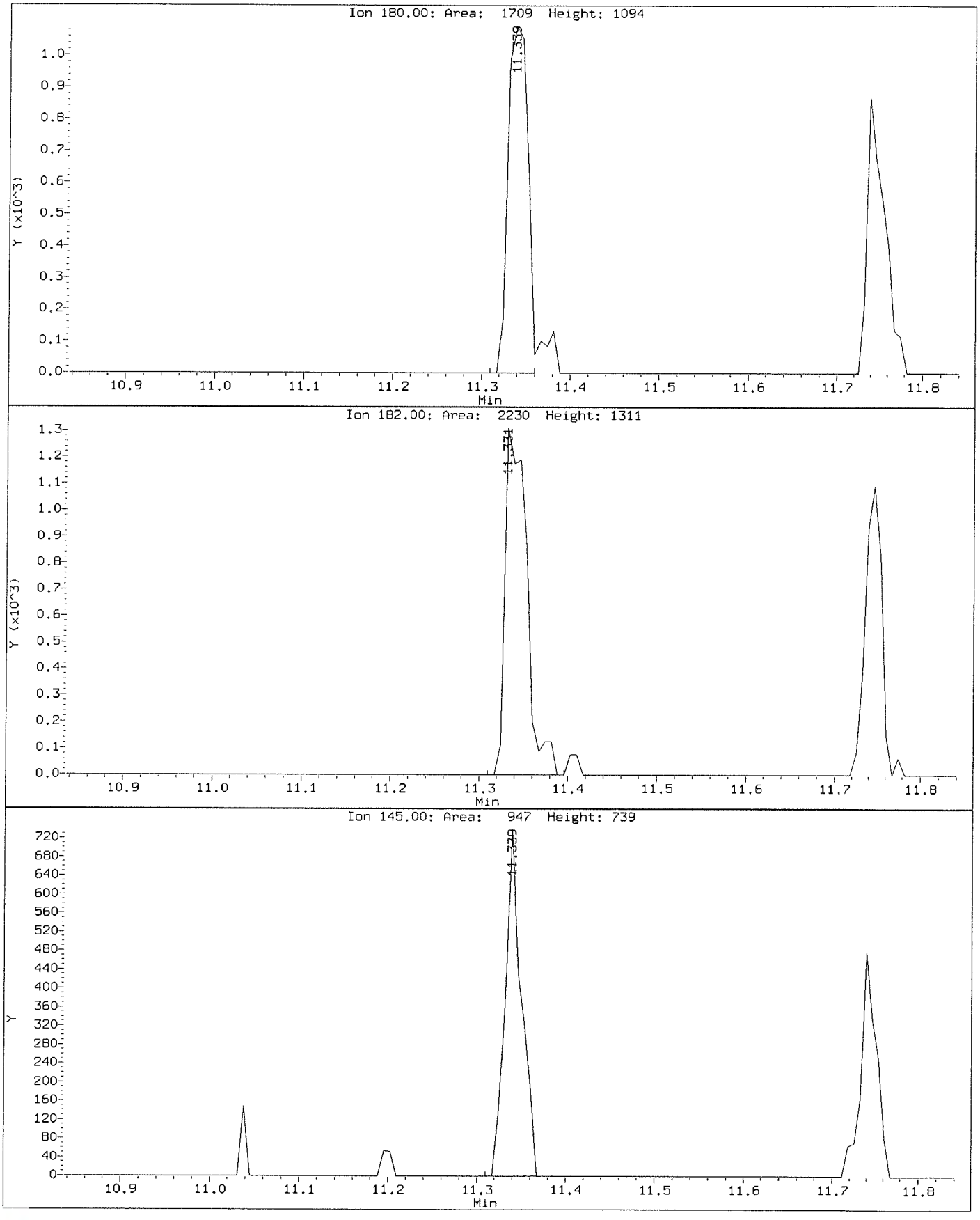
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



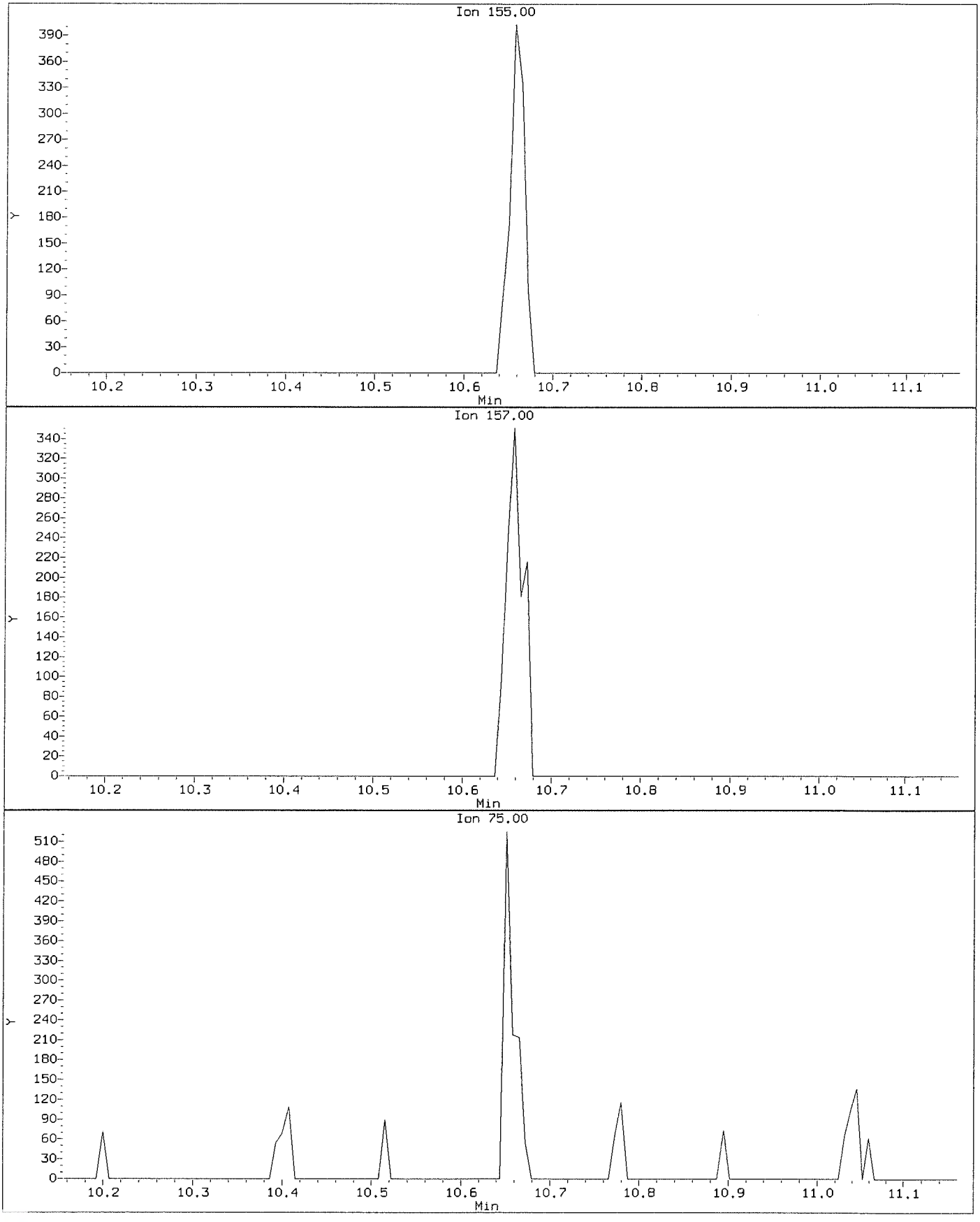
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



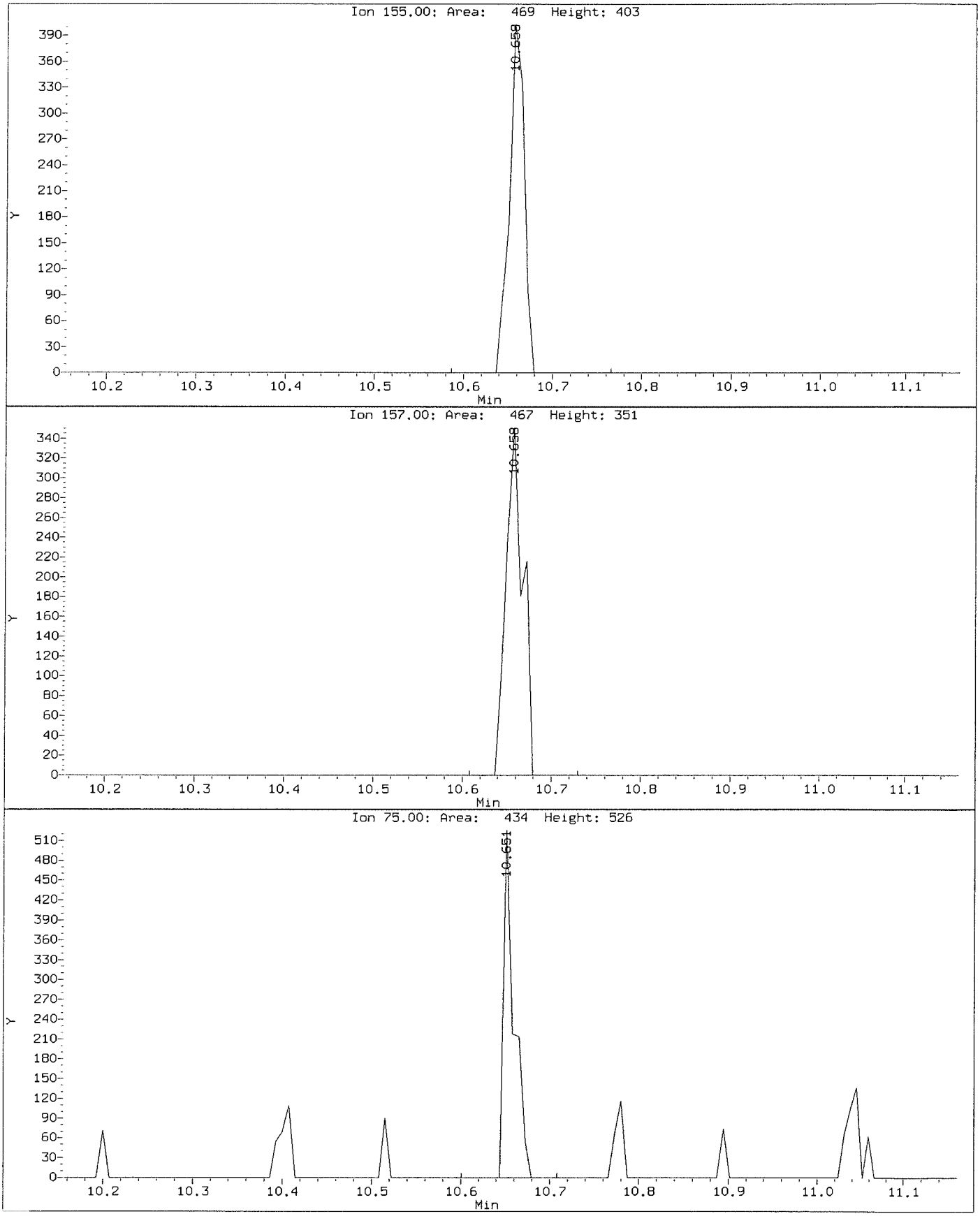
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



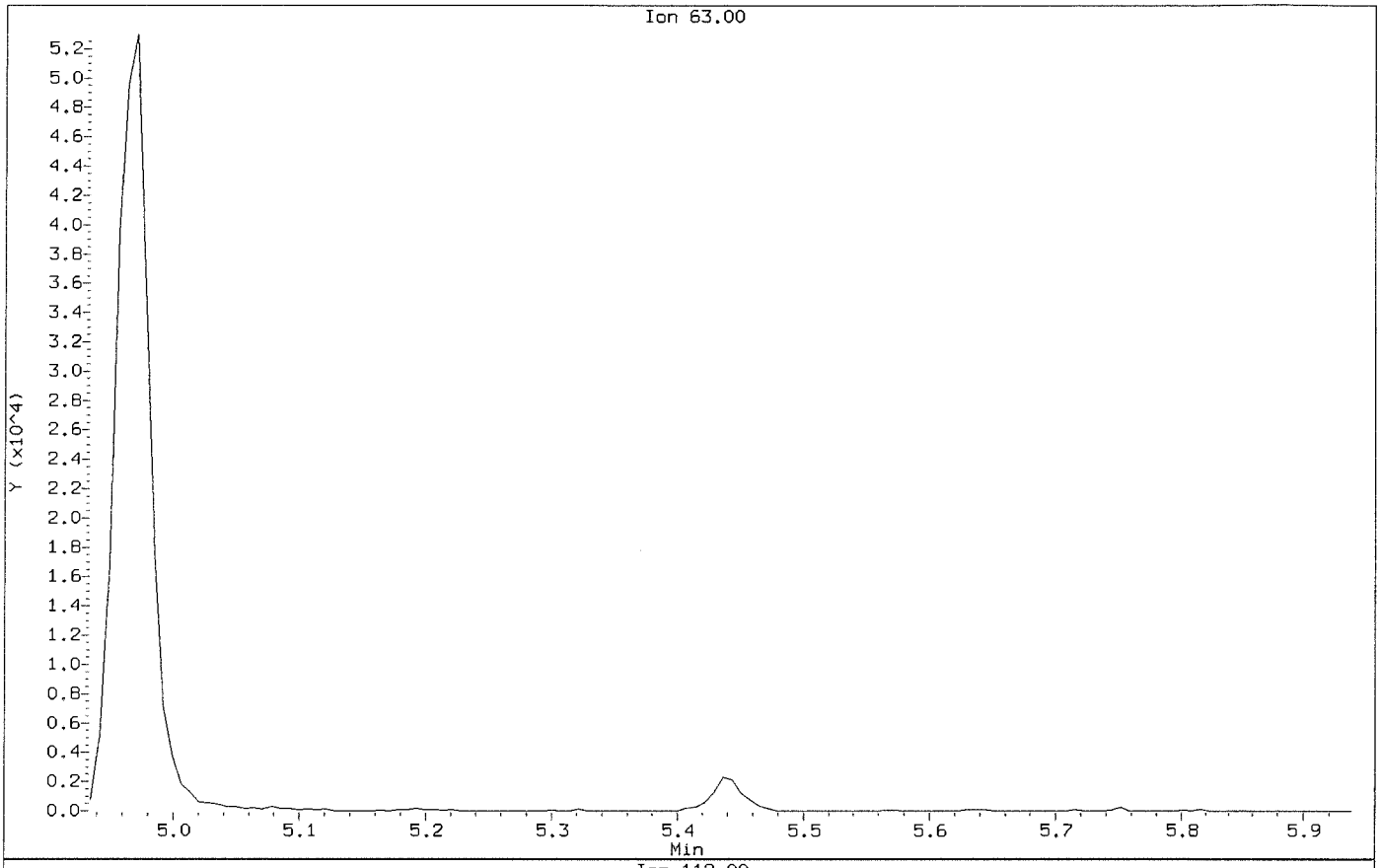
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

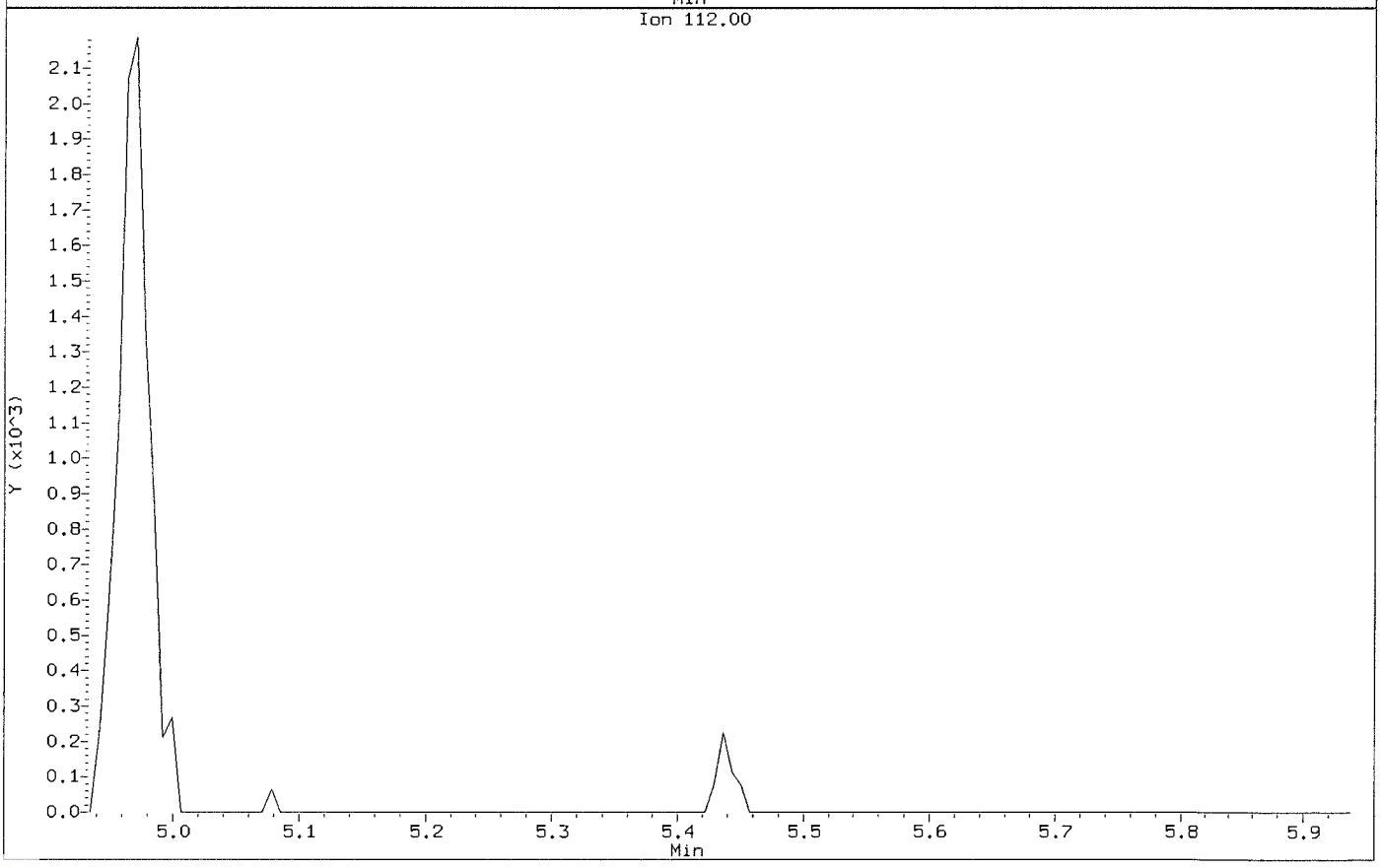
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

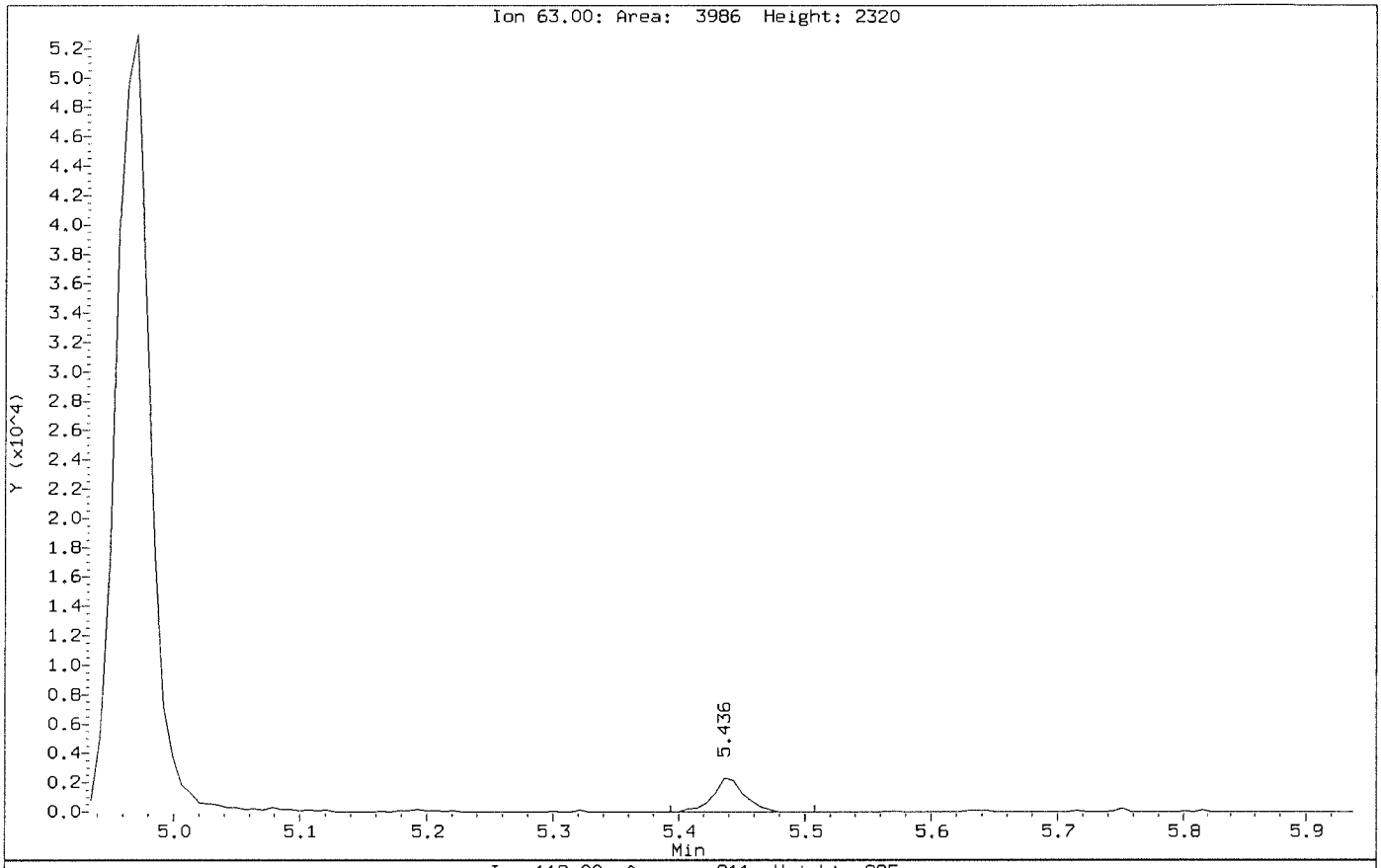
Compound: 1.2-Dichloropropane
CAS Number: 78-87-5

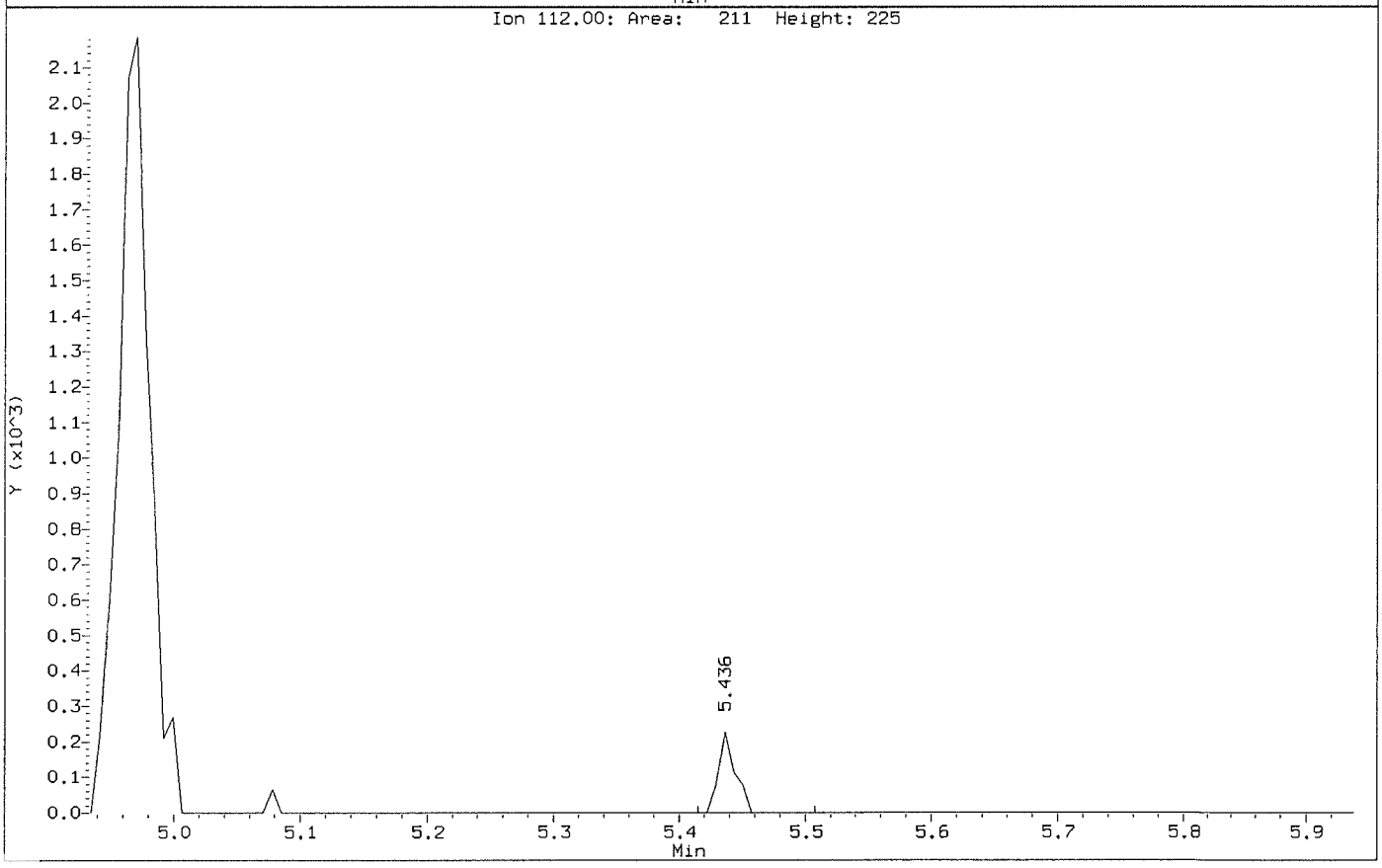




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

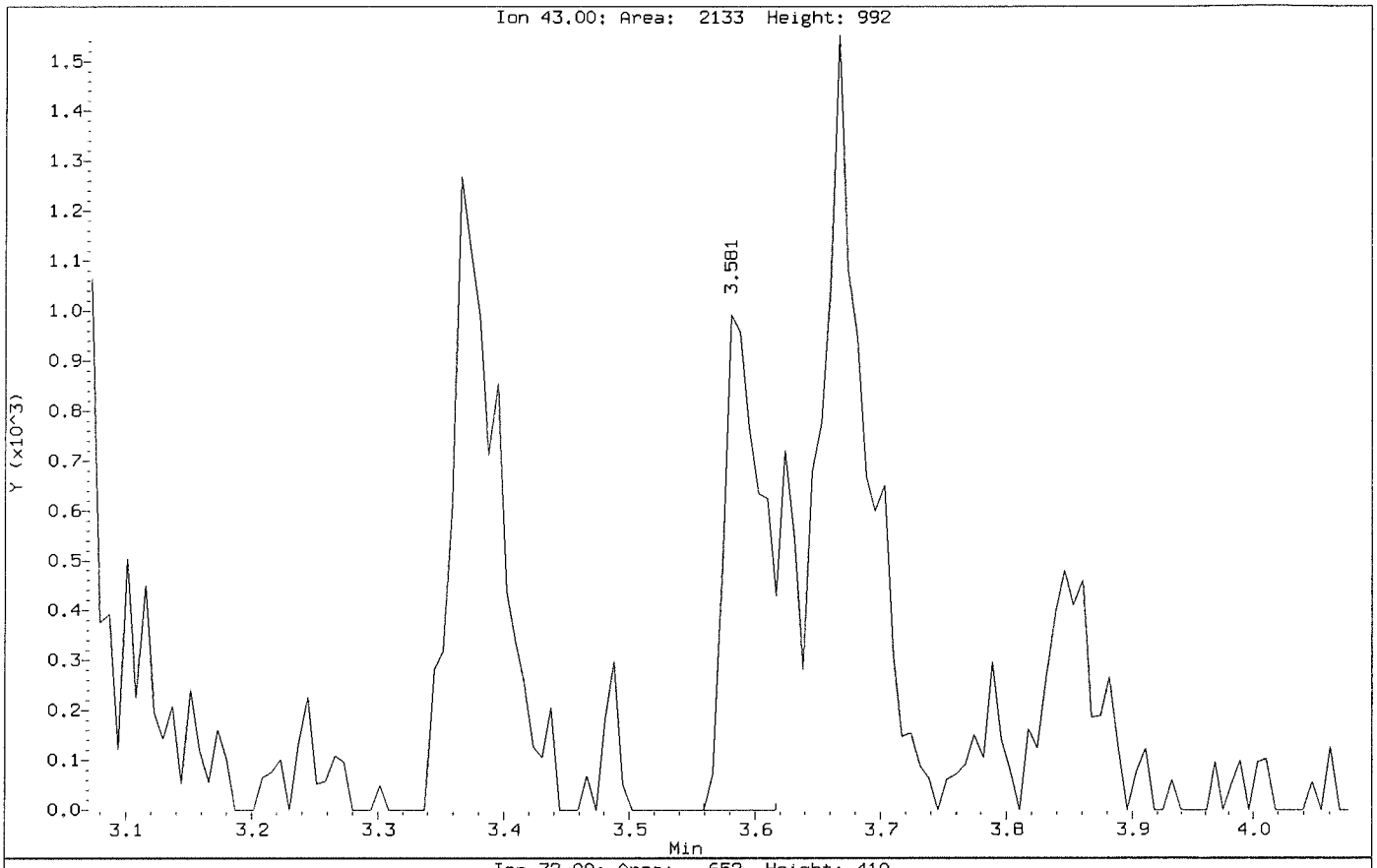
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

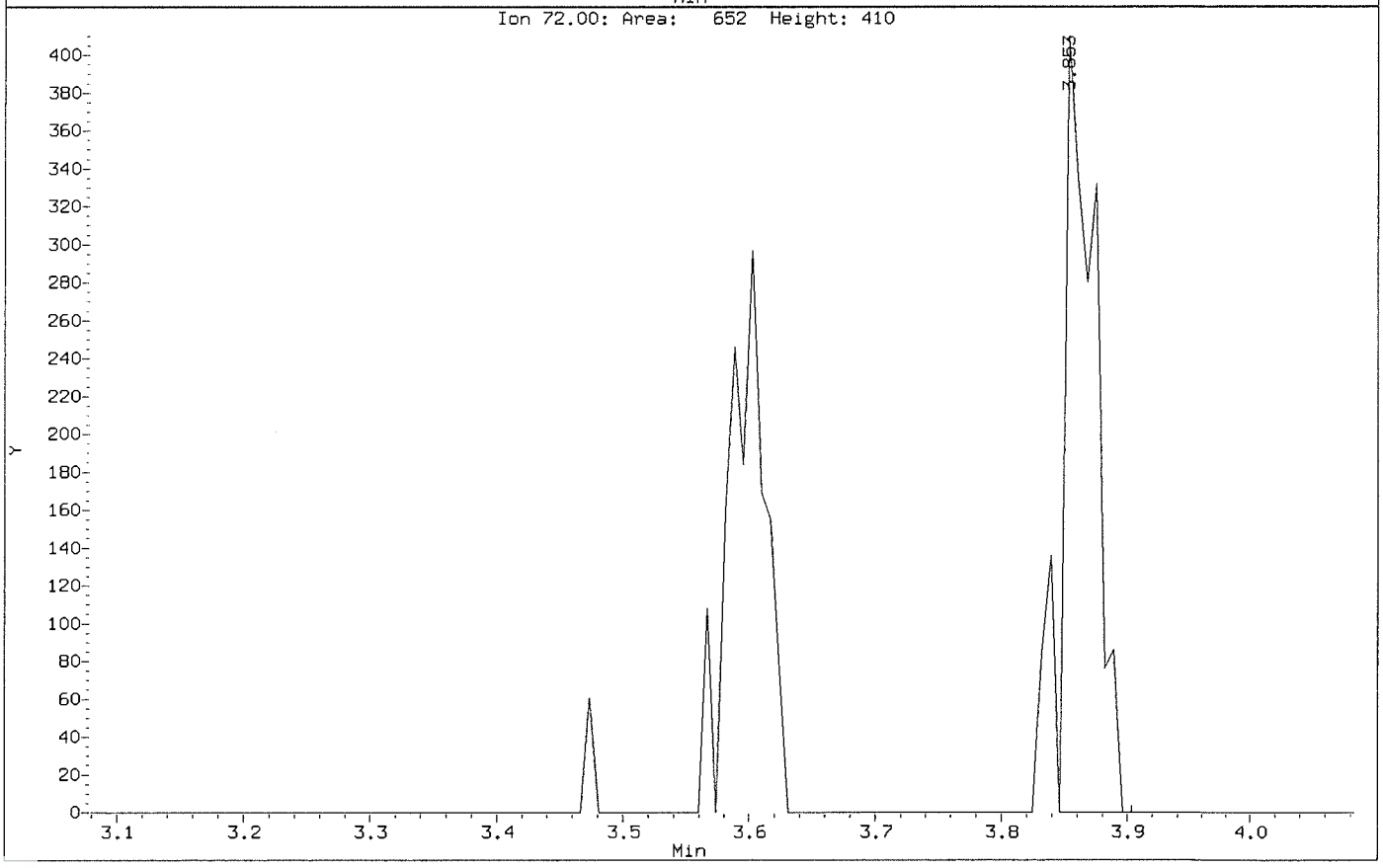




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

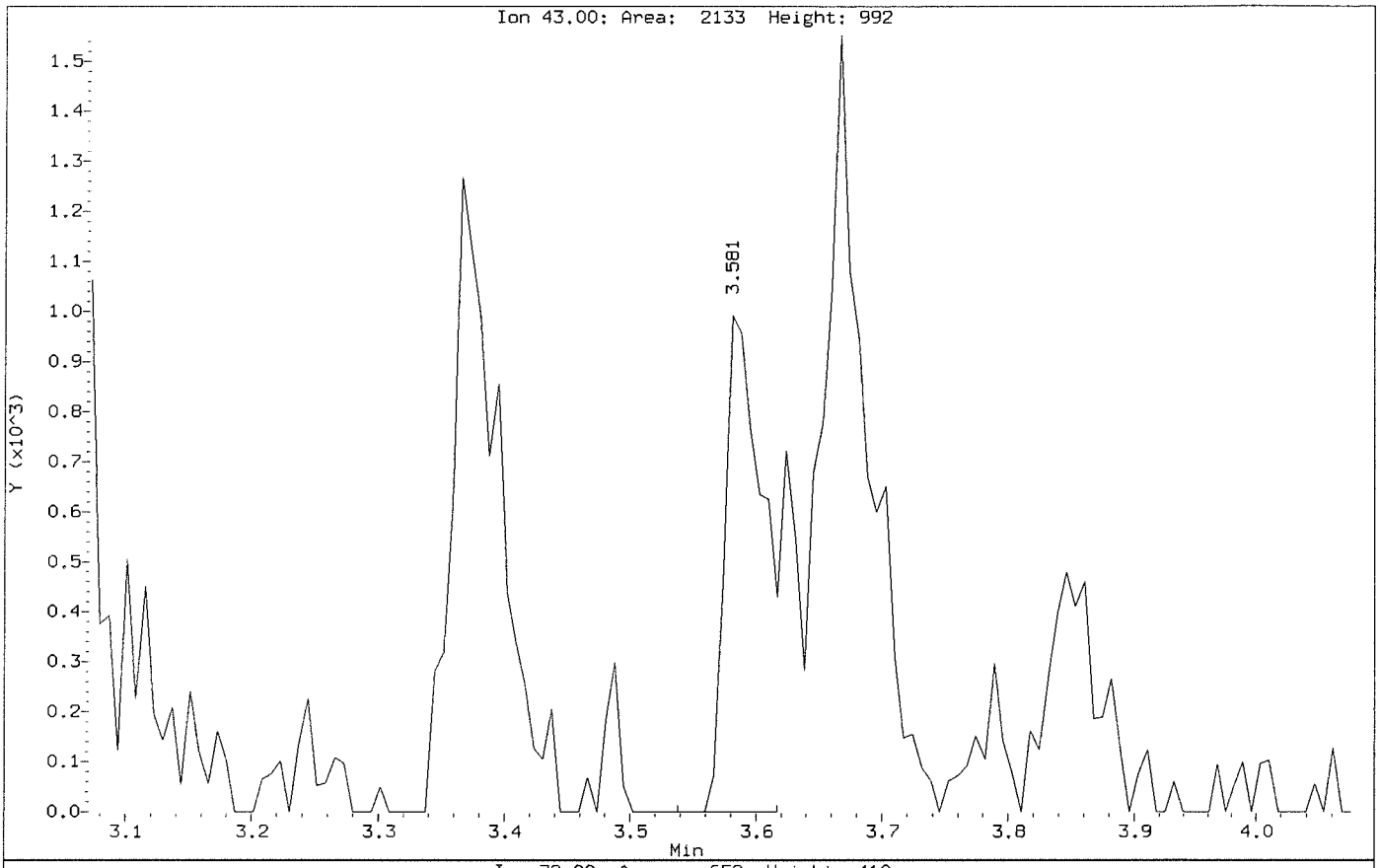
Compound: 2-Butanone
CAS Number: 78-93-3

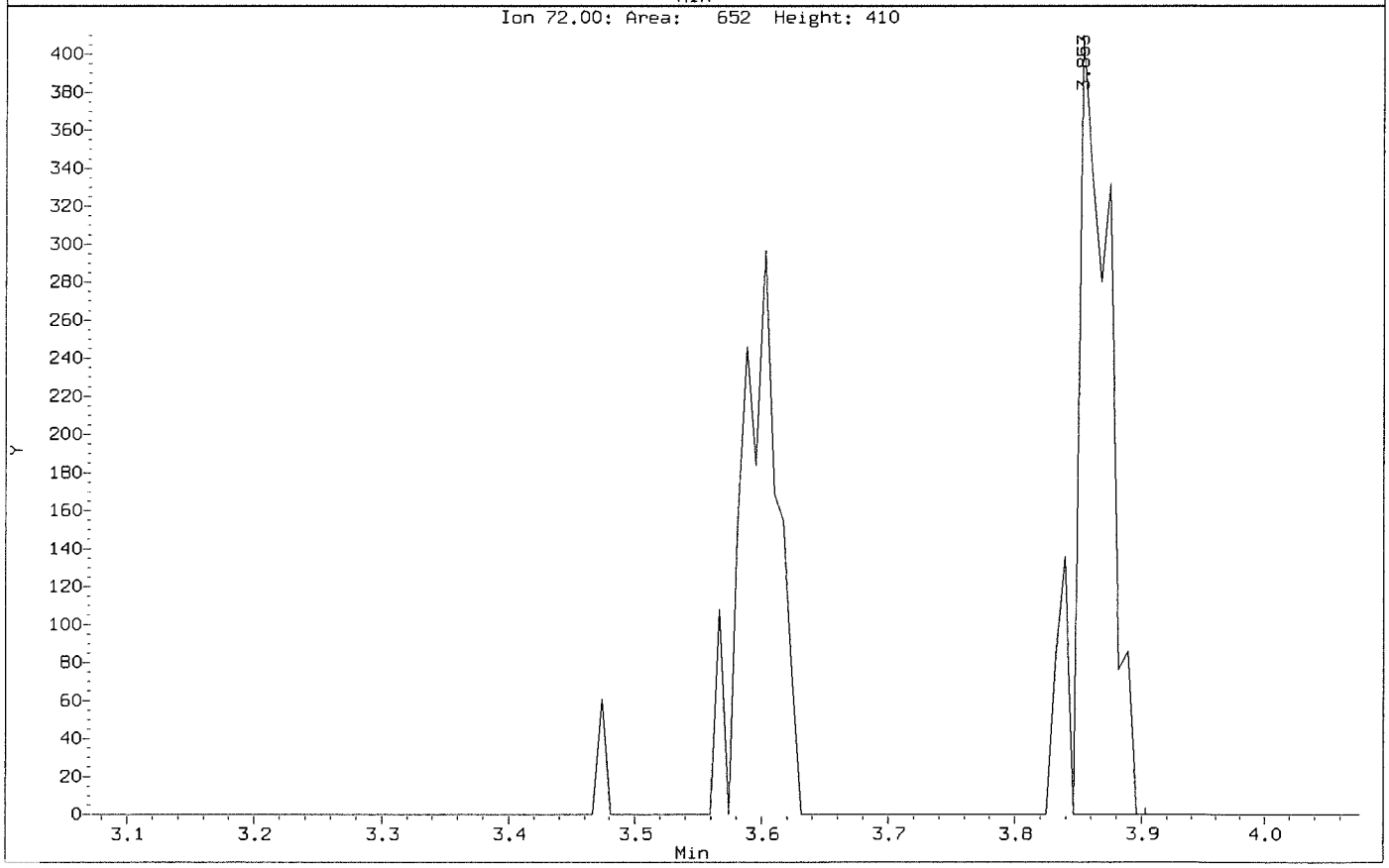




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

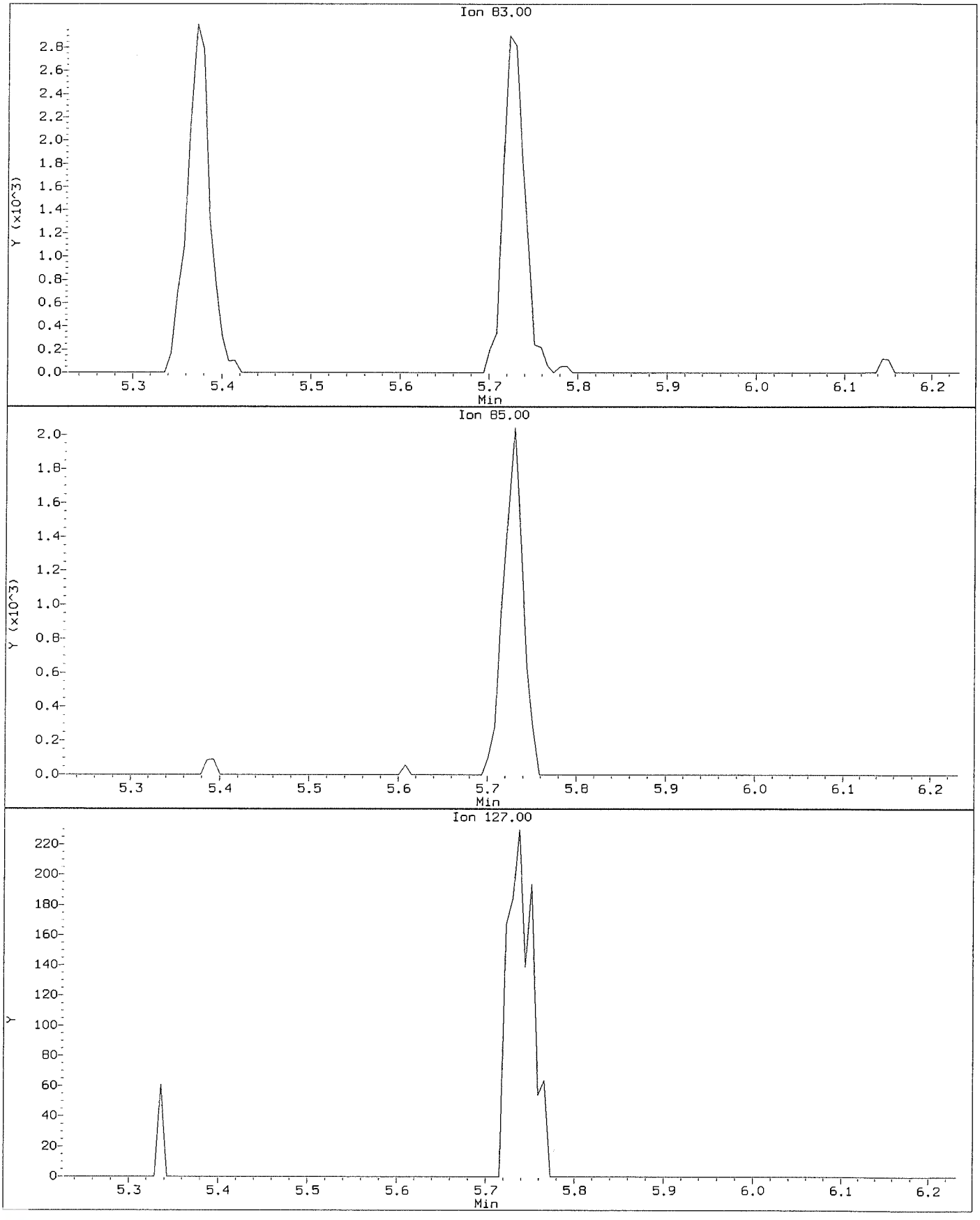
Compound: 2-Butanone
CAS Number: 78-93-3





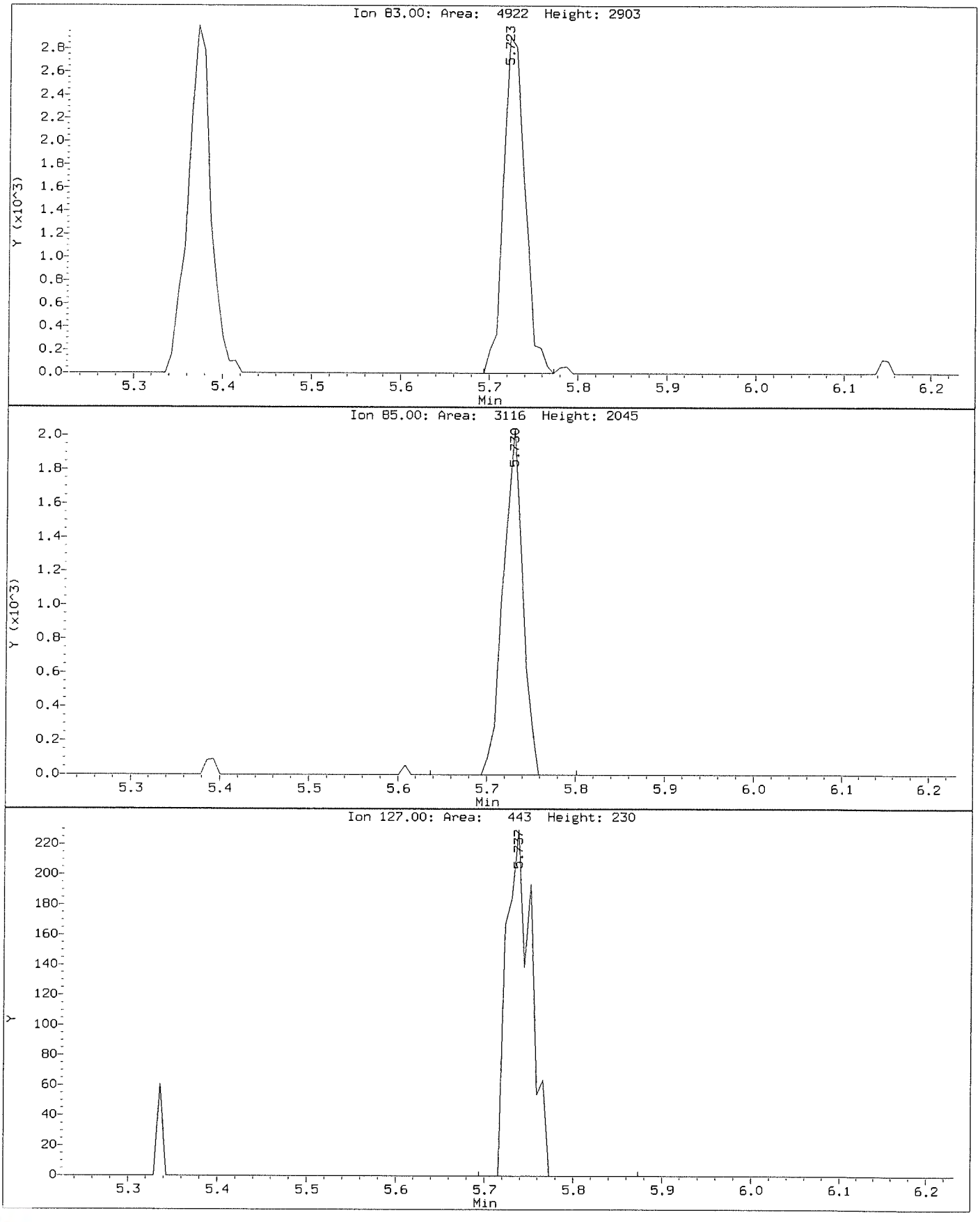
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4



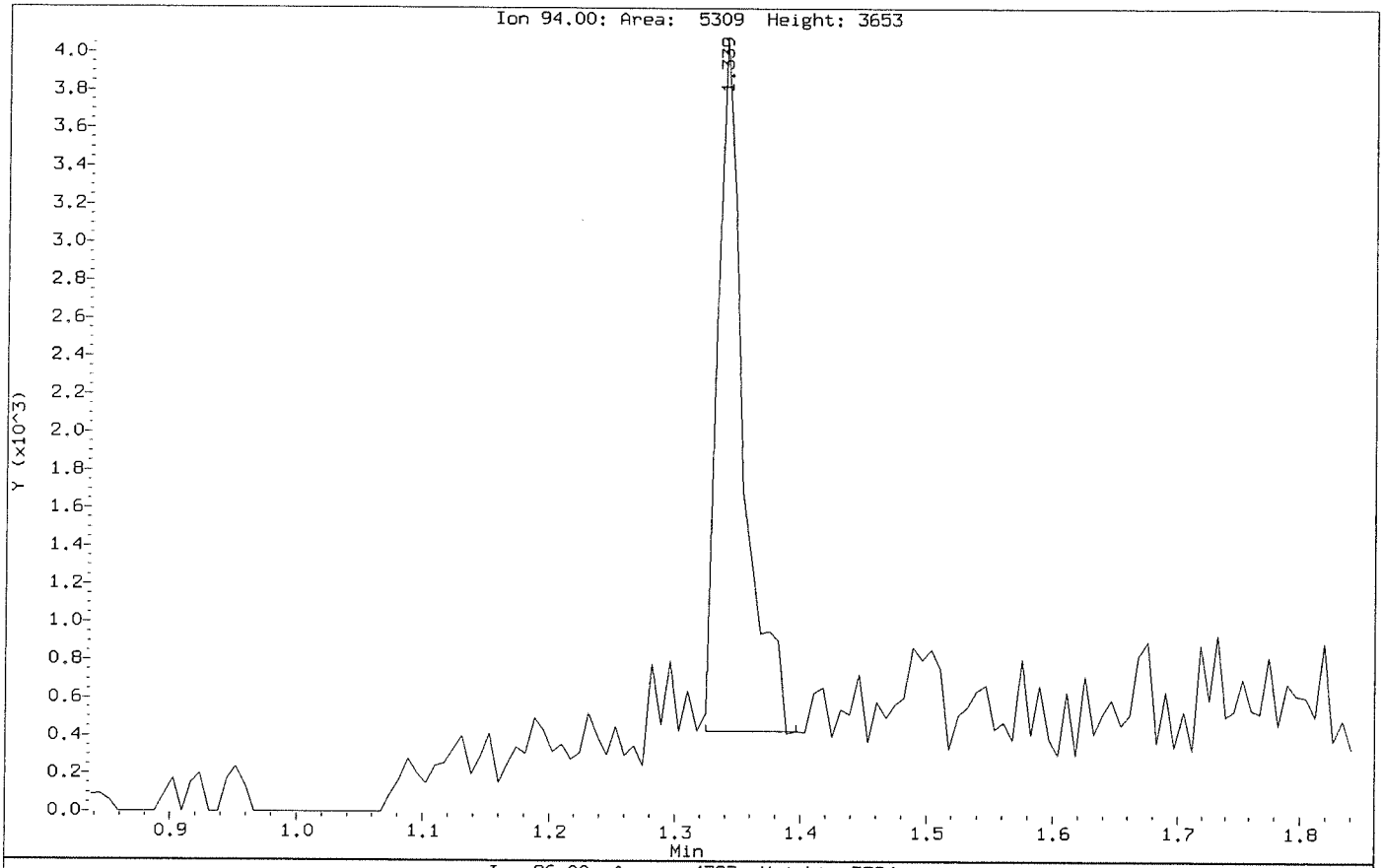
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

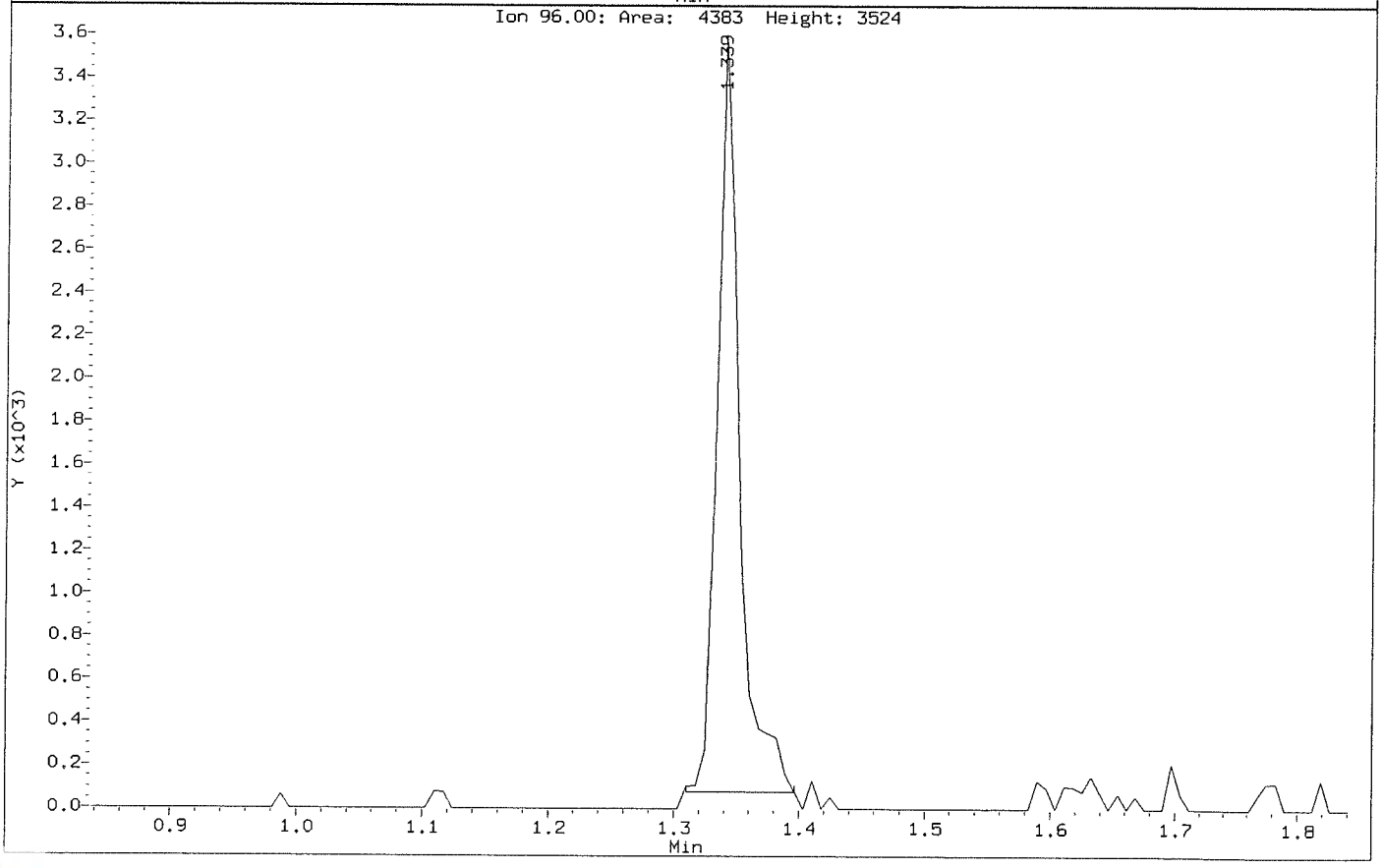
Compound: Bromodichloromethane
CAS Number: 75-27-4



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

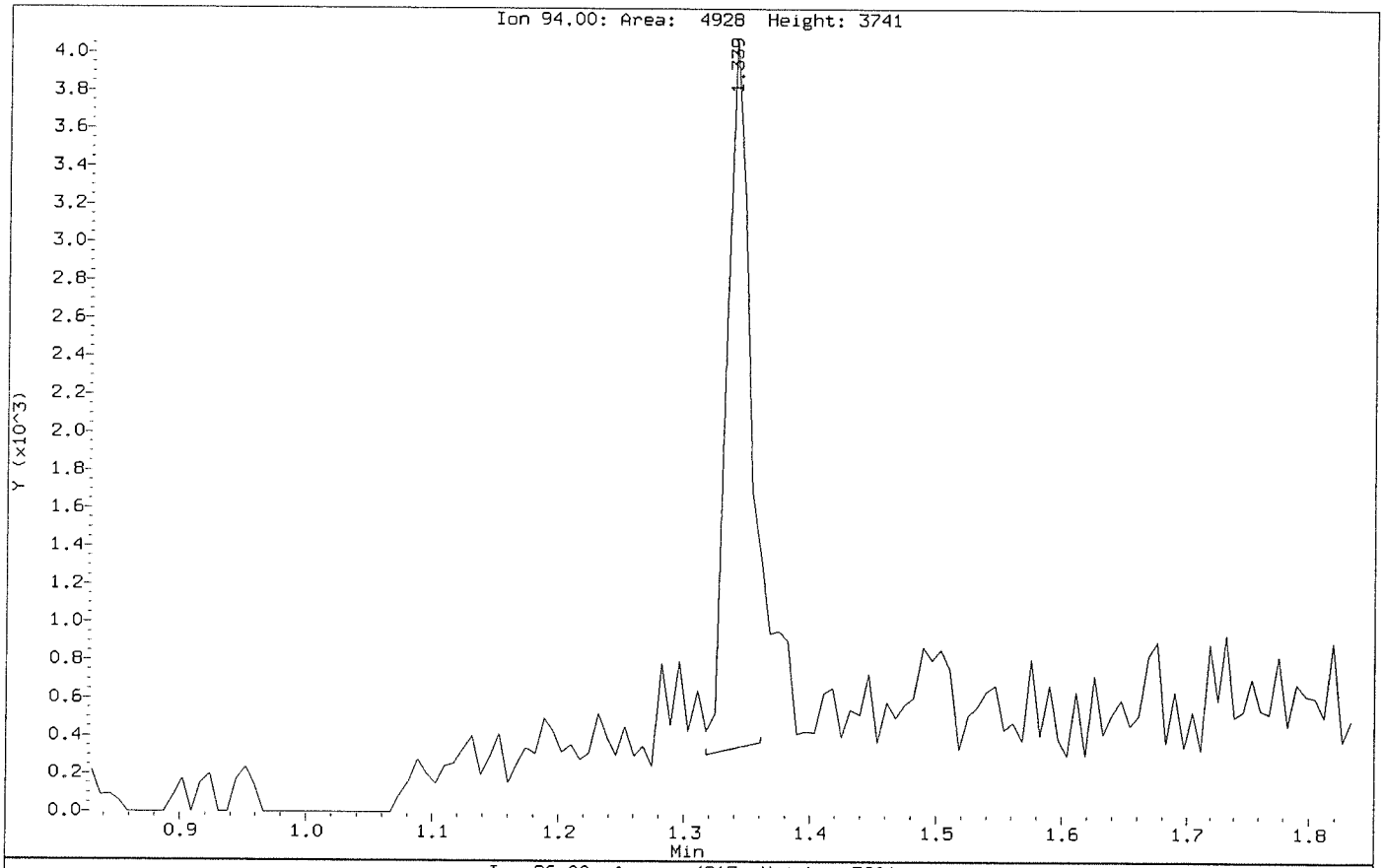
Compound: Bromomethane
CAS Number: 74-83-9

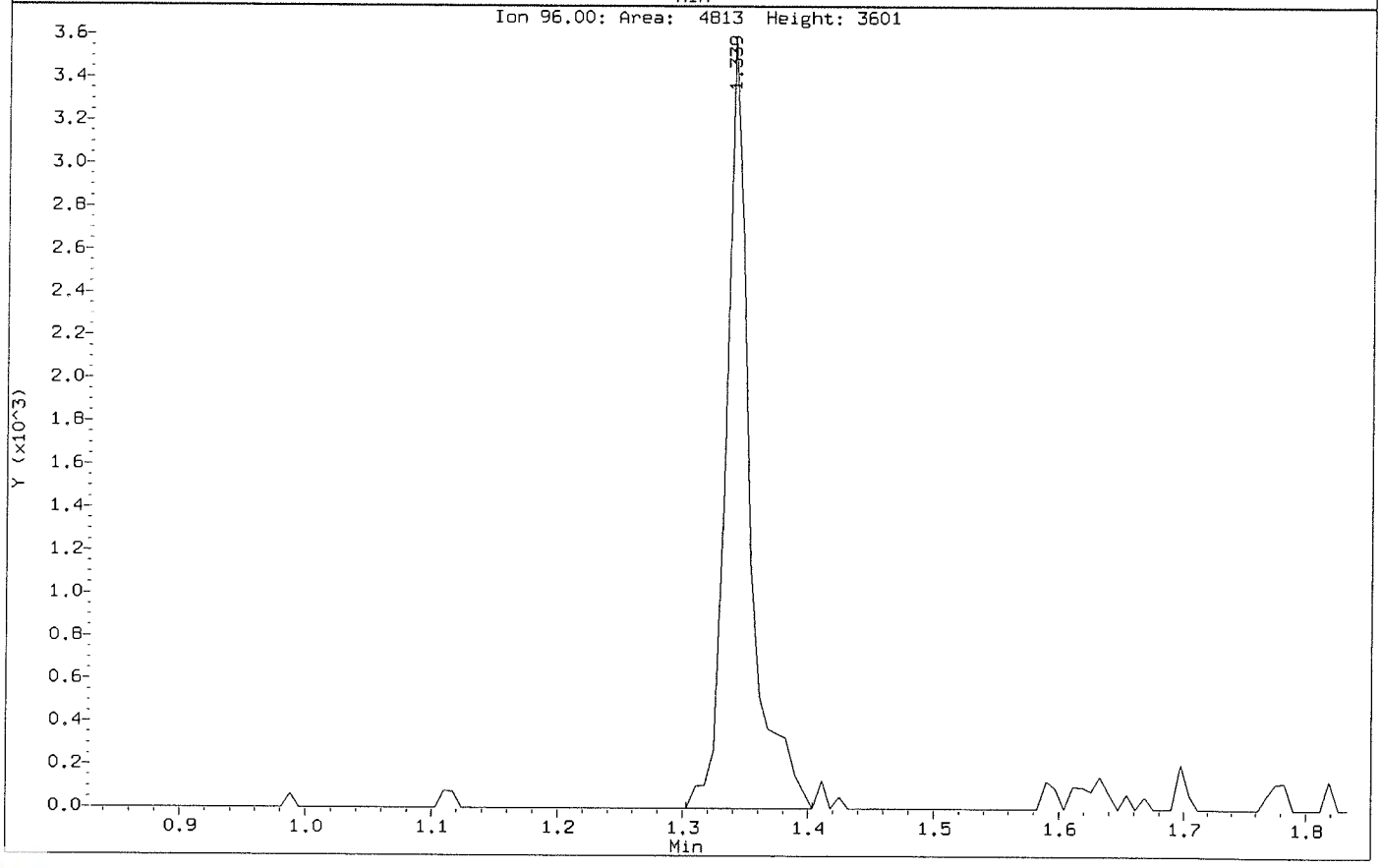




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

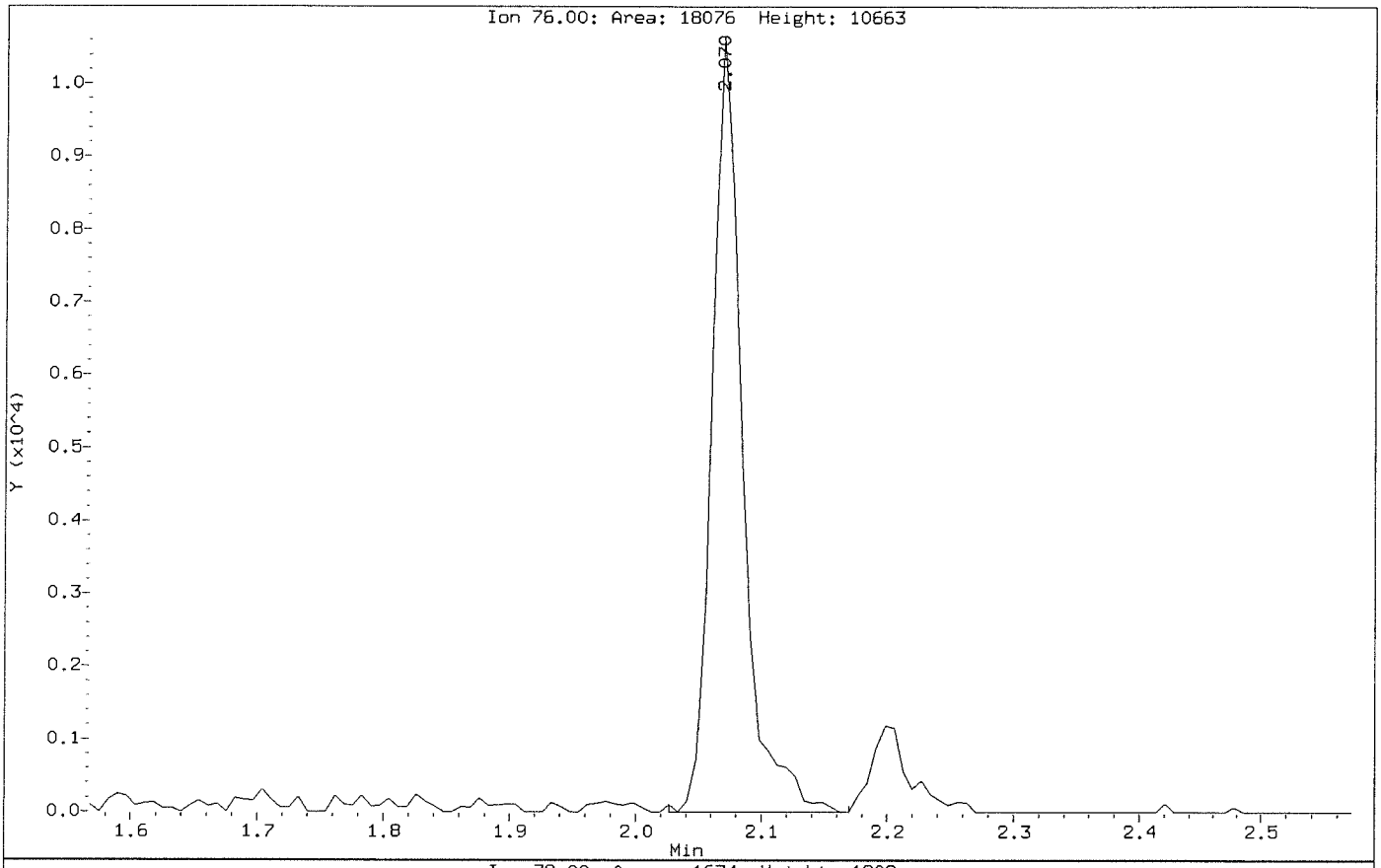
Compound: Bromomethane
CAS Number: 74-83-9

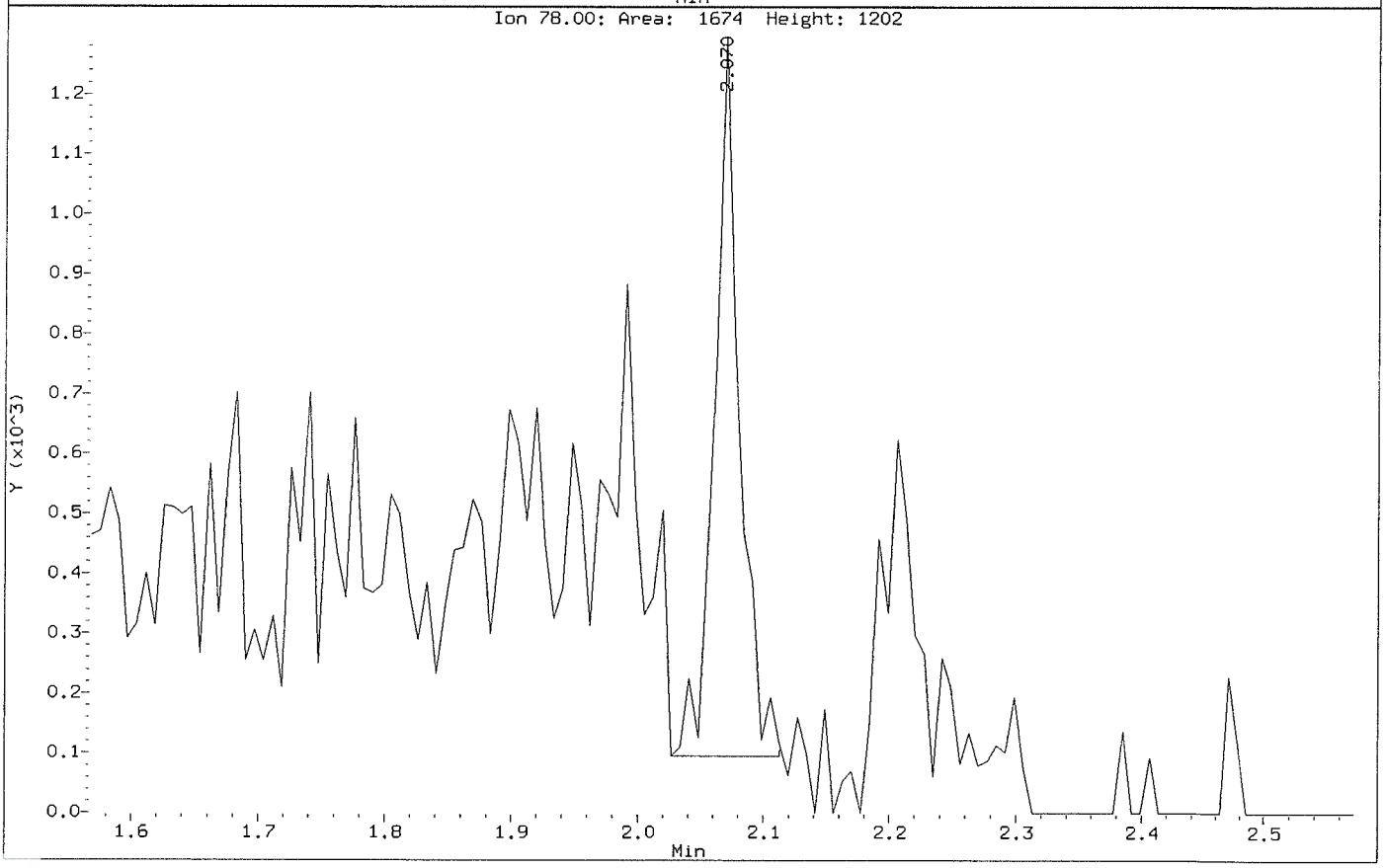




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

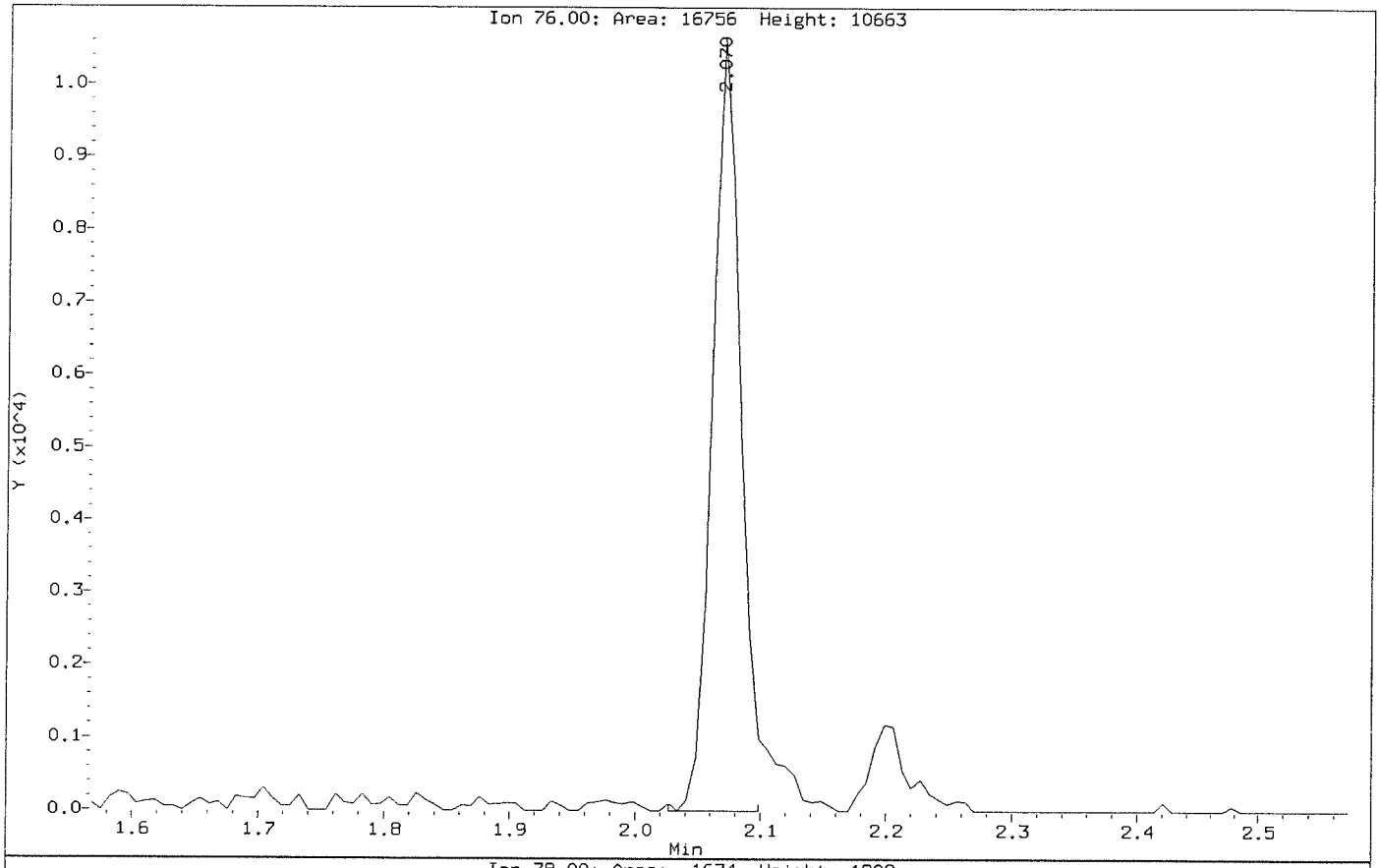
Compound: Carbon Disulfide
CAS Number: 75-15-0

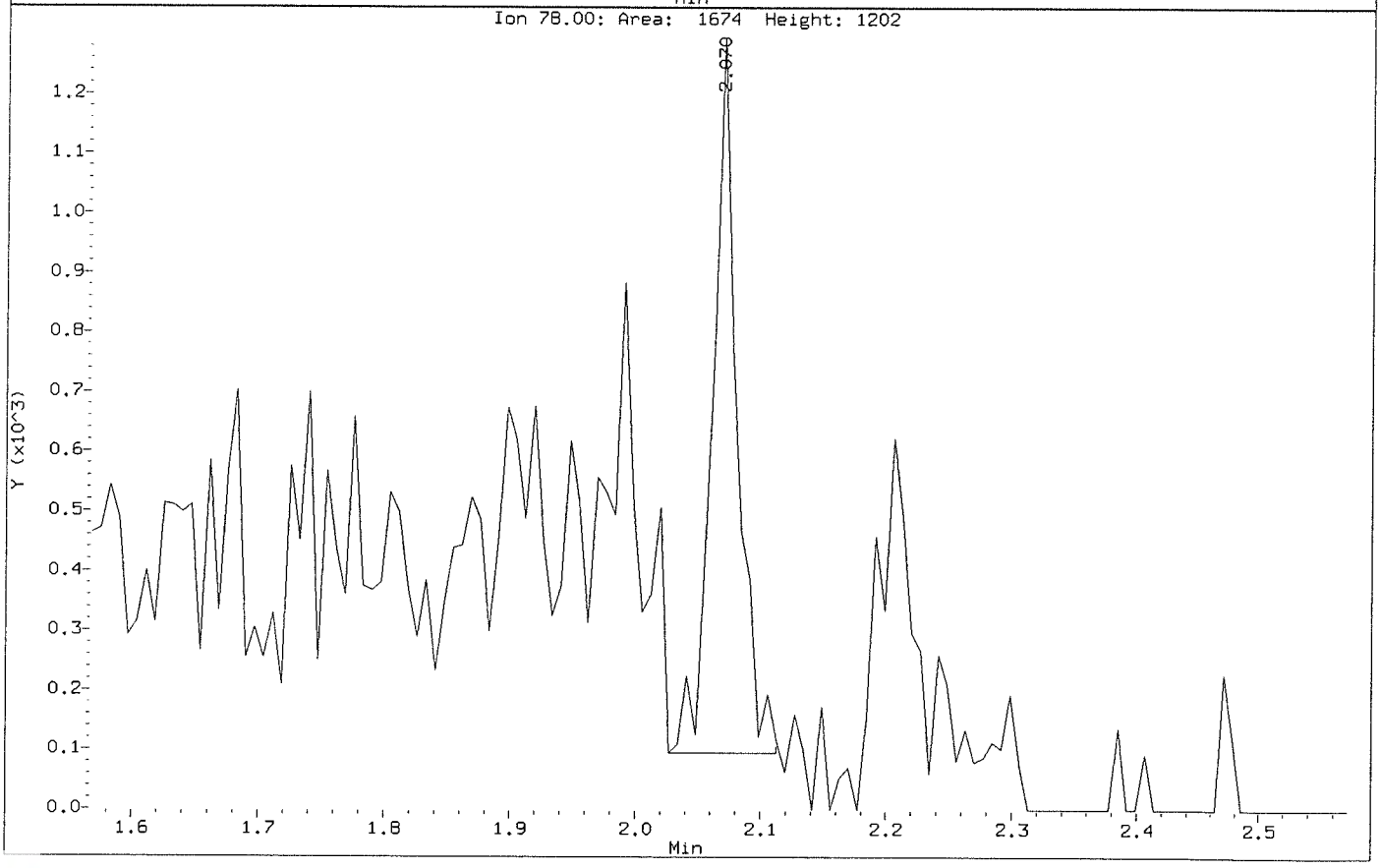




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

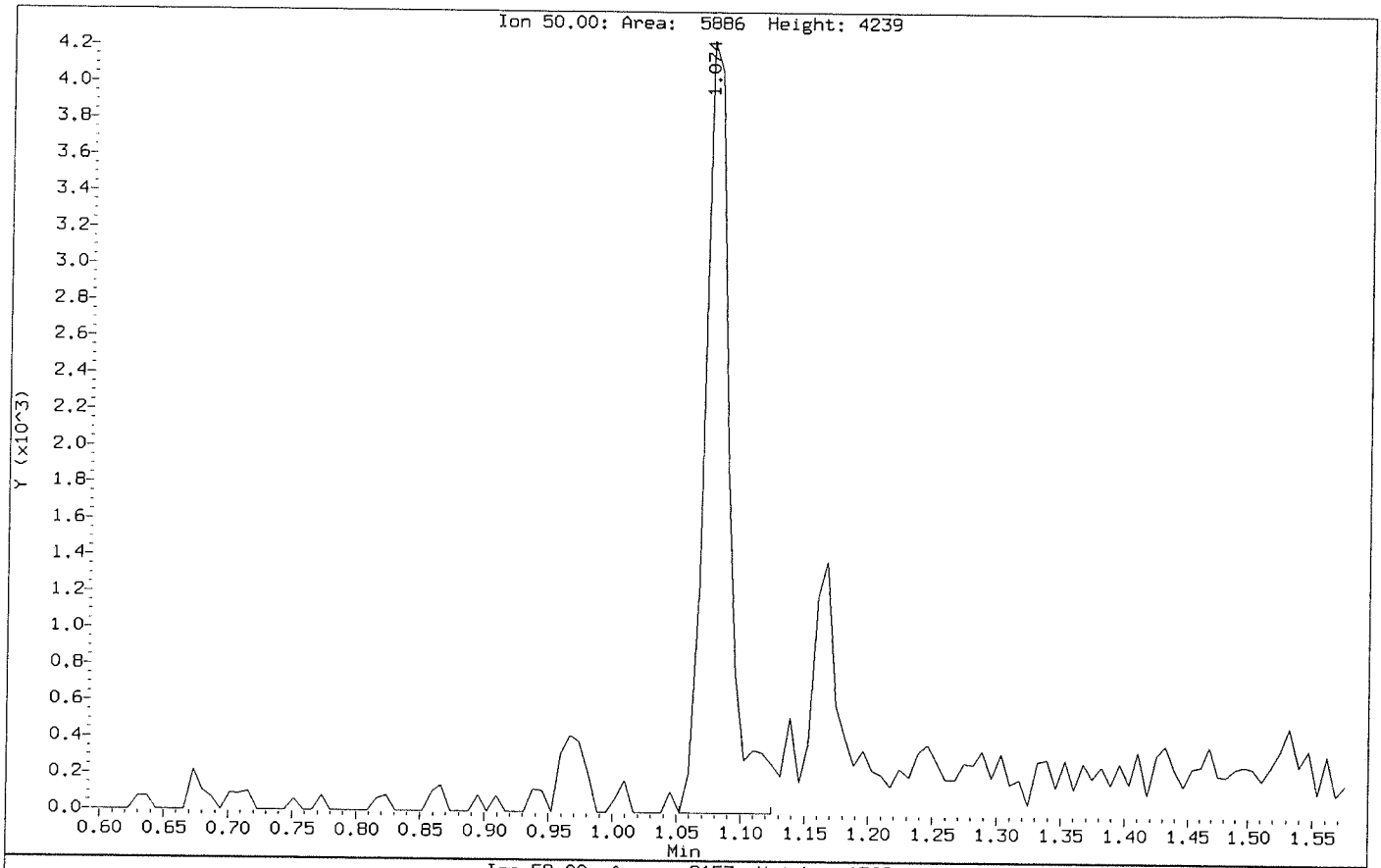
Compound: Carbon Disulfide
CAS Number: 75-15-0

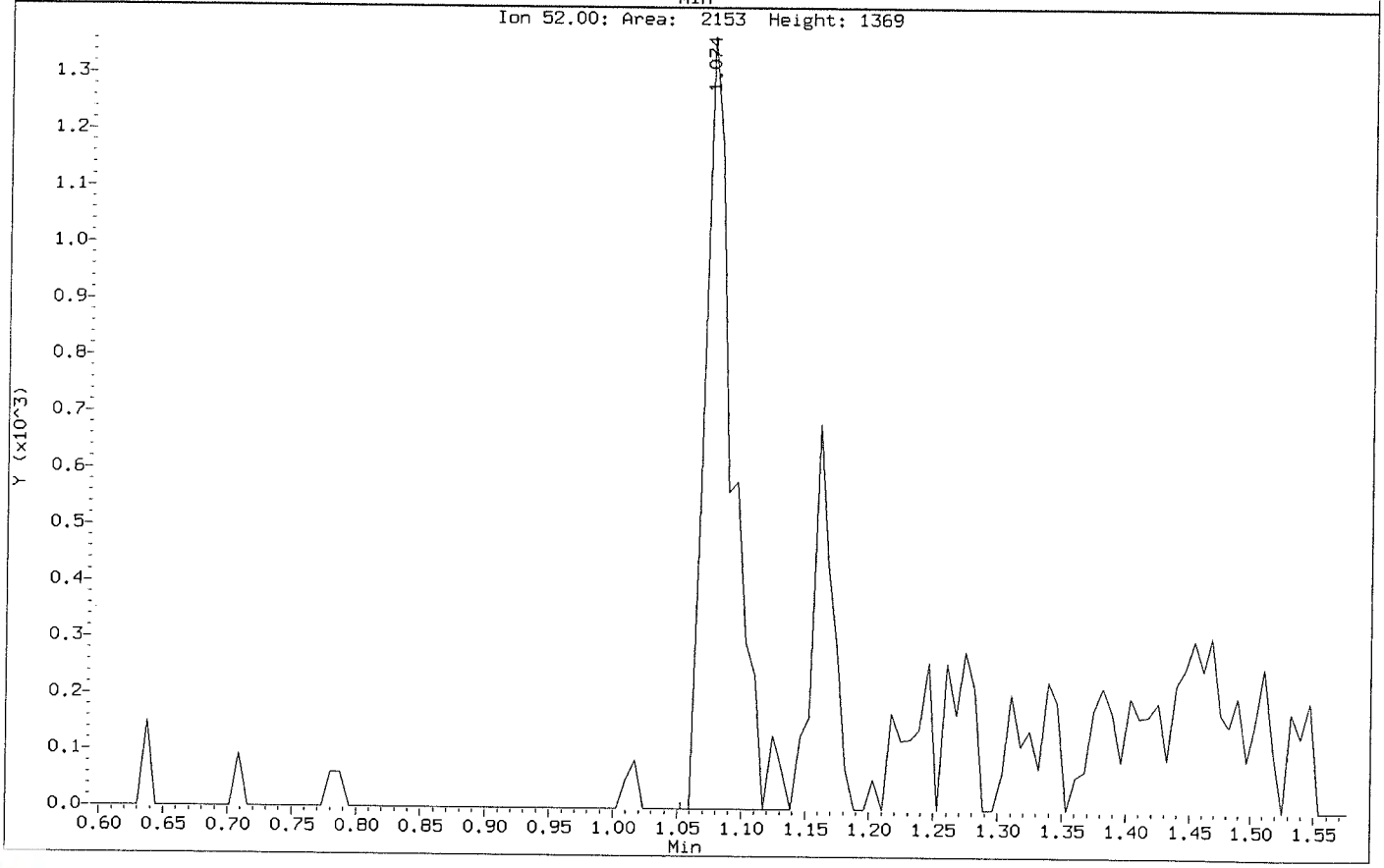




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

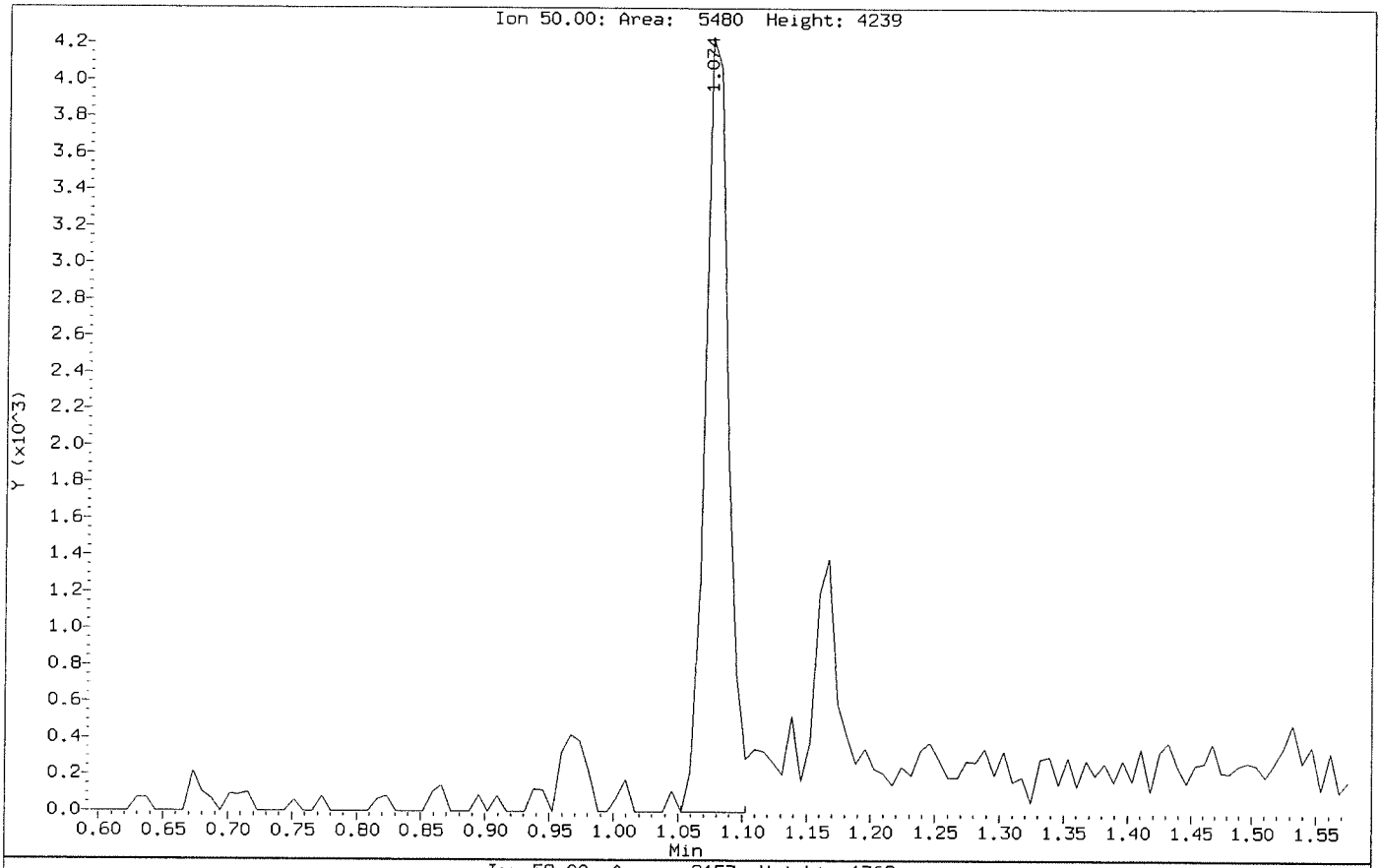
Compound: Chloromethane
CAS Number: 74-87-3

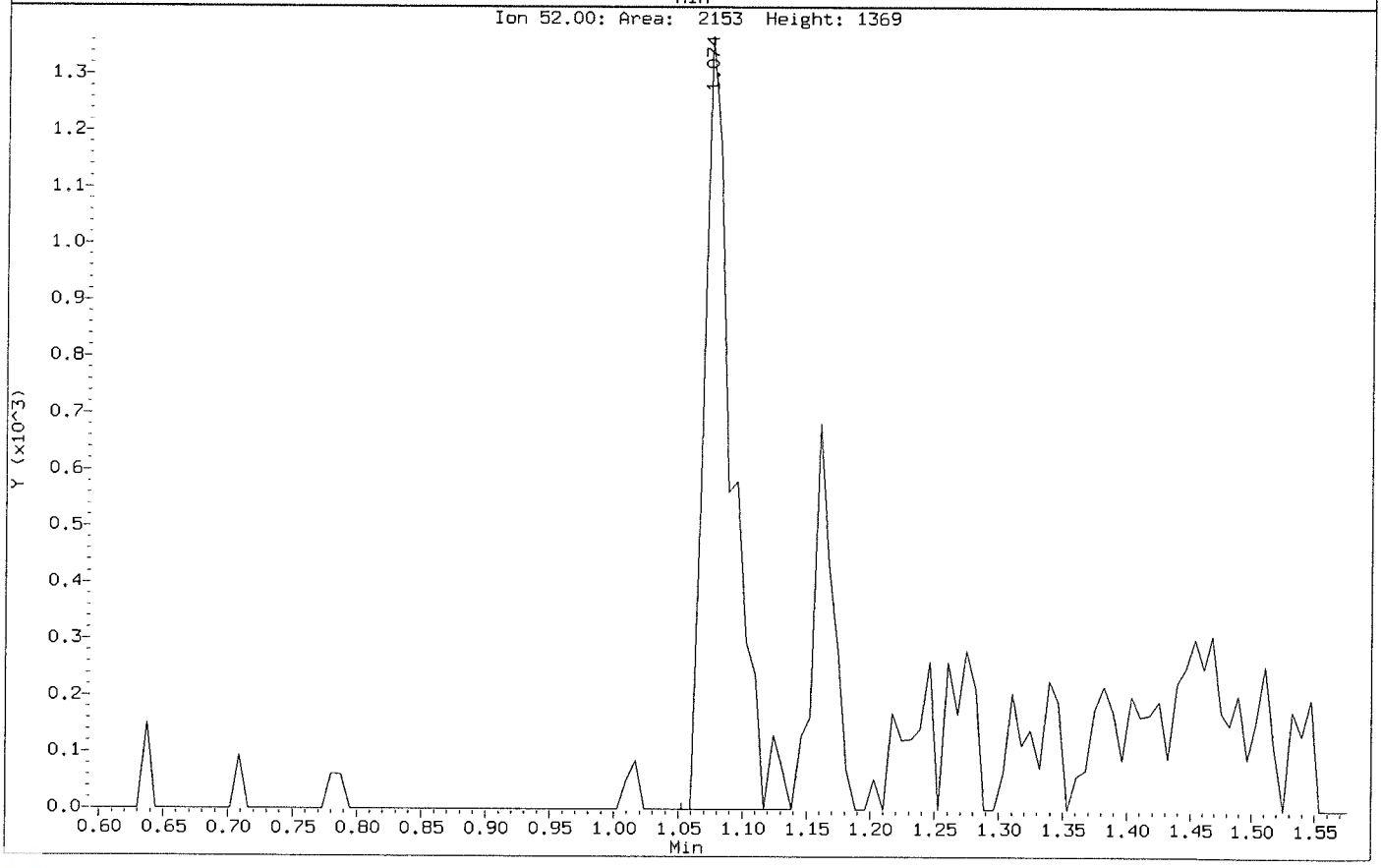




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

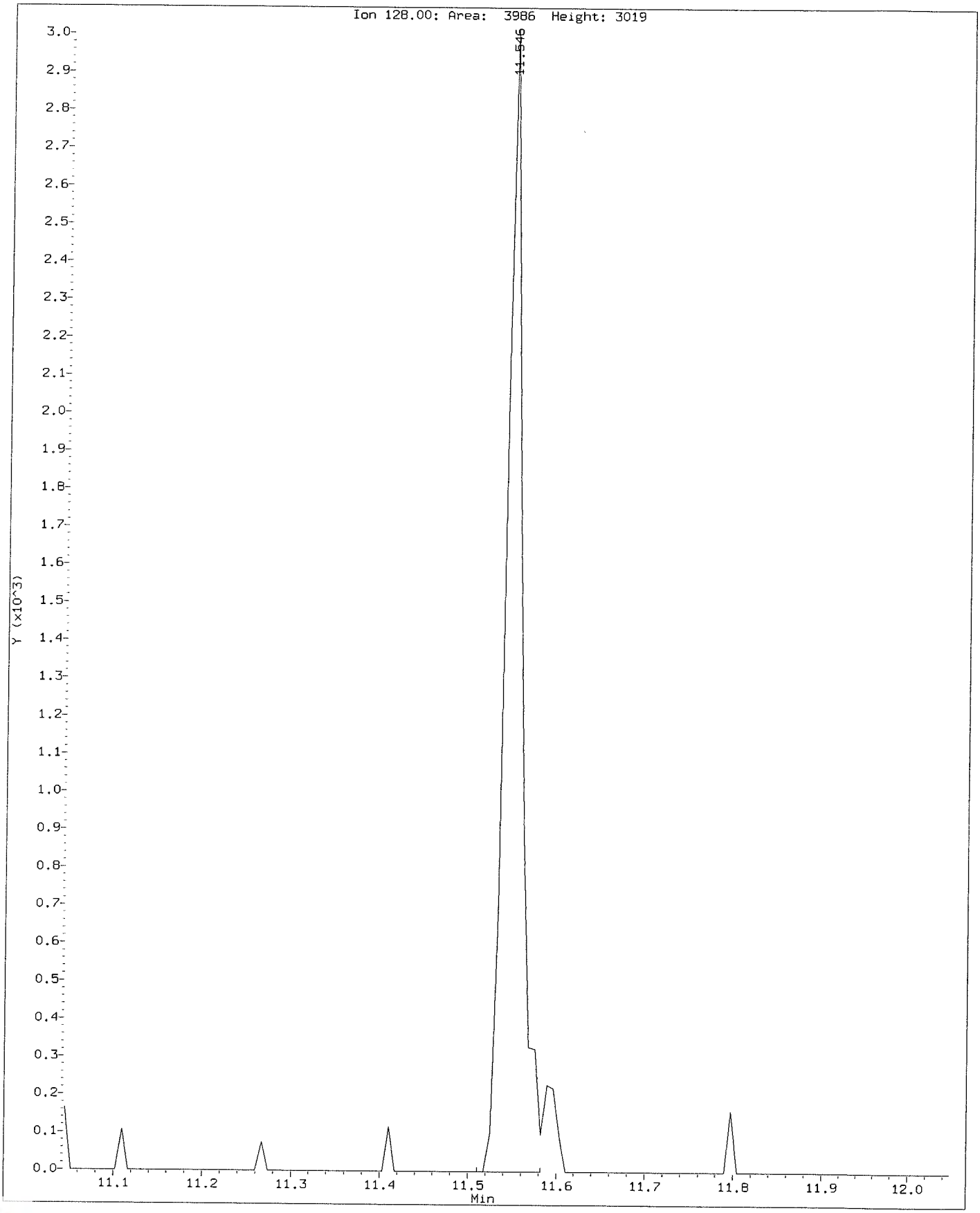
Compound: Chloromethane
CAS Number: 74-87-3





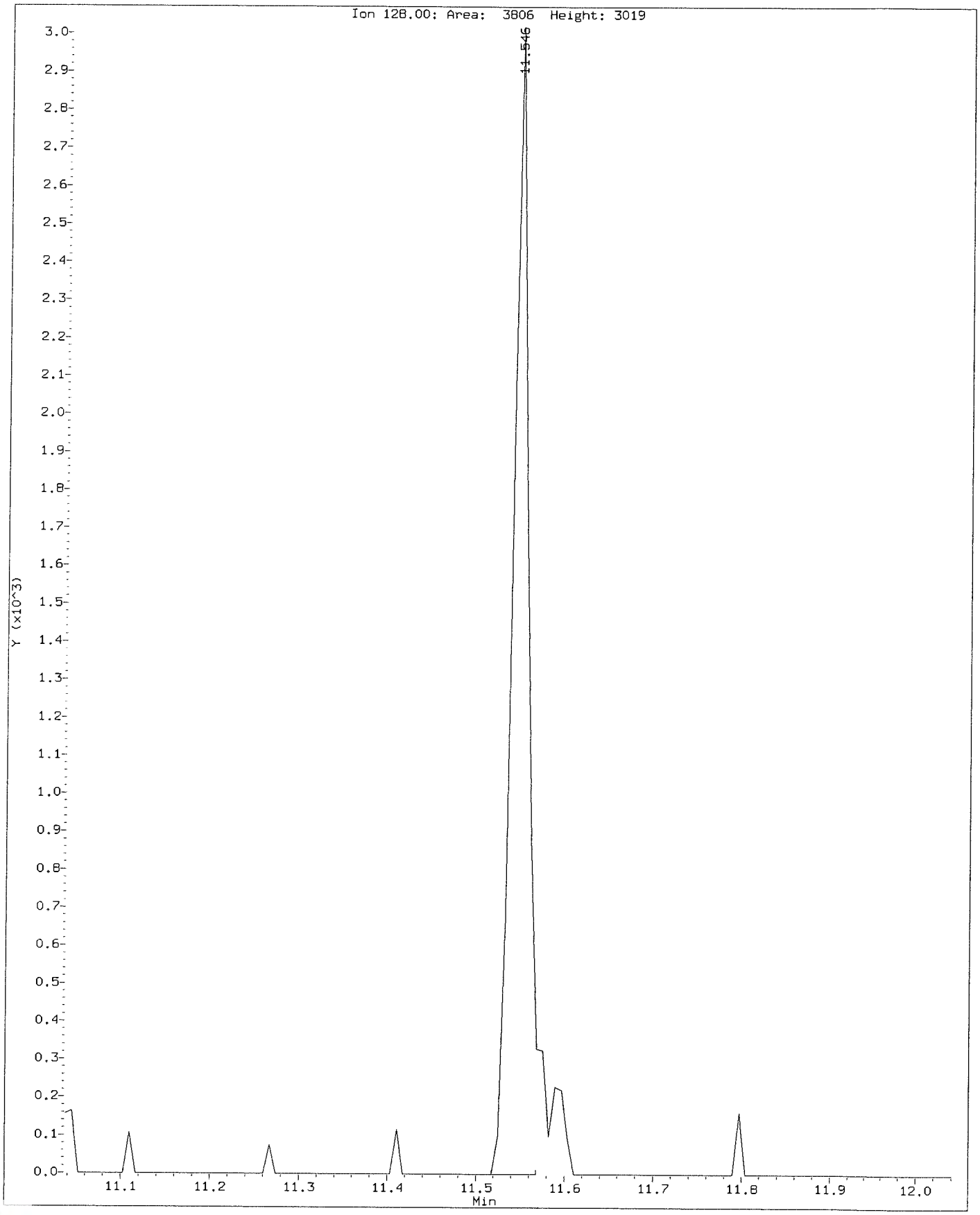
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Naphthalene
CAS Number: 91-20-3



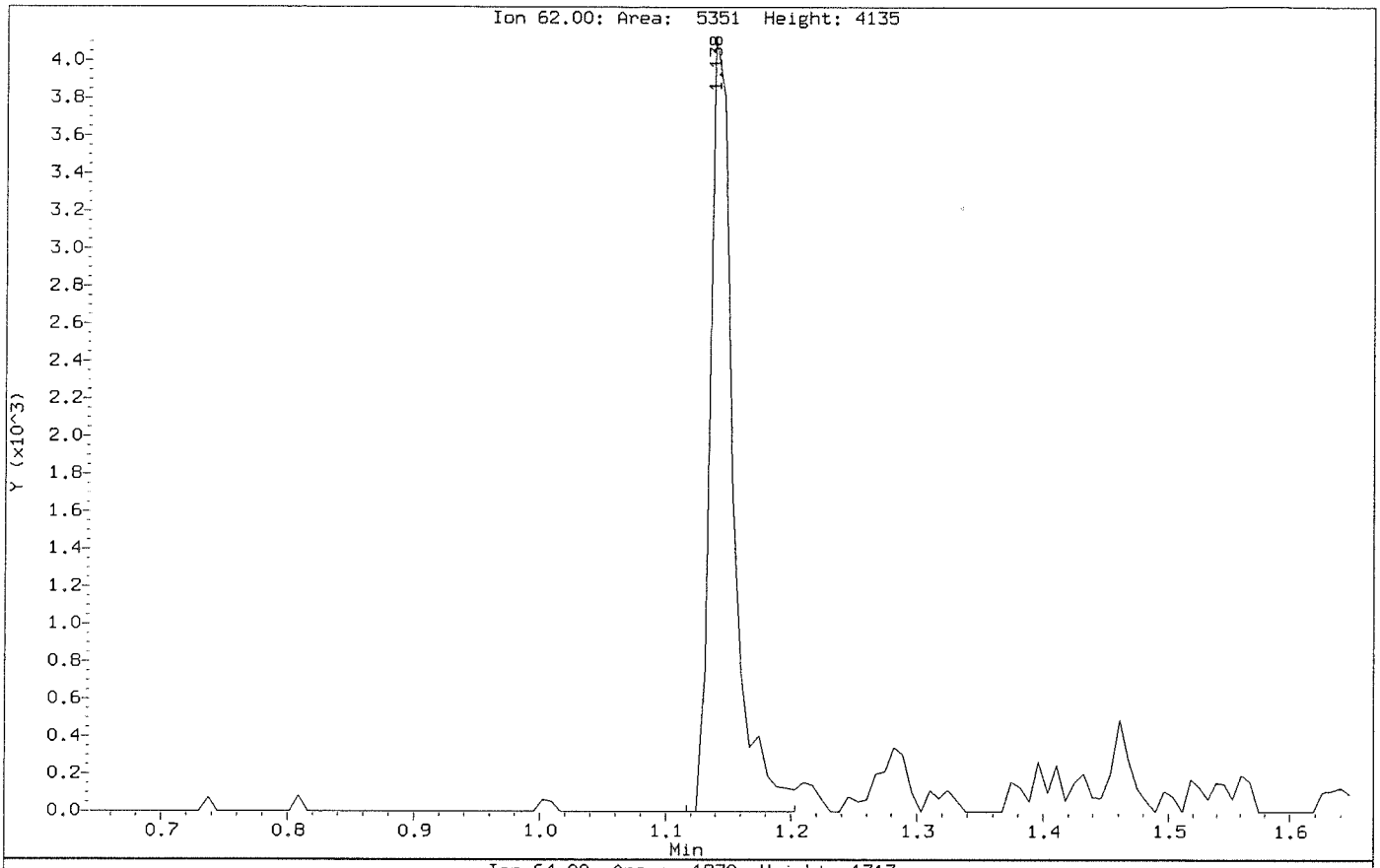
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

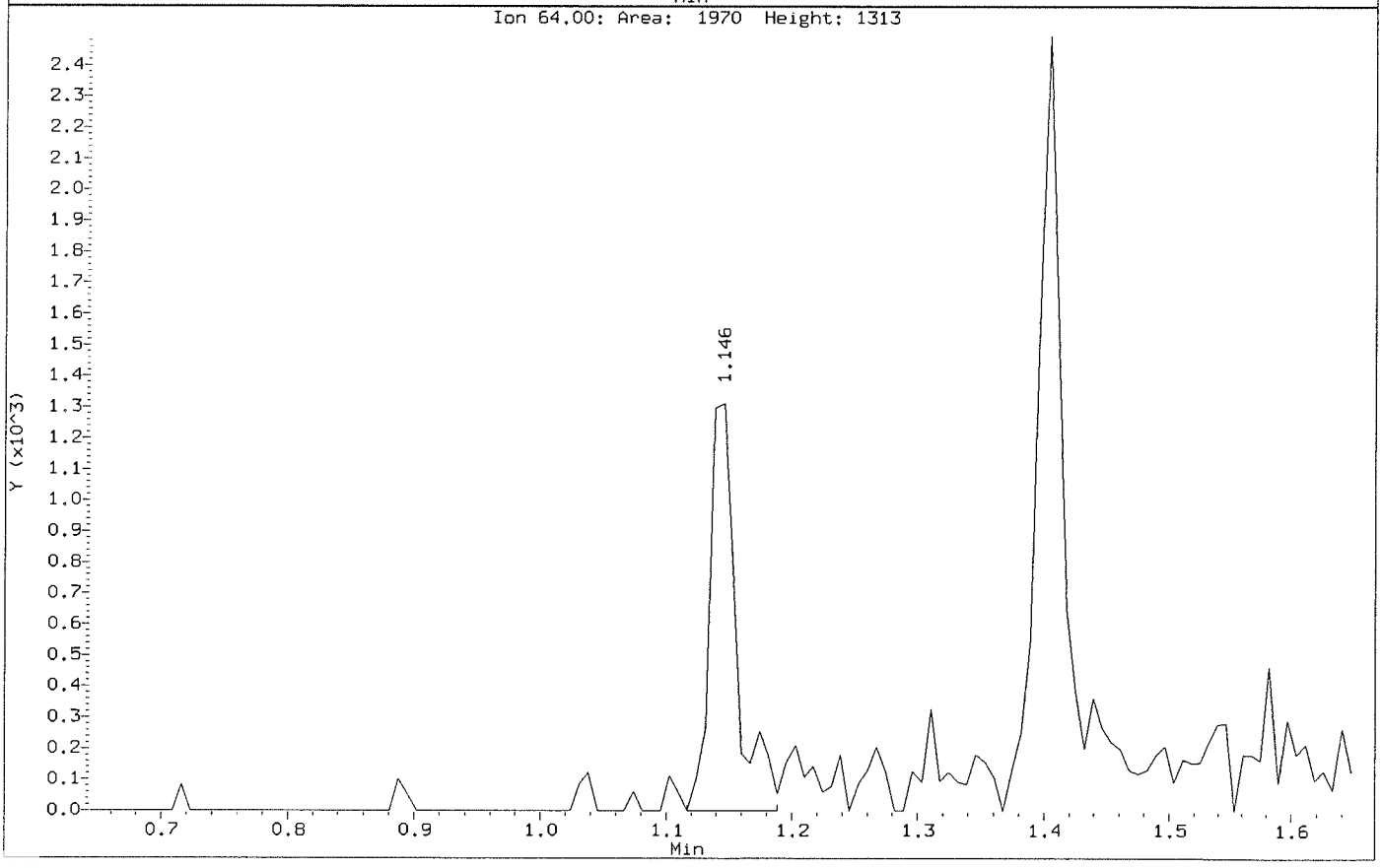
Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

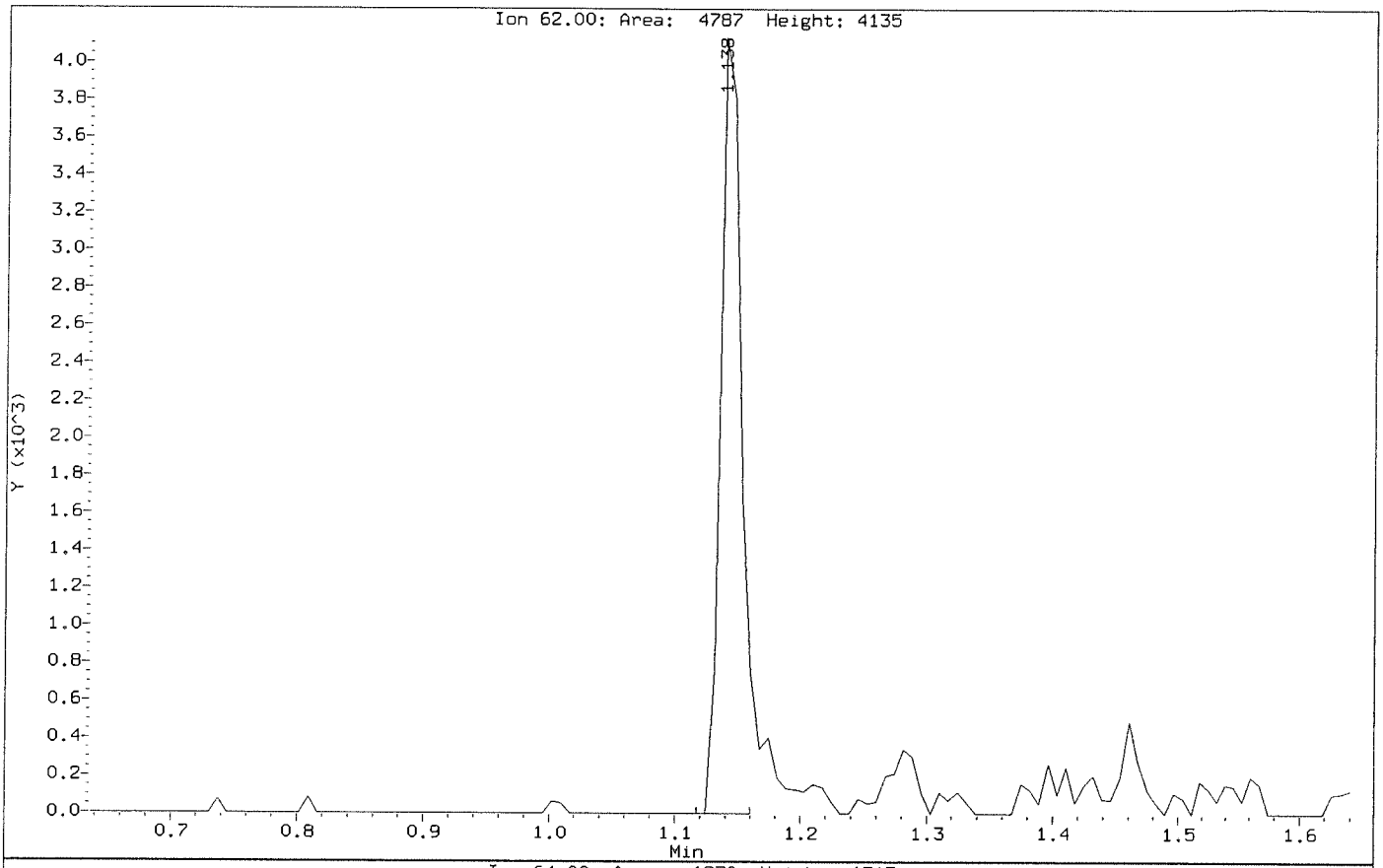
Compound: Vinyl Chloride
CAS Number: 75-01-4

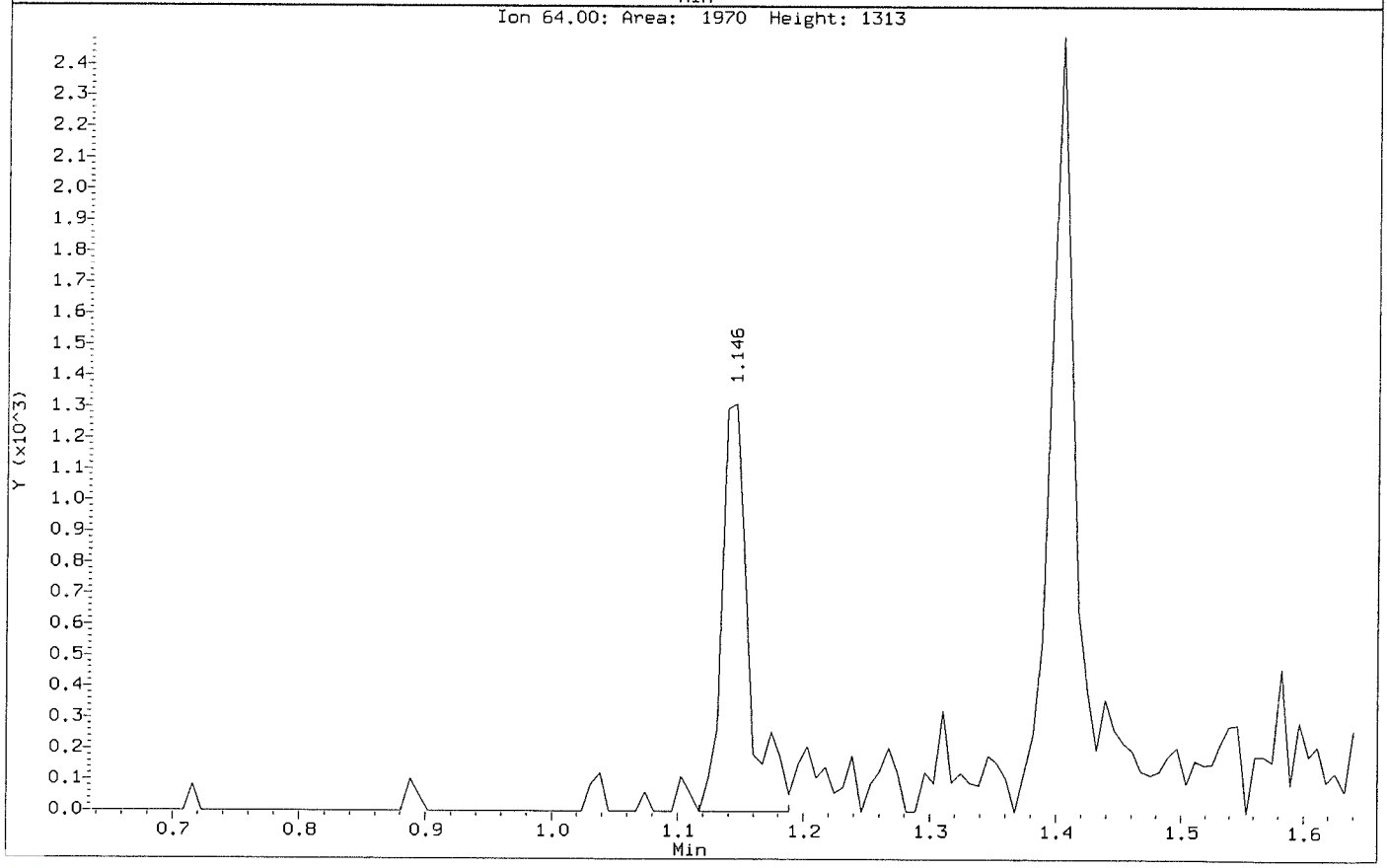




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 03-DEC-2020 12:25
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 12:04 Cal File: X120304.D
Als bottle: 6 Calibration Sample, Level: 4
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

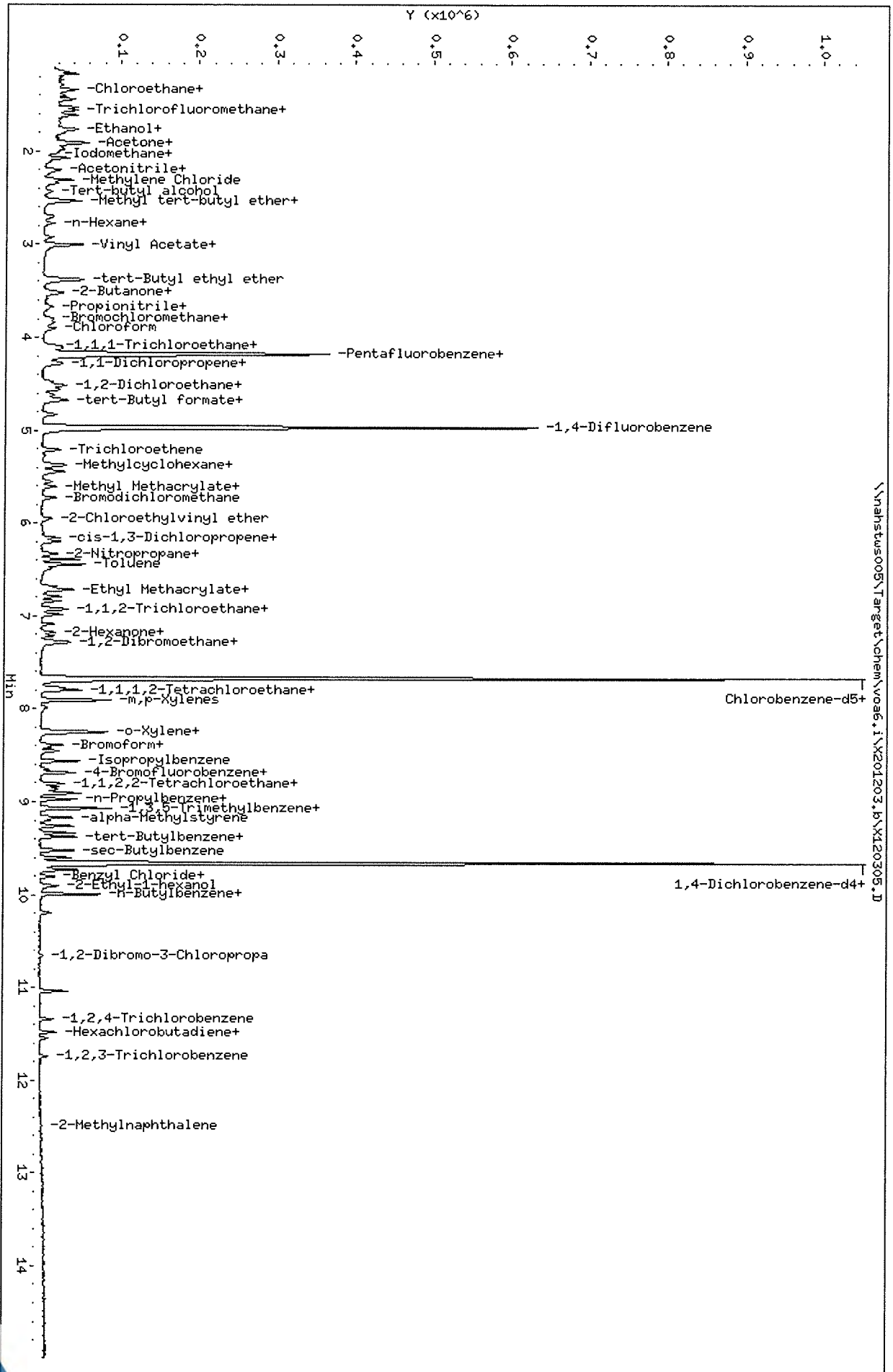
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	266332	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	471771	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	432846	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	198621	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	7182	2.00000	1.85(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	10141	2.00000	1.50(a)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	23817	2.00000	2.45(a)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	12242	2.00000	2.67(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	5910	2.00000	1.88(a)
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	11072	2.00000	1.99(a)
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	8560	2.00000	2.12(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	5641	2.00000	2.04(a)
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	11965	2.00000	1.87(a)
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	7786	2.00000	1.92(a)
32 1,1-Dichloropropene	75	4.283	4.283	(0.863)	9379	2.00000	2.05(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	2368	2.00000	2.24(a)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	9130	2.00000	1.99(a)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	4136	2.00000	2.21(a)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	19505	2.00000	1.80(a)
89 1,2-Dibromo-3-Chloropropane	155	10.651	10.651	(1.102)	853	2.00000	2.04(a)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	5966	2.00000	1.79(a)
88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	11368	2.00000	1.97(a)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D Page 2
Report Date: 22-Dec-2020 16:32

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	(0.919)	11513	2.00000	2.15(a)
42 1,2-Dichloropropane	63	5.443	5.443	(1.097)	6819	2.00000	1.92(aM)
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	20713	2.00000	1.85(a)
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	11987	2.00000	1.95(a)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	11285	2.00000	2.07(a)
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	13097	2.00000	2.12(a)
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	11381	2.00000	2.03(a)
24 2-Butanone	43	3.588	3.588	(0.858)	6004	4.00000	4.84(a)
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	18403	2.00000	1.94(a)
52 2-Hexanone	43	7.090	7.090	(0.924)	9842	4.00000	4.54(a)
77 4-Chlorotoluene	91	9.067	9.067	(0.938)	20448	2.00000	1.75(a)
82 p-Isopropyltoluene	119	9.648	9.648	(0.999)	21455	2.00000	1.97(a)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	13373	4.00000	4.22(a)
10 Acetone	43	1.976	1.976	(0.473)	10587	4.00000	2.38(a)
37 Benzene	78	4.512	4.512	(0.909)	25517	2.00000	1.98(a)
74 Bromobenzene	156	8.810	8.810	(0.912)	6765	2.00000	1.92(a)
29 Bromochloromethane	128	3.795	3.795	(0.908)	4102	2.00000	2.14(a)
39 Bromodichloromethane	83	5.729	5.729	(1.154)	8831	2.00000	1.81(a)
66 Bromoform	173	8.416	8.416	(1.097)	3608	2.00000	1.82(Ta)
6 Bromomethane	94	1.339	1.339	(0.320)	9968	2.00000	2.65(aM)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	35038	4.00000	3.97(a)
34 Carbon Tetrachloride	117	4.268	4.268	(0.860)	7282	2.00000	1.90(a)
59 Chlorobenzene	112	7.692	7.692	(1.003)	18160	2.00000	2.04(a)
7 Chloroethane	64	1.403	1.403	(0.336)	6620	2.00000	2.09(a)
28 Chloroform	83	3.910	3.910	(0.935)	13281	2.00000	1.93(a)
3 Chloromethane	50	1.074	1.074	(0.257)	10331	2.00000	3.11(a)
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	7737	2.00000	2.06(a)
46 cis-1,3-Dichloropropene	75	6.152	6.152	(1.240)	12019	2.00000	1.98(a)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	7016	2.00000	1.99(a)
44 Dibromomethane	93	5.558	5.558	(1.120)	4395	2.00000	1.83(a)
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	7432	2.00000	4.52(a)
61 Ethylbenzene	106	7.800	7.800	(1.017)	8337	2.00000	1.91(a)
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	2432	2.00000	4.19(a)
67 Isopropylbenzene	105	8.559	8.559	(1.116)	27024	2.00000	2.01(a)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	21500	4.00000	3.79(a)
17 Methylene Chloride	84	2.306	2.306	(0.551)	7777	2.00000	2.17(aM)
87 n-Butylbenzene	91	9.999	9.999	(1.035)	19960	2.00000	3.38(a)
73 n-Propylbenzene	91	8.910	8.910	(0.922)	31476	2.00000	1.96(a)
92 Naphthalene	128	11.546	11.546	(1.195)	7186	2.00000	2.24(a)
63 o-Xylene	106	8.244	8.244	(1.075)	10391	2.00000	1.88(a)
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	25074	2.00000	1.96(a)
64 Styrene	104	8.258	8.258	(1.077)	16426	2.00000	1.74(a)
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	17004	2.00000	1.90(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	3902	2.00000	1.61(a)
50 Toluene	91	6.446	6.446	(0.840)	26481	2.00000	1.96(a)
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	6106	2.00000	1.91(a)
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	10072	2.00000	1.90(a)
38 Trichloroethene	130	5.214	5.214	(1.051)	6932	2.00000	2.01(a)
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	15127	2.00000	1.97(a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	9480	2.00000	2.00(aM)

QC Flag Legend

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

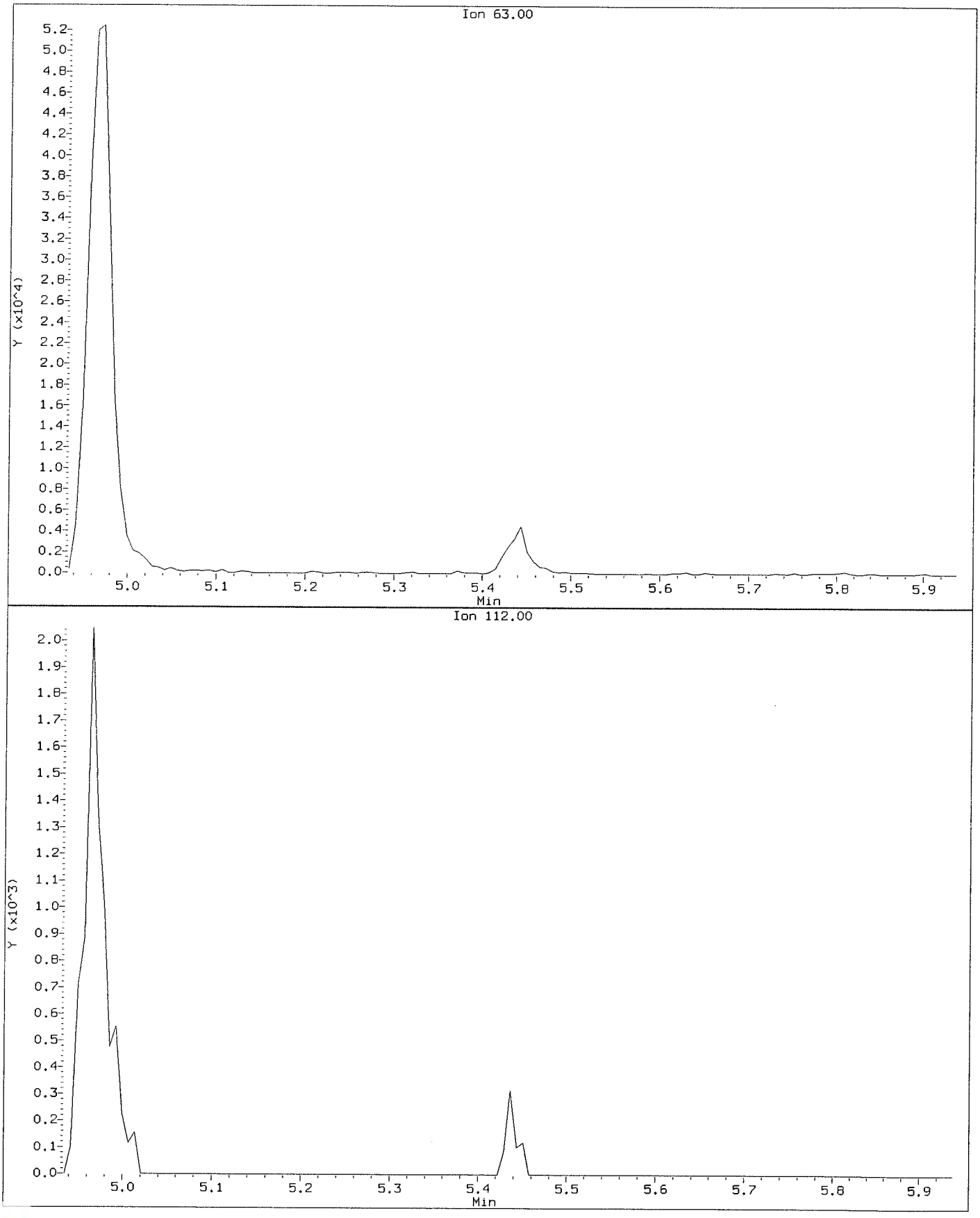


Data File: \\nahstws005\Target\chem\voa6,i\X201203,b\X120305.D
Date : 03-DEC-2020 12:25
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

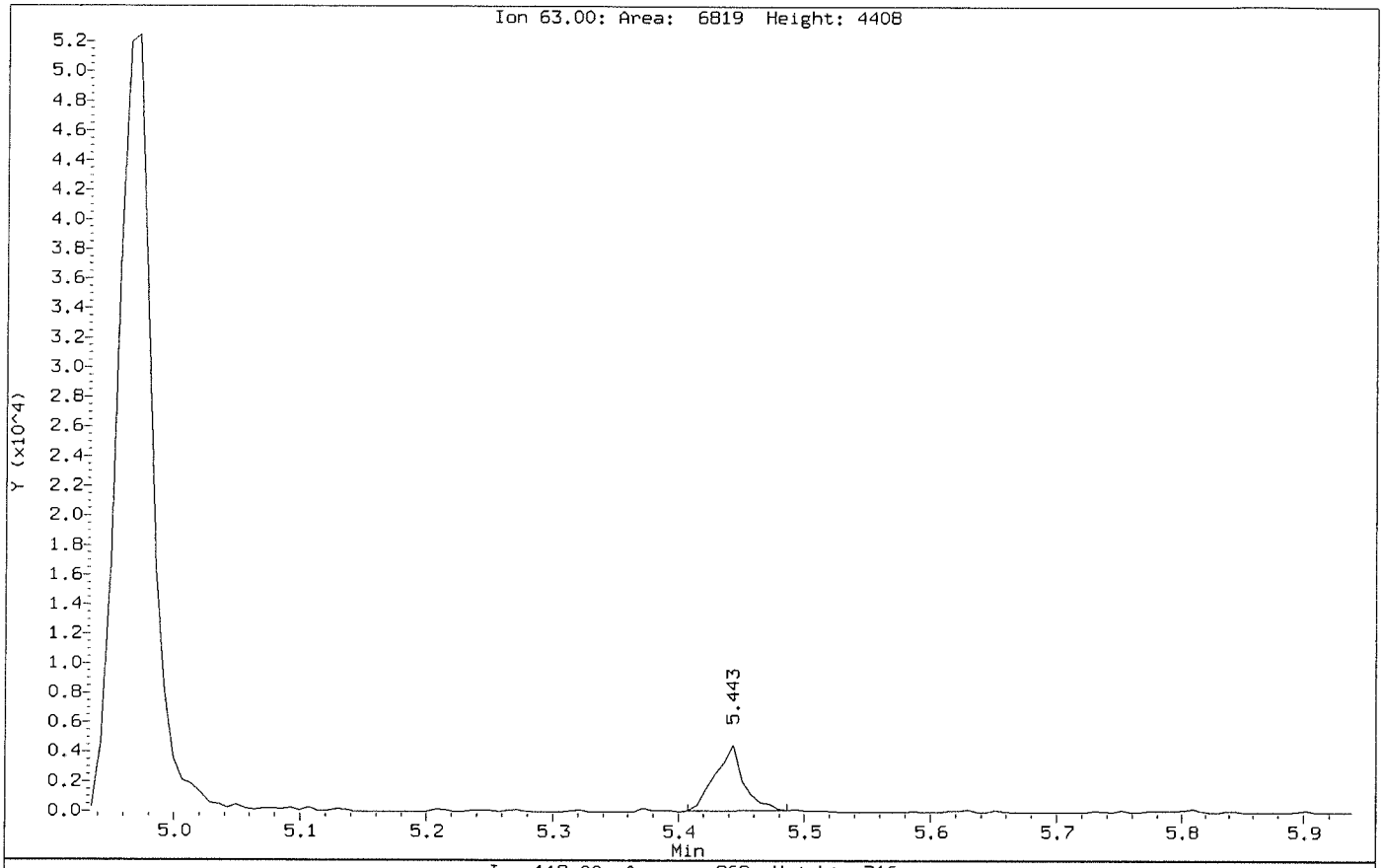
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

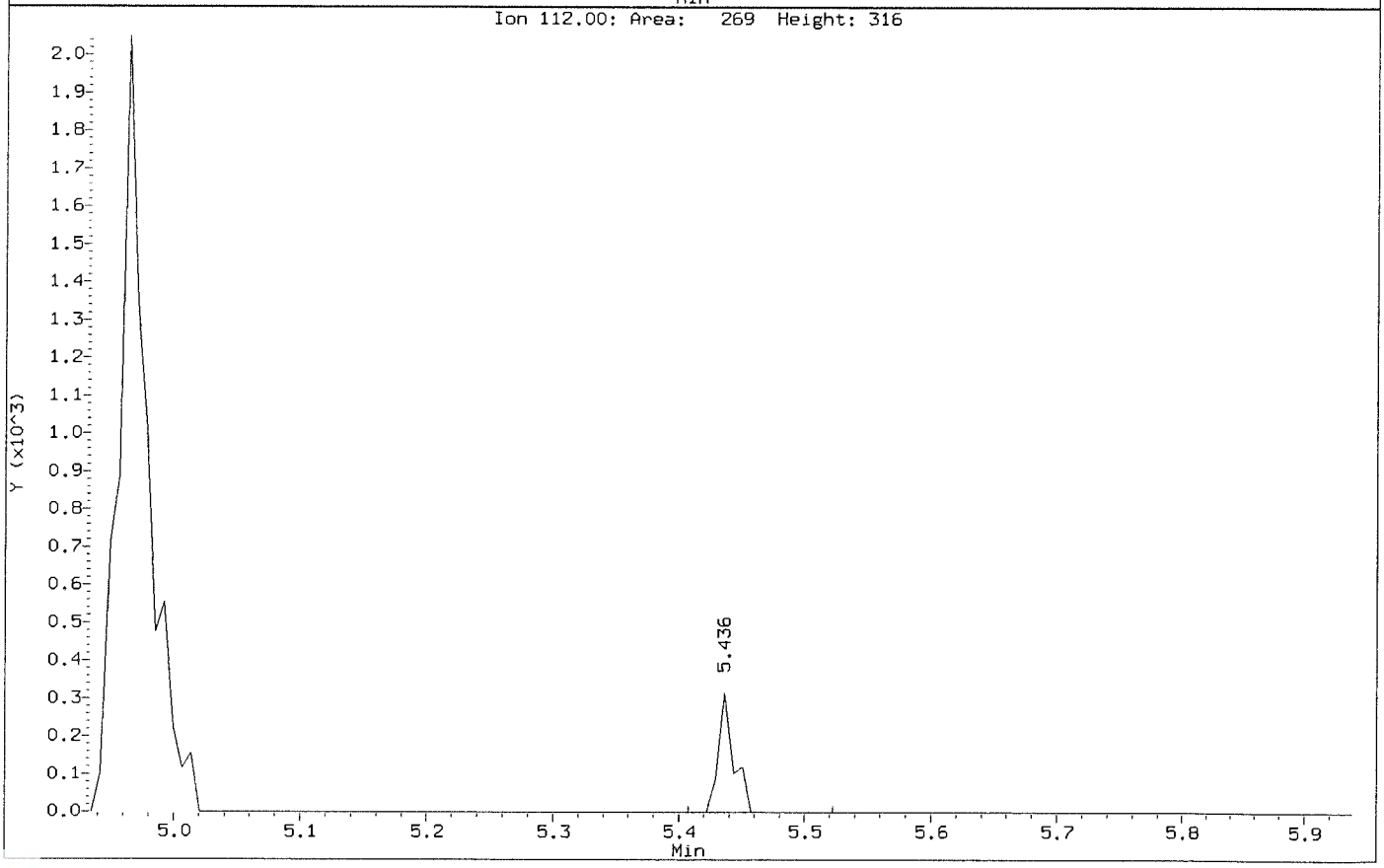
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

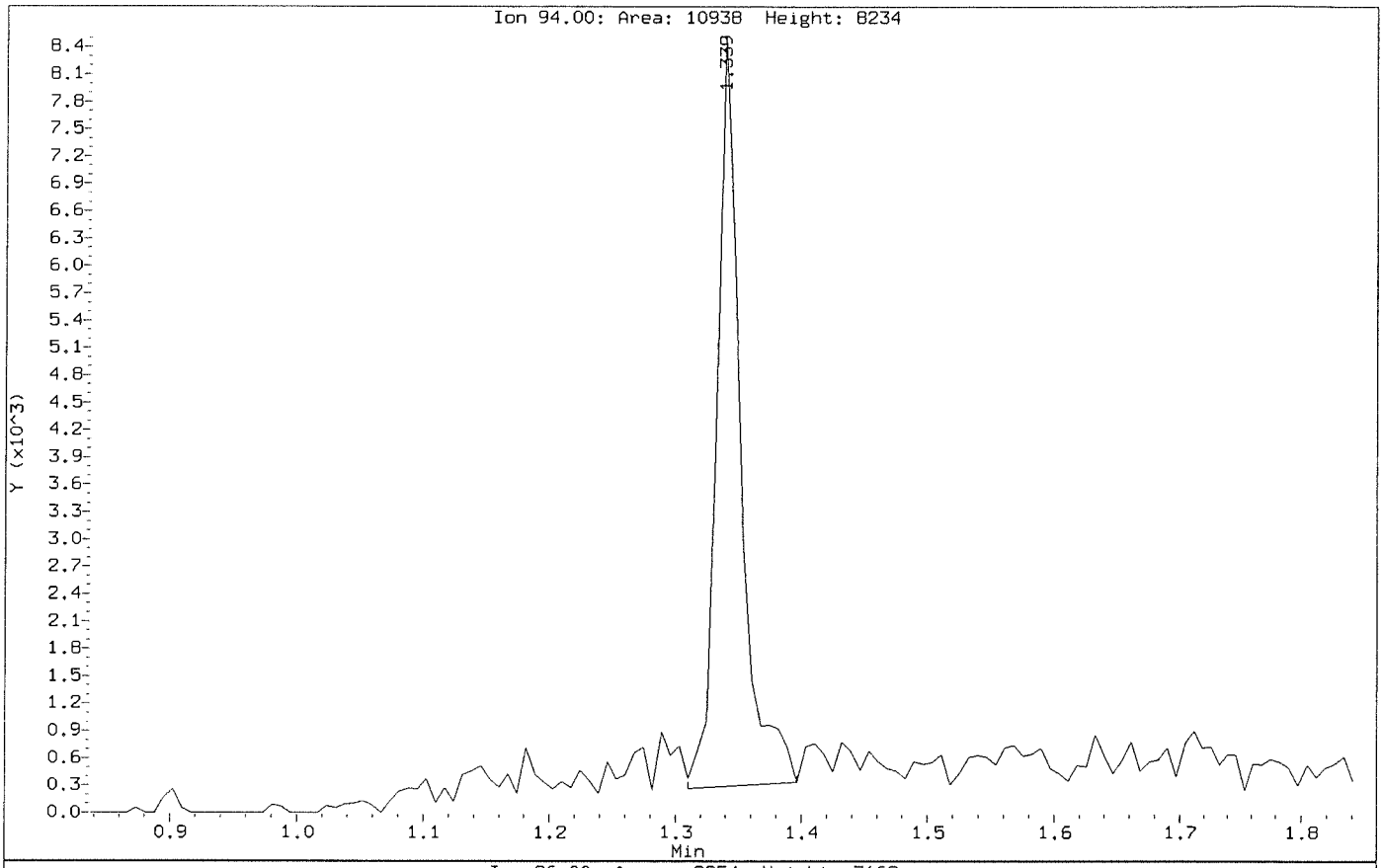
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

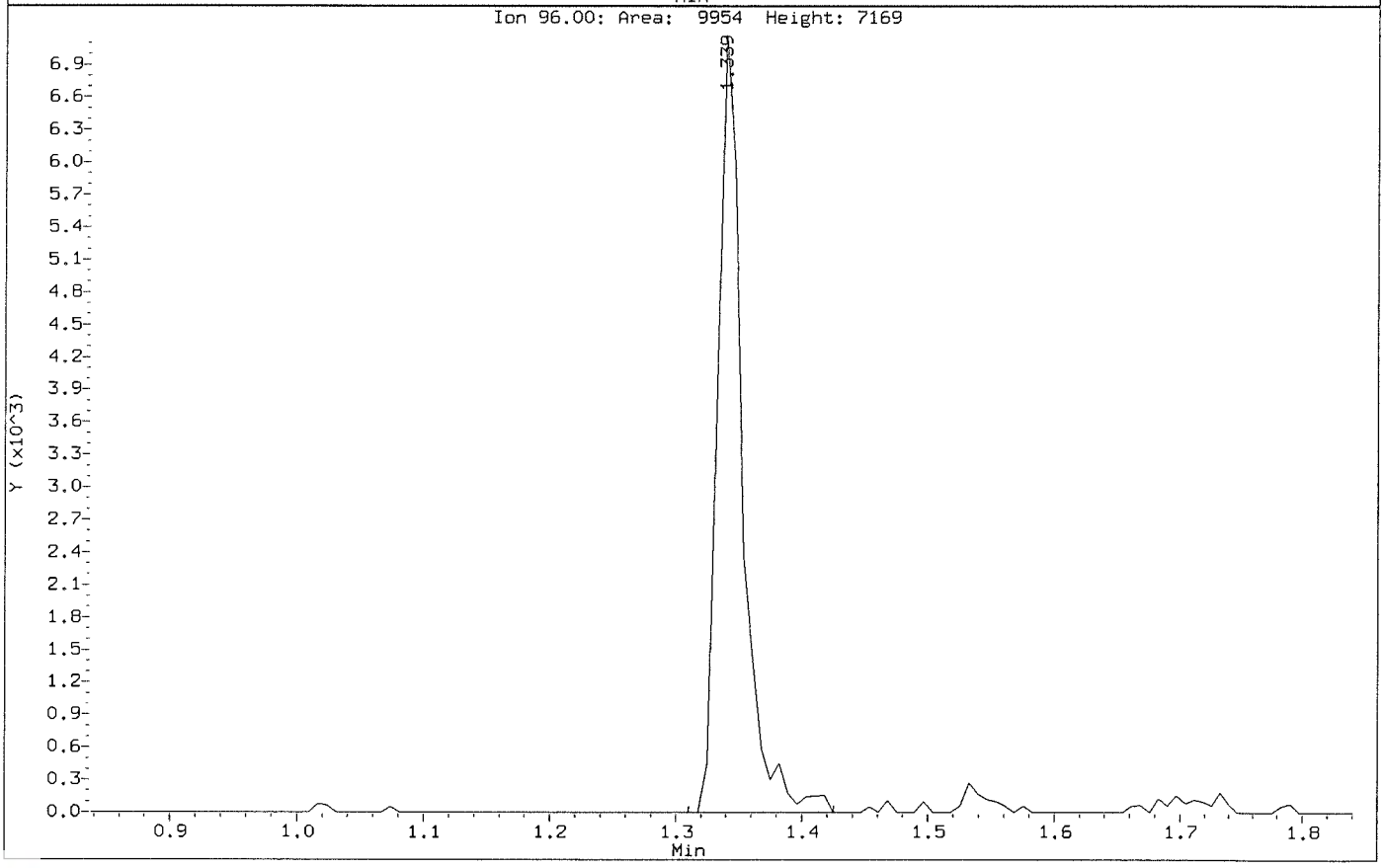




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

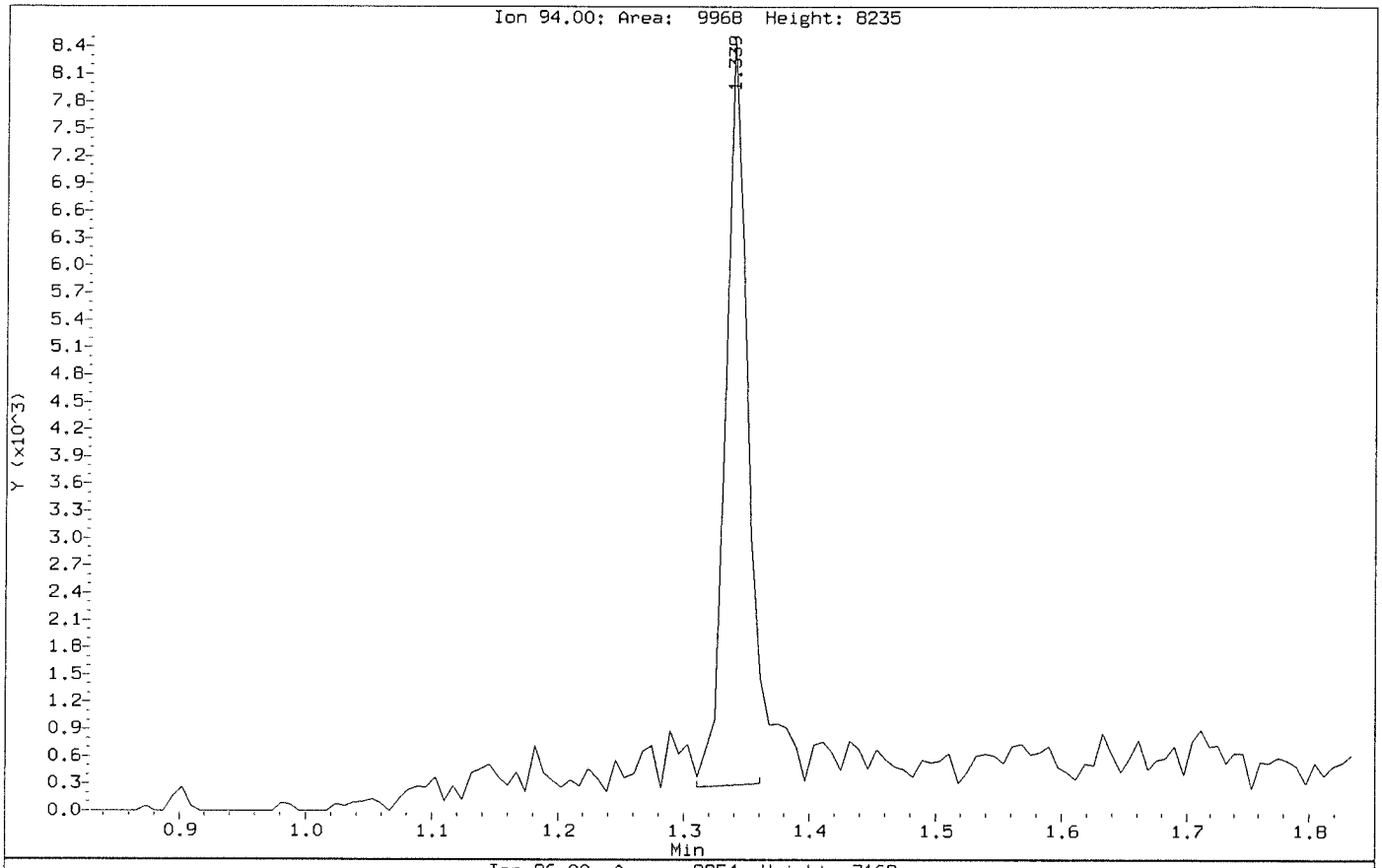
Compound: Bromomethane
CAS Number: 74-83-9

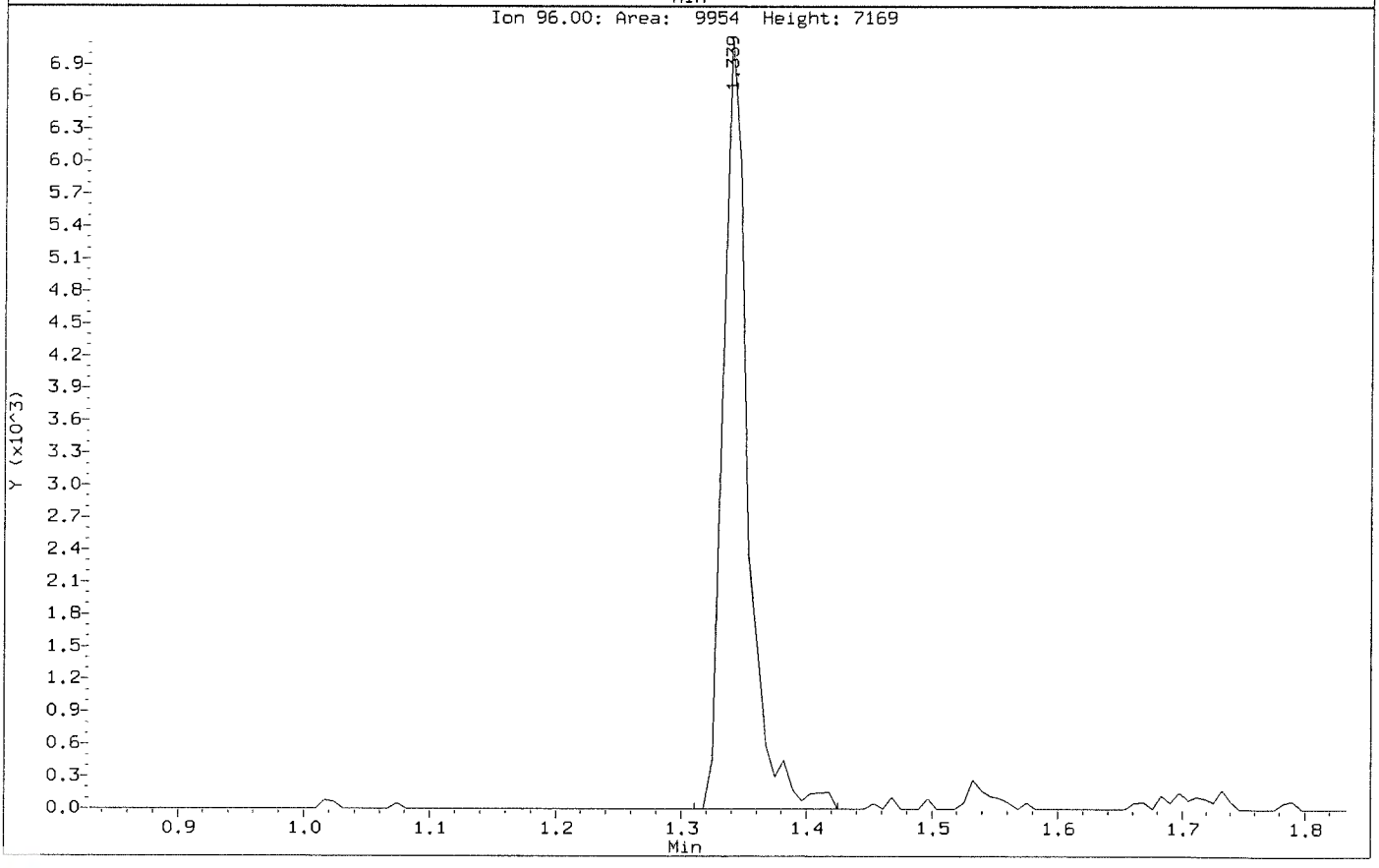




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

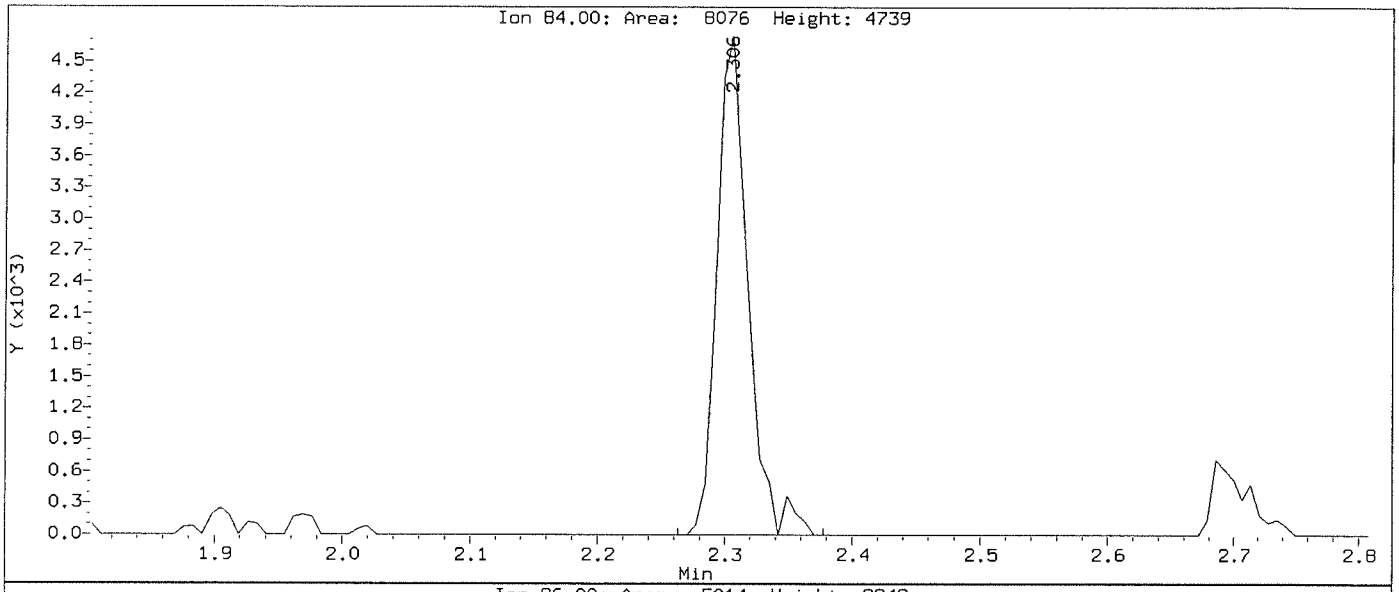
Compound: Bromomethane
CAS Number: 74-83-9

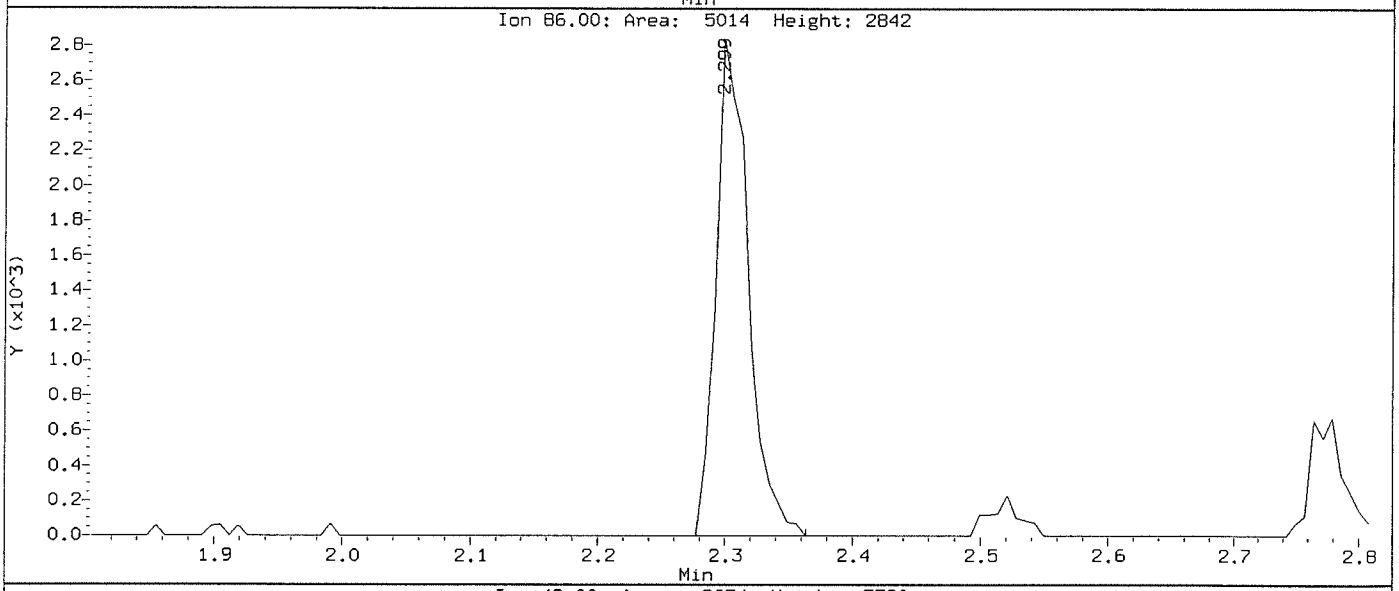


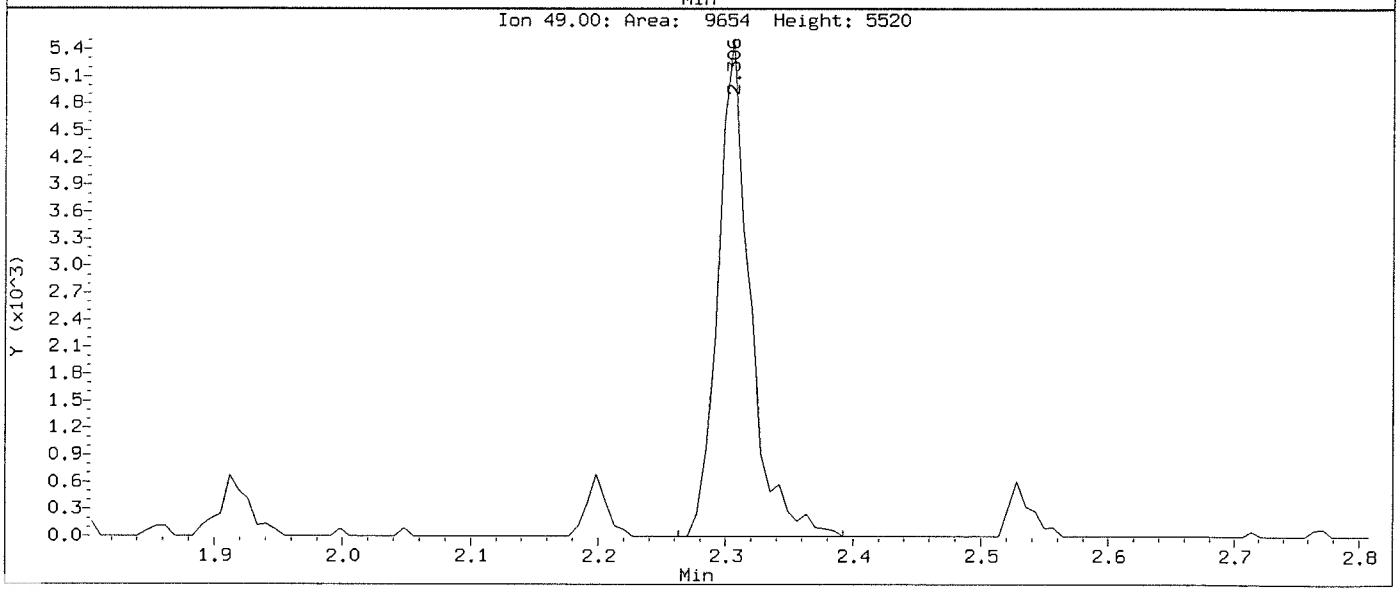


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Methylene Chloride
CAS Number: 75-09-2

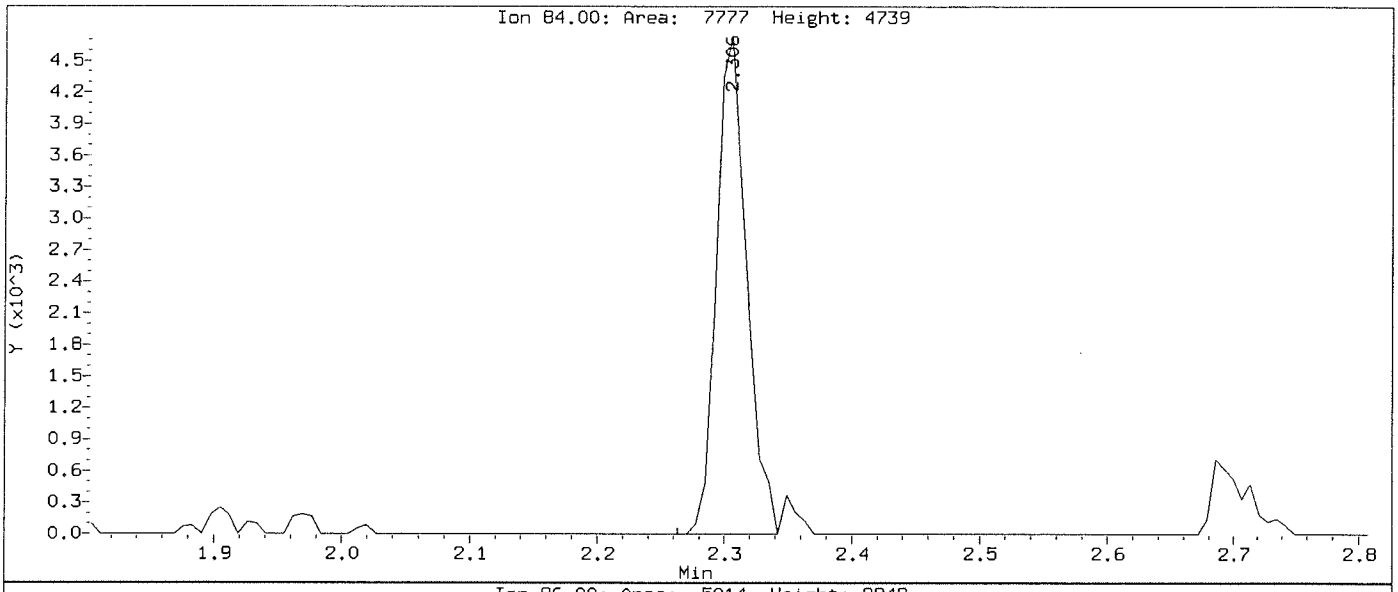


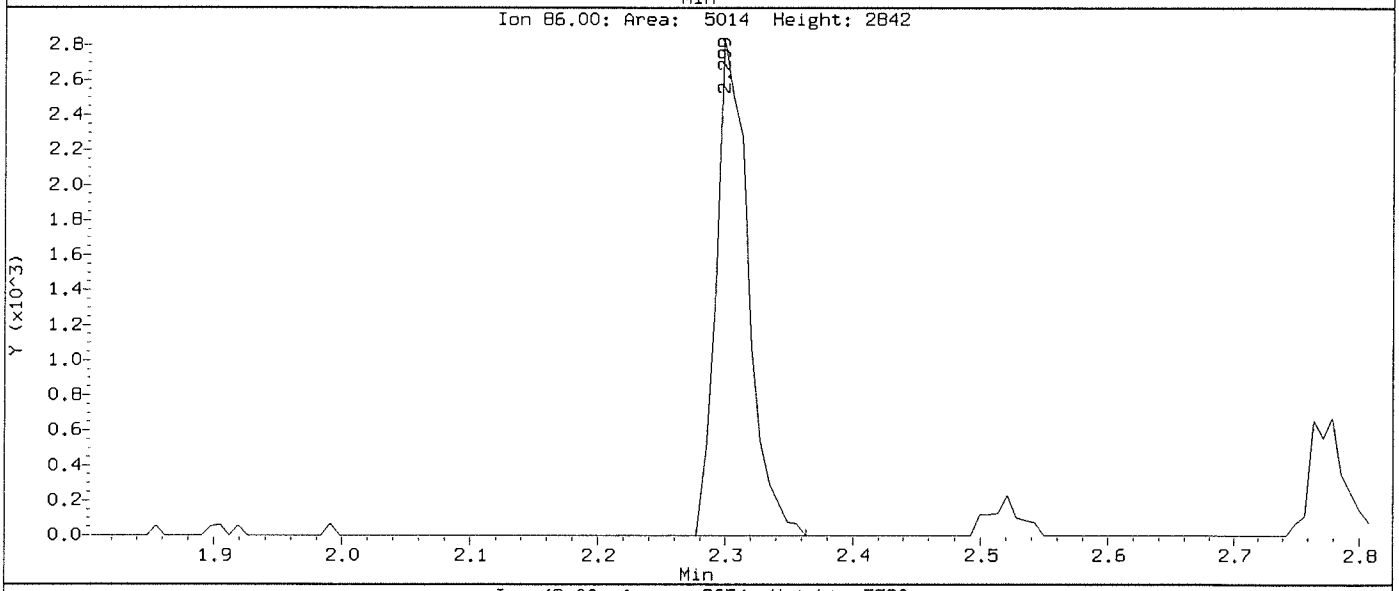


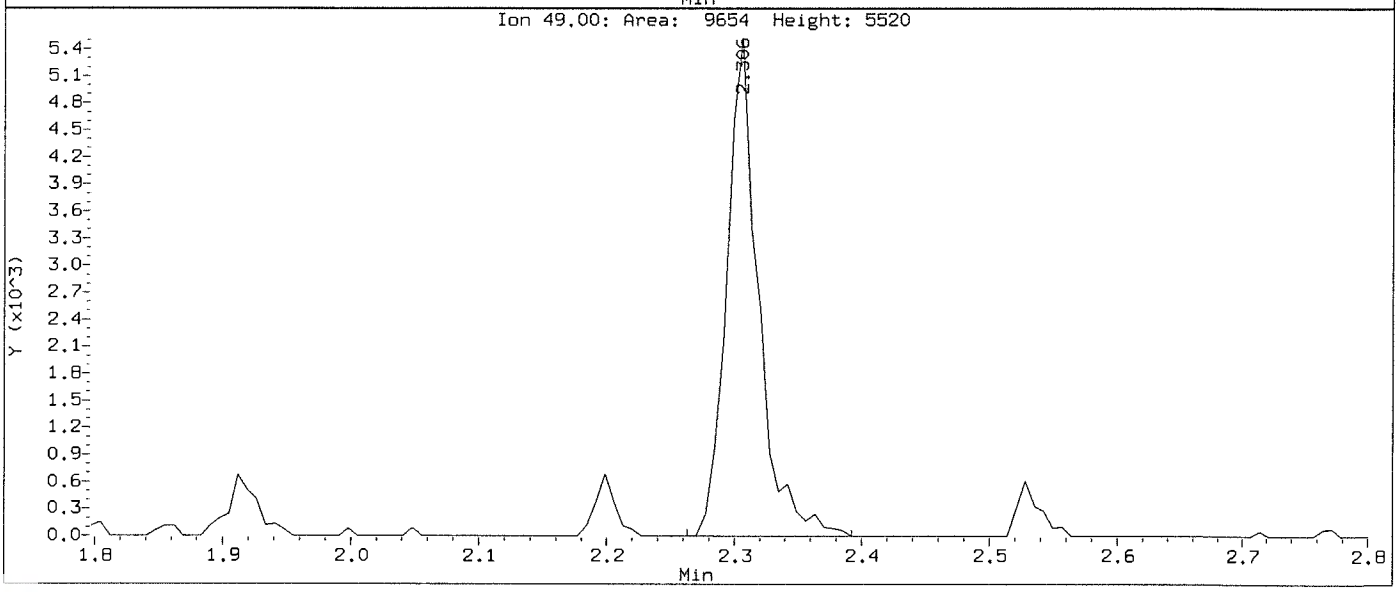


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Methylene Chloride
CAS Number: 75-09-2

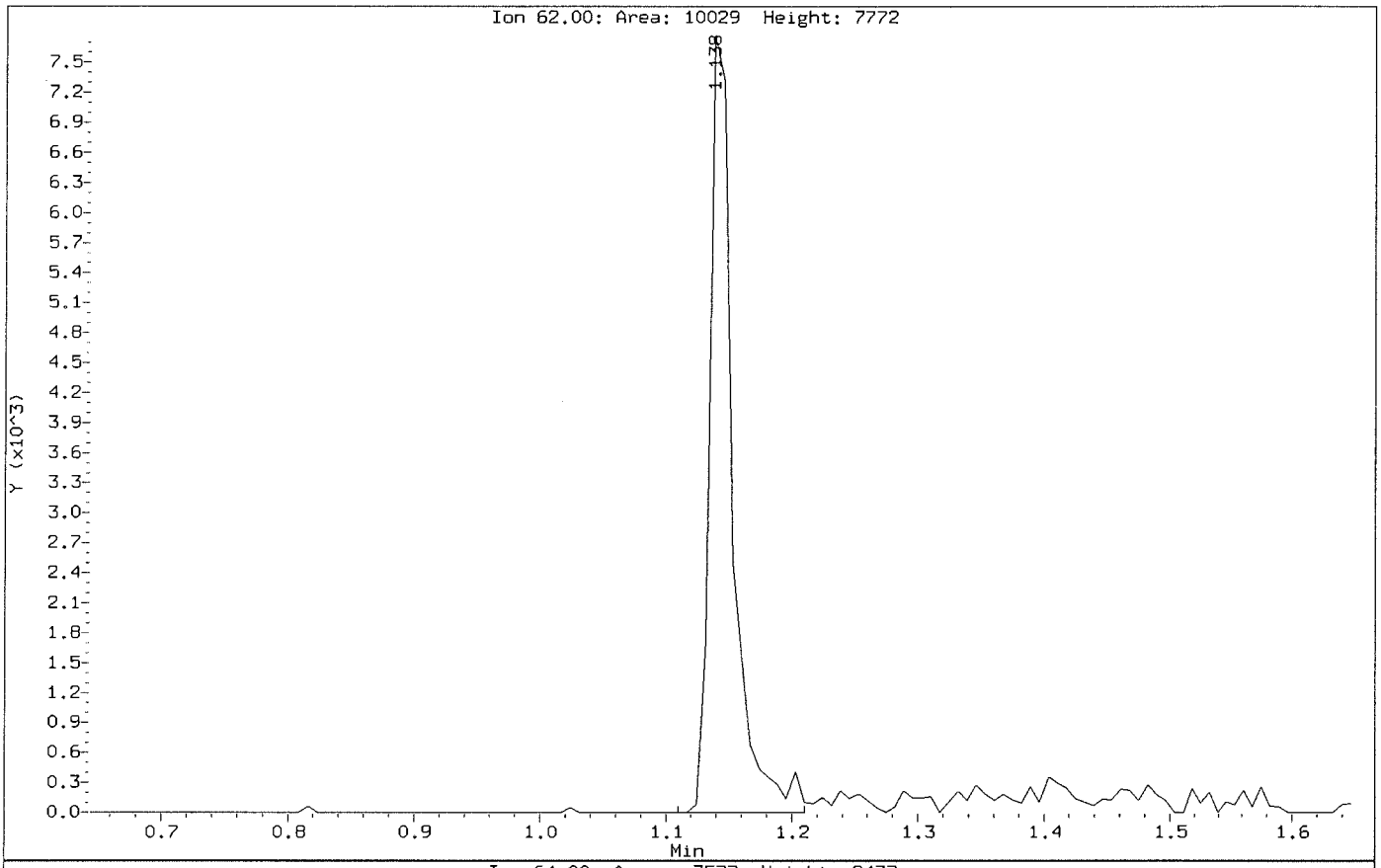


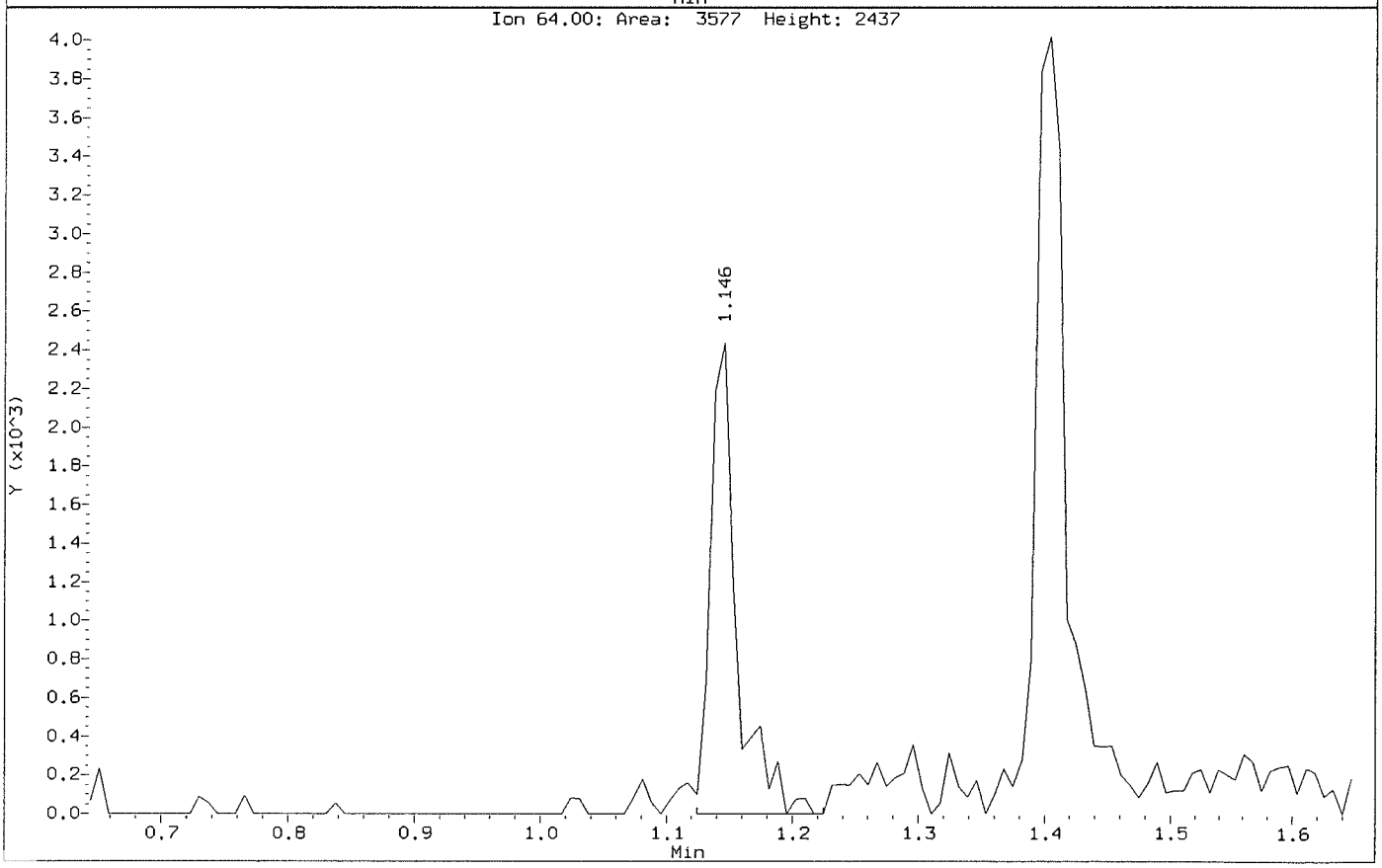




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

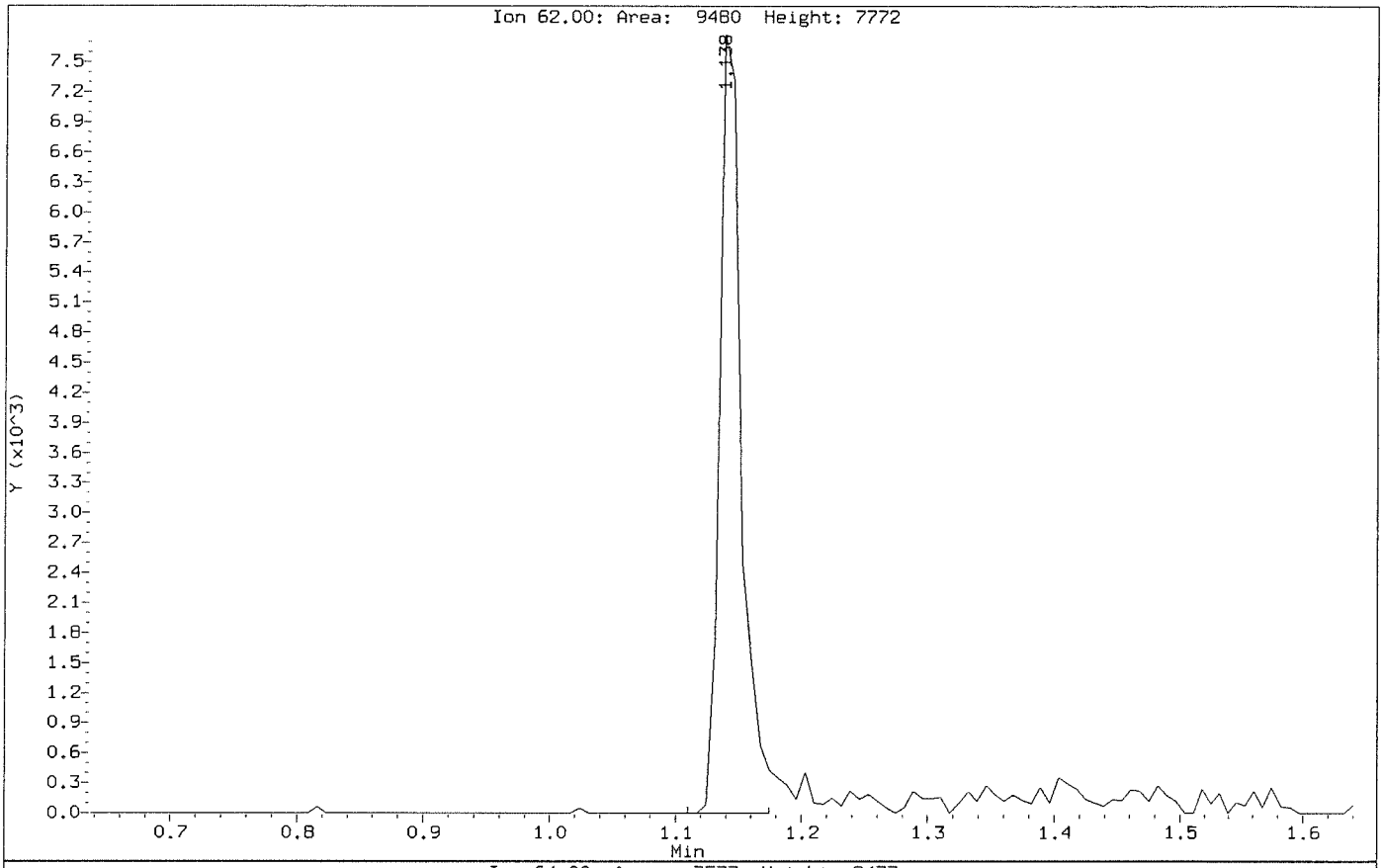
Compound: Vinyl Chloride
CAS Number: 75-01-4

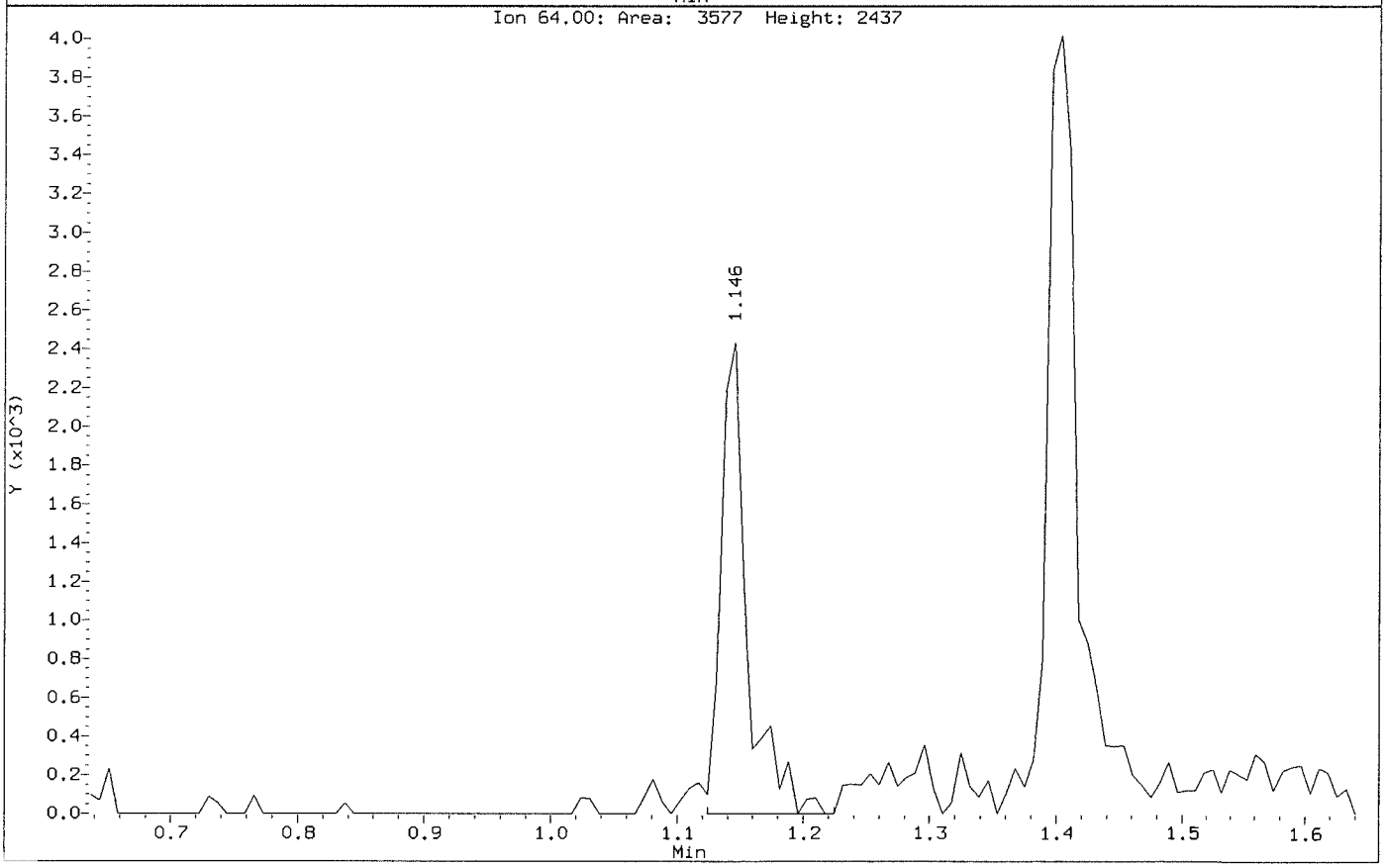




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120306.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120306.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 03-DEC-2020 12:46
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 12:25 Cal File: X120305.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

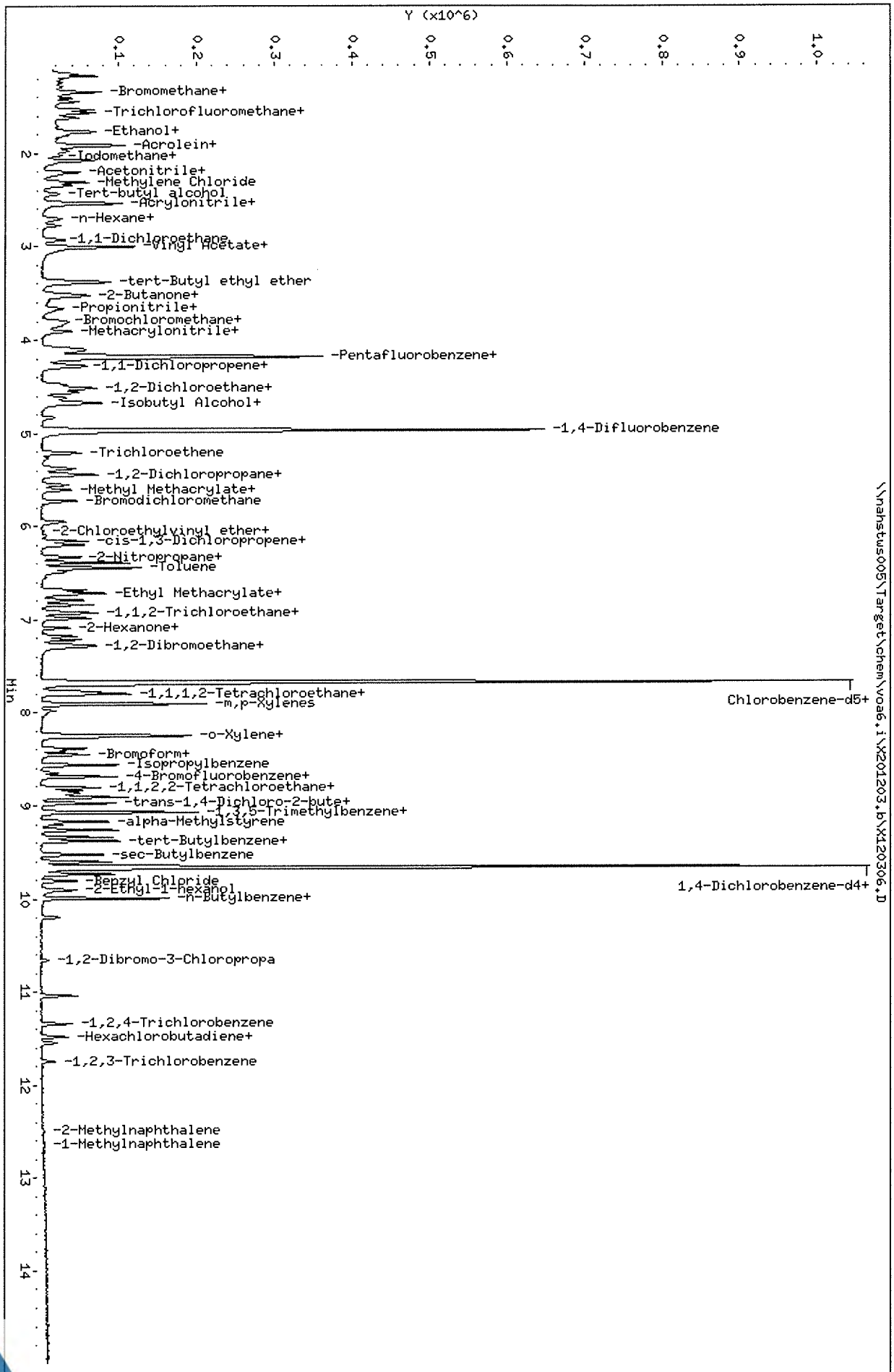
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	258334	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	453298	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	428727	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	192609	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.981)	19795	5.00000	5.57
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	24355	5.00000	4.89(a)
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	60361	5.00000	5.69
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	23638	5.00000	5.39
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	14196	5.00000	4.56(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	22803	5.00000	4.24(a)
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	19313	5.00000	4.94(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	13757	5.00000	5.04
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	31393	5.00000	5.05
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	18189	5.00000	4.63(a)
32 1,1-Dichloropropene	75	4.283	4.283	(0.863)	21853	5.00000	4.98(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	4817	5.00000	4.71(a)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	22365	5.00000	5.04
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	8007	5.00000	4.42(a)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	45469	5.00000	4.34(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	1406	5.00000	3.95(a)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	17060	5.00000	5.16
88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	23973	5.00000	4.29(a)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120306.D Page 2
Report Date: 22-Dec-2020 16:32

	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	(0.919)	26983	5.00000	5.26
42	1,2-Dichloropropane	63	5.436	5.436	(1.095)	17340	5.00000	5.08
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	45077	5.00000	4.17(a)
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	27221	5.00000	4.58(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	27457	5.00000	5.09
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	28791	5.00000	4.82(a)
26	2,2-Dichloropropane	77	3.523	3.523	(0.842)	24332	5.00000	4.48(a)
24	2-Butanone	43	3.588	3.588	(0.858)	12604	10.0000	10.47
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	41036	5.00000	4.46(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	19881	10.0000	9.26
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	48741	5.00000	4.30(a)
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	42796	5.00000	4.06(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	32544	10.0000	10.37
10	Acetone	43	1.976	1.976	(0.473)	17442	10.0000	9.78
37	Benzene	78	4.512	4.512	(0.909)	60140	5.00000	4.87(a)
74	Bromobenzene	156	8.810	8.810	(0.912)	16569	5.00000	4.85(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	9526	5.00000	5.14
39	Bromodichloromethane	83	5.722	5.722	(1.153)	24153	5.00000	5.15
66	Bromoform	173	8.416	8.416	(1.097)	9885	5.00000	5.05
6	Bromomethane	94	1.339	1.339	(0.320)	23460	5.00000	6.07
19	Carbon Disulfide	76	2.069	2.069	(0.495)	80253	10.0000	9.38
34	Carbon Tetrachloride	117	4.268	4.268	(0.860)	16469	5.00000	4.49(a)
59	Chlorobenzene	112	7.692	7.692	(1.003)	41524	5.00000	4.71(a)
7	Chloroethane	64	1.403	1.403	(0.336)	14625	5.00000	4.76(a)
28	Chloroform	83	3.910	3.910	(0.935)	32050	5.00000	4.82(a)
3	Chloromethane	50	1.074	1.074	(0.257)	25288	5.00000	6.03
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	17216	5.00000	4.73(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.241)	27898	5.00000	4.78(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	16616	5.00000	4.77(a)
44	Dibromomethane	93	5.550	5.550	(1.118)	11883	5.00000	5.17
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	15656	5.00000	6.62
61	Ethylbenzene	106	7.800	7.800	(1.017)	20036	5.00000	4.65(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	4266	5.00000	5.90
67	Isopropylbenzene	105	8.559	8.559	(1.116)	52629	5.00000	3.97(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	48191	10.0000	8.57
17	Methylene Chloride	84	2.306	2.306	(0.551)	17300	5.00000	4.98(a)
87	n-Butylbenzene	91	9.992	9.992	(1.034)	36063	5.00000	4.96(a)
73	n-Propylbenzene	91	8.910	8.910	(0.922)	66141	5.00000	4.26(a)
92	Naphthalene	128	11.546	11.546	(1.195)	13718	5.00000	4.42(a)
63	o-Xylene	106	8.244	8.244	(1.075)	24867	5.00000	4.54(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	47181	5.00000	3.81(a)
64	Styrene	104	8.258	8.258	(1.077)	40166	5.00000	4.31(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	34383	5.00000	3.97(a)
56	Tetrachloroethene	164	6.926	6.926	(0.903)	10364	5.00000	4.32(a)
50	Toluene	91	6.446	6.446	(0.840)	63565	5.00000	4.77(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	15015	5.00000	4.84(a)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	24557	5.00000	4.84(a)
38	Trichloroethene	130	5.207	5.207	(1.049)	15581	5.00000	4.70(a)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	32646	5.00000	4.40(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	22007	5.00000	4.79(aM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

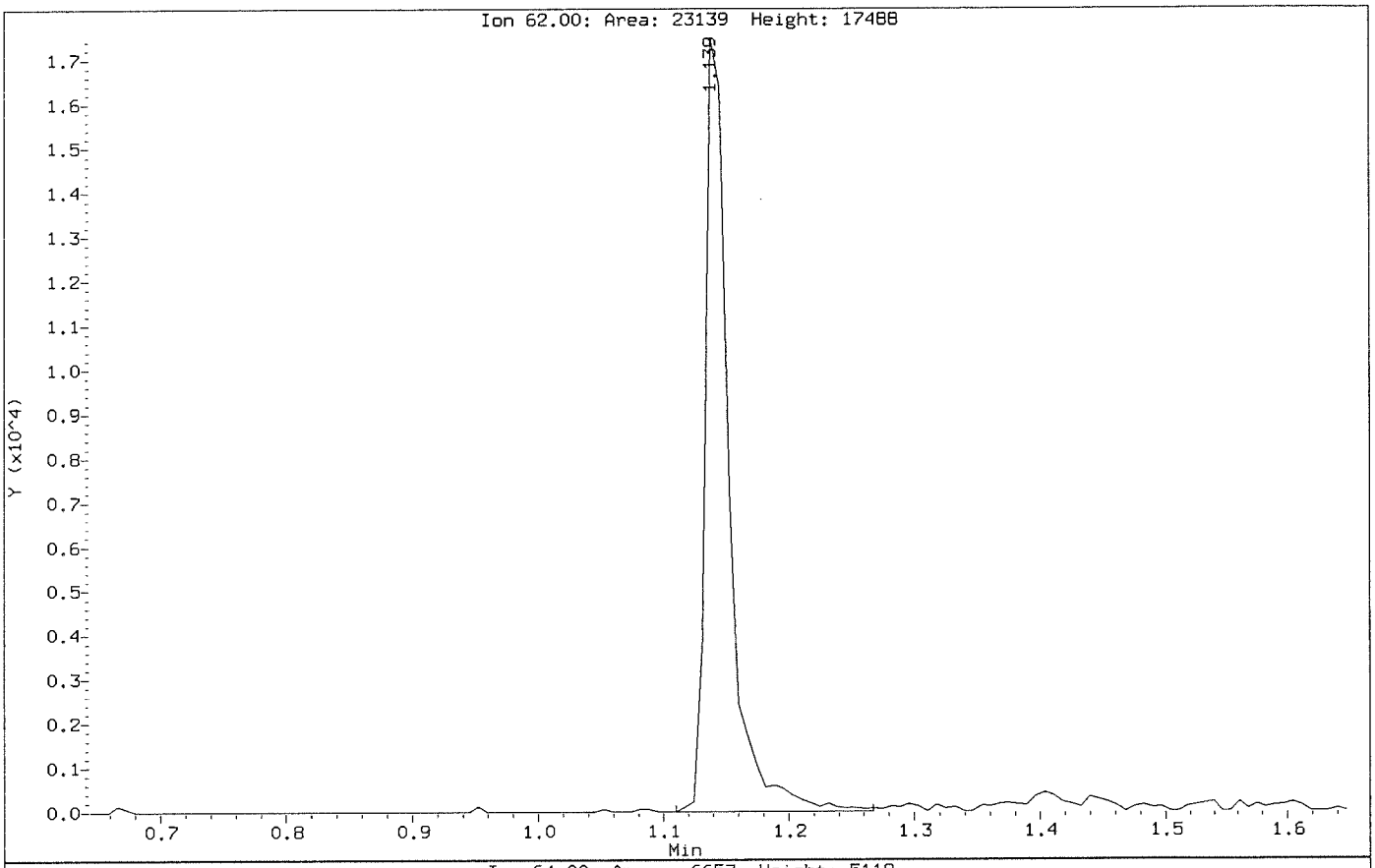


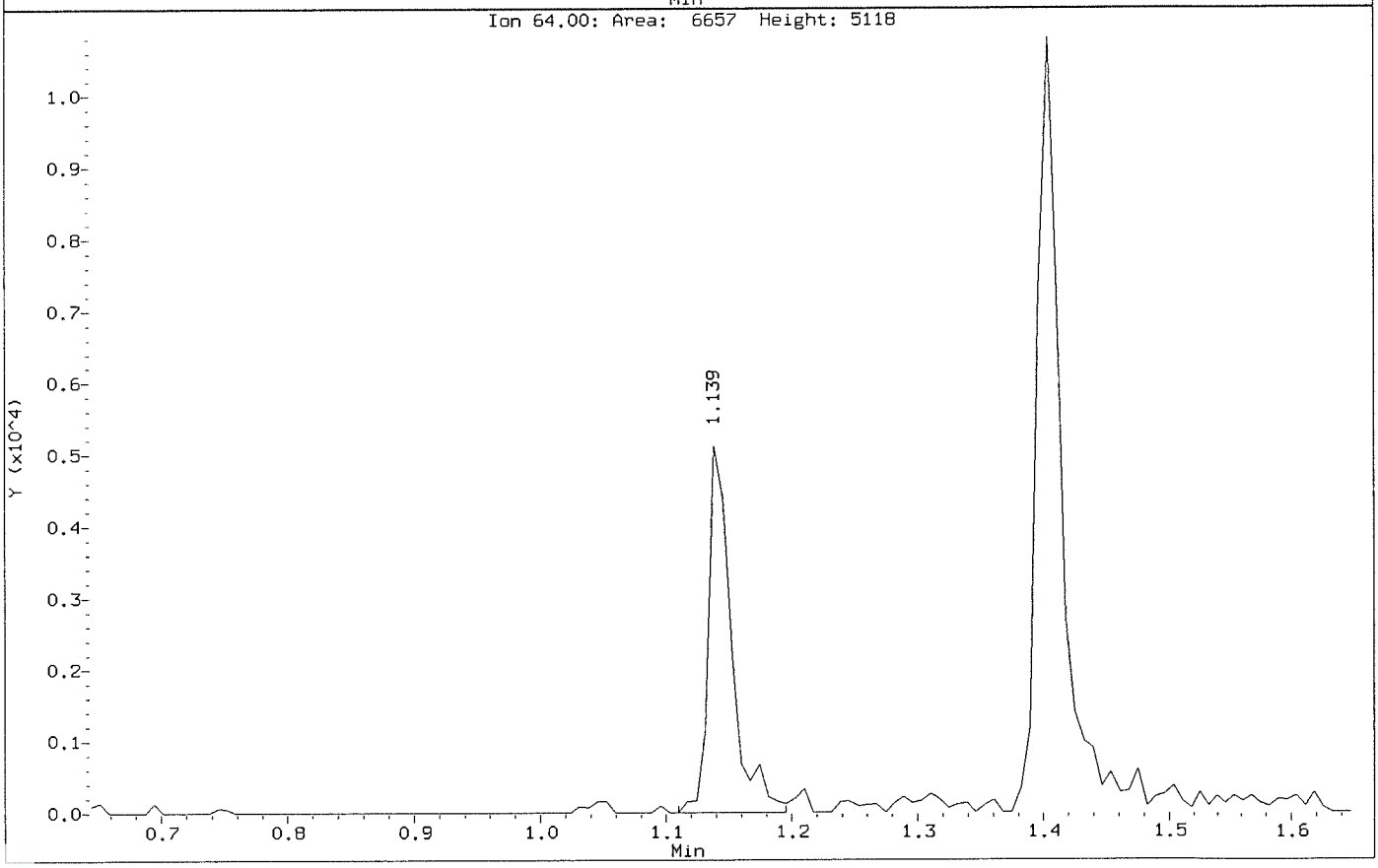
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120306.D
Date : 03-DEC-2020 12:46
Client ID: VSTD005
Sample Info: VSTD005,VSTD005,1,5;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120306.D
Injection Date: 03-DEC-2020 12:46
Instrument: voa6.i
Client Sample ID: VSTD005

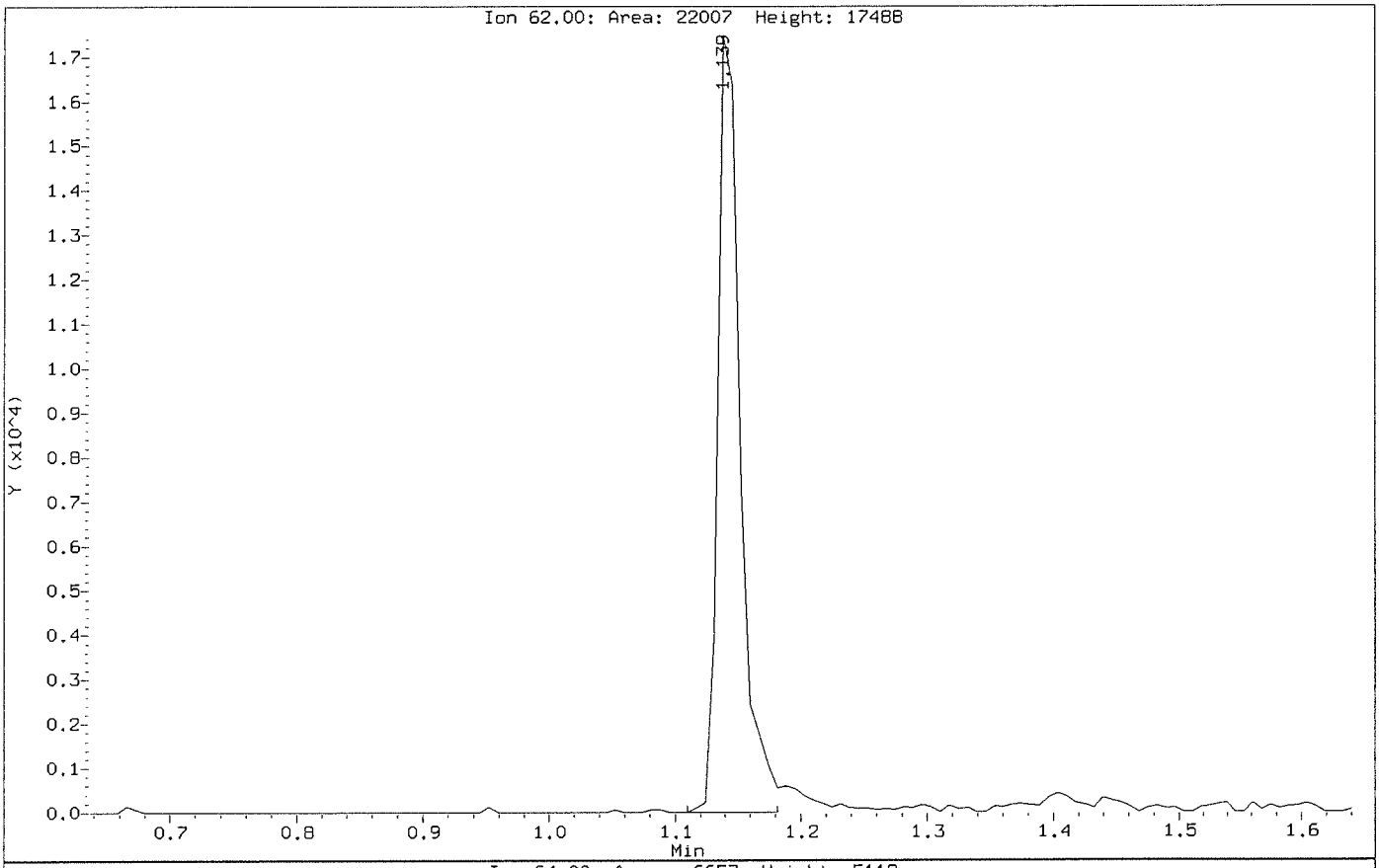
Compound: Vinyl Chloride
CAS Number: 75-01-4

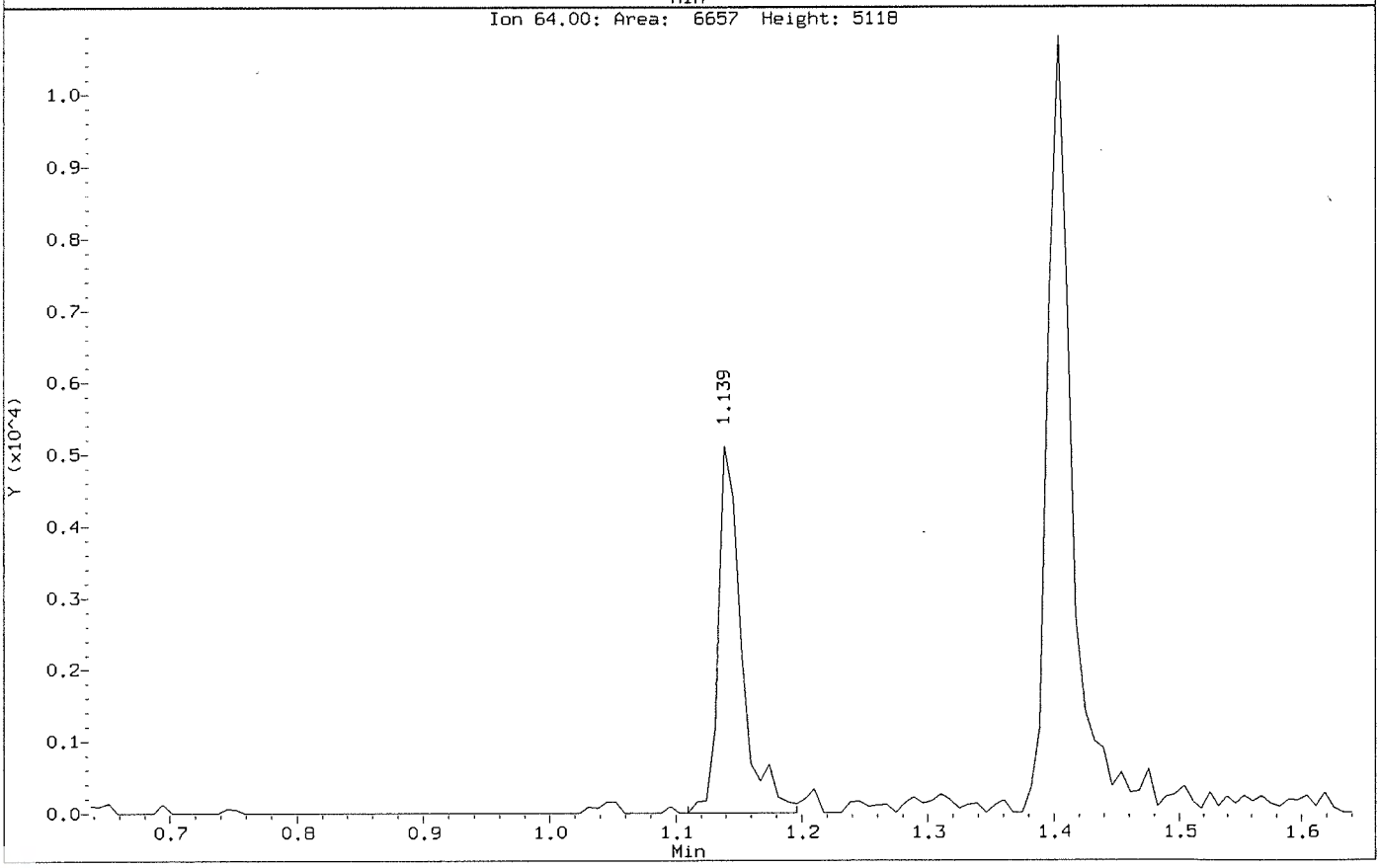




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120306.D
Injection Date: 03-DEC-2020 12:46
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120307.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

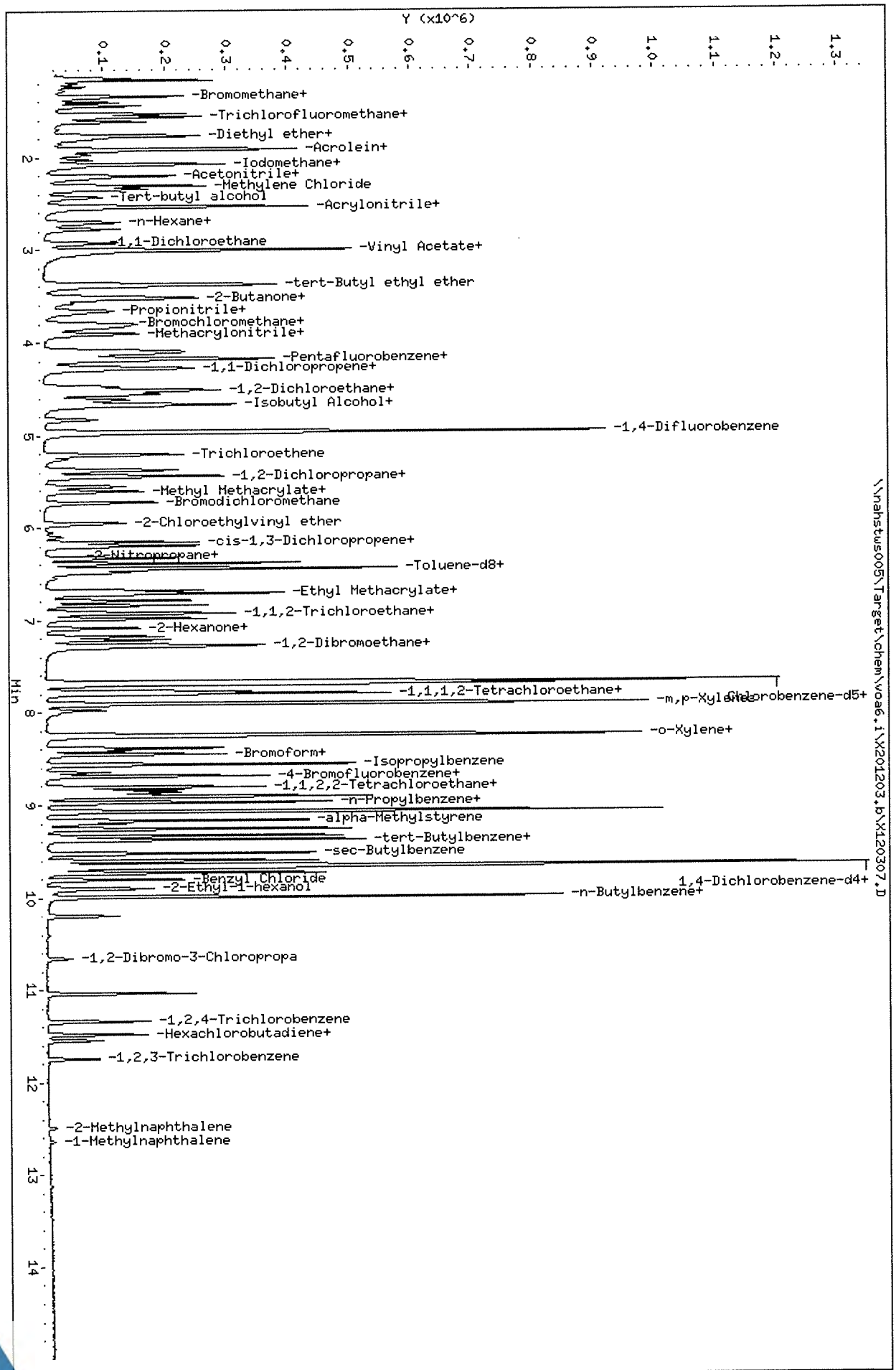
Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120307.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 03-DEC-2020 13:07
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 12:46 Cal File: X120306.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	268042	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	494246	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	475000	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	215921	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	70849	20.0000	19.63
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	88752	20.0000	19.18
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	223091	20.0000	18.10
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	88172	20.0000	18.58
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	64739	20.0000	18.80
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	107964	20.0000	19.36
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	86416	20.0000	19.74
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	56698	20.0000	18.75
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	124829	20.0000	19.38
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	79569	20.0000	19.56
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	86928	20.0000	18.18
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	20094	20.0000	17.54
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	98190	20.0000	19.73
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	37030	20.0000	18.25
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	225123	20.0000	19.17
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	6806	20.0000	19.32
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	69735	20.0000	19.07
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	119145	20.0000	19.05

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	111509	20.0000	19.95
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	68044	20.0000	18.29
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	222261	20.0000	18.35
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	127378	20.0000	19.15
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	114561	20.0000	19.18
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	129656	20.0000	19.36
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	105809	20.0000	18.79
24	2-Butanone	43	3.580	3.580	(0.856)	47289	40.0000	37.88
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	195947	20.0000	19.02
52	2-Hexanone	43	7.090	7.090	(0.924)	84100	40.0000	35.38
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	239940	20.0000	18.91
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	209184	20.0000	17.70
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	127797	40.0000	36.78
10	Acetone	43	1.969	1.969	(0.471)	49369	40.0000	40.85
37	Benzene	78	4.512	4.512	(0.908)	253866	20.0000	18.88
74	Bromobenzene	156	8.810	8.810	(0.912)	72944	20.0000	19.04
29	Bromochloromethane	128	3.795	3.795	(0.908)	38179	20.0000	19.86
39	Bromodichloromethane	83	5.729	5.729	(1.153)	100313	20.0000	19.63
66	Bromoform	173	8.408	8.408	(1.096)	42095	20.0000	19.44
6	Bromomethane	94	1.338	1.338	(0.320)	87980	20.0000	21.28
19	Carbon Disulfide	76	2.069	2.069	(0.495)	347643	40.0000	39.19
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	77278	20.0000	19.33
59	Chlorobenzene	112	7.692	7.692	(1.003)	184247	20.0000	18.88
7	Chloroethane	64	1.403	1.403	(0.336)	62791	20.0000	19.73
28	Chloroform	83	3.910	3.910	(0.935)	133237	20.0000	19.31
3	Chloromethane	50	1.073	1.073	(0.257)	104619	20.0000	20.46
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	72780	20.0000	19.28
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	119648	20.0000	18.83
55	Dibromochloromethane	129	7.176	7.176	(0.936)	72615	20.0000	18.83
44	Dibromomethane	93	5.550	5.550	(1.117)	49578	20.0000	19.80
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	76291	20.0000	21.03
61	Ethylbenzene	106	7.800	7.800	(1.017)	89667	20.0000	18.78
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	20353	20.0000	18.31
67	Isopropylbenzene	105	8.559	8.559	(1.116)	265381	20.0000	18.07
62	m,p-Xylenes	106	7.907	7.907	(1.031)	230027	40.0000	36.96
17	Methylene Chloride	84	2.305	2.305	(0.551)	68607	20.0000	19.05
87	n-Butylbenzene	91	9.991	9.991	(1.034)	206417	20.0000	18.90
73	n-Propylbenzene	91	8.910	8.910	(0.922)	323590	20.0000	18.62
92	Naphthalene	128	11.546	11.546	(1.195)	60734	20.0000	17.46
63	o-Xylene	106	8.244	8.244	(1.075)	113652	20.0000	18.74
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	251293	20.0000	18.10
64	Styrene	104	8.258	8.258	(1.077)	196113	20.0000	19.01
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	181258	20.0000	18.66
56	Tetrachloroethene	164	6.933	6.933	(0.904)	48333	20.0000	18.18
50	Toluene	91	6.446	6.446	(0.840)	276069	20.0000	18.71
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	63377	20.0000	19.71
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	102878	20.0000	18.61
38	Trichloroethene	130	5.206	5.206	(1.048)	66222	20.0000	18.34
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	152303	20.0000	19.79
5	Vinyl Chloride	62	1.145	1.145	(0.274)	92806	20.0000	19.50



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120307.D
Date : 03-DEC-2020 13:07
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;;
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120308.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 03-DEC-2020 13:28
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:07 Cal File: X120307.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

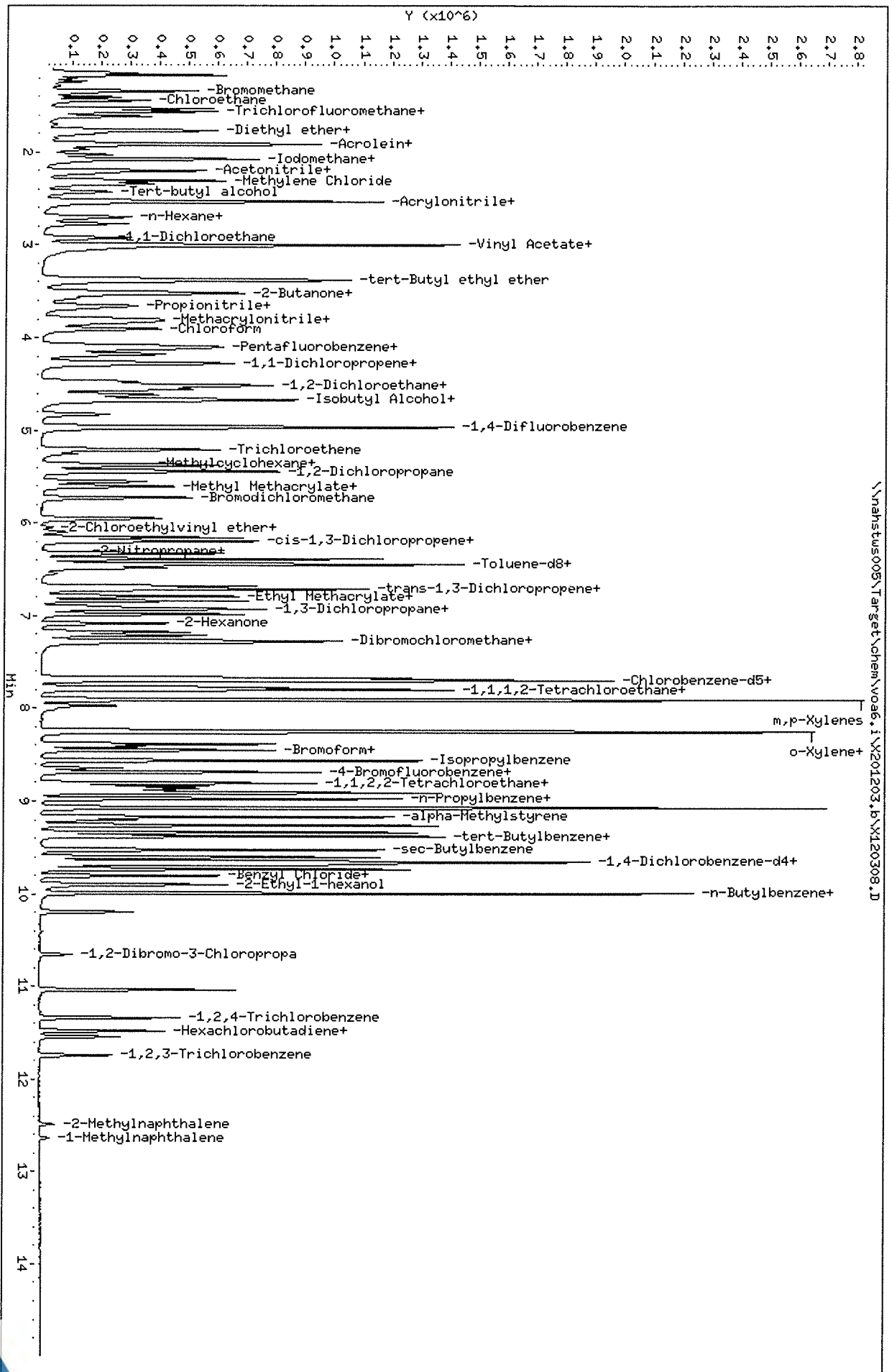
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	286037	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	517329	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	489855	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	233134	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	188739	50.0000	49.26
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	243264	50.0000	50.53
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	636641	50.0000	49.42
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	240109	50.0000	49.38
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	168189	50.0000	47.36
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	282115	50.0000	47.41
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	220656	50.0000	46.69
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	150222	50.0000	48.19
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	302989	50.0000	44.09
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	186937	50.0000	43.06
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	234560	50.0000	46.86
93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	59357	50.0000	47.99
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	246775	50.0000	45.94
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	105810	50.0000	48.30
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	609250	50.0000	48.06
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	18561	50.0000	49.86
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	186475	50.0000	49.45
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	312764	50.0000	46.33

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120308.D Page 2
Report Date: 22-Dec-2020 16:32

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	297379	50.0000	50.84
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	196405	50.0000	50.46
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	593851	50.0000	45.43
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	334245	50.0000	46.55
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	303026	50.0000	49.21
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	341968	50.0000	47.29
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	278595	50.0000	46.37
24	2-Butanone	43	3.573	3.573	(0.854)	130693	100.000	98.11
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	530248	50.0000	47.68
52	2-Hexanone	43	7.083	7.083	(0.923)	242481	100.000	98.92
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	629059	50.0000	45.92
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	566577	50.0000	44.42
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	351963	100.000	98.24
10	Acetone	43	1.969	1.969	(0.471)	115400	100.000	99.24
37	Benzene	78	4.512	4.512	(0.908)	697075	50.0000	49.55
74	Bromobenzene	156	8.810	8.810	(0.912)	195112	50.0000	47.18
29	Bromochloromethane	128	3.795	3.795	(0.908)	94625	50.0000	46.13
39	Bromodichloromethane	83	5.729	5.729	(1.153)	276676	50.0000	51.72
66	Bromoform	173	8.408	8.408	(1.096)	114597	50.0000	51.32
6	Bromomethane	94	1.338	1.338	(0.320)	207664	50.0000	46.77
19	Carbon Disulfide	76	2.069	2.069	(0.495)	834318	100.000	88.15
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	203431	50.0000	48.63
59	Chlorobenzene	112	7.692	7.692	(1.003)	472514	50.0000	46.96
7	Chloroethane	64	1.403	1.403	(0.336)	148185	50.0000	43.63
28	Chloroform	83	3.910	3.910	(0.935)	353473	50.0000	48.01
3	Chloromethane	50	1.073	1.073	(0.257)	263664	50.0000	46.69
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	187854	50.0000	46.65
46	cis-1,3-Dichloropropene	75	6.152	6.152	(1.238)	339775	50.0000	51.10
55	Dibromochloromethane	129	7.176	7.176	(0.936)	195828	50.0000	49.25
44	Dibromomethane	93	5.550	5.550	(1.117)	133518	50.0000	50.94
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	172818	50.0000	41.58
61	Ethylbenzene	106	7.800	7.800	(1.017)	228607	50.0000	46.44
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	52188	50.0000	40.25
67	Isopropylbenzene	105	8.566	8.566	(1.117)	701609	50.0000	46.32
62	m,p-Xylenes	106	7.907	7.907	(1.031)	613426	100.000	95.57
17	Methylene Chloride	84	2.305	2.305	(0.551)	164626	50.0000	42.84
87	n-Butylbenzene	91	9.991	9.991	(1.034)	549126	50.0000	43.67
73	n-Propylbenzene	91	8.910	8.910	(0.922)	843223	50.0000	44.94
92	Naphthalene	128	11.546	11.546	(1.195)	176696	50.0000	47.05
63	o-Xylene	106	8.244	8.244	(1.075)	293054	50.0000	46.85
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	675728	50.0000	45.08
64	Styrene	104	8.258	8.258	(1.077)	532648	50.0000	50.08
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	479164	50.0000	45.71
56	Tetrachloroethene	164	6.926	6.926	(0.903)	126550	50.0000	46.17
50	Toluene	91	6.446	6.446	(0.840)	711286	50.0000	46.74
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	160444	50.0000	46.77
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	294397	50.0000	50.89
38	Trichloroethene	130	5.207	5.207	(1.048)	176022	50.0000	46.59
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	355303	50.0000	43.26
5	Vinyl Chloride	62	1.145	1.145	(0.274)	223036	50.0000	43.91(M)

QC Flag Legend

M - Compound response manually integrated.

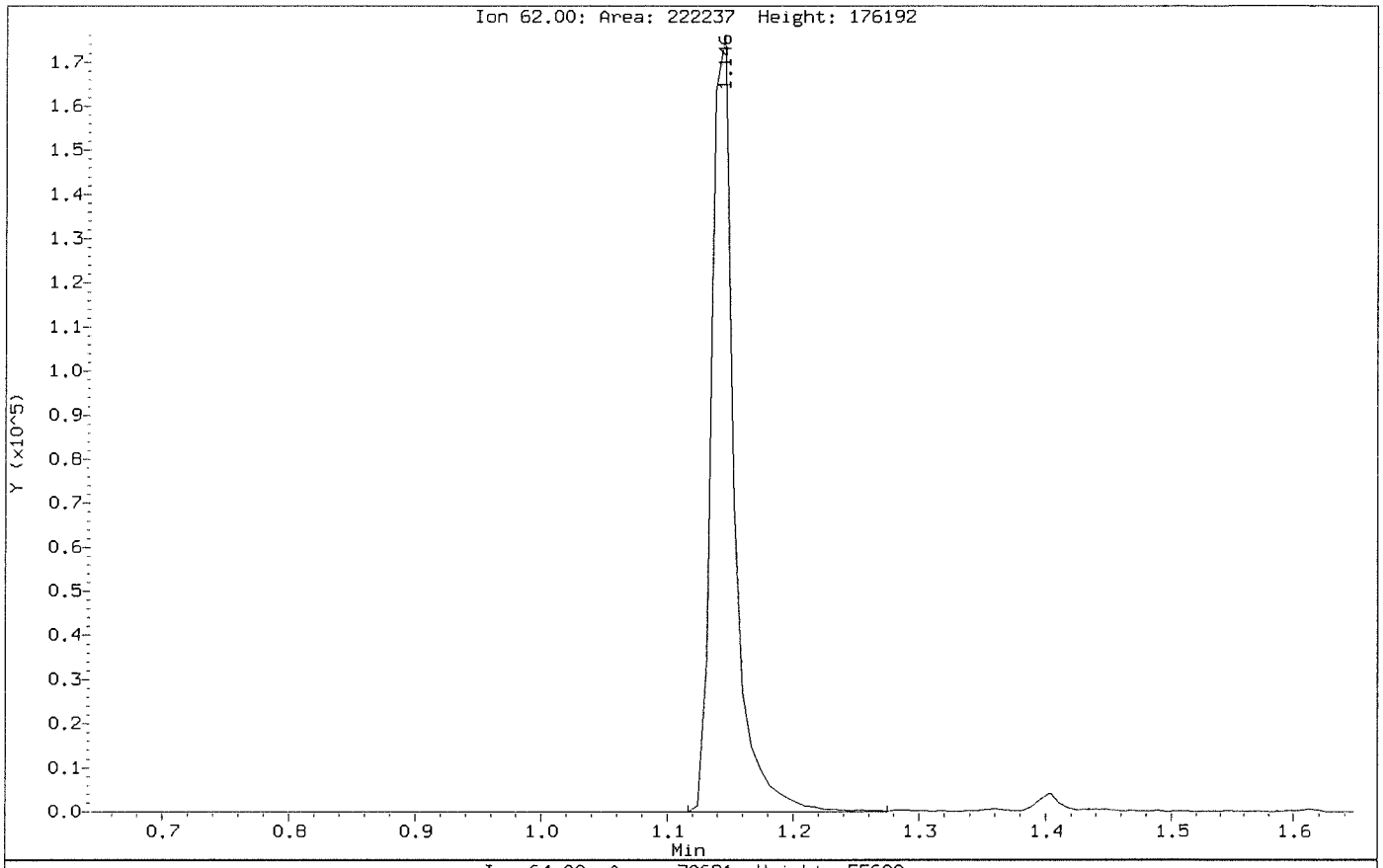


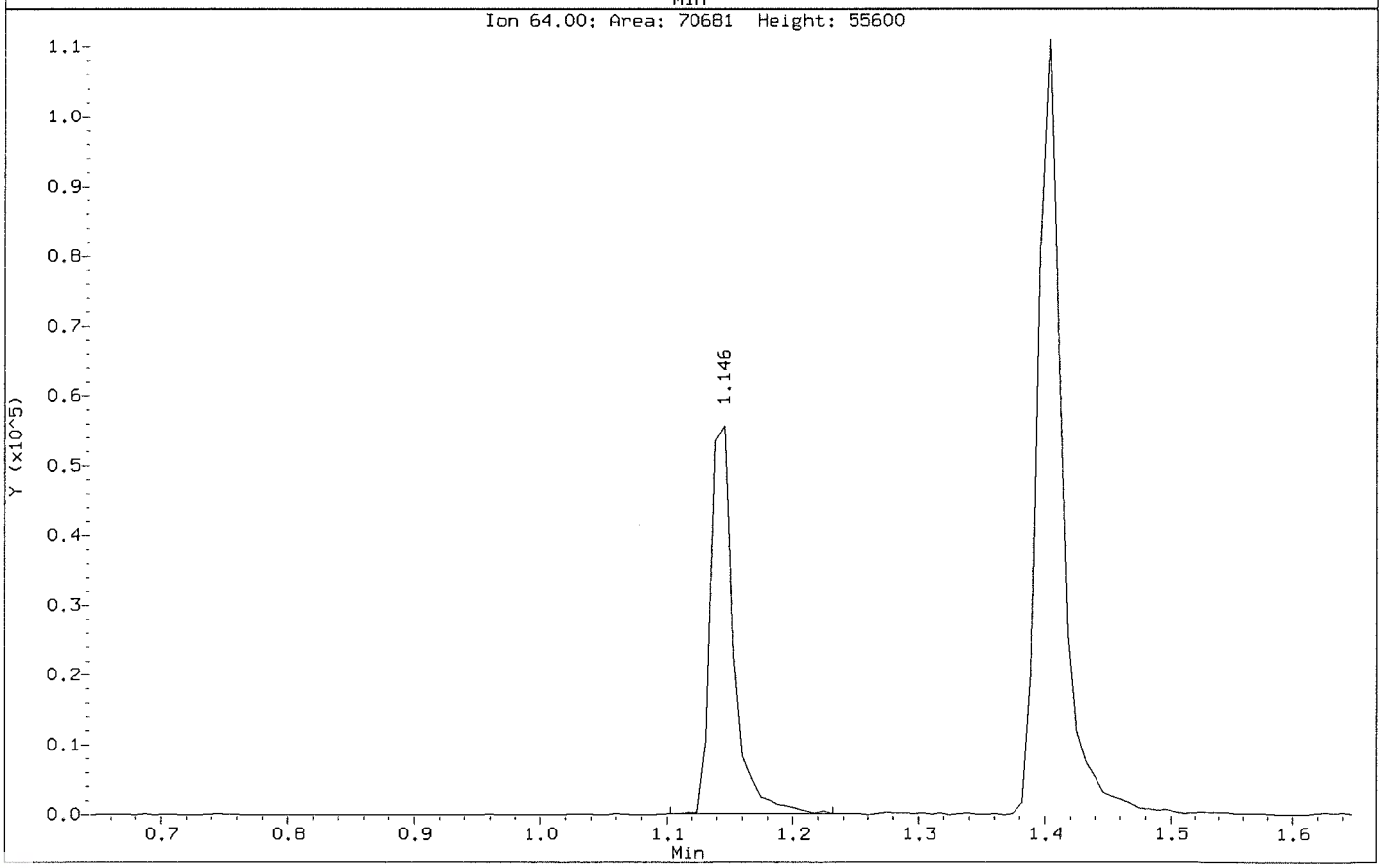
Data File: \\nahstws005\Target\chem\voa6,i\X201203,b\X120308,D
Date : 03-DEC-2020 13:28
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120308.D
Injection Date: 03-DEC-2020 13:28
Instrument: voa6.i
Client Sample ID: VSTD050

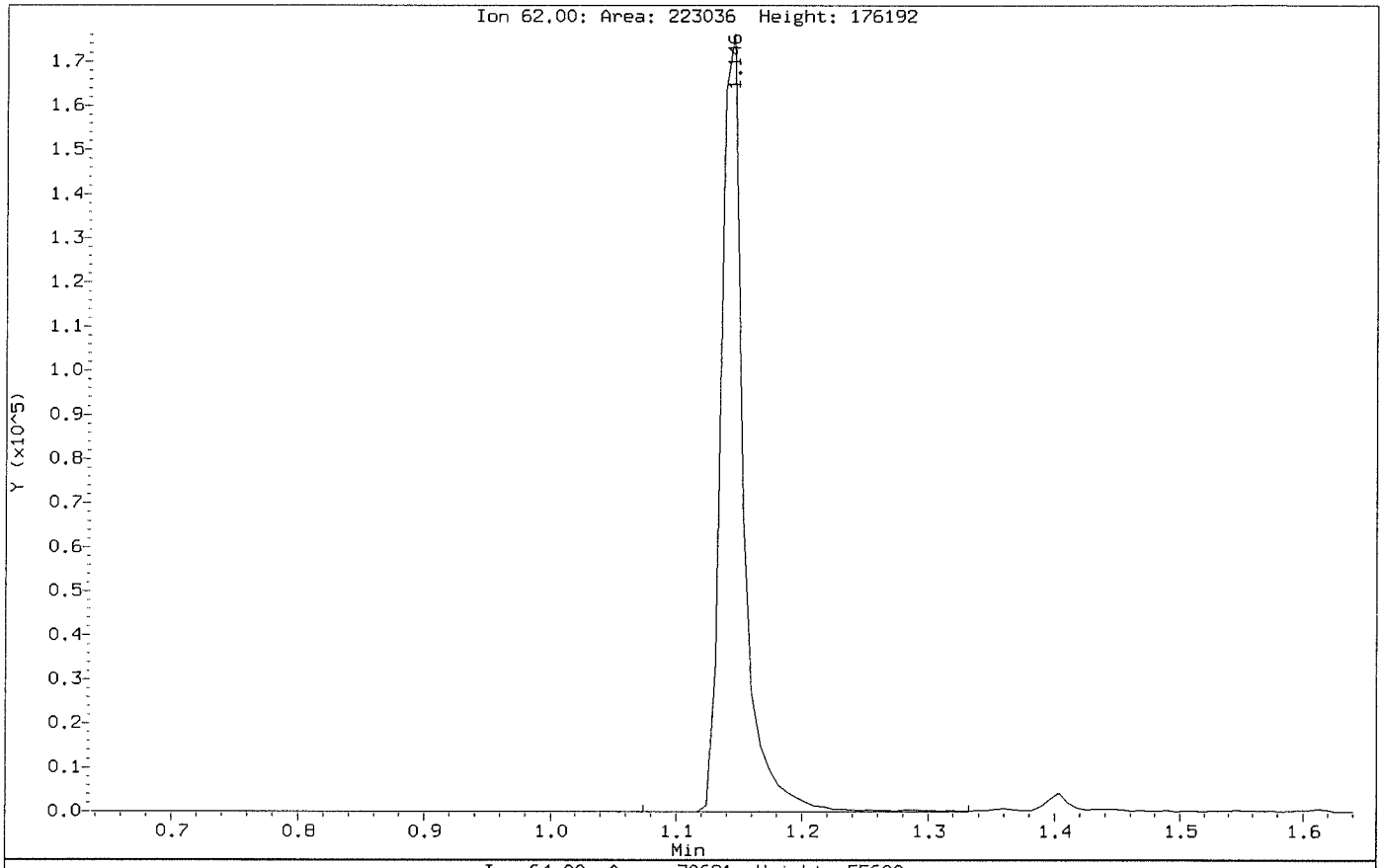
Compound: Vinyl Chloride
CAS Number: 75-01-4

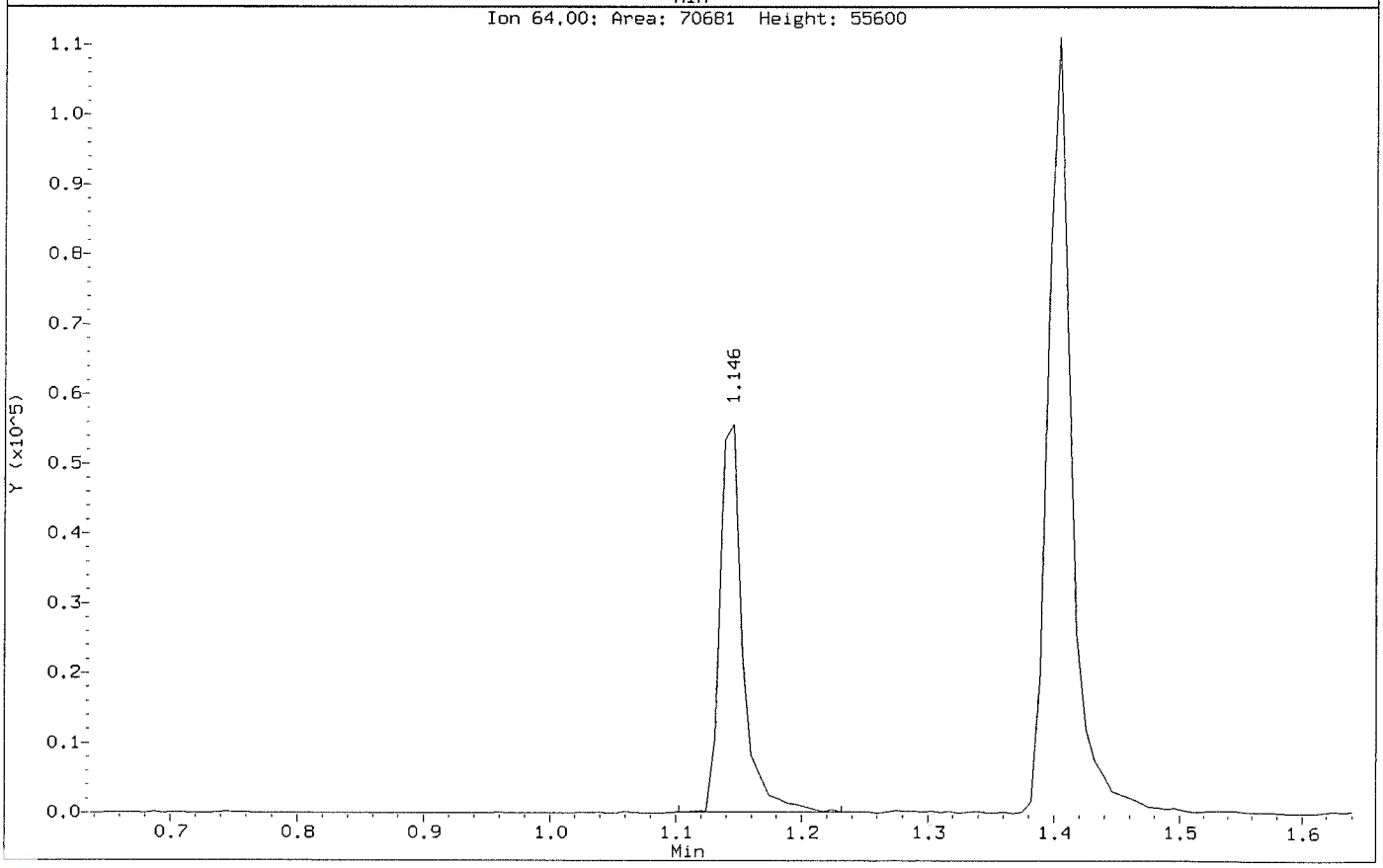




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120308.D
Injection Date: 03-DEC-2020 13:28
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120309.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120309.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 03-DEC-2020 13:49
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

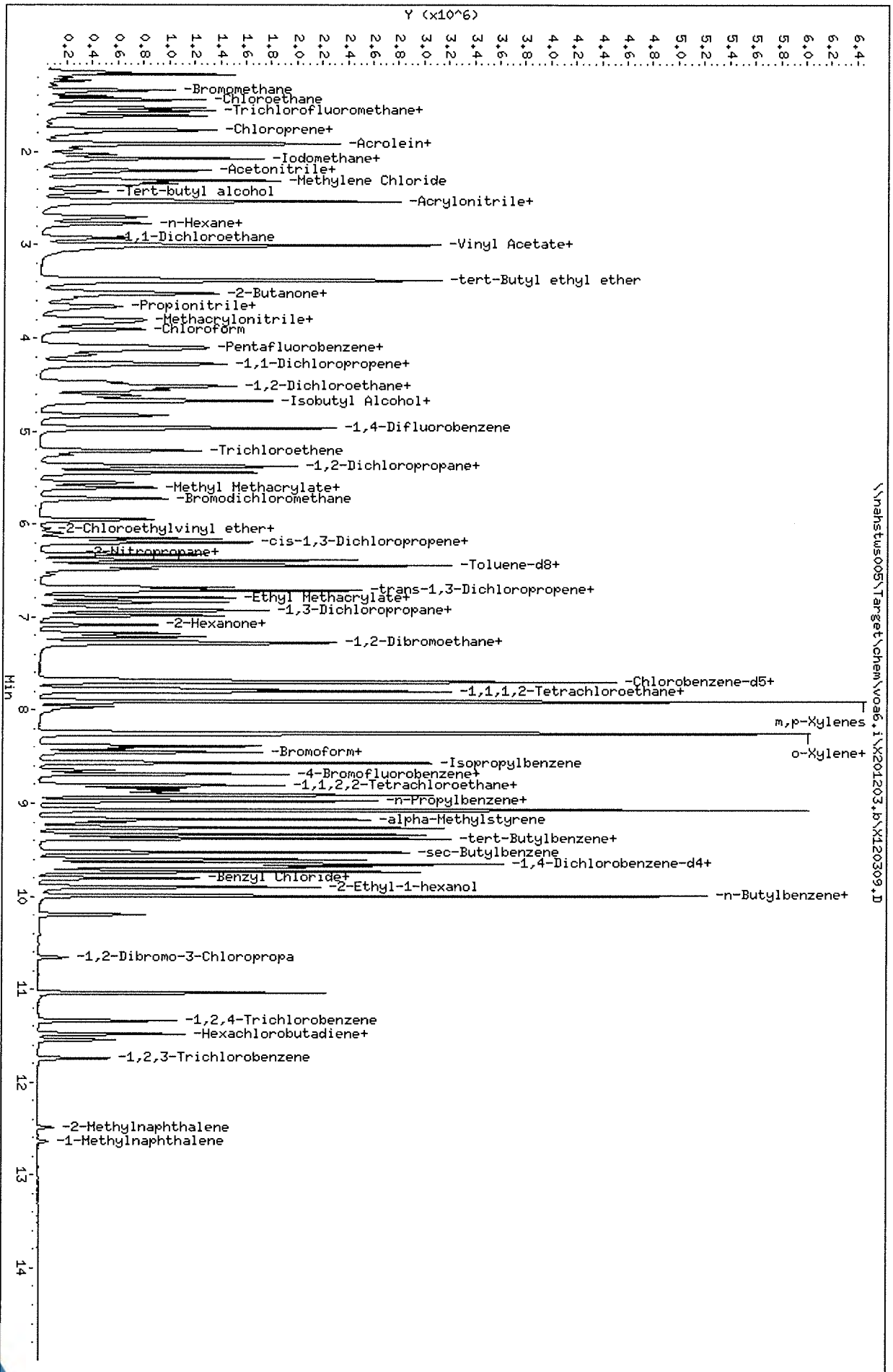
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	283467	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	547943	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	507213	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	237046	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	377139	100.000	99.49
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	493358	100.000	104.24
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1342152	100.000	100.24
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	495764	100.000	98.66
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	363710	100.000	98.91
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	614245	100.000	104.17
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	455859	100.000	94.88
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	320056	100.000	99.17
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	696971	100.000	102.34
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	445263	100.000	103.51
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	515338	100.000	97.22
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	132088	100.000	105.05
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	533393	100.000	97.67
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	235139	100.000	105.57
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	1358876	100.000	105.43
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.103)	37818	100.000	100.60
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	384283	100.000	98.43
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	687877	100.000	100.22

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120309.D Page 2
Report Date: 22-Dec-2020 16:32

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	562223	100.000	90.75
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	393931	100.000	95.55
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1380092	100.000	103.84
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	721411	100.000	98.82
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	637394	100.000	99.98
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	726875	100.000	98.87
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	600523	100.000	100.87
24	2-Butanone	43	3.573	3.573	(0.854)	274521	200.000	207.95(A)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	1117268	100.000	98.80
52	2-Hexanone	43	7.083	7.083	(0.923)	499471	200.000	196.79
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	1421624	100.000	102.08
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1387918	100.000	107.02
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	725187	200.000	195.49
10	Acetone	43	1.969	1.969	(0.471)	230256	200.000	208.12(A)
37	Benzene	78	4.512	4.512	(0.908)	1372410	100.000	92.10
74	Bromobenzene	156	8.809	8.809	(0.912)	413012	100.000	98.23
29	Bromochloromethane	128	3.795	3.795	(0.908)	200750	100.000	98.76
39	Bromodichloromethane	83	5.729	5.729	(1.153)	545535	100.000	96.29
66	Bromoform	173	8.408	8.408	(1.096)	234400	100.000	101.39
6	Bromomethane	94	1.338	1.338	(0.320)	424564	100.000	96.23
19	Carbon Disulfide	76	2.069	2.069	(0.495)	1975733	200.000	210.65(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	485597	100.000	109.60
59	Chlorobenzene	112	7.692	7.692	(1.003)	1031999	100.000	99.05
7	Chloroethane	64	1.403	1.403	(0.336)	330508	100.000	98.20
28	Chloroform	83	3.910	3.910	(0.935)	712222	100.000	97.63
3	Chloromethane	50	1.073	1.073	(0.257)	554456	100.000	97.72
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	390576	100.000	97.88
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	683394	100.000	97.05
55	Dibromochloromethane	129	7.176	7.176	(0.936)	413525	100.000	100.45
44	Dibromomethane	93	5.550	5.550	(1.117)	266252	100.000	95.91
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	402184	100.000	93.97
61	Ethylbenzene	106	7.799	7.799	(1.017)	522676	100.000	102.55
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	143368	100.000	102.10
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1672928	100.000	106.68
62	m,p-Xylenes	106	7.907	7.907	(1.031)	1390257	200.000	209.20(A)
17	Methylene Chloride	84	2.305	2.305	(0.551)	361434	100.000	94.92
87	n-Butylbenzene	91	9.991	9.991	(1.034)	1374517	100.000	101.27
73	n-Propylbenzene	91	8.917	8.917	(0.923)	1989197	100.000	104.27
92	Naphthalene	128	11.546	11.546	(1.195)	392071	100.000	102.69
63	o-Xylene	106	8.244	8.244	(1.075)	658228	100.000	101.64
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	1655898	100.000	108.66
64	Styrene	104	8.258	8.258	(1.077)	1149090	100.000	104.34
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	1137681	100.000	106.73
56	Tetrachloroethene	164	6.933	6.933	(0.904)	304485	100.000	107.30
50	Toluene	91	6.446	6.446	(0.840)	1582464	100.000	100.44
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	348440	100.000	102.49
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	607577	100.000	99.17
38	Trichloroethene	130	5.206	5.206	(1.048)	375393	100.000	93.81
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	829176	100.000	101.88
5	Vinyl Chloride	62	1.145	1.145	(0.274)	497280	100.000	98.80

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120309.D
Date : 03-DEC-2020 13:49
Client ID: WSTD100
Sample Info: WSTD100;WSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120310.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120310.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 03-DEC-2020 14:10
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:49 Cal File: X120309.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

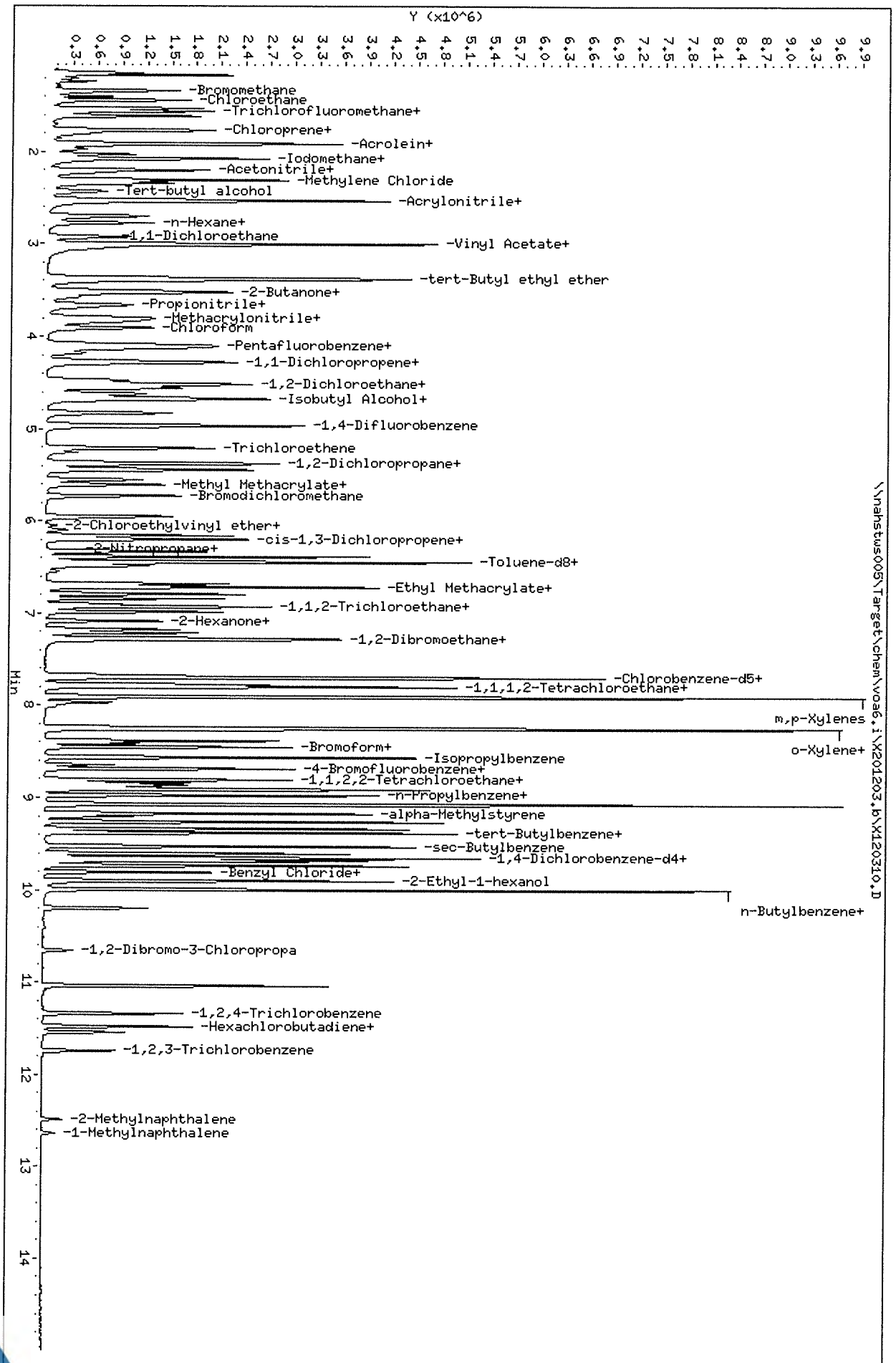
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	289197	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	537724	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	513077	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	237095	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	598380	150.000	154.83
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	721913	150.000	149.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2026860	150.000	149.46
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	783951	150.000	154.33
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	555565	150.000	149.36
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	950505	150.000	158.00
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	697205	150.000	145.08
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	464591	150.000	142.31
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	1017120	150.000	146.39
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	661475	150.000	150.73
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	789910	150.000	151.85
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	205173	150.000	163.14
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	797723	150.000	146.04
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	376815	150.000	169.14
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	2061295	150.000	159.90
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	59701	150.000	159.18
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	591922	150.000	149.88
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	1077662	150.000	156.98

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120310.D Page 2
Report Date: 22-Dec-2020 16:32

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	916835	150.000	150.80
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	608176	150.000	150.33
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	2142942	150.000	161.20
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	1094260	150.000	149.86
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	931181	150.000	144.39
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	1092843	150.000	148.63
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	916483	150.000	150.90
24	2-Butanone	43	3.573	3.573	(0.854)	396968	300.000	294.75(A)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	1717161	150.000	151.82
52	2-Hexanone	43	7.090	7.090	(0.924)	765599	300.000	298.20(A)
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	2205186	150.000	158.31
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	2083202	150.000	160.60
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	1147911	300.000	305.91(A)
10	Acetone	43	1.969	1.969	(0.471)	345461	300.000	309.92(A)
37	Benzene	78	4.512	4.512	(0.908)	2200140	150.000	150.46
74	Bromobenzene	156	8.809	8.809	(0.912)	641321	150.000	152.51
29	Bromochloromethane	128	3.795	3.795	(0.908)	305856	150.000	147.49
39	Bromodichloromethane	83	5.729	5.729	(1.153)	879987	150.000	158.28
66	Bromoform	173	8.416	8.416	(1.097)	375533	150.000	160.59
6	Bromomethane	94	1.338	1.338	(0.320)	691088	150.000	153.38
19	Carbon Disulfide	76	2.069	2.069	(0.495)	2949325	300.000	308.23(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	742044	150.000	170.67
59	Chlorobenzene	112	7.692	7.692	(1.003)	1592767	150.000	151.13
7	Chloroethane	64	1.403	1.403	(0.336)	503537	150.000	146.64
28	Chloroform	83	3.910	3.910	(0.935)	1121233	150.000	150.65
3	Chloromethane	50	1.073	1.073	(0.257)	845637	150.000	145.50
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	623610	150.000	153.19
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	1085608	150.000	157.10
55	Dibromochloromethane	129	7.176	7.176	(0.936)	631706	150.000	151.69
44	Dibromomethane	93	5.550	5.550	(1.117)	427278	150.000	156.84
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	658231	150.000	149.10
61	Ethylbenzene	106	7.799	7.799	(1.017)	795335	150.000	154.26
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	226530	150.000	155.54
67	Isopropylbenzene	105	8.566	8.566	(1.117)	2497992	150.000	157.47
62	m,p-Xylenes	106	7.907	7.907	(1.031)	2088257	300.000	310.64(A)
17	Methylene Chloride	84	2.305	2.305	(0.551)	574144	150.000	147.79
87	n-Butylbenzene	91	9.991	9.991	(1.034)	2184866	150.000	153.77
73	n-Propylbenzene	91	8.917	8.917	(0.923)	3066146	150.000	160.69
92	Naphthalene	128	11.539	11.539	(1.194)	610430	150.000	159.85
63	o-Xylene	106	8.244	8.244	(1.075)	1022420	150.000	156.07
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	2485474	150.000	163.07
64	Styrene	104	8.258	8.258	(1.077)	1815704	150.000	162.99
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	1661518	150.000	155.85
56	Tetrachloroethene	164	6.933	6.933	(0.904)	458410	150.000	159.70
50	Toluene	91	6.446	6.446	(0.840)	2427255	150.000	152.30
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	536482	150.000	154.68
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	928076	150.000	154.36
38	Trichloroethene	130	5.206	5.206	(1.048)	571917	150.000	145.64
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	1277360	150.000	153.83
5	Vinyl Chloride	62	1.138	1.138	(0.272)	758535	150.000	147.73

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120310.D
Date : 03-DEC-2020 14:10
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;;
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120311.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 03-DEC-2020 14:31
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 14:10 Cal File: X120310.D
Als bottle: 12 Calibration Sample, Level: 10
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

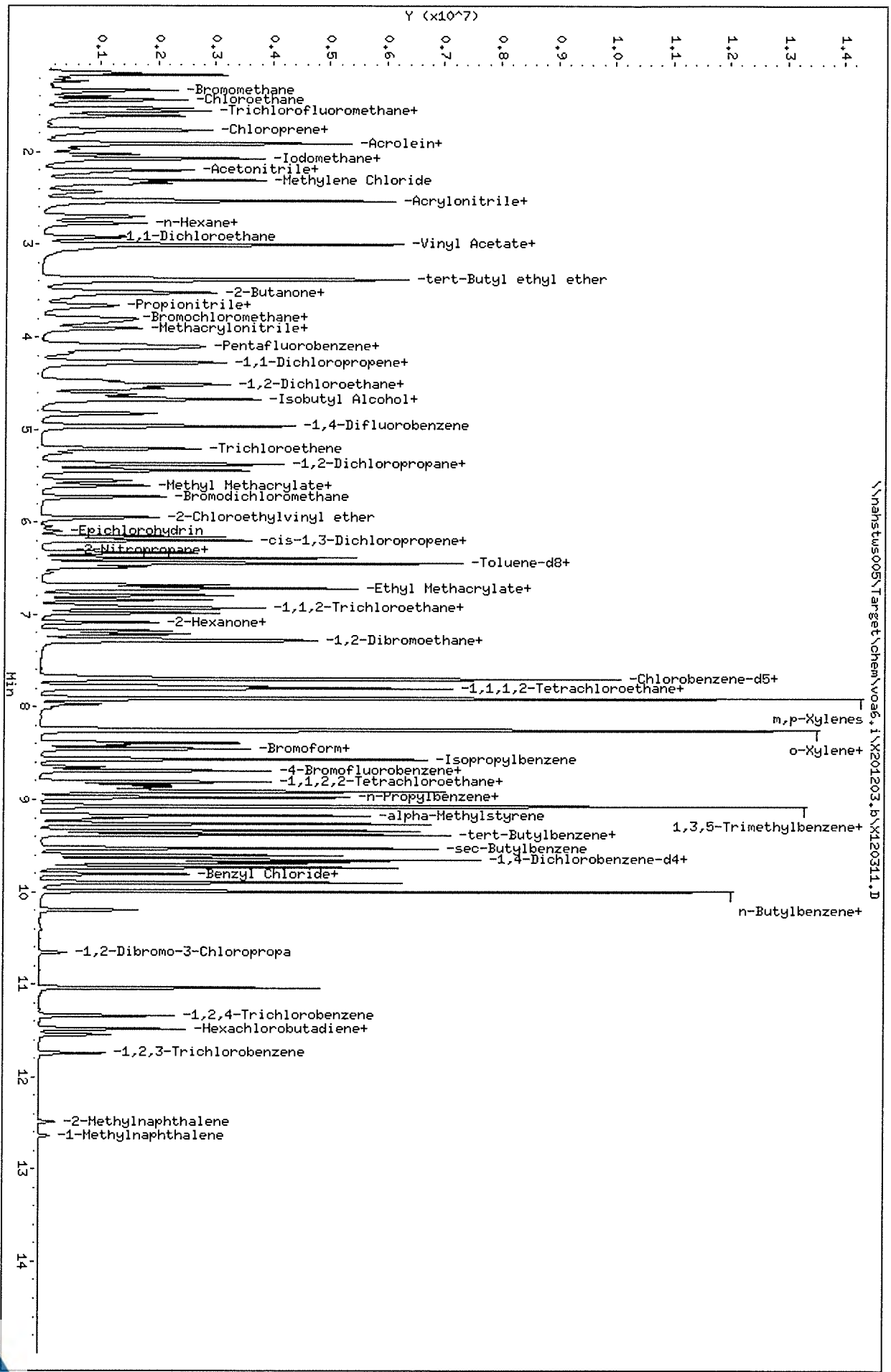
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	306105	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	596621	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	541978	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	255726	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	804284	200.000	196.65
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	1007416	200.000	197.82
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2874805	200.000	200.55(A)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1059650	200.000	197.54
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	789143	200.000	200.85(A)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	1340617	200.000	210.54(A)
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	937362	200.000	180.85
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	654455	200.000	189.78
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	1490593	200.000	202.69(A)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1004927	200.000	216.34(A)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	1125498	200.000	195.00
93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	266478	200.000	196.45
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	1102203	200.000	187.08
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	498469	200.000	207.45(A)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	2927720	200.000	210.56(A)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	77694	200.000	192.20
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	810540	200.000	194.30
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	1531328	200.000	206.82(A)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120311.D Page 2
Report Date: 22-Dec-2020 16:32

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	1170415	200.000	173.51
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	852888	200.000	190.00
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	3143445	200.000	219.24(A)
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	1527812	200.000	193.99
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	1324803	200.000	194.47
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	1536272	200.000	193.71
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	1292752	200.000	201.09(A)
24 2-Butanone	43	3.573	3.573	(0.854)	554486	400.000	388.96(A)
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	2415044	200.000	197.97
52 2-Hexanone	43	7.090	7.090	(0.924)	1004981	400.000	370.57(A)
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	3172382	200.000	211.15(A)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	3003832	200.000	214.70(A)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	1517167	400.000	382.76(A)
10 Acetone	43	1.969	1.969	(0.471)	455195	400.000	387.82(A)
37 Benzene	78	4.512	4.512	(0.908)	2987274	200.000	184.12
74 Bromobenzene	156	8.810	8.810	(0.912)	869596	200.000	191.73
29 Bromochloromethane	128	3.795	3.795	(0.908)	413644	200.000	188.45
39 Bromodichloromethane	83	5.729	5.729	(1.153)	1181051	200.000	191.46
66 Bromoform	173	8.416	8.416	(1.097)	503465	200.000	203.82(A)
6 Bromomethane	94	1.331	1.331	(0.318)	953139	200.000	199.78
19 Carbon Disulfide	76	2.069	2.069	(0.495)	4414142	400.000	435.84(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	1080380	200.000	223.96(A)
59 Chlorobenzene	112	7.692	7.692	(1.003)	2310543	200.000	207.54(A)
7 Chloroethane	64	1.396	1.396	(0.334)	739367	200.000	203.43(A)
28 Chloroform	83	3.910	3.910	(0.935)	1527593	200.000	193.91
3 Chloromethane	50	1.073	1.073	(0.257)	1263538	200.000	204.90(A)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	862680	200.000	200.21(A)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	1485095	200.000	193.69
55 Dibromochloromethane	129	7.176	7.176	(0.936)	885065	200.000	201.20(A)
44 Dibromomethane	93	5.550	5.550	(1.117)	569599	200.000	188.44
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	961874	200.000	204.81(A)
61 Ethylbenzene	106	7.800	7.800	(1.017)	1126978	200.000	206.93(A)
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	317246	200.000	196.53
67 Isopropylbenzene	105	8.566	8.566	(1.117)	3601823	200.000	214.95(A)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	3093791	400.000	435.68(A)
17 Methylene Chloride	84	2.305	2.305	(0.551)	801762	200.000	194.99
87 n-Butylbenzene	91	9.991	9.991	(1.034)	3158558	200.000	197.85
73 n-Propylbenzene	91	8.917	8.917	(0.923)	4361433	200.000	211.93(A)
92 Naphthalene	128	11.539	11.539	(1.194)	778137	200.000	188.92
63 o-Xylene	106	8.244	8.244	(1.075)	1484346	200.000	214.50(A)
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	3628118	200.000	220.69(A)
64 Styrene	104	8.258	8.258	(1.077)	2615210	200.000	222.25(A)
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	2412556	200.000	209.81(A)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	661335	200.000	218.11(A)
50 Toluene	91	6.446	6.446	(0.840)	3451579	200.000	205.02(A)
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	789880	200.000	215.17(A)
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	1301601	200.000	195.12
38 Trichloroethene	130	5.206	5.206	(1.048)	807486	200.000	185.33
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	1878953	200.000	213.79(A)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	1143721	200.000	210.45(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120311.D
Date : 03-DEC-2020 14:31
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;;
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120314.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 03-DEC-2020 15:43
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 14:31 Cal File: X120311.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

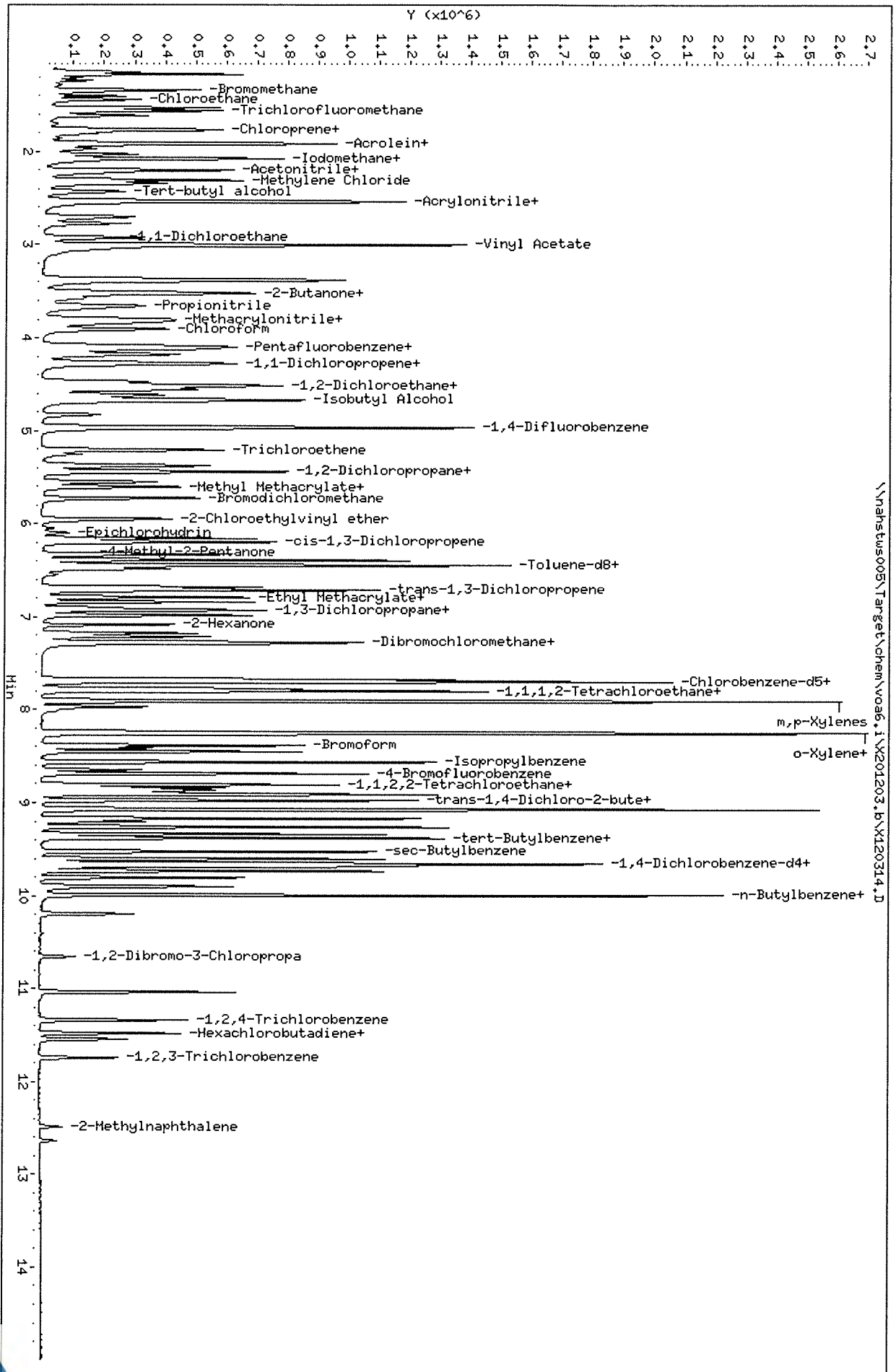
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	304048	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	544810	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	515701	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	242690	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	203684	50.0164	50.01
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	262492	51.3086	51.30
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	661665	48.8005	48.80
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	268960	52.5591	52.55
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	174089	46.5667	46.56
31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	275760	43.6015	43.60
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	234084	47.5889	47.58
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	150732	45.9370	45.93
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	340805	46.6580	46.65
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	195703	42.4167	42.41
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	236545	44.8818	44.88
93 1,2,3-Trichlorobenzene	180	11.746	11.739	(1.216)	59144	45.9439	45.94
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	270025	48.2951	48.29
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	108253	47.4738	47.47
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	585084	44.3406	44.34
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	18515	47.7519	47.75
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	192081	48.3923	48.39
88 1,2-Dichlorobenzene	146	9.992	9.991	(1.034)	317183	45.1396	45.13

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120314.D Page 2
Report Date: 22-Dec-2020 16:32

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	297712	48.3321	48.33
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	197822	48.2624	48.26
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	572312	42.0603	42.06
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	333248	44.5876	44.58
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	301099	46.4531	46.45
84	1,4-Dichlorobenzene	146	9.684	9.683	(1.002)	341216	45.3368	45.33
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	289258	45.3005	45.30
24	2-Butanone	43	3.573	3.573	(0.854)	140356	99.1253	99.12
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	531305	45.8944	45.89
52	2-Hexanone	43	7.083	7.090	(0.923)	236289	91.5686	91.56
77	4-Chlorotoluene	91	9.067	9.075	(0.938)	618009	43.3455	43.34
82	p-Isopropyltoluene	119	9.648	9.655	(0.999)	540658	40.7201	40.72
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	358286	94.9972	94.99
10	Acetone	43	1.969	1.969	(0.471)	121599	98.3098	98.30
37	Benzene	78	4.512	4.512	(0.908)	689807	46.5613	46.56
74	Bromobenzene	156	8.810	8.810	(0.912)	198740	46.1730	46.17
29	Bromochloromethane	128	3.796	3.795	(0.908)	103190	47.3300	47.32
39	Bromodichloromethane	83	5.730	5.729	(1.153)	280467	49.7929	49.79
66	Bromoform	173	8.408	8.416	(1.096)	118599	50.4599	50.45
6	Bromomethane	94	1.339	1.331	(0.320)	202202	42.8712	42.87
19	Carbon Disulfide	76	2.069	2.069	(0.495)	909957	90.4552	90.45
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	200011	45.4061	45.40
59	Chlorobenzene	112	7.692	7.692	(1.003)	491232	46.3736	46.37
7	Chloroethane	64	1.403	1.396	(0.336)	147392	40.8286	40.82
28	Chloroform	83	3.910	3.910	(0.935)	362722	46.3567	46.35
3	Chloromethane	50	1.074	1.073	(0.257)	274829	45.8087	45.80
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	199141	46.5297	46.52
46	cis-1,3-Dichloropropene	75	6.152	6.159	(1.238)	349833	49.9670	49.96
55	Dibromochloromethane	129	7.176	7.176	(0.936)	198097	47.3281	47.32
44	Dibromomethane	93	5.550	5.550	(1.117)	134776	48.8303	48.83
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	180451	40.8970	40.89
61	Ethylbenzene	106	7.800	7.800	(1.017)	230537	44.4880	44.48
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	58852	43.3731	43.37
67	Isopropylbenzene	105	8.559	8.566	(1.116)	680959	42.7105	42.71
62	m,p-Xylenes	106	7.907	7.907	(1.031)	600863	88.9276	88.92
17	Methylene Chloride	84	2.306	2.305	(0.551)	184915	45.2769	45.27
87	n-Butylbenzene	91	9.992	9.991	(1.034)	523194	40.1873	40.18
73	n-Propylbenzene	91	8.917	8.917	(0.923)	842160	43.1204	43.12
92	Naphthalene	128	11.539	11.539	(1.194)	187888	48.0672	48.06
63	o-Xylene	106	8.244	8.244	(1.075)	294614	44.7452	44.74
81	sec-Butylbenzene	105	9.519	9.526	(0.985)	632129	40.5179	40.51
64	Styrene	104	8.258	8.258	(1.077)	533071	47.6111	47.61
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	453400	41.5493	41.54
56	Tetrachloroethene	164	6.933	6.933	(0.904)	124139	43.0289	43.02
50	Toluene	91	6.446	6.446	(0.840)	732531	45.7295	45.72
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	169478	46.4803	46.48
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	297754	48.8808	48.88
38	Trichloroethene	130	5.207	5.206	(1.048)	172842	43.4428	43.44
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	357494	40.9519	40.95
5	Vinyl Chloride	62	1.145	1.138	(0.274)	217893	40.3647	40.36



Data File: \\nahstws005\Target\chem\voa6,i\X201203,b\X120314,D
Date : 03-DEC-2020 15:43
Client ID: ICV
Sample Info: CCV;CCV;2;;ICV
Purge Volume: 5.0
Column phase: DB624

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

MSVOA06 -Logbook

Batch: 42896 **Analyst:** Devak Giga

Date: 12-14-2020 **Reviewer:**

Method: 8260_W **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-14-2020 10:52 am	1.00	0.00 mL	0.00 mL	X121401.D	Liquid	Y	NA
2	CCV	CCV	12-14-2020 11:13 am	1.00	5.00 mL	0.00 mL	X121402a.D	Liquid	Y	NA
3	CCV	CCV	12-14-2020 11:34 am	1.00	5.00 mL	0.00 mL	X121403.D	Liquid	Y	NA
4	CCB	SAMP	12-14-2020 11:55 am	1.00	5.00 mL	0.00 mL	X121404.D	Liquid	Y	NA
5	VLCSW-201214	LCS	12-14-2020 12:16 pm	1.00	5.00 mL	0.00 mL	X121405.D	Liquid	Y	NA
6	BLANK	SAMP	12-14-2020 12:37 pm	1.00	5.00 mL	0.00 mL	X121406.D	Liquid	Y	NA
7	VBLKW-201214	MBLK	12-14-2020 12:58 pm	1.00	5.00 mL	0.00 mL	X121407.D	Liquid	Y	NA
8	HS20120090-11	SAMP	12-14-2020 01:19 pm	1.00	5.00 mL	0.00 mL	X121408.D	Liquid	Y	NA
9	HS20120243-01	SAMP	12-14-2020 01:40 pm	1.00	5.00 mL	0.00 mL	X121409.D	Liquid	Y	NA
10	HS20120243-02	SAMP	12-14-2020 02:01 pm	1.00	5.00 mL	0.00 mL	X121410.D	Liquid	Y	NA
11	HS20120090-06	SAMP	12-14-2020 02:22 pm	1.00	5.00 mL	0.00 mL	X121411.D	Liquid	Y	NA
12	HS20120090-07	SAMP	12-14-2020 02:43 pm	1.00	5.00 mL	0.00 mL	X121412.D	Liquid	Y	NA
13	HS20120090-08	SAMP	12-14-2020 03:04 pm	1.00	5.00 mL	0.00 mL	X121413.D	Liquid	Y	NA
14	HS20120090-09	SAMP	12-14-2020 03:25 pm	1.00	5.00 mL	0.00 mL	X121414.D	Liquid	Y	NA
15	HS20120090-10	SAMP	12-14-2020 03:46 pm	1.00	5.00 mL	0.00 mL	X121415.D	Liquid	Y	NA
16	HS20120522-24	SAMP	12-14-2020 04:07 pm	1.00	5.00 mL	0.00 mL	X121416.D	Liquid	Y	NA
17	HS20120522-25	SAMP	12-14-2020 04:28 pm	1.00	5.00 mL	0.00 mL	X121417.D	Liquid	Y	NA
18	HS20120243-01MS	MS	12-14-2020 04:50 pm	1.00	5.00 mL	0.00 mL	X121418.D	Liquid	Y	NA
19	HS20120243-01MSD	MSD	12-14-2020 05:11 pm	1.00	5.00 mL	0.00 mL	X121419.D	Liquid	Y	NA
20	BLANK	SAMP	12-14-2020 05:32 pm	1.00	5.00 mL	0.00 mL	X121420.D	Liquid	Y	NA
21	HS20120522-13	SAMP	12-14-2020 05:53 pm	1.00	5.00 mL	0.00 mL	X121421.D	Liquid	Y	NA
22	HS20120522-18	SAMP	12-14-2020 06:14 pm	1.00	5.00 mL	0.00 mL	X121422.D	Liquid	Y	NA
23	HS20120522-14	SAMP	12-14-2020 06:35 pm	5.00	5.00 mL	0.00 mL	X121423.D	Liquid	Y	NA
24	HS20120522-15	SAMP	12-14-2020 06:56 pm	1.00	5.00 mL	0.00 mL	X121424.D	Liquid	Y	NA
25	HS20120522-16	SAMP	12-14-2020 07:17 pm	1.00	5.00 mL	0.00 mL	X121425.D	Liquid	Y	NA
26	HS20120522-17	SAMP	12-14-2020 07:38 pm	1.00	5.00 mL	0.00 mL	X121426.D	Liquid	Y	NA
27	HS20120522-21	SAMP	12-14-2020 07:59 pm	1.00	5.00 mL	0.00 mL	X121427.D	Liquid	Y	NA
28	HS20120522-22	SAMP	12-14-2020 08:20 pm	1.00	5.00 mL	0.00 mL	X121428.D	Liquid	Y	NA
29	HS20120522-19	SAMP	12-14-2020 08:41 pm	10.00	5.00 mL	0.00 mL	X121429.D	Liquid	Y	NA
30	HS20120522-20	SAMP	12-14-2020 09:02 pm	10.00	5.00 mL	0.00 mL	X121430.D	Liquid	Y	NA
31	CCV-END	CCV	12-14-2020 09:23 pm	1.00	5.00 mL	0.00 mL	X121431.D	Liquid	Y	NA
32	BLANK	SAMP	12-14-2020 09:44 pm	1.00	5.00 mL	0.00 mL	X121432.D	Liquid	Y	NA

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120243

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-201214	100	97	100	104	0
02	VBLKW-201214	86	88	105	94	0
03	HS20120243-0	84	86	103	91	0
04	HS20120243-0	86	88	105	93	0
05	HS20120243-0	89	89	104	102	0
06	HS20120243-0	87	88	104	99	0
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(0-130)
SMC2	= Dibromofluoromethane	(0-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER	= 4-Bromofluorobenzene	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-201214

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120243

Lab File ID: X121407 Lab Sample ID: VBLKW-201214

Date Analyzed: 12/14/20 Time Analyzed: 1258

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-201214	VLCSW-201214	X121405	1216
02	HS20120243-0	HS20120243-01	X121409	1340
03	HS20120243-0	HS20120243-02	X121410	1401
04	HS20120243-0	HS20120243-01M	X121418	1650
05	HS20120243-0	HS20120243-01M	X121419	1711
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120243

Lab File ID: X121401 BFB Injection Date: 12/14/20

Instrument ID: VOA6 BFB Injection Time: 1052

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	22.9
75	30.0 - 60.0% of mass 95	52.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.9
173	Less than 2.0% of mass 174	1.0 (1.3)1
174	Greater than 50.0% of mass 95	76.5
175	5.0 - 9.0% of mass 174	5.5 (7.2)1
176	95.0 - 101.0% of mass 174	72.9 (95.4)1
177	5.0 - 9.0% of mass 176	4.8 (6.6)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	X121403	12/14/20	1134
02	VLCSW-201214	VLCSW-201214	X121405	12/14/20	1216
03	VBLKW-201214	VBLKW-201214	X121407	12/14/20	1258
04	HS20120243-0	HS20120243-01	X121409	12/14/20	1340
05	HS20120243-0	HS20120243-02	X121410	12/14/20	1401
06	HS20120243-0	HS20120243-01M	X121418	12/14/20	1650
07	HS20120243-0	HS20120243-01M	X121419	12/14/20	1711
08					
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.: HS20120243

Instrument ID: VOA6 Calibration Date: 12/14/20 Time: 1134

Lab File ID: X121403 Init. Calib. Date(s): 12/03/20 12/03/20

Init. Calib. Times: 1101 1431

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	0.6420000	0.6951209	0.6951209	0.2	-8.27	20.00	AVRG
trans-1,3-Dichloropropene	0.5590000	0.6023164	0.6023164	0.1	-7.75	20.00	AVRG
1,3-Dichlorobenzene	1.5400000	1.5606120	1.5606120	0.6	-1.34	20.00	AVRG
2,2-Dichloropropane	1.0500000	1.0819104	1.0819104	0.1	-3.04	20.00	AVRG
1,1-Dichloropropene	0.4840000	0.5082820	0.5082820	0.1	-5.02	20.00	AVRG
Dibromomethane	0.2530000	0.2657610	0.2657610	0.1	-5.04	20.00	AVRG
1,2-Dibromoethane	0.3850000	0.3905749	0.3905749	0.1	-1.45	20.00	AVRG
trans-1,2-Dichloroethene	0.6000000	0.5922197	0.5922197	0.1	1.30	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3620000	0.3798620	0.3798620	0.1	-4.93	20.00	AVRG
1,1,1-Trichloroethane	1.0400000	1.0787960	1.0787960	0.1	-3.73	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.0130000	1.0299111	1.0299111	0.3	-1.67	20.00	AVRG
1,1,2-Trichloroethane	0.3180000	0.3178997	0.3178997	0.1	0.03	20.00	AVRG
1,1-Dichloroethane	1.2010000	1.1554831	1.1554831	0.2	3.79	20.00	AVRG
1,1-Dichloroethene	0.7590000	0.6783572	0.6783572	0.1	10.62	20.00	AVRG
Trichloroethene	0.3650000	0.3592446	0.3592446	0.2	1.58	20.00	AVRG
1,2,3-Trichlorobenzene	0.2650000	0.2785781	0.2785781	0.01	-5.12	20.00	AVRG
Trichlorofluoromethane	1.4350000	1.3101404	1.3101404	0.1	8.70	20.00	AVRG
1,2,4-Trichlorobenzene	0.4700000	0.4982824	0.4982824	0.1	-6.02	20.00	AVRG
1,2,4-Trimethylbenzene	2.7180000	2.9401984	2.9401984	0.1	-8.18	20.00	AVRG
Tetrachloroethene	0.2800000	0.2958220	0.2958220	0.2	-5.65	20.00	AVRG
1,2-Dichlorobenzene	1.4480000	1.4465472	1.4465472	0.4	0.10	20.00	AVRG
1,2-Dichloroethane	0.5650000	0.5785427	0.5785427	0.1	-2.40	20.00	AVRG
1,2-Dichloropropane	0.3760000	0.3866352	0.3866352	0.1	-2.83	20.00	AVRG
1,3,5-Trimethylbenzene	2.8030000	2.9978060	2.9978060	0.1	-6.95	20.00	AVRG
1,3-Dichloropropane	0.6280000	0.6501272	0.6501272	0.1	-3.52	20.00	AVRG
1,4-Dichlorobenzene	1.5500000	1.5945522	1.5945522	0.4	-2.87	20.00	AVRG
Toluene	1.5530000	1.5876872	1.5876872	0.4	-2.23	20.00	AVRG
2-Butanone	0.2330000	0.2257918	0.2257918	0.1	3.09	20.00	AVRG
2-Chlorotoluene	2.3850000	2.5967379	2.5967379	0.1	-8.88	20.00	AVRG
2-Hexanone	0.2500000	0.2349682	0.2349682	0.1	6.01	20.00	AVRG
4-Chlorotoluene	2.9370000	3.1177227	3.1177227	0.1	-6.15	20.00	AVRG
tert-Butylbenzene	2.2480000	2.4119513	2.4119513	0.1	-7.29	20.00	AVRG
4-Methyl-2-Pentanone	0.3660000	0.3471432	0.3471432	0.1	5.15	20.00	AVRG
Acetone	99.337497	100.00000	0.2018964	0.1	0.66	20.00	LINR
Benzene	1.3600000	1.4238218	1.4238218	0.5	-4.69	20.00	AVRG
Bromobenzene	0.8870000	0.9276739	0.9276739	0.1	-4.58	20.00	AVRG
Bromochloromethane	0.3580000	0.3531303	0.3531303	0.1	1.36	20.00	AVRG
Bromodichloromethane	0.5170000	0.5533296	0.5533296	0.2	-7.03	20.00	AVRG
Bromoform	0.2280000	0.2377465	0.2377465	0.1	-4.27	20.00	AVRG
Bromomethane	49.362057	50.000000	0.7663261	0.1	1.28	20.00	LINR
Carbon Disulfide	1.6540000	1.6291842	1.6291842	0.1	1.50	20.00	AVRG
Carbon Tetrachloride	0.4040000	0.4591947	0.4591947	0.1	-13.66	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2012024

Instrument ID: VOA6 Calibration Date: 12/14/20 Time: 1134

Lab File ID: X121403 Init. Calib. Date(s): 12/03/20 12/03/20

Init. Calib. Times: 1101 1431

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	1.0270000	1.0250535	1.0250535	0.5	0.19	20.00	AVRG
Chloroethane	0.5940000	0.5499611	0.5499611	0.1	7.41	20.00	AVRG
Chloroform	1.2870000	1.2815056	1.2815056	0.2	0.43	20.00	AVRG
Chloromethane	42.111512	50.000000	0.8289827	0.1	15.78	20.00	LINR
cis-1,2-Dichloroethene	0.7040000	0.6943862	0.6943862	0.1	1.36	20.00	AVRG
Dibromochloromethane	0.4060000	0.4257534	0.4257534	0.1	-4.86	20.00	AVRG
Dichlorodifluoromethane	41.644341	50.000000	0.6051154	0.1	16.71	20.00	LINR
Ethylbenzene	0.5020000	0.5291672	0.5291672	0.1	-5.41	20.00	AVRG
Hexachlorobutadiene	53.818253	50.000000	0.3053550	0.1	-7.64	20.00	2RDR
Isopropylbenzene	1.5460000	1.6080548	1.6080548	0.1	-4.01	20.00	AVRG
m,p-Xylenes	0.6550000	0.6701008	0.6701008	0.1	-2.30	20.00	AVRG
Methylene Chloride	0.6720000	0.6358842	0.6358842	0.1	5.37	20.00	AVRG
n-Butylbenzene	53.144631	50.000000	2.9026909	0.5	-6.29	20.00	2RDR
n-Propylbenzene	4.0240000	4.5453409	4.5453409	0.1	-12.96	20.00	AVRG
Naphthalene	0.8050000	0.8543126	0.8543126	0.2	-6.12	20.00	AVRG
o-Xylene	0.6380000	0.6362641	0.6362641	0.3	0.27	20.00	AVRG
sec-Butylbenzene	3.2140000	3.4675877	3.4675877	0.1	-7.89	20.00	AVRG
Styrene	1.0860000	1.0880409	1.0880409	0.3	-0.19	20.00	AVRG
Vinyl Chloride	0.8880000	0.8097637	0.8097637	0.1	8.81	20.00	AVRG
1,2,3-Trichloropropane	1.1520000	1.2067551	1.2067551	0.1	-4.75	20.00	AVRG
p-Isopropyltoluene	2.7350000	2.9397365	2.9397365	0.1	-7.48	20.00	AVRG
1,2-Dibromo-3-Chloropropane	54.644757	50.000000	8.71e-002	0.05	-9.29	20.00	LINR
1,2-Dichloroethane-d4	48.183100	50.000000	0.8115352	0.1	3.63	20.00	LINR
Dibromofluoromethane	49.382242	50.000000	0.6614424	0.1	1.24	20.00	LINR
Toluene-d8	50.140644	50.000000	1.3185518	0.1	-0.28	20.00	LINR
4-Bromofluorobenzene	49.449877	50.000000	0.4907980	0.1	1.10	20.00	LINR

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS201120243

Instrument ID: VOA6 Calibration Date: 12/14/20 Time: 2123

Lab File ID: X121431 Init. Calib. Date(s): 12/03/20 12/03/20

Init. Calib. Times: 1101 1431

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	0.6420000	0.6495300	0.6495300	0.2	-1.17	50.00	AVRG
trans-1,3-Dichloropropene	0.5590000	0.5649617	0.5649617	0.1	-1.07	50.00	AVRG
1,3-Dichlorobenzene	1.5400000	1.4206952	1.4206952	0.6	7.75	50.00	AVRG
2,2-Dichloropropane	1.0500000	0.9469197	0.9469197	0.1	9.82	50.00	AVRG
1,1-Dichloropropene	0.4840000	0.4776110	0.4776110	0.1	1.32	50.00	AVRG
Dibromomethane	0.2530000	0.2595375	0.2595375	0.1	-2.58	50.00	AVRG
1,2-Dibromoethane	0.3850000	0.3750270	0.3750270	0.1	2.59	50.00	AVRG
trans-1,2-Dichloroethene	0.6000000	0.5857743	0.5857743	0.1	2.37	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3620000	0.3569443	0.3569443	0.1	1.40	50.00	AVRG
1,1,1-Trichloroethane	1.0400000	1.0726648	1.0726648	0.1	-3.14	50.00	AVRG
1,1,2,2-Tetrachloroethane	1.0130000	0.9649164	0.9649164	0.3	4.75	50.00	AVRG
1,1,2-Trichloroethane	0.3180000	0.3127562	0.3127562	0.1	1.65	50.00	AVRG
1,1-Dichloroethane	1.2010000	1.1611398	1.1611398	0.2	3.32	50.00	AVRG
1,1-Dichloroethene	0.7590000	0.6646994	0.6646994	0.1	12.42	50.00	AVRG
Trichloroethene	0.3650000	0.3590767	0.3590767	0.2	1.62	50.00	AVRG
1,2,3-Trichlorobenzene	0.2650000	0.2671623	0.2671623	0.01	-0.82	50.00	AVRG
Trichlorofluoromethane	1.4350000	1.2495676	1.2495676	0.1	12.92	50.00	AVRG
1,2,4-Trichlorobenzene	0.4700000	0.4759220	0.4759220	0.1	-1.26	50.00	AVRG
1,2,4-Trimethylbenzene	2.7180000	2.6801889	2.6801889	0.1	1.39	50.00	AVRG
Tetrachloroethene	0.2800000	0.2647816	0.2647816	0.2	5.44	50.00	AVRG
1,2-Dichlorobenzene	1.4480000	1.3392584	1.3392584	0.4	7.51	50.00	AVRG
1,2-Dichloroethane	0.5650000	0.5676507	0.5676507	0.1	-0.47	50.00	AVRG
1,2-Dichloropropane	0.3760000	0.3855573	0.3855573	0.1	-2.54	50.00	AVRG
1,3,5-Trimethylbenzene	2.8030000	2.7157582	2.7157582	0.1	3.11	50.00	AVRG
1,3-Dichloropropane	0.6280000	0.6191405	0.6191405	0.1	1.41	50.00	AVRG
1,4-Dichlorobenzene	1.5500000	1.4750347	1.4750347	0.4	4.84	50.00	AVRG
Toluene	1.5530000	1.4741555	1.4741555	0.4	5.08	50.00	AVRG
2-Butanone	0.2330000	0.2317560	0.2317560	0.1	0.53	50.00	AVRG
2-Chlorotoluene	2.3850000	2.3501637	2.3501637	0.1	1.46	50.00	AVRG
2-Hexanone	0.2500000	0.2292112	0.2292112	0.1	8.32	50.00	AVRG
4-Chlorotoluene	2.9370000	2.8806634	2.8806634	0.1	1.92	50.00	AVRG
tert-Butylbenzene	2.2480000	2.2182218	2.2182218	0.1	1.32	50.00	AVRG
4-Methyl-2-Pentanone	0.3660000	0.3423085	0.3423085	0.1	6.47	50.00	AVRG
Acetone	95.364302	100.00000	0.1944367	0.1	4.64	50.00	LINR
Benzene	1.3600000	1.3690311	1.3690311	0.5	-0.66	50.00	AVRG
Bromobenzene	0.8870000	0.8693051	0.8693051	0.1	1.99	50.00	AVRG
Bromochloromethane	0.3580000	0.3636038	0.3636038	0.1	-1.56	50.00	AVRG
Bromodichloromethane	0.5170000	0.5451174	0.5451174	0.2	-5.44	50.00	AVRG
Bromoform	0.2280000	0.2345076	0.2345076	0.1	-2.85	50.00	AVRG
Bromomethane	55.125147	50.000000	0.8562620	0.1	-10.25	50.00	LINR
Carbon Disulfide	1.6540000	1.5696667	1.5696667	0.1	5.10	50.00	AVRG
Carbon Tetrachloride	0.4040000	0.4405221	0.4405221	0.1	-9.04	50.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2011202

Instrument ID: VOA6 Calibration Date: 12/14/20 Time: 2123

Lab File ID: X121431 Init. Calib. Date(s): 12/03/20 12/03/20

Init. Calib. Times: 1101 1431

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	1.0270000	0.9644110	0.9644110	0.5	6.09	50.00	AVRG
Chloroethane	0.5940000	0.5695268	0.5695268	0.1	4.12	50.00	AVRG
Chloroform	1.2870000	1.3390394	1.3390394	0.2	-4.04	50.00	AVRG
Chloromethane	38.912209	50.000000	0.7641545	0.1	22.18	50.00	LINR
cis-1,2-Dichloroethene	0.7040000	0.7343543	0.7343543	0.1	-4.31	50.00	AVRG
Dibromochloromethane	0.4060000	0.3992676	0.3992676	0.1	1.66	50.00	AVRG
Dichlorodifluoromethane	35.086104	50.000000	0.5031420	0.1	29.83	50.00	LINR
Ethylbenzene	0.5020000	0.4975074	0.4975074	0.1	0.89	50.00	AVRG
Hexachlorobutadiene	48.847819	50.000000	0.2753635	0.1	2.30	50.00	2RDR
Isopropylbenzene	1.5460000	1.5103297	1.5103297	0.1	2.31	50.00	AVRG
m,p-Xylenes	0.6550000	0.6352383	0.6352383	0.1	3.02	50.00	AVRG
Methylene Chloride	0.6720000	0.6425422	0.6425422	0.1	4.38	50.00	AVRG
n-Butylbenzene	47.149498	50.000000	2.5555281	0.5	5.70	50.00	2RDR
n-Propylbenzene	4.0240000	3.9290715	3.9290715	0.1	2.36	50.00	AVRG
Naphthalene	0.8050000	0.7115456	0.7115456	0.2	11.61	50.00	AVRG
o-Xylene	0.6380000	0.6176512	0.6176512	0.3	3.19	50.00	AVRG
sec-Butylbenzene	3.2140000	3.1256416	3.1256416	0.1	2.75	50.00	AVRG
Styrene	1.0860000	1.0493765	1.0493765	0.3	3.37	50.00	AVRG
Vinyl Chloride	0.8880000	0.7330581	0.7330581	0.1	17.45	50.00	AVRG
1,2,3-Trichloropropane	1.1520000	1.0778359	1.0778359	0.1	6.44	50.00	AVRG
p-Isopropyltoluene	2.7350000	2.6091202	2.6091202	0.1	4.60	50.00	AVRG
1,2-Dibromo-3-Chloropropane	45.394169	50.000000	7.26e-002	0.05	9.21	50.00	LINR
1,2-Dichloroethane-d4	53.346300	50.000000	0.8970897	0.1	-6.69	50.00	LINR
Dibromofluoromethane	51.726355	50.000000	0.6927347	0.1	-3.45	50.00	LINR
Toluene-d8	49.344321	50.000000	1.2974510	0.1	1.31	50.00	LINR
4-Bromofluorobenzene	50.926063	50.000000	0.5053947	0.1	-1.85	50.00	LINR

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120243

Lab File ID (Standard): X121403 Date Analyzed: 12/14/20

Instrument ID: VOA6 Time Analyzed: 1134

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	544395	7.67	577278	4.97	242485	9.66
	UPPER LIMIT	1088790	8.17	1154556	5.47	484970	10.16
	LOWER LIMIT	272198	7.17	288639	4.47	121243	9.16
	CLIENT SAMPLE NO.						
01	VLCSW-201214	554441	7.67	570223	4.96	251350	9.66
02	VBLKW-201214	550391	7.67	616821	4.96	233405	9.66
03	HS20120243-0	517795	7.67	574433	4.97	220409	9.66
04	HS20120243-0	521659	7.67	577343	4.96	223516	9.66
05	HS20120243-0	476330	7.67	528036	4.97	219812	9.66
06	HS20120243-0	474606	7.67	537286	4.97	214172	9.66
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120243

Lab File ID (Standard): X121403 Date Analyzed: 12/14/20

Instrument ID: VOA6 Time Analyzed: 1134

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	317237	4.18				
	UPPER LIMIT	634474	4.68				
	LOWER LIMIT	158619	3.68				
	CLIENT SAMPLE NO.						
01	VLCSW-201214	308501	4.18				
02	VBLKW-201214	364384	4.18				
03	HS20120243-0	346878	4.18				
04	HS20120243-0	342016	4.18				
05	HS20120243-0	306184	4.18				
06	HS20120243-0	310816	4.18				
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 = Pentafluorobenzene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121401.D Page 1

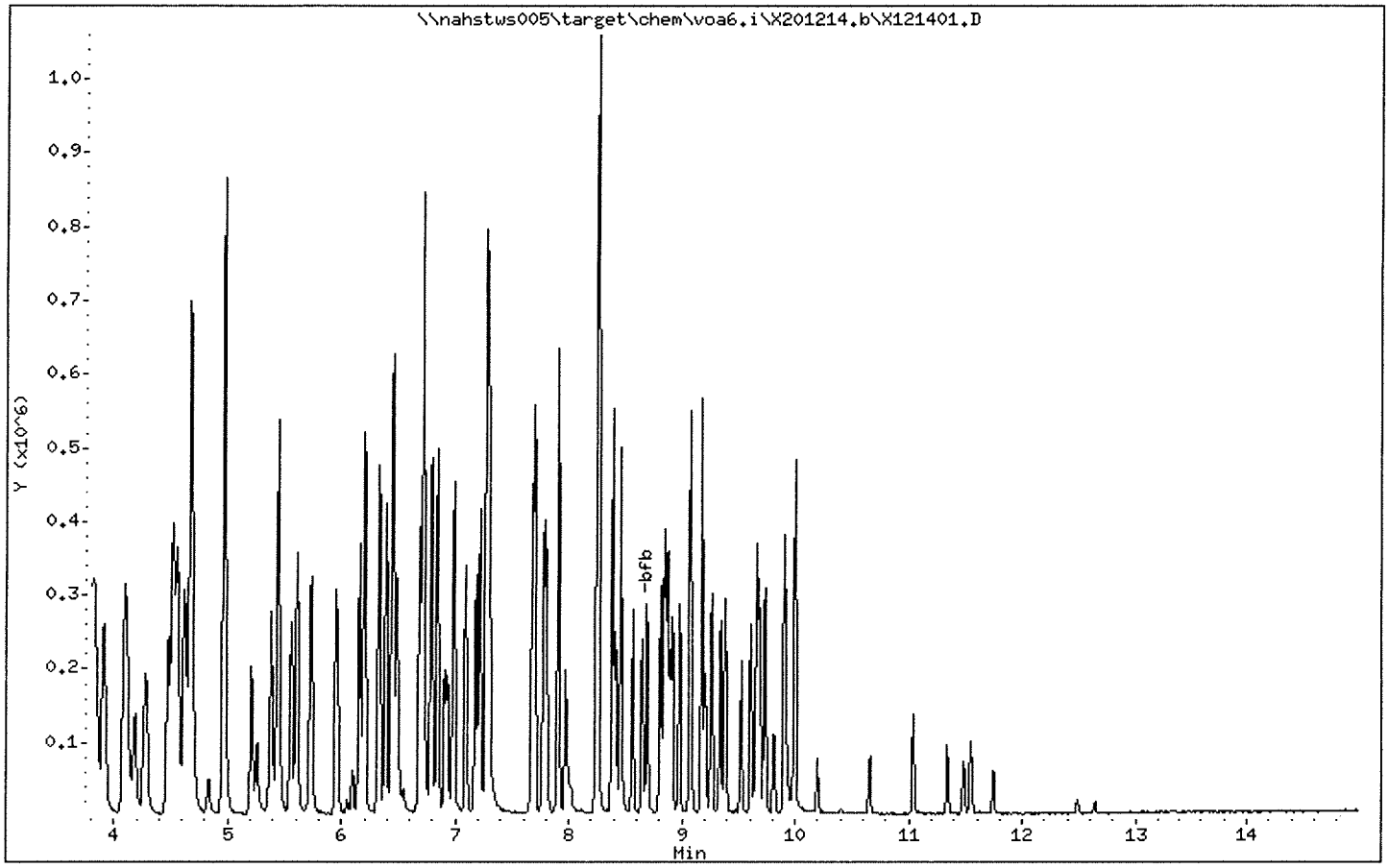
Date : 14-DEC-2020 10:52

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25



Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121401.D

Date : 14-DEC-2020 10:52

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

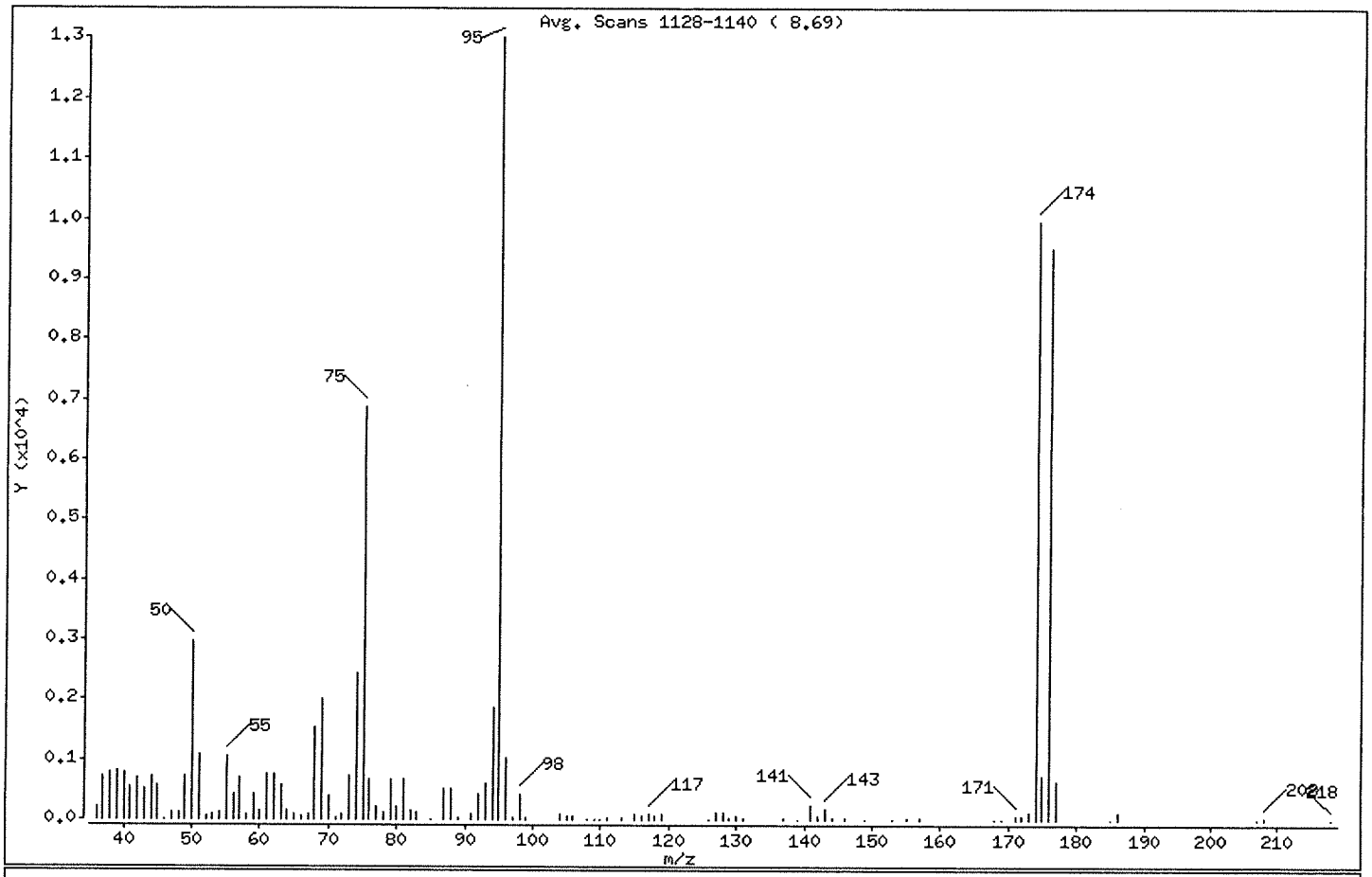
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.92
75	30.00 - 60.00% of mass 95	52.80
96	5.00 - 9.00% of mass 95	7.89
173	Less than 2.00% of mass 174	0.98 (1.29)
174	Greater than 50.00% of mass 95	76.49
175	5.00 - 9.00% of mass 174	5.48 (7.16)
176	95.00 - 101.00% of mass 174	72.94 (95.36)
177	5.00 - 9.00% of mass 176	4.83 (6.63)

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121401.D

Date : 14-DEC-2020 10:52

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: X121401.D
Spectrum: Avg. Scans 1128-1140 (8.69)
Location of Maximum: 95.00
Number of points: 105

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	214	63.00	577	93.00	614	139.00	11
37.00	711	64.00	136	94.00	1852	141.00	230
38.00	774	65.00	94	95.00	13014	142.00	68
39.00	817	66.00	64	96.00	1027	143.00	193
40.00	781	67.00	77	97.00	39	144.00	16
41.00	539	68.00	1539	98.00	409	146.00	22
42.00	697	69.00	2000	99.00	44	149.00	4
43.00	520	70.00	390	104.00	77	153.00	8
44.00	722	71.00	36	105.00	62	155.00	27
45.00	564	72.00	85	106.00	62	157.00	42
46.00	12	73.00	717	108.00	9	168.00	4
47.00	122	74.00	2428	109.00	4	169.00	9
48.00	107	75.00	6872	110.00	12	171.00	58
49.00	725	76.00	653	111.00	19	172.00	46
50.00	2983	77.00	215	113.00	19	173.00	128
51.00	1070	78.00	106	115.00	79	174.00	9955
52.00	66	79.00	651	116.00	63	175.00	713
53.00	88	80.00	204	117.00	102	176.00	9493
54.00	109	81.00	671	118.00	64	177.00	629
55.00	1040	82.00	161	119.00	90	185.00	10
56.00	410	83.00	106	126.00	9	186.00	123
57.00	699	85.00	6	127.00	122	207.00	13
58.00	79	87.00	520	128.00	121	208.00	17
59.00	423	88.00	518	129.00	38	218.00	6
60.00	149	89.00	25	130.00	59		
61.00	764	91.00	94	131.00	15		
62.00	759	92.00	422	137.00	23		

ALS Laboratory Group

Data file : \\nahstws005\target\chem\voa6.i\X201214.b\X121403.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 14-DEC-2020 11:34
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201214.b\8260W.m
Meth Date : 13-Jan-2021 11:34 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

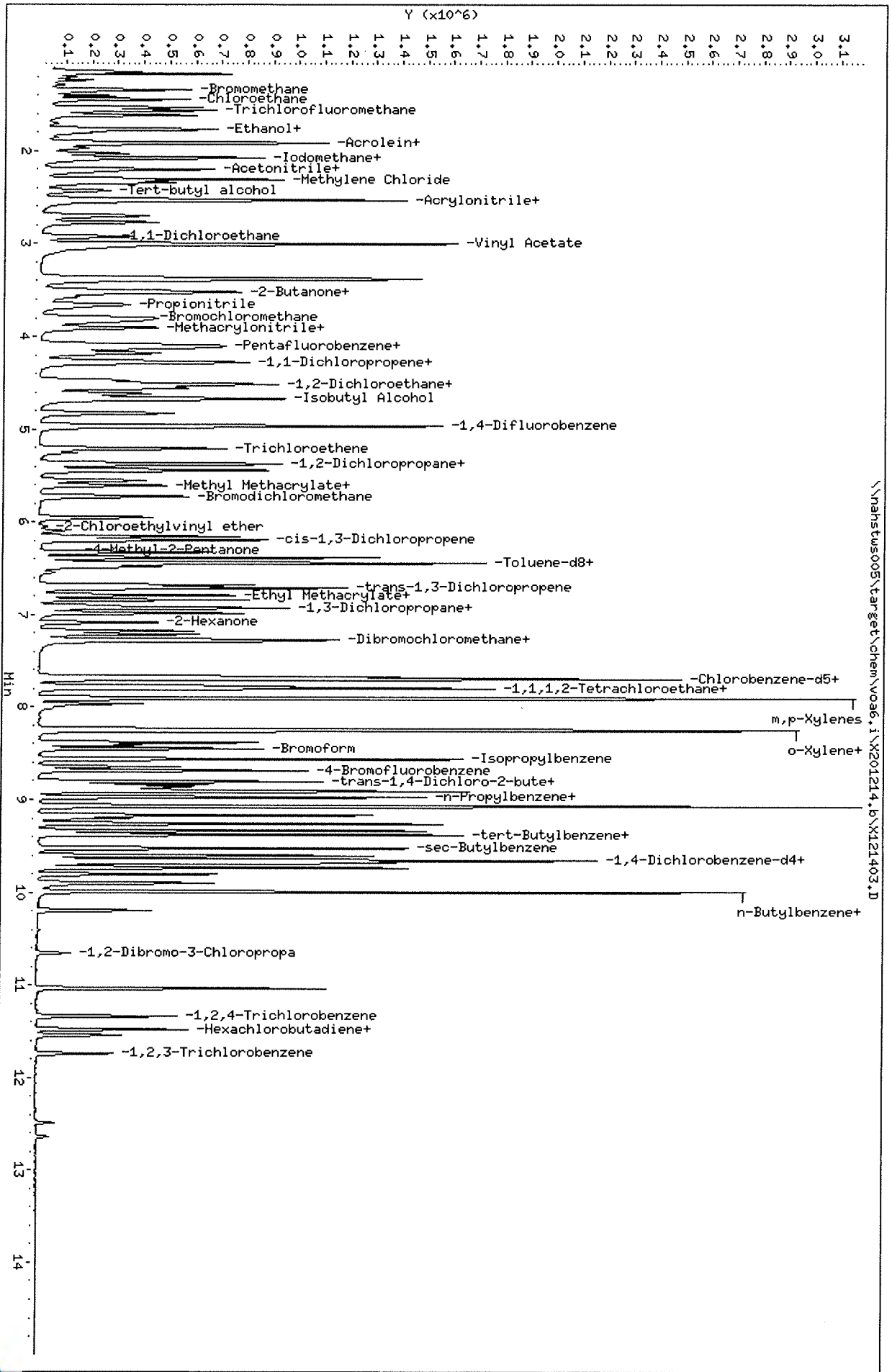
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	317237	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	577278	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	544395	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	242485	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	209834	50.0000	49.38
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	257449	50.0000	48.18
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	717813	50.0000	50.14
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	267188	50.0000	49.44
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	206795	50.0000	52.39
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	342234	50.0000	51.86
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	249738	50.0000	50.81
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	173063	50.0000	49.96
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	366562	50.0000	48.09
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	215200	50.0000	44.70
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	293420	50.0000	52.54
93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	67551	50.0000	52.51
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	292620	50.0000	52.38
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	120826	50.0000	53.03
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	712954	50.0000	54.07
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.103)	21132	50.0000	54.64
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	212627	50.0000	50.74
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	350766	50.0000	49.96

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121403.D Page 2
Report Date: 13-Jan-2021 11:34

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	333980	50.0000	51.17
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	223196	50.0000	51.39
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	726923	50.0000	53.46
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	378425	50.0000	50.67
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	353926	50.0000	51.72
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	386655	50.0000	51.41
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	343222	50.0000	51.51
24	2-Butanone	43	3.573	3.573	(0.854)	143259	100.000	96.96
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	629670	50.0000	54.43
52	2-Hexanone	43	7.083	7.083	(0.923)	255831	100.000	93.91
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	756001	50.0000	53.06
82	p-Isopropyltoluene	119	9.647	9.647	(0.999)	712842	50.0000	53.73
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	377966	100.000	94.93
10	Acetone	43	1.976	1.976	(0.473)	128098	100.000	99.33
37	Benzene	78	4.512	4.512	(0.908)	821941	50.0000	52.35
74	Bromobenzene	156	8.802	8.802	(0.911)	224947	50.0000	52.30
29	Bromochloromethane	128	3.795	3.795	(0.908)	112026	50.0000	49.24
39	Bromodichloromethane	83	5.729	5.729	(1.153)	319425	50.0000	53.51
66	Bromoform	173	8.408	8.408	(1.096)	129428	50.0000	52.16
6	Bromomethane	94	1.338	1.338	(0.320)	243107	50.0000	49.36
19	Carbon Disulfide	76	2.069	2.069	(0.495)	1033675	100.000	98.48
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	265083	50.0000	56.79
59	Chlorobenzene	112	7.692	7.692	(1.003)	558034	50.0000	49.90
7	Chloroethane	64	1.403	1.403	(0.336)	174468	50.0000	46.31
28	Chloroform	83	3.910	3.910	(0.935)	406541	50.0000	49.79
3	Chloromethane	50	1.073	1.073	(0.257)	262984	50.0000	42.11
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	220285	50.0000	49.33
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	401278	50.0000	54.09
55	Dibromochloromethane	129	7.176	7.176	(0.936)	231778	50.0000	52.45
44	Dibromomethane	93	5.550	5.550	(1.117)	153418	50.0000	52.45
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	191965	50.0000	41.64
61	Ethylbenzene	106	7.799	7.799	(1.017)	288076	50.0000	52.66
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	74044	50.0000	53.81
67	Isopropylbenzene	105	8.559	8.559	(1.116)	875417	50.0000	52.01
62	m,p-Xylenes	106	7.907	7.907	(1.031)	729599	100.000	102.28
17	Methylene Chloride	84	2.305	2.305	(0.551)	201726	50.0000	47.33
87	n-Butylbenzene	91	9.991	9.991	(1.034)	703859	50.0000	53.14
73	n-Propylbenzene	91	8.910	8.910	(0.922)	1102177	50.0000	56.48
92	Naphthalene	128	11.539	11.539	(1.194)	207158	50.0000	53.04
63	o-Xylene	106	8.244	8.244	(1.075)	346379	50.0000	49.83
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	840838	50.0000	53.94
64	Styrene	104	8.258	8.258	(1.077)	592324	50.0000	50.11
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	584862	50.0000	53.64
56	Tetrachloroethene	164	6.933	6.933	(0.904)	161044	50.0000	52.87
50	Toluene	91	6.446	6.446	(0.840)	864329	50.0000	51.11
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	187874	50.0000	49.38
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	347704	50.0000	53.87
38	Trichloroethene	130	5.206	5.206	(1.048)	207384	50.0000	49.19
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	415625	50.0000	45.63
5	Vinyl Chloride	62	1.138	1.138	(0.272)	256887	50.0000	45.60



Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121403.D
Date : 14-DEC-2020 11:34
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121405.D Page 1
Report Date: 13-Jan-2021 11:34

ALS Laboratory Group

Data file : \\nahstws005\target\chem\voa6.i\X201214.b\X121405.D
Lab Smp Id: VLCSW-201214 Client Smp ID: VLCSW-201214
Inj Date : 14-DEC-2020 12:16
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-201214;VLCSW-201214;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201214.b\8260W.m
Meth Date : 13-Jan-2021 11:34 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

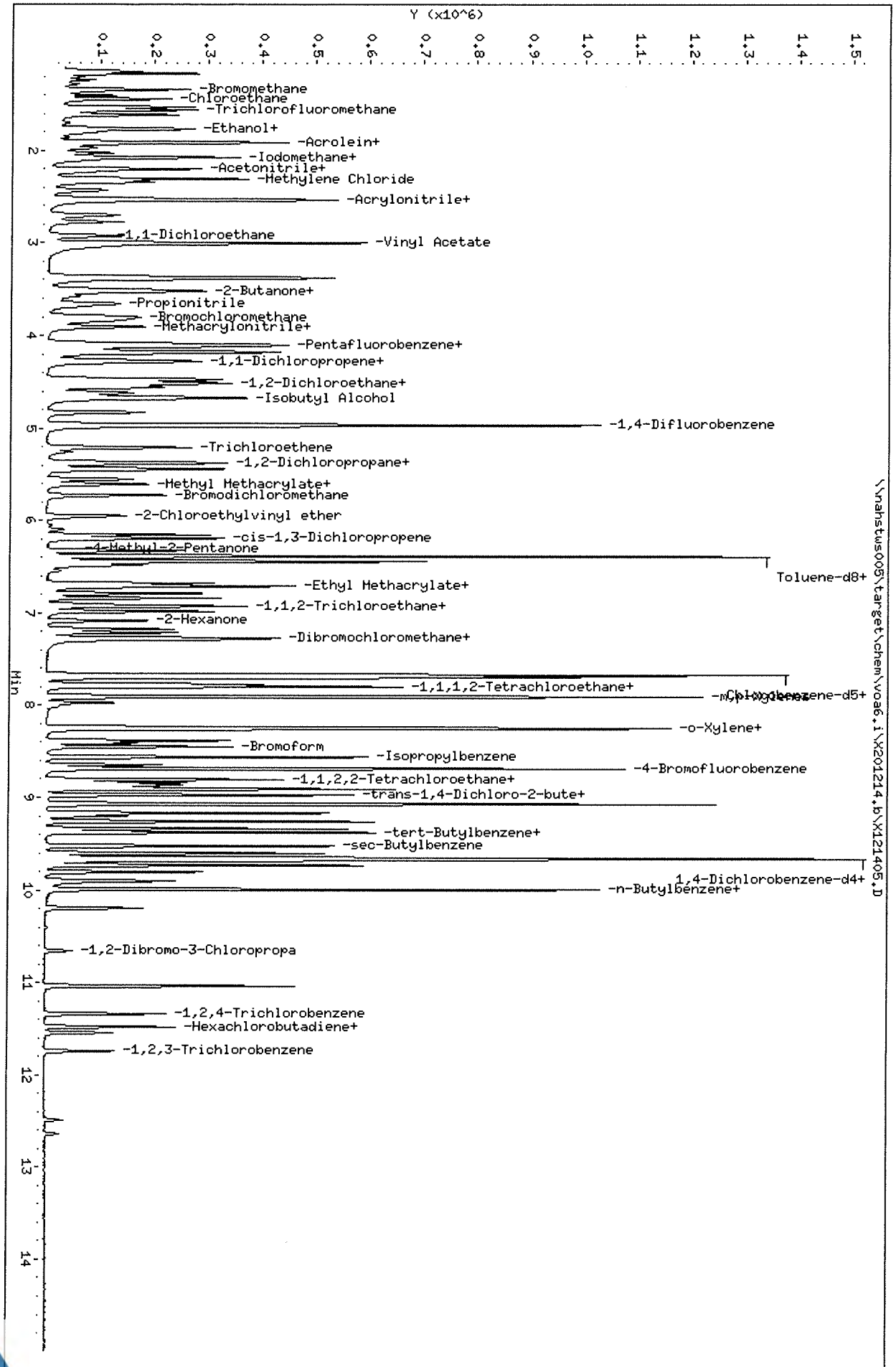
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	308501	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	570223	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	554441	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	251350	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	200039	48.4069	48.40
$	35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.068)	260210	50.1101	50.11
$	48 Toluene-d8	98	6.389	6.388	(0.833)	728587	49.9724	49.97
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	286740	52.1169	52.11
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	80040	19.9138	19.91
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	126550	19.7205	19.72
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	105303	20.6704	20.67
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	68372	19.3811	19.38
	22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	145806	19.6735	19.67
	11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	86840	18.5500	18.55
	32 1,1-Dichloropropene	75	4.283	4.282	(0.863)	103242	18.7160	18.71
	93 1,2,3-Trichlorobenzene	180	11.746	11.739	(1.216)	30464	22.8495	22.84
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	117177	20.2355	20.23
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	51447	21.7845	21.78
	79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.971)	282016	20.6362	20.63
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.657	(1.103)	8232	20.1093	20.10
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	85482	20.0313	20.03
	88 1,2-Dichlorobenzene	146	9.992	9.991	(1.034)	144429	19.8461	19.84

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121405.D Page 2
Report Date: 13-Jan-2021 11:34

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.918)	125966	19.5386	19.53
42	1,2-Dichloropropane	63	5.436	5.436	(1.095)	84522	19.7017	19.70
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	278131	19.7361	19.73
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	153562	19.8382	19.83
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	135802	19.4874	19.48
84	1,4-Dichlorobenzene	146	9.684	9.683	(1.002)	160160	20.5470	20.54
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	127730	19.7149	19.71
24	2-Butanone	43	3.581	3.573	(0.856)	58398	40.6478	40.64
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	249262	20.7895	20.78
52	2-Hexanone	43	7.083	7.083	(0.923)	103311	37.2385	37.23
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	304244	20.6036	20.60
82	p-Isopropyltoluene	119	9.648	9.647	(0.999)	261739	19.0339	19.03
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	147977	36.4937	36.49
10	Acetone	43	1.976	1.976	(0.473)	61581	44.9624	44.96
37	Benzene	78	4.512	4.512	(0.909)	298387	19.2432	19.24
74	Bromobenzene	156	8.810	8.802	(0.912)	93261	20.9207	20.92
29	Bromochloromethane	128	3.803	3.795	(0.909)	44338	20.0429	20.04
39	Bromodichloromethane	83	5.730	5.729	(1.154)	121436	20.5984	20.59
66	Bromoform	173	8.408	8.408	(1.096)	53507	21.1748	21.17
6	Bromomethane	94	1.339	1.338	(0.320)	103453	21.7445	21.74
19	Carbon Disulfide	76	2.069	2.069	(0.495)	420575	41.2042	41.20
34	Carbon Tetrachloride	117	4.268	4.268	(0.860)	90471	19.6232	19.62
59	Chlorobenzene	112	7.692	7.692	(1.003)	225665	19.8149	19.81
7	Chloroethane	64	1.403	1.403	(0.336)	71043	19.3953	19.39
28	Chloroform	83	3.910	3.910	(0.935)	156004	19.6499	19.64
3	Chloromethane	50	1.074	1.073	(0.257)	104407	17.9027	17.90
27	cis-1,2-Dichloroethene	96	3.523	3.530	(0.842)	85465	19.6808	19.68
46	cis-1,3-Dichloropropene	75	6.152	6.159	(1.240)	148927	20.3234	20.32
55	Dibromochloromethane	129	7.176	7.176	(0.936)	89272	19.8380	19.83
44	Dibromomethane	93	5.550	5.550	(1.118)	59427	20.5713	20.57
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	73715	18.0948	18.09
61	Ethylbenzene	106	7.800	7.799	(1.017)	110979	19.9198	19.91
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	29867	22.5082	22.50
67	Isopropylbenzene	105	8.559	8.559	(1.116)	320580	18.7022	18.70
62	m,p-Xylenes	106	7.907	7.907	(1.031)	284852	39.2124	39.21
17	Methylene Chloride	84	2.306	2.305	(0.551)	82526	19.9150	19.91
87	n-Butylbenzene	91	9.992	9.991	(1.034)	258165	20.1837	20.18
73	n-Propylbenzene	91	8.910	8.910	(0.922)	398600	19.7060	19.70
92	Naphthalene	128	11.546	11.539	(1.195)	85888	21.2156	21.21
63	o-Xylene	106	8.244	8.244	(1.075)	137945	19.4869	19.48
81	sec-Butylbenzene	105	9.526	9.519	(0.986)	311552	19.2817	19.28
64	Styrene	104	8.258	8.258	(1.077)	240874	20.0104	20.01
78	tert-Butylbenzene	119	9.340	9.339	(0.967)	216476	19.1542	19.15
56	Tetrachloroethene	164	6.926	6.933	(0.903)	58537	18.8723	18.87
50	Toluene	91	6.446	6.446	(0.840)	341697	19.8406	19.84
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	74886	20.2415	20.24
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	132624	20.8019	20.80
38	Trichloroethene	130	5.207	5.206	(1.049)	78562	18.8661	18.86
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	163503	18.4594	18.45
5	Vinyl Chloride	62	1.138	1.138	(0.272)	102981	18.8019	18.80



Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121405.D
Date : 14-DEC-2020 12:16
Client ID: VLCSW-201214
Sample Info: VLCSW-201214;VLCSW-201214;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121407.D Page 1
Report Date: 13-Jan-2021 11:34

ALS Laboratory Group

Data file : \\nahstws005\target\chem\voa6.i\X201214.b\X121407.D
Lab Smp Id: VBLKW-201214 Client Smp ID: VBLKW-201214
Inj Date : 14-DEC-2020 12:58
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-201214;VBLKW-201214;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201214.b\8260W.m
Meth Date : 13-Jan-2021 11:34 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

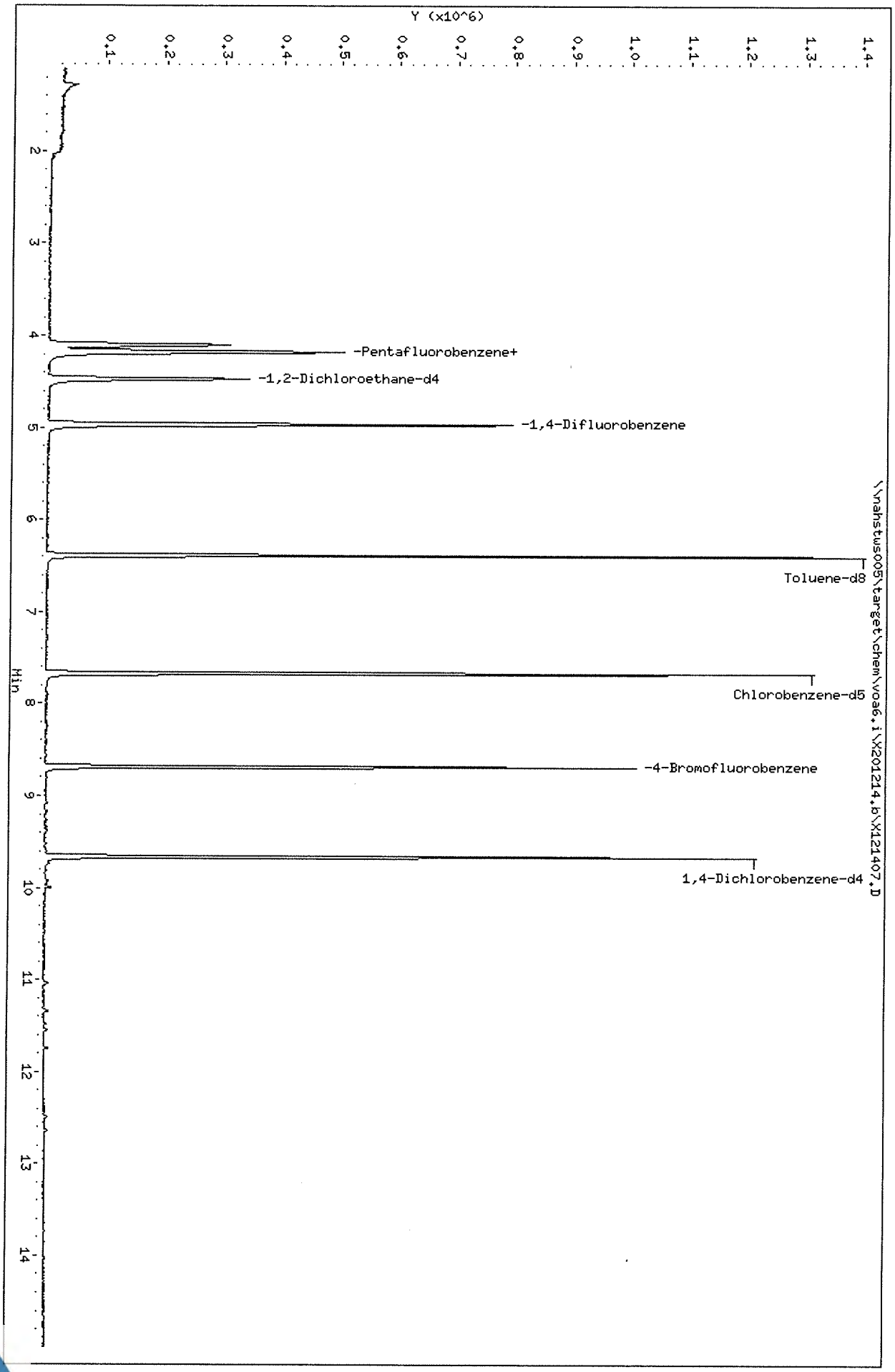
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	364384	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	616821	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	550391	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	233405	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	214515	43.9335	43.93
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	265009	43.0983	43.09
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	759412	52.4509	52.45
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	258296	47.2753	47.27

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121407.D
Date : 14-DEC-2020 12:58
Client ID: VBLKW-201214
Sample Info: VBLKW-201214;VBLKW-201214;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121409.D Page 1
Report Date: 13-Jan-2021 11:52

ALS Laboratory Group

Data file : \\nahstws005\target\chem\voa6.i\X201214.b\X121409.D
Lab Smp Id: HS20120243-01 Client Smp ID: HS20120243-01
Inj Date : 14-DEC-2020 13:40
Operator : PC Inst ID: voa6.i
Smp Info : HS20120243-01;HS20120243-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201214.b\8260W.m
Meth Date : 13-Jan-2021 11:51 Genoveva.R Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

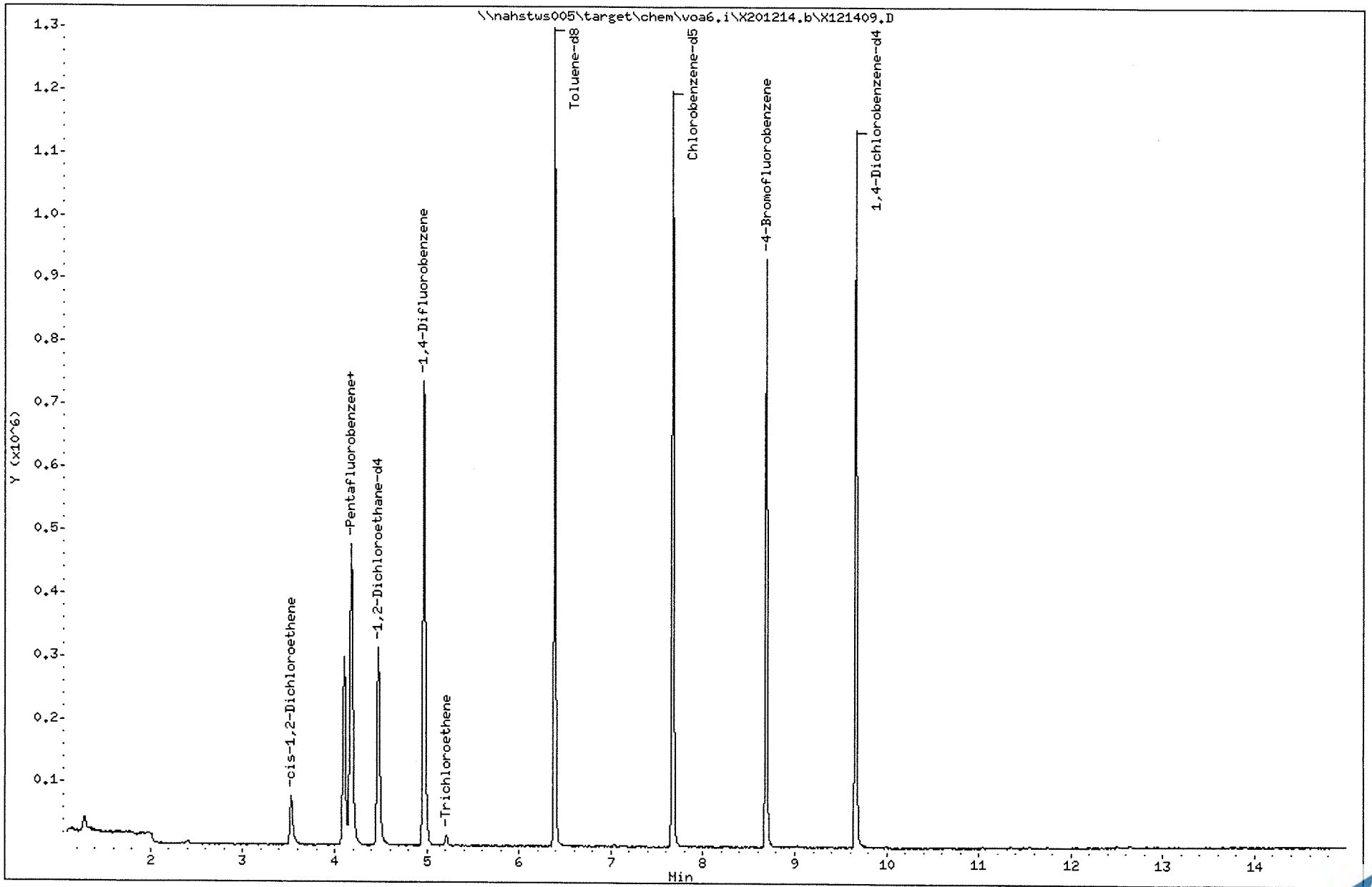
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	346878	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	574433	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	517795	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	220409	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	201009	43.2425	43.24
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	245038	41.8388	41.83
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	700984	51.4704	51.47
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	233988	45.5153	45.51
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	37355	7.65039	7.65
38 Trichloroethene	130	5.206	5.206	(1.048)	5053	1.20455	1.20(a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	2514	0.40822	0.40(a)

QC Flag Legend

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

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121409.D
Date : 14-DEC-2020 13:40
Client ID: HS20120243-01
Sample Info: HS20120243-01;HS20120243-01;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121409.D

Date : 14-DEC-2020 13:40

Client ID: HS20120243-01

Instrument: voa6.i

Sample Info: HS20120243-01;HS20120243-01;;;

Purge Volume: 5.0

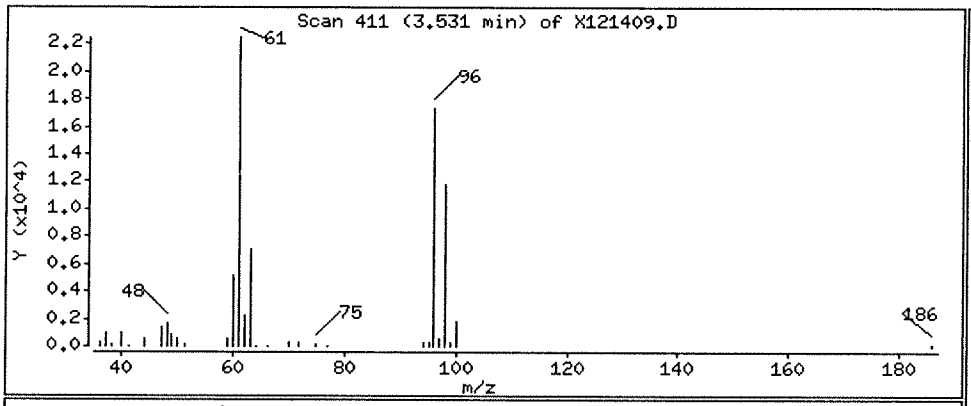
Operator: PC

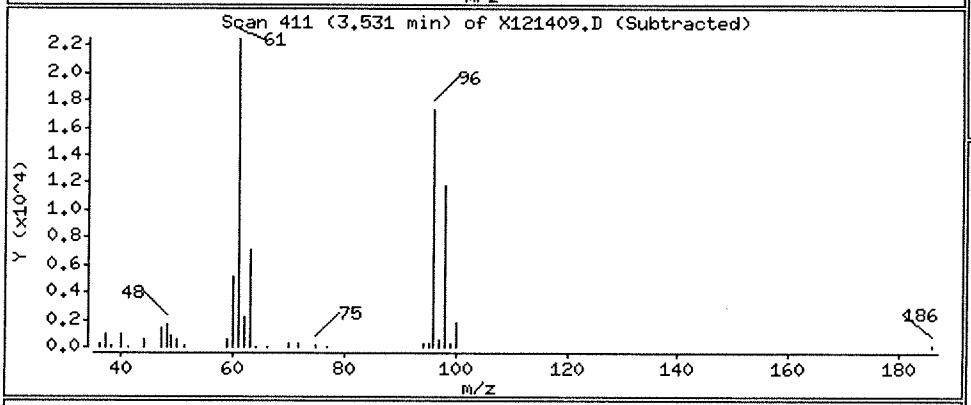
Column phase: DB624

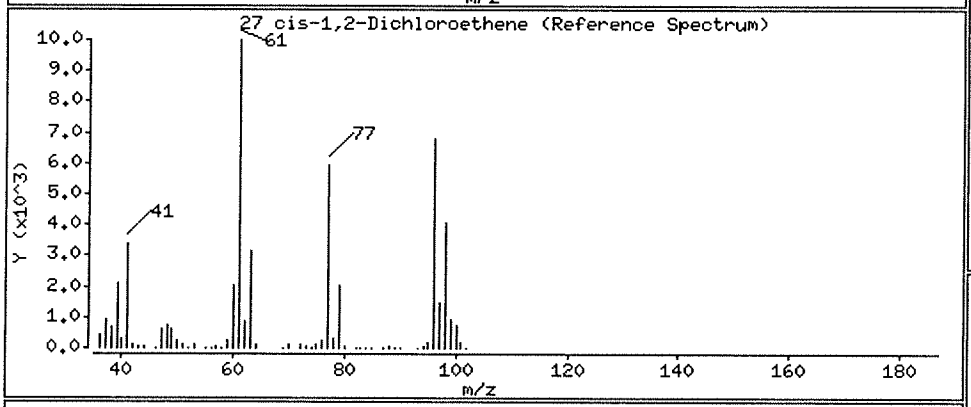
Column diameter: 0.18

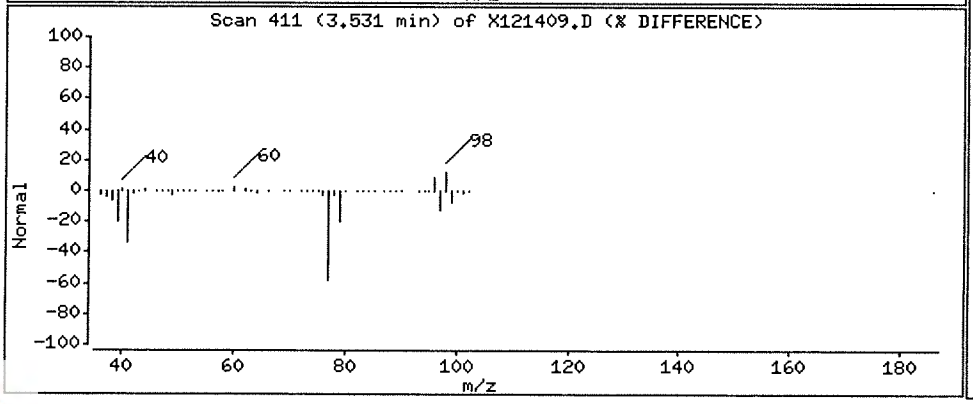
27 cis-1,2-Dichloroethene

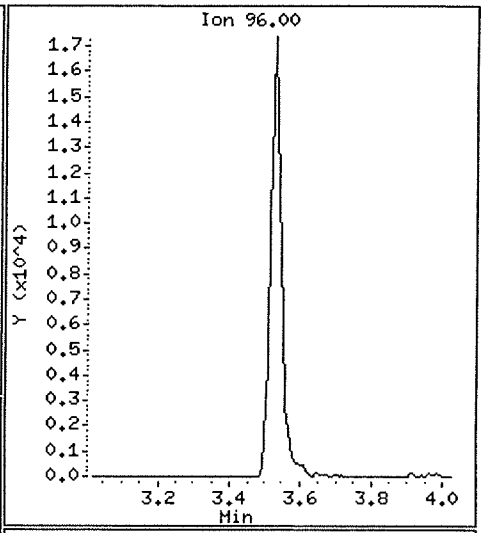
Concentration: 7.65 ug/l

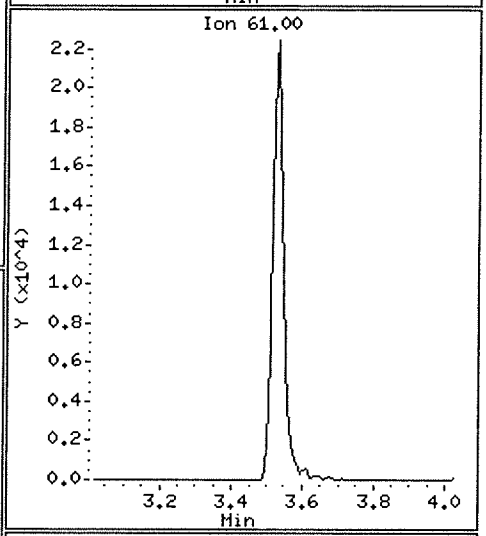


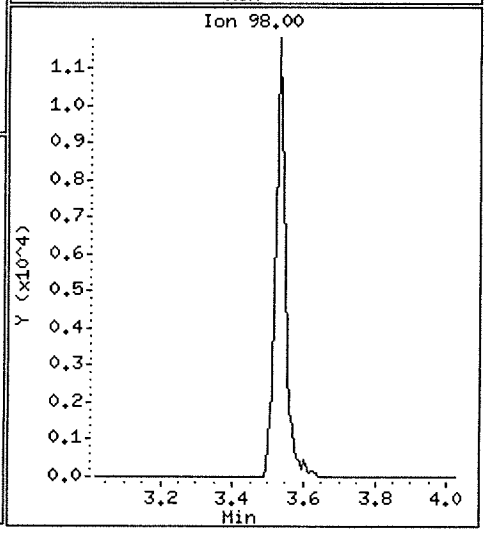












Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121409.D

Date : 14-DEC-2020 13:40

Client ID: HS20120243-01

Instrument: voa6.i

Sample Info: HS20120243-01;HS20120243-01;;;

Purge Volume: 5.0

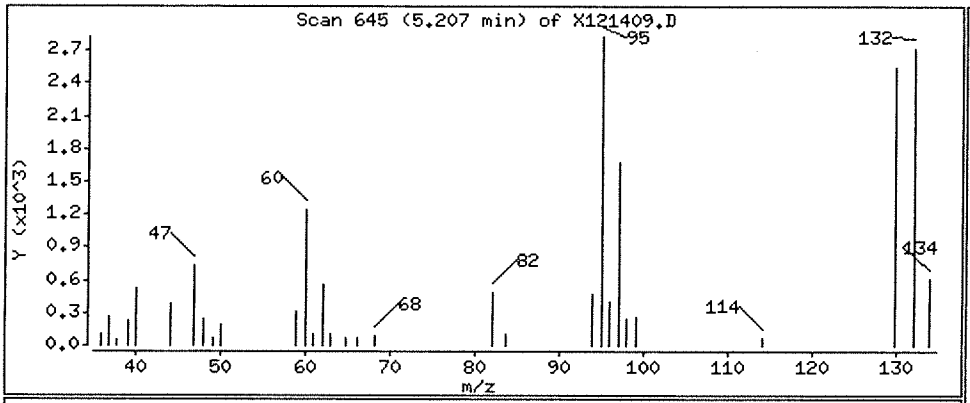
Operator: PC

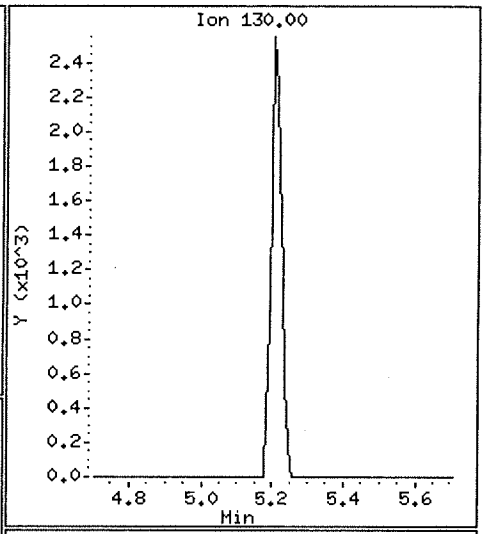
Column phase: DB624

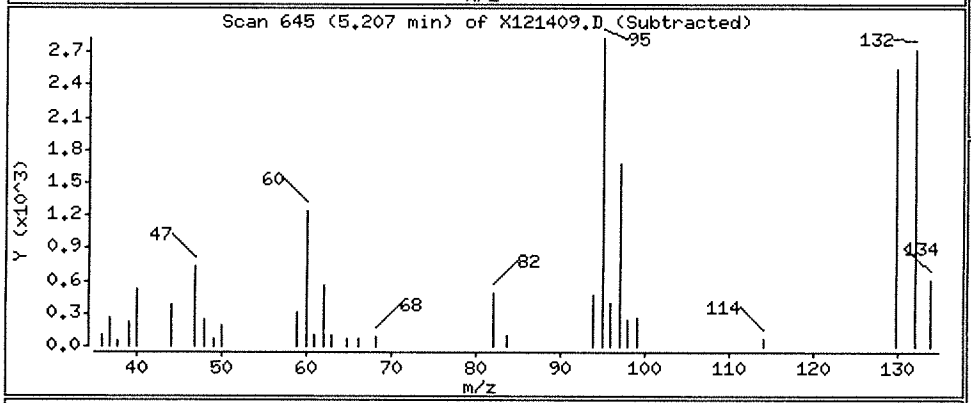
Column diameter: 0.18

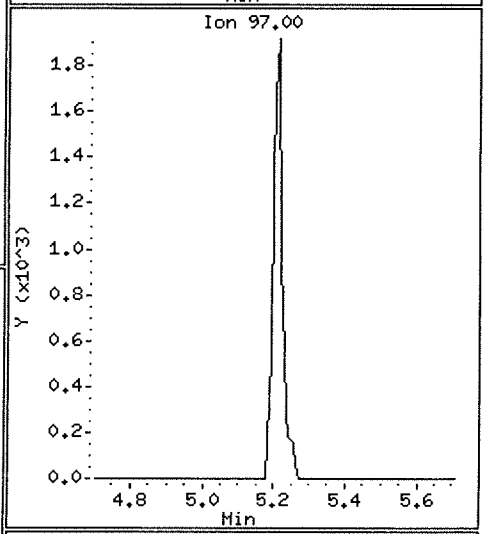
38 Trichloroethene

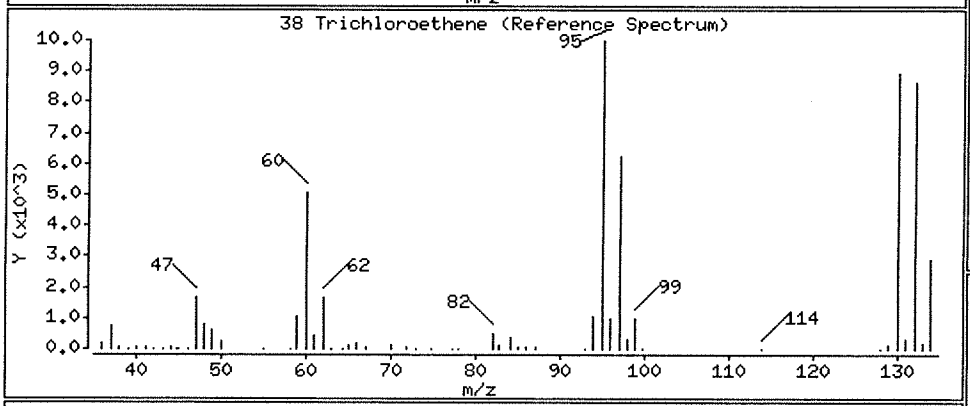
Concentration: 1.20 ug/l

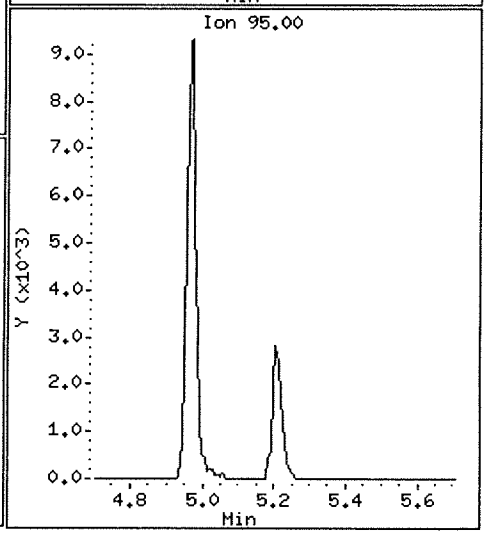


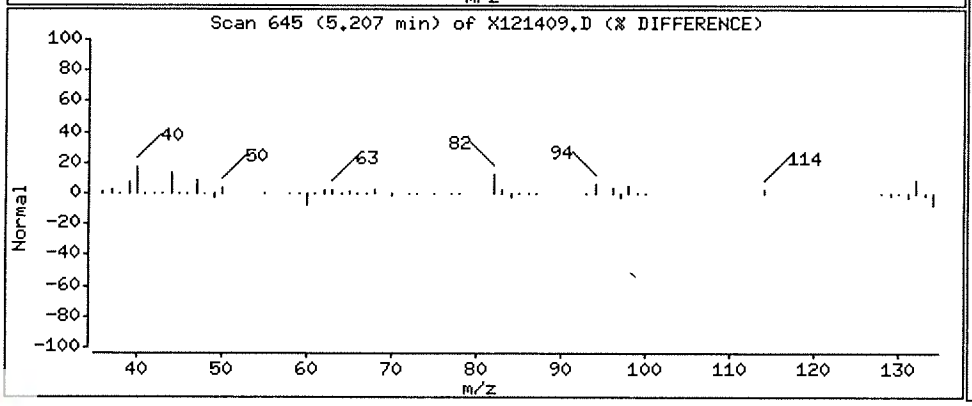












Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121409.D

Date : 14-DEC-2020 13:40

Client ID: HS20120243-01

Instrument: voa6.i

Sample Info: HS20120243-01;HS20120243-01;;;

Purge Volume: 5.0

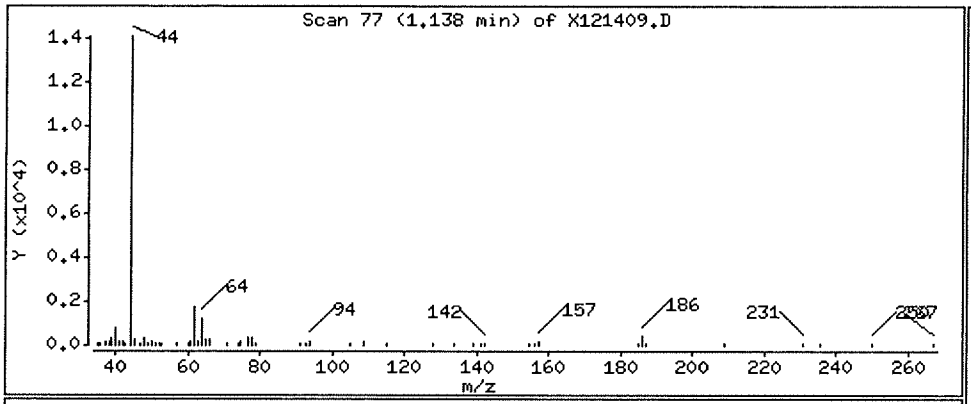
Operator: PC

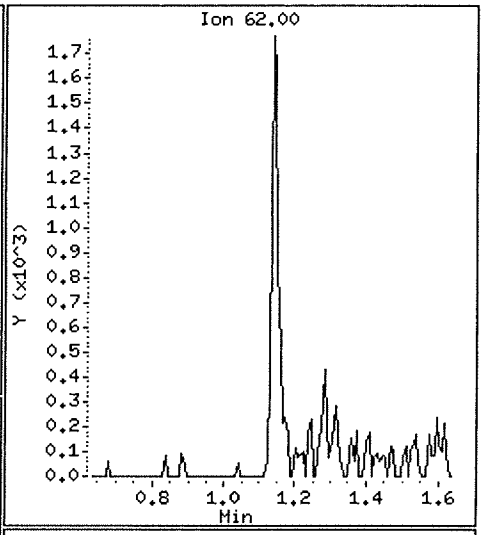
Column phase: DB624

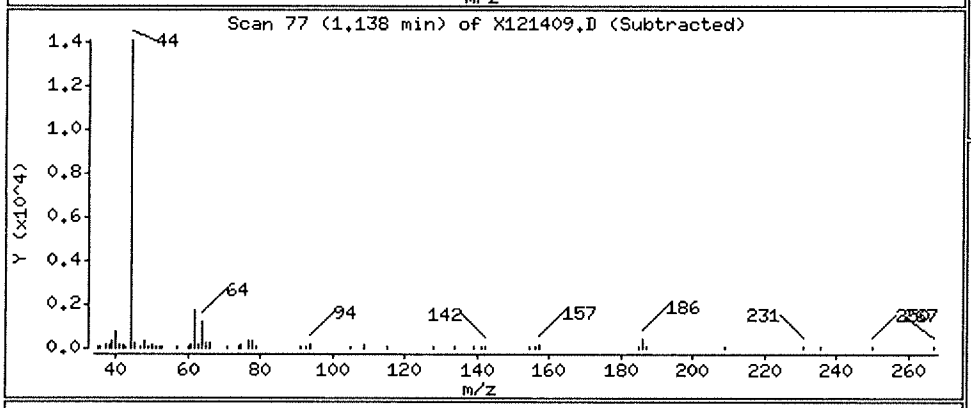
Column diameter: 0.18

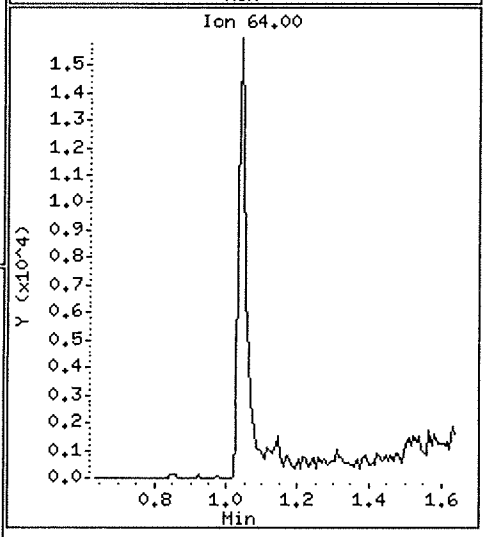
5 Vinyl Chloride

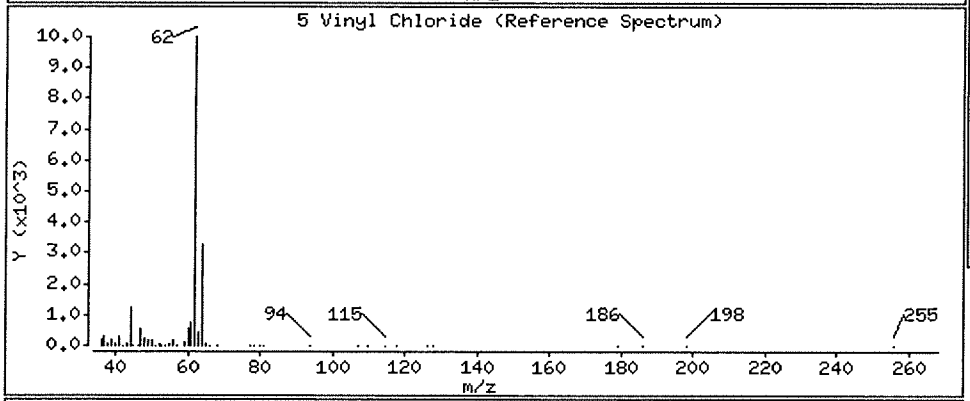
Concentration: 0.40 ug/l

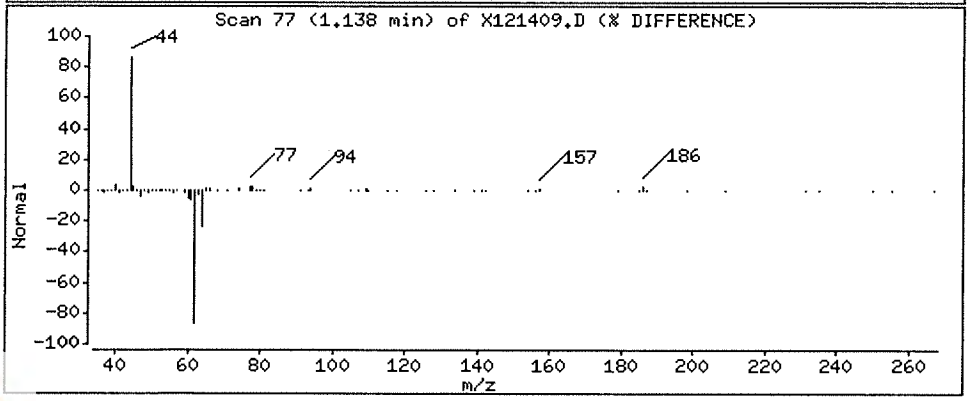












ALS Laboratory Group

Data file : \\nahstws005\target\chem\voa6.i\X201214.b\X121410.D
Lab Smp Id: HS20120243-02 Client Smp ID: HS20120243-02
Inj Date : 14-DEC-2020 14:01
Operator : PC Inst ID: voa6.i
Smp Info : HS20120243-02;HS20120243-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201214.b\8260W.m
Meth Date : 13-Jan-2021 11:51 Genoveva.R Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

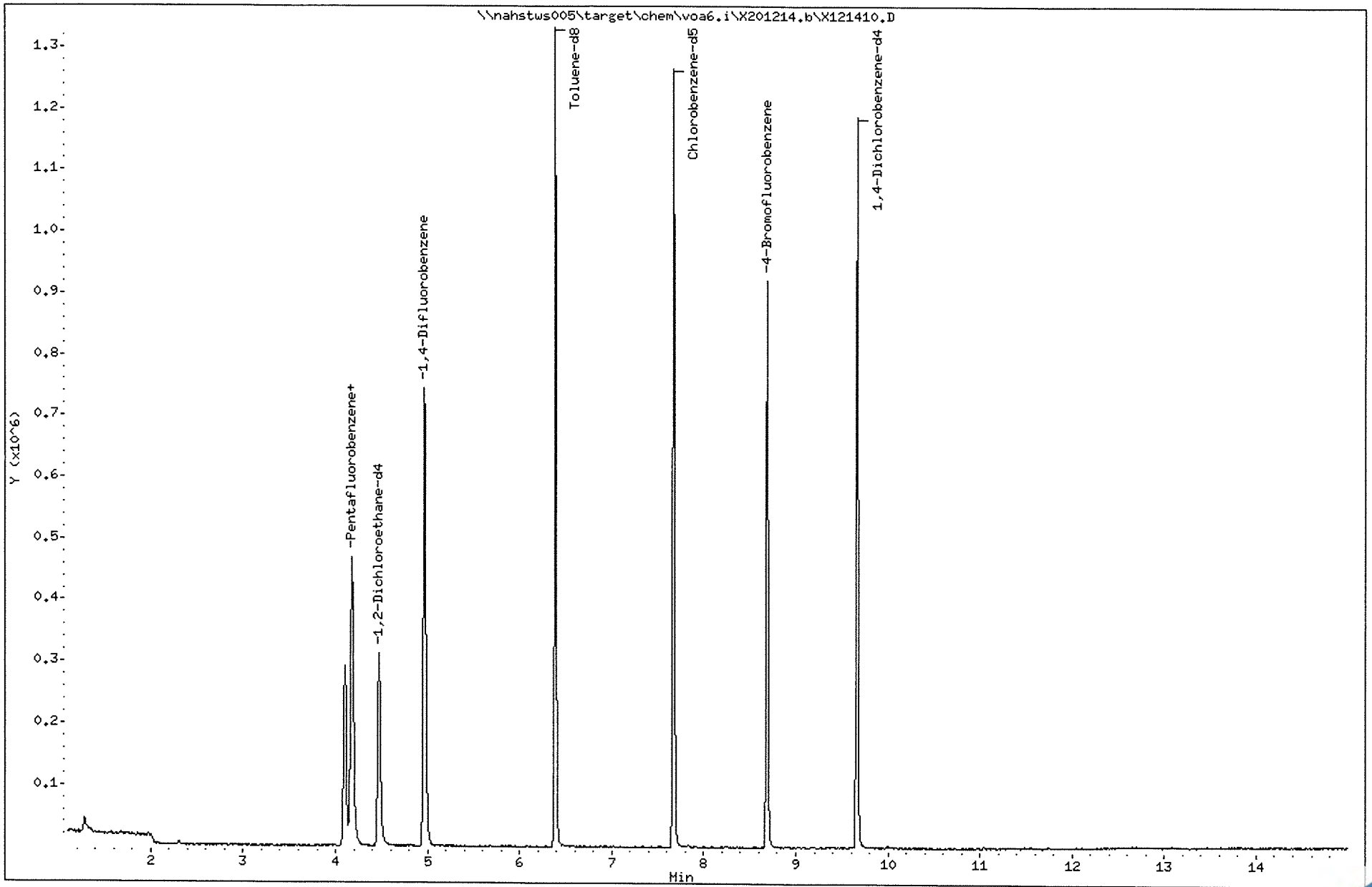
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	342016	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	577343	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	521659	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	223516	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	202295	44.1412	44.14
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	248535	43.0619	43.06
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	718962	52.3926	52.39
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	241023	46.5407	46.54

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121410.D
Date : 14-DEC-2020 14:01
Client ID: HS20120243-02
Sample Info: HS20120243-02;HS20120243-02;;;
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\X201214.b\X121418.D
Lab Smp Id: HS20120243-01MS Client Smp ID: HS20120243-01MS
Inj Date : 14-DEC-2020 16:50
Operator : PC Inst ID: voa6.i
Smp Info : HS20120243-01MS;HS20120243-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201214.b\8260W.m
Meth Date : 13-Jan-2021 11:34 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 18 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

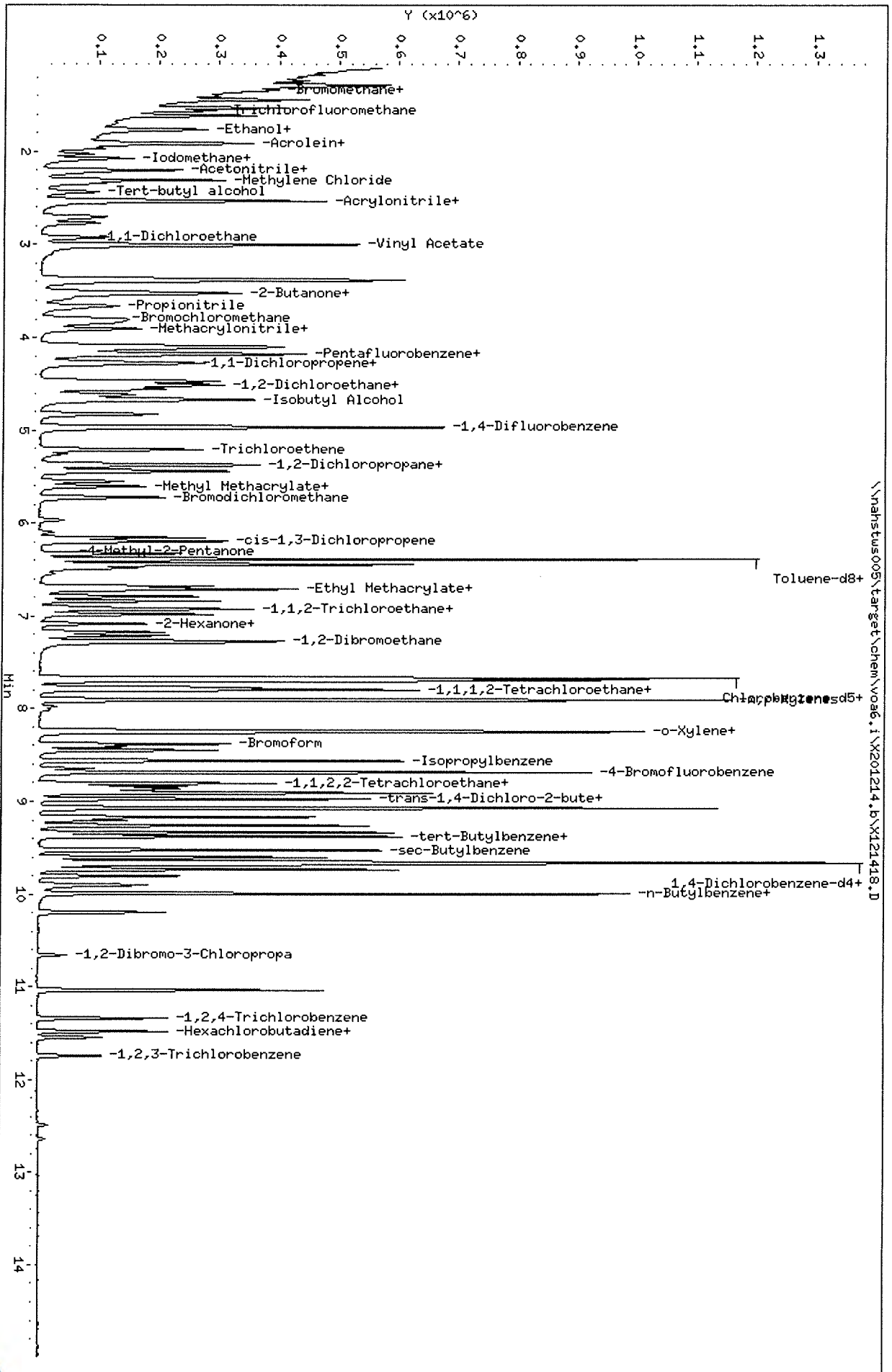
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	306184	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	528036	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	476330	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	219812	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	181960	44.3513	44.35
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	230917	44.7216	44.72
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	650109	51.8871	51.88
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	240196	50.8117	50.81
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	75185	21.7734	21.77
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	116334	18.2657	18.26
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	97326	21.8456	21.84
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	64322	21.2230	21.22
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	112267	15.2627	15.26
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	50910	10.9573	10.95
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	96166	18.8261	18.82
93 1,2,3-Trichlorobenzene	180	11.746	11.739	(1.216)	25643	21.9931	21.99
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	108796	21.4839	21.48
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	46963	22.7389	22.73
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	260725	21.8155	21.81
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.657	(1.103)	7349	20.5423	20.54
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	73578	20.0692	20.06
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	132363	20.7977	20.79

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121418.D Page 2
Report Date: 13-Jan-2021 11:34

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	115972	19.4256	19.42
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	78476	19.7539	19.75
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	264774	21.4840	21.48
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	139089	20.5466	20.54
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	124080	20.7251	20.72
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	145782	21.3858	21.38
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	113781	17.6948	17.69
24	2-Butanone	43	3.580	3.573	(0.856)	47879	33.5783	33.57
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	239244	22.8169	22.81
52	2-Hexanone	43	7.090	7.083	(0.924)	101490	42.5811	42.58
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	275413	21.3272	21.32
82	p-Isopropyltoluene	119	9.648	9.647	(0.999)	269980	22.4501	22.45
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	136460	39.1721	39.17
10	Acetone	43	1.976	1.976	(0.473)	42012	28.3441	28.34
37	Benzene	78	4.512	4.512	(0.908)	262234	18.2628	18.26
74	Bromobenzene	156	8.809	8.802	(0.912)	83533	21.4270	21.42
29	Bromochloromethane	128	3.795	3.795	(0.908)	37967	17.2928	17.29
39	Bromodichloromethane	83	5.729	5.729	(1.153)	114793	21.0272	21.02
66	Bromoform	173	8.408	8.408	(1.096)	46526	21.4314	21.43
6	Bromomethane	94	1.338	1.338	(0.320)	27371	5.98427	5.98
19	Carbon Disulfide	76	2.069	2.069	(0.495)	178957	17.6653	17.66
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	89837	21.0425	21.04
59	Chlorobenzene	112	7.692	7.692	(1.003)	202045	20.6501	20.65
7	Chloroethane	64	1.281	1.403	(0.306)	216195	59.4697	59.46(M)
28	Chloroform	83	3.910	3.910	(0.935)	139684	17.7274	17.72
3	Chloromethane	50	1.030	1.073	(0.246)	278766	46.1321	46.13
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	107956	25.0482	25.04
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	136325	20.0900	20.08
55	Dibromochloromethane	129	7.176	7.176	(0.936)	80673	20.8670	20.86
44	Dibromomethane	93	5.557	5.550	(1.118)	53107	19.8523	19.85
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1012	2.94001	2.94(a)
61	Ethylbenzene	106	7.799	7.799	(1.017)	107292	22.4161	22.41
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	26798	23.0341	23.03
67	Isopropylbenzene	105	8.566	8.559	(1.117)	326143	22.1469	22.14
62	m,p-Xylenes	106	7.907	7.907	(1.031)	264065	42.3119	42.31
17	Methylene Chloride	84	2.305	2.305	(0.551)	57546	13.9920	13.99
87	n-Butylbenzene	91	9.991	9.991	(1.034)	264152	23.3114	23.31
73	n-Propylbenzene	91	8.910	8.910	(0.922)	404338	22.8578	22.85
92	Naphthalene	128	11.546	11.539	(1.195)	70601	19.9417	19.94
63	o-Xylene	106	8.244	8.244	(1.075)	126900	20.8663	20.86
81	sec-Butylbenzene	105	9.526	9.519	(0.986)	327442	23.1727	23.17
64	Styrene	104	8.258	8.258	(1.077)	210490	20.3538	20.35
78	tert-Butylbenzene	119	9.340	9.339	(0.967)	226341	22.9006	22.90
56	Tetrachloroethene	164	6.926	6.933	(0.903)	57090	21.4241	21.42
50	Toluene	91	6.446	6.446	(0.840)	305203	20.6276	20.62
20	trans-1,2-Dichloroethene	96	2.535	2.527	(0.606)	55425	15.0946	15.09
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	120899	20.4779	20.47
38	Trichloroethene	130	5.206	5.206	(1.048)	77620	20.1291	20.12
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	73553	8.36692	8.36
5	Vinyl Chloride	62	1.138	1.138	(0.272)	11375	2.09252	2.09(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

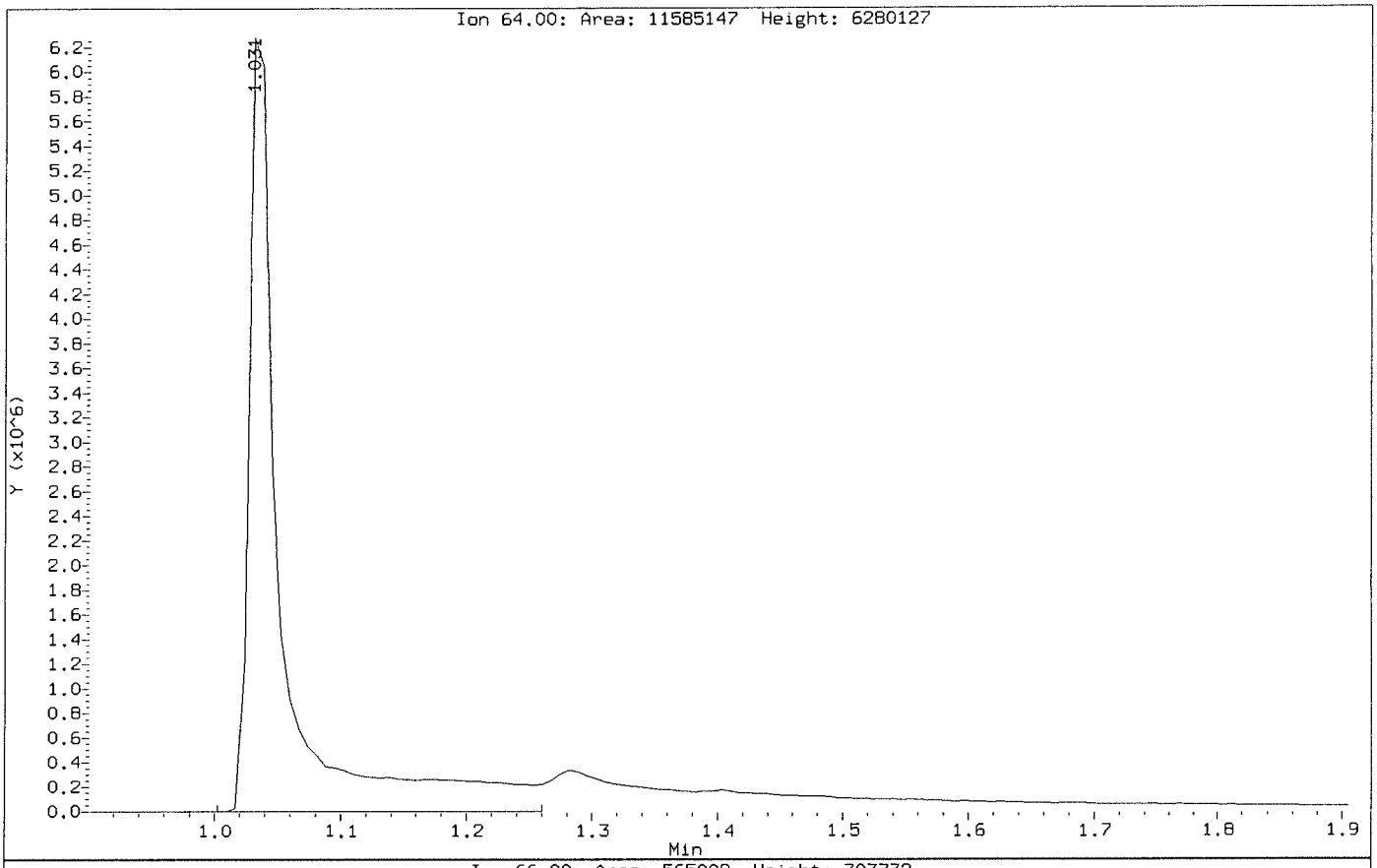


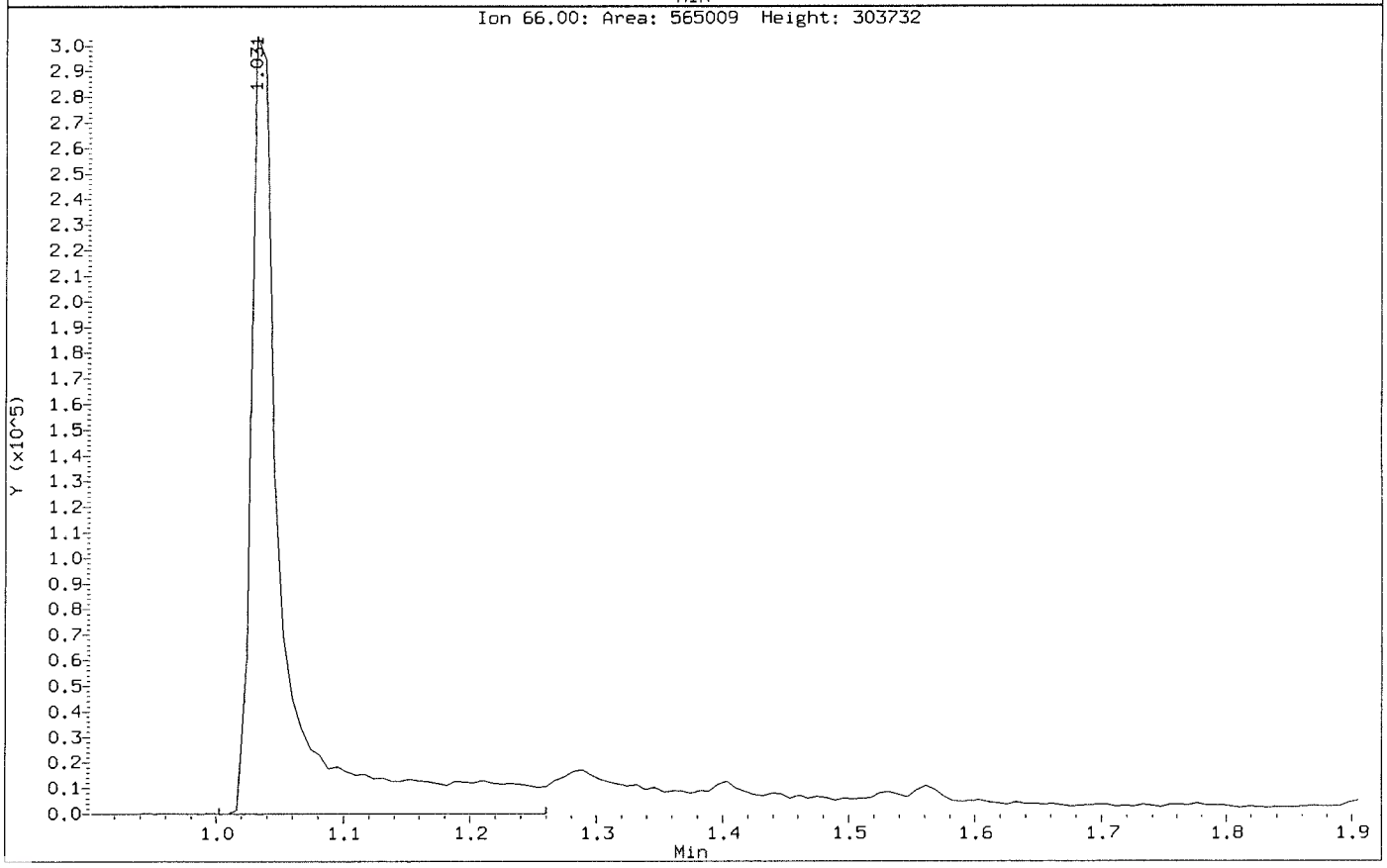
Data File: \\nahstus005\target\chem\voa6.i\X201214.b\X121418.D
Date : 14-DEC-2020 16:50
Client ID: HS20120243-01HS
Sample Info: HS20120243-01HS;HS20120243-01HS;3;;HS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\Before\X121418.D
Injection Date: 14-DEC-2020 16:50
Instrument: voa6.i
Client Sample ID: HS20120243-01MS

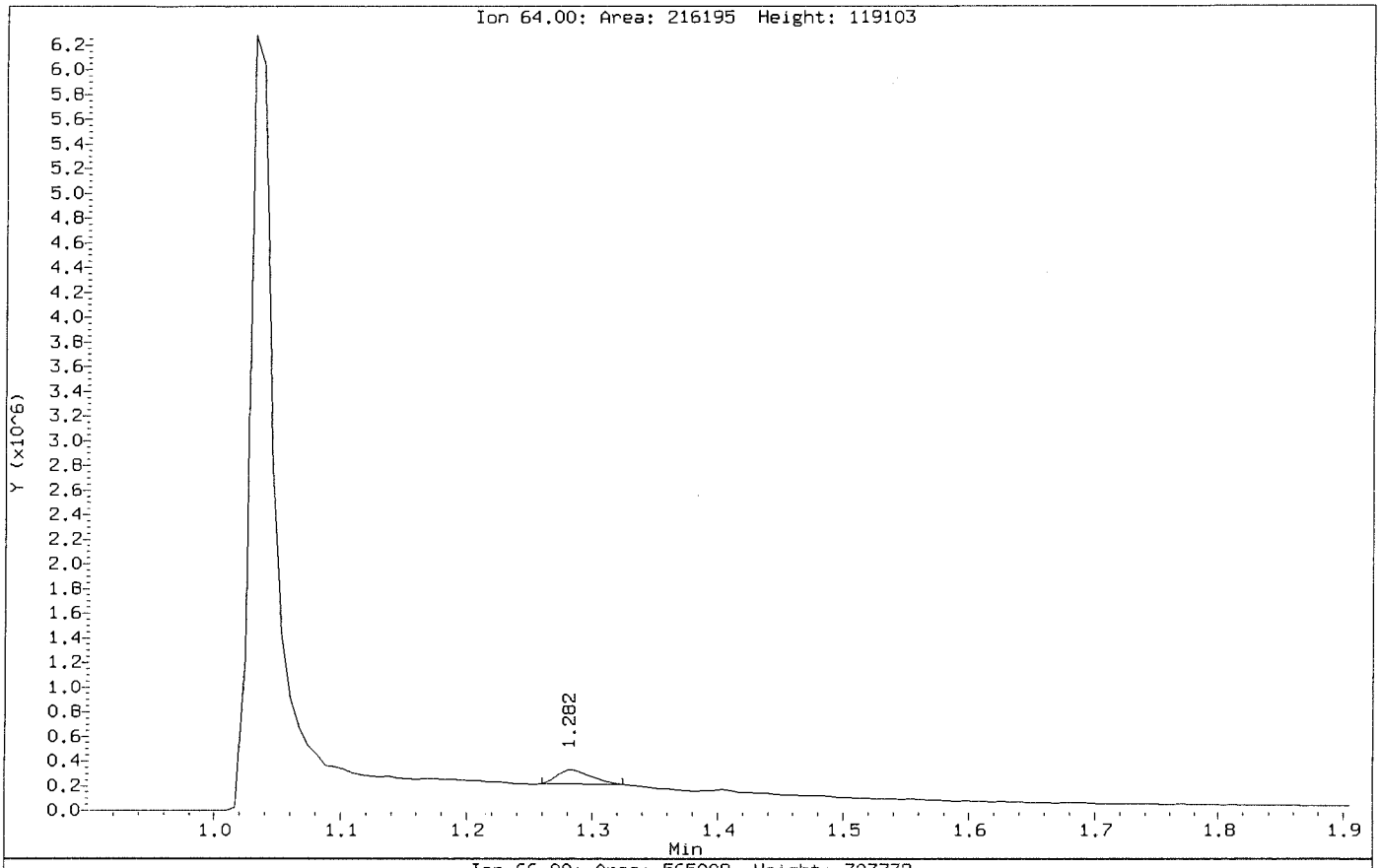
Compound: Chloroethane
CAS Number: 75-00-3

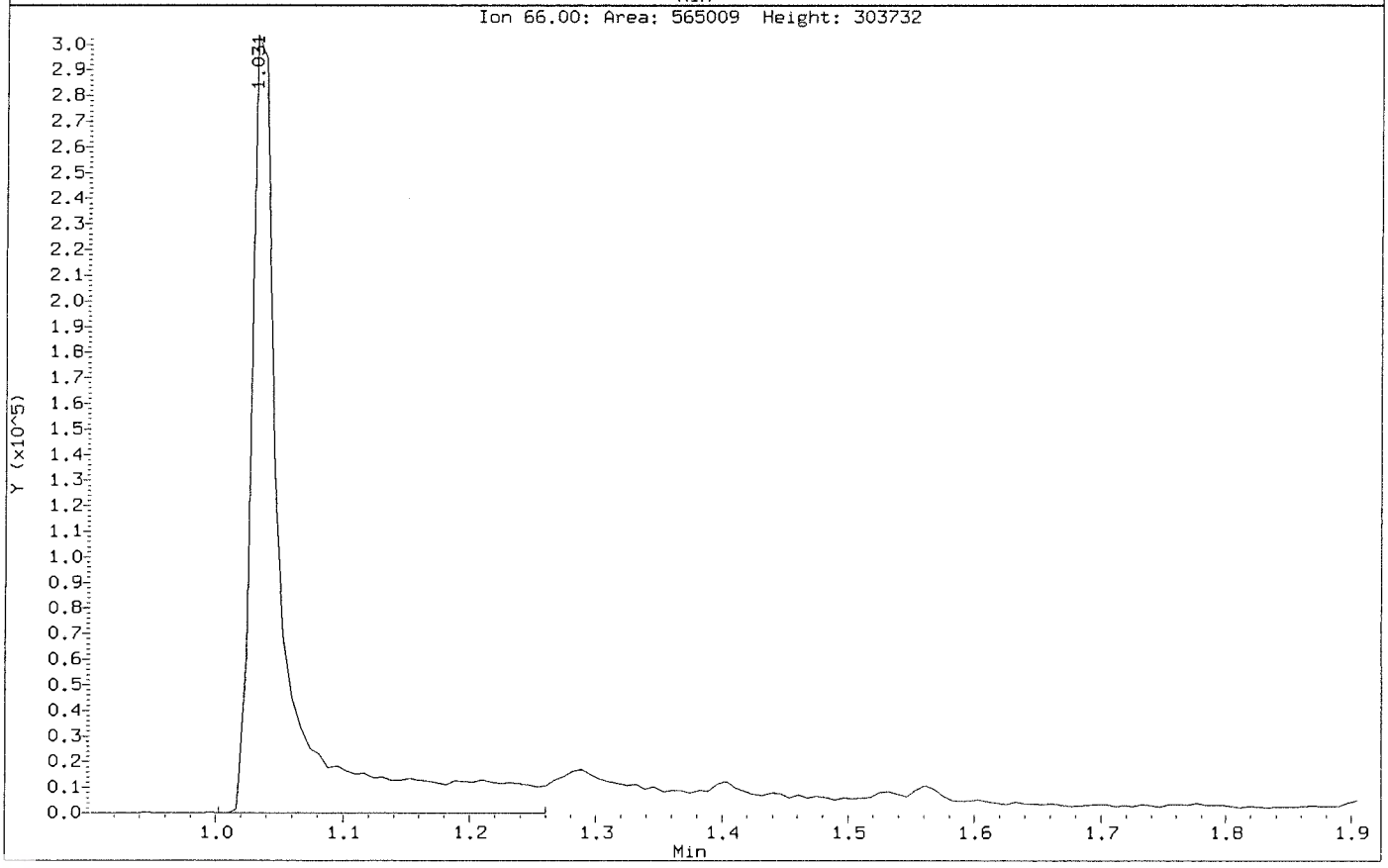




Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121418.D
Injection Date: 14-DEC-2020 16:50
Instrument: voa6.i
Client Sample ID: HS20120243-01MS

Compound: Chloroethane
CAS Number: 75-00-3





Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121419.D Page 1
Report Date: 13-Jan-2021 11:34

ALS Laboratory Group

Data file : \\nahstws005\target\chem\voa6.i\X201214.b\X121419.D
Lab Smp Id: HS20120243-01MSD Client Smp ID: HS20120243-01MSD
Inj Date : 14-DEC-2020 17:11
Operator : PC Inst ID: voa6.i
Smp Info : HS20120243-01MSD;HS20120243-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201214.b\8260W.m
Meth Date : 13-Jan-2021 11:34 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 18 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

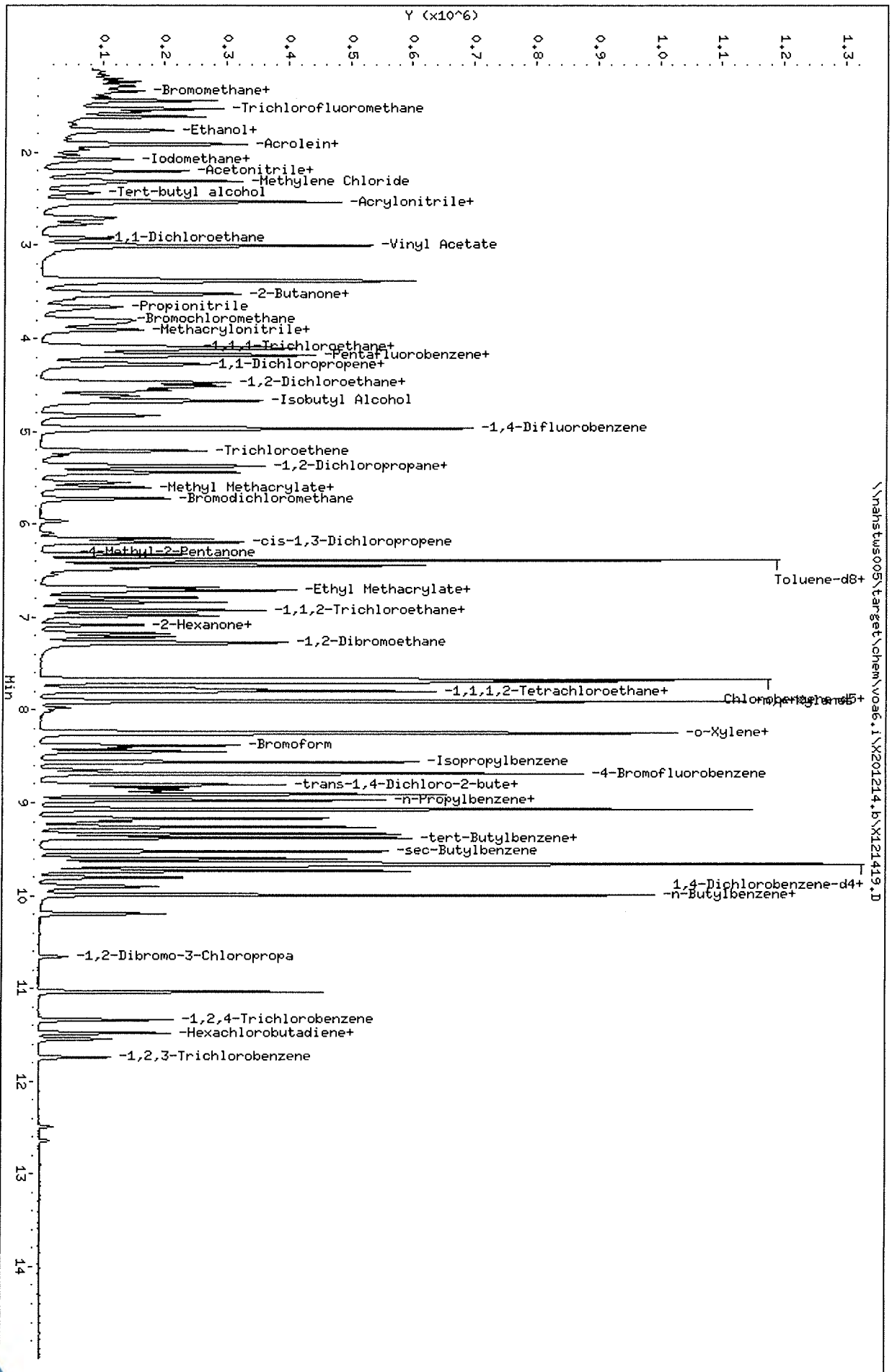
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	310816	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	537286	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	474606	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	214172	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	183576	44.0774	44.07
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	228629	43.5990	43.59
$	48 Toluene-d8	98	6.388	6.388	(0.833)	646327	51.7735	51.77
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	232358	49.3268	49.32
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	73068	21.2372	21.23
	31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	113242	17.5153	17.51
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	95382	21.9730	21.97
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	63419	21.0011	21.00
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	114670	15.3571	15.35
	11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	51815	10.9859	10.98
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	95085	18.2940	18.29
	93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	26954	23.7263	23.72
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	106498	21.5839	21.58
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	46309	23.0128	23.01
	79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.971)	266918	22.9219	22.92
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.657	(1.103)	7606	21.8631	21.86
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	75348	20.6266	20.62
	88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	130023	20.9680	20.96

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121419.D Page 2
Report Date: 13-Jan-2021 11:34

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	116884	19.2413	19.24
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	76165	18.8421	18.84
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	264343	22.0139	22.01
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	142973	21.6765	21.67
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	126123	21.1429	21.14
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	143872	21.6614	21.66
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	110425	16.9170	16.91
24 2-Butanone	43	3.580	3.573	(0.856)	47196	32.6060	32.60
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	240925	23.5823	23.58
52 2-Hexanone	43	7.083	7.083	(0.923)	93435	39.3439	39.34
77 4-Chlorotoluene	91	9.067	9.067	(0.938)	274773	21.8380	21.83
82 p-Isopropyltoluene	119	9.648	9.647	(0.999)	265519	22.6606	22.66
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	136316	39.2729	39.27
10 Acetone	43	1.976	1.976	(0.473)	42509	28.2254	28.22
37 Benzene	78	4.512	4.512	(0.908)	265986	18.2052	18.20
74 Bromobenzene	156	8.810	8.802	(0.912)	79615	20.9598	20.95
29 Bromochloromethane	128	3.795	3.795	(0.908)	36670	16.4531	16.45
39 Bromodichloromethane	83	5.729	5.729	(1.153)	113304	20.3972	20.39
66 Bromoform	173	8.416	8.408	(1.097)	46471	21.4839	21.48
6 Bromomethane	94	1.338	1.338	(0.320)	32295	6.91407	6.91
19 Carbon Disulfide	76	2.069	2.069	(0.495)	175019	17.0191	17.01
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	90303	20.7875	20.78
59 Chlorobenzene	112	7.692	7.692	(1.003)	196209	20.1265	20.12
7 Chloroethane	64	1.281	1.403	(0.306)	55695	15.0919	15.09(M)
28 Chloroform	83	3.910	3.910	(0.935)	142087	17.7636	17.76
3 Chloromethane	50	1.081	1.073	(0.258)	14344	3.47831	3.47(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	108239	24.7396	24.73
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	132845	19.2401	19.24
55 Dibromochloromethane	129	7.176	7.176	(0.936)	81679	21.2039	21.20
44 Dibromomethane	93	5.557	5.550	(1.118)	54033	19.8507	19.85
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1397	3.01651	3.01(aM)
61 Ethylbenzene	106	7.800	7.799	(1.017)	104767	21.9680	21.96
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	27244	23.9351	23.93
67 Isopropylbenzene	105	8.559	8.559	(1.116)	326010	22.2182	22.21
62 m,p-Xylenes	106	7.907	7.907	(1.031)	261015	41.9751	41.97
17 Methylene Chloride	84	2.305	2.305	(0.551)	61276	14.6769	14.67
87 n-Butylbenzene	91	9.991	9.991	(1.034)	259752	23.5099	23.50
73 n-Propylbenzene	91	8.910	8.910	(0.922)	402374	23.3457	23.34
92 Naphthalene	128	11.546	11.539	(1.195)	77091	22.3482	22.34
63 o-Xylene	106	8.244	8.244	(1.075)	125238	20.6678	20.66
81 sec-Butylbenzene	105	9.519	9.519	(0.985)	322481	23.4226	23.42
64 Styrene	104	8.258	8.258	(1.077)	205916	19.9838	19.98
78 tert-Butylbenzene	119	9.340	9.339	(0.967)	224072	23.2680	23.26
56 Tetrachloroethene	164	6.933	6.933	(0.904)	57133	21.5181	21.51
50 Toluene	91	6.446	6.446	(0.840)	304441	20.6509	20.65
20 trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	56365	15.1218	15.12
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	120015	19.9782	19.97
38 Trichloroethene	130	5.207	5.206	(1.048)	76034	19.3783	19.37
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	75422	8.45166	8.45
5 Vinyl Chloride	62	1.145	1.138	(0.274)	10879	1.97145	1.97(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

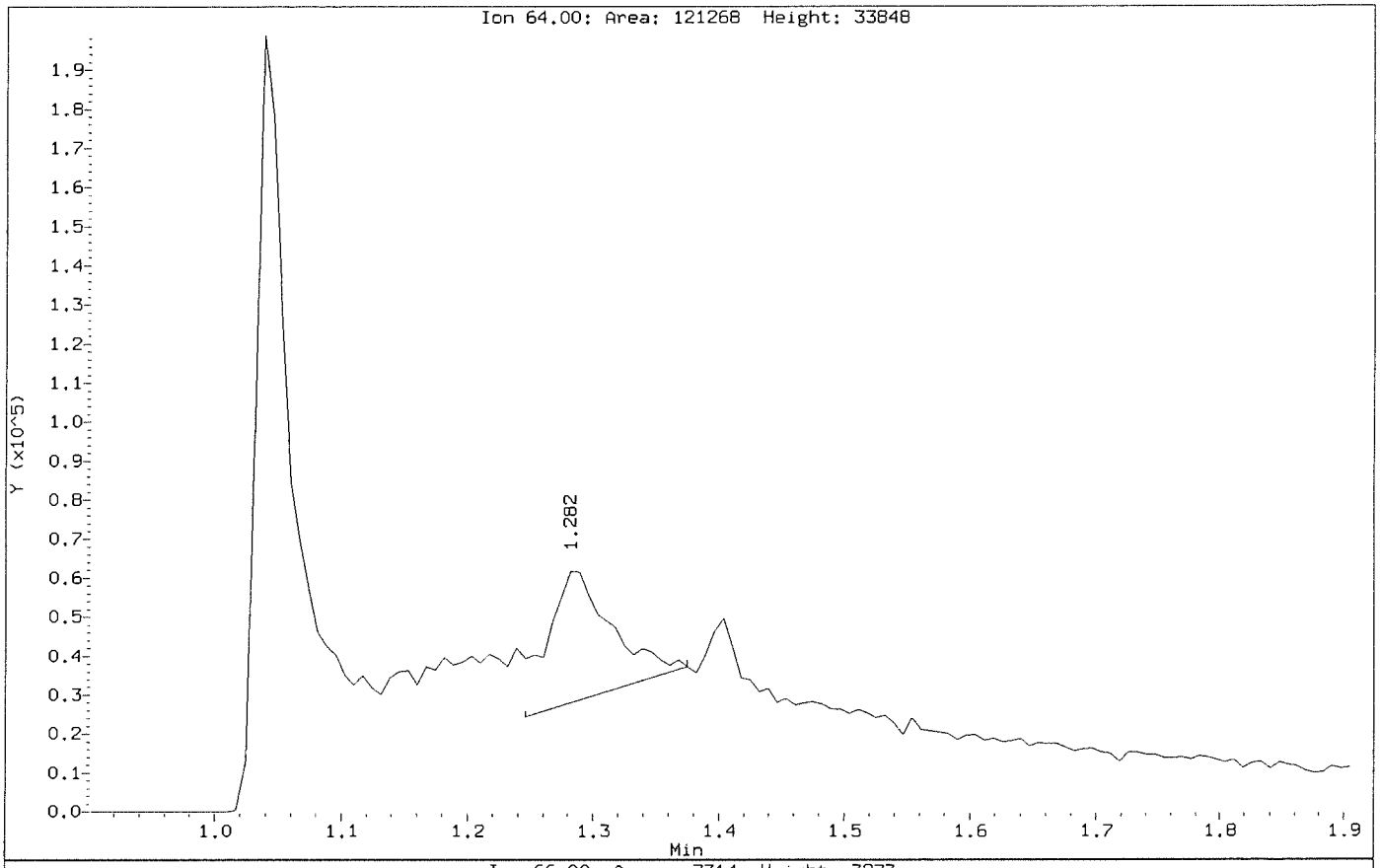


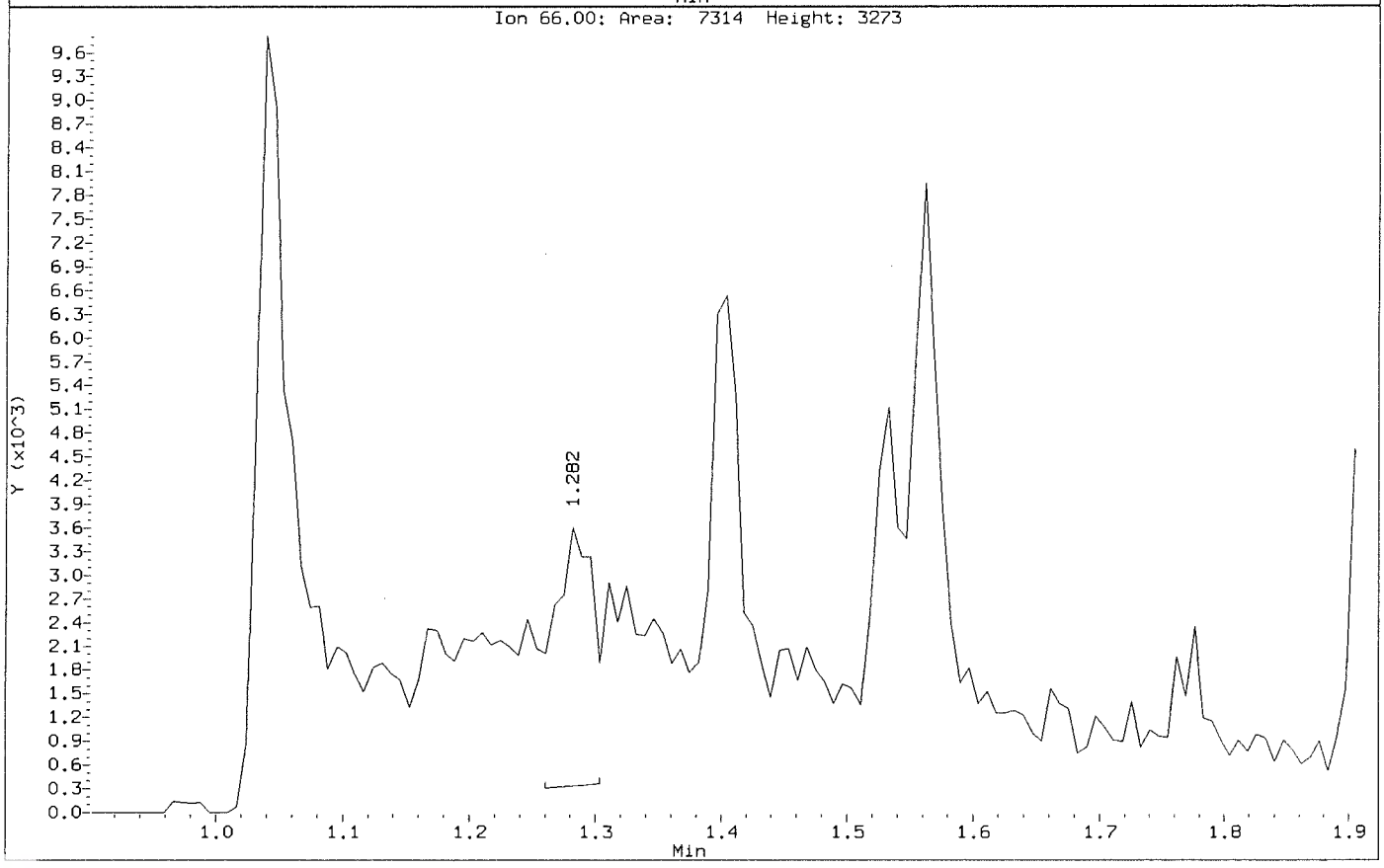
Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121419.D
Date : 14-DEC-2020 17:11
Client ID: HS20120243-01MSD
Sample Info: HS20120243-01MSD;HS20120243-01MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\target\chem\voa6.i\X201214.b\Before\X121419.D
Injection Date: 14-DEC-2020 17:11
Instrument: voa6.i
Client Sample ID: HS20120243-01MSD

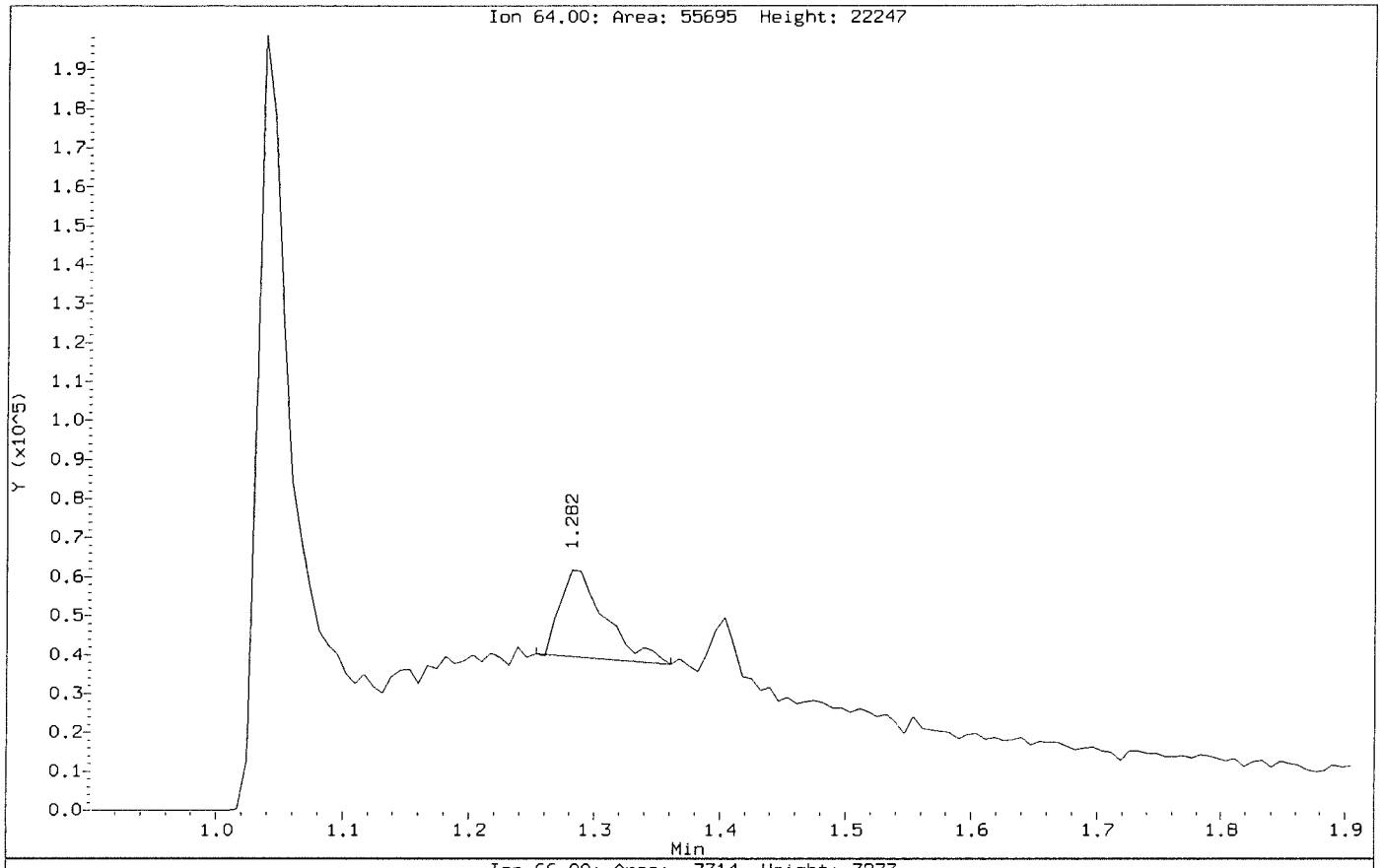
Compound: Chloroethane
CAS Number: 75-00-3

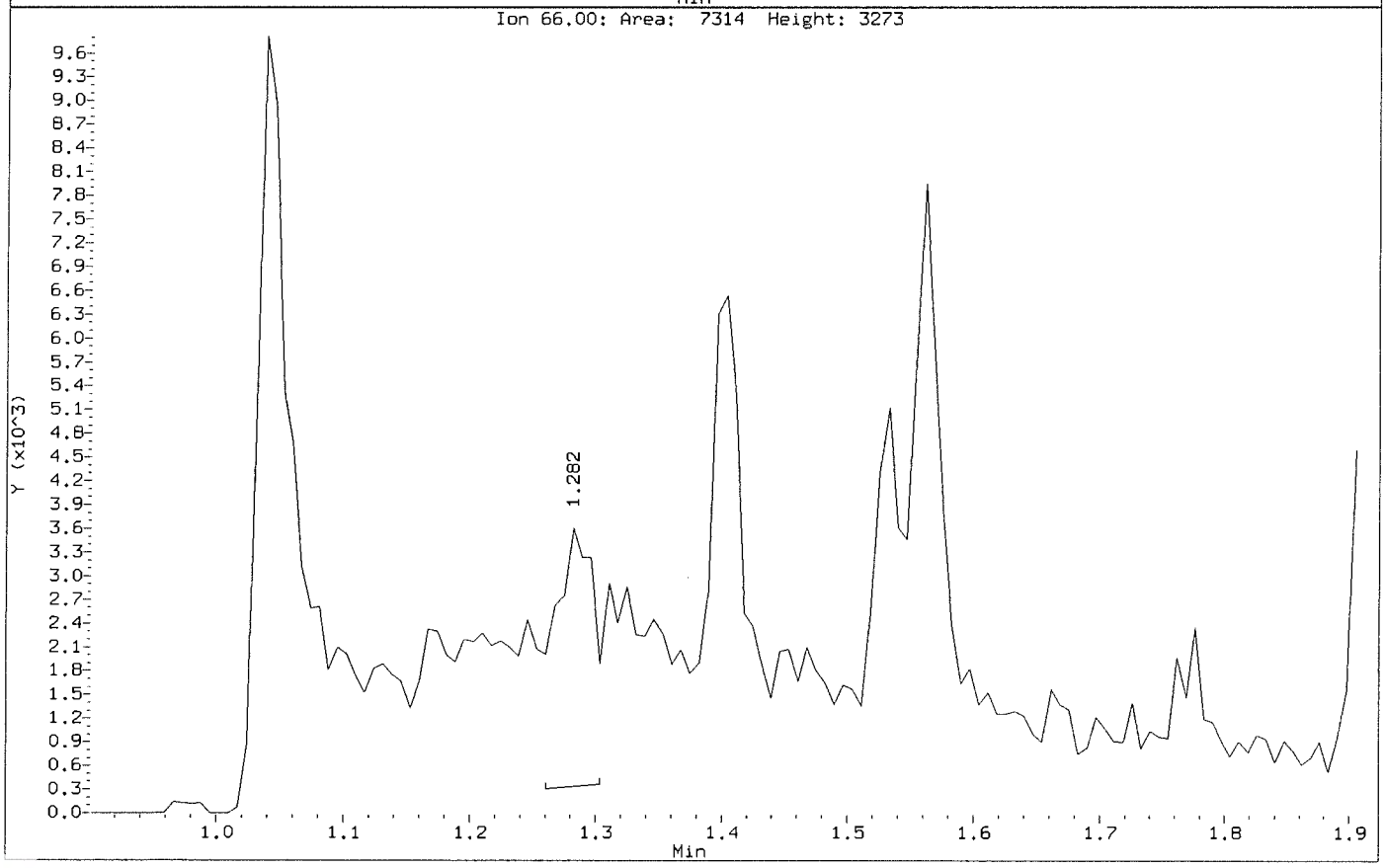




Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121419.D
Injection Date: 14-DEC-2020 17:11
Instrument: voa6.i
Client Sample ID: HS20120243-01MSD

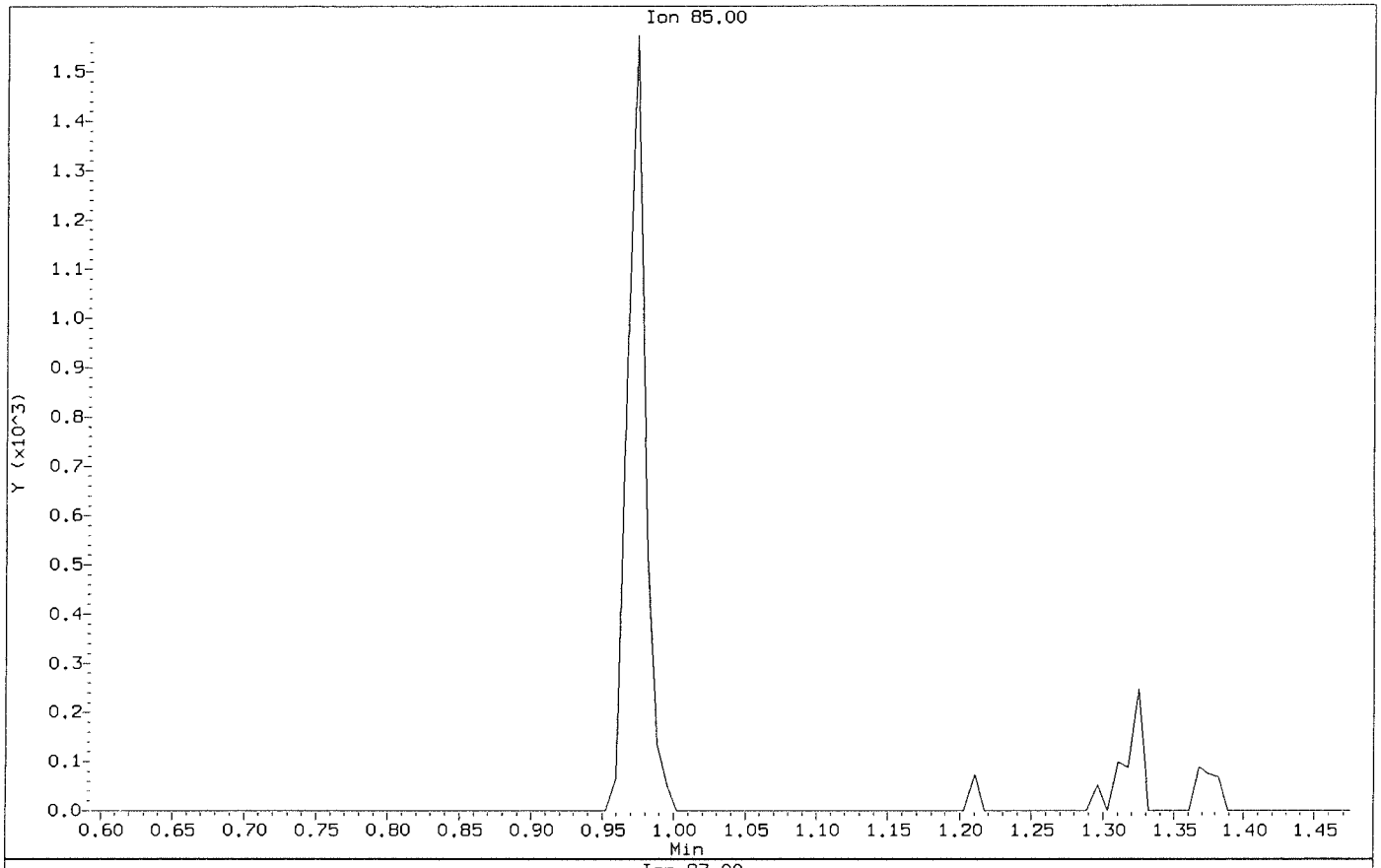
Compound: Chloroethane
CAS Number: 75-00-3

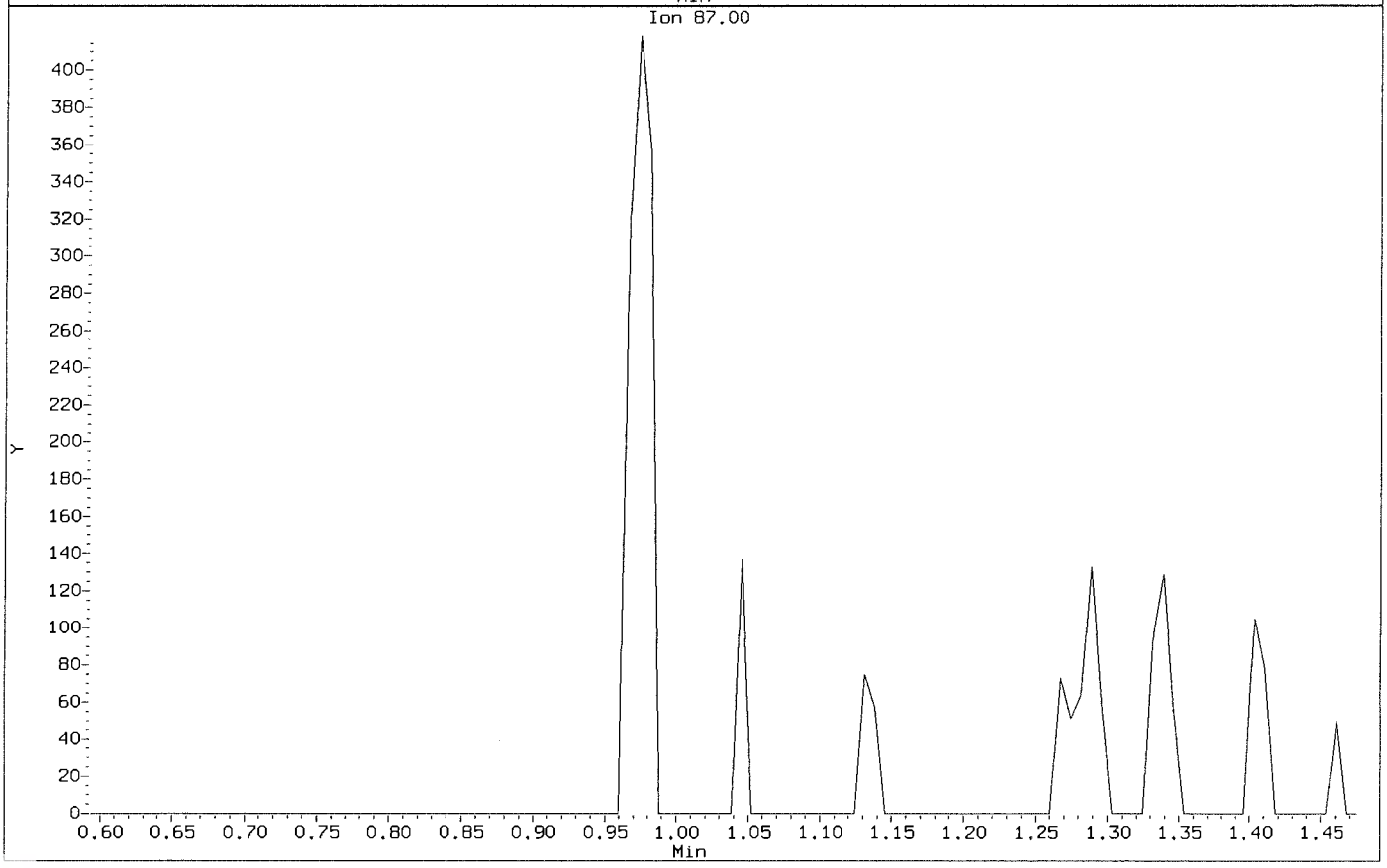




Data File: \\nahstws005\target\chem\voa6.i\X201214.b\Before\X121419.D
Injection Date: 14-DEC-2020 17:11
Instrument: voa6.i
Client Sample ID: HS20120243-01MSD

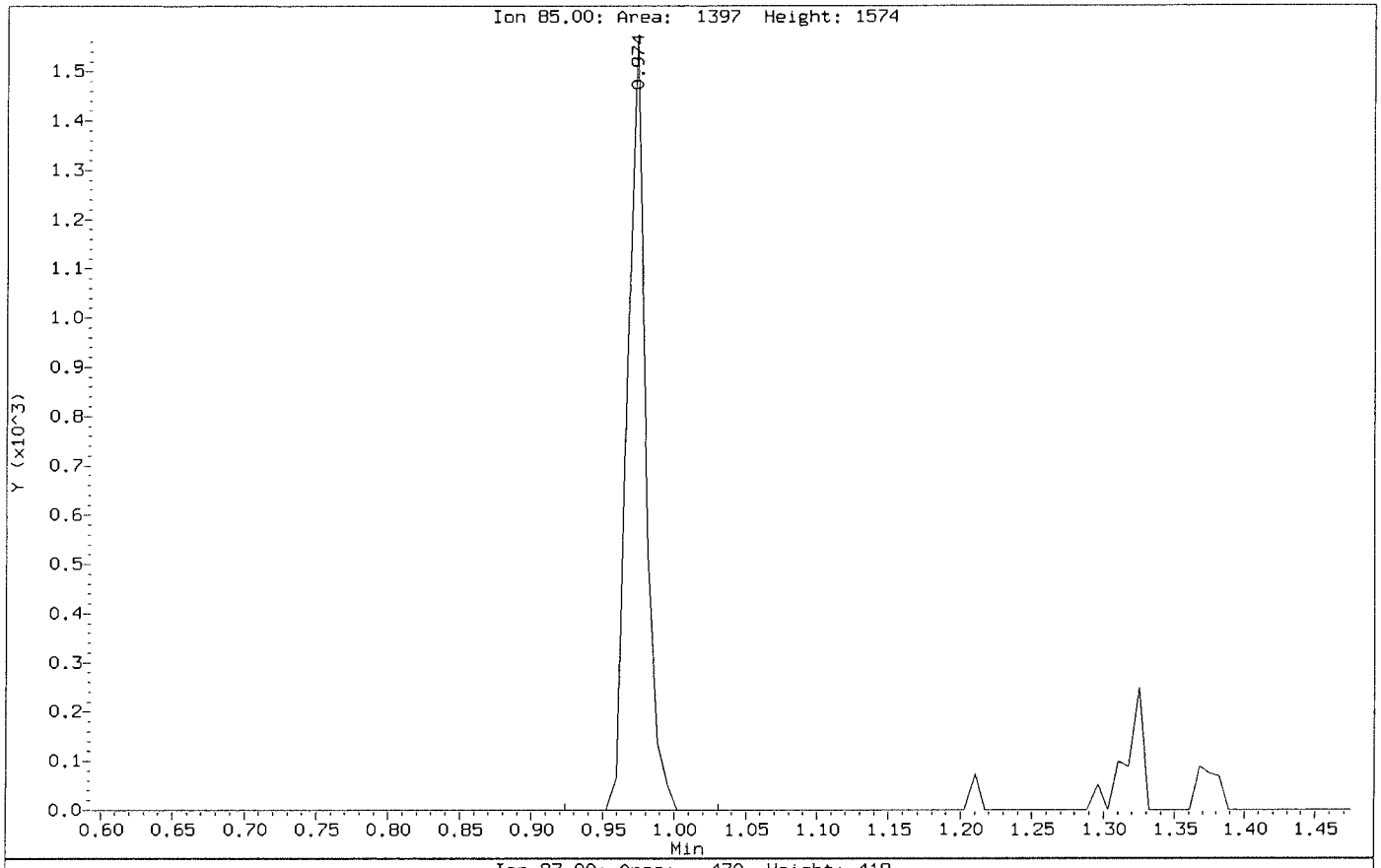
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8

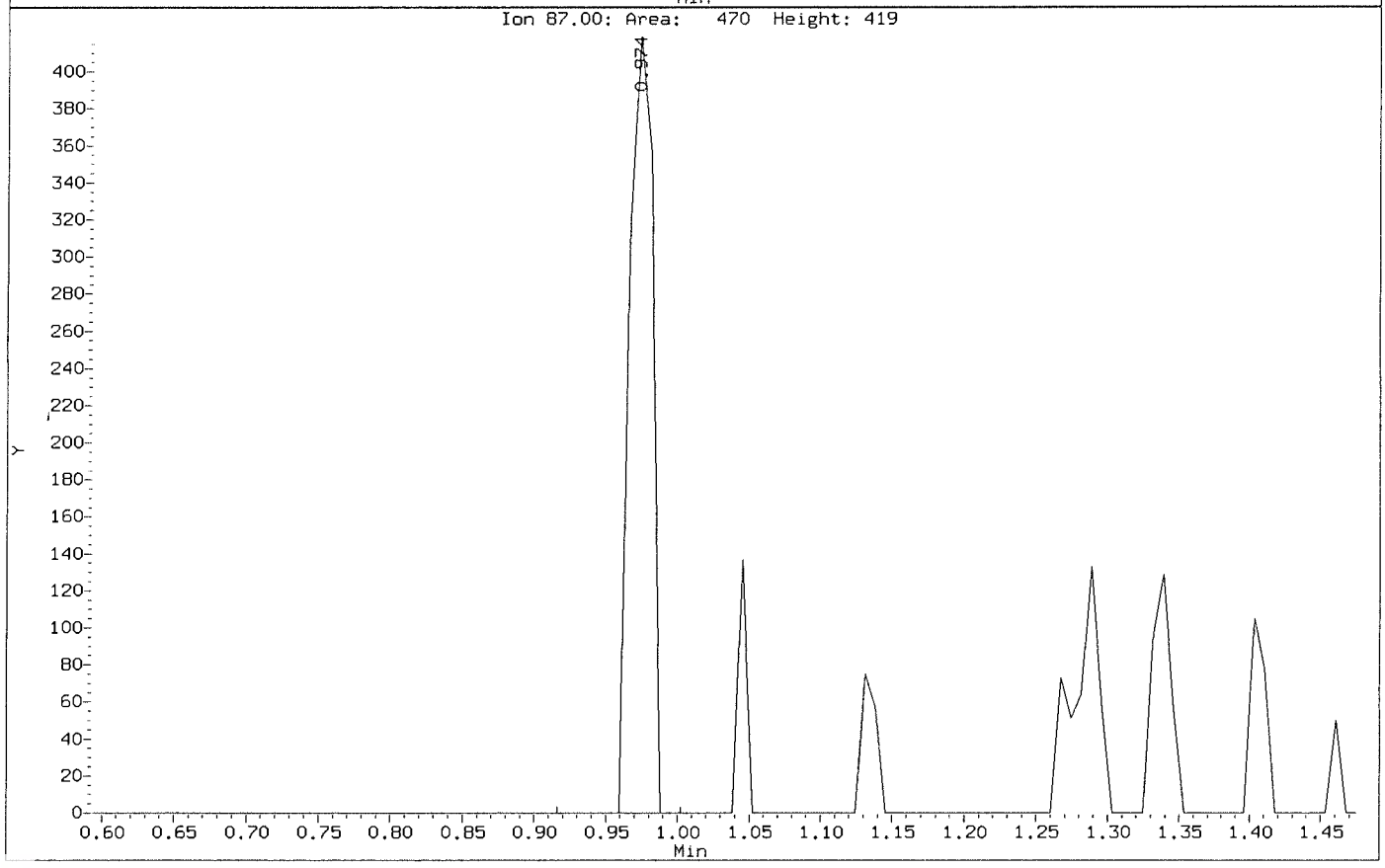




Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121419.D
Injection Date: 14-DEC-2020 17:11
Instrument: voa6.i
Client Sample ID: HS20120243-01MSD

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121431.D Page 1
Report Date: 13-Jan-2021 11:42

ALS Laboratory Group

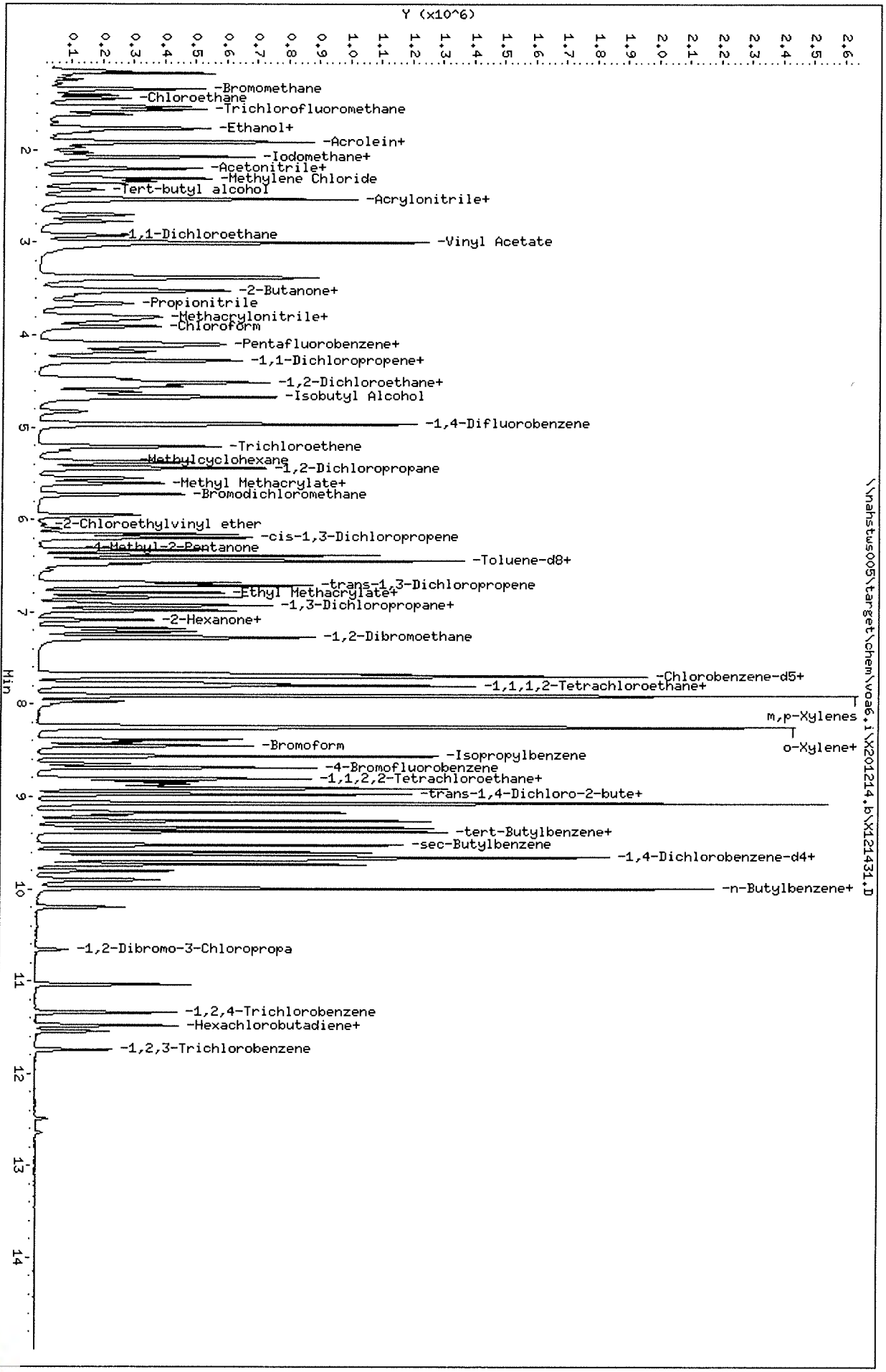
Data file : \\nahstws005\target\chem\voa6.i\X201214.b\X121431.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 14-DEC-2020 21:23
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\target\chem\voa6.i\X201214.b\8260W.m
Meth Date : 13-Jan-2021 11:42 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	253823	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	481599	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	457951	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	214117	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	175832	50.0000	51.72
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	227702	50.0000	53.34
$	48 Toluene-d8	98	6.388	6.388	(0.833)	594169	50.0000	49.34
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	231446	50.0000	50.92
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	163463	50.0000	49.23
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	272267	50.0000	51.56
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	206605	50.0000	47.60
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	143227	50.0000	49.15
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	294724	50.0000	48.33
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	168716	50.0000	43.80
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	230017	50.0000	49.37
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	57204	50.0000	50.36
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	230783	50.0000	46.78
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	101903	50.0000	50.65
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	573874	50.0000	49.29
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	15540	50.0000	45.39
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	171744	50.0000	48.72
	88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	286758	50.0000	46.25

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	273380	50.0000	50.20
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	185684	50.0000	51.24
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	581490	50.0000	48.43
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	304195	50.0000	46.13
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	283536	50.0000	49.25
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	315830	50.0000	47.56
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	240350	50.0000	45.08
24 2-Butanone	43	3.573	3.573	(0.854)	117650	100.000	99.53
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	503210	50.0000	49.26
52 2-Hexanone	43	7.090	7.090	(0.924)	209935	100.000	91.61
77 4-Chlorotoluene	91	9.067	9.067	(0.938)	616799	50.0000	49.03
82 p-Isopropyltoluene	119	9.648	9.648	(0.999)	558657	50.0000	47.69
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	313521	100.000	93.61
10 Acetone	43	1.969	1.969	(0.471)	98705	100.000	95.36
37 Benzene	78	4.512	4.512	(0.908)	659324	50.0000	50.34
74 Bromobenzene	156	8.809	8.809	(0.912)	186133	50.0000	49.01
29 Bromochloromethane	128	3.795	3.795	(0.908)	92291	50.0000	50.70
39 Bromodichloromethane	83	5.729	5.729	(1.153)	262528	50.0000	52.72
66 Bromoform	173	8.408	8.408	(1.096)	107393	50.0000	51.45
6 Bromomethane	94	1.338	1.338	(0.320)	217339	50.0000	55.12
19 Carbon Disulfide	76	2.069	2.069	(0.495)	796835	100.000	94.88
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	212155	50.0000	54.48
59 Chlorobenzene	112	7.692	7.692	(1.003)	441653	50.0000	46.95
7 Chloroethane	64	1.403	1.403	(0.336)	144559	50.0000	47.96
28 Chloroform	83	3.910	3.910	(0.935)	339879	50.0000	52.03
3 Chloromethane	50	1.073	1.073	(0.257)	193960	50.0000	38.91
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	186396	50.0000	52.16
46 cis-1,3-Dichloropropene	75	6.152	6.152	(1.238)	312813	50.0000	50.54
55 Dibromochloromethane	129	7.176	7.176	(0.936)	182845	50.0000	49.19
44 Dibromomethane	93	5.550	5.550	(1.117)	124993	50.0000	51.22
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	127709	50.0000	35.08
61 Ethylbenzene	106	7.800	7.800	(1.017)	227834	50.0000	49.51
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	58960	50.0000	48.84
67 Isopropylbenzene	105	8.566	8.566	(1.117)	691657	50.0000	48.85
62 m,p-Xylenes	106	7.907	7.907	(1.031)	581816	100.000	96.96
17 Methylene Chloride	84	2.305	2.305	(0.551)	163092	50.0000	47.83
87 n-Butylbenzene	91	9.991	9.991	(1.034)	547182	50.0000	47.14
73 n-Propylbenzene	91	8.910	8.910	(0.922)	841281	50.0000	48.82
92 Naphthalene	128	11.539	11.539	(1.194)	152354	50.0000	44.17
63 o-Xylene	106	8.244	8.244	(1.075)	282854	50.0000	48.37
81 sec-Butylbenzene	105	9.519	9.519	(0.985)	669253	50.0000	48.62
64 Styrene	104	8.258	8.258	(1.077)	480563	50.0000	48.33
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	474959	50.0000	49.33
56 Tetrachloroethene	164	6.926	6.926	(0.903)	121257	50.0000	47.33
50 Toluene	91	6.446	6.446	(0.840)	675091	50.0000	47.45
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	148683	50.0000	48.84
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	272085	50.0000	50.52
38 Trichloroethene	130	5.206	5.206	(1.048)	172931	50.0000	49.17
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	317169	50.0000	43.52
5 Vinyl Chloride	62	1.138	1.138	(0.272)	186067	50.0000	41.28



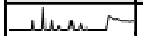
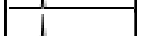
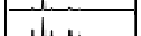
Data File: \\nahstws005\target\chem\voa6.i\X201214.b\X121431.D
Date : 14-DEC-2020 21:23
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

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

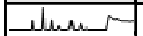
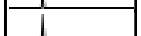
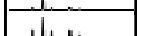
HS20120243 Wet Chem Raw Data (9056_anions_W)

ALS WO# HS20120243

Sequence: 121020
Last Update Operator: alshs.nouser

ECD_1	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume [µl]
	STD1		Calibration	GE1	1.00	01	ICS2100	Anion Processing Method 091720	10.0
	STD2		Calibration	GE2	1.00	02	ICS2100	Anion Processing Method 091720	10.0
	STD3		Calibration	GE3	1.00	03	ICS2100	Anion Processing Method 091720	10.0
	STD4		Calibration	GE4	1.00	04	ICS2100	Anion Processing Method 091720	10.0
	STD5		Calibration	GE5	1.00	05	ICS2100	Anion Processing Method 091720	10.0
	STD6		Calibration	GE6	1.00	06	ICS2100	Anion Processing Method 091720	10.0
	ICV		Unknown	GE7	1.00		ICS2100	Anion Processing Method 091720	10.0
	ICB		Unknown	GE8	1.00		ICS2100	Anion Processing Method 091720	10.0
	CCV1		Unknown	BA8	1.00		ICS2100	Anion Processing Method 091720	10.0
	CCB		Unknown	B5	1.00		ICS2100	Anion Processing Method 091720	10.0
	HS20120243-01		Unknown	RD1	1.00		ICS2100	Anion Processing Method 091720	10.0
	HS20120243-01DF20		Unknown	RD2	20.00		ICS2100	Anion Processing Method 091720	10.0
	HS20120243-01MSDF20		Unknown	RD3	20.00		ICS2100	Anion Processing Method 091720	10.0
	HS20120243-01MSDDF20		Unknown	RD4	20.00		ICS2100	Anion Processing Method 091720	10.0
	CCV		Unknown	G1	1.00		ICS2100	Anion Processing Method 091720	10.0
	CCB		Unknown	B4	1.00		ICS2100	Anion Processing Method 091720	10.0
	MBLK-		Unknown	B5	1.00		ICS2100	Anion Processing Method 091720	10.0
	LCS-		Unknown	G2	1.00		ICS2100	Anion Processing Method 091720	10.0
	CCV1		Unknown	BA8	1.00		ICS2100	Anion Processing Method 091720	10.0
	CCB		Unknown	B5	1.00		ICS2100	Anion Processing Method 091720	10.0

Sequence: 121020
Last Update Operator: alshs.nouser

ECD_1	Name	Status	Inject Time
	STD1	Finished	12/1/2020 1:28:56 PM -06:00
	STD2	Finished	12/1/2020 1:45:44 PM -06:00
	STD3	Finished	12/1/2020 2:02:33 PM -06:00
	STD4	Finished	12/1/2020 2:19:22 PM -06:00
	STD5	Finished	12/1/2020 2:36:11 PM -06:00
	STD6	Finished	12/1/2020 2:53:04 PM -06:00
	ICV	Finished	12/1/2020 3:09:53 PM -06:00
	ICB	Finished	12/1/2020 3:26:46 PM -06:00
	CCV1	Finished	12/11/2020 5:28:22 AM -06:00
	CCB	Finished	12/11/2020 5:46:33 AM -06:00
	HS20120243-01	Finished	12/11/2020 7:35:13 AM -06:00
	HS20120243-01DF20	Finished	12/11/2020 7:53:20 AM -06:00
	HS20120243-01MSDF20	Finished	12/11/2020 8:11:30 AM -06:00
	HS20120243-01MSDDF20	Finished	12/11/2020 8:29:36 AM -06:00
	CCV	Finished	12/11/2020 9:23:59 AM -06:00
	CCB	Finished	12/11/2020 9:42:04 AM -06:00
	MBLK-	Finished	12/11/2020 10:00:11 AM -06:00
	LCS-	Finished	12/11/2020 11:47:39 AM -06:00
	CCV1	Finished	12/11/2020 12:55:02 PM -06:00
	CCB	Finished	12/11/2020 1:11:50 PM -06:00

Sequence: 121020
Injection #6: STD6

Calibration

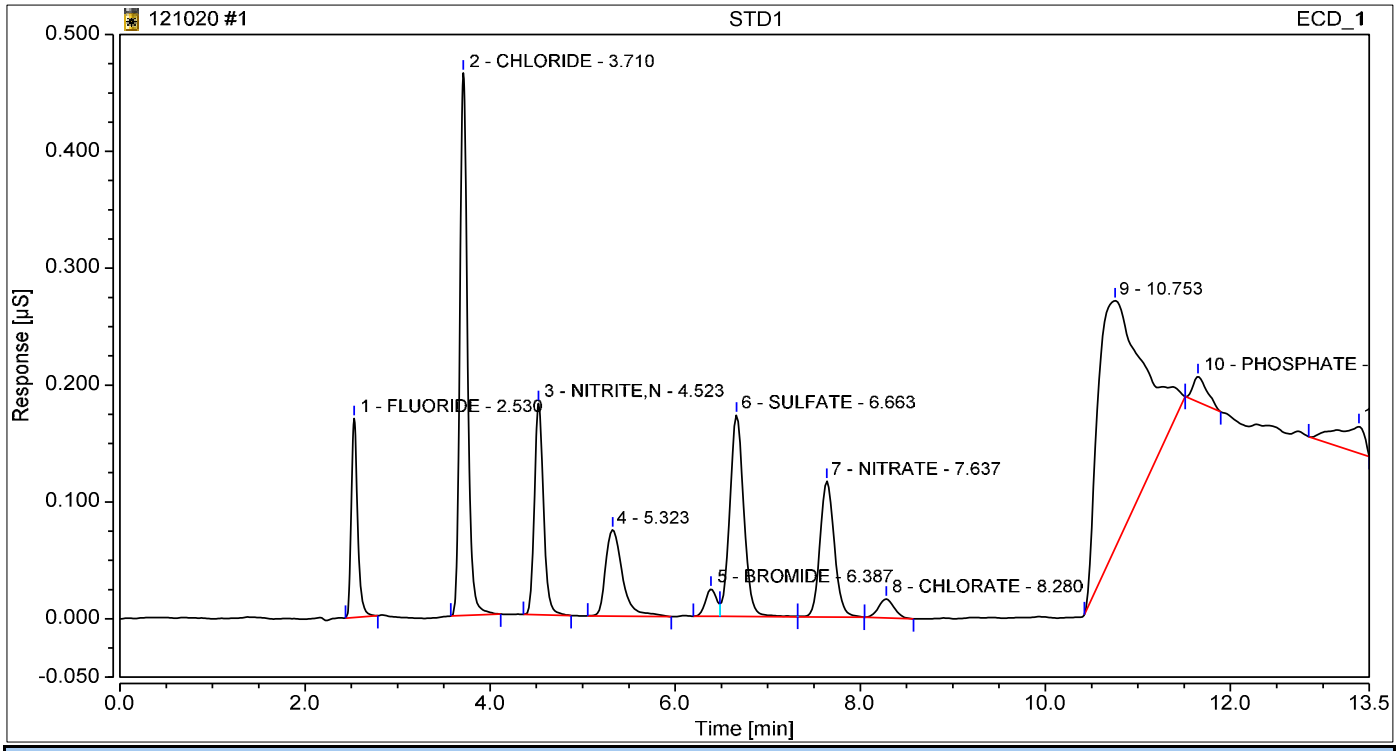
Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
n.a.	*Component 1*	*Lin, WithOffset, 1/*	*Area*	*0*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
1	FLUORIDE	Lin, WithOffset, 1/	Area	6	20.9372	0.99770	-0.0002	0.1603	0.0000
2	CHLORIDE	Lin, WithOffset, 1/	Area	6	2.5921	0.99997	-0.0026	0.0953	0.0000
3	NITRITE,N	Lin, WithOffset, 1/	Area	6	19.3551	0.99783	0.0042	0.2024	0.0000
5	BROMIDE	Lin, WithOffset, 1/	Area	6	14.2594	0.99893	0.0000	0.0339	0.0000
6	SULFATE	Lin, WithOffset, 1/	Area	6	3.0244	0.99996	-0.0065	0.0723	0.0000
7	NITRATE	Lin, WithOffset, 1/	Area	6	3.5001	0.99994	-0.0024	0.2359	0.0000
8	CHLORATE	Lin, WithOffset, 1/	Area	6	10.8925	0.99944	-0.0009	0.0367	0.0000
11	PHOSPHATE	Lin, WithOffset, 1/	Area	6	20.3748	0.99848	-0.0070	0.0935	0.0000
Maximum					**20.9372**	0.99997			
Minimum					2.5921	**0.99770**			

Chromatogram and Results

Injection Details

Injection Name:	**STD1**	***Run Time (min):***	**13.50**
Vial Number:	**GE1**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**01**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 13:28**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

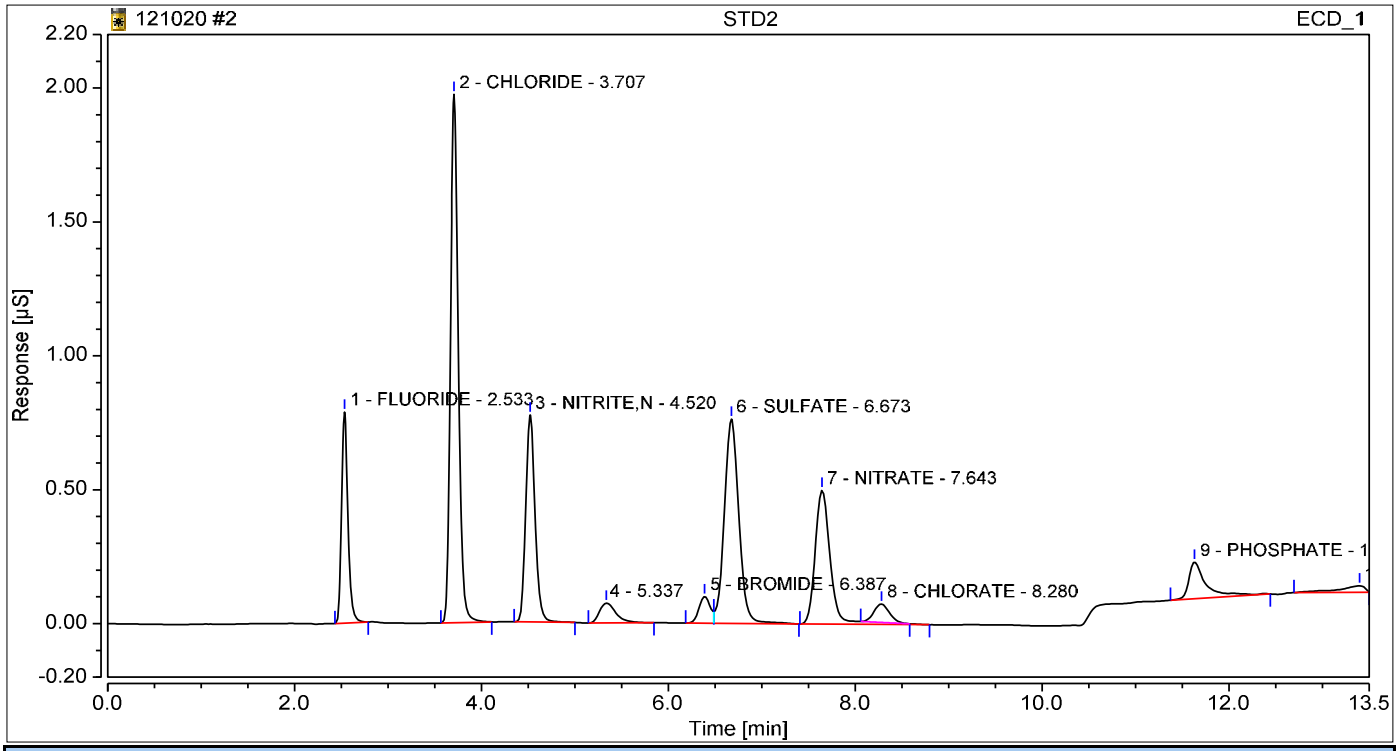
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.530	0.013	0.170	4.78	11.55	0.0853
2	CHLORIDE	3.710	0.045	0.464	15.93	31.50	0.4979
3	NITRITE,N	4.523	0.020	0.181	7.27	12.26	0.0801
4		5.323	0.016	0.074	5.53	5.01	n.a.
5	BROMIDE	6.387	0.003	0.023	1.16	1.59	0.0964
6	SULFATE	6.663	0.030	0.172	10.81	11.69	0.5103
7	NITRATE	7.637	0.021	0.116	7.45	7.89	0.0991
8	CHLORATE	8.280	0.003	0.016	1.14	1.11	0.1119
9		10.753	0.117	0.212	41.75	14.37	n.a.
10	PHOSPHATE	11.650	0.004	0.022	1.40	1.48	0.1175
11		13.390	0.008	0.023	2.79	1.56	n.a.
Total:			**0.281**	**1.474**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD2**	***Run Time (min):***	**13.50**
Vial Number:	**GE2**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**02**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 13:45**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

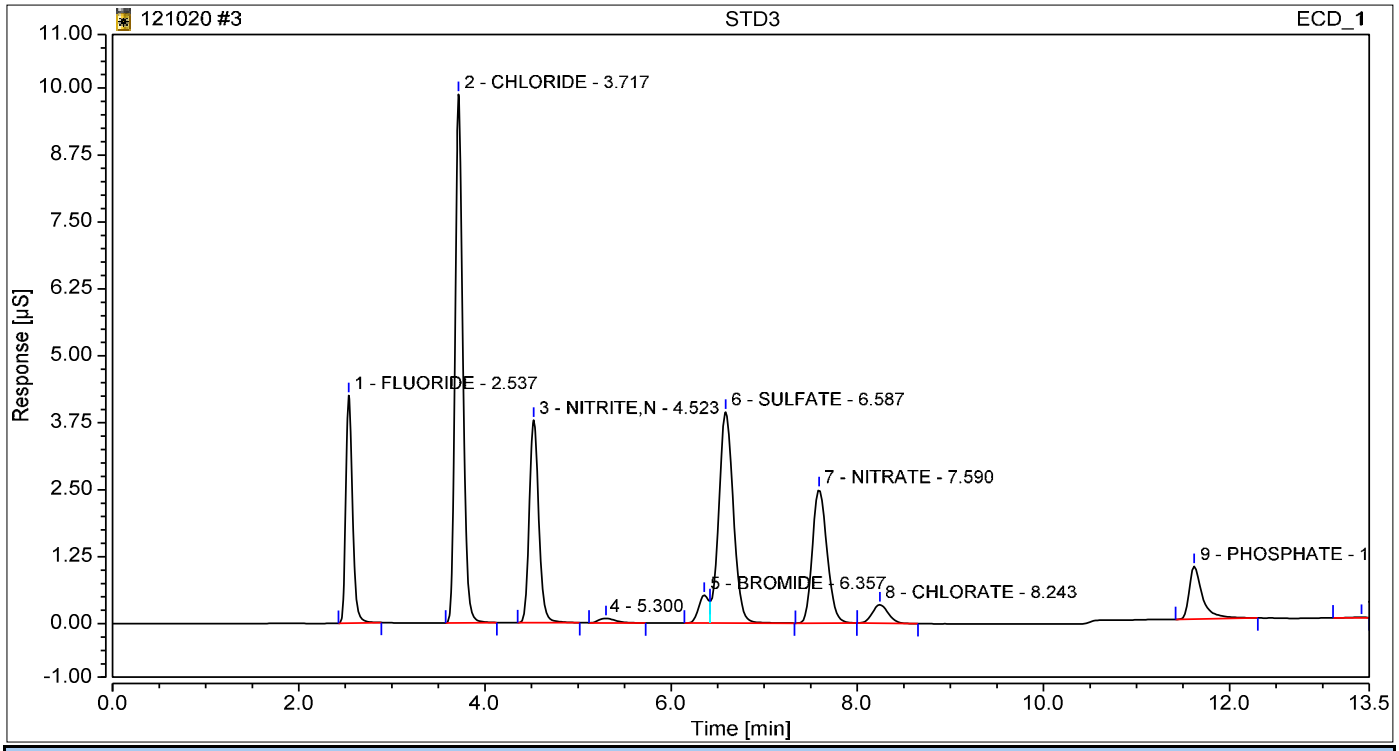
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.533	0.063	0.788	9.56	15.15	0.3924
2	CHLORIDE	3.707	0.191	1.973	29.15	37.94	2.0320
3	NITRITE,N	4.520	0.089	0.772	13.57	14.86	0.4185
4		5.337	0.015	0.073	2.30	1.41	n.a.
5	BROMIDE	6.387	0.014	0.099	2.14	1.91	0.4128
6	SULFATE	6.673	0.138	0.763	21.01	14.68	1.9945
7	NITRATE	7.643	0.095	0.500	14.55	9.61	0.4145
8	CHLORATE	8.280	0.013	0.069	2.02	1.32	0.3859
9	PHOSPHATE	11.630	0.029	0.137	4.44	2.63	0.3866
10		13.397	0.008	0.025	1.25	0.47	n.a.
Total:			**0.655**	**5.199**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD3**	***Run Time (min):***	**13.50**
Vial Number:	**GE3**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**03**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 14:02**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

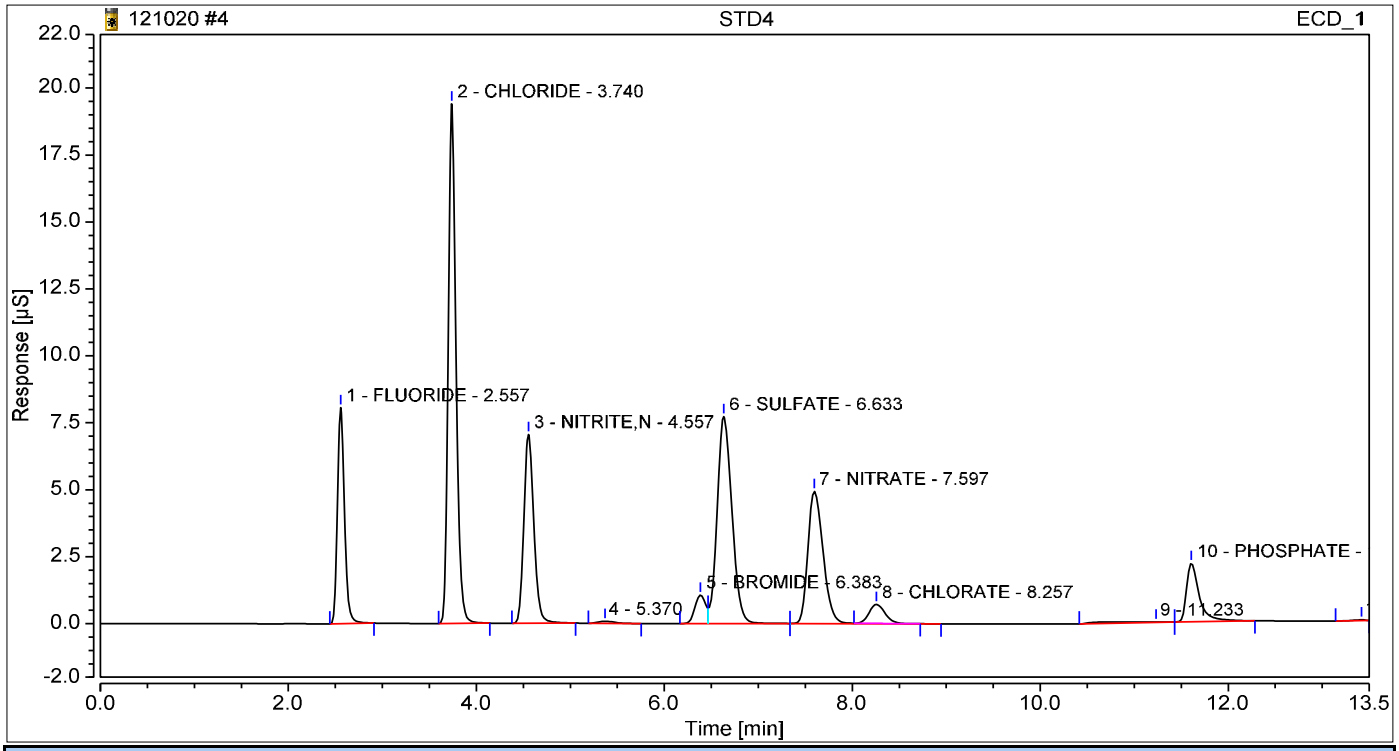
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.537	0.353	4.253	10.91	16.18	2.2031
2	CHLORIDE	3.717	0.950	9.866	29.35	37.54	9.9940
3	NITRITE,N	4.523	0.447	3.783	13.82	14.39	2.1890
4		5.300	0.017	0.082	0.54	0.31	n.a.
5	BROMIDE	6.357	0.064	0.520	1.99	1.98	1.9005
6	SULFATE	6.587	0.713	3.941	22.03	14.99	9.9525
7	NITRATE	7.590	0.457	2.495	14.13	9.49	1.9482
8	CHLORATE	8.243	0.068	0.345	2.11	1.31	1.8869
9	PHOSPHATE	11.620	0.162	0.982	5.01	3.73	1.8096
10		13.417	0.003	0.018	0.10	0.07	n.a.
Total:			**3.236**	**26.285**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD4**	***Run Time (min):***	**13.50**
Vial Number:	**GE4**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**04**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 14:19**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

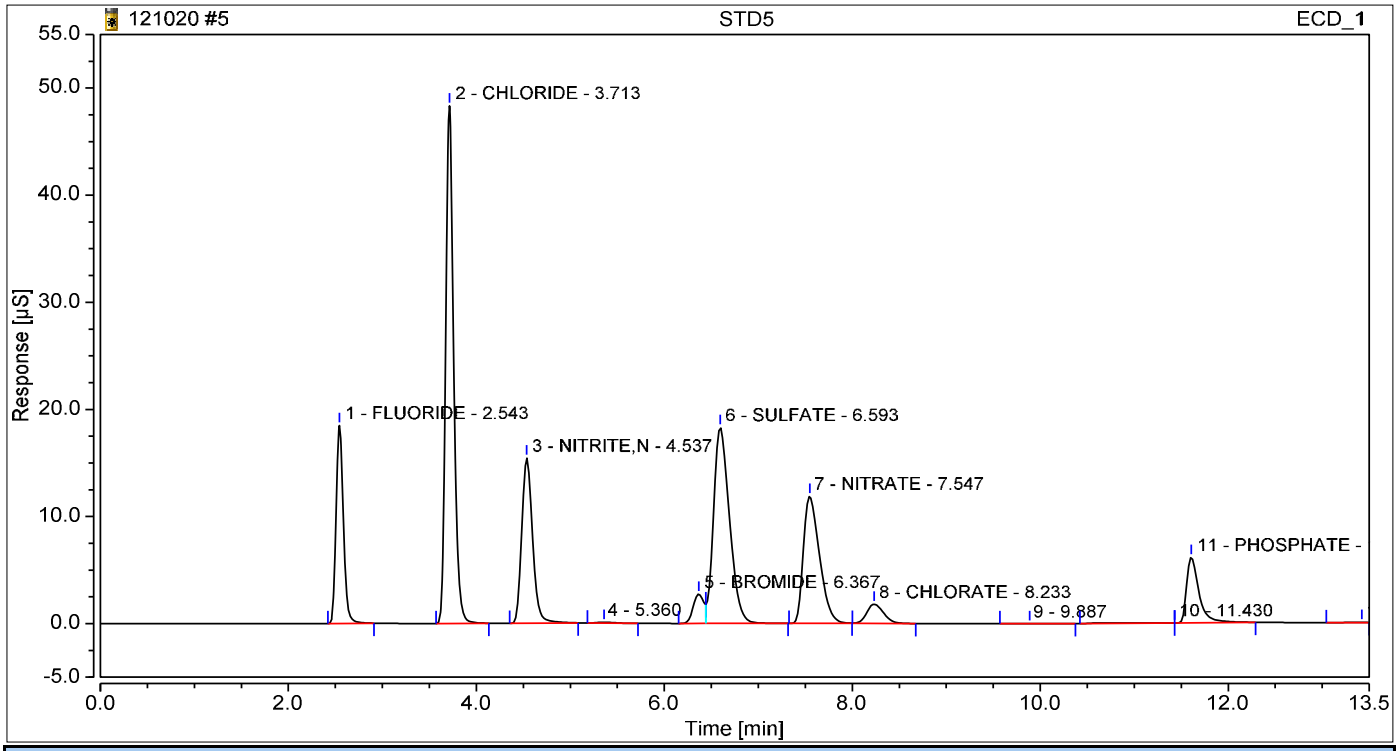
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.557	0.691	8.063	10.69	15.73	4.3099
2	CHLORIDE	3.740	1.874	19.402	29.01	37.84	19.6917
3	NITRITE,N	4.557	0.869	7.048	13.45	13.75	4.2721
4		5.370	0.016	0.079	0.25	0.15	n.a.
5	BROMIDE	6.383	0.141	1.065	2.18	2.08	4.1476
6	SULFATE	6.633	1.416	7.734	21.92	15.08	19.6817
7	NITRATE	7.597	0.939	4.942	14.53	9.64	3.9886
8	CHLORATE	8.257	0.140	0.709	2.17	1.38	3.8371
9		11.233	0.028	0.016	0.44	0.03	n.a.
10	PHOSPHATE	11.607	0.341	2.179	5.28	4.25	3.7234
11		13.417	0.005	0.032	0.08	0.06	n.a.
Total:			**6.460**	**51.270**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD5**	***Run Time (min):***	**13.50**
Vial Number:	**GE5**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**05**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 14:36**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

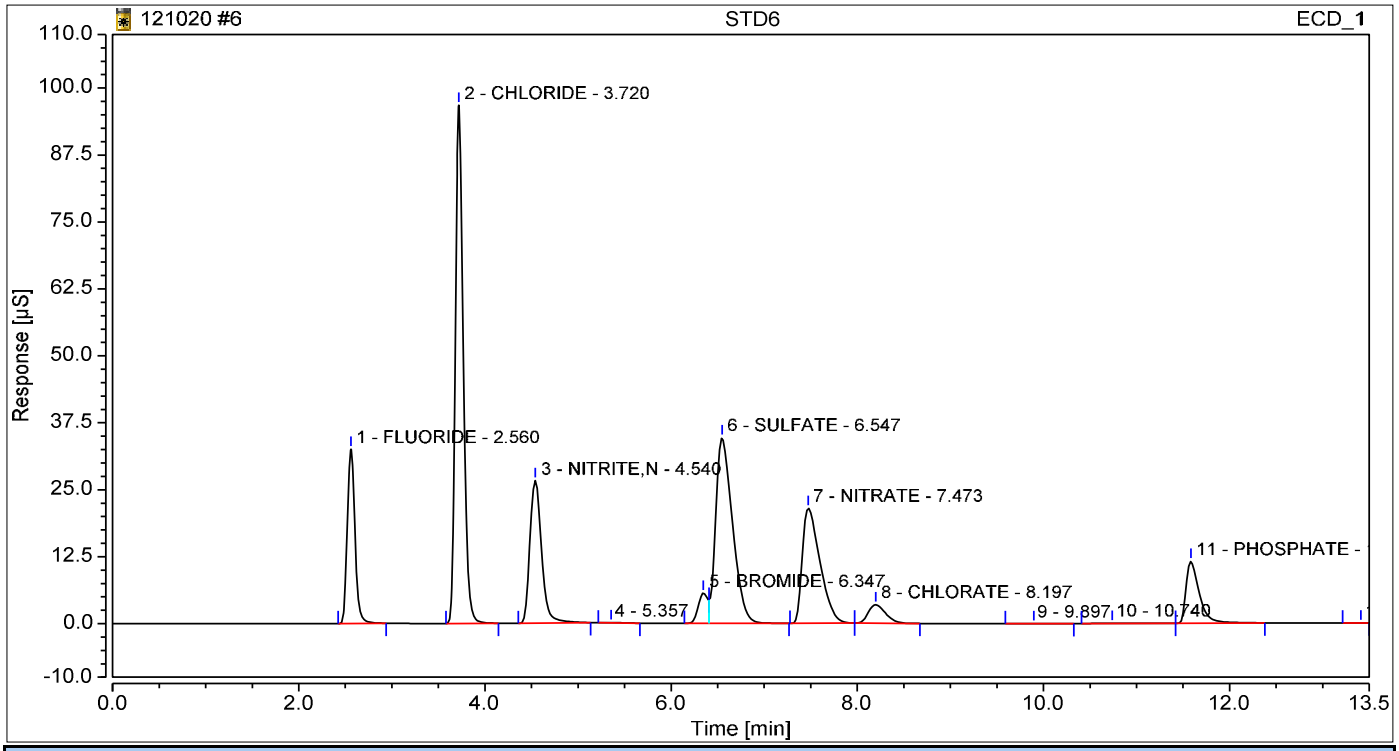
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.543	1.639	18.498	10.15	15.02	10.2281
2	CHLORIDE	3.713	4.776	48.330	29.58	39.24	50.1369
3	NITRITE,N	4.537	2.081	15.453	12.89	12.55	10.2576
4		5.360	0.018	0.080	0.11	0.07	n.a.
5	BROMIDE	6.367	0.352	2.733	2.18	2.22	10.3919
6	SULFATE	6.593	3.602	18.302	22.31	14.86	49.9233
7	NITRATE	7.547	2.354	11.867	14.58	9.63	9.9898
8	CHLORATE	8.233	0.366	1.780	2.27	1.44	9.9946
9		9.887	0.002	0.007	0.01	0.01	n.a.
10		11.430	0.024	0.000	0.15	0.00	n.a.
11	PHOSPHATE	11.607	0.928	6.107	5.75	4.96	10.0007
12		13.420	0.003	0.016	0.02	0.01	n.a.
Total:			**16.145**	**123.173**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD6**	***Run Time (min):***	**13.50**
Vial Number:	**GE6**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**06**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 14:53**	***Sample Weight:***	**1.0000**

Chromatogram



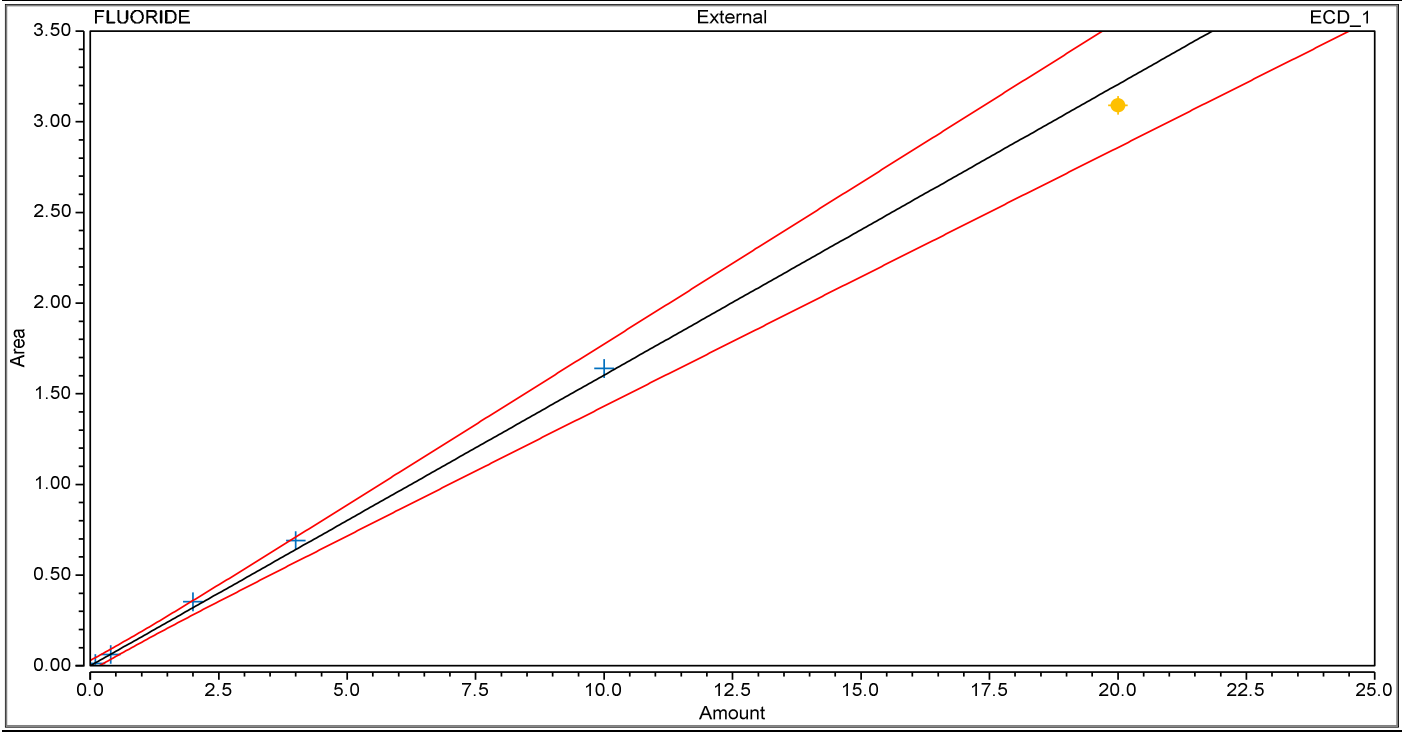
Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.560	3.091	32.572	9.69	13.98	19.2811
2	CHLORIDE	3.720	9.542	96.792	29.93	41.56	100.1475
3	NITRITE,N	4.540	3.907	26.633	12.26	11.44	19.2828
4		5.357	0.014	0.061	0.04	0.03	n.a.
5	BROMIDE	6.347	0.663	5.653	2.08	2.43	19.5508
6	SULFATE	6.547	7.253	34.662	22.75	14.88	100.4377
7	NITRATE	7.473	4.730	21.461	14.84	9.21	20.0599
8	CHLORATE	8.197	0.743	3.449	2.33	1.48	20.2836
9		9.897	0.004	0.015	0.01	0.01	n.a.
10		10.740	0.025	0.046	0.08	0.02	n.a.
11	PHOSPHATE	11.583	1.907	11.554	5.98	4.96	20.4622
12		13.410	0.002	0.011	0.00	0.00	n.a.
Total:			**31.881**	**232.908**	**100.00**	**100.00**	

Calibration

Calibration Details	FLUORIDE		
Calibration Type	Lin, WithOffset, 1/A	***Offset (C0)***	-0.0002
Evaluation Type	Area	***Slope (C1)***	0.1603
Number of Calibration Points	6	***Curve (C2)***	0.0000
Number of disabled Calibration Points	0	***R-Square***	0.9977

Calibration Plot **FLUORIDE**



Calibration Results **FLUORIDE**

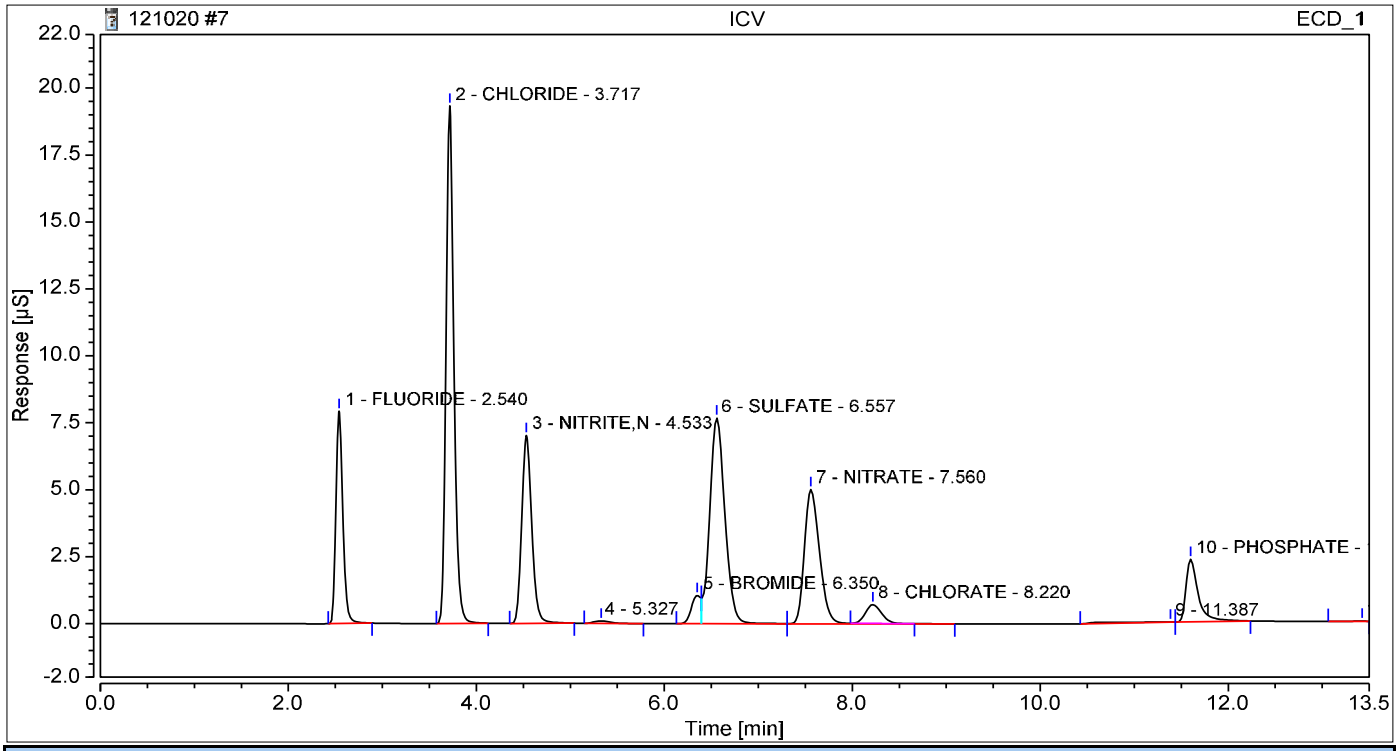
No.	Injection Name	Calibration Level	X Value ECD_1 FLUORIDE	Y Value ECD_1 FLUORIDE	Y Value ECD_1 FLUORIDE	Area µS*min ECD_1 FLUORIDE	Height µS ECD_1 FLUORIDE
1	STD1	01	0.1000	0.0134	0.0134	0.013	0.170
2	STD2	02	0.4000	0.0627	0.0627	0.063	0.788
3	STD3	03	2.0000	0.3529	0.3529	0.353	4.253
4	STD4	04	4.0000	0.6907	0.6907	0.691	8.063
5	STD5	05	10.0000	1.6394	1.6394	1.639	18.498
6	STD6	06	20.0000	3.0907	3.0907	3.091	32.572

Chromatogram and Results

Injection Details

Injection Name:	**ICV**	***Run Time (min):***	**13.50**
Vial Number:	**GE7**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 15:09**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

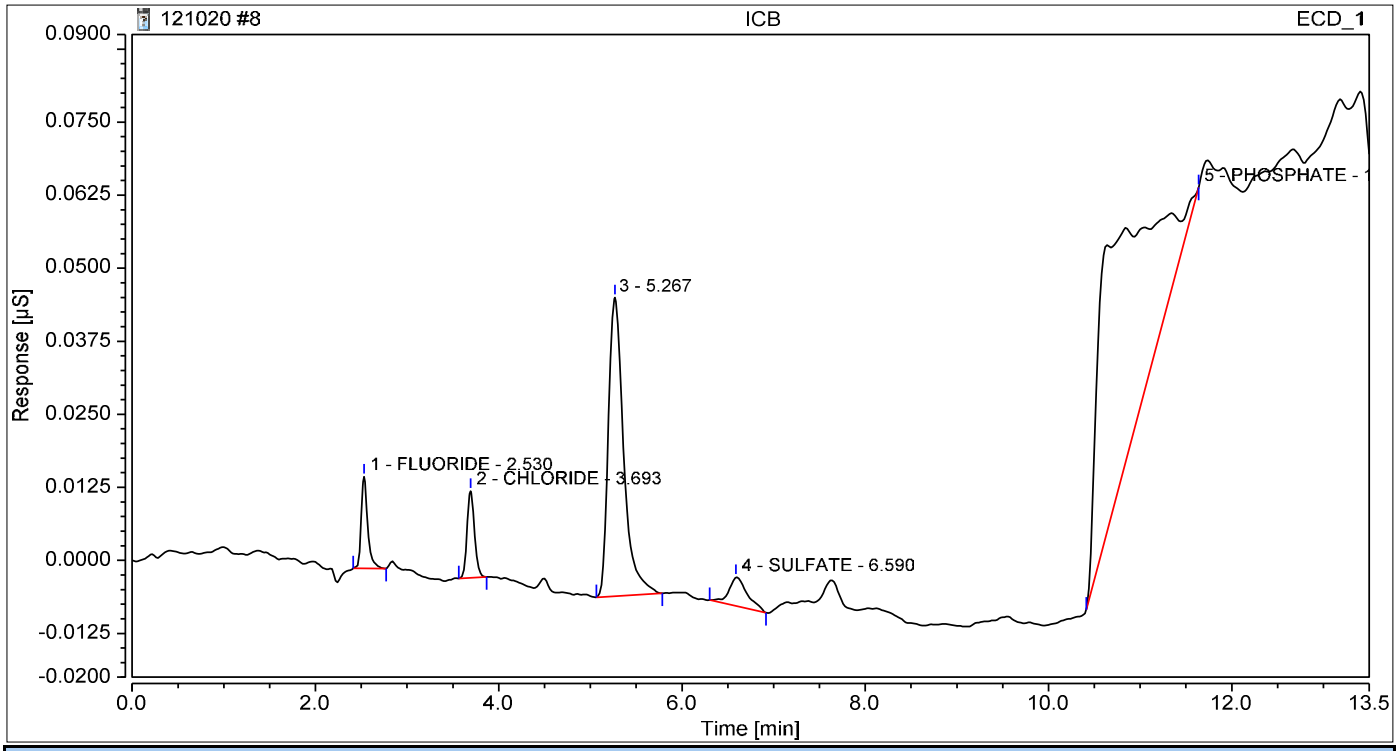
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.540	0.668	7.927	10.35	15.50	4.1691
2	CHLORIDE	3.717	1.882	19.322	29.15	37.77	19.7745
3	NITRITE,N	4.533	0.872	7.013	13.50	13.71	4.2864
4		5.327	0.019	0.089	0.30	0.17	n.a.
5	BROMIDE	6.350	0.120	1.059	1.85	2.07	3.5248
6	SULFATE	6.557	1.437	7.686	22.26	15.02	19.9695
7	NITRATE	7.560	0.943	5.016	14.60	9.80	4.0065
8	CHLORATE	8.220	0.139	0.700	2.16	1.37	3.8244
9		11.387	0.024	0.004	0.37	0.01	n.a.
10	PHOSPHATE	11.600	0.350	2.329	5.42	4.55	3.8150
11		13.423	0.002	0.011	0.03	0.02	n.a.
Total:			**6.456**	**51.156**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB**	***Run Time (min):***	**13.50**
Vial Number:	**GE8**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**01/Dec/20 15:26**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

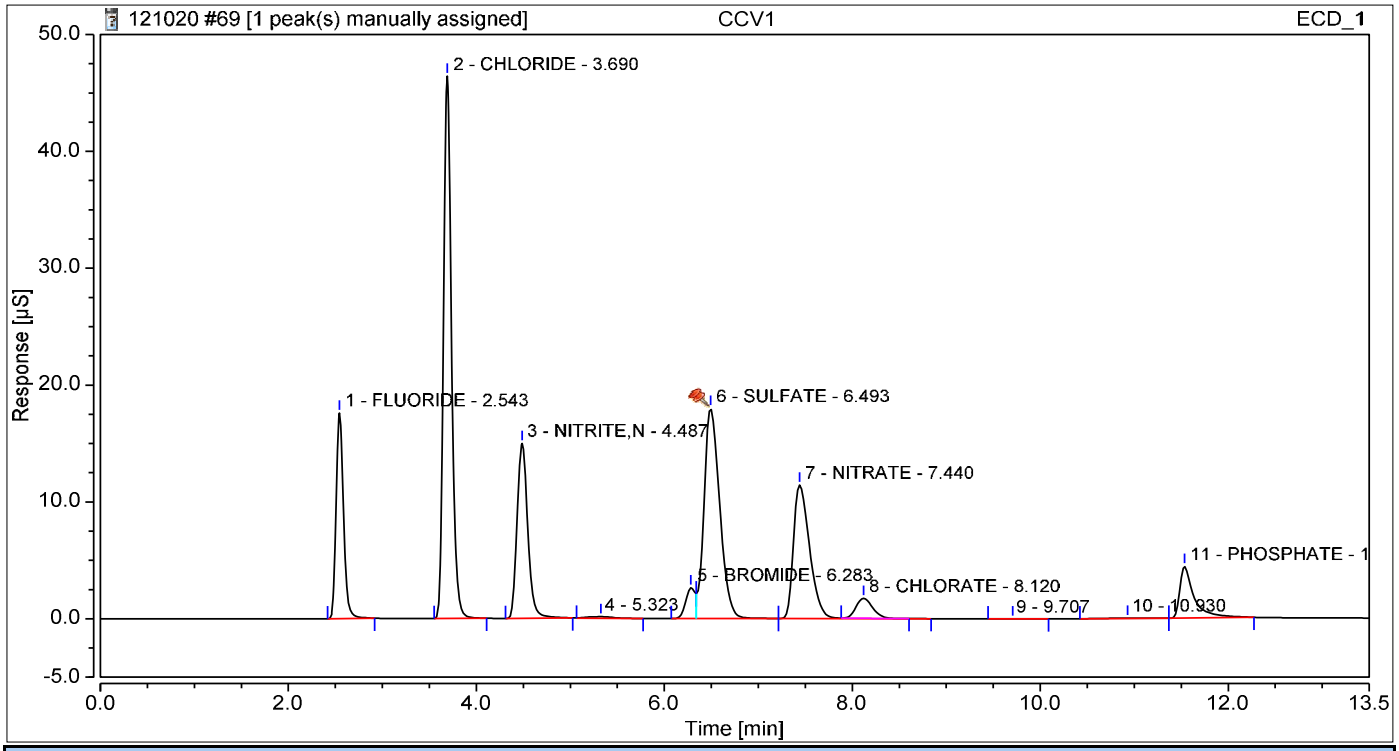
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.530	0.001	0.016	2.98	18.15	0.0095
2	CHLORIDE	3.693	0.001	0.015	3.20	17.14	0.0421
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		5.267	0.010	0.051	22.75	59.02	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	SULFATE	6.590	0.001	0.005	2.67	5.69	0.1054
n.a.	NITRATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	PHOSPHATE	11.637	0.030	0.000	68.41	0.00	0.3933
Total:			**0.043**	**0.087**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV1**	***Run Time (min):***	**13.50**
Vial Number:	**BA8**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 05:28**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

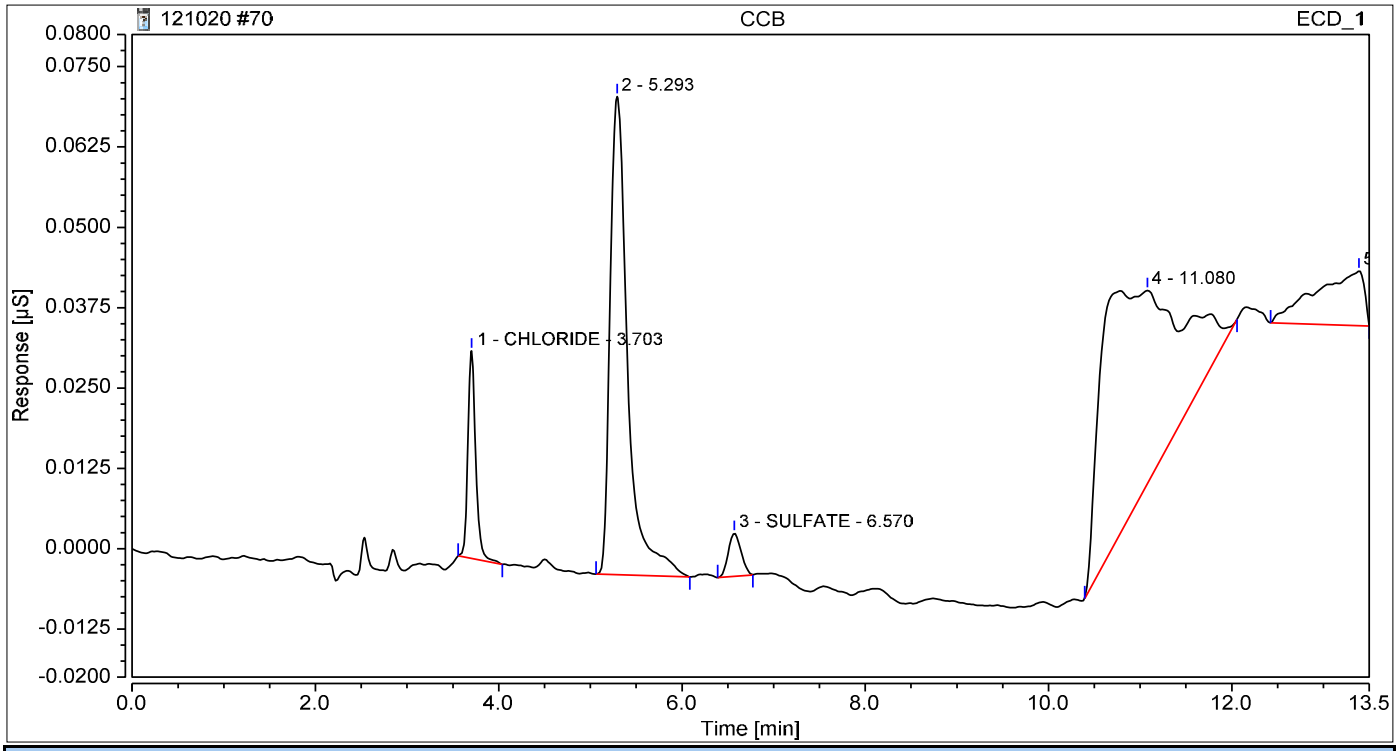
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.543	1.583	17.602	10.30	15.01	9.8790
2	CHLORIDE	3.690	4.568	46.406	29.72	39.57	47.9563
3	NITRITE,N	4.487	1.977	14.963	12.87	12.76	9.7485
4		5.323	0.038	0.126	0.25	0.11	n.a.
5	BROMIDE	6.283	0.307	2.636	1.99	2.25	9.0364
6	SULFATE	6.493	3.473	17.982	22.59	15.33	48.1370
7	NITRATE	7.440	2.278	11.415	14.82	9.73	9.6659
8	CHLORATE	8.120	0.347	1.697	2.26	1.45	9.4888
9		9.707	0.001	0.006	0.01	0.00	n.a.
10		10.930	0.015	0.024	0.10	0.02	n.a.
11	PHOSPHATE	11.533	0.783	4.421	5.09	3.77	8.4435
Total:			**15.370**	**117.280**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB**	***Run Time (min):***	**13.50**
Vial Number:	**B5**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 05:46**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

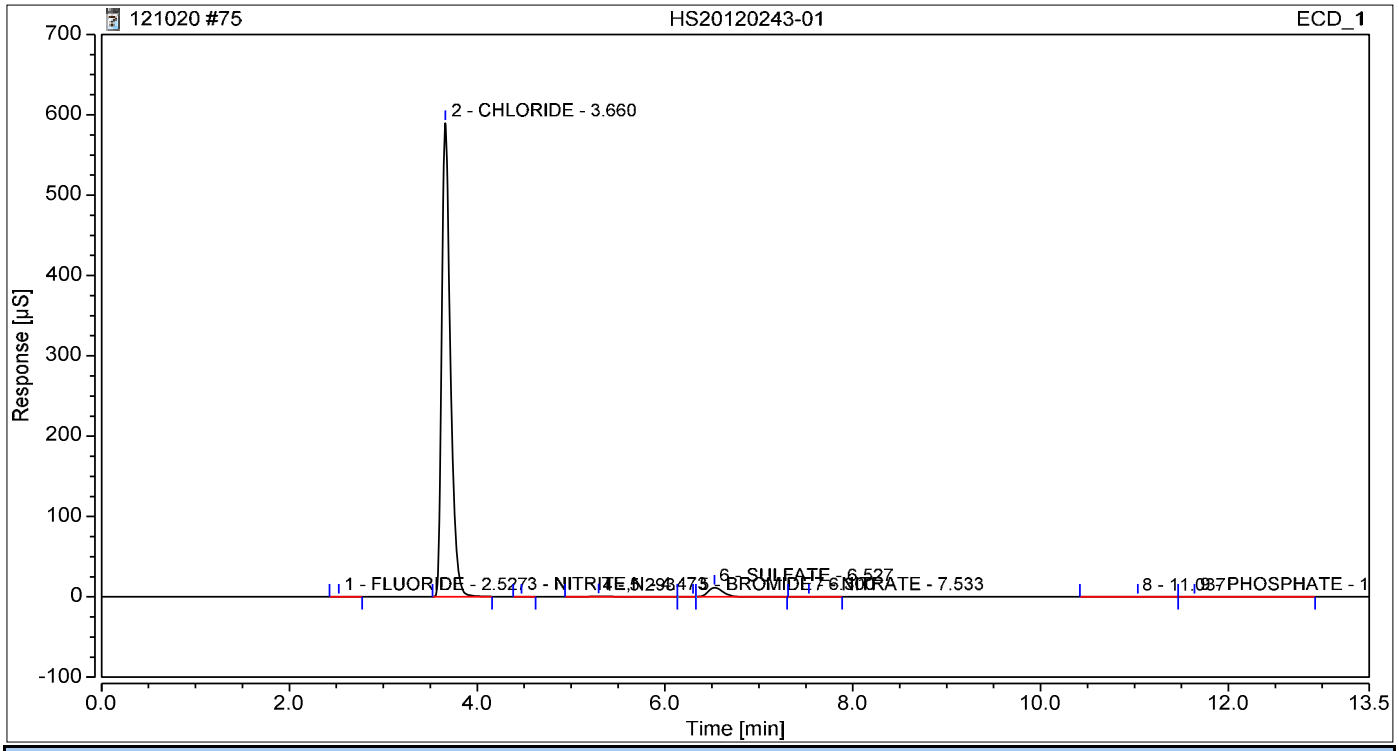
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.703	0.003	0.032	5.39	21.25	0.0610
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.293	0.017	0.074	28.03	48.97	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	SULFATE	6.570	0.001	0.007	1.83	4.40	0.1043
n.a.	NITRATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		11.080	0.033	0.030	55.95	19.78	n.a.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		13.387	0.005	0.009	8.79	5.60	n.a.
Total:			**0.059**	**0.152**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS20120243-01**	***Run Time (min):***	**13.50**
Vial Number:	**RD1**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 07:35**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

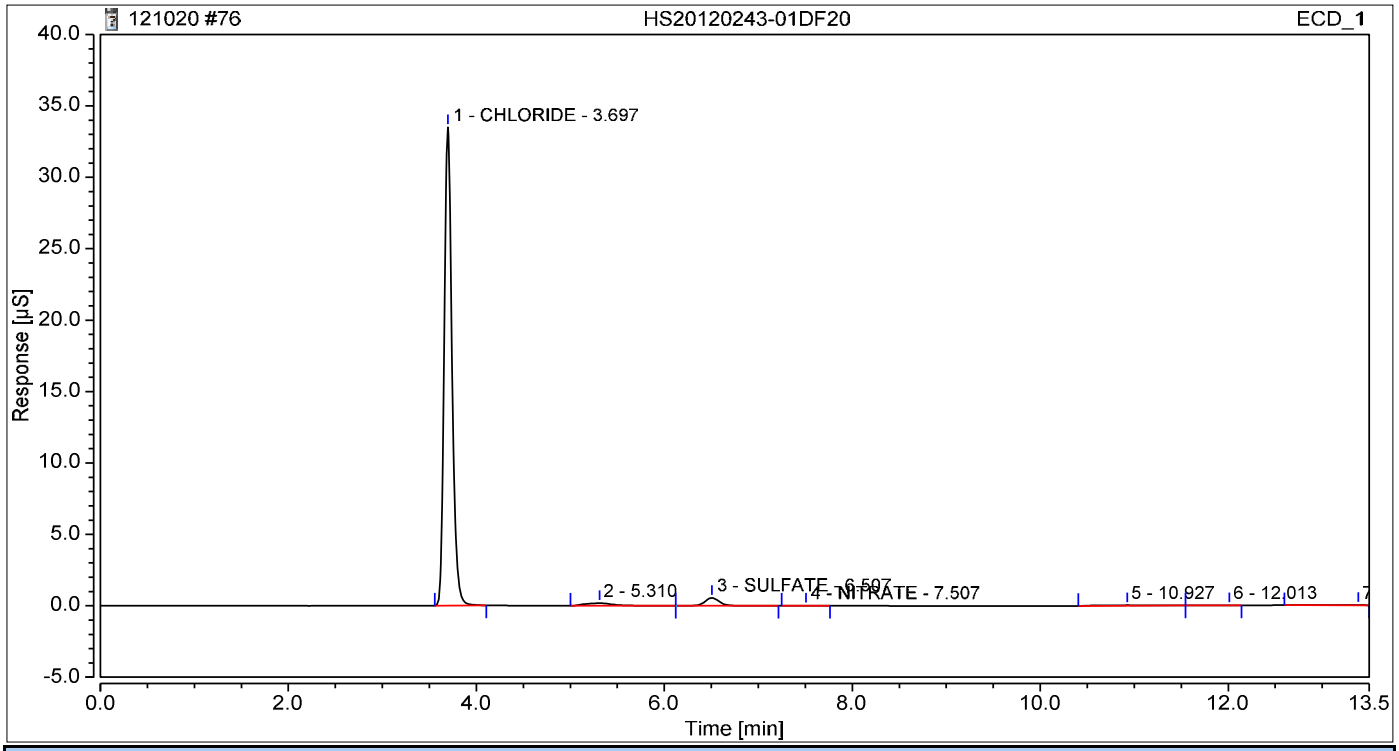
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.527	0.018	0.209	0.03	0.03	0.1130
2	CHLORIDE	3.660	63.172	589.584	96.15	97.85	662.8303
3	NITRITE,N	4.473	0.013	0.128	0.02	0.02	0.0428
4		5.293	0.222	0.398	0.34	0.07	n.a.
5	BROMIDE	6.300	0.030	0.282	0.05	0.05	0.8950
6	SULFATE	6.527	2.116	11.458	3.22	1.90	29.3619
7	NITRATE	7.533	0.043	0.245	0.07	0.04	0.1921
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8		11.037	0.021	0.028	0.03	0.00	n.a.
9	PHOSPHATE	11.640	0.066	0.203	0.10	0.03	0.7793
Total:			**65.700**	**602.535**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS20120243-01DF20**	***Run Time (min):***	**13.50**
Vial Number:	**RD2**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**20.0000**
Injection Date/Time:	**11/Dec/20 07:53**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

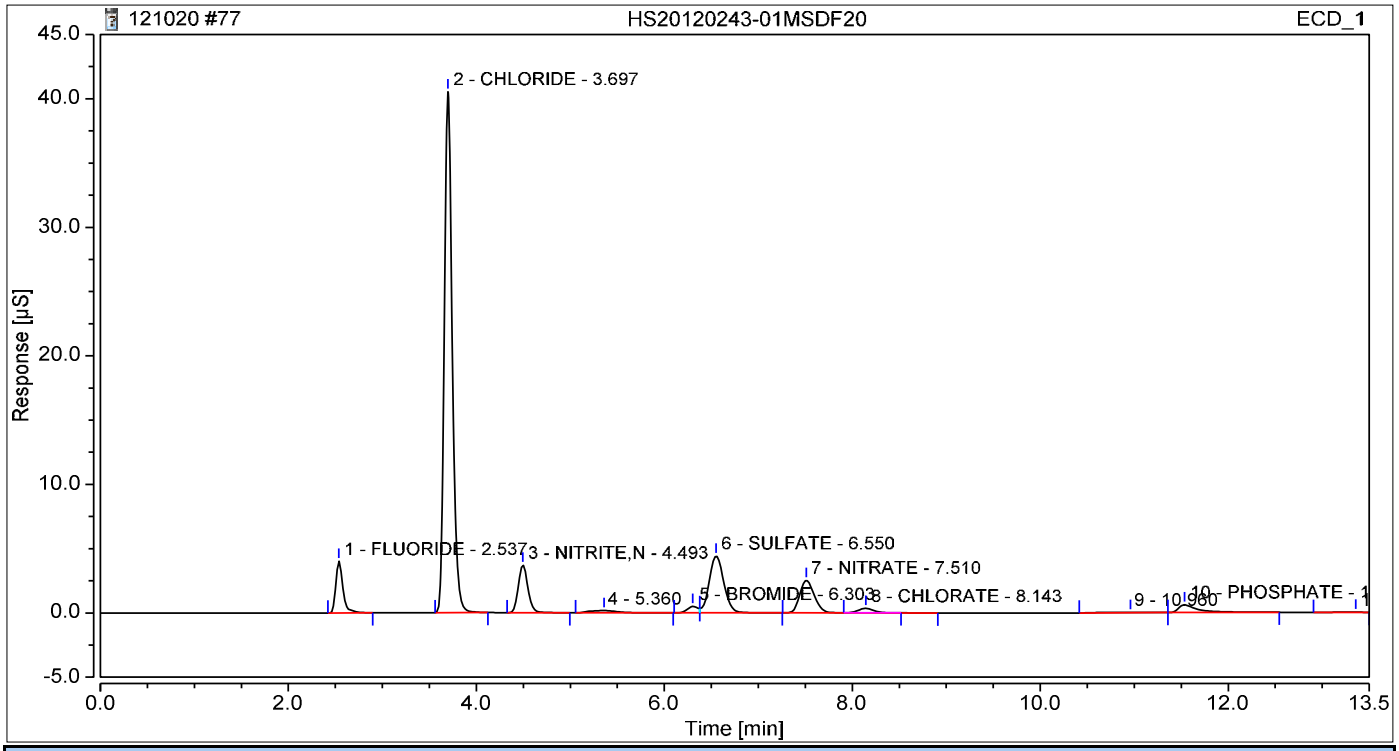
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.697	3.228	33.498	94.40	97.72	678.0045
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.310	0.064	0.179	1.87	0.52	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	SULFATE	6.507	0.099	0.552	2.90	1.61	29.2496
4	NITRATE	7.507	0.002	0.010	0.05	0.03	0.3600
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		10.927	0.021	0.029	0.61	0.09	n.a.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6		12.013	0.001	0.003	0.04	0.01	n.a.
7		13.383	0.004	0.009	0.12	0.03	n.a.
Total:			**3.420**	**34.280**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS20120243-01MSDF20**	***Run Time (min):***	**13.50**
Vial Number:	**RD3**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**20.0000**
Injection Date/Time:	**11/Dec/20 08:11**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

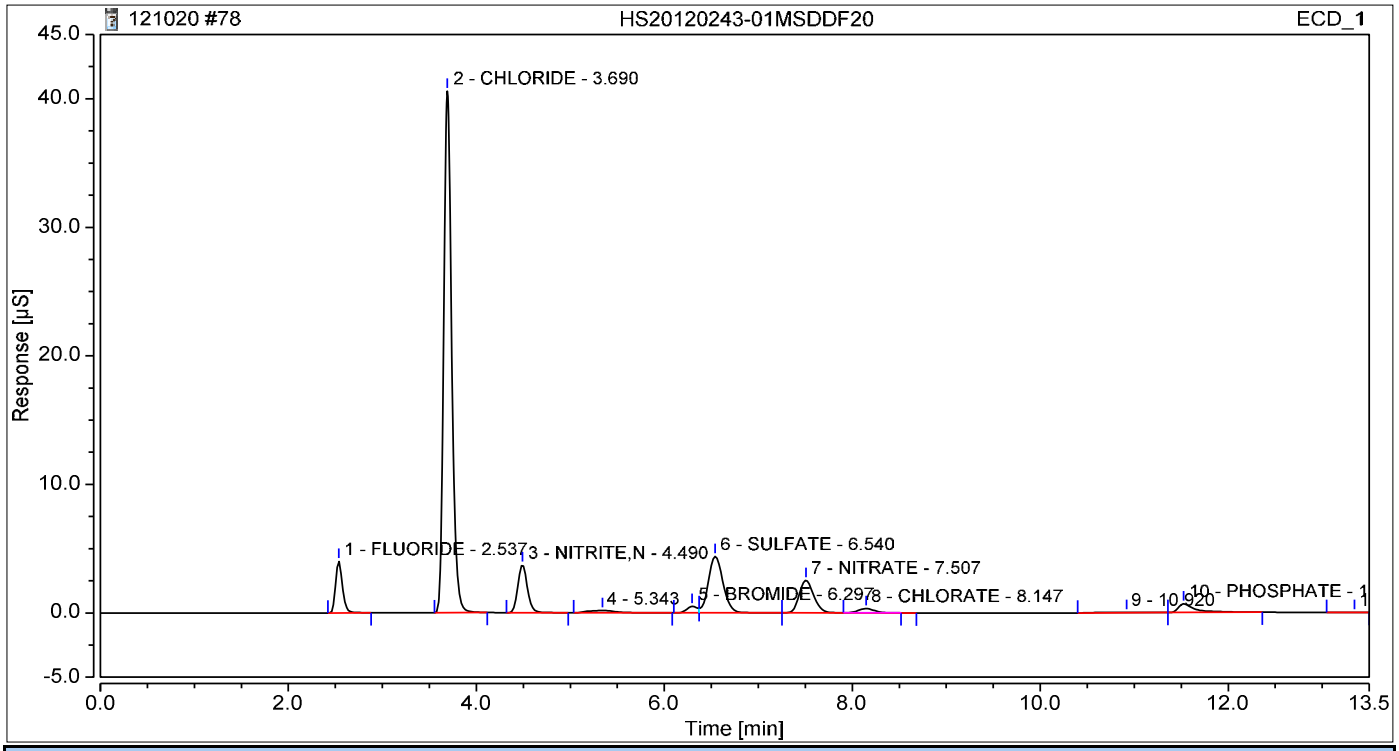
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.537	0.347	4.013	5.44	7.06	43.2822
2	CHLORIDE	3.697	3.979	40.538	62.42	71.30	835.5003
3	NITRITE,N	4.493	0.440	3.702	6.90	6.51	43.0423
4		5.360	0.061	0.174	0.95	0.31	n.a.
5	BROMIDE	6.303	0.065	0.507	1.02	0.89	38.4883
6	SULFATE	6.550	0.796	4.423	12.49	7.78	222.1668
7	NITRATE	7.510	0.457	2.528	7.17	4.45	38.9706
8	CHLORATE	8.143	0.065	0.345	1.03	0.61	36.1546
9		10.960	0.017	0.024	0.27	0.04	n.a.
10	PHOSPHATE	11.533	0.143	0.591	2.24	1.04	32.0703
11		13.357	0.004	0.012	0.06	0.02	n.a.
Total:			**6.375**	**56.856**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS20120243-01MSDDF20**	***Run Time (min):***	**13.50**
Vial Number:	**RD4**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**20.0000**
Injection Date/Time:	**11/Dec/20 08:29**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

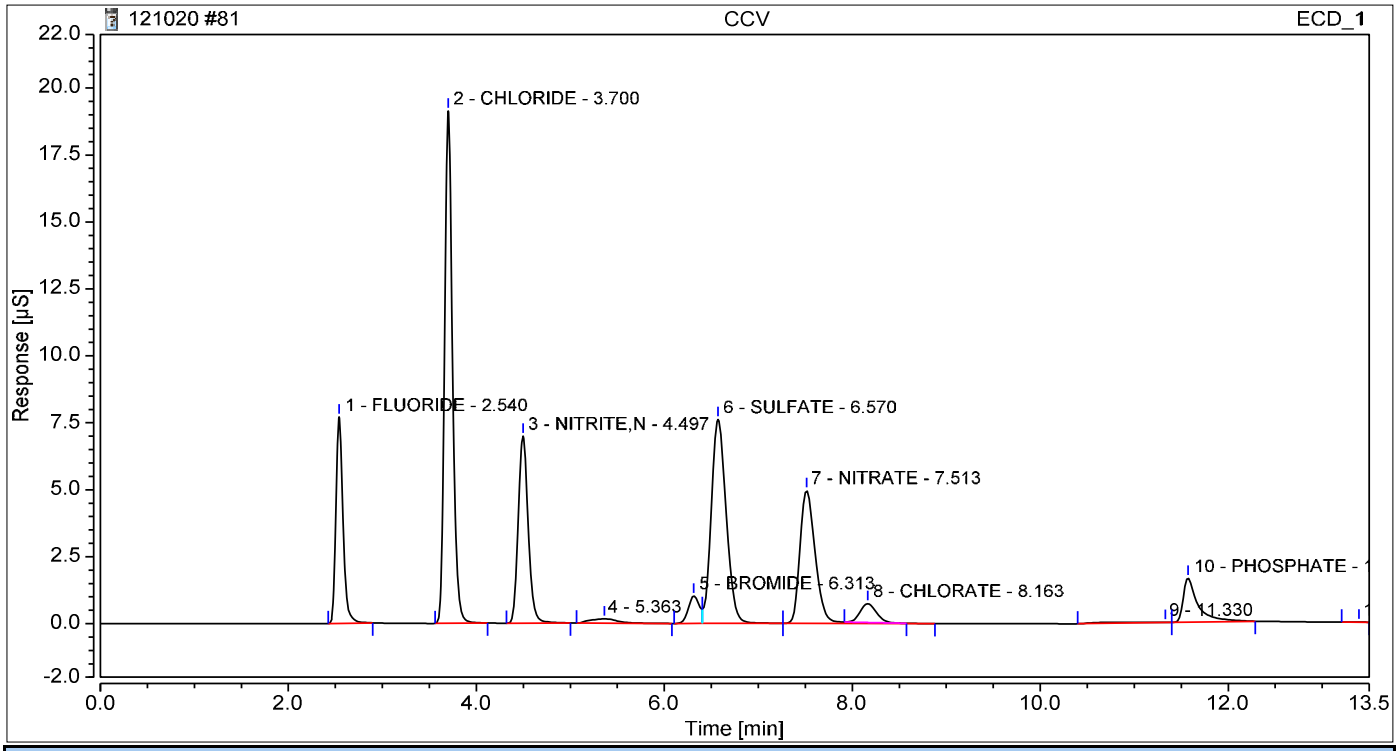
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.537	0.336	4.024	5.30	7.07	41.9802
2	CHLORIDE	3.690	3.971	40.579	62.58	71.25	833.8217
3	NITRITE,N	4.490	0.440	3.723	6.93	6.54	43.0213
4		5.343	0.061	0.174	0.95	0.31	n.a.
5	BROMIDE	6.297	0.066	0.509	1.03	0.89	38.6775
6	SULFATE	6.540	0.794	4.392	12.51	7.71	221.4043
7	NITRATE	7.507	0.457	2.521	7.20	4.43	38.9297
8	CHLORATE	8.147	0.064	0.330	1.01	0.58	35.5165
9		10.920	0.017	0.023	0.26	0.04	n.a.
10	PHOSPHATE	11.523	0.140	0.674	2.20	1.18	31.3869
11		13.343	0.002	0.007	0.03	0.01	n.a.
Total:			**6.346**	**56.956**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV**	***Run Time (min):***	**13.50**
Vial Number:	**G1**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 09:23**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

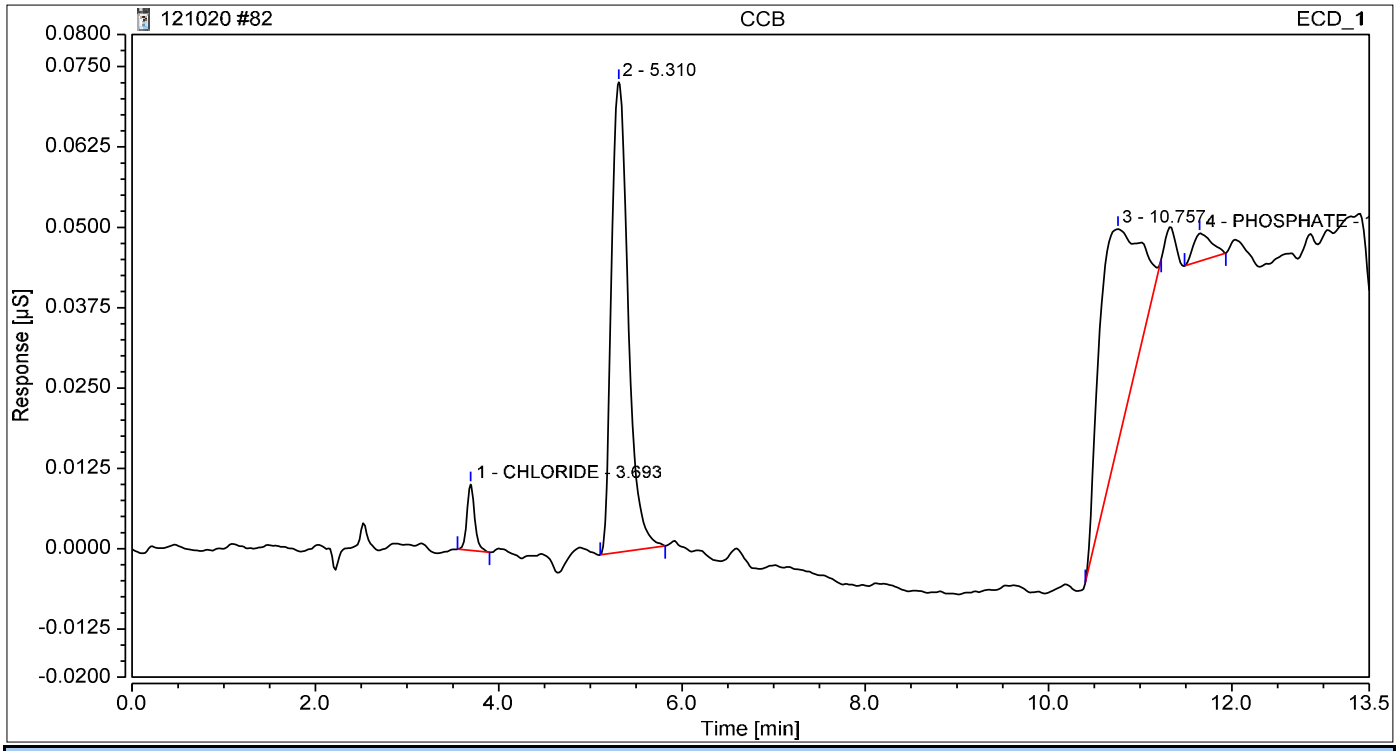
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.540	0.663	7.710	10.37	15.43	4.1401
2	CHLORIDE	3.700	1.870	19.136	29.23	38.30	19.6434
3	NITRITE,N	4.497	0.860	6.980	13.44	13.97	4.2260
4		5.363	0.056	0.163	0.88	0.33	n.a.
5	BROMIDE	6.313	0.138	1.026	2.16	2.05	4.0764
6	SULFATE	6.570	1.401	7.617	21.91	15.25	19.4784
7	NITRATE	7.513	0.948	4.963	14.83	9.93	4.0294
8	CHLORATE	8.163	0.141	0.706	2.20	1.41	3.8644
9		11.330	0.019	0.004	0.29	0.01	n.a.
10	PHOSPHATE	11.573	0.297	1.644	4.65	3.29	3.2533
11		13.390	0.002	0.011	0.03	0.02	n.a.
Total:			**6.395**	**49.962**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB**	***Run Time (min):***	**13.50**
Vial Number:	**B4**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 09:42**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

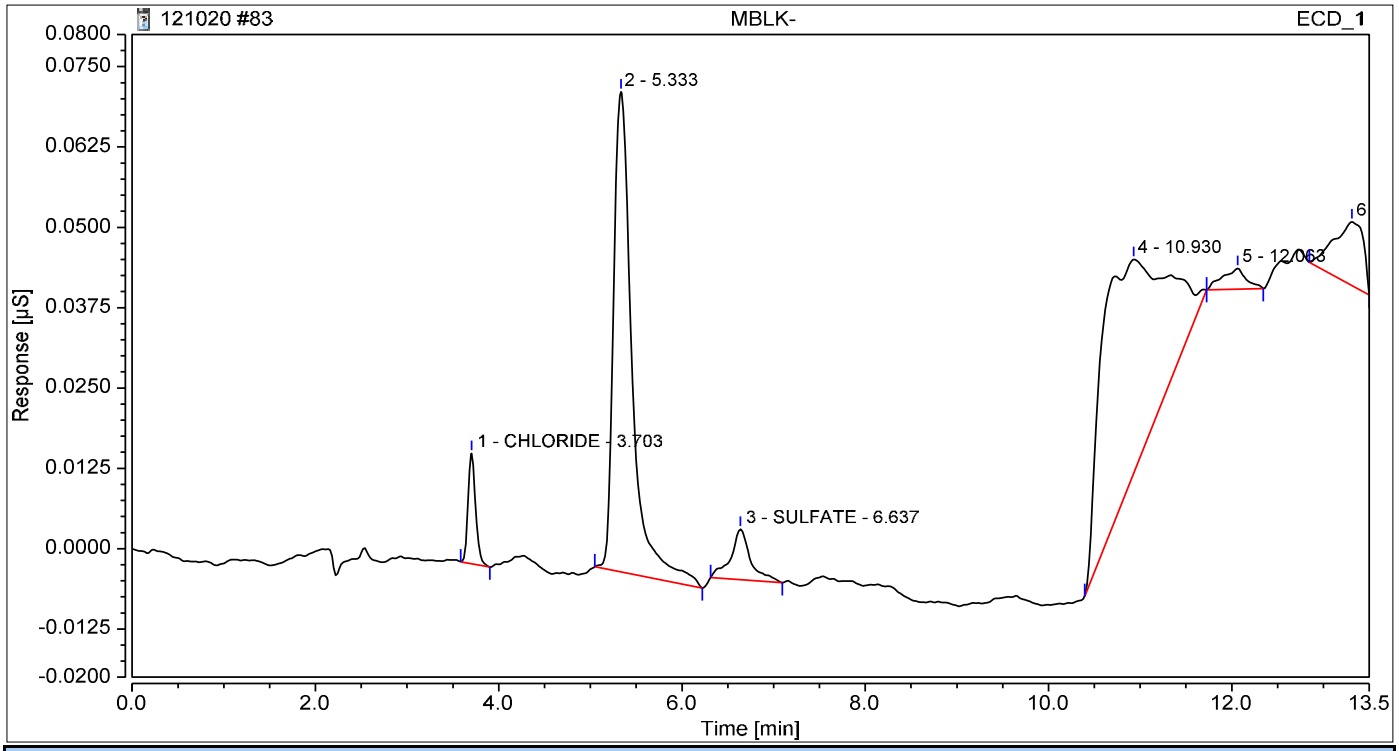
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.693	0.001	0.010	2.95	8.48	0.0381
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.310	0.016	0.073	45.46	60.32	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	NITRATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		10.757	0.017	0.034	48.70	27.62	n.a.
4	PHOSPHATE	11.650	0.001	0.004	2.89	3.58	0.0860
Total:			**0.034**	**0.121**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MBLK-**	***Run Time (min):***	**13.50**
Vial Number:	**B5**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 10:00**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

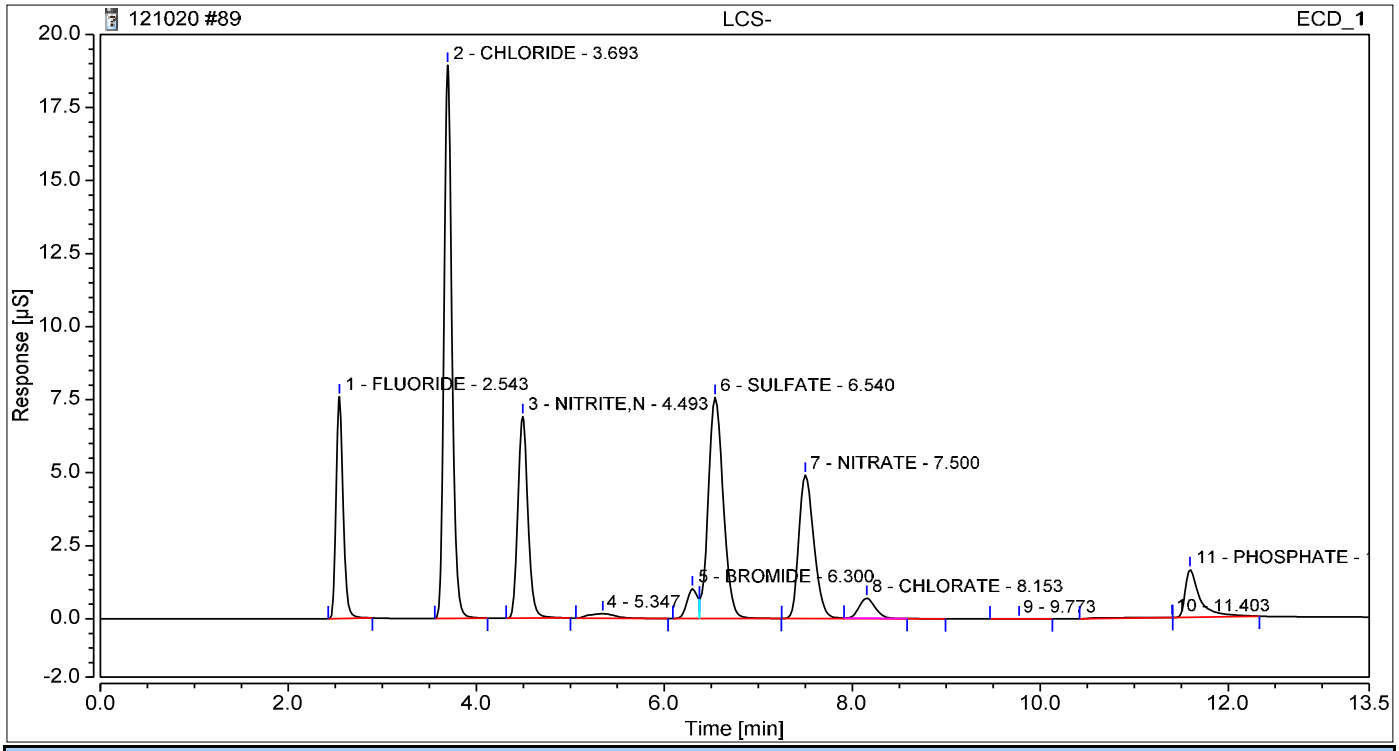
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.703	0.002	0.017	3.03	11.74	0.0446
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.333	0.018	0.075	32.61	51.15	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	SULFATE	6.637	0.002	0.008	3.67	5.37	0.1167
n.a.	NITRATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		10.930	0.028	0.033	52.05	22.77	n.a.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		12.063	0.001	0.003	1.80	2.20	n.a.
6		13.310	0.004	0.010	6.83	6.78	n.a.
Total:			**0.054**	**0.146**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-**	***Run Time (min):***	**13.50**
Vial Number:	**G2**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 11:47**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

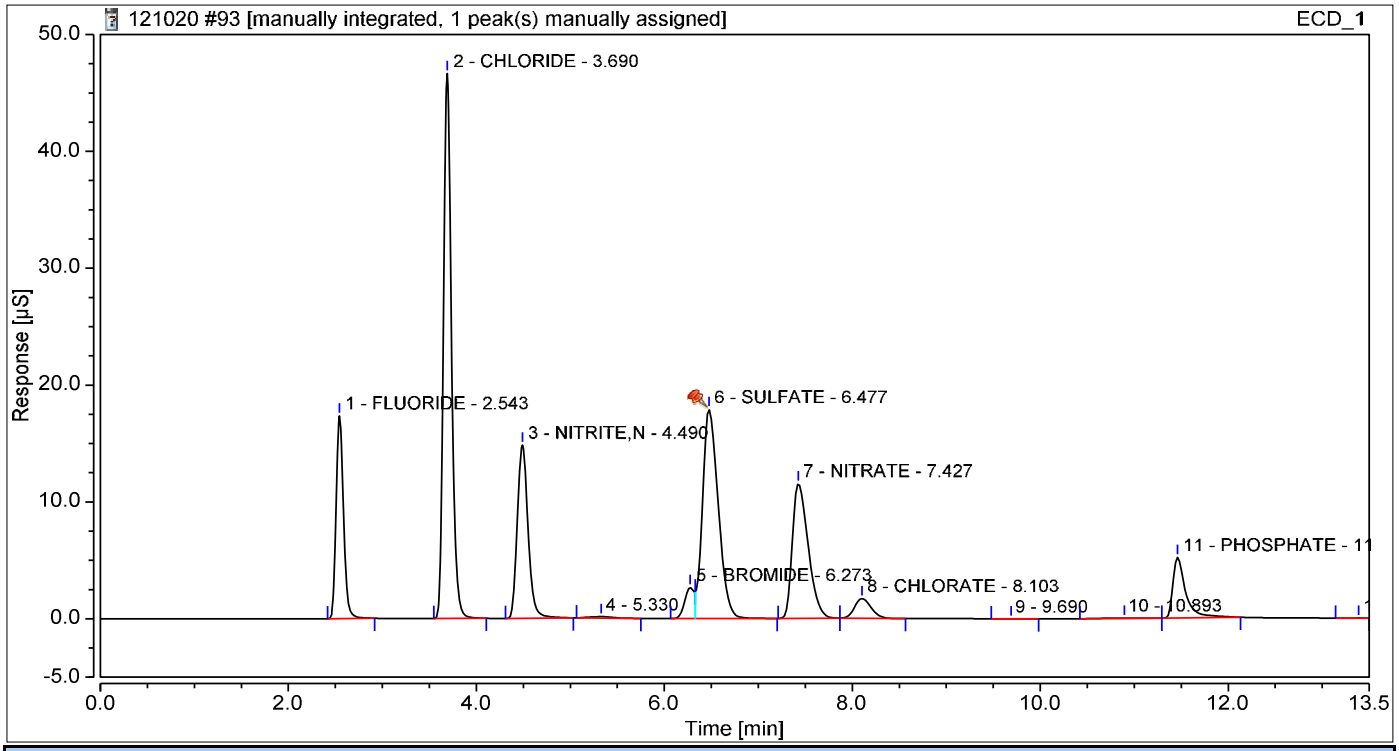
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.543	0.650	7.597	10.30	15.38	4.0548
2	CHLORIDE	3.693	1.855	18.938	29.41	38.33	19.4860
3	NITRITE,N	4.493	0.855	6.903	13.56	13.97	4.2029
4		5.347	0.051	0.154	0.81	0.31	n.a.
5	BROMIDE	6.300	0.132	1.016	2.09	2.06	3.8888
6	SULFATE	6.540	1.396	7.569	22.14	15.32	19.4096
7	NITRATE	7.500	0.922	4.908	14.62	9.93	3.9178
8	CHLORATE	8.153	0.135	0.683	2.14	1.38	3.7006
9		9.773	0.001	0.004	0.02	0.01	n.a.
10		11.403	0.015	0.000	0.23	0.00	n.a.
11	PHOSPHATE	11.593	0.295	1.633	4.68	3.31	3.2319
Total:			**6.306**	**49.405**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV1**	***Run Time (min):***	**13.50**
Vial Number:	**BA8**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 12:55**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

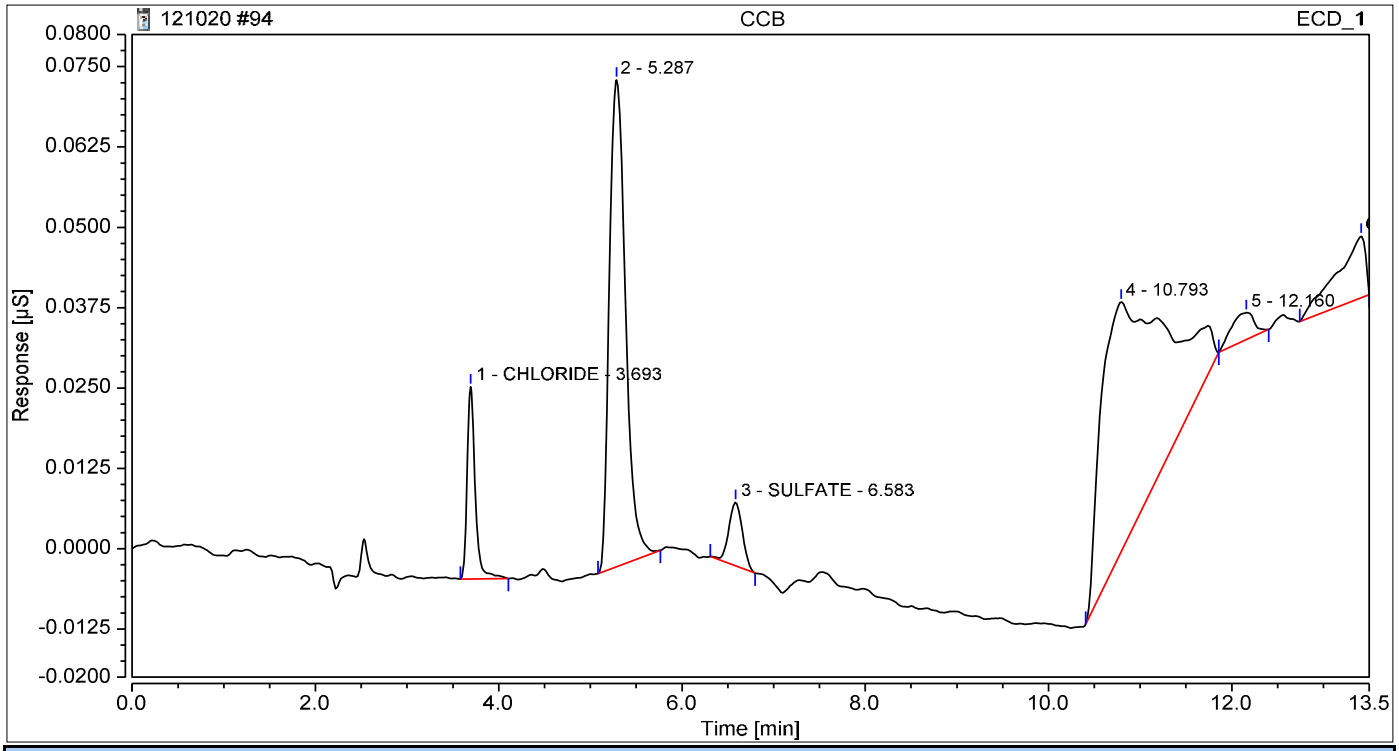
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	FLUORIDE	2.543	1.557	17.357	10.12	14.72	9.7160
2	CHLORIDE	3.690	4.593	46.630	29.85	39.54	48.2126
3	NITRITE,N	4.490	1.978	14.831	12.86	12.58	9.7504
4		5.330	0.038	0.127	0.25	0.11	n.a.
5	BROMIDE	6.273	0.313	2.649	2.03	2.25	9.2174
6	SULFATE	6.477	3.472	17.896	22.57	15.18	48.1299
7	NITRATE	7.427	2.251	11.512	14.64	9.76	9.5536
8	CHLORATE	8.103	0.346	1.690	2.25	1.43	9.4563
9		9.690	0.001	0.005	0.01	0.00	n.a.
10		10.893	0.016	0.028	0.10	0.02	n.a.
11	PHOSPHATE	11.460	0.817	5.188	5.31	4.40	8.8157
12		13.387	0.002	0.010	0.01	0.01	n.a.
Total:			**15.384**	**117.923**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB**	***Run Time (min):***	**13.50**
Vial Number:	**B5**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method 091720**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**11/Dec/20 13:11**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	Component 1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.693	0.003	0.030	5.44	17.78	0.0594
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.287	0.016	0.076	27.82	45.03	n.a.
n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	SULFATE	6.583	0.002	0.010	3.05	5.88	0.1129
n.a.	NITRATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		10.793	0.031	0.039	54.95	23.12	n.a.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		12.160	0.001	0.004	2.27	2.49	n.a.
6		13.413	0.004	0.010	6.46	5.70	n.a.
Total:			**0.056**	**0.168**	**100.00**	**100.00**	

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

WorkOrder: HS20120449

Longhorn GW Treatment Plant Monthly Influent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

06-Jan-2021

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
T : +1 281 530 5656
F : +1 281 530 5887
www.alsglobal.com

Table of Contents

HS20120449 Cover Page
- CoverPage
- HS20120449 Longhorn GW Treatment Plant Monthly Influent Samples Final
  - CoverLetter
  - Sample Summary
  - CaseNarrative
  - LH18/24-SP140_120820
  - Weight/Volume Log
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList
  - COC
  - HS20120449 - Sub Perch Report II (E2001210)
- HS20120449 - ME - ICP_W_DOD
  - Form 11 - ICPMS05 Internal Standard Association
  - Form 12 - ICPMS05_375348 Preparation Log
  - Form 13 - ICPMS05_375348 Run Log
  - Form 13 - ICPMS05_375466 Run Log
  - Form 2 - ICPMS05_375348 CCV

Table of Contents (continued)

- Form 3 - ICPMS05_375348 CCB
- Form 4 - ICPMS05_375348 ICSA
- Form 5A - ICPMS05_375348 MS
- Form 5B - ICPMS05_375348 PDS
- Form 7 - ICPMS05_375348 LCS
- Form 8 - ICPMS05_375348 SD

HS20120449 Wet Chem Raw Data (Cr6_W_7196_DOD)

HS20120449 - Sub Perch Report IV (E2001210)

- CoverLetter
- Certificate of Analysis
- Chain of Custody
- Preparation Sheets
- Analytical Results
- Accuracy and Precision
- Initial Calibration
- Chromatogram

HS20120449 Longhorn GW Treatment Plant Monthly Influent Samples Final

ALS WO# HS20120449

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

December 28, 2020

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

Work Order: **HS20120449**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Influent Samples**

Dear Marcia Olive,

ALS Environmental received 1 sample(s) on Dec 09, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: DAYNA.FISHER
RJ Modashia
Project Manager

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS20120449

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20120449-01	LH18/24-SP140_120820	Water		08-Dec-2020 14:00	09-Dec-2020 10:50	☐

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS20120449

Work Order Comments

• The analysis for Perchlorate was subcontracted our ALS Houston TX, High Resolution Lab. Final report attached.

Metals by Method SW6020

Batch ID: 160930

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

Wet Chemistry by Method SW7196

Batch ID: R374281

Sample ID: LH18/24-SP140_120820 (HS20120449-01MS)

• MS recovered marginally outside control limits

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder:HS20120449
Sample ID: LH18/24-SP140_120820
Lab ID:HS20120449-01
Collection Date: 08-Dec-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 / 21-Dec-2020		Analyst: JHD
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	24-Dec-2020 11:17
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	24-Dec-2020 11:17
HEXAVALENT CHROMIUM BY SW7196A		**Method:SW7196**						Analyst: KVL
Chromium, Hexavalent	0.0100	U	0.00600	0.0100	0.0100	mg/L	1	09-Dec-2020 12:40
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	23-Dec-2020 16:16

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: HS20120449

Batch ID: 160930 **Start Date:** 21 Dec 2020 13:00 **End Date:** 21 Dec 2020 17:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20120449-01		10 (mL)	10 (mL)	1

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 160930 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS20120449-01	LH18/24-SP140_120820	08 Dec 2020 14:00		21 Dec 2020 17:00	24 Dec 2020 11:17	1
Batch ID: R374281 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS20120449-01	LH18/24-SP140_120820	08 Dec 2020 14:00			09 Dec 2020 12:40	1
Batch ID: R375271 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20120449-01	LH18/24-SP140_120820	08 Dec 2020 14:00			23 Dec 2020 16:16	1

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449

QC BATCH REPORT

Batch ID: 160930 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-160930** Units: **mg/L** Analysis Date: **24-Dec-2020 10:49**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897738** PrepDate: **21-Dec-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-160930** Units: **mg/L** Analysis Date: **24-Dec-2020 10:51**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897739** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.05751	0.00500	0.05	0	115	80 - 120				
Silver	0.04736	0.00500	0.05	0	94.7	85 - 116				

MS Sample ID: **HS20120486-08MS** Units: **mg/L** Analysis Date: **24-Dec-2020 10:59**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897743** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.05414	0.00500	0.05	-0.000434	109	80 - 120				
Silver	0.04515	0.00500	0.05	0.000029	90.2	85 - 116				

MSD Sample ID: **HS20120486-08MSD** Units: **mg/L** Analysis Date: **24-Dec-2020 11:15**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897749** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.0537	0.00500	0.05	-0.000434	108	80 - 120	0.05414	0.807	20	
Silver	0.04497	0.00500	0.05	0.000029	89.9	85 - 116	0.04515	0.408	20	

PDS Sample ID: **HS20120486-08PDS** Units: **mg/L** Analysis Date: **24-Dec-2020 11:03**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897745** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.1159	0.00500	0.1	-0.000434	116	80 - 120				
Silver	0.09472	0.00500	0.1	0.000029	94.7	80 - 120				

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449

QC BATCH REPORT

Batch ID: 160930 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

SD Sample ID: **HS20120486-08SD** Units: **mg/L** Analysis Date: **24-Dec-2020 16:12**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5898069** PrepDate: **21-Dec-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					-0.000434	0	10	U
Silver	0.00250	0.0250					0.000029	0	10	U

The following samples were analyzed in this batch: HS20120449-01

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449

QC BATCH REPORT

Batch ID: R374281 (0) **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

MBLK Sample ID: **MBLK-R374281** Units: **mg/L** Analysis Date: **09-Dec-2020 12:40**
Client ID: Run ID: **UV-2450_374281** SeqNo: **5871129** 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-R374281** Units: **mg/L** Analysis Date: **09-Dec-2020 12:40**
Client ID: Run ID: **UV-2450_374281** SeqNo: **5871128** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.245	0.0100	0.25	0	98.0	90 - 111				

MS Sample ID: **HS20120449-01MS** Units: **mg/L** Analysis Date: **09-Dec-2020 12:40**
Client ID: **LH18/24-SP140_120820** Run ID: **UV-2450_374281** SeqNo: **5871131** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.226	0.0100	0.25	0.001	90.0	90 - 111				S

MSD Sample ID: **HS20120449-01MSD** Units: **mg/L** Analysis Date: **09-Dec-2020 12:40**
Client ID: **LH18/24-SP140_120820** Run ID: **UV-2450_374281** SeqNo: **5871130** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.24	0.0100	0.25	0.001	95.6	90 - 111	0.226	6.01	20	

The following samples were analyzed in this batch: HS20120449-01

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: **HS20120449**

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
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS20120449

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20120449-01	LH18/24-SP140_120820	Login	12/9/2020 11:49:50 AM	PMG	MET100
HS20120449-01	LH18/24-SP140_120820	Login	12/9/2020 11:49:50 AM	PMG	Sub
HS20120449-01	LH18/24-SP140_120820	Login	12/9/2020 11:49:50 AM	PMG	WET271

ALS Houston, US Date: 28-Dec-20

Sample Receipt Checklist

Work Order ID: HS20120449 **Date/Time Received:** 09-Dec-2020 10:50

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

Completed By:	/S/ Paresh M. Giga	09-Dec-2020 11:51	**Reviewed by:**	/S/ RJ Modashia	09-Dec-2020 14:59
	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):	3.6C U/c				IR25	
Cooler(s)/Kit(s):	46339					
Date/Time sample(s) sent to storage:	12/9/2020 12:05					
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: RJ Modashia

Page 1 of 1

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

Project No. NWO1312.0150.0 16.0001

Job:
GROUNDWATER TREATMENT PLANT MONTHLY INFLUENT SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS20120449
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_120820	Water	12/08/20 / 14:00		1	X			HNO3	
LH18/24-SP140_120820	Water	12/08/20 / 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	12/08/20	14:30	JMPM 12-9-20		10:50						

For Lab Use Only

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

Remarks:

46739 3.6C IR25 CFC

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

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

46339

CUSTODY SEAL

Date: 12/8/20 Time: 1430
Name: Scott Beesinger
Company: BHATE

Seal Broken By: SM
Date: 12/09/20

46339 DEC 0 9 2020

Must Deliver Next Business Day
Time and Tempature Sensitive!

46339

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

SHIP DATE: 09SEP20
ACTWGT: 1.00 LB MAN
CAD: 3600130/CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656

REF: ADDITIONAL BOTTLES - BO 73689 - RJ

RMA:

917 1
10:30
B03

FedEx Express

FedEx
TRK# 0221 1891 8880 1544

WED - 09 DEC AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

December 23, 2020 Service Request No:E2001210

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

Laboratory Results for: HS20120449

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 09, 2020
For your reference, these analyses have been assigned our service request number **E2001210.**

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

Certificate of Analysis

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

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2001210
Project:	HS20120449	**Date Received:**	12/09/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 12/09/20. The sample was received in good condition and is consistent with the accompanying chain of custody form.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000677: 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 RPD exceeded QC limits; the individual recoveries met acceptance criteria.

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:**E2001210
Project: HS20120449

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2001210-001	LH18/24-SP140_120820	12/8/2020	1400

Service Request Summary

Folder #: **E2001210**
Client Name: ALS Environmental - US
Project Name: HS20120449
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: 12/09/20
Internal Due Date: 12/23/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20120449
EDD: No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
Location: EHRMS-WIC 2B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2001210-001	LH18/24-SP140_120820	Water	12/08/20 1400	**IV**

Service Request Summary

Folder #: **E2001210**
Client Name: ALS Environmental - US
Project Name: HS20120449
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: 12/09/20
Internal Due Date: 12/23/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20120449
EDD: No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
Location: EHRMS-WIC 2B
Pressure Gas:

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

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

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:** **15296**

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:	HS20120449
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120449-01**	**LH18/24-SP140_120820**	**Water**	**08 Dec 2020 14:00**
	Provide Level II and Level IV reports in separate pdf			23 Dec 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: 12/8/2020

Received By: _____ Date/Time: 12/8/20 1800

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS - H

Thermometer ID 1231

Date/Time Received: 12/9/20 Initials: CH Date/Time Logged in: 12/10/20 Initials CH

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

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

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

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

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

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
NA		12/9/20	1000	CH	1.4	☒
						☐
						☐
						☐

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:

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#: 371505 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/15/20 08:58

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2001208-001	LH18/24-SP650_120820_BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2001209-001	LH18/24-SP650_120820_BIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2001210-001	LH18/24-SP140_120820	.01	6850/ClO4 DOD			Water	10mL	
4	E2001211-001	MW5_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2001211-002	18CPTMW08DW_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2001211-003	18CPTMW08SW_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2001211-004	18CPTMW08SW_120820_a	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2001211-005	MW23_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2001211-006	MW16_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2001211-007	18CPTMW23_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2001211-008	18WW24_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2001211-009	18CTPMW15_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2001217-001	18CPTMW04_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2001217-002	18CPTMW04SW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2001217-003	AWD3_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2001217-004	AWD3_120920_a	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2001217-005	MW10_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2001217-006	18CPTMW12SW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
19	E2001217-007	18CPTMW12DW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
20	E2001217-008	MW7_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
21	EQ2000677-01	MB		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000677-02	LCS		6850/ClO4 DOD			Liquid	10mL	
23	EQ2000677-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2000677-02 1.00µL EQ2000677-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 214133 Logbook Ref: Sodium Perchlorate Expires On: 08/13/2022

E2001208-001	100.00µL	E2001209-001	100.00µL	E2001210-001	100.00µL	E2001211-001	100.00µL	E2001211-002	100.00µL	E2001211-003	100.00µL
E2001211-004	100.00µL	E2001211-005	100.00µL	E2001211-006	100.00µL	E2001211-007	100.00µL	E2001211-008	100.00µL	E2001211-009	100.00µL
E2001217-001	100.00µL	E2001217-002	100.00µL	E2001217-003	100.00µL	E2001217-004	100.00µL	E2001217-005	100.00µL	E2001217-006	100.00µL
E2001217-007	100.00µL	E2001217-008	100.00µL	EQ2000677-01	100.00µL	EQ2000677-02	100.00µL	EQ2000677-03	100.00µL		

Preparation Information Benchsheet

Prep Run#: 371505 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/15/20 08:58

Preparation Steps

Step: Preparation
Started: 12/15/20 08:58
Finished: 12/15/20 11:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 12/15/20

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:**	E2001210
Project:	HS20120449	**Date Collected:**	12/ 8/20 1400
Sample Matrix:	Water	**Date Received:**	12/ 9/20
Sample Name:	LH18/24-SP140_120820	**Units:**	µg/L
Lab Code:	E2001210-001	**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	**7770**		20.0	10.0	5.00	200	12/15/20	12/21/20 10:15	371505	707966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001210
Project:	HS20120449	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000677-01	**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	12/15/20	12/22/20 17:46	371505	708075	

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: HS20120449
Sample Matrix: Water

Service Request: E2001210
Date Analyzed: 12/22/20

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: 371505

	Lab Control Sample EQ2000677-02			Duplicate Lab Control Sample EQ2000677-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.104	0.100	104	0.0873	0.100	87	84 - 119	17 *	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:**	E2001210
Project:	HS20120449	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000677-02	**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	**0.104**		0.100	0.0500	0.0250	1	12/15/20	12/22/20 15:07	371505	708075	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001210
Project:	HS20120449	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000677-03	**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	**0.0873**	J	0.100	0.0500	0.0250	1	12/15/20	12/22/20 15:15	371505	708075	

HS20120449 - ME - ICP_W_DOD

ALS WO# HS20120449

ALS Houston, US Date: 06-Jan-21

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS05
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449

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: 06-Jan-21

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449
Start Date: 21-Dec-2020 13:00 End Date: 21-Dec-2020 17:00

Batch ID: 160930
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS20120449-01	LH18/24-SP140_120820	Water		10	10	1
HS20120486-08MS				10	10	1
HS20120486-08MSD				10	10	1
HS20120486-08PDS				10	10	1
HS20120486-08SD				10	10	1
LCS-160930				10	10	1
MBLK-160930				10	10	1

ALS Houston, US Date: 06-Jan-21

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449
Start Date: 24-Dec-2020 End Date: 24-Dec-2020

Run ID:ICPMS05_375348
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_375348_Tune	1	24-Dec-2020 00:00	ICPMS05_375348_Tune_1	
CAL BLK	1	24-Dec-2020 10:02	010CALB.d_5897721	AG SE
2/10/200	1	24-Dec-2020 10:04	011CALS.d_5897722	AG SE
5/25/500	1	24-Dec-2020 10:06	012CALS.d_5897723	AG SE
10/50/1000	1	24-Dec-2020 10:08	013CALS.d_5897724	AG SE
100/500/10K	1	24-Dec-2020 10:10	014CALS.d_5897725	AG SE
200/1000/20K	1	24-Dec-2020 10:12	015CALS.d_5897726	AG SE
ICV	1	24-Dec-2020 10:16	017_ICV.d_5897728	AG SE
LLICV2	1	24-Dec-2020 10:18	018LCV2.d_5897729	AG SE
LLICV5	1	24-Dec-2020 10:20	019LCV5.d_5897730	AG SE
ICB	1	24-Dec-2020 10:22	020_ICB.d_5897731	AG SE
ICSA	1	24-Dec-2020 10:28	022ICSA.d_5897733	AG SE
ICSAB	1	24-Dec-2020 10:30	023ICSB.d_5897734	AG SE
CCV 1	1	24-Dec-2020 10:44	025_CCV.d_5897736	AG SE
CCB 1	1	24-Dec-2020 10:46	026_CCB.d_5897737	AG SE
MBLK-160930	1	24-Dec-2020 10:49	027SMPL.d_5897738	AG SE
LCS-160930	1	24-Dec-2020 10:51	028SMPL.d_5897739	AG SE
ZZZZZZMS	1	24-Dec-2020 10:59	032SMPL.d_5897743	AG SE
ZZZZZZPDS	1	24-Dec-2020 11:03	034SMPL.d_5897745	AG SE
CCV 2	1	24-Dec-2020 11:10	036_CCV.d_5897747	AG SE
CCB 2	1	24-Dec-2020 11:12	037_CCB.d_5897748	AG SE
ZZZZZZMSD	1	24-Dec-2020 11:15	038SMPL.d_5897749	AG SE
LH18/24-SP140_120820	1	24-Dec-2020 11:17	039SMPL.d_5897750	AG SE
CCV 3	1	24-Dec-2020 11:35	048_CCV.d_5897758	AG SE
CCB 3	1	24-Dec-2020 11:37	049_CCB.d_5897759	AG SE
ZZZZZZSD	250	24-Dec-2020 11:52	056SMPL.d_5897763	
ZZZZZZPDS	50	24-Dec-2020 11:54	057SMPL.d_5897764	
CCV 4	1	24-Dec-2020 12:00	060_CCV.d_5897767	AG SE
CCB 4	1	24-Dec-2020 12:02	061_CCB.d_5897768	AG SE
CCV 5	1	24-Dec-2020 16:01	162_CCV.d_5898065	AG SE
CCB 5	1	24-Dec-2020 16:03	163_CCB.d_5898066	AG SE
ZZZZZZSD	5	24-Dec-2020 16:12	166SMPL.d_5898069	AG SE
CCV 6	1	24-Dec-2020 16:19	168_CCV.d_5898071	AG SE
CCB 6	1	24-Dec-2020 16:21	169_CCB.d_5898072	AG SE

ALS Houston, US Date: 06-Jan-21

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449
Start Date: 28-Dec-2020 End Date: 28-Dec-2020

Run ID:ICPMS05_375466
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_375466_Tune	1	28-Dec-2020 00:00	ICPMS05_375466_Tune_1	
ZZZZZZPDS	1	28-Dec-2020 17:09	125SMPL.d_5900648	

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449

Run ID: ICPMS05_375348
Instrument: ICPMS05
Method: SW6020

ICV	Date: 24-Dec-2020 10:16		Seq: 5897728	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	105.76	106	90-110	
Silver	100	98.861	99	90-110	

CCV1	Date: 24-Dec-2020 10:44		Seq: 5897736	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	102.346	102	90-110	
Silver	100	96.606	97	90-110	

CCV2	Date: 24-Dec-2020 11:10		Seq: 5897747	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	103.43	103	90-110	
Silver	100	97.231	97	90-110	

CCV3	Date: 24-Dec-2020 11:35		Seq: 5897758	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	103.794	104	90-110	
Silver	100	97.372	97	90-110	

CCV4	Date: 24-Dec-2020 12:00		Seq: 5897767	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	102.547	103	90-110	
Silver	100	96.634	97	90-110	

CCV5	Date: 24-Dec-2020 16:01		Seq: 5898065	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.832	100	90-110	
Silver	100	95.795	96	90-110	

CCV6	Date: 24-Dec-2020 16:19		Seq: 5898071	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	101.944	102	90-110	
Silver	100	94.743	95	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449

Run ID: ICPMS05_375348
Instrument: ICPMS05
Method: SW6020

ICB	Date: 24-Dec-2020 10:22		Seq: 5897731	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB1	Date: 24-Dec-2020 10:46		Seq: 5897737	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

MBLK-160930	Date: 24-Dec-2020 10:49		Seq: 5897738	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB2	Date: 24-Dec-2020 11:12		Seq: 5897748	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB3	Date: 24-Dec-2020 11:37		Seq: 5897759	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB4	Date: 24-Dec-2020 12:02		Seq: 5897768	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB5	Date: 24-Dec-2020 16:03		Seq: 5898066	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB6	Date: 24-Dec-2020 16:21		Seq: 5898072	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ALS Houston, US Date: 06-Jan-21

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449

Run ID: ICPMS05_375348
Instrument: ICPMS05
Method: SW6020

ICSA	Date: 24-Dec-2020 10:28	Seq: 5897733	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium		-0.144	0	
Silver		0.028	0	

ICSAB	Date: 24-Dec-2020 10:30	Seq: 5897734	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium	100	100.4	100	
Silver	100	87.38	87.4	

ALS Houston, US Date: 06-Jan-21

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449

Date Analyzed: 24-Dec-2020 11:15
Date Extracted: 21-Dec-2020 17:00
Units: ug/L

Matrix Spike: HS20120486-08MS
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	54.14	50.00	109	53.70	50.00	108	80-120	0.807	20
Silver	5.000	45.15	50.00	90.2	44.97	50.00	89.9	85-116	0.408	20

ALS Houston, US Date: 06-Jan-21

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449

Date Analyzed: 24-Dec-2020 11:03
Date Extracted: 21-Dec-2020 17:00
Units: ug/L

Lab Sample ID: HS20120486-08PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Selenium	0	115.9	100	116	80-120
Silver	0	94.72	100	95	80-120

ALS Houston, US Date: 06-Jan-21

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449

Date Analyzed: 24-Dec-2020 10:51
Date Extracted: 21-Dec-2020 17:00
Units: ug/L

Lab Sample ID: LCS-160930 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Selenium	50	57.51	115	80-120
Silver	50	47.36	95	85-116

ALS Houston, US Date: 06-Jan-21

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20120449

Date Analyzed: 24-Dec-2020 16:12
Date Extracted: 21-Dec-2020 17:00
Units: ug/L

Lab Sample ID: HS20120486-08SD
Client Sample ID:

Analysis Method: SW6020

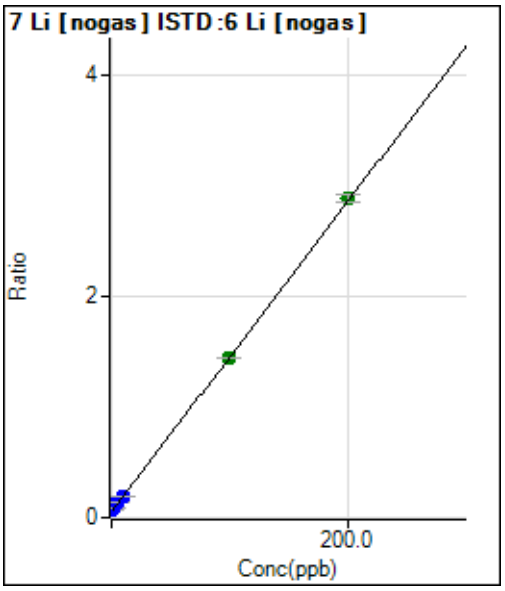
Analyte	Sample Result	C	SD Result	C	RPD	Q
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	

Calibration for 249_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\122420A.b\
Analysis File: 122420A.batch.bin
DA Date-Time: 12/24/2020 7:48:41 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	236CALB.d	CAL BLK	12/24/2020 7:20:38 PM
2	237CALS.d	2/10/200	12/24/2020 7:22:41 PM
3	238CALS.d	5/25/500	12/24/2020 7:24:43 PM
4	239CALS.d	10/50/1000	12/24/2020 7:26:45 PM
5	246CALS.d	100/500/10K	12/24/2020 7:41:47 PM
6	247CALS.d	200/1000/20K	12/24/2020 7:43:44 PM
7			

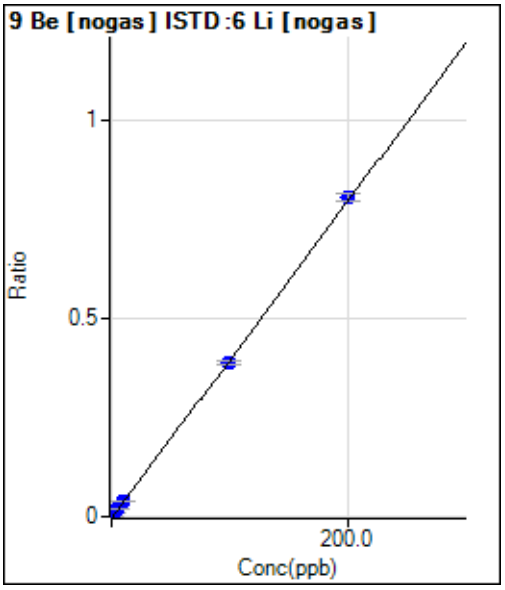
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	69269.90	0.0677	P	0.9	
2	☐	2.000	1.849	94493.80	0.0936	P	1.4	-7.6
3	☐	5.000	4.595	133903.18	0.1322	P	1.1	-8.1
4	☐	10.000	9.244	197324.22	0.1974	P	1.1	-7.6
5	☐	100.000	97.949	1357815.97	1.4422	A	0.6	-2.1
6	☐	200.000	201.075	2598865.48	2.8895	A	2.8	0.5
7	☐	1.000						

y = 0.0140 * x + 0.0677
R = 0.9999
DL = 0.1287 ppb
BEC = 4.823 ppb

Weight: <None>
Min Conc: <None>

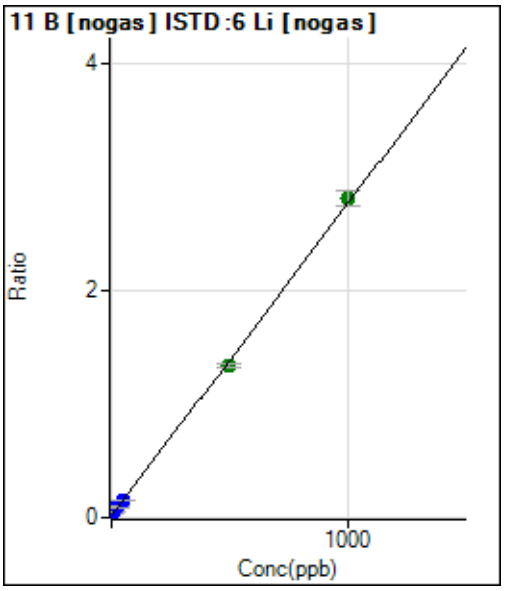


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	36.67	0.0000	P	56.1	
2	☐	2.000	1.887	7633.24	0.0076	P	1.4	-5.7
3	☐	5.000	4.675	18927.69	0.0187	P	3.5	-6.5
4	☐	10.000	9.367	37387.86	0.0374	P	2.1	-6.3
5	☐	100.000	97.050	364429.12	0.3872	P	3.1	-2.9
6	☐	200.000	201.516	723211.06	0.8040	P	1.9	0.8
7	☐	1.000						

y = 0.0040 * x + 3.5790E-005
R = 0.9999
DL = 0.01511 ppb
BEC = 0.008971 ppb

Weight: <None>
Min Conc: <None>

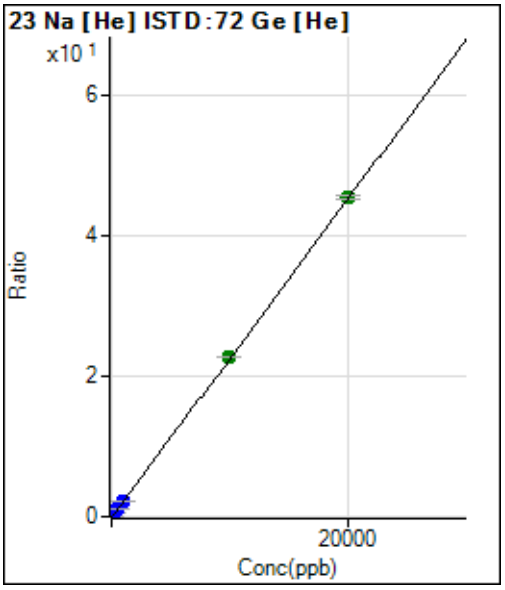
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	35295.61	0.0345	P	3.2	
2	☐	10.000	8.223	57647.48	0.0571	P	0.7	-17.8
3	☐	25.000	21.509	94900.05	0.0937	P	1.0	-14.0
4	☐	50.000	43.908	155214.54	0.1553	P	1.6	-12.2
5	☐	500.000	476.099	1265240.16	1.3441	A	1.8	-4.8
6	☐	1000.000	1012.360	2534916.84	2.8191	A	4.7	1.2
7	☐	5.000						

y = 0.0028 * x + 0.0345
R = 0.9996
DL = 1.197 ppb
BEC = 12.54 ppb

Weight: <None>
Min Conc: <None>

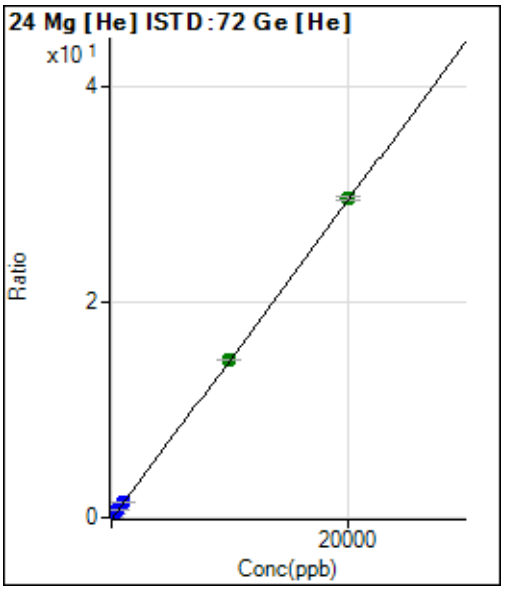


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	37253.25	0.0792	P	0.5	
2	☐	200.000	191.841	242902.45	0.5137	P	0.3	-4.1
3	☐	500.000	487.172	550845.07	1.1827	P	0.9	-2.6
4	☐	1000.000	949.732	1051831.62	2.2303	P	4.1	-5.0
5	☐	10000.00	9978.835	10244463.39	22.6809	A	1.0	-0.2
6	☐	20000.00	20013.49	19958118.45	45.4090	A	1.1	0.1
7	☐	100.000						

y = 0.0023 * x + 0.0792
R = 1.0000
DL = 0.4765 ppb
BEC = 34.98 ppb

Weight: <None>
Min Conc: <None>

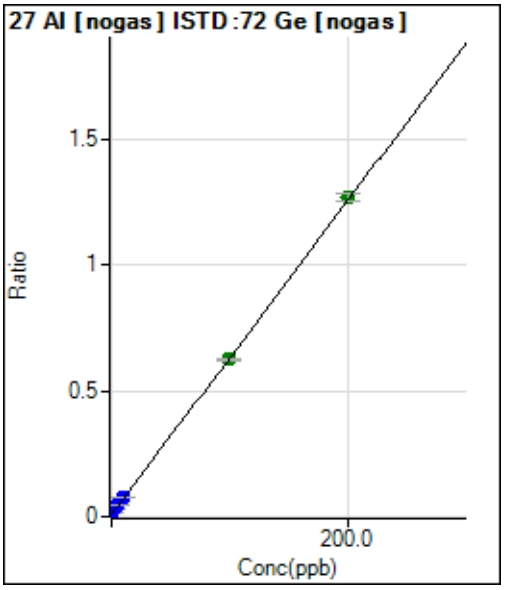
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	853.37	0.0018	P	12.3	
2	☐	200.000	191.423	134679.29	0.2849	P	0.3	-4.3
3	☐	500.000	486.157	335642.85	0.7206	P	1.4	-2.8
4	☐	1000.000	947.200	661347.33	1.4023	P	4.1	-5.3
5	☐	10000.00	9889.556	6605430.11	14.6244	A	0.4	-1.1
6	☐	20000.00	20058.29	13036352.31	29.6598	A	0.9	0.3
7	☐	100.000						

y = 0.0015 * x + 0.0018
R = 1.0000
DL = 0.4526 ppb
BEC = 1.228 ppb

Weight: <None>
Min Conc: <None>

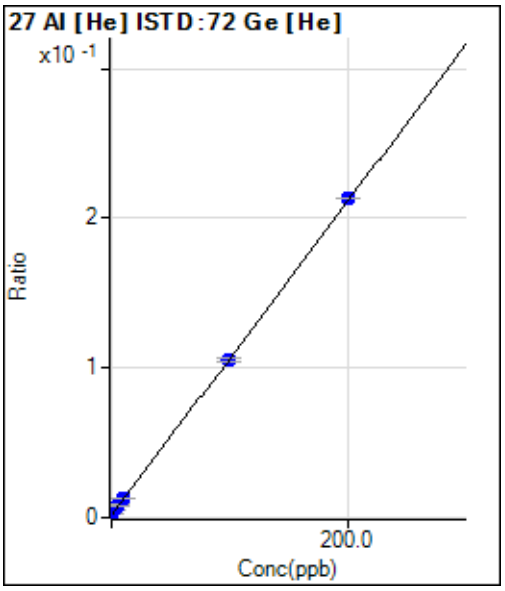


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	28324.71	0.0144	P	2.0	
2	☐	2.000	2.150	53799.35	0.0278	P	1.4	7.5
3	☐	5.000	5.057	89161.58	0.0459	P	2.2	1.1
4	☐	10.000	9.634	143833.20	0.0745	P	1.3	-3.7
5	☐	100.000	98.004	1184424.38	0.6258	A	1.2	-2.0
6	☐	200.000	201.014	2330874.44	1.2685	A	2.1	0.5
7	☐	1.000						

y = 0.0062 * x + 0.0144
R = 0.9999
DL = 0.1356 ppb
BEC = 2.308 ppb

Weight: <None>
Min Conc: <None>

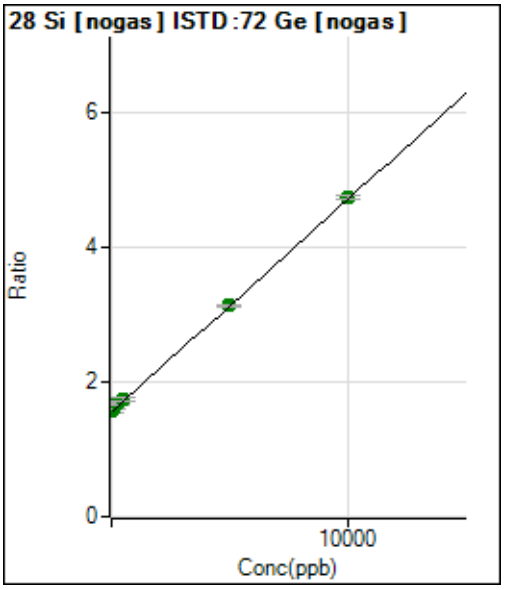
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1296.73	0.0028	P	8.9	
2	☐	2.000	2.253	2420.20	0.0051	P	4.7	12.7
3	☐	5.000	5.091	3770.44	0.0081	P	6.9	1.8
4	☐	10.000	9.701	6094.41	0.0129	P	5.2	-3.0
5	☐	100.000	98.313	47790.21	0.1058	P	2.1	-1.7
6	☐	200.000	200.854	93763.10	0.2133	P	0.4	0.4
7	☐	1.000						

y = 0.0010 * x + 0.0028
R = 0.9999
DL = 0.7016 ppb
BEC = 2.63 ppb

Weight: <None>
Min Conc: <None>

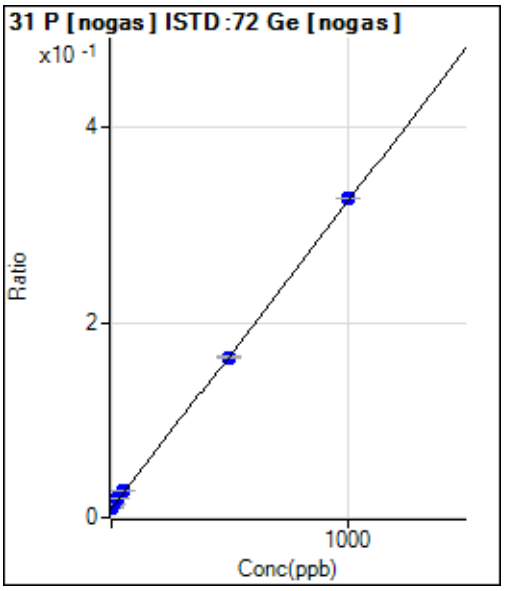


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3116265.48	1.5843	A	3.3	
2	☐	100.000	61.321	3102523.08	1.6037	A	1.3	-38.7
3	☐	250.000	296.306	3256288.70	1.6778	A	1.2	18.5
4	☐	500.000	530.984	3381668.70	1.7519	A	2.9	6.2
5	☐	5000.000	4918.335	5936531.58	3.1365	A	0.5	-1.6
6	☐	10000.00	10038.51	8732551.33	4.7524	A	1.0	0.4
7	☐	50.000						

y = 3.1559E-004 * x + 1.5843
R = 0.9999
DL = 496.8 ppb
BEC = 5020 ppb

Weight: <None>
Min Conc: <None>

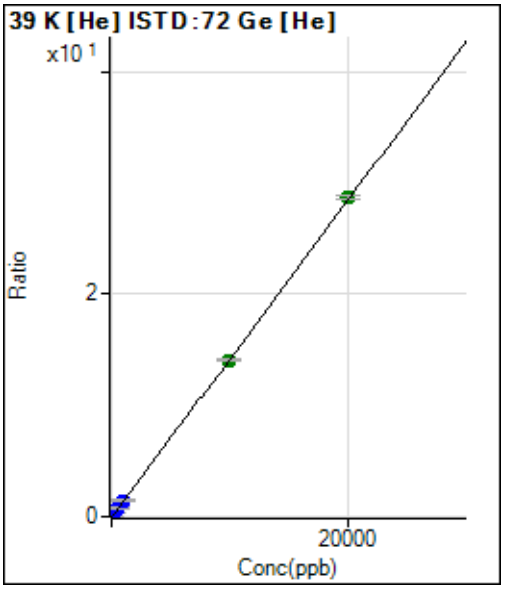
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	21282.28	0.0108	P	4.3	
2	☐	10.000	9.978	27009.64	0.0140	P	1.9	-0.2
3	☐	25.000	26.084	36929.63	0.0190	P	1.0	4.3
4	☐	50.000	51.631	52248.91	0.0271	P	2.5	3.3
5	☐	500.000	488.027	311098.57	0.1644	P	1.9	-2.4
6	☐	1000.000	1005.878	601499.96	0.3273	P	0.6	0.6
7	☐	5.000						

y = 3.1467E-004 * x + 0.0108
R = 0.9999
DL = 4.417 ppb
BEC = 34.39 ppb

Weight: <None>
Min Conc: <None>

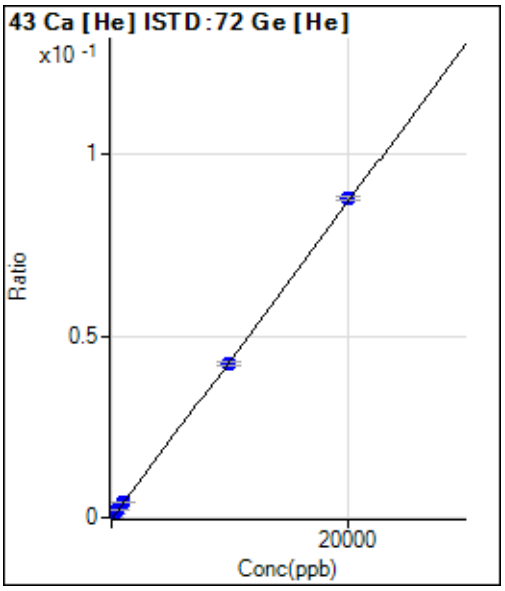


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	32508.50	0.0691	P	3.4	
2	☐	200.000	194.219	163554.19	0.3459	P	0.5	-2.9
3	☐	500.000	496.773	361991.61	0.7771	P	1.2	-0.6
4	☐	1000.000	965.919	681850.74	1.4458	P	4.0	-3.4
5	☐	10000.00	9817.840	6351087.61	14.0617	A	0.9	-1.8
6	☐	20000.00	20092.92	12617629.81	28.7059	A	0.8	0.5
7	☐	100.000						

y = 0.0014 * x + 0.0691
R = 0.9999
DL = 4.876 ppb
BEC = 48.51 ppb

Weight: <None>
Min Conc: <None>

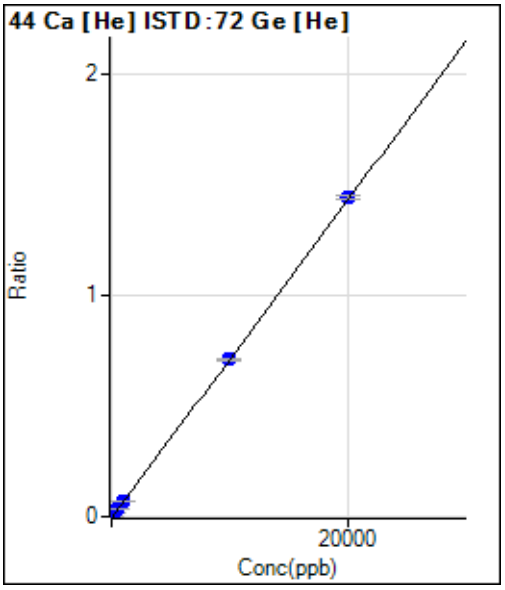
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	42.8	
2	☐	200.000	252.563	533.35	0.0011	P	15.5	26.3
3	☐	500.000	449.140	926.71	0.0020	P	13.4	-10.2
4	☐	1000.000	945.152	1960.15	0.0041	P	4.4	-5.5
5	☐	10000.00	9718.261	19150.02	0.0424	P	3.0	-2.8
6	☐	20000.00	20144.35	38623.48	0.0879	P	1.7	0.7
7	☐	100.000						

y = 4.3603E-006 * x + 2.8319E-005
R = 0.9999
DL = 8.331 ppb
BEC = 6.495 ppb

Weight: <None>
Min Conc: <None>

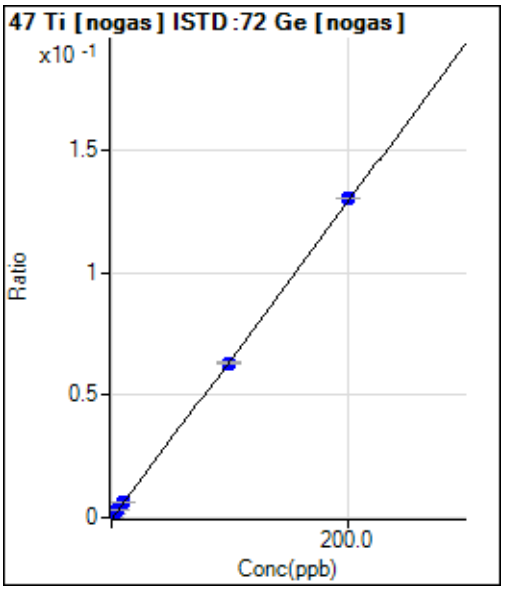


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	460.01	0.0010	P	3.9	
2	☐	200.000	200.506	7288.23	0.0154	P	8.0	0.3
3	☐	500.000	505.519	17401.66	0.0374	P	1.3	1.1
4	☐	1000.000	980.120	33720.69	0.0715	P	4.2	-2.0
5	☐	10000.00	9852.102	320628.06	0.7099	P	1.6	-1.5
6	☐	20000.00	20074.80	635358.02	1.4455	P	0.8	0.4
7	☐	100.000						

y = 7.1956E-005 * x + 9.7842E-004
R = 1.0000
DL = 1.579 ppb
BEC = 13.6 ppb

Weight: <None>
Min Conc: <None>

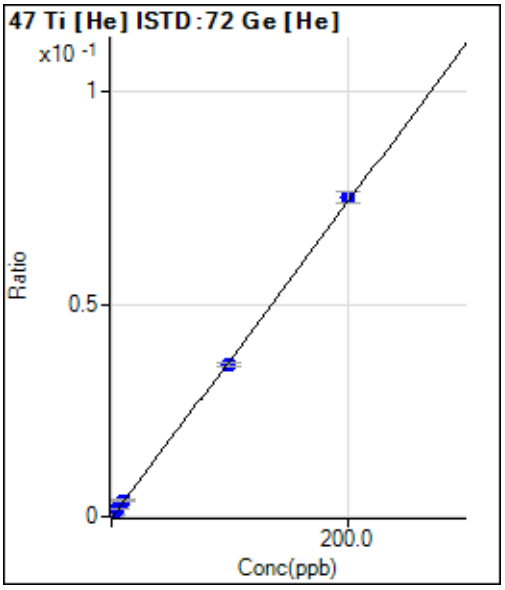
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	50.00	0.0000	P	100.	
2	☐	2.000	1.949	2493.54	0.0013	P	5.1	-2.6
3	☐	5.000	4.862	6167.77	0.0032	P	1.8	-2.8
4	☐	10.000	9.706	12197.51	0.0063	P	0.8	-2.9
5	☐	100.000	97.482	119644.11	0.0632	P	1.7	-2.5
6	☐	200.000	201.278	239811.58	0.1305	P	0.5	0.6
7	☐	1.000						

y = 6.4828E-004 * x + 2.5541E-005
R = 0.9999
DL = 0.1182 ppb
BEC = 0.0394 ppb

Weight: <None>
Min Conc: <None>

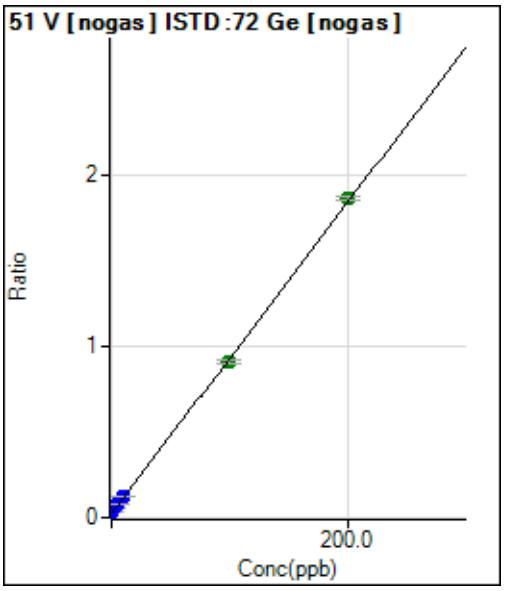


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10.00	0.0000	P	173.	
2	☐	2.000	1.701	310.01	0.0007	P	1.8	-14.9
3	☐	5.000	5.068	890.04	0.0019	P	9.4	1.4
4	☐	10.000	10.168	1796.79	0.0038	P	5.4	1.7
5	☐	100.000	96.166	16197.25	0.0359	P	2.8	-3.8
6	☐	200.000	201.910	33092.95	0.0753	P	3.1	1.0
7	☐	1.000						

y = 3.7272E-004 * x + 2.1402E-005
R = 0.9997
DL = 0.2984 ppb
BEC = 0.05742 ppb

Weight: <None>
Min Conc: <None>

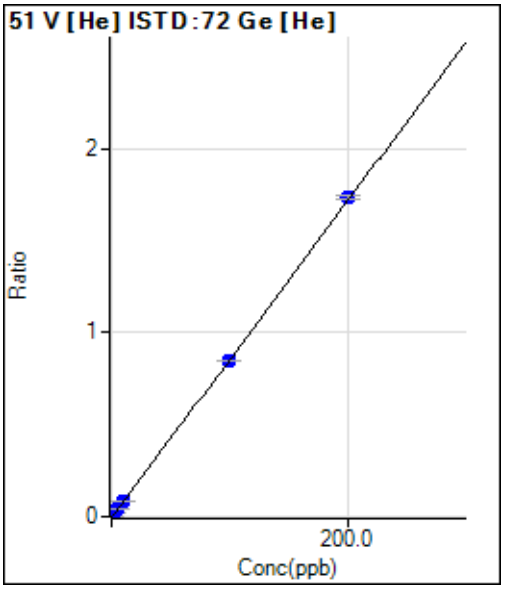
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	66508.65	0.0338	P	1.4	
2	☐	2.000	1.905	98784.68	0.0511	P	1.5	-4.8
3	☐	5.000	5.085	155006.89	0.0799	P	1.3	1.7
4	☐	10.000	9.676	234442.46	0.1215	P	3.0	-3.2
5	☐	100.000	96.696	1721798.05	0.9098	A	1.8	-3.3
6	☐	200.000	201.667	3419160.37	1.8608	A	1.7	0.8
7	☐	1.000						

y = 0.0091 * x + 0.0338
R = 0.9998
DL = 0.1614 ppb
BEC = 3.731 ppb

Weight: <None>
Min Conc: <None>

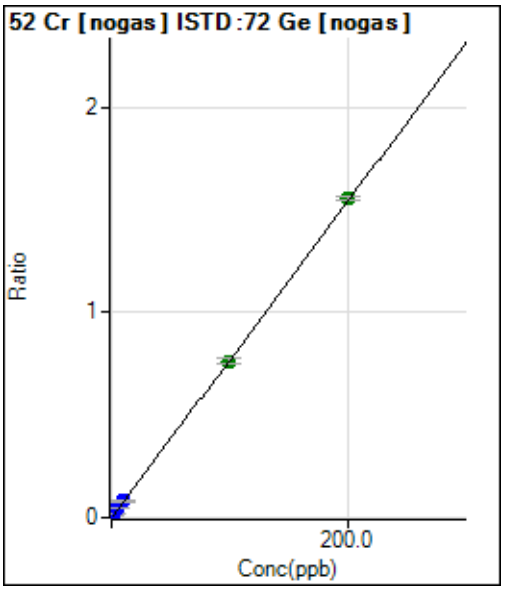


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	993.37	0.0021	P	10.4	
2	☐	2.000	1.958	8983.32	0.0190	P	2.7	-2.1
3	☐	5.000	4.979	20990.74	0.0451	P	2.3	-0.4
4	☐	10.000	9.701	40477.13	0.0858	P	3.8	-3.0
5	☐	100.000	97.766	381902.33	0.8456	P	0.5	-2.2
6	☐	200.000	201.133	763637.17	1.7373	P	0.8	0.6
7	☐	1.000						

y = 0.0086 * x + 0.0021
R = 0.9999
DL = 0.0765 ppb
BEC = 0.2448 ppb

Weight: <None>
Min Conc: <None>

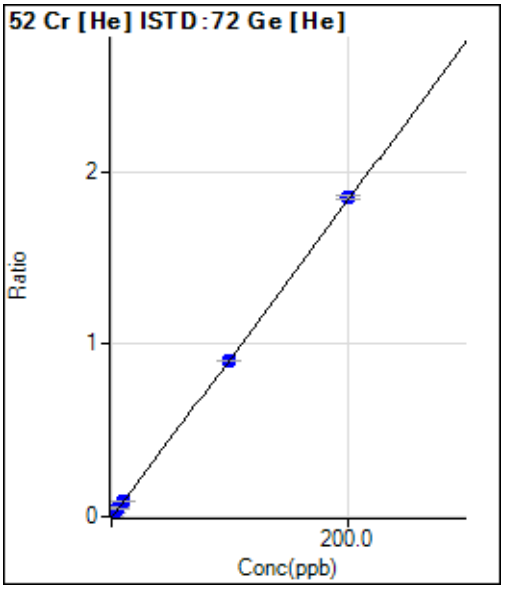
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	11006.85	0.0056	P	4.2	
2	☐	2.000	1.889	39001.38	0.0202	P	1.0	-5.6
3	☐	5.000	4.899	84179.82	0.0434	P	1.6	-2.0
4	☐	10.000	9.632	154190.43	0.0799	P	1.5	-3.7
5	☐	100.000	98.115	1442317.89	0.7622	A	2.9	-1.9
6	☐	200.000	200.965	2857849.33	1.5553	A	1.2	0.5
7	☐	1.000						

y = 0.0077 * x + 0.0056
R = 0.9999
DL = 0.09119 ppb
BEC = 0.7257 ppb

Weight: <None>
Min Conc: <None>

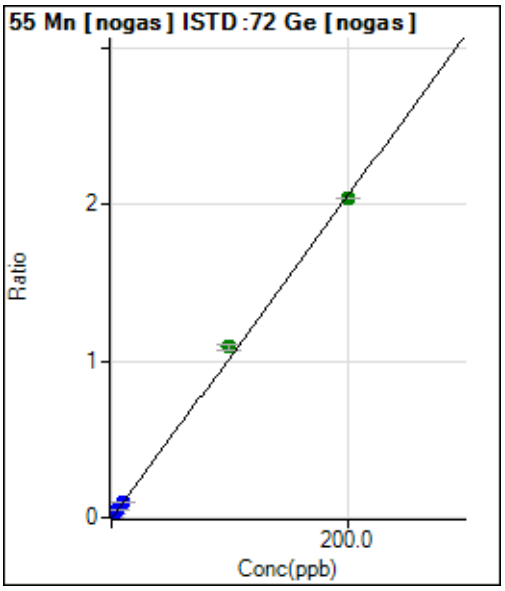


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	940.04	0.0020	P	15.2	
2	☐	2.000	1.960	9475.90	0.0200	P	5.4	-2.0
3	☐	5.000	5.193	23201.50	0.0498	P	3.4	3.9
4	☐	10.000	9.716	43113.51	0.0914	P	4.2	-2.8
5	☐	100.000	97.930	408009.61	0.9033	P	0.4	-2.1
6	☐	200.000	201.045	814189.21	1.8524	P	1.2	0.5
7	☐	1.000						

y = 0.0092 * x + 0.0020
R = 0.9999
DL = 0.09887 ppb
BEC = 0.2171 ppb

Weight: <None>
Min Conc: <None>

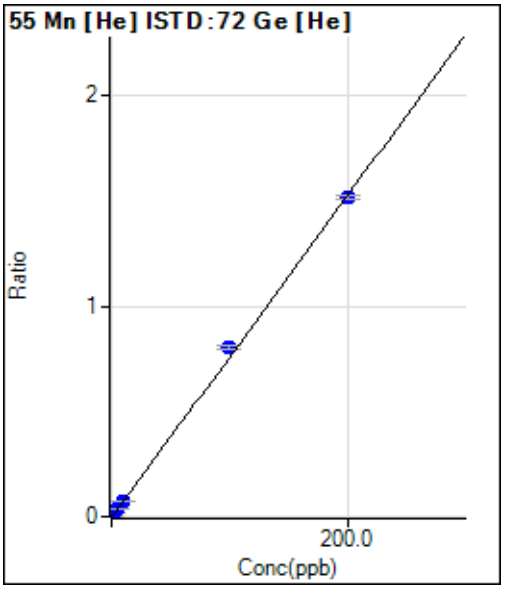
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	7301.55	0.0037	P	8.1	
2	☐	2.000	1.977	46595.40	0.0241	P	0.8	-1.2
3	☐	5.000	4.886	104934.81	0.0541	P	1.2	-2.3
4	☐	10.000	9.417	194509.38	0.1008	P	2.7	-5.8
5	☐	100.000	105.209	2058994.45	1.0880	A	2.9	5.2
6	☐	200.000	197.428	3745751.09	2.0385	A	0.1	-1.3
7	☐	1.000						

y = 0.0103 * x + 0.0037
R = 0.9995
DL = 0.08716 ppb
BEC = 0.3603 ppb

Weight: <None>
Min Conc: <None>

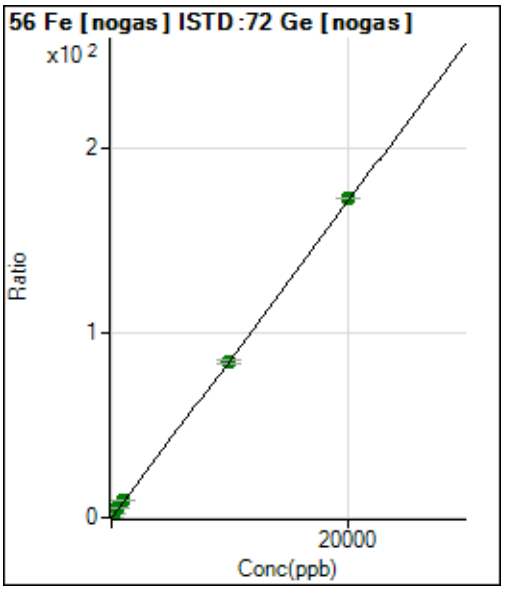


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	893.37	0.0019	P	13.3	
2	☐	2.000	1.971	8038.56	0.0170	P	0.9	-1.5
3	☐	5.000	4.995	18713.03	0.0402	P	1.6	-0.1
4	☐	10.000	9.567	35464.18	0.0752	P	4.3	-4.3
5	☐	100.000	104.605	362823.71	0.8034	P	1.8	4.6
6	☐	200.000	197.720	666696.69	1.5168	P	0.8	-1.1
7	☐	1.000						

y = 0.0077 * x + 0.0019
R = 0.9996
DL = 0.09894 ppb
BEC = 0.2481 ppb

Weight: <None>
Min Conc: <None>

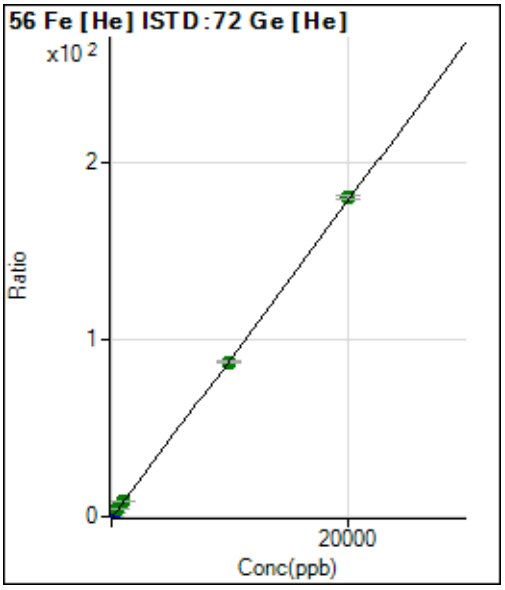
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	903701.94	0.4594	P	0.2	
2	☐	200.000	210.209	4367073.06	2.2574	A	2.4	5.1
3	☐	500.000	515.379	9446639.44	4.8677	A	1.3	3.1
4	☐	1000.000	1020.849	17747205.98	9.1912	A	0.5	2.1
5	☐	10000.00	9768.354	158988914.3	84.0127	A	2.0	-2.3
6	☐	20000.00	20114.29	316983748.6	172.506	A	0.4	0.6
7	☐	100.000						

y = 0.0086 * x + 0.4594
R = 0.9999
DL = 0.2418 ppb
BEC = 53.71 ppb

Weight: <None>
Min Conc: <None>

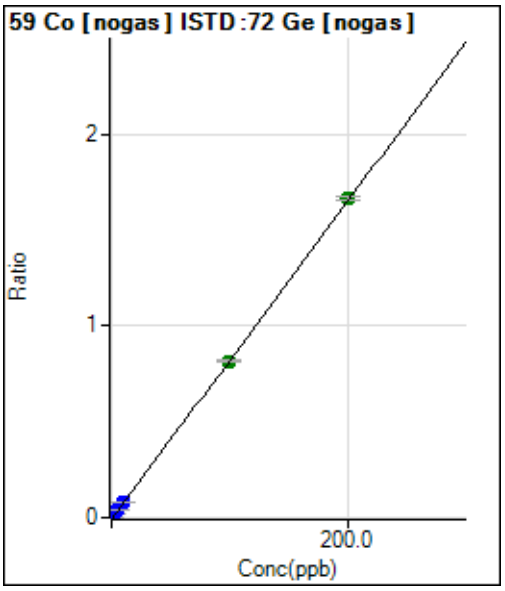


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	8992.38	0.0191	P	3.9	
2	☐	200.000	193.673	830426.34	1.7566	P	1.6	-3.2
3	☐	500.000	529.892	2222734.45	4.7729	A	2.7	6.0
4	☐	1000.000	1000.905	4242470.15	8.9985	A	5.1	0.1
5	☐	10000.00	9734.397	39452891.08	87.3486	A	0.8	-2.7
6	☐	20000.00	20132.07	79397202.15	180.628	A	0.8	0.7
7	☐	100.000						

y = 0.0090 * x + 0.0191
R = 0.9999
DL = 0.248 ppb
BEC = 2.132 ppb

Weight: <None>
Min Conc: <None>

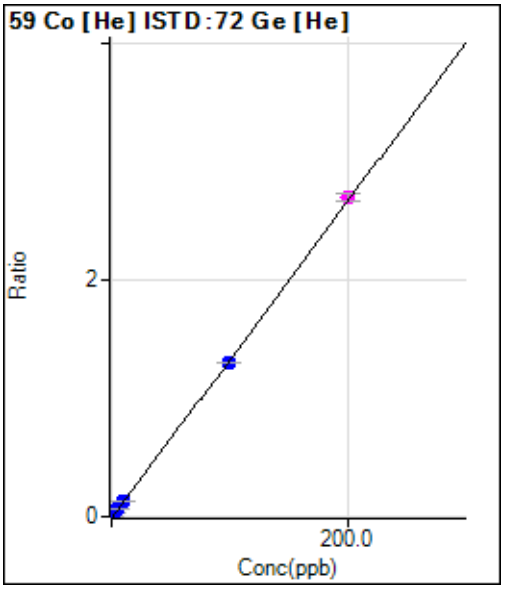
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	306.68	0.0002	P	14.3	
2	☐	2.000	1.958	31774.28	0.0164	P	1.5	-2.1
3	☐	5.000	4.888	79125.55	0.0408	P	1.7	-2.2
4	☐	10.000	9.673	155458.22	0.0805	P	2.1	-3.3
5	☐	100.000	98.519	1549548.52	0.8188	A	1.3	-1.5
6	☐	200.000	200.760	3065552.77	1.6683	A	1.0	0.4
7	☐	1.000						

y = 0.0083 * x + 1.5601E-004
R = 1.0000
DL = 0.008068 ppb
BEC = 0.01878 ppb

Weight: <None>
Min Conc: <None>

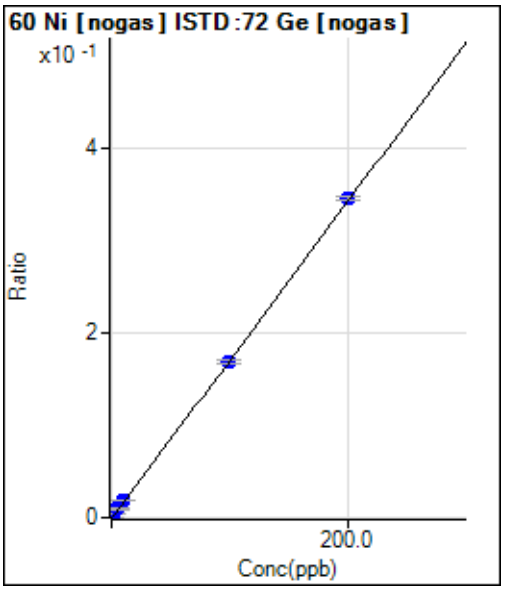


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	96.67	0.0002	P	33.5	
2	☐	2.000	1.948	12454.35	0.0263	P	2.8	-2.6
3	☐	5.000	5.036	31567.35	0.0678	P	2.5	0.7
4	☐	10.000	9.721	61625.81	0.1306	P	2.8	-2.8
5	☐	100.000	97.130	588664.67	1.3033	P	0.3	-2.9
6	☐	200.000	201.449	1188234.85	2.7029	M	2.6	0.7
7	☐	1.000						

y = 0.0134 * x + 2.0579E-004
R = 0.9999
DL = 0.01543 ppb
BEC = 0.01534 ppb

Weight: <None>
Min Conc: <None>

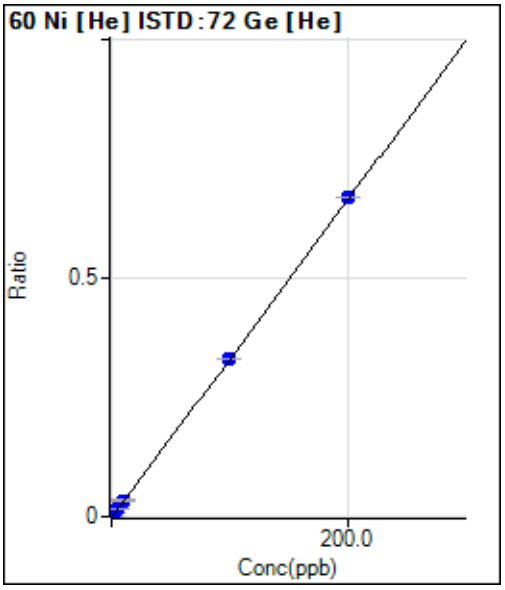
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	810.03	0.0004	P	12.2	
2	☐	2.000	2.090	7741.74	0.0040	P	6.6	4.5
3	☐	5.000	5.253	18309.34	0.0094	P	2.9	5.1
4	☐	10.000	10.233	34729.51	0.0180	P	1.0	2.3
5	☐	100.000	98.014	319336.79	0.1687	P	2.3	-2.0
6	☐	200.000	200.974	635003.49	0.3456	P	0.9	0.5
7	☐	1.000						

y = 0.0017 * x + 4.1191E-004
R = 0.9999
DL = 0.08812 ppb
BEC = 0.2398 ppb

Weight: <None>
Min Conc: <None>

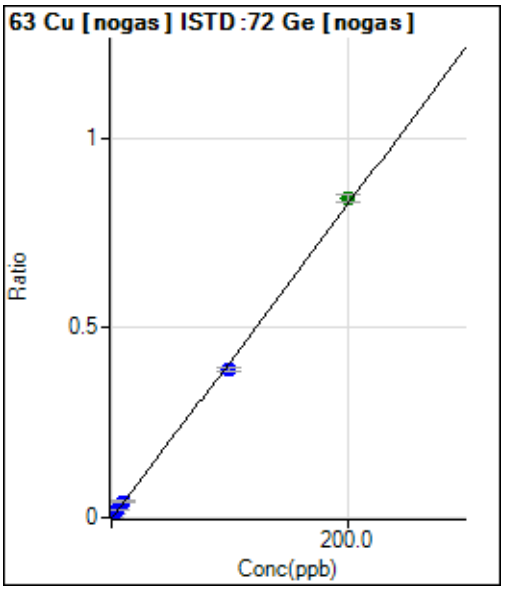


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	186.67	0.0004	P	21.1	
2	☐	2.000	2.090	3487.07	0.0074	P	8.4	4.5
3	☐	5.000	4.993	7951.84	0.0171	P	5.6	-0.1
4	☐	10.000	10.033	15987.12	0.0339	P	6.1	0.3
5	☐	100.000	98.834	149271.93	0.3305	P	0.3	-1.2
6	☐	200.000	200.581	294624.00	0.6703	P	0.5	0.3
7	☐	1.000						

y = 0.0033 * x + 3.9669E-004
R = 1.0000
DL = 0.0751 ppb
BEC = 0.1188 ppb

Weight: <None>
Min Conc: <None>

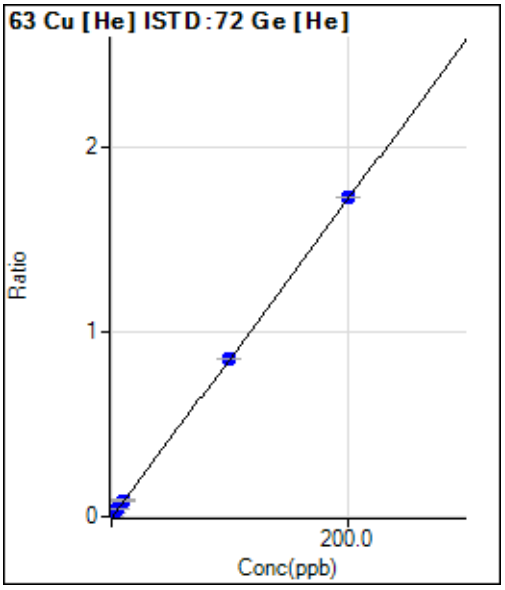
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1530.09	0.0008	P	3.8	
2	☐	2.000	2.012	17622.12	0.0091	P	2.4	0.6
3	☐	5.000	4.994	41627.10	0.0214	P	1.3	-0.1
4	☐	10.000	10.141	82527.65	0.0428	P	2.5	1.4
5	☐	100.000	94.187	739282.18	0.3907	P	2.1	-5.8
6	☐	200.000	202.899	1544696.85	0.8406	A	2.1	1.4
7	☐	1.000						

y = 0.0041 * x + 7.7792E-004
R = 0.9994
DL = 0.02128 ppb
BEC = 0.1879 ppb

Weight: <None>
Min Conc: <None>

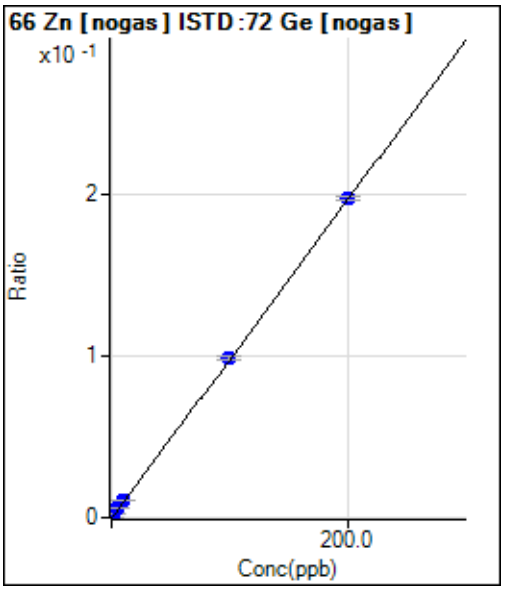


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	560.02	0.0012	P	5.7	
2	☐	2.000	2.073	9022.35	0.0191	P	4.0	3.6
3	☐	5.000	5.207	21489.44	0.0461	P	1.0	4.1
4	☐	10.000	10.106	41684.17	0.0884	P	5.7	1.1
5	☐	100.000	99.281	387522.79	0.8580	P	0.1	-0.7
6	☐	200.000	200.348	760488.19	1.7302	P	0.5	0.2
7	☐	1.000						

y = 0.0086 * x + 0.0012
R = 1.0000
DL = 0.02347 ppb
BEC = 0.138 ppb

Weight: <None>
Min Conc: <None>

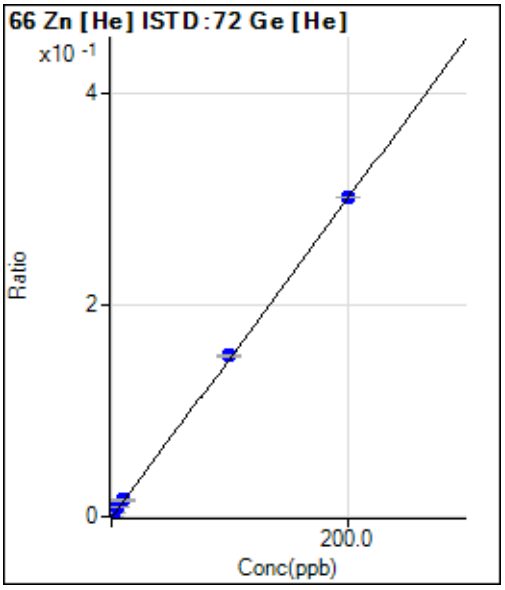
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	723.36	0.0004	P	9.7	
2	☐	2.000	2.024	4567.32	0.0024	P	1.9	1.2
3	☐	5.000	5.385	11000.15	0.0057	P	7.7	7.7
4	☐	10.000	10.291	20281.54	0.0105	P	1.3	2.9
5	☐	100.000	100.153	187351.73	0.0990	P	2.2	0.2
6	☐	200.000	199.899	362419.38	0.1972	P	0.7	-0.1
7	☐	1.000						

y = 9.8483E-004 * x + 3.6781E-004
R = 1.0000
DL = 0.1086 ppb
BEC = 0.3735 ppb

Weight: <None>
Min Conc: <None>

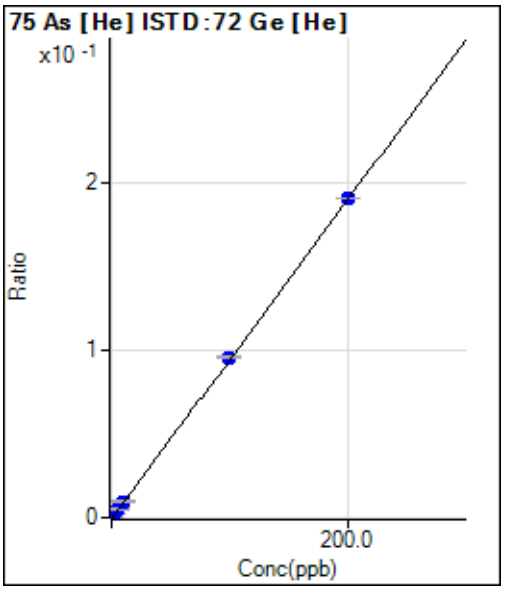


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	190.00	0.0004	P	31.0	
2	☐	2.000	2.398	1903.47	0.0040	P	6.4	19.9
3	☐	5.000	5.448	4020.50	0.0086	P	5.9	9.0
4	☐	10.000	10.083	7381.60	0.0156	P	2.9	0.8
5	☐	100.000	100.495	68691.49	0.1521	P	0.8	0.5
6	☐	200.000	199.733	132682.00	0.3019	P	0.4	-0.1
7	☐	1.000						

y = 0.0015 * x + 4.0362E-004
R = 1.0000
DL = 0.249 ppb
BEC = 0.2674 ppb

Weight: <None>
Min Conc: <None>

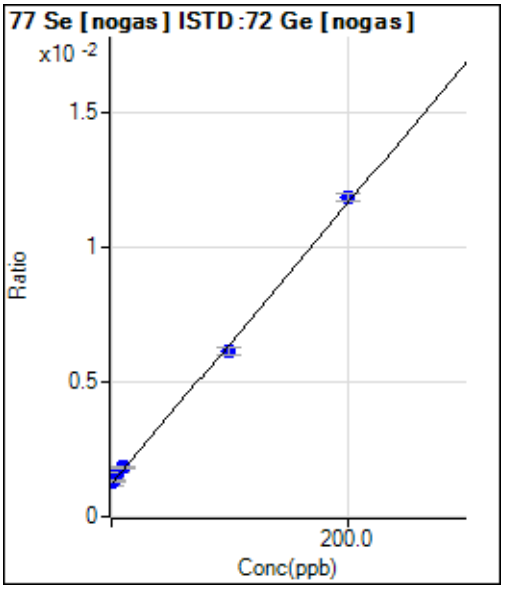
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	40.00	0.0001	P	24.4	
2	☐	2.000	2.100	987.81	0.0021	P	5.6	5.0
3	☐	5.000	5.208	2353.50	0.0051	P	6.2	4.2
4	☐	10.000	10.074	4571.71	0.0097	P	5.2	0.7
5	☐	100.000	100.348	43285.59	0.0958	P	1.0	0.3
6	☐	200.000	199.816	83837.60	0.1907	P	0.4	-0.1
7	☐	1.000						

y = 9.5414E-004 * x + 8.4992E-005
R = 1.0000
DL = 0.06531 ppb
BEC = 0.08908 ppb

Weight: <None>
Min Conc: <None>

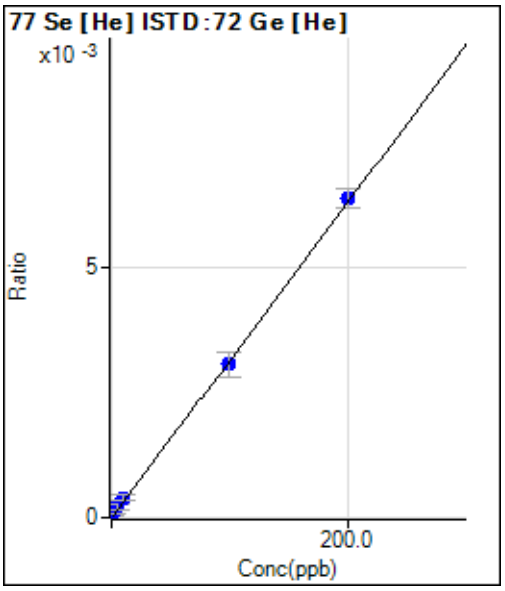


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2540.22	0.0013	P	17.7	
2	☐	2.000	0.913	2590.23	0.0013	P	4.5	-54.3
3	☐	5.000	7.098	3223.68	0.0017	P	1.5	42.0
4	☐	10.000	10.343	3533.73	0.0018	P	3.0	3.4
5	☐	100.000	93.576	11663.92	0.0062	P	4.9	-6.4
6	☐	200.000	203.153	21813.34	0.0119	P	2.5	1.6
7	☐	1.000						

y = 5.2078E-005 * x + 0.0013
R = 0.9992
DL = 13.16 ppb
BEC = 24.79 ppb

Weight: <None>
Min Conc: <None>

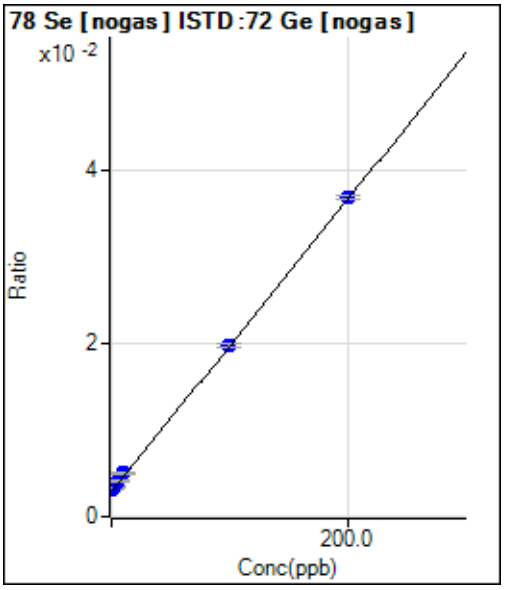
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	42.8	
2	☐	2.000	2.874	56.67	0.0001	P	71.1	43.7
3	☐	5.000	5.924	100.00	0.0002	P	46.9	18.5
4	☐	10.000	11.423	183.34	0.0004	P	28.7	14.2
5	☐	100.000	96.480	1390.08	0.0031	P	16.3	-3.5
6	☐	200.000	201.657	2816.93	0.0064	P	5.6	0.8
7	☐	1.000						

y = 3.1634E-005 * x + 2.8319E-005
R = 0.9997
DL = 1.148 ppb
BEC = 0.8952 ppb

Weight: <None>
Min Conc: <None>

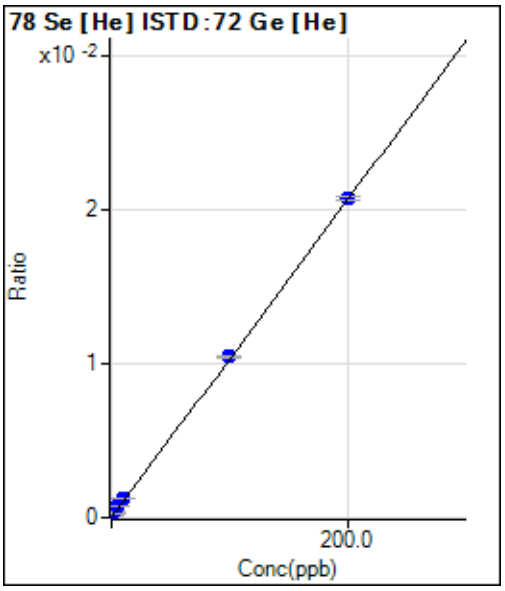


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6044.43	0.0031	P	1.5	
2	☐	2.000	2.117	6637.98	0.0034	P	7.8	5.9
3	☐	5.000	5.650	7818.45	0.0040	P	6.5	13.0
4	☐	10.000	11.621	9726.08	0.0050	P	3.1	16.2
5	☐	100.000	99.371	37582.51	0.0199	P	1.9	-0.6
6	☐	200.000	200.216	67789.64	0.0369	P	1.0	0.1
7	☐	1.000						

y = 1.6892E-004 * x + 0.0031
R = 1.0000
DL = 0.8071 ppb
BEC = 18.19 ppb

Weight: <None>
Min Conc: <None>

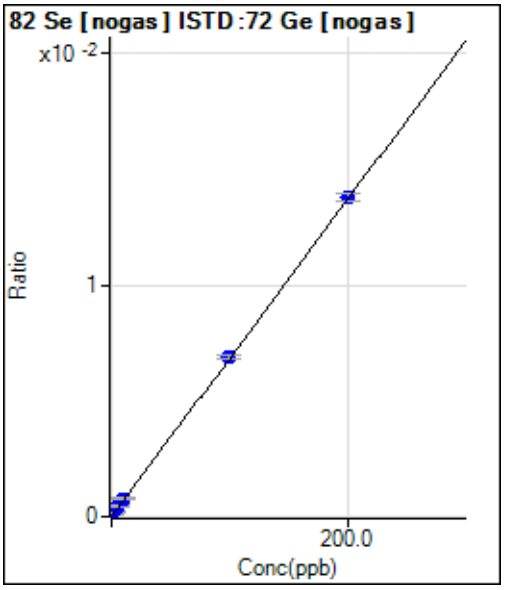
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	54.00	0.0001	P	30.1	
2	☐	2.000	2.005	152.00	0.0003	P	9.7	0.2
3	☐	5.000	5.952	339.33	0.0007	P	10.0	19.0
4	☐	10.000	11.043	592.01	0.0013	P	5.2	10.4
5	☐	100.000	100.299	4727.96	0.0105	P	0.7	0.3
6	☐	200.000	199.775	9113.63	0.0207	P	1.2	-0.1
7	☐	1.000						

y = 1.0322E-004 * x + 1.1482E-004
R = 1.0000
DL = 1.006 ppb
BEC = 1.112 ppb

Weight: <None>
Min Conc: <None>

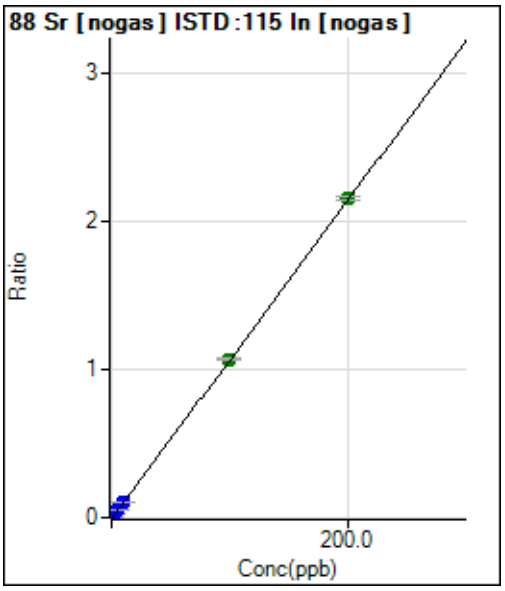


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	140.00	0.0001	P	26.4	
2	☐	2.000	2.027	406.68	0.0002	P	7.8	1.3
3	☐	5.000	5.157	823.37	0.0004	P	22.4	3.1
4	☐	10.000	10.022	1463.42	0.0008	P	11.2	0.2
5	☐	100.000	99.618	13064.92	0.0069	P	3.1	-0.4
6	☐	200.000	200.186	25354.57	0.0138	P	2.1	0.1
7	☐	1.000						

y = 6.8571E-005 * x + 7.1266E-005
R = 1.0000
DL = 0.8234 ppb
BEC = 1.039 ppb

Weight: <None>
Min Conc: <None>

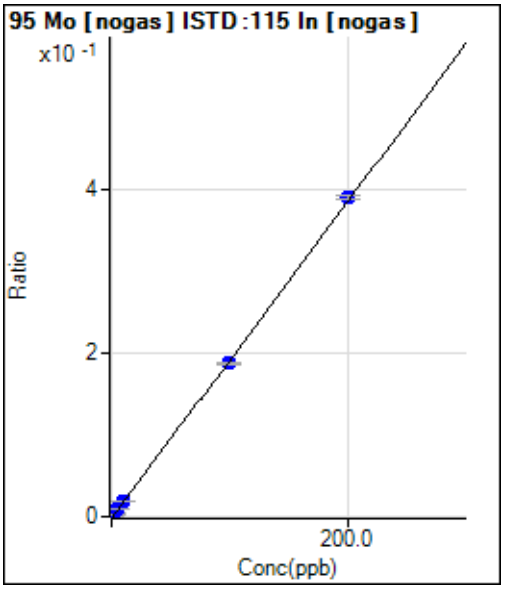
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1860.12	0.0008	P	4.6	
2	☐	2.000	1.823	45287.39	0.0204	P	2.8	-8.9
3	☐	5.000	4.705	111173.95	0.0514	P	1.9	-5.9
4	☐	10.000	9.250	218298.80	0.1003	P	0.4	-7.5
5	☐	100.000	99.491	2222511.11	1.0710	A	1.7	-0.5
6	☐	200.000	200.301	4412859.93	2.1553	A	1.2	0.2
7	☐	1.000						

y = 0.0108 * x + 8.4095E-004
R = 1.0000
DL = 0.01067 ppb
BEC = 0.07818 ppb

Weight: <None>
Min Conc: <None>

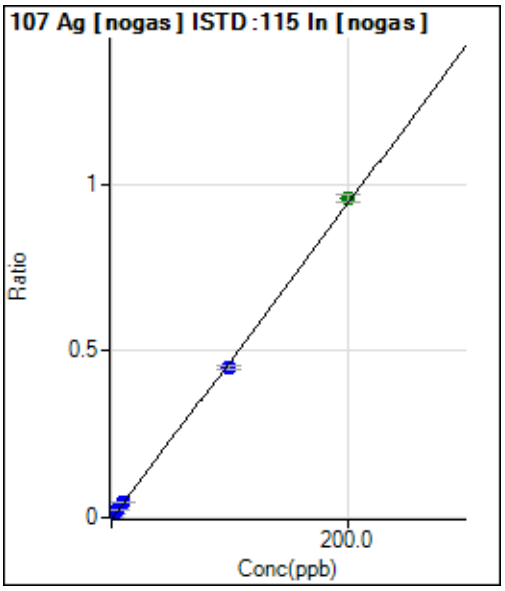


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	160.00	0.0001	P	33.8	
2	☐	2.000	1.833	7991.89	0.0036	P	6.5	-8.4
3	☐	5.000	4.835	20321.78	0.0094	P	4.7	-3.3
4	☐	10.000	9.585	40415.69	0.0186	P	1.8	-4.1
5	☐	100.000	96.629	387258.13	0.1866	P	2.2	-3.4
6	☐	200.000	201.712	797458.06	0.3895	P	0.7	0.9
7	☐	1.000						

y = 0.0019 * x + 7.2414E-005
R = 0.9998
DL = 0.03807 ppb
BEC = 0.03751 ppb

Weight: <None>
Min Conc: <None>

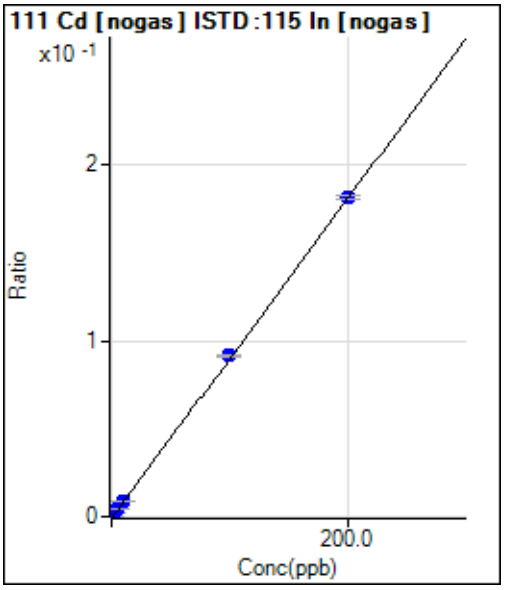
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	86.67	0.0000	P	37.7	
2	☐	2.000	1.922	20221.74	0.0091	P	2.5	-3.9
3	☐	5.000	4.878	49940.39	0.0231	P	0.4	-2.4
4	☐	10.000	9.643	99299.96	0.0456	P	2.1	-3.6
5	☐	100.000	95.256	934831.76	0.4505	P	2.3	-4.7
6	☐	200.000	202.394	1959978.77	0.9572	A	2.2	1.2
7	☐	1.000						

y = 0.0047 * x + 3.9263E-005
R = 0.9996
DL = 0.009396 ppb
BEC = 0.008303 ppb

Weight: <None>
Min Conc: <None>

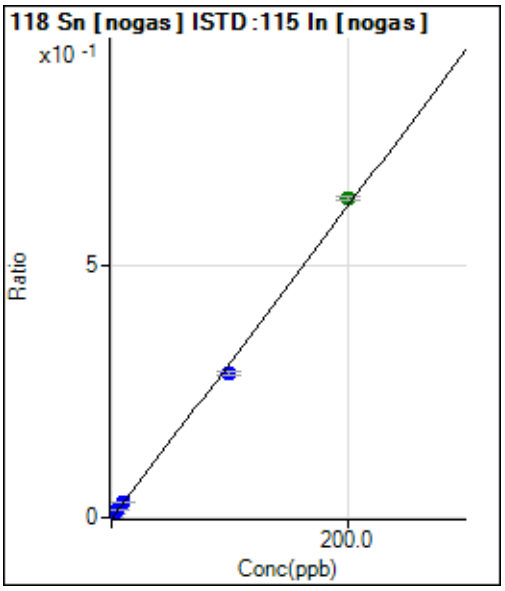


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6.67	0.0000	P	173.	
2	☐	2.000	1.993	4027.17	0.0018	P	6.7	-0.3
3	☐	5.000	4.991	9816.19	0.0045	P	6.7	-0.2
4	☐	10.000	10.040	19884.72	0.0091	P	1.5	0.4
5	☐	100.000	100.528	189827.20	0.0915	P	2.3	0.5
6	☐	200.000	199.735	372134.93	0.1817	P	1.3	-0.1
7	☐	1.000						

y = 9.0993E-004 * x + 3.0395E-006
R = 1.0000
DL = 0.01736 ppb
BEC = 0.00334 ppb

Weight: <None>
Min Conc: <None>

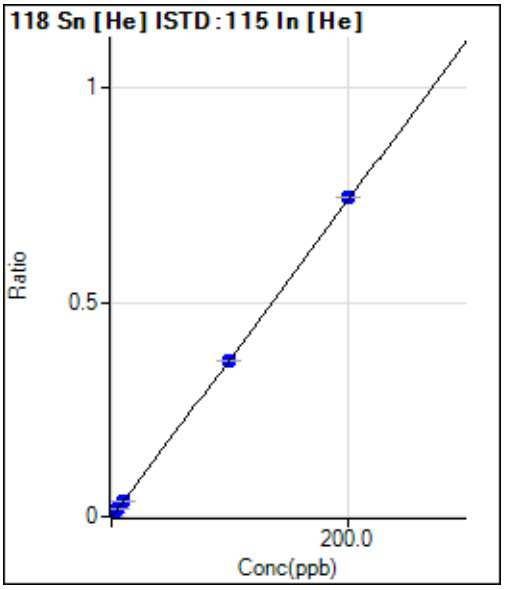
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1273.40	0.0006	P	2.2	
2	☐	2.000	1.777	13478.69	0.0061	P	2.6	-11.2
3	☐	5.000	4.688	32654.06	0.0151	P	2.7	-6.2
4	☐	10.000	9.146	62965.94	0.0289	P	1.0	-8.5
5	☐	100.000	91.861	592292.90	0.2854	P	2.1	-8.1
6	☐	200.000	204.122	1297109.77	0.6335	A	1.4	2.1
7	☐	1.000						

y = 0.0031 * x + 5.7544E-004
R = 0.9989
DL = 0.01249 ppb
BEC = 0.1856 ppb

Weight: <None>
Min Conc: <None>

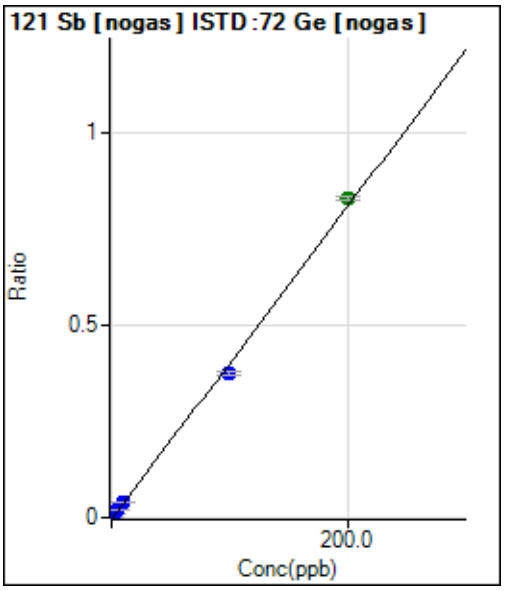


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	640.02	0.0008	P	10.7	
2	☐	2.000	1.868	6131.16	0.0077	P	1.2	-6.6
3	☐	5.000	4.957	15163.43	0.0192	P	1.6	-0.9
4	☐	10.000	9.793	29882.35	0.0371	P	4.0	-2.1
5	☐	100.000	97.966	277032.85	0.3637	P	0.6	-2.0
6	☐	200.000	201.030	553634.47	0.7454	P	0.3	0.5
7	☐	1.000						

y = 0.0037 * x + 8.1899E-004
R = 0.9999
DL = 0.0712 ppb
BEC = 0.2211 ppb

Weight: <None>
Min Conc: <None>

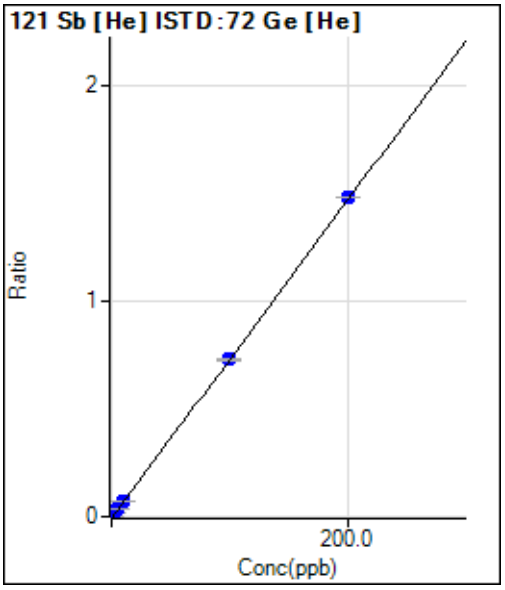
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	306.68	0.0002	P	30.7	
2	☐	2.000	1.874	15060.09	0.0078	P	3.6	-6.3
3	☐	5.000	4.712	37540.54	0.0193	P	0.6	-5.8
4	☐	10.000	9.380	74035.78	0.0383	P	0.6	-6.2
5	☐	100.000	91.839	707908.48	0.3741	P	2.3	-8.2
6	☐	200.000	204.120	1527400.96	0.8312	A	1.4	2.1
7	☐	1.000						

y = 0.0041 * x + 1.5597E-004
R = 0.9989
DL = 0.03522 ppb
BEC = 0.03831 ppb

Weight: <None>
Min Conc: <None>

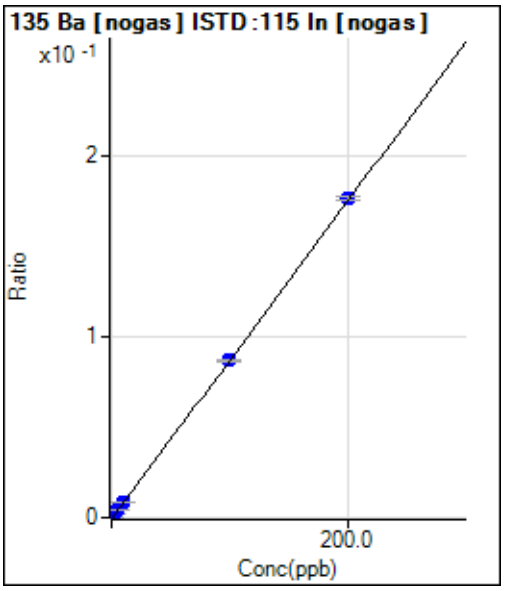


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	120.00	0.0003	P	38.0	
2	☐	2.000	2.012	7151.57	0.0151	P	1.4	0.6
3	☐	5.000	4.957	17178.67	0.0369	P	3.2	-0.9
4	☐	10.000	9.768	34193.61	0.0725	P	1.9	-2.3
5	☐	100.000	98.673	329516.45	0.7296	P	1.0	-1.3
6	☐	200.000	200.676	652063.32	1.4835	P	0.3	0.3
7	☐	1.000						

y = 0.0074 * x + 2.5514E-004
R = 1.0000
DL = 0.03933 ppb
BEC = 0.03452 ppb

Weight: <None>
Min Conc: <None>

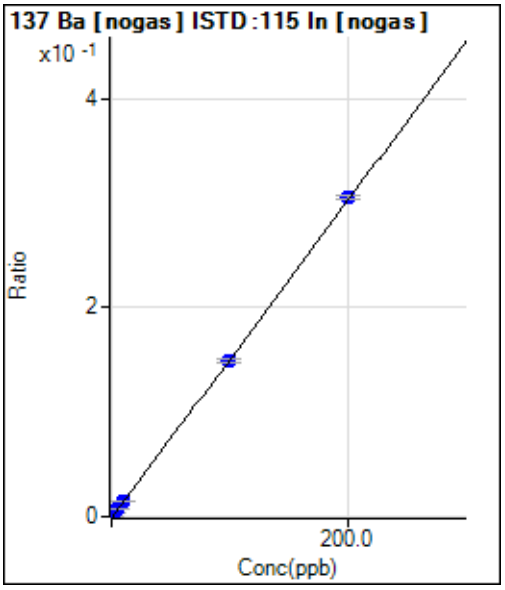
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	150.00	0.0001	P	17.2	
2	☐	2.000	1.910	3867.18	0.0017	P	7.5	-4.5
3	☐	5.000	4.929	9512.75	0.0044	P	1.6	-1.4
4	☐	10.000	9.862	19010.67	0.0087	P	4.0	-1.4
5	☐	100.000	98.631	180101.92	0.0868	P	1.2	-1.4
6	☐	200.000	200.694	361432.11	0.1765	P	0.8	0.3
7	☐	1.000						

y = 8.7920E-004 * x + 6.7763E-005
R = 1.0000
DL = 0.03985 ppb
BEC = 0.07707 ppb

Weight: <None>
Min Conc: <None>

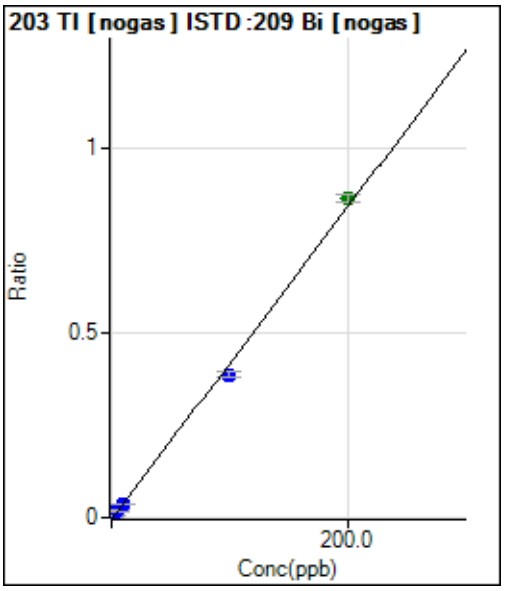


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	253.34	0.0001	P	26.6	
2	☐	2.000	1.820	6394.62	0.0029	P	4.5	-9.0
3	☐	5.000	4.939	16484.86	0.0076	P	1.8	-1.2
4	☐	10.000	9.684	32297.05	0.0148	P	1.5	-3.2
5	☐	100.000	97.872	309172.72	0.1490	P	2.1	-2.1
6	☐	200.000	201.083	626461.01	0.3060	P	1.1	0.5
7	☐	1.000						

y = 0.0015 * x + 1.1457E-004
R = 0.9999
DL = 0.06014 ppb
BEC = 0.07532 ppb

Weight: <None>
Min Conc: <None>

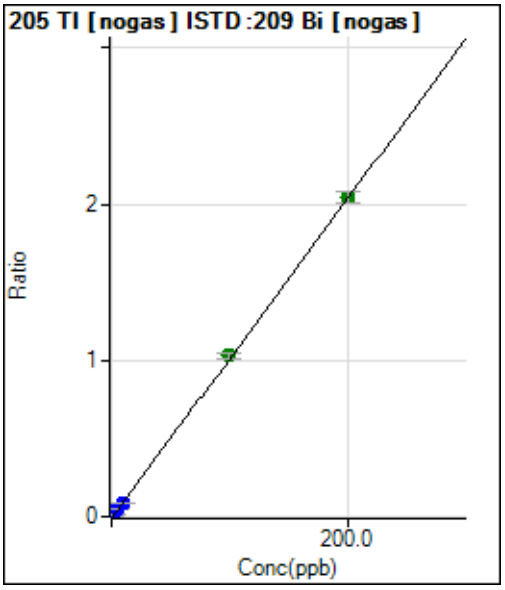
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	53.33	0.0000	P	27.9	
2	☐	2.000	1.761	14993.69	0.0075	P	2.5	-12.0
3	☐	5.000	4.328	36721.39	0.0183	P	1.3	-13.4
4	☐	10.000	8.946	74270.51	0.0378	P	4.2	-10.5
5	☐	100.000	91.259	707999.88	0.3855	P	4.2	-8.7
6	☐	200.000	204.443	1556609.98	0.8635	A	1.9	2.2
7	☐	1.000						

y = 0.0042 * x + 2.6283E-005
R = 0.9987
DL = 0.005204 ppb
BEC = 0.006223 ppb

Weight: <None>
Min Conc: <None>

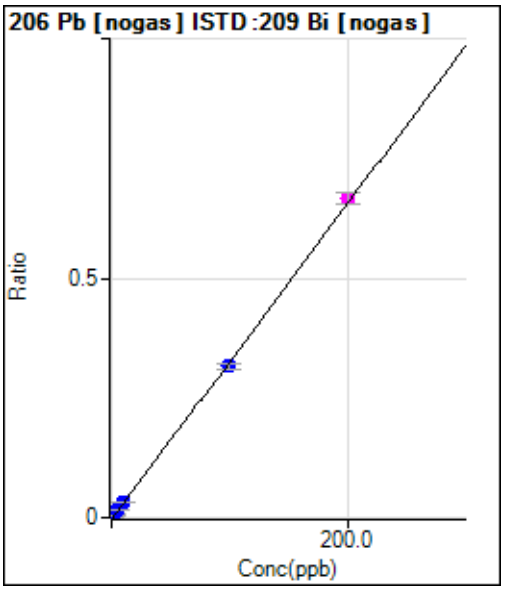


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	136.67	0.0001	P	15.7	
2	☐	2.000	1.733	35802.62	0.0178	P	3.3	-13.3
3	☐	5.000	4.327	89020.17	0.0444	P	1.7	-13.5
4	☐	10.000	8.841	178000.64	0.0906	P	3.8	-11.6
5	☐	100.000	100.832	1897363.98	1.0328	A	3.3	0.8
6	☐	200.000	199.662	3686105.57	2.0451	A	3.1	-0.2
7	☐	1.000						

y = 0.0102 * x + 6.7362E-005
R = 1.0000
DL = 0.003103 ppb
BEC = 0.006577 ppb

Weight: <None>
Min Conc: <None>

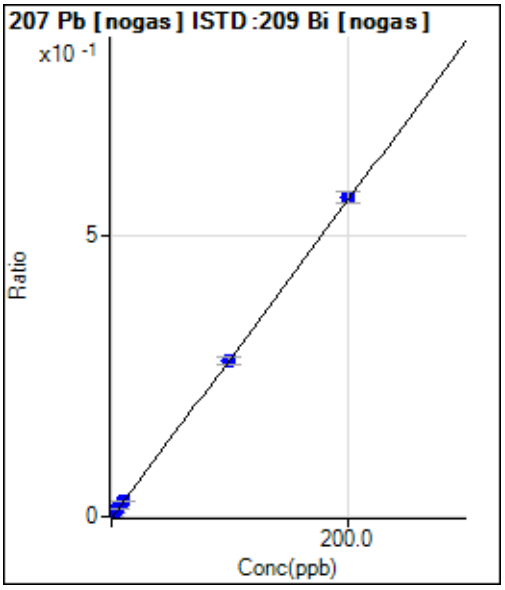
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	103.33	0.0001	P	25.7	
2	☐	2.000	1.839	12291.43	0.0061	P	4.3	-8.1
3	☐	5.000	4.695	31149.82	0.0155	P	3.6	-6.1
4	☐	10.000	9.494	61605.46	0.0314	P	3.2	-5.1
5	☐	100.000	95.670	579566.75	0.3155	P	4.3	-4.3
6	☐	200.000	202.200	1203151.70	0.6668	M	3.3	1.1
7	☐	1.000						

y = 0.0033 * x + 5.1115E-005
R = 0.9997
DL = 0.01195 ppb
BEC = 0.0155 ppb

Weight: <None>
Min Conc: <None>

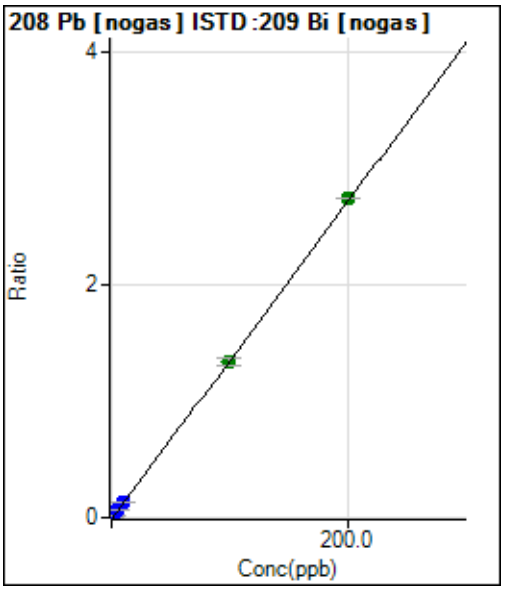


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	73.33	0.0000	P	40.7	
2	☐	2.000	1.852	10613.64	0.0053	P	1.2	-7.4
3	☐	5.000	4.758	27099.41	0.0135	P	1.7	-4.8
4	☐	10.000	9.712	54112.69	0.0275	P	2.0	-2.9
5	☐	100.000	98.368	511692.11	0.2786	P	4.6	-1.6
6	☐	200.000	200.838	1025230.69	0.5688	P	3.1	0.4
7	☐	1.000						

y = 0.0028 * x + 3.6068E-005
R = 1.0000
DL = 0.01556 ppb
BEC = 0.01274 ppb

Weight: <None>
Min Conc: <None>

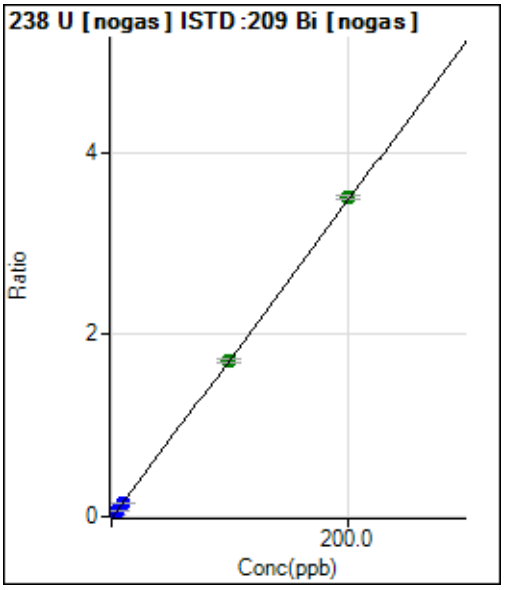
Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	406.67	0.0002	P	32.2	
2	☐	2.000	1.775	49106.37	0.0244	P	1.7	-11.2
3	☐	5.000	4.531	124476.36	0.0621	P	2.0	-9.4
4	☐	10.000	9.242	248313.44	0.1264	P	2.7	-7.6
5	☐	100.000	97.869	2454415.61	1.3365	A	4.9	-2.1
6	☐	200.000	201.118	4952330.26	2.7463	A	0.1	0.6
7	☐	1.000						

y = 0.0137 * x + 2.0128E-004
R = 0.9999
DL = 0.01424 ppb
BEC = 0.01474 ppb

Weight: <None>
Min Conc: <None>

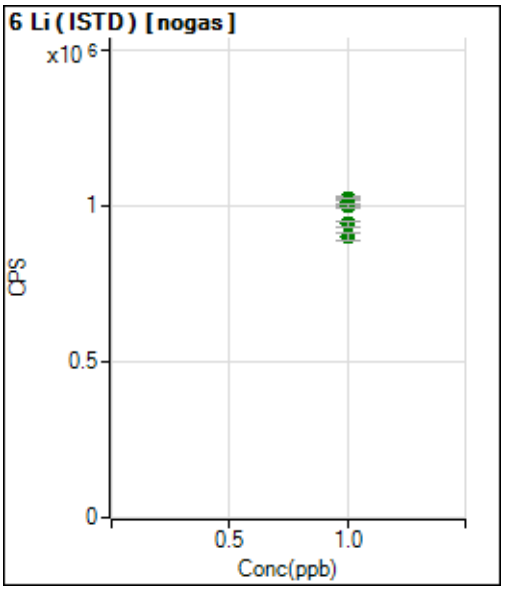


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	86.67	0.0000	P	17.6	
2	☐	2.000	1.643	57710.76	0.0287	P	4.3	-17.9
3	☐	5.000	4.220	147896.28	0.0737	P	0.9	-15.6
4	☐	10.000	8.547	293300.29	0.1493	P	2.6	-14.5
5	☐	100.000	97.872	3140061.41	1.7091	A	2.5	-2.1
6	☐	200.000	201.160	6333204.70	3.5128	A	1.4	0.6
7	☐	1.000						

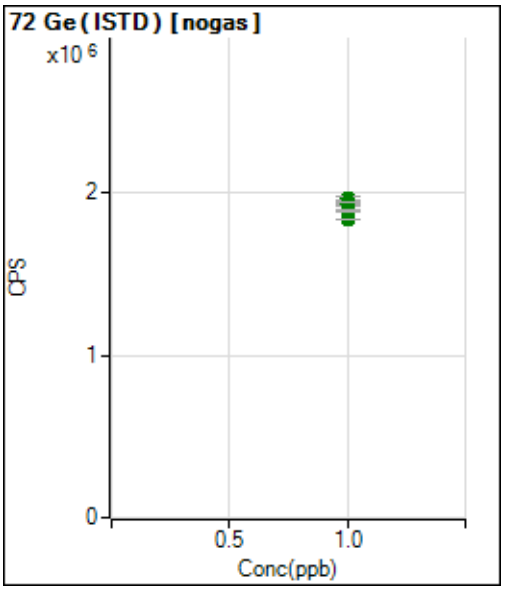
y = 0.0175 * x + 4.2785E-005
R = 0.9999
DL = 0.001296 ppb
BEC = 0.00245 ppb

Weight: <None>
Min Conc: <None>

Calibration for 249_ICV.d

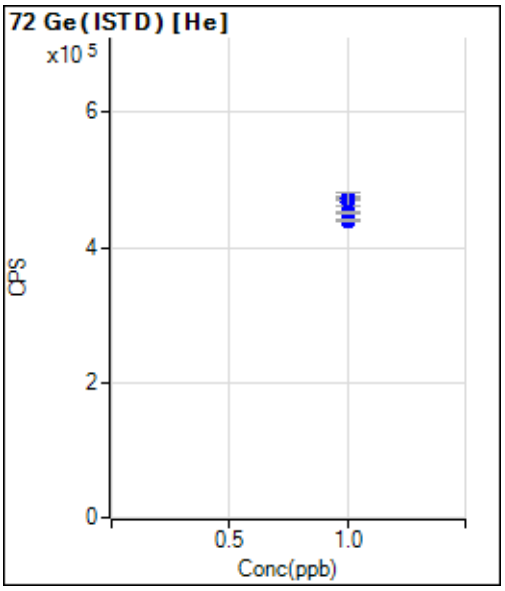


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1023411.05		A	1.5	
2	☐	1.000		1009353.19		A	1.5	
3	☐	1.000		1013245.59		A	1.5	
4	☐	1.000		999649.04		A	1.0	
5	☐	1.000		941513.35		A	1.8	
6	☐	1.000		899798.16		A	2.2	
7	☐	1.000						

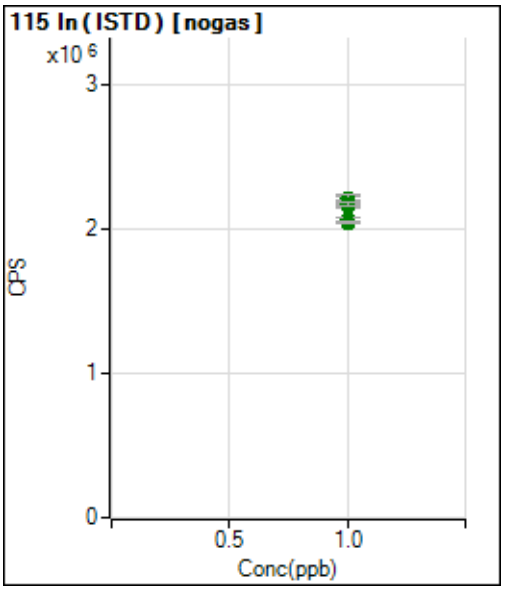


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1967294.97		A	0.8	
2	☐	1.000		1934699.29		A	0.5	
3	☐	1.000		1940889.40		A	1.1	
4	☐	1.000		1930853.57		A	1.7	
5	☐	1.000		1892660.03		A	0.9	
6	☐	1.000		1837511.53		A	0.1	
7	☐	1.000						

Calibration for 249_ICV.d

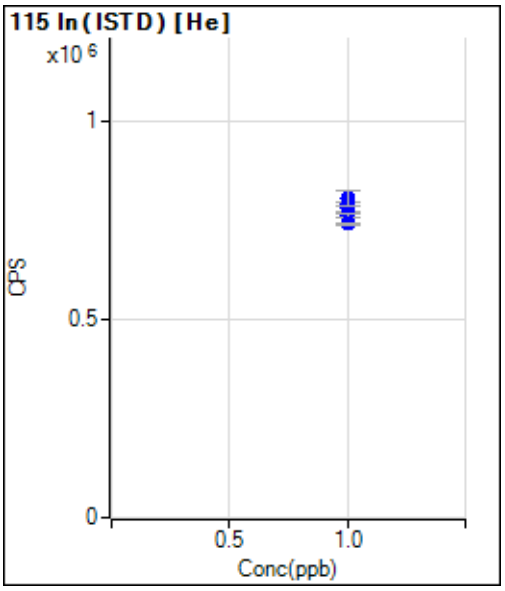


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		470178.55		P	0.6	
2	☐	1.000		472803.59		P	1.5	
3	☐	1.000		465813.38		P	1.6	
4	☐	1.000		472140.25		P	4.2	
5	☐	1.000		451663.00		P	0.8	
6	☐	1.000		439544.11		P	0.8	
7	☐	1.000						

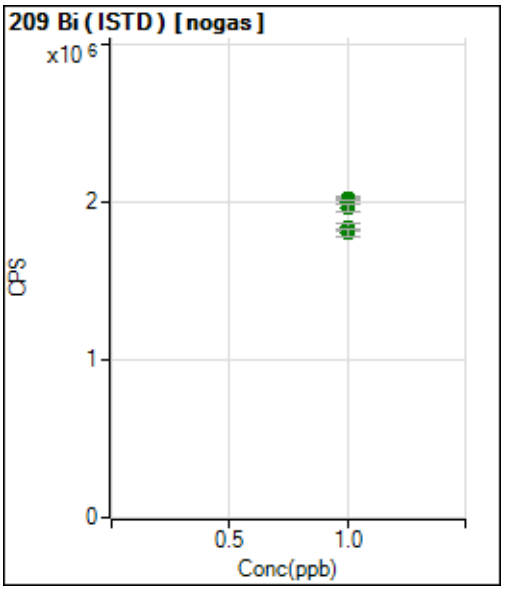


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2212635.63		A	1.0	
2	☐	1.000		2216175.74		A	2.6	
3	☐	1.000		2161416.93		A	1.7	
4	☐	1.000		2175860.94		A	1.1	
5	☐	1.000		2075403.44		A	1.3	
6	☐	1.000		2047563.87		A	0.7	
7	☐	1.000						

Calibration for 249_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		780484.18		P	1.8	
2	☐	1.000		792251.78		P	1.0	
3	☐	1.000		790673.40		P	1.3	
4	☐	1.000		806523.14		P	4.2	
5	☐	1.000		761775.17		P	1.6	
6	☐	1.000		742709.60		P	0.6	
7	☐	1.000						



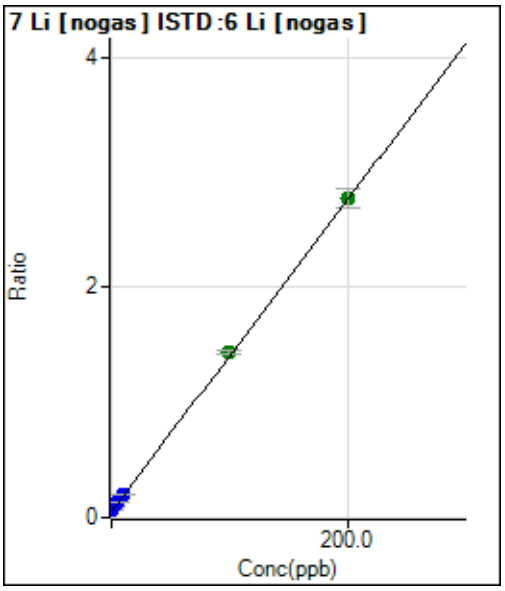
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2026038.04		A	1.3	
2	☐	1.000		2009818.56		A	2.0	
3	☐	1.000		2005936.01		A	1.1	
4	☐	1.000		1965344.24		A	2.3	
5	☐	1.000		1837943.93		A	2.6	
6	☐	1.000		1803300.50		A	2.5	
7	☐	1.000						

Calibration for 017_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\122420A.b\
Analysis File: 122420A.batch.bin
DA Date-Time: 12/24/2020 7:37:43 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	010CALB.d	CAL BLK	12/24/2020 10:02:40 AM
2	011CALS.d	2/10/200	12/24/2020 10:04:43 AM
3	012CALS.d	5/25/500	12/24/2020 10:06:46 AM
4	013CALS.d	10/50/1000	12/24/2020 10:08:48 AM
5	014CALS.d	100/500/10K	12/24/2020 10:10:50 AM
6	015CALS.d	200/1000/20K	12/24/2020 10:12:49 AM
7			

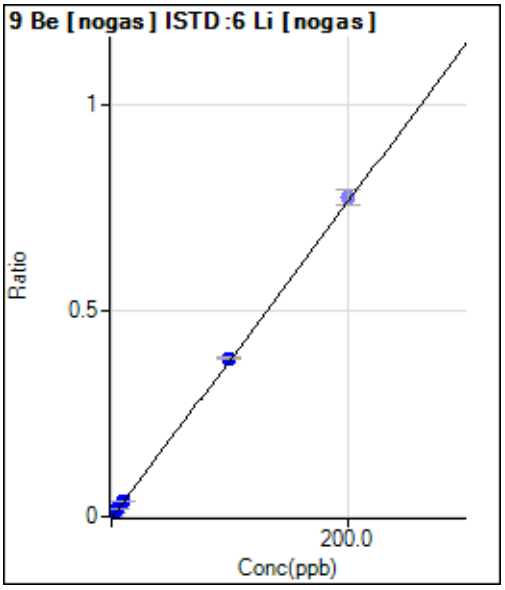
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	80051.05	0.0682	P	0.5	
2	☐	2.000	2.115	111831.61	0.0968	P	3.4	5.8
3	☐	5.000	4.739	152391.39	0.1323	P	2.6	-5.2
4	☐	10.000	9.501	224914.99	0.1968	P	3.4	-5.0
5	☐	100.000	100.646	1541890.91	1.4312	A	2.4	0.6
6	☐	200.000	199.707	2880154.65	2.7728	A	5.7	-0.1
7	☐	1.000						

y = 0.0135 * x + 0.0682
R = 1.0000
DL = 0.07129 ppb
BEC = 5.033 ppb

Weight: <None>
Min Conc: <None>

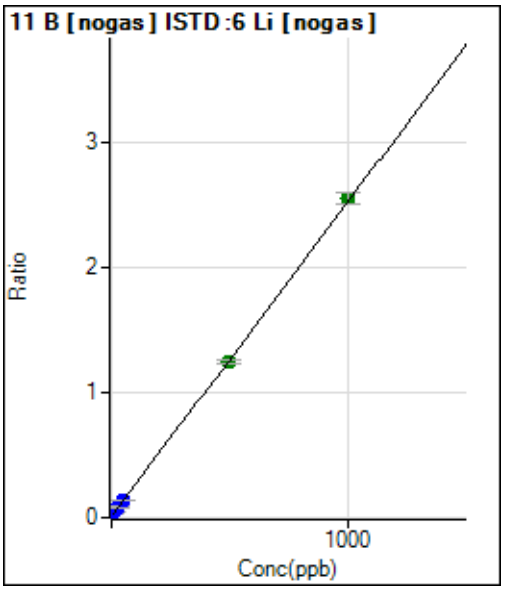


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	18.33	0.0000	P	62.9	
2	☐	2.000	1.932	8610.30	0.0075	P	2.5	-3.4
3	☐	5.000	4.763	21126.59	0.0183	P	3.0	-4.7
4	☐	10.000	9.501	41788.34	0.0366	P	4.8	-5.0
5	☐	100.000	100.063	414950.58	0.3851	P	1.8	0.1
6	☑	200.000		807656.01	0.7773	P	4.2	
7	☐	1.000						

y = 0.0038 * x + 1.5596E-005
R = 1.0000
DL = 0.007647 ppb
BEC = 0.004052 ppb

Weight: <None>
Min Conc: <None>

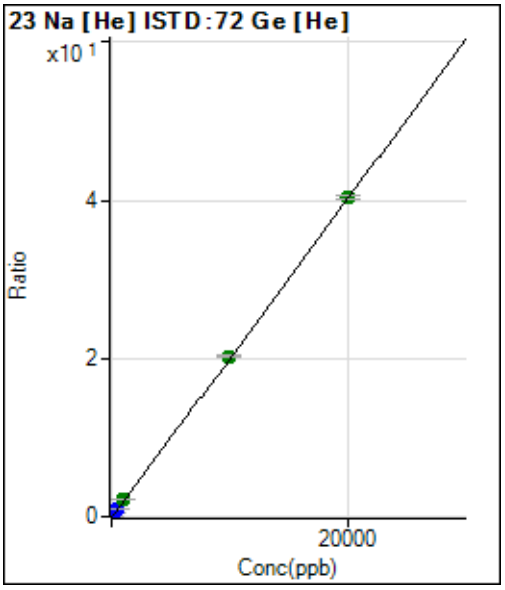
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	29106.97	0.0248	P	0.8	
2	☐	10.000	9.385	55893.01	0.0484	P	5.1	-6.1
3	☐	25.000	23.609	96920.21	0.0842	P	2.6	-5.6
4	☐	50.000	46.271	161354.60	0.1412	P	2.4	-7.5
5	☐	500.000	486.879	1346210.34	1.2495	A	1.8	-2.6
6	☐	1000.000	1006.788	2657124.44	2.5572	A	4.1	0.7
7	☐	5.000						

y = 0.0025 * x + 0.0248
R = 0.9999
DL = 0.245 ppb
BEC = 9.853 ppb

Weight: <None>
Min Conc: <None>

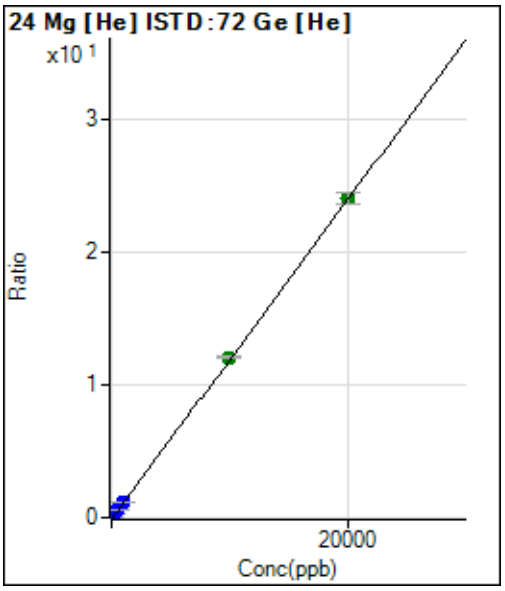


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	27783.89	0.0382	P	1.1	
2	☐	200.000	194.717	309328.39	0.4313	P	0.1	-2.6
3	☐	500.000	485.956	725524.23	1.0192	P	1.5	-2.8
4	☐	1000.000	1022.683	1487971.18	2.1026	A	2.6	2.3
5	☐	10000.00	10014.74	14062968.12	20.2538	A	1.3	0.1
6	☐	20000.00	19991.89	27488696.26	40.3935	A	1.4	0.0
7	☐	100.000						

y = 0.0020 * x + 0.0382
R = 1.0000
DL = 0.6369 ppb
BEC = 18.93 ppb

Weight: <None>
Min Conc: <None>

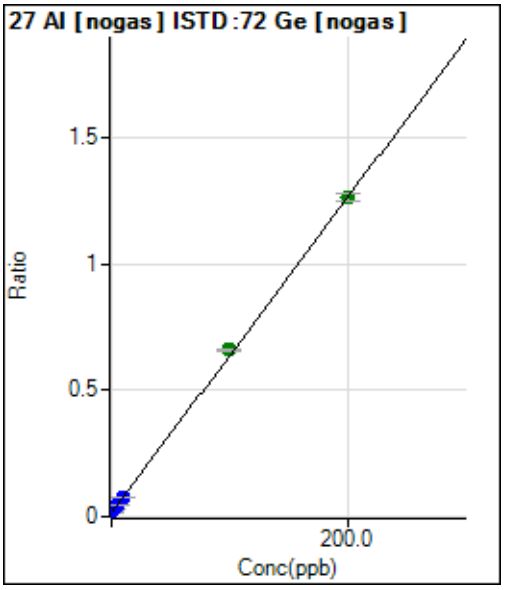
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	713.36	0.0010	P	8.4	
2	☐	200.000	200.550	173980.33	0.2426	P	1.1	0.3
3	☐	500.000	498.059	427817.98	0.6009	P	1.6	-0.4
4	☐	1000.000	986.767	841971.73	1.1897	P	1.2	-1.3
5	☐	10000.00	10044.65	8402833.83	12.1009	A	1.1	0.4
6	☐	20000.00	19978.38	16374201.84	24.0672	A	3.4	-0.1
7	☐	100.000						

y = 0.0012 * x + 9.8129E-004
R = 1.0000
DL = 0.2056 ppb
BEC = 0.8146 ppb

Weight: <None>
Min Conc: <None>

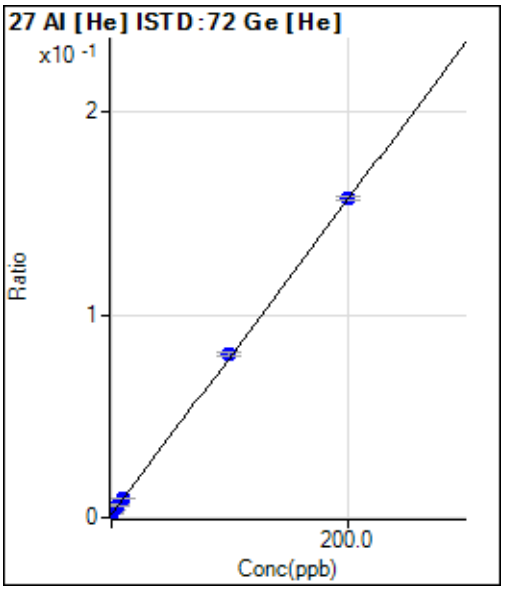


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	46626.12	0.0218	P	38.6	
2	☐	2.000	1.422	66002.86	0.0307	P	7.7	-28.9
3	☐	5.000	3.885	98389.87	0.0461	P	2.1	-22.3
4	☐	10.000	8.487	159268.38	0.0749	P	3.8	-15.1
5	☐	100.000	102.314	1354023.37	0.6620	A	1.3	2.3
6	☐	200.000	198.953	2562007.51	1.2666	A	1.9	-0.5
7	☐	1.000						

y = 0.0063 * x + 0.0218
R = 0.9999
DL = 4.035 ppb
BEC = 3.483 ppb

Weight: <None>
Min Conc: <None>

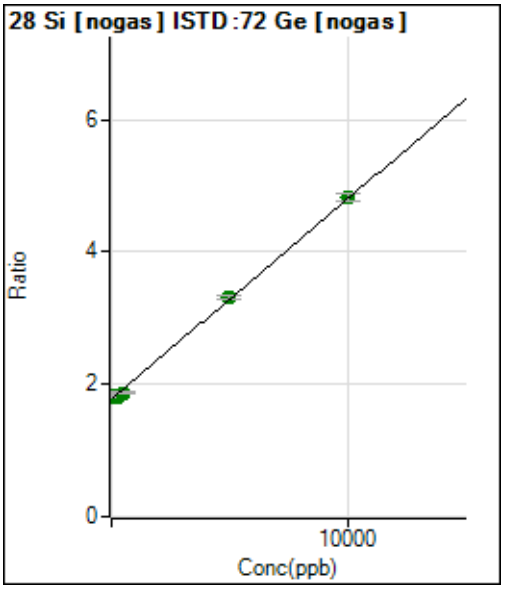
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1726.98	0.0024	P	24.3	
2	☐	2.000	2.164	2907.03	0.0041	P	10.1	8.2
3	☐	5.000	4.718	4300.57	0.0060	P	6.9	-5.6
4	☐	10.000	8.938	6594.59	0.0093	P	3.8	-10.6
5	☐	100.000	100.583	55908.96	0.0805	P	1.9	0.6
6	☐	200.000	199.767	107234.49	0.1576	P	1.5	-0.1
7	☐	1.000						

y = 7.7695E-004 * x + 0.0024
R = 1.0000
DL = 2.226 ppb
BEC = 3.053 ppb

Weight: <None>
Min Conc: <None>

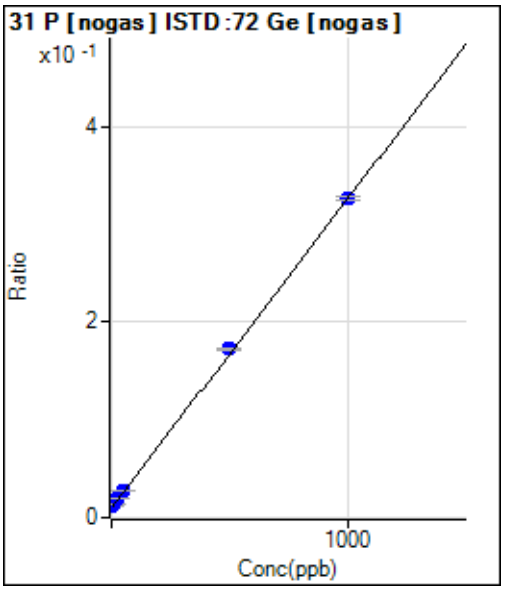


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3874659.32	1.8022	A	0.8	
2	☐	100.000	117.368	3953172.86	1.8377	A	3.0	17.4
3	☐	250.000	34.136	3868878.07	1.8125	A	0.8	-86.3
4	☐	500.000	237.329	3985017.54	1.8739	A	2.8	-52.5
5	☐	5000.000	5015.758	6785767.40	3.3180	A	1.3	0.3
6	☐	10000.00	10010.47	9761883.60	4.8274	A	2.4	0.1
7	☐	50.000						

y = 3.0220E-004 * x + 1.8022
R = 0.9996
DL = 134.3 ppb
BEC = 5964 ppb

Weight: <None>
Min Conc: <None>

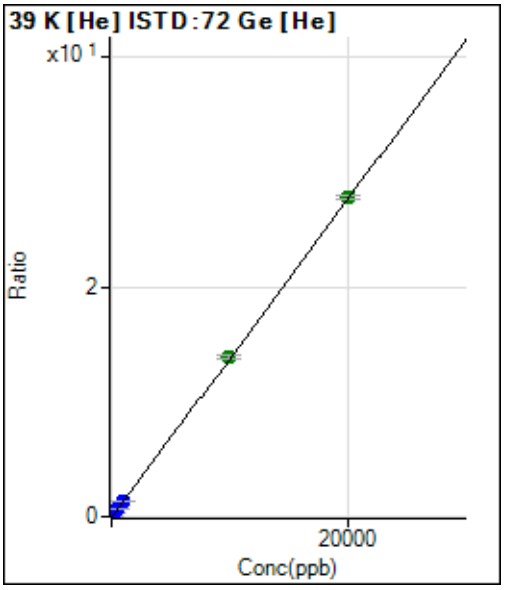
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	24927.10	0.0116	P	1.4	
2	☐	10.000	8.744	30893.15	0.0144	P	1.0	-12.6
3	☐	25.000	24.718	41435.55	0.0194	P	4.5	-1.1
4	☐	50.000	50.622	58737.65	0.0276	P	2.5	1.2
5	☐	500.000	507.855	352554.79	0.1724	P	1.2	1.6
6	☐	1000.000	996.061	661247.22	0.3269	P	1.0	-0.4
7	☐	5.000						

y = 3.1658E-004 * x + 0.0116
R = 1.0000
DL = 1.557 ppb
BEC = 36.63 ppb

Weight: <None>
Min Conc: <None>

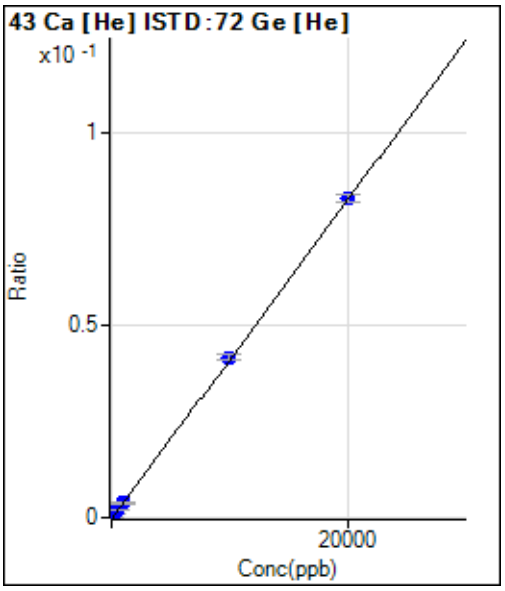


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	46153.69	0.0635	P	0.9	
2	☐	200.000	198.108	242481.67	0.3381	P	1.8	-0.9
3	☐	500.000	488.877	527614.76	0.7411	P	1.3	-2.2
4	☐	1000.000	964.842	991490.27	1.4009	P	0.5	-3.5
5	☐	10000.00	9966.229	9635455.07	13.8781	A	1.9	-0.3
6	☐	20000.00	20018.94	18928284.72	27.8127	A	1.4	0.1
7	☐	100.000						

y = 0.0014 * x + 0.0635
R = 1.0000
DL = 1.236 ppb
BEC = 45.79 ppb

Weight: <None>
Min Conc: <None>

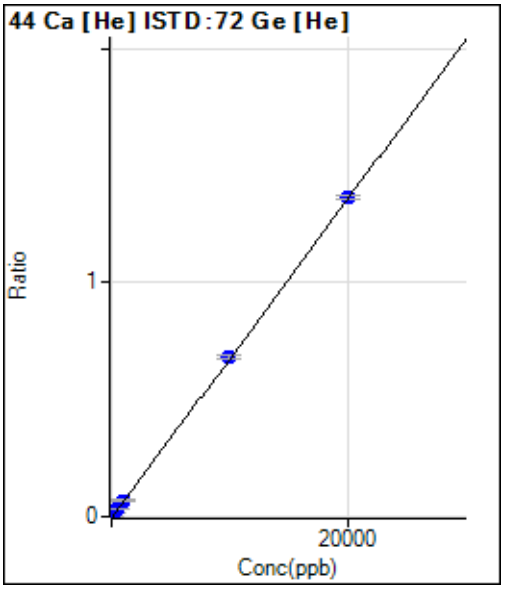
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	43.33	0.0001	P	47.7	
2	☐	200.000	210.968	670.03	0.0009	P	8.8	5.5
3	☐	500.000	479.189	1456.75	0.0020	P	2.5	-4.2
4	☐	1000.000	931.311	2773.59	0.0039	P	9.3	-6.9
5	☐	10000.00	10017.81	28869.20	0.0416	P	4.1	0.2
6	☐	20000.00	19994.93	56438.55	0.0829	P	2.2	0.0
7	☐	100.000						

y = 4.1452E-006 * x + 5.9479E-005
R = 1.0000
DL = 20.55 ppb
BEC = 14.35 ppb

Weight: <None>
Min Conc: <None>

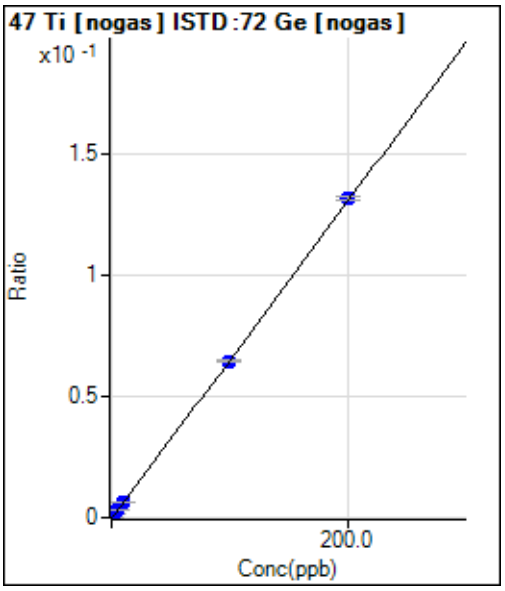


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	540.02	0.0007	P	26.8	
2	☐	200.000	206.152	10623.18	0.0148	P	3.1	3.1
3	☐	500.000	518.731	25731.37	0.0361	P	2.5	3.7
4	☐	1000.000	1010.644	49332.02	0.0697	P	3.2	1.1
5	☐	10000.00	9978.862	473272.73	0.6817	P	1.9	-0.2
6	☐	20000.00	20009.50	929635.46	1.3661	P	1.6	0.0
7	☐	100.000						

y = 6.8236E-005 * x + 7.4281E-004
R = 1.0000
DL = 8.736 ppb
BEC = 10.89 ppb

Weight: <None>
Min Conc: <None>

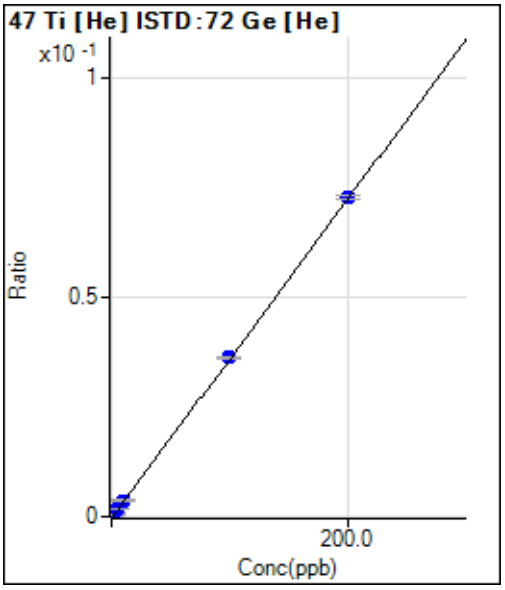
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	293.38	0.0001	P	74.1	
2	☐	2.000	1.861	2916.95	0.0014	P	13.4	-7.0
3	☐	5.000	4.633	6784.69	0.0032	P	6.3	-7.3
4	☐	10.000	9.483	13521.74	0.0064	P	1.1	-5.2
5	☐	100.000	98.423	132305.79	0.0647	P	1.5	-1.6
6	☐	200.000	200.825	266660.51	0.1318	P	1.1	0.4
7	☐	1.000						

y = 6.5581E-004 * x + 1.3749E-004
R = 1.0000
DL = 0.4662 ppb
BEC = 0.2096 ppb

Weight: <None>
Min Conc: <None>

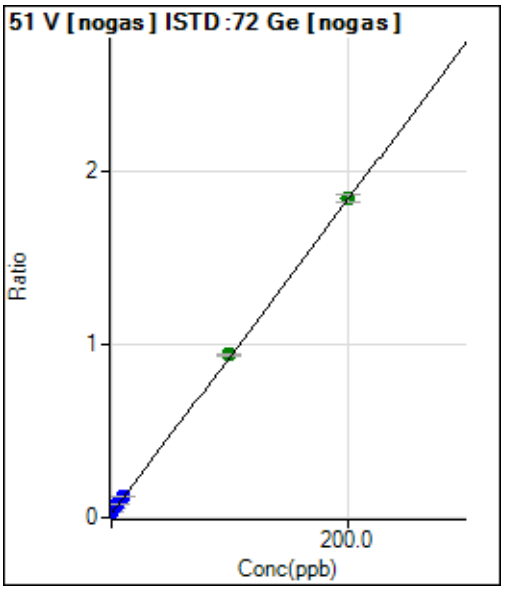


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3.33	0.0000	P	173.	
2	☐	2.000	1.906	500.02	0.0007	P	16.1	-4.7
3	☐	5.000	4.863	1260.06	0.0018	P	12.8	-2.7
4	☐	10.000	10.210	2630.23	0.0037	P	9.4	2.1
5	☐	100.000	99.750	25170.54	0.0363	P	1.2	-0.2
6	☐	200.000	200.119	49492.37	0.0727	P	0.6	0.1
7	☐	1.000						

y = 3.6337E-004 * x + 4.5791E-006
R = 1.0000
DL = 0.06548 ppb
BEC = 0.0126 ppb

Weight: <None>
Min Conc: <None>

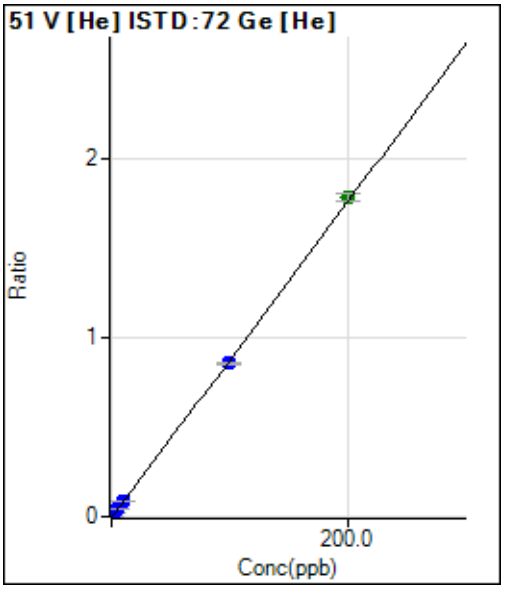
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	70487.13	0.0328	P	3.5	
2	☐	2.000	1.998	109487.37	0.0509	P	1.2	-0.1
3	☐	5.000	5.172	170009.70	0.0797	P	2.8	3.4
4	☐	10.000	9.762	257919.87	0.1213	P	1.9	-2.4
5	☐	100.000	100.177	1923867.78	0.9407	A	1.3	0.2
6	☐	200.000	199.919	3730852.86	1.8447	A	1.8	0.0
7	☐	1.000						

y = 0.0091 * x + 0.0328
R = 1.0000
DL = 0.3793 ppb
BEC = 3.619 ppb

Weight: <None>
Min Conc: <None>

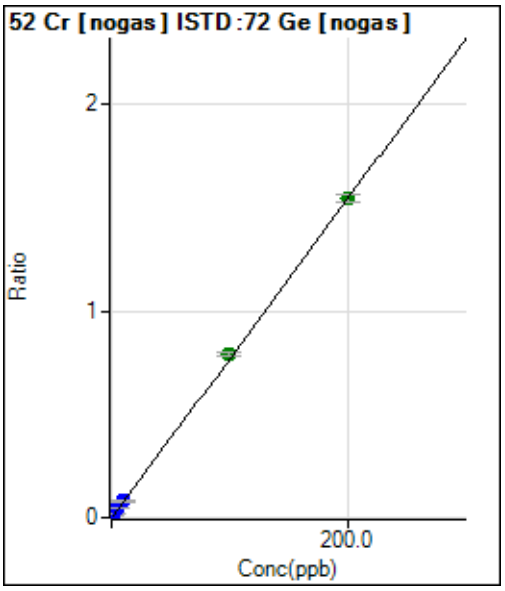


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1505.62	0.0021	P	4.2	
2	☐	2.000	1.948	13848.53	0.0193	P	3.3	-2.6
3	☐	5.000	4.896	32307.89	0.0454	P	0.6	-2.1
4	☐	10.000	9.548	61246.67	0.0865	P	0.9	-4.5
5	☐	100.000	96.549	594450.98	0.8561	P	1.2	-3.5
6	☐	200.000	201.751	1215852.45	1.7868	A	1.9	0.9
7	☐	1.000						

y = 0.0088 * x + 0.0021
R = 0.9998
DL = 0.02968 ppb
BEC = 0.2341 ppb

Weight: <None>
Min Conc: <None>

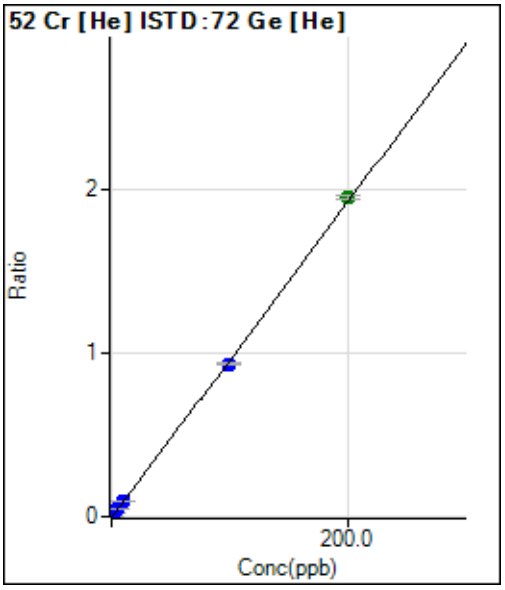
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	11917.37	0.0055	P	7.9	
2	☐	2.000	1.916	43815.32	0.0204	P	1.9	-4.2
3	☐	5.000	4.986	94127.19	0.0441	P	3.2	-0.3
4	☐	10.000	9.641	170372.96	0.0801	P	2.8	-3.6
5	☐	100.000	101.601	1618437.48	0.7914	A	2.1	1.6
6	☐	200.000	199.219	3127115.99	1.5464	A	2.5	-0.4
7	☐	1.000						

y = 0.0077 * x + 0.0055
R = 1.0000
DL = 0.1703 ppb
BEC = 0.7174 ppb

Weight: <None>
Min Conc: <None>

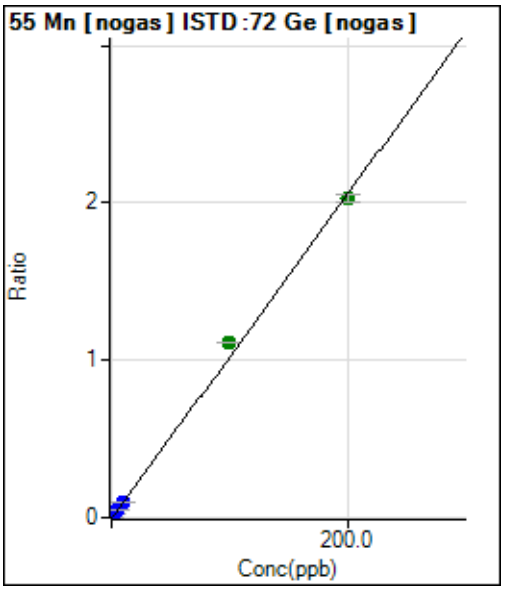


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1546.77	0.0021	P	18.1	
2	☐	2.000	1.997	15356.79	0.0214	P	1.0	-0.1
3	☐	5.000	4.895	35163.48	0.0494	P	2.3	-2.1
4	☐	10.000	9.612	67184.34	0.0949	P	0.7	-3.9
5	☐	100.000	96.187	646209.52	0.9307	P	1.6	-3.8
6	☐	200.000	201.929	1328203.39	1.9515	A	1.3	1.0
7	☐	1.000						

y = 0.0097 * x + 0.0021
R = 0.9997
DL = 0.1194 ppb
BEC = 0.2204 ppb

Weight: <None>
Min Conc: <None>

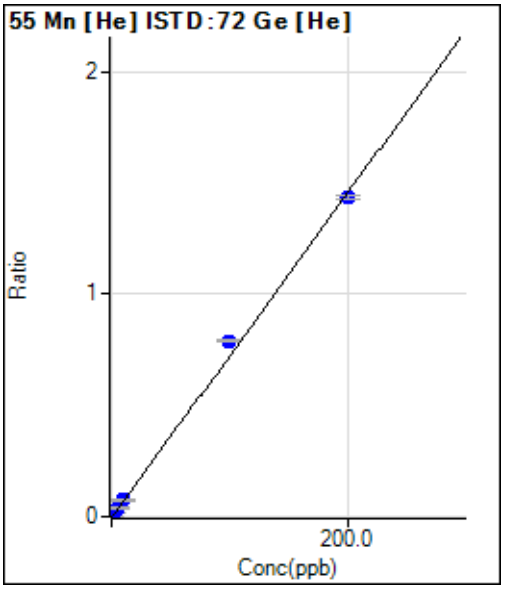
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6768.02	0.0031	P	4.7	
2	☐	2.000	2.009	51371.47	0.0239	P	3.0	0.5
3	☐	5.000	4.818	112878.34	0.0529	P	2.1	-3.6
4	☐	10.000	9.484	214903.14	0.1011	P	2.7	-5.2
5	☐	100.000	107.441	2275201.84	1.1124	A	0.9	7.4
6	☐	200.000	196.310	4104618.90	2.0299	A	2.8	-1.8
7	☐	1.000						

y = 0.0103 * x + 0.0031
R = 0.9990
DL = 0.04344 ppb
BEC = 0.3051 ppb

Weight: <None>
Min Conc: <None>

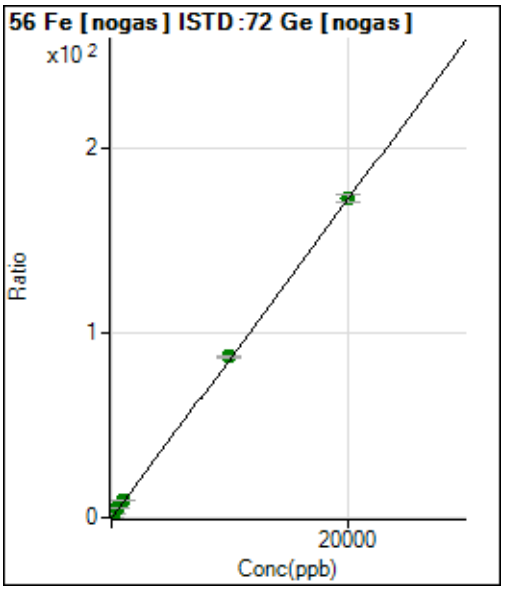


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1036.71	0.0014	P	13.0	
2	☐	2.000	2.143	12250.94	0.0171	P	3.6	7.1
3	☐	5.000	5.118	27630.81	0.0388	P	3.9	2.4
4	☐	10.000	9.873	52056.46	0.0736	P	1.3	-1.3
5	☐	100.000	107.572	546691.61	0.7873	P	0.9	7.6
6	☐	200.000	196.216	976530.76	1.4349	P	0.8	-1.9
7	☐	1.000						

y = 0.0073 * x + 0.0014
R = 0.9990
DL = 0.07635 ppb
BEC = 0.1953 ppb

Weight: <None>
Min Conc: <None>

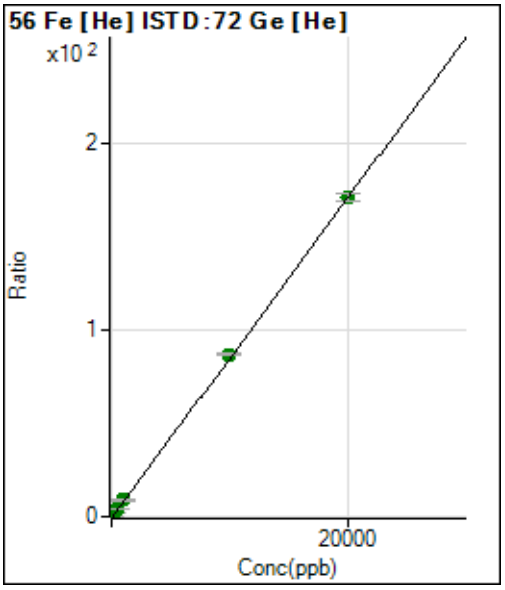
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1073032.75	0.4992	P	1.7	
2	☐	200.000	206.074	4896107.22	2.2771	A	2.3	3.0
3	☐	500.000	500.857	10286851.30	4.8203	A	2.3	0.2
4	☐	1000.000	1002.700	19460015.96	9.1499	A	1.3	0.3
5	☐	10000.00	10037.07	178124324.0	87.0933	A	0.9	0.4
6	☐	20000.00	19981.24	349616554.7	172.885	A	2.3	-0.1
7	☐	100.000						

y = 0.0086 * x + 0.4992
R = 1.0000
DL = 2.983 ppb
BEC = 57.86 ppb

Weight: <None>
Min Conc: <None>

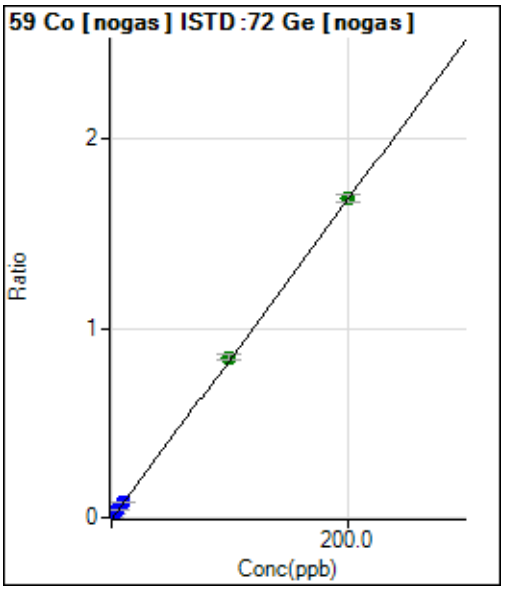


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	14158.88	0.0195	P	29.7	
2	☐	200.000	216.790	1349400.92	1.8814	A	2.8	8.4
3	☐	500.000	526.629	3233846.41	4.5424	A	1.7	5.3
4	☐	1000.000	1020.156	6214795.53	8.7811	A	0.9	2.0
5	☐	10000.00	10128.03	60408239.10	87.0039	A	1.7	1.3
6	☐	20000.00	19934.14	116511784.9	171.223	A	1.9	-0.3
7	☐	100.000						

y = 0.0086 * x + 0.0195
R = 1.0000
DL = 2.02 ppb
BEC = 2.27 ppb

Weight: <None>
Min Conc: <None>

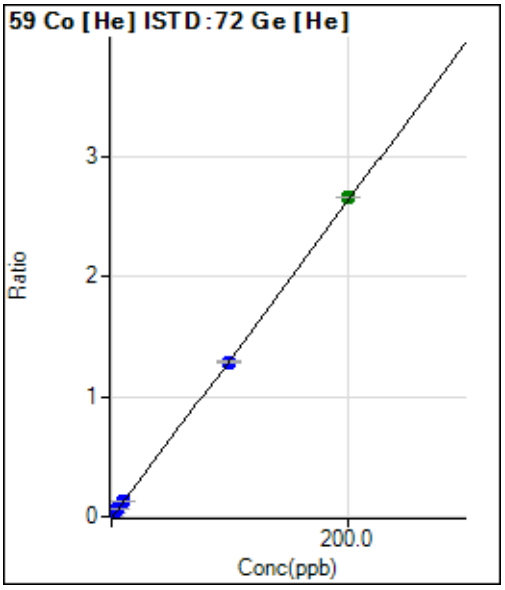
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	446.68	0.0002	P	22.9	
2	☐	2.000	1.931	35464.42	0.0165	P	0.6	-3.5
3	☐	5.000	4.778	86434.42	0.0405	P	2.6	-4.4
4	☐	10.000	9.606	172735.66	0.0812	P	2.0	-3.9
5	☐	100.000	100.340	1730931.12	0.8465	A	3.5	0.3
6	☐	200.000	199.856	3408962.45	1.6859	A	2.9	-0.1
7	☐	1.000						

y = 0.0084 * x + 2.0711E-004
R = 1.0000
DL = 0.0169 ppb
BEC = 0.02456 ppb

Weight: <None>
Min Conc: <None>

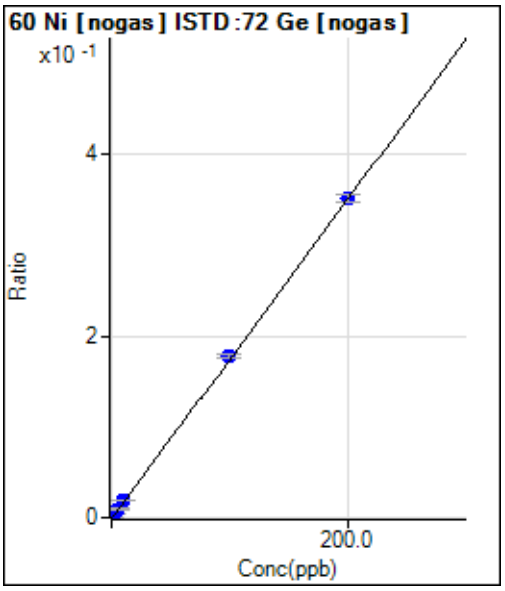


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	170.00	0.0002	P	12.5	
2	☐	2.000	1.931	18479.47	0.0258	P	3.9	-3.4
3	☐	5.000	5.023	47434.22	0.0666	P	1.2	0.5
4	☐	10.000	9.775	91612.86	0.1294	P	1.6	-2.3
5	☐	100.000	97.291	893063.43	1.2862	P	1.6	-2.7
6	☐	200.000	201.366	1811765.65	2.6619	A	0.1	0.7
7	☐	1.000						

y = 0.0132 * x + 2.3393E-004
R = 0.9999
DL = 0.006642 ppb
BEC = 0.0177 ppb

Weight: <None>
Min Conc: <None>

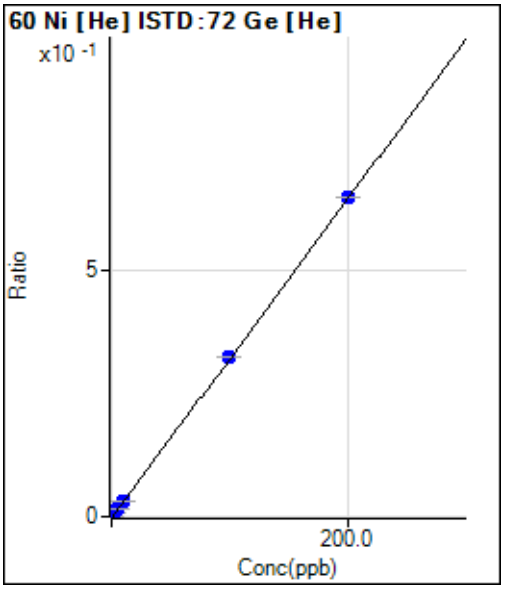
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	650.03	0.0003	P	7.6	
2	☐	2.000	2.013	8268.67	0.0038	P	1.8	0.7
3	☐	5.000	5.134	19920.92	0.0093	P	4.1	2.7
4	☐	10.000	10.409	39589.34	0.0186	P	4.5	4.1
5	☐	100.000	100.879	363720.98	0.1778	P	1.9	0.9
6	☐	200.000	199.537	710700.12	0.3514	P	2.4	-0.2
7	☐	1.000						

y = 0.0018 * x + 3.0203E-004
R = 1.0000
DL = 0.03906 ppb
BEC = 0.1716 ppb

Weight: <None>
Min Conc: <None>

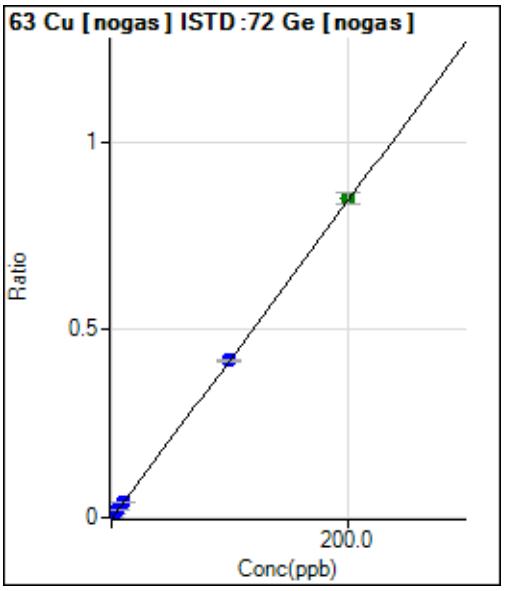


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	170.00	0.0002	P	20.7	
2	☐	2.000	2.124	5110.80	0.0071	P	11.1	6.2
3	☐	5.000	5.218	12224.21	0.0172	P	1.1	4.4
4	☐	10.000	9.871	22841.06	0.0323	P	2.1	-1.3
5	☐	100.000	99.941	225382.07	0.3246	P	0.7	-0.1
6	☐	200.000	200.029	441980.19	0.6494	P	0.5	0.0
7	☐	1.000						

y = 0.0032 * x + 2.3365E-004
R = 1.0000
DL = 0.0447 ppb
BEC = 0.07199 ppb

Weight: <None>
Min Conc: <None>

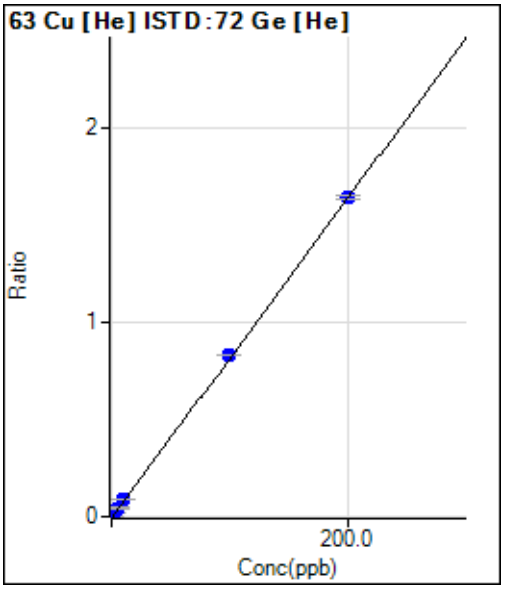
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1500.09	0.0007	P	9.6	
2	☐	2.000	1.991	19610.62	0.0091	P	1.6	-0.4
3	☐	5.000	4.967	46311.75	0.0217	P	3.1	-0.7
4	☐	10.000	9.778	89429.61	0.0421	P	2.0	-2.2
5	☐	100.000	98.767	855759.80	0.4184	P	0.8	-1.2
6	☐	200.000	200.629	1717705.03	0.8492	A	3.0	0.3
7	☐	1.000						

y = 0.0042 * x + 6.9793E-004
R = 1.0000
DL = 0.04746 ppb
BEC = 0.165 ppb

Weight: <None>
Min Conc: <None>

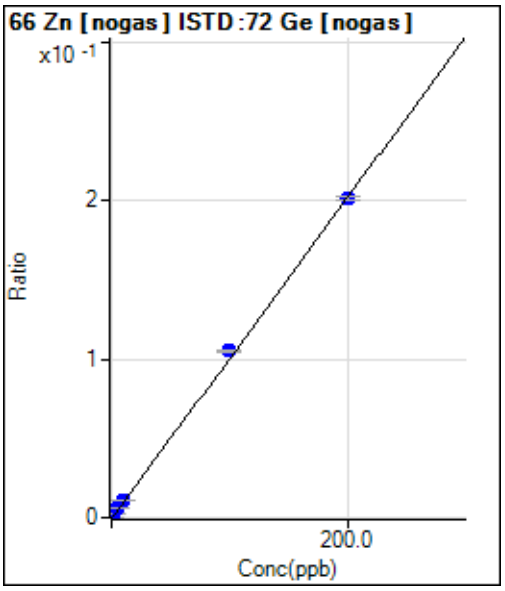


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	733.36	0.0010	P	13.0	
2	☐	2.000	2.066	12901.41	0.0180	P	1.2	3.3
3	☐	5.000	5.257	31477.26	0.0442	P	2.5	5.1
4	☐	10.000	10.254	60369.09	0.0853	P	0.3	2.5
5	☐	100.000	100.938	576841.36	0.8307	P	0.4	0.9
6	☐	200.000	199.511	1116773.26	1.6409	P	0.6	-0.2
7	☐	1.000						

y = 0.0082 * x + 0.0010
R = 1.0000
DL = 0.04772 ppb
BEC = 0.1226 ppb

Weight: <None>
Min Conc: <None>

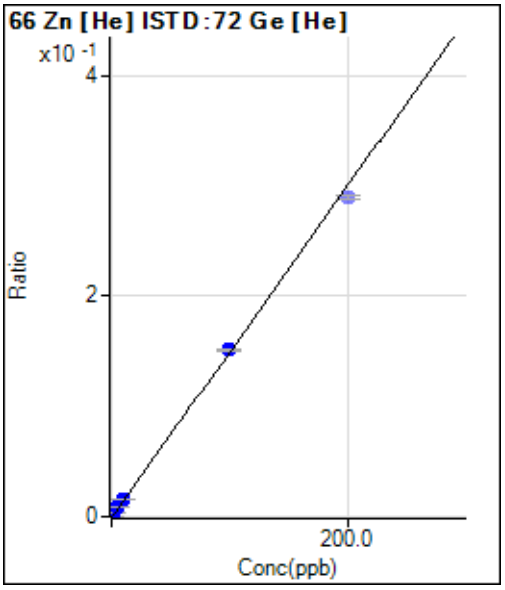
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	476.68	0.0002	P	5.3	
2	☐	2.000	2.198	5280.83	0.0025	P	5.2	9.9
3	☐	5.000	5.698	12824.66	0.0060	P	4.0	14.0
4	☐	10.000	10.204	22530.83	0.0106	P	4.2	2.0
5	☐	100.000	103.329	215157.16	0.1052	P	0.8	3.3
6	☐	200.000	198.306	407935.50	0.2017	P	0.9	-0.8
7	☐	1.000						

y = 0.0010 * x + 2.2187E-004
R = 0.9998
DL = 0.03483 ppb
BEC = 0.2184 ppb

Weight: <None>
Min Conc: <None>

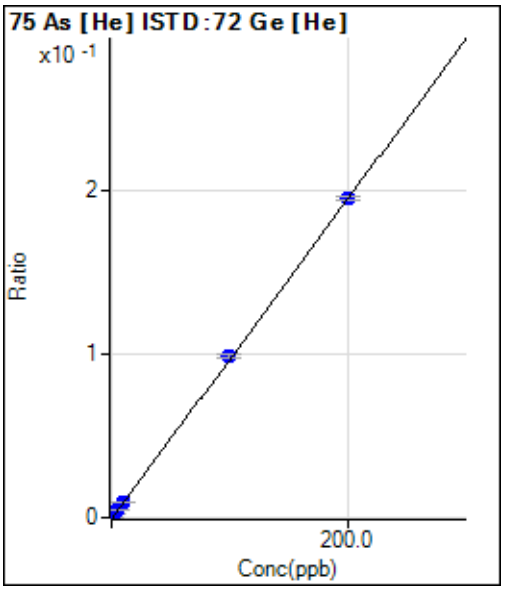


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	250.01	0.0003	P	17.9	
2	☐	2.000	1.869	2266.85	0.0032	P	14.9	-6.5
3	☐	5.000	5.498	6144.46	0.0086	P	3.7	10.0
4	☐	10.000	10.052	10963.44	0.0155	P	2.0	0.5
5	☐	100.000	99.973	104851.00	0.1510	P	0.5	0.0
6	☑	200.000		197044.10	0.2895	P	0.7	
7	☐	1.000						

y = 0.0015 * x + 3.4404E-004
R = 1.0000
DL = 0.1227 ppb
BEC = 0.2283 ppb

Weight: <None>
Min Conc: <None>

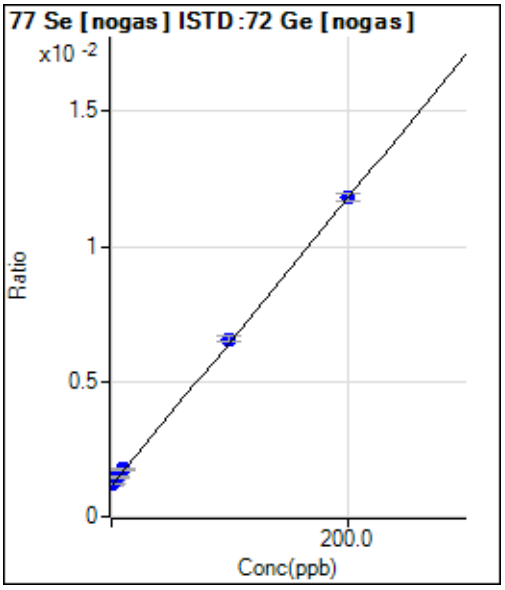
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	80.00	0.0001	P	21.5	
2	☐	2.000	2.078	1541.18	0.0021	P	5.9	3.9
3	☐	5.000	5.071	3621.48	0.0051	P	3.3	1.4
4	☐	10.000	9.956	6991.37	0.0099	P	0.9	-0.4
5	☐	100.000	101.096	68950.45	0.0993	P	1.7	1.1
6	☐	200.000	199.452	133269.52	0.1958	P	0.7	-0.3
7	☐	1.000						

y = 9.8117E-004 * x + 1.0992E-004
R = 1.0000
DL = 0.07239 ppb
BEC = 0.112 ppb

Weight: <None>
Min Conc: <None>

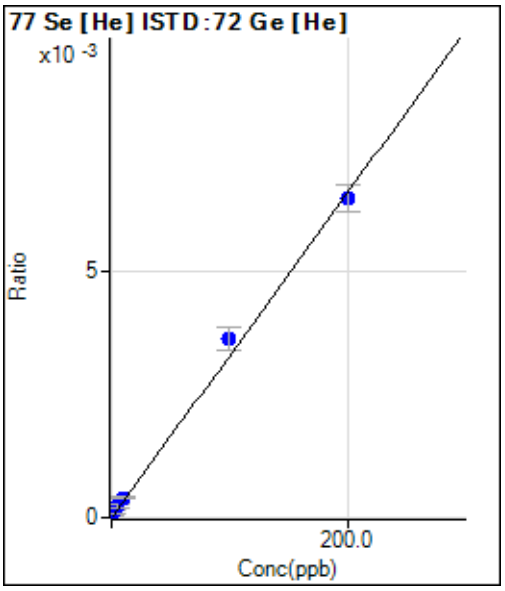


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2596.89	0.0012	P	11.0	
2	☐	2.000	1.648	2786.93	0.0013	P	7.7	-17.6
3	☐	5.000	5.021	3150.33	0.0015	P	4.2	0.4
4	☐	10.000	10.280	3737.10	0.0018	P	4.0	2.8
5	☐	100.000	100.957	13461.81	0.0066	P	2.4	1.0
6	☐	200.000	199.511	23915.91	0.0118	P	2.4	-0.2
7	☐	1.000						

y = 5.3217E-005 * x + 0.0012
R = 1.0000
DL = 7.513 ppb
BEC = 22.72 ppb

Weight: <None>
Min Conc: <None>

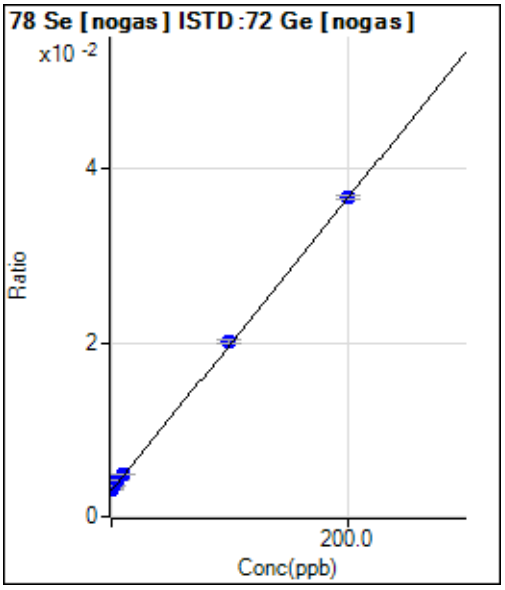
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0000	P	49.4	
2	☐	2.000	2.543	80.00	0.0001	P	57.0	27.1
3	☐	5.000	6.705	176.67	0.0002	P	34.2	34.1
4	☐	10.000	11.436	286.68	0.0004	P	11.4	14.4
5	☐	100.000	108.913	2513.55	0.0036	P	12.6	8.9
6	☐	200.000	195.424	4413.96	0.0065	P	7.9	-2.3
7	☐	1.000						

y = 3.3023E-005 * x + 2.7437E-005
R = 0.9986
DL = 1.231 ppb
BEC = 0.8308 ppb

Weight: <None>
Min Conc: <None>

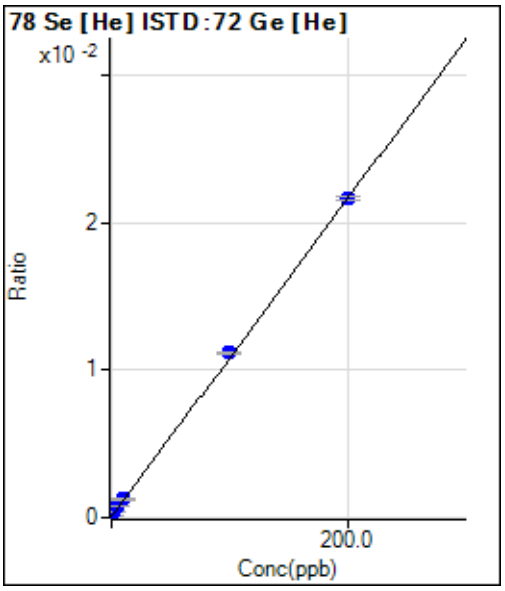


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6808.07	0.0032	P	5.0	
2	☐	2.000	1.697	7428.30	0.0035	P	0.7	-15.1
3	☐	5.000	6.071	8942.34	0.0042	P	2.5	21.4
4	☐	10.000	9.694	10209.70	0.0048	P	0.9	-3.1
5	☐	100.000	100.937	41233.75	0.0202	P	1.6	0.9
6	☐	200.000	199.523	74338.44	0.0368	P	1.0	-0.2
7	☐	1.000						

y = 1.6833E-004 * x + 0.0032
R = 1.0000
DL = 2.825 ppb
BEC = 18.82 ppb

Weight: <None>
Min Conc: <None>

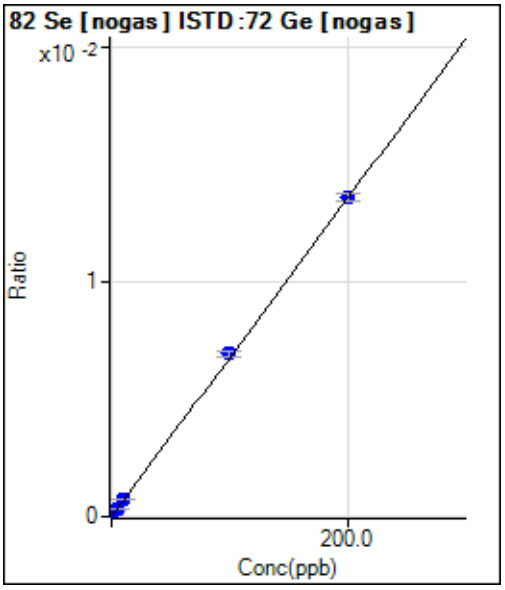
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	129.33	0.0002	P	6.4	
2	☐	2.000	1.728	261.33	0.0004	P	15.0	-13.6
3	☐	5.000	5.272	531.34	0.0007	P	5.6	5.4
4	☐	10.000	10.239	907.36	0.0013	P	7.4	2.4
5	☐	100.000	101.900	7756.34	0.0112	P	1.5	1.9
6	☐	200.000	199.034	14732.62	0.0216	P	1.6	-0.5
7	☐	1.000						

y = 1.0787E-004 * x + 1.7787E-004
R = 0.9999
DL = 0.316 ppb
BEC = 1.649 ppb

Weight: <None>
Min Conc: <None>

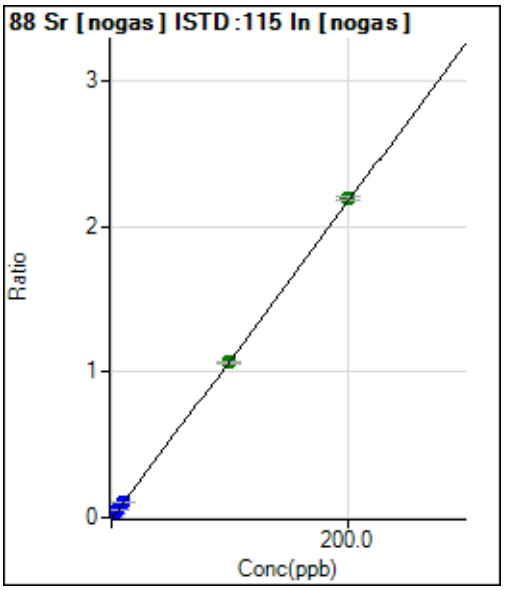


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	150.00	0.0001	P	24.3	
2	☐	2.000	2.148	463.35	0.0002	P	7.0	7.4
3	☐	5.000	4.309	773.36	0.0004	P	3.4	-13.8
4	☐	10.000	10.130	1610.10	0.0008	P	3.3	1.3
5	☐	100.000	101.093	14165.72	0.0069	P	3.9	1.1
6	☐	200.000	199.463	27507.82	0.0136	P	2.1	-0.3
7	☐	1.000						

y = 6.7836E-005 * x + 6.9828E-005
R = 1.0000
DL = 0.7498 ppb
BEC = 1.029 ppb

Weight: <None>
Min Conc: <None>

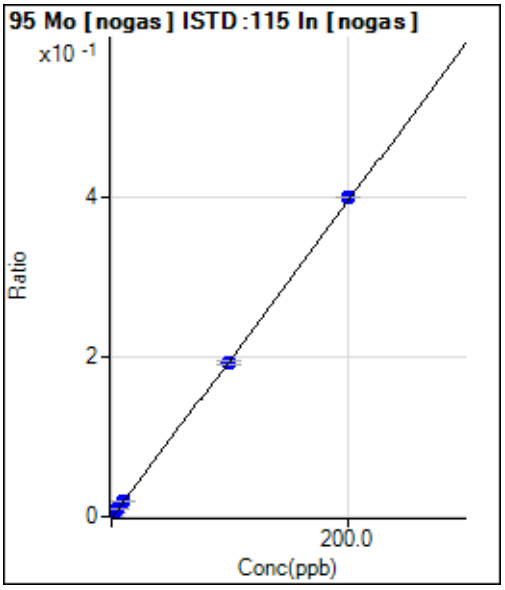
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1463.42	0.0006	P	14.8	
2	☐	2.000	1.858	48562.49	0.0209	P	2.1	-7.1
3	☐	5.000	4.593	117492.92	0.0508	P	2.0	-8.1
4	☐	10.000	9.316	235093.95	0.1023	P	1.2	-6.8
5	☐	100.000	97.625	2369884.44	1.0664	A	0.2	-2.4
6	☐	200.000	201.233	4775939.93	2.1975	A	0.9	0.6
7	☐	1.000						

y = 0.0109 * x + 6.2551E-004
R = 0.9999
DL = 0.02546 ppb
BEC = 0.0573 ppb

Weight: <None>
Min Conc: <None>

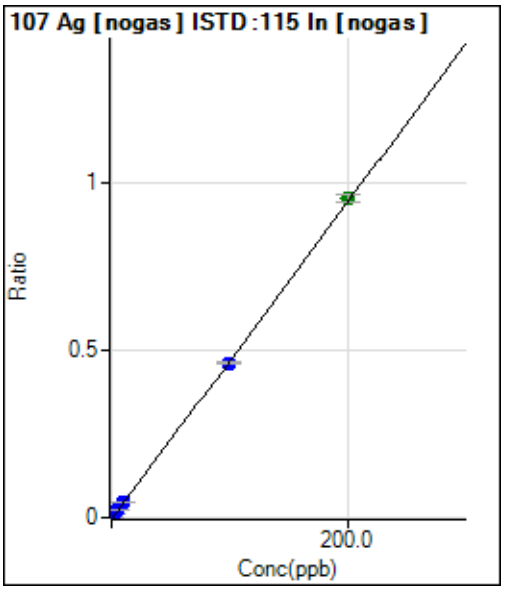


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	176.67	0.0001	P	41.7	
2	☐	2.000	1.888	8862.33	0.0038	P	4.6	-5.6
3	☐	5.000	4.826	22290.78	0.0096	P	2.3	-3.5
4	☐	10.000	9.498	43392.70	0.0189	P	3.1	-5.0
5	☐	100.000	96.701	425791.83	0.1916	P	2.4	-3.3
6	☐	200.000	201.680	868326.34	0.3995	P	0.3	0.8
7	☐	1.000						

y = 0.0020 * x + 7.5713E-005
R = 0.9998
DL = 0.04777 ppb
BEC = 0.03823 ppb

Weight: <None>
Min Conc: <None>

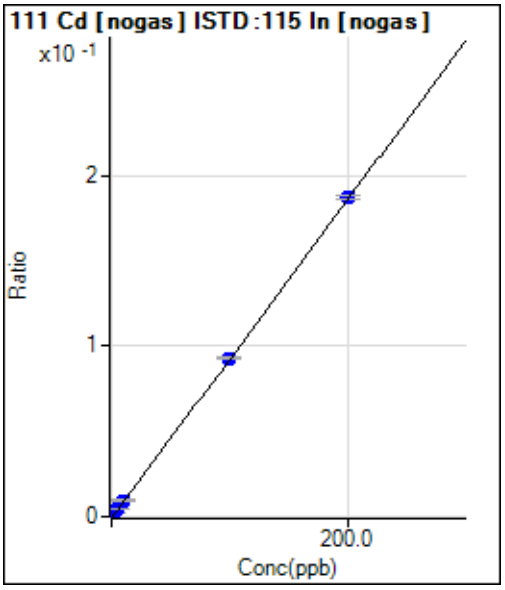
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	50.00	0.0000	P	35.4	
2	☐	2.000	1.937	21346.46	0.0092	P	2.0	-3.1
3	☐	5.000	4.890	53587.64	0.0232	P	3.6	-2.2
4	☐	10.000	9.924	107959.71	0.0470	P	0.8	-0.8
5	☐	100.000	97.396	1024466.65	0.4610	P	1.1	-2.6
6	☐	200.000	201.309	2070401.48	0.9528	A	2.2	0.7
7	☐	1.000						

y = 0.0047 * x + 2.1425E-005
R = 0.9999
DL = 0.004803 ppb
BEC = 0.004527 ppb

Weight: <None>
Min Conc: <None>

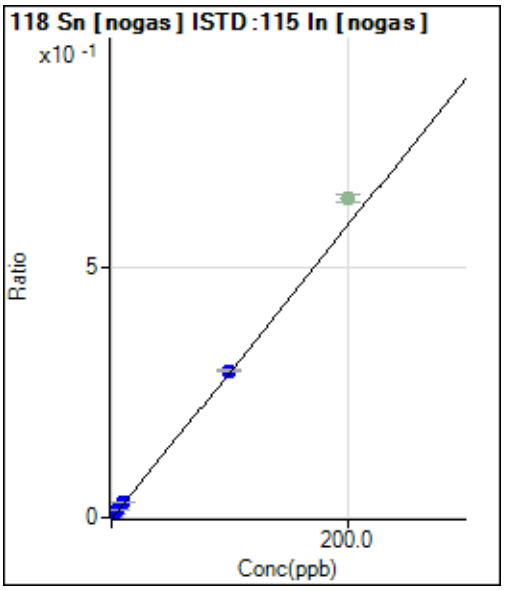


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	0.00	0.0000	P		
2	☐	2.000	1.996	4337.28	0.0019	P	6.9	-0.2
3	☐	5.000	4.916	10633.40	0.0046	P	6.6	-1.7
4	☐	10.000	10.216	21957.20	0.0096	P	1.6	2.2
5	☐	100.000	99.153	206111.48	0.0928	P	1.2	-0.8
6	☐	200.000	200.415	407464.05	0.1875	P	0.7	0.2
7	☐	1.000						

y = 9.3545E-004 * x + 0.0000E+000
R = 1.0000
DL = 0 ppb
BEC = 0 ppb

Weight: <None>
Min Conc: <None>

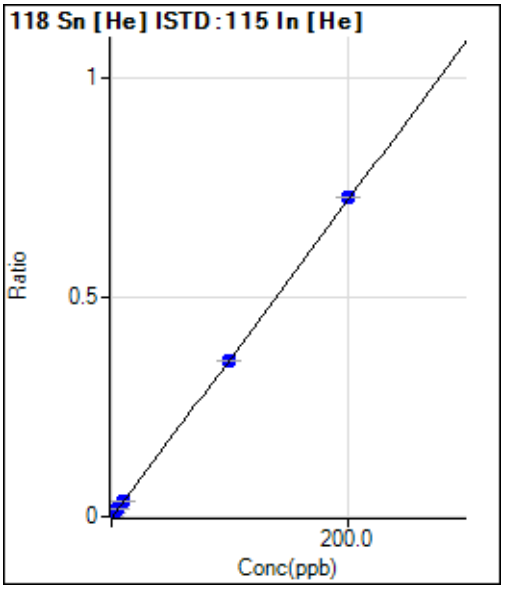
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1160.06	0.0005	P	15.6	
2	☐	2.000	1.912	14205.93	0.0061	P	3.9	-4.4
3	☐	5.000	4.869	34247.05	0.0148	P	3.8	-2.6
4	☐	10.000	9.853	67643.35	0.0294	P	2.5	-1.5
5	☐	100.000	100.023	654188.78	0.2944	P	1.1	0.0
6	☑	200.000		1389496.44	0.6393	A	2.2	
7	☐	1.000						

y = 0.0029 * x + 4.9615E-004
R = 1.0000
DL = 0.07878 ppb
BEC = 0.1689 ppb

Weight: <None>
Min Conc: <None>

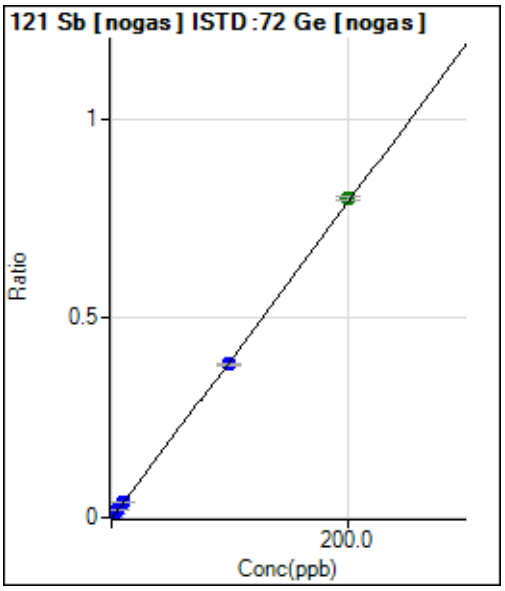


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	620.02	0.0005	P	18.0	
2	☐	2.000	2.021	8692.31	0.0078	P	2.5	1.1
3	☐	5.000	4.997	20542.19	0.0186	P	2.4	-0.1
4	☐	10.000	10.029	40122.68	0.0368	P	0.7	0.3
5	☐	100.000	98.035	389089.90	0.3549	P	0.1	-2.0
6	☐	200.000	200.981	765327.12	0.7270	P	0.5	0.5
7	☐	1.000						

y = 0.0036 * x + 5.4297E-004
R = 0.9999
DL = 0.08111 ppb
BEC = 0.1502 ppb

Weight: <None>
Min Conc: <None>

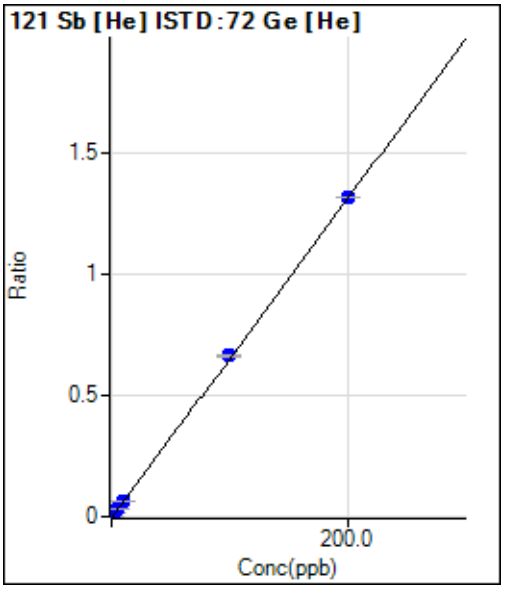
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	873.37	0.0004	P	15.1	
2	☐	2.000	1.859	16731.54	0.0078	P	2.7	-7.1
3	☐	5.000	4.717	40807.69	0.0191	P	1.8	-5.7
4	☐	10.000	9.380	80008.65	0.0376	P	2.3	-6.2
5	☐	100.000	96.608	784645.17	0.3836	P	0.7	-3.4
6	☐	200.000	201.736	1619335.29	0.8007	A	1.2	0.9
7	☐	1.000						

y = 0.0040 * x + 4.0680E-004
R = 0.9998
DL = 0.04658 ppb
BEC = 0.1025 ppb

Weight: <None>
Min Conc: <None>

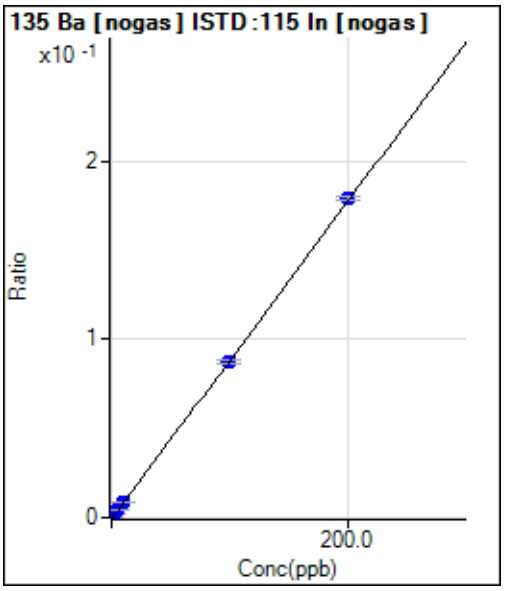


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	416.68	0.0006	P	13.2	
2	☐	2.000	2.009	9886.24	0.0138	P	4.3	0.4
3	☐	5.000	4.946	23569.39	0.0331	P	3.7	-1.1
4	☐	10.000	9.844	46217.53	0.0653	P	2.3	-1.6
5	☐	100.000	100.516	459351.40	0.6616	P	1.6	0.5
6	☐	200.000	199.751	894403.58	1.3142	P	0.5	-0.1
7	☐	1.000						

y = 0.0066 * x + 5.7267E-004
R = 1.0000
DL = 0.03456 ppb
BEC = 0.08708 ppb

Weight: <None>
Min Conc: <None>

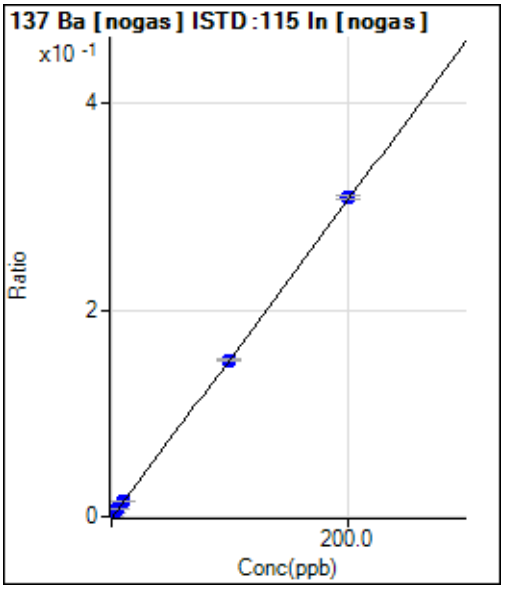
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	63.33	0.0000	P	32.9	
2	☐	2.000	1.904	4007.19	0.0017	P	4.0	-4.8
3	☐	5.000	4.887	10143.13	0.0044	P	2.1	-2.3
4	☐	10.000	9.716	19961.64	0.0087	P	1.8	-2.8
5	☐	100.000	98.149	194503.51	0.0875	P	1.5	-1.9
6	☐	200.000	200.944	389364.51	0.1792	P	1.2	0.5
7	☐	1.000						

y = 8.9143E-004 * x + 2.7093E-005
R = 0.9999
DL = 0.03004 ppb
BEC = 0.03039 ppb

Weight: <None>
Min Conc: <None>

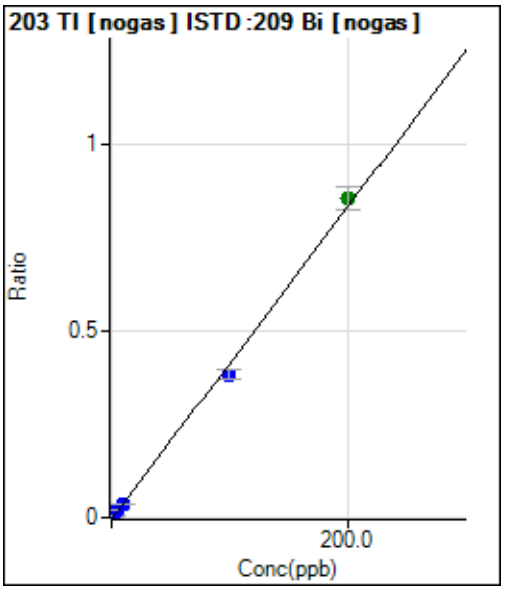


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	183.34	0.0001	P	15.2	
2	☐	2.000	1.945	7128.27	0.0031	P	9.0	-2.7
3	☐	5.000	4.819	17328.91	0.0075	P	3.8	-3.6
4	☐	10.000	9.706	34477.91	0.0150	P	1.5	-2.9
5	☐	100.000	98.355	336346.95	0.1514	P	1.4	-1.6
6	☐	200.000	200.842	671523.43	0.3090	P	0.9	0.4
7	☐	1.000						

y = 0.0015 * x + 7.8391E-005
R = 1.0000
DL = 0.02323 ppb
BEC = 0.05097 ppb

Weight: <None>
Min Conc: <None>

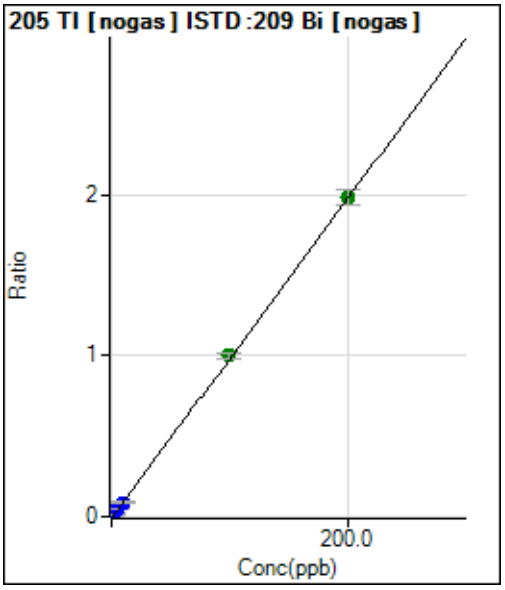
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	46.67	0.0000	P	10.7	
2	☐	2.000	1.780	15971.30	0.0075	P	4.7	-11.0
3	☐	5.000	4.494	40349.76	0.0188	P	2.2	-10.1
4	☐	10.000	8.929	80258.62	0.0374	P	5.7	-10.7
5	☐	100.000	91.377	781893.35	0.3825	P	6.7	-8.6
6	☐	200.000	204.380	1696486.43	0.8555	A	6.6	2.2
7	☐	1.000						

y = 0.0042 * x + 2.1646E-005
R = 0.9987
DL = 0.00166 ppb
BEC = 0.005172 ppb

Weight: <None>
Min Conc: <None>

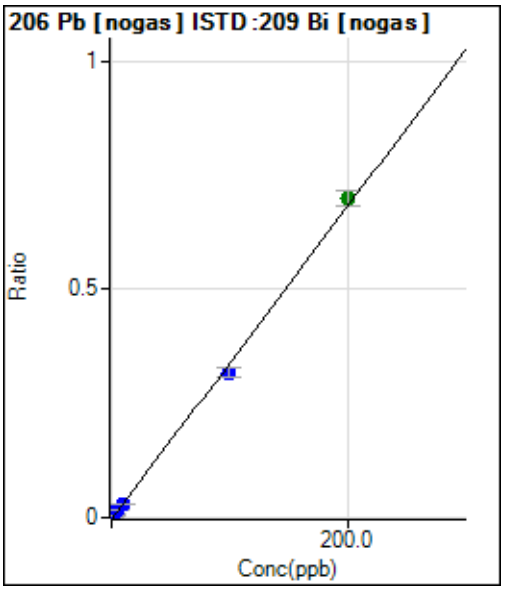


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	186.67	0.0001	P	16.1	
2	☐	2.000	1.770	37746.92	0.0177	P	6.0	-11.5
3	☐	5.000	4.547	96917.95	0.0452	P	1.6	-9.1
4	☐	10.000	8.912	190198.36	0.0886	P	3.6	-10.9
5	☐	100.000	100.730	2047476.27	1.0005	A	3.4	0.7
6	☐	200.000	199.703	3935370.77	1.9834	A	4.3	-0.1
7	☐	1.000						

y = 0.0099 * x + 8.6301E-005
R = 1.0000
DL = 0.00419 ppb
BEC = 0.00869 ppb

Weight: <None>
Min Conc: <None>

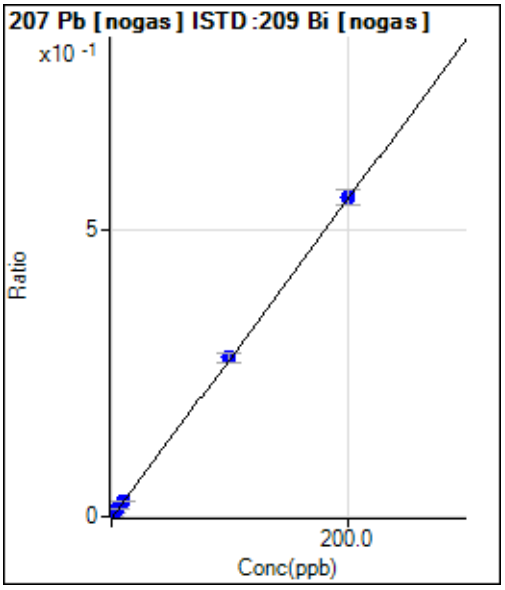
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	113.33	0.0001	P	39.4	
2	☐	2.000	1.815	13409.04	0.0063	P	6.2	-9.2
3	☐	5.000	4.559	33594.72	0.0157	P	3.7	-8.8
4	☐	10.000	9.022	66524.62	0.0310	P	3.8	-9.8
5	☐	100.000	92.294	647138.06	0.3165	P	6.4	-7.7
6	☐	200.000	203.915	1387507.17	0.6993	A	4.4	2.0
7	☐	1.000						

y = 0.0034 * x + 5.2238E-005
R = 0.9990
DL = 0.01801 ppb
BEC = 0.01523 ppb

Weight: <None>
Min Conc: <None>

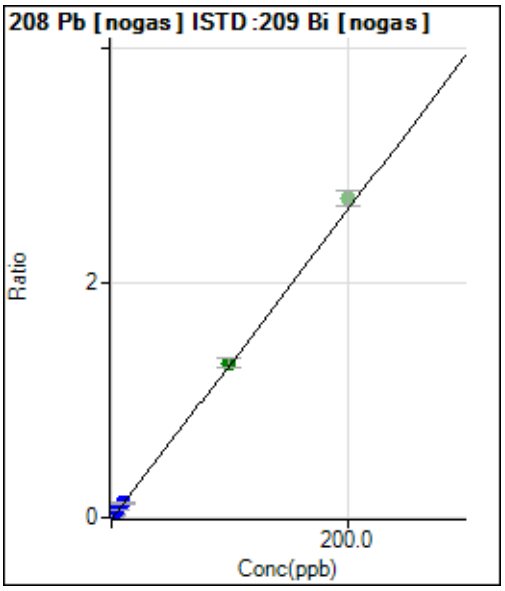


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	113.33	0.0001	P	44.3	
2	☐	2.000	1.946	11674.32	0.0055	P	8.9	-2.7
3	☐	5.000	4.895	29286.39	0.0137	P	1.9	-2.1
4	☐	10.000	9.706	58083.14	0.0271	P	4.6	-2.9
5	☐	100.000	99.551	566410.83	0.2770	P	6.4	-0.4
6	☐	200.000	200.242	1105405.95	0.5572	P	5.0	0.1
7	☐	1.000						

y = 0.0028 * x + 5.3239E-005
R = 1.0000
DL = 0.02543 ppb
BEC = 0.01913 ppb

Weight: <None>
Min Conc: <None>

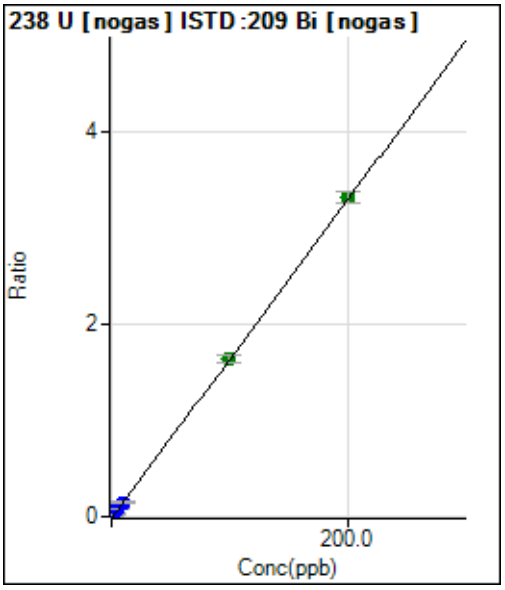
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	523.34	0.0002	P	16.9	
2	☐	2.000	1.870	53281.30	0.0249	P	5.0	-6.5
3	☐	5.000	4.699	133443.05	0.0623	P	1.9	-6.0
4	☐	10.000	9.408	267247.92	0.1245	P	3.8	-5.9
5	☐	100.000	100.077	2703469.18	1.3218	A	5.1	0.1
6	☑	200.000		5409556.51	2.7268	A	5.1	
7	☐	1.000						

y = 0.0132 * x + 2.4396E-004
R = 1.0000
DL = 0.009356 ppb
BEC = 0.01847 ppb

Weight: <None>
Min Conc: <None>

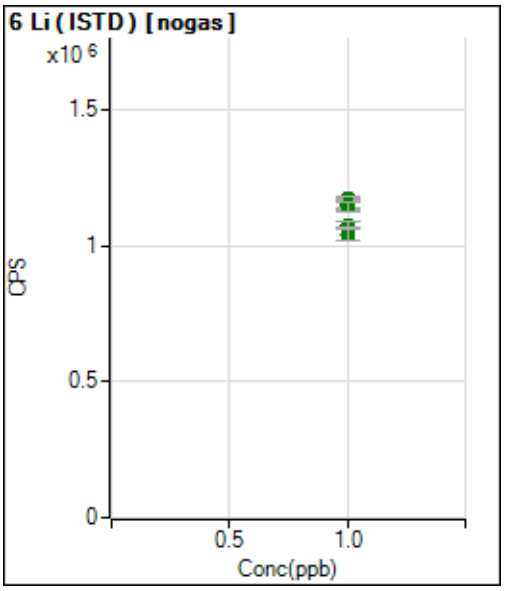


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	43.33	0.0000	P	38.2	
2	☐	2.000	1.783	63107.85	0.0295	P	4.1	-10.8
3	☐	5.000	4.461	158079.15	0.0738	P	1.9	-10.8
4	☐	10.000	8.910	316424.31	0.1474	P	4.2	-10.9
5	☐	100.000	99.147	3355045.26	1.6400	A	4.5	-0.9
6	☐	200.000	200.497	6581242.19	3.3164	A	3.8	0.2
7	☐	1.000						

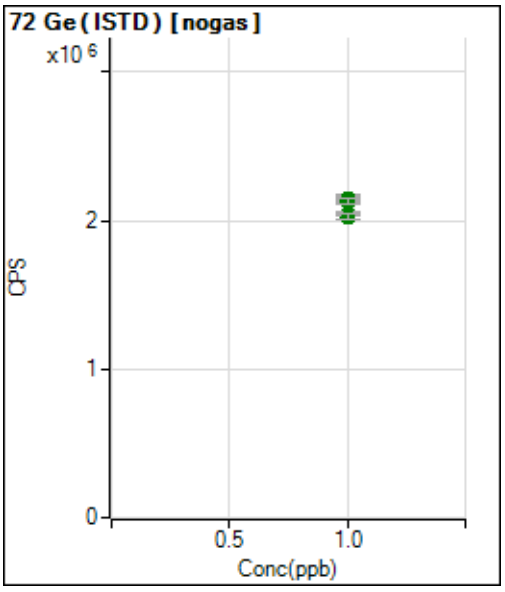
y = 0.0165 * x + 2.0294E-005
R = 1.0000
DL = 0.001407 ppb
BEC = 0.001227 ppb

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d

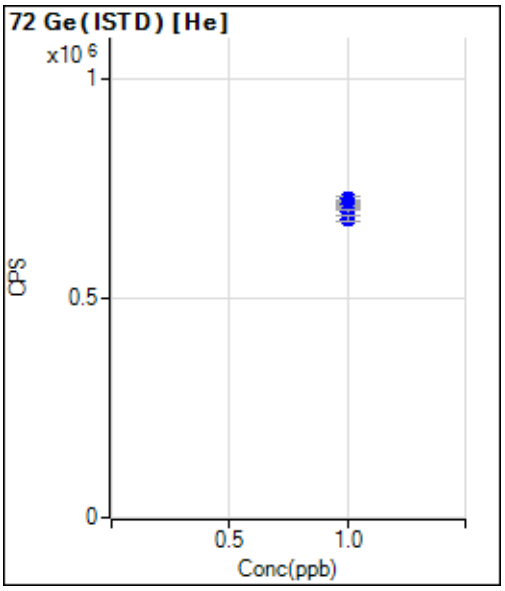


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1174456.68		A	0.4	
2	☐	1.000		1156210.08		A	3.9	
3	☐	1.000		1152016.60		A	2.7	
4	☐	1.000		1143526.45		A	3.3	
5	☐	1.000		1077595.01		A	1.7	
6	☐	1.000		1040170.52		A	3.9	
7	☐	1.000						

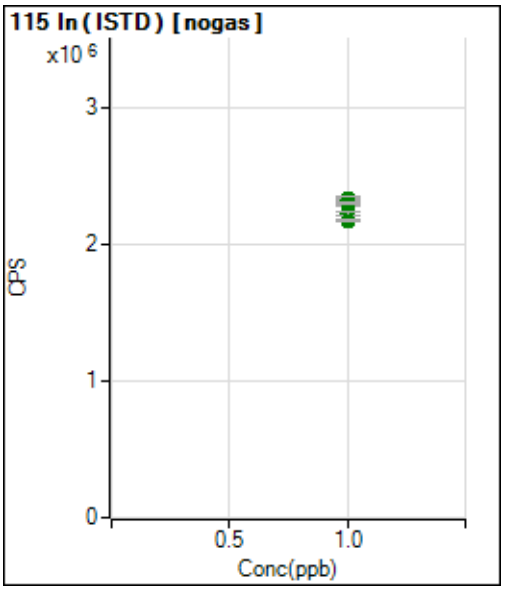


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2150098.77		A	2.2	
2	☐	1.000		2150605.18		A	1.3	
3	☐	1.000		2134711.06		A	1.9	
4	☐	1.000		2127114.19		A	1.8	
5	☐	1.000		2045364.55		A	1.3	
6	☐	1.000		2022818.98		A	2.0	
7	☐	1.000						

Calibration for 017_ICV.d

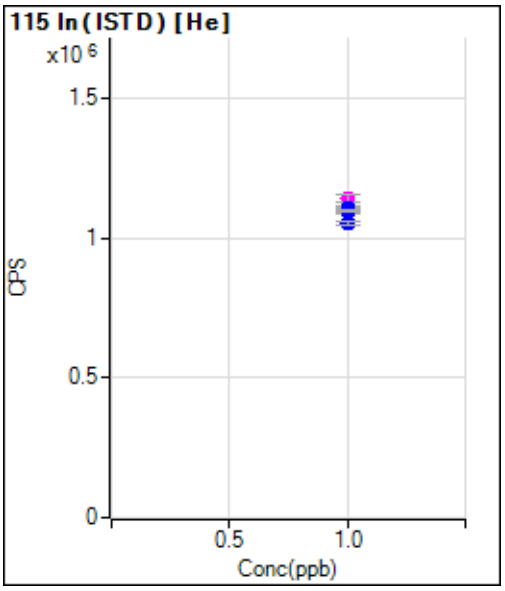


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		727165.93		P	0.8	
2	☐	1.000		717265.10		P	0.3	
3	☐	1.000		711977.12		P	1.3	
4	☐	1.000		707771.58		P	0.7	
5	☐	1.000		694426.24		P	1.5	
6	☐	1.000		680618.66		P	1.8	
7	☐	1.000						

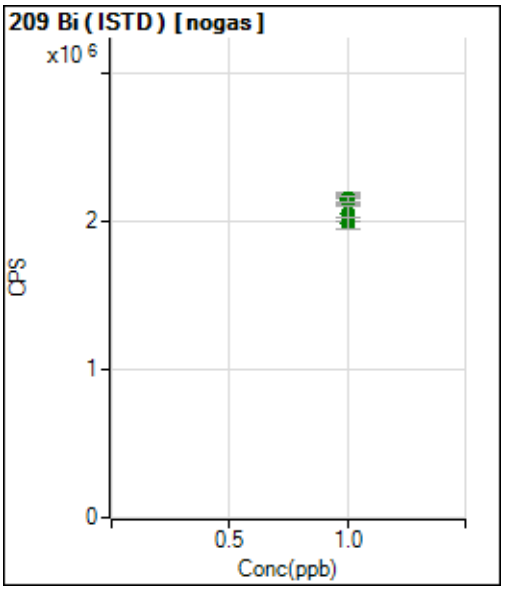


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2337343.41		A	1.0	
2	☐	1.000		2323490.30		A	1.4	
3	☐	1.000		2314806.19		A	2.8	
4	☐	1.000		2297548.11		A	0.7	
5	☐	1.000		2222323.93		A	1.3	
6	☐	1.000		2173339.67		A	0.9	
7	☐	1.000						

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1141849.70		M	2.8	
2	☐	1.000		1107643.03		P	1.0	
3	☐	1.000		1104357.95		P	1.1	
4	☐	1.000		1090517.80		P	0.3	
5	☐	1.000		1096369.12		P	0.4	
6	☐	1.000		1052771.76		P	0.9	
7	☐	1.000						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2153830.70		A	4.0	
2	☐	1.000		2139859.19		A	3.9	
3	☐	1.000		2142331.11		A	1.4	
4	☐	1.000		2147949.76		A	2.1	
5	☐	1.000		2048747.21		A	5.0	
6	☐	1.000		1986337.26		A	3.8	
7	☐	1.000						

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	010CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:02:40-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	18	343.55
B	11	1	nogas	29107	0.00
Al	27	1	nogas	46626	0.08
P	31	1	nogas	24927	0.00
Ti	47	1	nogas	293	24.63
Ni	60	1	nogas	650	1.48
Cu	63	1	nogas	1500	0.62
Zn	66	1	nogas	477	0.67
Se	77	1	nogas	2597	0.37
Se	82	1	nogas	150	16.02
Sr	88	1	nogas	1463	1.08
Mo	95	1	nogas	177	23.18
Ag	107	1	nogas	50	69.28
Sn	118	1	nogas	1160	1.36
Sb	121	1	nogas	873	1.60
Ba	137	1	nogas	183	8.59
Tl	205	1	nogas	187	10.87
Pb	208	1	nogas	523	2.59
Li	7	1	nogas	80051	0.00
Si	28	1	nogas	3874659	0.00
Na	23	2	He	27784	0.00
Mg	24	2	He	713	1.12
Al	27	2	He	1727	1.45
K	39	2	He	46154	0.00
Ca	43	2	He	43	110.86
Ca	44	2	He	540	4.95
V	51	2	He	1506	0.23
Cr	52	2	He	1547	1.16
Mn	55	2	He	1037	1.20
Fe	56	2	He	14159	0.20
Co	59	2	He	170	6.92
Ni	60	2	He	170	12.48
Cu	63	2	He	733	1.86
Zn	66	2	He	250	6.97
As	75	2	He	80	27.56
Sb	121	2	He	417	3.33
Se	78	2	He	129	4.83

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	2150099	2.17
In	115	1	nogas	2337343	0.97

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	nogas	1174457	0.36
Bi	209	1	nogas	2153831	3.96
Ge	72	2	He	727166	0.75
In	115	2	He	1141850	2.75

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	011CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:04:43-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	8610	0.02
B	11	1	nogas	55893	0.01
Al	27	1	nogas	66003	0.01
P	31	1	nogas	30893	0.01
Ti	47	1	nogas	2917	0.42
Ni	60	1	nogas	8269	0.01
Cu	63	1	nogas	19611	0.01
Zn	66	1	nogas	5281	0.11
Se	77	1	nogas	2787	0.23
Se	82	1	nogas	463	1.42
Sr	88	1	nogas	48562	0.00
Mo	95	1	nogas	8862	0.05
Ag	107	1	nogas	21346	0.00
Cd	111	1	nogas	4337	0.16
Sn	118	1	nogas	14206	0.03
Sb	121	1	nogas	16732	0.02
Ba	137	1	nogas	7128	0.11
Tl	205	1	nogas	37747	0.01
Pb	208	1	nogas	53281	0.00
Si	28	1	nogas	3953173	0.00
Na	23	2	He	309328	0.00
Mg	24	2	He	173980	0.00
Al	27	2	He	2907	0.34
K	39	2	He	242482	0.00
Ca	43	2	He	670	1.36
Ca	44	2	He	10623	0.03
V	51	2	He	13849	0.02
Cr	52	2	He	15357	0.01
Mn	55	2	He	12251	0.03
Fe	56	2	He	1349401	0.00
Co	59	2	He	18479	0.02
Ni	60	2	He	5111	0.21
Cu	63	2	He	12901	0.01
Zn	66	2	He	2267	0.65
As	75	2	He	1541	0.37
Sb	121	2	He	9886	0.04
Se	78	2	He	261	5.86

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2150605	1.30	2150099	100.02	70	120	
In	115	1	nogas	2323490	1.41	2337343	99.41	70	120	
Li	6	1	nogas	1156210	3.90	1174457	98.45	70	120	
Bi	209	1	nogas	2139859	3.89	2153831	99.35	70	120	
Ge	72	2	He	717265	0.32	727166	98.64	70	120	
In	115	2	He	1107643	0.98	1141850	97.00	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	012CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:06:46-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	21127	0.00
B	11	1	nogas	96920	0.00
Al	27	1	nogas	98390	0.00
P	31	1	nogas	41436	0.01
Ti	47	1	nogas	6785	0.12
Ni	60	1	nogas	19921	0.01
Cu	63	1	nogas	46312	0.00
Zn	66	1	nogas	12825	0.02
Se	77	1	nogas	3150	0.11
Se	82	1	nogas	773	0.68
Sr	88	1	nogas	117493	0.00
Mo	95	1	nogas	22291	0.00
Ag	107	1	nogas	53588	0.00
Cd	111	1	nogas	10633	0.04
Sn	118	1	nogas	34247	0.01
Sb	121	1	nogas	40808	0.00
Ba	137	1	nogas	17329	0.01
Tl	205	1	nogas	96918	0.00
Pb	208	1	nogas	133443	0.00
Si	28	1	nogas	3868878	0.00
Na	23	2	He	725524	0.00
Mg	24	2	He	427818	0.00
Al	27	2	He	4301	0.19
K	39	2	He	527615	0.00
Ca	43	2	He	1457	0.23
Ca	44	2	He	25731	0.01
V	51	2	He	32308	0.01
Cr	52	2	He	35163	0.01
Mn	55	2	He	27631	0.01
Fe	56	2	He	3233846	0.00
Co	59	2	He	47434	0.00
Ni	60	2	He	12224	0.02
Cu	63	2	He	31477	0.01
Zn	66	2	He	6144	0.07
As	75	2	He	3621	0.13
Sb	121	2	He	23569	0.02
Se	78	2	He	531	0.89

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2134711	1.93	2150099	99.28	70	120	
In	115	1	nogas	2314806	2.76	2337343	99.04	70	120	
Li	6	1	nogas	1152017	2.68	1174457	98.09	70	120	
Bi	209	1	nogas	2142331	1.42	2153831	99.47	70	120	
Ge	72	2	He	711977	1.33	727166	97.91	70	120	
In	115	2	He	1104358	1.10	1141850	96.72	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	013CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:08:48-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	41788	0.00
B	11	1	nogas	161355	0.00
Al	27	1	nogas	159268	0.00
P	31	1	nogas	58738	0.00
Ti	47	1	nogas	13522	0.02
Ni	60	1	nogas	39589	0.01
Cu	63	1	nogas	89430	0.00
Zn	66	1	nogas	22531	0.02
Se	77	1	nogas	3737	0.15
Se	82	1	nogas	1610	0.21
Sr	88	1	nogas	235094	0.00
Mo	95	1	nogas	43393	0.01
Ag	107	1	nogas	107960	0.00
Cd	111	1	nogas	21957	0.01
Sn	118	1	nogas	67643	0.00
Sb	121	1	nogas	80009	0.00
Ba	137	1	nogas	34478	0.00
Tl	205	1	nogas	190198	0.00
Pb	208	1	nogas	267248	0.00
Si	28	1	nogas	3985018	0.00
Na	23	2	He	1487971	0.00
Mg	24	2	He	841972	0.00
Al	27	2	He	6595	0.06
K	39	2	He	991490	0.00
Ca	43	2	He	2774	0.32
Ca	44	2	He	49332	0.01
V	51	2	He	61247	0.00
Cr	52	2	He	67184	0.00
Mn	55	2	He	52056	0.00
Fe	56	2	He	6214796	0.00
Co	59	2	He	91613	0.00
Ni	60	2	He	22841	0.01
Cu	63	2	He	60369	0.00
Zn	66	2	He	10963	0.01
As	75	2	He	6991	0.01
Sb	121	2	He	46218	0.00
Se	78	2	He	907	0.75

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2127114	1.76	2150099	98.93	70	120	
In	115	1	nogas	2297548	0.70	2337343	98.30	70	120	
Li	6	1	nogas	1143526	3.34	1174457	97.37	70	120	
Bi	209	1	nogas	2147950	2.12	2153831	99.73	70	120	
Ge	72	2	He	707772	0.70	727166	97.33	70	120	
In	115	2	He	1090518	0.33	1141850	95.50	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	014CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:10:50-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	414951	0.00
B	11	1	nogas	1346210	0.00
Al	27	1	nogas	1354023	0.00
P	31	1	nogas	352555	0.00
Ti	47	1	nogas	132306	0.00
Ni	60	1	nogas	363721	0.00
Cu	63	1	nogas	855760	0.00
Zn	66	1	nogas	215157	0.00
Se	77	1	nogas	13462	0.02
Se	82	1	nogas	14166	0.02
Sr	88	1	nogas	2369884	0.00
Mo	95	1	nogas	425792	0.00
Ag	107	1	nogas	1024467	0.00
Cd	111	1	nogas	206111	0.00
Sn	118	1	nogas	654189	0.00
Sb	121	1	nogas	784645	0.00
Ba	137	1	nogas	336347	0.00
Tl	205	1	nogas	2047476	0.00
Pb	208	1	nogas	2703469	0.00
Si	28	1	nogas	6785767	0.00
Na	23	2	He	14062968	0.00
Mg	24	2	He	8402834	0.00
Al	27	2	He	55909	0.00
K	39	2	He	9635455	0.00
Ca	43	2	He	28869	0.01
Ca	44	2	He	473273	0.00
V	51	2	He	594451	0.00
Cr	52	2	He	646210	0.00
Mn	55	2	He	546692	0.00
Fe	56	2	He	60408239	0.00
Co	59	2	He	893063	0.00
Ni	60	2	He	225382	0.00
Cu	63	2	He	576841	0.00
Zn	66	2	He	104851	0.00
As	75	2	He	68950	0.00
Sb	121	2	He	459351	0.00
Se	78	2	He	7756	0.02

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2045365	1.34	2150099	95.13	70	120	
In	115	1	nogas	2222324	1.31	2337343	95.08	70	120	
Li	6	1	nogas	1077595	1.66	1174457	91.75	70	120	
Bi	209	1	nogas	2048747	4.98	2153831	95.12	70	120	
Ge	72	2	He	694426	1.54	727166	95.50	70	120	
In	115	2	He	1096369	0.39	1141850	96.02	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	015CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:12:49-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	807656	0.00
B	11	1	nogas	2657124	0.00
Al	27	1	nogas	2562008	0.00
P	31	1	nogas	661247	0.00
Ti	47	1	nogas	266661	0.00
Ni	60	1	nogas	710700	0.00
Cu	63	1	nogas	1717705	0.00
Zn	66	1	nogas	407936	0.00
Se	77	1	nogas	23916	0.00
Se	82	1	nogas	27508	0.01
Sr	88	1	nogas	4775940	0.00
Mo	95	1	nogas	868326	0.00
Ag	107	1	nogas	2070401	0.00
Cd	111	1	nogas	407464	0.00
Sn	118	1	nogas	1389496	0.00
Sb	121	1	nogas	1619335	0.00
Ba	137	1	nogas	671523	0.00
Tl	205	1	nogas	3935371	0.00
Pb	208	1	nogas	5409557	0.00
Si	28	1	nogas	9761884	0.00
Na	23	2	He	27488696	0.00
Mg	24	2	He	16374202	0.00
Al	27	2	He	107234	0.00
K	39	2	He	18928285	0.00
Ca	43	2	He	56439	0.00
Ca	44	2	He	929635	0.00
V	51	2	He	1215852	0.00
Cr	52	2	He	1328203	0.00
Mn	55	2	He	976531	0.00
Fe	56	2	He	116511785	0.00
Co	59	2	He	1811766	0.00
Ni	60	2	He	441980	0.00
Cu	63	2	He	1116773	0.00
Zn	66	2	He	197044	0.00
As	75	2	He	133270	0.00
Sb	121	2	He	894404	0.00
Se	78	2	He	14733	0.01

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2022819	2.00	2150099	94.08	70	120	
In	115	1	nogas	2173340	0.91	2337343	92.98	70	120	
Li	6	1	nogas	1040171	3.90	1174457	88.57	70	120	
Bi	209	1	nogas	1986337	3.77	2153831	92.22	70	120	
Ge	72	2	He	680619	1.76	727166	93.60	70	120	
In	115	2	He	1052772	0.93	1141850	92.20	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	017_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:16:46-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	%High	QC Flag
Be	9	1	nogas	101.023	3.862	418222	0.31	100	101.0	90	110	
B	11	1	nogas	510.103	1.414	1396639	2.23	500	102.0	90	110	
Al	27	1	nogas	98.742	1.576	1319200	2.29	100	98.7	90	110	
P	31	1	nogas	502.097	1.457	351722	1.01	500	100.4	90	110	
Ti	47	1	nogas	98.509	2.198	133500	1.03	100	98.5	90	110	
Ni	60	1	nogas	100.067	2.801	363733	1.59	100	100.1	90	110	
Cu	63	1	nogas	97.596	2.601	852546	1.33	100	97.6	90	110	
Zn	66	1	nogas	102.893	3.039	216017	2.42	100	102.9	90	110	
Se	77	1	nogas	98.499	3.095	13302	1.28	100	98.5	90	110	
Se	82	1	nogas	105.092	3.334	14843	1.93	100	105.1	90	110	
Sr	88	1	nogas	100.608	1.065	2414265	0.96	100	100.6	90	110	
Mo	95	1	nogas	98.056	2.582	426784	1.83	100	98.1	90	110	
Ag	107	1	nogas	98.861	3.025	1027727	1.93	100	98.9	90	110	
Cd	111	1	nogas	100.636	2.996	206775	1.94	100	100.6	90	110	
Sn	118	1	nogas	94.872	2.737	655914	1.88	100	94.9	90	110	
Sb	121	1	nogas	95.111	3.067	778800	2.08	100	95.1	90	110	
Ba	137	1	nogas	100.475	3.404	339555	1.47	100	100.5	90	110	
Tl	205	1	nogas	103.500	2.742	2057296	1.06	100	103.5	90	110	
Pb	208	1	nogas	100.566	2.568	2727017	0.89	100	100.6	90	110	
U	238	1	nogas	100.684	2.526	3333212	1.18	100	100.7	90	110	
Li	7	1	nogas	100.710	3.535	1528594	0.63	100	100.7	90	110	
Si	28	1	nogas	4908.653	2.240	6775871	0.41	5000	98.2	90	110	
Ba	135	1	nogas	100.202	1.577	196278	1.09	100	100.2	90	110	
Tl	203	1	nogas	93.894	3.005	786577	1.51	100	93.9	90	110	
Na	23	2	He	9977.355	1.372	14045219	0.43	10000	99.8	90	110	
Mg	24	2	He	10148.207	1.384	8509911	0.99	10000	101.5	90	110	
Al	27	2	He	98.213	2.733	54769	2.81	100	98.2	90	110	
K	39	2	He	9966.413	0.912	9660498	0.56	10000	99.7	90	110	
Ca	43	2	He	9750.246	1.896	28175	1.79	10000	97.5	90	110	
Ca	44	2	He	10023.208	0.787	476600	0.56	10000	100.2	90	110	
V	51	2	He	96.535	0.271	595900	1.26	100	96.5	90	110	
Cr	52	2	He	96.333	0.315	648885	1.33	100	96.3	90	110	
Mn	55	2	He	98.543	0.277	502145	1.08	100	98.5	90	110	
Fe	56	2	He	10157.818	0.645	60741456	0.83	10000	101.6	90	110	
Co	59	2	He	97.272	1.269	895122	0.19	100	97.3	90	110	
Ni	60	2	He	100.322	1.016	226792	0.32	100	100.3	90	110	
Cu	63	2	He	100.538	0.215	575996	1.53	100	100.5	90	110	
Zn	66	2	He	104.628	0.698	106453	1.81	100	104.6	90	110	
As	75	2	He	102.600	0.953	70161	2.26	100	102.6	90	110	
Sn	118	2	He	99.727	1.768	392546	0.88	100	99.7	90	110	
Sb	121	2	He	100.386	0.471	459964	1.52	100	100.4	90	110	
Se	78	2	He	105.760	0.306	8066	1.35	100	105.8	90	110	
Ti	47	2	He	98.803	0.885	24994	0.51	100	98.8	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	2062457	1.37	2150099	95.92	70	120	
In	115	1	nogas	2197106	1.92	2337343	94.00	70	120	
Li	6	1	nogas	1068200	3.48	1174457	90.95	70	120	
Bi	209	1	nogas	2001967	1.72	2153831	92.95	70	120	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	696134	1.32	727166	95.73	70	120	
In	115	2	He	1087662	2.38	1141850	95.25	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	LLICV2
Data File Name	018LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:18:43-06:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	1.994	3.478	8394	3.96	2	99.7	70	120	
B	11	1	nogas	29.236	7.640	106433	5.10	10	292.4	70	120	NewName Main CR1 Failed
Al	27	1	nogas	0.962	4.982	58045	1.10	2	48.1	70	120	NewName Main CR1 Failed
P	31	1	nogas	8.181	21.306	29607	4.07	10	81.8	70	120	
Ti	47	1	nogas	1.863	5.002	2837	4.55	2	93.2	70	120	
Ni	60	1	nogas	2.129	6.041	8449	5.53	2	106.4	70	120	
Cu	63	1	nogas	2.005	2.727	19153	2.65	2	100.2	70	120	
Zn	66	1	nogas	2.253	3.366	5241	3.24	2	112.7	70	120	
Se	77	1	nogas	-1.587	-55.519	2347	4.03	2	-79.4	70	120	NewName Main CR1 Failed
Se	82	1	nogas	3.349	16.492	620	12.80	2	167.5	70	120	NewName Main CR1 Failed
Sr	88	1	nogas	1.905	1.563	47647	1.88	2	95.2	70	120	
Mo	95	1	nogas	2.665	7.335	11911	7.60	2	133.2	70	120	NewName Main CR1 Failed
Ag	107	1	nogas	2.037	1.662	21490	1.62	2	101.8	70	120	
Cd	111	1	nogas	1.998	8.564	4157	8.69	2	99.9	70	120	
Sn	118	1	nogas	2.253	5.609	16852	5.43	2	112.6	70	120	
Sb	121	1	nogas	2.054	1.995	17853	2.10	2	102.7	70	120	
Ba	137	1	nogas	2.045	3.868	7172	3.39	2	102.3	70	120	
Tl	205	1	nogas	2.054	1.635	42215	5.78	2	102.7	70	120	
Pb	208	1	nogas	1.906	1.873	53665	2.25	2	95.3	70	120	
Pb	206	1	nogas	1.862	1.993	13252	2.35	2	93.1	70	120	
Pb	207	1	nogas	2.009	5.313	11608	1.24	2	100.4	70	120	
U	238	1	nogas	1.836	3.705	62556	1.41	2	91.8	70	120	
Li	7	1	nogas	2.129	5.975	105017	0.99	2	106.5	70	120	
Ba	135	1	nogas	1.954	4.566	3934	3.86	2	97.7	70	120	
Tl	203	1	nogas	2.047	2.186	17693	4.18	2	102.4	70	120	
Na	23	2	He	195.328	0.360	298535	2.02	200	97.7	70	120	
Mg	24	2	He	199.748	1.547	166733	0.26	200	99.9	70	120	
Al	27	2	He	2.003	12.525	2710	3.22	2	100.2	70	120	
K	39	2	He	196.258	1.869	231550	0.93	200	98.1	70	120	
Ca	43	2	He	188.704	15.098	580	12.43	200	94.4	70	120	
Ca	44	2	He	215.160	3.627	10643	2.29	200	107.6	70	120	
V	51	2	He	1.919	2.464	13146	0.46	2	96.0	70	120	
Cr	52	2	He	1.908	3.000	14186	4.52	2	95.4	70	120	
Mn	55	2	He	2.034	2.718	11240	1.74	2	101.7	70	120	
Fe	56	2	He	219.421	0.927	1314076	0.88	200	109.7	70	120	
Co	59	2	He	1.976	1.563	18186	0.51	2	98.8	70	120	
Ni	60	2	He	2.071	2.522	4801	2.89	2	103.6	70	120	
Cu	63	2	He	2.149	3.223	12888	4.18	2	107.4	70	120	
Zn	66	2	He	2.140	6.126	2390	3.84	2	107.0	70	120	
As	75	2	He	2.214	7.563	1577	8.79	2	110.7	70	120	
Se	77	2	He	2.832	51.063	83	38.57	2	141.6	70	120	NewName Main CR1 Failed
Sn	118	2	He	2.175	1.697	9056	1.84	2	108.7	70	120	
Sb	121	2	He	2.236	6.080	10537	4.13	2	111.8	70	120	
Se	78	2	He	2.903	17.468	339	10.06	2	145.2	70	120	NewName Main CR1 Failed
Ti	47	2	He	2.088	8.121	527	7.19	2	104.4	70	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	2086995	0.21	2150099	97.07	70	120	
In	115	1	nogas	2224432	0.79	2337343	95.17	70	120	
Li	6	1	nogas	1082758	0.81	1174457	92.19	70	120	
Bi	209	1	nogas	2060086	4.15	2153831	95.65	70	120	
Ge	72	2	He	690246	1.81	727166	94.92	70	120	
In	115	2	He	1077683	1.56	1141850	94.38	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	LLICV5
Data File Name	019LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:20:46-06:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	4.918	2.871	21045	2.23	5	98.4	70	130	
B	11	1	nogas	32.525	4.857	117473	1.26	25	130.1	70	130	NewName Main CR1 Failed
Al	27	1	nogas	3.999	3.584	96785	1.76	5	80.0	70	130	
P	31	1	nogas	23.144	4.851	39124	1.73	25	92.6	70	130	
Ti	47	1	nogas	4.715	5.454	6678	5.14	5	94.3	70	130	
Ni	60	1	nogas	5.164	1.308	19414	1.10	5	103.3	70	130	
Cu	63	1	nogas	5.039	5.079	45506	5.10	5	100.8	70	130	
Zn	66	1	nogas	5.406	2.762	11814	2.84	5	108.1	70	130	
Se	77	1	nogas	4.428	39.881	2987	6.50	5	88.6	70	130	
Se	82	1	nogas	5.245	1.139	880	1.14	5	104.9	70	130	
Sr	88	1	nogas	4.682	1.586	117075	0.67	5	93.6	70	130	
Mo	95	1	nogas	4.976	1.683	22474	0.85	5	99.5	70	130	
Ag	107	1	nogas	4.803	2.482	51478	0.92	5	96.1	70	130	
Cd	111	1	nogas	4.947	3.287	10470	2.15	5	98.9	70	130	
Sn	118	1	nogas	4.736	4.559	34788	3.30	5	94.7	70	130	
Sb	121	1	nogas	4.804	1.185	40240	0.99	5	96.1	70	130	
Ba	137	1	nogas	4.985	5.900	17519	3.99	5	99.7	70	130	
Tl	205	1	nogas	4.535	6.729	95077	3.05	5	90.7	70	130	
Pb	208	1	nogas	4.624	3.554	132612	0.48	5	92.5	70	130	
U	238	1	nogas	4.461	3.981	155627	1.31	5	89.2	70	130	
Li	7	1	nogas	4.816	8.193	146990	0.98	5	96.3	70	130	
Si	28	1	nogas	-112.961	-101.430	3655680	1.96	25	-451.8	70	130	NewName Main CR1 Failed
Na	23	2	He	482.550	1.767	698095	0.43	500	96.5	70	130	
Mg	24	2	He	498.428	2.904	414692	1.54	500	99.7	70	130	
Al	27	2	He	4.638	16.158	4117	8.13	5	92.8	70	130	
K	39	2	He	485.035	1.298	507456	0.56	500	97.0	70	130	
Ca	43	2	He	472.270	8.101	1390	6.23	500	94.5	70	130	
Ca	44	2	He	508.195	3.495	24426	2.89	500	101.6	70	130	
V	51	2	He	4.758	1.378	30458	0.47	5	95.2	70	130	
Cr	52	2	He	4.889	1.252	34021	0.62	5	97.8	70	130	
Mn	55	2	He	5.040	2.886	26379	2.77	5	100.8	70	130	
Fe	56	2	He	522.181	0.375	3106722	1.42	500	104.4	70	130	
Co	59	2	He	4.929	3.810	45078	2.14	5	98.6	70	130	
Ni	60	2	He	5.184	2.319	11764	2.44	5	103.7	70	130	
Cu	63	2	He	5.264	2.977	30532	1.33	5	105.3	70	130	
Zn	66	2	He	5.925	4.064	6195	2.81	5	118.5	70	130	
As	75	2	He	5.102	2.260	3528	1.14	5	102.0	70	130	
Sb	121	2	He	4.944	1.826	22818	0.65	5	98.9	70	130	
Se	78	2	He	4.990	2.664	494	2.83	5	99.8	70	130	
Ti	47	2	He	5.337	6.997	1340	5.92	5	106.7	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2067598	0.18	2150099	96.16	70	120	
In	115	1	nogas	2263379	2.18	2337343	96.84	70	120	
Li	6	1	nogas	1103001	3.68	1174457	93.92	70	120	
Bi	209	1	nogas	2110622	3.95	2153831	97.99	70	120	
Ge	72	2	He	689758	1.73	727166	94.86	70	120	
In	115	2	He	1068987	0.53	1141850	93.62	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	020_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:22:50-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	0.024	21.1	120	18.2	1	
B	11	1	nogas	7.680	0.8	48257	1.4	10	
Al	27	1	nogas	-1.027	-14.9	31849	7.7	5	
P	31	1	nogas	-1.574	-43.5	22988	2.8	10	
Ti	47	1	nogas	-0.091	-72.4	160	53.4	2.5	
Ni	60	1	nogas	0.034	23.0	750	2.3	2.5	
Cu	63	1	nogas	0.035	8.0	1757	2.9	1	
Zn	66	1	nogas	0.095	38.9	660	13.1	2.5	
Se	77	1	nogas	-1.685	-77.8	2317	4.3	2.5	
Se	82	1	nogas	0.328	138.8	190	31.6	1	
Sr	88	1	nogas	0.026	22.4	2053	6.3	2.5	
Mo	95	1	nogas	0.150	20.8	837	17.0	2.5	
Ag	107	1	nogas	0.027	24.9	340	22.2	2.5	
Cd	111	1	nogas	0.018	84.7	37	83.3	1	
Sn	118	1	nogas	0.107	31.5	1877	14.3	5	
Sb	121	1	nogas	0.028	16.5	1073	5.6	2.5	
Ba	137	1	nogas	0.022	21.1	253	6.0	2.5	
Tl	205	1	nogas	0.041	30.9	1023	28.1	1	
Pb	208	1	nogas	0.016	19.3	960	7.3	2.5	
U	238	1	nogas	0.016	7.8	590	7.8	2.5	
Si	28	1	nogas	-318.863	-60.2	3532267	2.2	5	
Na	23	2	He	1.319	14.7	28358	0.9	100	
Mg	24	2	He	2.137	5.0	2467	3.9	100	
Al	27	2	He	-0.666	-16.4	1287	4.4	5	
K	39	2	He	-0.156	-694.4	43885	2.1	100	
Ca	43	2	He	-0.427	-2937.1	40	90.1	100	
Ca	44	2	He	4.323	15.1	720	4.2	100	
V	51	2	He	0.014	104.2	1525	5.7	2.5	
Cr	52	2	He	0.015	113.5	1580	7.5	2.5	
Mn	55	2	He	0.006	431.3	1020	12.7	2.5	
Fe	56	2	He	1.595	11.9	23031	4.6	100	
Co	59	2	He	0.020	77.2	347	40.8	2.5	
Ni	60	2	He	0.020	94.6	207	20.1	2.5	
Cu	63	2	He	0.022	76.2	823	11.7	1	
Zn	66	2	He	0.090	57.5	330	16.0	2.5	
As	75	2	He	0.040	54.7	103	14.1	2.5	
Sb	121	2	He	0.026	36.5	517	8.7	2.5	
Se	78	2	He	0.142	191.0	134	14.9	1	
Ti	47	2	He	0.027	253.8	10	173.2	2.5	

Initial Calibration Blank (ICB) 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	2071497	2.25	2150099	96.34	70	120	
In	115	1	nogas	2247648	1.70	2337343	96.16	70	120	
Li	6	1	nogas	1094220	1.04	1174457	93.17	70	120	
Bi	209	1	nogas	2058481	2.54	2153831	95.57	70	120	
Ge	72	2	He	693828	0.33	727166	95.42	70	120	
In	115	2	He	1072593	0.31	1141850	93.93	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	022ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:28:31-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	0.007	70.7	47	48.3	0	ICSA Main CR1 Failed
B	11	1	nogas	6.406	11.6	42624	3.6	0	ICSA Main CR1 Failed
Al	27	1	nogas	91899.919	1.2	1180916142	1.9	0	
P	31	1	nogas	94201.650	2.0	61257584	0.6	0	
Ti	47	1	nogas	1985.109	3.3	2672799	0.9	0	
Ni	60	1	nogas	1.191	2.9	4924	3.2	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.958	3.1	9749	1.4	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.791	5.8	4197	7.5	0	ICSA Main CR1 Failed
Se	77	1	nogas	17.715	12.5	4421	6.6	0	
Se	82	1	nogas	0.598	9.9	227	2.5	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.868	1.6	20769	1.7	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2059.867	0.3	8386173	0.8	0	
Ag	107	1	nogas	0.028	20.8	317	18.2	0	ICSA Main CR1 Failed
Cd	111	1	nogas	2.897	0.6	5571	1.3	0	
Sn	118	1	nogas	0.105	14.4	1700	5.2	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.000	-181247.1	837	10.8	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.031	87.6	260	32.9	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.005	87.5	247	35.0	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.032	20.6	1203	15.1	0	ICSA Main CR1 Failed
Si	28	1	nogas	-138.480	-141.2	3613805	1.2	0	ICSA Main CR1 Failed
Na	23	2	He	96070.364	8.3	128030185	0.9	0	
Mg	24	2	He	96734.344	9.7	76843909	0.8	0	
Al	27	2	He	95765.813	10.1	49056971	1.2	0	
K	39	2	He	97397.073	8.2	89158459	0.9	0	
Ca	43	2	He	90021.878	8.7	246283	0.4	0	
Ca	44	2	He	99998.059	9.8	4500033	1.3	0	
V	51	2	He	0.073	41.2	1792	4.1	0	ICSA Main CR1 Failed
Cr	52	2	He	0.810	13.2	6558	2.6	0	ICSA Main CR1 Failed
Mn	55	2	He	0.075	88.5	1297	19.3	0	ICSA Main CR1 Failed
Fe	56	2	He	97280.245	11.0	550537818	2.2	0	
Co	59	2	He	0.189	7.3	1810	4.7	0	ICSA Main CR1 Failed
Ni	60	2	He	0.241	25.1	667	11.5	0	ICSA Main CR1 Failed
Cu	63	2	He	0.178	9.1	1637	9.5	0	ICSA Main CR1 Failed
Zn	66	2	He	0.506	24.8	710	8.6	0	ICSA Main CR1 Failed
As	75	2	He	0.138	44.4	161	19.2	0	ICSA Main CR1 Failed
Sb	121	2	He	0.016	168.2	447	23.0	0	ICSA Main CR1 Failed
Se	78	2	He	-0.144	-209.1	107	14.2	0	ICSA Main CR1 Failed
Ti	47	2	He	1864.794	9.5	446907	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	2054000	2.61	2150099	95.53	70	120	
In	115	1	nogas	2055416	0.72	2337343	87.94	70	120	
Li	6	1	nogas	1042730	2.72	1174457	88.78	70	120	
Bi	209	1	nogas	1769004	2.03	2153831	82.13	70	120	
Ge	72	2	He	663521	9.46	727166	91.25	70	120	
In	115	2	He	1054974	16.54	1141850	92.39	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	023ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:30:30-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	94.590	4.564	363529	0.24	100	94.6	80	120	
B	11	1	nogas	476.436	3.609	1221835	1.80	100	476.4	80	120	
Al	27	1	nogas	89682.490	1.791	1138834996	2.16	100	89682.5	80	120	ICSB Main CR1 Failed
Ti	47	1	nogas	2049.394	0.490	2727825	0.78	100	2049.4	80	120	ICSB Main CR1 Failed
Ni	60	1	nogas	88.044	1.776	315069	2.27	100	88.0	80	120	
Cu	63	1	nogas	84.504	1.576	726728	1.94	100	84.5	80	120	
Zn	66	1	nogas	90.023	1.618	186073	2.31	100	90.0	80	120	
Se	77	1	nogas	117.185	2.362	15110	2.29	100	117.2	80	120	
Se	82	1	nogas	98.094	3.872	13649	4.55	100	98.1	80	120	
Sr	88	1	nogas	100.618	0.458	2246614	2.05	100	100.6	80	120	
Mo	95	1	nogas	2152.695	1.997	8713491	0.53	100	2152.7	80	120	
Ag	107	1	nogas	87.379	1.190	845435	2.87	100	87.4	80	120	
Cd	111	1	nogas	95.886	0.708	183370	2.87	100	95.9	80	120	
Sn	118	1	nogas	91.710	0.846	590101	2.48	100	91.7	80	120	
Sb	121	1	nogas	86.505	1.083	697247	1.70	100	86.5	80	120	
Ba	137	1	nogas	97.421	0.972	306440	2.25	100	97.4	80	120	
Tl	205	1	nogas	100.191	4.096	1760508	0.38	100	100.2	80	120	
Pb	208	1	nogas	92.632	7.966	2218400	4.39	100	92.6	80	120	
U	238	1	nogas	102.232	4.166	2991766	1.04	100	102.2	80	120	
Si	28	1	nogas	4520.258	2.280	6429396	0.26	100	4520.3	80	120	ICSB Main CR1 Failed
Na	23	2	He	106842.882	1.226	135445655	1.83	100	106842.9	80	120	
Mg	24	2	He	108669.235	1.208	82187387	0.18	100	108669.2	80	120	
Al	27	2	He	98309.564	1.385	47956179	0.20	100	98309.6	80	120	ICSB Main CR1 Failed
K	39	2	He	107357.358	1.354	93469499	0.24	100	107357.4	80	120	
Ca	43	2	He	102729.692	1.686	267384	0.62	100	102729.7	80	120	ICSB Main CR1 Failed
Ca	44	2	He	108983.517	2.035	4669214	1.12	100	108983.5	80	120	
V	51	2	He	94.492	1.479	526102	0.98	100	94.5	80	120	
Cr	52	2	He	93.171	0.552	566094	0.82	100	93.2	80	120	
Mn	55	2	He	95.094	0.205	437108	1.13	100	95.1	80	120	
Fe	56	2	He	107275.690	0.467	578495711	0.73	100	107275.7	80	120	
Co	59	2	He	92.561	1.018	768315	0.53	100	92.6	80	120	
Ni	60	2	He	94.291	1.460	192270	0.82	100	94.3	80	120	
Cu	63	2	He	93.172	0.672	481486	0.74	100	93.2	80	120	
Zn	66	2	He	95.517	1.979	87685	3.07	100	95.5	80	120	
As	75	2	He	99.226	0.600	61202	1.76	100	99.2	80	120	
Sb	121	2	He	96.250	1.669	397765	1.38	100	96.3	80	120	
Se	78	2	He	100.354	2.014	6908	0.85	100	100.4	80	120	
Ti	47	2	He	2026.486	0.497	462348	0.90	100	2026.5	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	2029411	0.75	2150099	94.39	70	120	
In	115	1	nogas	2044191	2.40	2337343	87.46	70	120	
Li	6	1	nogas	999832	4.31	1174457	85.13	70	120	
Bi	209	1	nogas	1771343	4.47	2153831	82.24	70	120	
Ge	72	2	He	627898	1.19	727166	86.35	70	120	
In	115	2	He	976483	2.05	1141850	85.52	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	025_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:44:34-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	102.387	5.120	397740	0.17	100	102.4	90	110	
B	11	1	nogas	513.842	3.167	1330496	2.24	500	102.8	90	110	
Al	27	1	nogas	99.980	0.932	1311491	1.47	100	100.0	90	110	
P	31	1	nogas	494.837	1.062	340853	1.00	500	99.0	90	110	
Ti	47	1	nogas	98.709	2.112	131426	2.36	100	98.7	90	110	
Ni	60	1	nogas	97.840	1.456	349421	1.46	100	97.8	90	110	
Cu	63	1	nogas	95.170	1.853	816822	1.88	100	95.2	90	110	
Zn	66	1	nogas	100.518	1.227	207340	1.63	100	100.5	90	110	
Se	77	1	nogas	99.751	4.109	13202	2.68	100	99.8	90	110	
Se	82	1	nogas	97.019	1.284	13475	1.87	100	97.0	90	110	
Sr	88	1	nogas	99.514	0.643	2365107	0.42	100	99.5	90	110	
Mo	95	1	nogas	96.521	1.440	416113	1.19	100	96.5	90	110	
Ag	107	1	nogas	96.606	1.727	994777	1.27	100	96.6	90	110	
Cd	111	1	nogas	99.669	1.867	202852	1.65	100	99.7	90	110	
Sn	118	1	nogas	92.608	3.418	634164	2.98	100	92.6	90	110	
Sb	121	1	nogas	94.925	1.502	763680	1.78	100	94.9	90	110	
Ba	137	1	nogas	97.587	2.135	326706	1.28	100	97.6	90	110	
Tl	205	1	nogas	99.245	3.235	1992301	0.78	100	99.2	90	110	
Pb	208	1	nogas	95.736	3.654	2621546	0.98	100	95.7	90	110	
U	238	1	nogas	99.444	3.560	3324525	1.23	100	99.4	90	110	
Li	7	1	nogas	102.101	8.025	1463114	2.58	100	102.1	90	110	
Si	28	1	nogas	5039.292	0.489	6736216	0.47	5000	100.8	90	110	
Ba	135	1	nogas	97.085	2.188	188344	1.56	100	97.1	90	110	
Tl	203	1	nogas	88.276	4.151	746723	1.46	100	88.3	90	110	CCV Main CR1-2 Failed
Na	23	2	He	9743.528	1.413	13556728	0.58	10000	97.4	90	110	
Mg	24	2	He	9890.489	0.352	8197913	1.47	10000	98.9	90	110	
Al	27	2	He	97.982	0.992	54007	1.33	100	98.0	90	110	
K	39	2	He	10039.556	2.305	9616464	1.10	10000	100.4	90	110	
Ca	43	2	He	9739.545	1.704	27821	2.84	10000	97.4	90	110	
Ca	44	2	He	9885.584	0.239	464602	1.07	10000	98.9	90	110	
V	51	2	He	95.498	1.148	582586	0.38	100	95.5	90	110	
Cr	52	2	He	95.208	0.758	633858	1.73	100	95.2	90	110	
Mn	55	2	He	99.242	1.249	499758	0.38	100	99.2	90	110	
Fe	56	2	He	10180.701	2.155	60161877	1.31	10000	101.8	90	110	
Co	59	2	He	96.366	0.258	876513	0.93	100	96.4	90	110	
Ni	60	2	He	98.888	0.543	220952	0.64	100	98.9	90	110	
Cu	63	2	He	99.680	0.838	564372	0.35	100	99.7	90	110	
Zn	66	2	He	101.585	1.900	102139	0.81	100	101.6	90	110	
As	75	2	He	101.769	1.714	68776	2.24	100	101.8	90	110	
Sb	121	2	He	99.445	1.115	450292	0.15	100	99.4	90	110	
Se	78	2	He	102.346	2.217	7717	1.00	100	102.3	90	110	
Ti	47	2	He	97.444	3.168	24369	4.25	100	97.4	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	2025878	0.68	2150099	94.22	70	120	
In	115	1	nogas	2175844	1.03	2337343	93.09	70	120	
Li	6	1	nogas	1011175	5.44	1174457	86.10	70	120	
Bi	209	1	nogas	2022372	2.76	2153831	93.90	70	120	
Ge	72	2	He	688007	1.18	727166	94.61	70	120	
In	115	2	He	1074053	0.44	1141850	94.06	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	026_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:46:31-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	31.7	148	29.1	1	
B	11	1	nogas	16.478	13.3	70045	9.3	10	CCB Main CR1 Failed
Al	27	1	nogas	-0.781	-11.9	34081	4.1	5	
P	31	1	nogas	-1.774	-40.2	22240	1.3	10	
Ti	47	1	nogas	-0.073	-10.1	180	5.6	2.5	
Ni	60	1	nogas	0.048	44.1	780	9.7	2.5	
Cu	63	1	nogas	0.064	33.1	1950	8.6	2	
Zn	66	1	nogas	0.327	7.8	1117	4.2	2.5	
Se	77	1	nogas	-0.046	-5710.0	2434	12.1	2.5	
Se	82	1	nogas	1.071	59.6	287	29.7	2	
Sr	88	1	nogas	0.017	41.9	1807	10.4	2.5	
Mo	95	1	nogas	1.049	3.6	4821	4.4	2.5	
Ag	107	1	nogas	0.022	5.6	277	5.5	2.5	
Cd	111	1	nogas	0.019	89.7	40	90.1	1	
Sn	118	1	nogas	0.348	11.0	3560	8.6	5	
Sb	121	1	nogas	0.189	17.7	2327	11.0	2.5	
Ba	137	1	nogas	0.019	42.7	240	11.0	2.5	
Tl	205	1	nogas	0.270	37.8	5731	38.4	1	
Pb	208	1	nogas	0.045	15.9	1760	12.2	2.5	
U	238	1	nogas	0.040	35.4	1420	36.2	2.5	
Si	28	1	nogas	-405.287	-33.9	3385625	1.6	5	
Na	23	2	He	5.366	10.8	33390	1.9	100	
Mg	24	2	He	2.434	12.7	2664	9.2	100	
Al	27	2	He	-0.022	-594.2	1603	3.8	5	
K	39	2	He	2.714	40.5	45773	1.4	100	
Ca	43	2	He	-10.806	-0.3	10	0.0	100	
Ca	44	2	He	1.819	66.5	590	8.8	100	
V	51	2	He	0.017	37.0	1511	1.6	2.5	
Cr	52	2	He	0.005	224.9	1483	6.1	2.5	
Mn	55	2	He	0.033	43.1	1133	6.0	2.5	
Fe	56	2	He	3.587	11.0	34242	5.8	100	
Co	59	2	He	0.012	84.1	263	33.2	2.5	
Ni	60	2	He	0.050	70.8	270	28.9	2.5	
Cu	63	2	He	0.027	88.9	837	16.7	2	
Zn	66	2	He	0.214	13.7	447	6.8	2.5	
As	75	2	He	0.201	15.1	209	8.8	2.5	
Sb	121	2	He	0.157	8.1	1093	5.4	2.5	
Se	78	2	He	0.523	103.7	159	24.2	2	
Ti	47	2	He	0.137	141.4	37	128.9	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	2015847	0.85	2150099	93.76	70	120	
In	115	1	nogas	2237190	1.06	2337343	95.72	70	120	

Continuing Calibration Blank (CCB) Report

Li	6	1	nogas	1057015	1.42	1174457	90.00	70	120	
Bi	209	1	nogas	2062115	1.99	2153831	95.74	70	120	
Ge	72	2	He	680912	0.91	727166	93.64	70	120	
In	115	2	He	1061649	1.38	1141850	92.98	70	120	

Sample Report

Sample Table

Sample Name	MBLK-160930
Data File Name	027SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:49:30-06:00
Sample Type	Sample
Dilution	1
Comment	TW 160930
ISTD Ref FileName	010CALB.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	0.012	0.012	60.15	63	0.02	2000	
B	11	1	nogas	6.360	6.360	9.68	42949	0.01	2000	
Al	27	1	nogas	-0.690	-0.690	-2.56	35657	0.00	2000	
Ti	47	1	nogas	-0.125	-0.125	-35.33	113	-0.11	2000	
Ni	60	1	nogas	0.033	0.033	59.77	733	0.00	2000	
Cu	63	1	nogas	0.044	0.044	41.10	1800	0.00	2000	
Zn	66	1	nogas	0.418	0.418	7.52	1320	0.03	2000	
Se	77	1	nogas	0.400	0.400	228.28	2510	0.02	2000	
Se	82	1	nogas	-0.018	-0.018	-785.06	140	-0.01	2000	
Sr	88	1	nogas	0.001	0.001	357.89	1440	0.00	2000	
Mo	95	1	nogas	0.412	0.412	7.23	2003	0.02	2000	
Ag	107	1	nogas	0.009	0.009	82.03	147	0.01	2000	
Cd	111	1	nogas	0.024	0.024	39.96	50	0.05	2000	
Sn	118	1	nogas	0.095	0.095	17.33	1783	0.01	2000	
Sb	121	1	nogas	-0.002	-0.002	-293.81	813	0.00	2000	
Ba	137	1	nogas	0.014	0.014	85.10	223	0.01	2000	
Tl	205	1	nogas	0.022	0.022	26.67	650	0.00	2000	
Pb	208	1	nogas	0.011	0.011	30.91	830	0.00	2000	
U	238	1	nogas	0.010	0.010	16.05	393	0.00	2000	
Si	28	1	nogas	-342.334	-342.334	-36.06	3465608	-0.01	2000	
Na	23	2	He	3.585	3.585	10.11	30889	0.01	200000	
Mg	24	2	He	2.059	2.059	11.84	2354	0.09	200000	
Al	27	2	He	-0.203	-0.203	-197.49	1507	-0.01	2000	
K	39	2	He	0.922	0.922	138.47	44002	0.00	200000	
Ca	43	2	He	2.350	2.350	711.35	47	5.03	200000	
Ca	44	2	He	3.560	3.560	32.97	670	0.53	200000	
V	51	2	He	0.021	0.021	7.80	1532	0.00	2000	
Cr	52	2	He	-0.014	-0.014	-130.86	1357	0.00	2000	
Mn	55	2	He	0.056	0.056	16.40	1247	0.00	2000	
Fe	56	2	He	1.887	1.887	2.62	24270	0.01	200000	
Co	59	2	He	0.011	0.011	7.42	260	0.00	2000	
Ni	60	2	He	0.058	0.058	14.18	287	0.02	2000	
Cu	63	2	He	0.043	0.043	29.48	927	0.00	2000	
Zn	66	2	He	0.350	0.350	24.72	580	0.06	2000	
As	75	2	He	0.090	0.090	8.21	134	0.07	2000	
Sb	121	2	He	0.014	0.014	129.38	453	0.00	2000	
Se	78	2	He	0.061	0.061	439.33	125	0.05	2000	
Ti	47	2	He	0.122	0.122	49.76	33	0.37	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2040165	0.30	2150099	94.89	70	120	
In	115	1	nogas	2245403	0.64	2337343	96.07	70	120	
Li	6	1	nogas	1054521	5.06	1174457	89.79	70	120	

Sample Report

Bi	209	1	nogas	2121180	5.13	2153831	98.48	70	120	
Ge	72	2	He	679710	1.22	727166	93.47	70	120	
In	115	2	He	1056825	0.50	1141850	92.55	70	120	

Sample Report

Sample Table

Sample Name	LCS-160930
Data File Name	028SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:51:32-06:00
Sample Type	Sample
Dilution	1
Comment	TW 160930
ISTD Ref FileName	010CALB.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	50.305	50.305	1.86	204524	0.02	2000	
B	11	1	nogas	460.184	460.184	2.17	1248854	0.04	2000	
Al	27	1	nogas	101.320	101.320	3.90	1351187	0.01	2000	
Ti	47	1	nogas	136.438	136.438	1.29	184683	0.07	2000	
Ni	60	1	nogas	48.306	48.306	2.00	175819	0.03	2000	
Cu	63	1	nogas	46.978	46.978	1.72	410889	0.01	2000	
Zn	66	1	nogas	54.063	54.063	1.86	113659	0.05	2000	
Se	77	1	nogas	50.631	50.631	1.17	8045	0.63	2000	
Se	82	1	nogas	55.342	55.342	6.37	7882	0.70	2000	
Sr	88	1	nogas	91.672	91.672	1.16	2249955	0.00	2000	
Mo	95	1	nogas	44.607	44.607	0.46	198688	0.02	2000	
Ag	107	1	nogas	47.361	47.361	1.00	503690	0.01	2000	
Cd	111	1	nogas	49.858	49.858	2.35	104789	0.05	2000	
Sn	118	1	nogas	85.689	85.689	0.71	606109	0.01	2000	
Sb	121	1	nogas	47.273	47.273	2.26	387281	0.01	2000	
Ba	137	1	nogas	47.005	47.005	0.64	162614	0.03	2000	
Tl	205	1	nogas	41.912	41.912	5.55	874116	0.00	2000	
Pb	208	1	nogas	43.695	43.695	5.34	1243387	0.00	2000	
U	238	1	nogas	83.432	83.432	3.92	2898740	0.00	2000	
Si	28	1	nogas	5135.305	5135.305	2.40	6912459	0.07	2000	>LDR
Na	23	2	He	4535.012	4535.012	1.73	6504515	0.07	200000	
Mg	24	2	He	4696.063	4696.063	2.78	4003532	0.12	200000	
Al	27	2	He	100.660	100.660	1.60	57019	0.18	2000	
K	39	2	He	4620.596	4620.596	2.22	4576663	0.10	200000	
Ca	43	2	He	4873.047	4873.047	3.34	14342	33.98	200000	
Ca	44	2	He	4769.169	4769.169	0.99	230814	2.07	200000	
V	51	2	He	44.391	44.391	0.69	279361	0.02	2000	
Cr	52	2	He	45.034	45.034	0.80	309169	0.01	2000	
Mn	55	2	He	47.100	47.100	0.70	244514	0.02	2000	
Fe	56	2	He	4679.196	4679.196	1.60	28450785	0.02	200000	
Co	59	2	He	45.751	45.751	1.02	428114	0.01	2000	
Ni	60	2	He	47.328	47.328	1.12	108859	0.04	2000	
Cu	63	2	He	48.055	48.055	1.71	280210	0.02	2000	
Zn	66	2	He	53.147	53.147	1.73	55093	0.10	2000	
As	75	2	He	51.618	51.618	1.11	35917	0.14	2000	
Sb	121	2	He	47.561	47.561	1.49	221727	0.02	2000	
Se	78	2	He	57.509	57.509	4.83	4517	1.27	2000	
Ti	47	2	He	133.330	133.330	0.44	34292	0.39	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2060989	0.80	2150099	95.86	70	120	
In	115	1	nogas	2246802	1.07	2337343	96.13	70	120	
Li	6	1	nogas	1056362	0.75	1174457	89.94	70	120	

Sample Report

Bi	209	1	nogas	2102352	3.49	2153831	97.61	70	120	
Ge	72	2	He	707716	1.60	727166	97.33	70	120	
In	115	2	He	1099391	0.93	1141850	96.28	70	120	

Sample Report

Sample Table

Sample Name	HS20120486-08MS
Data File Name	032SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T10:59:31-06:00
Sample Type	Sample
Dilution	1
Comment	TW 160930
ISTD Ref FileName	010CALB.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	56.946	56.946	1.39	211761	0.03	2000	
B	11	1	nogas	552.782	552.782	2.74	1366960	0.04	2000	
Al	27	1	nogas	386.592	386.592	2.38	4886257	0.01	2000	
Ti	47	1	nogas	156.439	156.439	0.95	205693	0.08	2000	
Ni	60	1	nogas	213.877	213.877	2.10	754148	0.03	2000	
Cu	63	1	nogas	53.386	53.386	1.83	453448	0.01	2000	
Zn	66	1	nogas	113.360	113.360	2.36	231016	0.05	2000	
Se	77	1	nogas	77.928	77.928	2.67	10723	0.73	2000	
Se	82	1	nogas	62.622	62.622	2.25	8646	0.72	2000	
Sr	88	1	nogas	1189.928	1189.928	1.08	27035626	0.00	2000	
Mo	95	1	nogas	49.437	49.437	0.97	203909	0.02	2000	
Ag	107	1	nogas	45.150	45.150	1.00	444711	0.01	2000	
Cd	111	1	nogas	47.391	47.391	0.74	92256	0.05	2000	
Sn	118	1	nogas	89.124	89.124	1.91	583830	0.02	2000	
Sb	121	1	nogas	45.886	45.886	2.88	365212	0.01	2000	
Ba	137	1	nogas	102.984	102.984	0.63	329760	0.03	2000	
Tl	205	1	nogas	45.459	45.459	2.99	769150	0.01	2000	
Pb	208	1	nogas	47.347	47.347	1.77	1092979	0.00	2000	
U	238	1	nogas	94.762	94.762	2.18	2669994	0.00	2000	
Si	28	1	nogas	426269.540	426269.540	1.80	261521403	0.16	2000	>LDR
Na	23	2	He	803255.337	803255.337	0.60	1072561744	0.07	200000	>LDR
Mg	24	2	He	50790.156	50790.156	2.60	40462231	0.13	200000	
Al	27	2	He	401.245	401.245	1.24	207800	0.19	2000	
K	39	2	He	5772.400	5772.400	1.24	5334482	0.11	200000	
Ca	43	2	He	57835.347	57835.347	0.92	158612	36.46	200000	
Ca	44	2	He	62058.634	62058.634	2.77	2801236	2.22	200000	
V	51	2	He	50.195	50.195	1.88	295022	0.02	2000	
Cr	52	2	He	47.616	47.616	1.83	305416	0.02	2000	
Mn	55	2	He	5449.167	5449.167	2.15	26327552	0.02	2000	>LDR
Fe	56	2	He	5152.169	5152.169	2.12	29276855	0.02	200000	
Co	59	2	He	60.644	60.644	1.68	530307	0.01	2000	
Ni	60	2	He	214.351	214.351	2.18	460195	0.05	2000	
Cu	63	2	He	48.522	48.522	2.90	264397	0.02	2000	
Zn	66	2	He	113.706	113.706	1.49	109900	0.10	2000	
As	75	2	He	53.934	53.934	1.75	35071	0.15	2000	
Sb	121	2	He	47.814	47.814	2.25	208314	0.02	2000	
Se	78	2	He	54.140	54.140	2.80	3982	1.36	2000	
Ti	47	2	He	151.395	151.395	3.51	36406	0.42	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2002342	1.01	2150099	93.13	70	120	
In	115	1	nogas	2080913	0.99	2337343	89.03	70	120	
Li	6	1	nogas	966179	1.73	1174457	82.27	70	120	
Bi	209	1	nogas	1703507	0.54	2153831	79.09	70	120	
Ge	72	2	He	661533	2.36	727166	90.97	70	120	
In	115	2	He	989586	1.12	1141850	86.67	70	120	

Sample Report

Sample Table

Sample Name	HS20120486-08PDS
Data File Name	034SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T11:03:30-06:00
Sample Type	Sample
Dilution	1
Comment	TW 160930
ISTD Ref FileName	010CALB.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	116.543	116.543	0.42	487630	0.02	2000	
B	11	1	nogas	23.255	23.255	5.80	90517	0.03	2000	
Al	27	1	nogas	347.357	347.357	4.35	4659374	0.01	2000	
Ti	47	1	nogas	114.556	114.556	3.02	159763	0.07	2000	
Ni	60	1	nogas	274.312	274.312	0.94	1025431	0.03	2000	
Cu	63	1	nogas	108.413	108.413	0.87	974831	0.01	2000	
Zn	66	1	nogas	171.390	171.390	1.61	370102	0.05	2000	
Se	77	1	nogas	139.800	139.800	4.45	18360	0.76	2000	
Se	82	1	nogas	126.231	126.231	1.48	18326	0.69	2000	
Sr	88	1	nogas	1123.636	1123.636	2.02	26739960	0.00	2000	
Mo	95	1	nogas	108.270	108.270	3.75	467493	0.02	2000	
Ag	107	1	nogas	94.725	94.725	3.55	977053	0.01	2000	
Cd	111	1	nogas	101.093	101.093	2.70	206125	0.05	2000	
Sn	118	1	nogas	0.652	0.652	8.19	5554	0.01	2000	
Sb	121	1	nogas	88.596	88.596	2.58	746925	0.01	2000	
Ba	137	1	nogas	162.678	162.678	4.02	545405	0.03	2000	
Tl	205	1	nogas	109.286	109.286	4.57	1910799	0.01	2000	
Pb	208	1	nogas	106.249	106.249	3.18	2534741	0.00	2000	
U	238	1	nogas	0.119	0.119	20.50	3500	0.00	2000	
Si	28	1	nogas	435798.853	435798.853	1.19	283405982	0.15	2000	>LDR
Na	23	2	He	850726.693	850726.693	1.29	1199187475	0.07	200000	>LDR
Mg	24	2	He	59217.414	59217.414	1.62	49813374	0.12	200000	
Al	27	2	He	371.955	371.955	4.68	203539	0.18	2000	
K	39	2	He	11588.707	11588.707	0.97	11261904	0.10	200000	
Ca	43	2	He	66606.895	66606.895	0.80	192859	34.54	200000	
Ca	44	2	He	69938.188	69938.188	1.42	3332973	2.10	200000	
V	51	2	He	109.553	109.553	0.59	678249	0.02	2000	
Cr	52	2	He	104.176	104.176	0.89	703851	0.01	2000	
Mn	55	2	He	5703.301	5703.301	0.73	29100927	0.02	2000	>LDR
Fe	56	2	He	10813.414	10813.414	0.16	64871826	0.02	200000	
Co	59	2	He	116.016	116.016	0.62	1071177	0.01	2000	
Ni	60	2	He	274.095	274.095	0.63	621365	0.04	2000	
Cu	63	2	He	104.239	104.239	0.51	599098	0.02	2000	
Zn	66	2	He	174.050	174.050	1.56	177475	0.10	2000	
As	75	2	He	116.603	116.603	1.00	79974	0.15	2000	
Sb	121	2	He	93.682	93.682	0.61	430625	0.02	2000	
Se	78	2	He	115.879	115.879	2.02	8855	1.31	2000	
Ti	47	2	He	114.452	114.452	3.88	29040	0.39	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2122911	0.77	2150099	98.74	70	120	
In	115	1	nogas	2180417	2.42	2337343	93.29	70	120	
Li	6	1	nogas	1087119	0.76	1174457	92.56	70	120	
Bi	209	1	nogas	1761559	2.19	2153831	81.79	70	120	
Ge	72	2	He	698371	1.25	727166	96.04	70	120	
In	115	2	He	1028897	0.43	1141850	90.11	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	036_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T11:10:48-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	98.813	3.677	457240	1.29	100	98.8	90	110	
B	11	1	nogas	493.560	3.082	1522504	0.49	500	98.7	90	110	
Al	27	1	nogas	101.254	0.471	1474225	1.29	100	101.3	90	110	
P	31	1	nogas	506.455	1.573	386744	1.07	500	101.3	90	110	
Ti	47	1	nogas	98.719	2.468	145926	1.49	100	98.7	90	110	
Ni	60	1	nogas	98.952	2.051	392371	1.38	100	99.0	90	110	
Cu	63	1	nogas	96.603	2.559	920541	1.98	100	96.6	90	110	
Zn	66	1	nogas	101.308	2.107	232006	1.30	100	101.3	90	110	
Se	77	1	nogas	107.877	6.168	15630	4.37	100	107.9	90	110	
Se	82	1	nogas	101.013	2.330	15574	3.05	100	101.0	90	110	
Sr	88	1	nogas	99.417	1.781	2538630	3.21	100	99.4	90	110	
Mo	95	1	nogas	97.740	3.073	452523	1.66	100	97.7	90	110	
Ag	107	1	nogas	97.231	2.335	1075348	0.96	100	97.2	90	110	
Cd	111	1	nogas	99.383	2.951	217234	1.74	100	99.4	90	110	
Sn	118	1	nogas	93.255	2.477	685894	1.05	100	93.3	90	110	
Sb	121	1	nogas	92.870	2.982	829510	2.17	100	92.9	90	110	
Ba	137	1	nogas	98.586	3.698	354458	2.28	100	98.6	90	110	
Tl	205	1	nogas	100.787	4.231	2152743	1.65	100	100.8	90	110	
Pb	208	1	nogas	96.917	4.298	2823835	1.47	100	96.9	90	110	
U	238	1	nogas	98.037	3.363	3487868	0.56	100	98.0	90	110	
Li	7	1	nogas	99.123	3.031	1696137	0.81	100	99.1	90	110	
Si	28	1	nogas	5510.492	1.589	7800221	0.84	5000	110.2	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	98.498	3.702	205210	2.26	100	98.5	90	110	
Tl	203	1	nogas	89.318	4.270	803999	1.43	100	89.3	90	110	CCV Main CR1-2 Failed
Na	23	2	He	10079.406	2.047	15451304	1.35	10000	100.8	90	110	
Mg	24	2	He	10215.398	1.613	9328493	0.81	10000	102.2	90	110	
Al	27	2	He	100.123	2.898	60761	2.06	100	100.1	90	110	
K	39	2	He	10250.177	0.999	10818812	1.00	10000	102.5	90	110	
Ca	43	2	He	9933.254	1.016	31260	1.52	10000	99.3	90	110	
Ca	44	2	He	10238.028	0.554	530138	0.26	10000	102.4	90	110	
V	51	2	He	96.900	0.549	651357	0.39	100	96.9	90	110	
Cr	52	2	He	96.735	0.897	709526	0.21	100	96.7	90	110	
Mn	55	2	He	100.897	1.095	559841	0.55	100	100.9	90	110	
Fe	56	2	He	10131.862	0.505	65978637	0.34	10000	101.3	90	110	
Co	59	2	He	96.864	0.516	970766	0.55	100	96.9	90	110	
Ni	60	2	He	99.771	0.507	245631	0.40	100	99.8	90	110	
Cu	63	2	He	100.303	1.058	625740	0.58	100	100.3	90	110	
Zn	66	2	He	103.145	1.463	114273	0.65	100	103.1	90	110	
As	75	2	He	102.388	1.832	76236	1.61	100	102.4	90	110	
Sb	121	2	He	97.922	1.356	488566	0.54	100	97.9	90	110	
Se	78	2	He	103.430	0.633	8593	0.26	100	103.4	90	110	
Ti	47	2	He	100.212	3.265	27604	2.65	100	100.2	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	2249574	0.97	2150099	104.63	70	120	
In	115	1	nogas	2337259	1.43	2337343	100.00	70	120	
Li	6	1	nogas	1203105	3.09	1174457	102.44	70	120	
Bi	209	1	nogas	2152232	2.89	2153831	99.93	70	120	
Ge	72	2	He	758075	0.81	727166	104.25	70	120	
In	115	2	He	1153563	0.19	1141850	101.03	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	037_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T11:12:44-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	0.039	15.4	198	12.7	1	
B	11	1	nogas	18.915	15.5	86319	8.8	10	CCB Main CR1 Failed
Al	27	1	nogas	-1.137	-5.1	32448	2.0	5	
P	31	1	nogas	-0.526	-168.3	25267	1.6	10	
Ti	47	1	nogas	-0.092	-26.2	170	20.4	2.5	
Ni	60	1	nogas	0.213	30.2	1497	17.0	2.5	
Cu	63	1	nogas	0.093	24.1	2410	8.3	2	
Zn	66	1	nogas	0.329	14.2	1230	9.6	2.5	
Se	77	1	nogas	2.523	27.1	2970	3.1	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.767	68.8	270	30.3	2	
Sr	88	1	nogas	0.044	35.0	2577	15.6	2.5	
Mo	95	1	nogas	0.779	11.0	3757	9.5	2.5	
Ag	107	1	nogas	0.027	21.2	350	17.1	2.5	
Cd	111	1	nogas	0.026	52.6	57	53.9	1	
Sn	118	1	nogas	0.442	7.2	4381	5.7	5	
Sb	121	1	nogas	0.495	6.9	5248	6.8	2.5	
Ba	137	1	nogas	0.041	48.4	330	21.0	2.5	
Tl	205	1	nogas	0.308	33.1	6808	33.5	1	
Pb	208	1	nogas	0.044	18.0	1810	13.7	2.5	
U	238	1	nogas	0.044	27.8	1630	27.6	2.5	
Si	28	1	nogas	-134.527	-64.0	3895099	2.0	5	
Na	23	2	He	68.676	2.2	130781	1.3	100	
Mg	24	2	He	3.924	6.4	4221	4.7	100	
Al	27	2	He	-0.391	-31.3	1530	5.2	5	
K	39	2	He	4.129	11.4	51176	1.4	100	
Ca	43	2	He	1.941	673.0	50	80.0	100	
Ca	44	2	He	6.423	27.0	873	9.7	100	
V	51	2	He	0.064	12.5	1953	2.9	2.5	
Cr	52	2	He	0.013	149.7	1663	8.5	2.5	
Mn	55	2	He	0.171	16.4	1980	8.3	2.5	
Fe	56	2	He	3.301	7.4	35381	3.8	100	
Co	59	2	He	0.022	27.1	390	15.6	2.5	
Ni	60	2	He	0.079	91.4	363	48.5	2.5	
Cu	63	2	He	0.039	42.1	983	10.7	2	
Zn	66	2	He	0.348	8.6	630	5.7	2.5	
As	75	2	He	0.202	28.3	228	18.3	2.5	
Sb	121	2	He	0.458	5.8	2650	4.3	2.5	
Se	78	2	He	0.482	13.7	170	3.5	2	
Ti	47	2	He	0.012	175.3	7	86.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2211118	1.14	2150099	102.84	70	120	
In	115	1	nogas	2324036	1.27	2337343	99.43	70	120	

Continuing Calibration Blank (CCB) Report

Li	6	1	nogas	1194119	1.82	1174457	101.67	70	120	
Bi	209	1	nogas	2163221	1.91	2153831	100.44	70	120	
Ge	72	2	He	739602	0.71	727166	101.71	70	120	
In	115	2	He	1120560	0.76	1141850	98.14	70	120	

Sample Report

Sample Table

Sample Name	HS20120486-08MSD
Data File Name	038SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T11:15:12-06:00
Sample Type	Sample
Dilution	1
Comment	TW 160930
ISTD Ref FileName	010CALB.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	58.018	58.018	1.57	215307	0.03	2000	
B	11	1	nogas	559.046	559.046	0.31	1379741	0.04	2000	
Al	27	1	nogas	381.176	381.176	2.12	4874139	0.01	2000	
Ti	47	1	nogas	155.973	155.973	1.82	207434	0.08	2000	
Ni	60	1	nogas	213.819	213.819	0.69	762636	0.03	2000	
Cu	63	1	nogas	55.024	55.024	0.85	472700	0.01	2000	
Zn	66	1	nogas	112.245	112.245	1.15	231420	0.05	2000	
Se	77	1	nogas	73.811	73.811	6.36	10400	0.71	2000	
Se	82	1	nogas	59.744	59.744	4.32	8352	0.72	2000	
Sr	88	1	nogas	1170.208	1170.208	3.33	26914259	0.00	2000	
Mo	95	1	nogas	49.071	49.071	2.83	204958	0.02	2000	
Ag	107	1	nogas	44.966	44.966	3.18	448421	0.01	2000	
Cd	111	1	nogas	47.159	47.159	4.66	92929	0.05	2000	
Sn	118	1	nogas	89.440	89.440	4.00	593152	0.02	2000	
Sb	121	1	nogas	46.385	46.385	0.77	373476	0.01	2000	
Ba	137	1	nogas	102.775	102.775	2.48	333227	0.03	2000	
Tl	205	1	nogas	44.422	44.422	6.86	776782	0.01	2000	
Pb	208	1	nogas	46.583	46.583	6.81	1111350	0.00	2000	
U	238	1	nogas	94.390	94.390	4.54	2750567	0.00	2000	
Si	28	1	nogas	420587.114	420587.114	1.78	261029876	0.16	2000	>LDR
Na	23	2	He	814116.076	814116.076	1.47	1094820250	0.07	200000	>LDR
Mg	24	2	He	51139.884	51139.884	0.88	41043603	0.12	200000	
Al	27	2	He	401.678	401.678	2.85	209461	0.19	2000	
K	39	2	He	5777.481	5777.481	1.07	5378715	0.11	200000	
Ca	43	2	He	58641.162	58641.162	0.34	162008	36.20	200000	
Ca	44	2	He	61929.872	61929.872	1.88	2815597	2.20	200000	
V	51	2	He	50.317	50.317	0.65	297947	0.02	2000	
Cr	52	2	He	47.584	47.584	1.24	307462	0.02	2000	
Mn	55	2	He	5435.086	5435.086	0.51	26457169	0.02	2000	>LDR
Fe	56	2	He	5158.923	5158.923	0.55	29533939	0.02	200000	
Co	59	2	He	60.482	60.482	1.08	532773	0.01	2000	
Ni	60	2	He	213.197	213.197	0.80	461193	0.05	2000	
Cu	63	2	He	48.773	48.773	0.67	267783	0.02	2000	
Zn	66	2	He	111.593	111.593	1.39	108646	0.10	2000	
As	75	2	He	53.958	53.958	0.96	35345	0.15	2000	
Sb	121	2	He	48.710	48.710	0.90	213831	0.02	2000	
Se	78	2	He	53.705	53.705	0.82	3978	1.35	2000	
Ti	47	2	He	157.532	157.532	2.49	38140	0.41	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2025242	1.20	2150099	94.19	70	120	
In	115	1	nogas	2107641	2.30	2337343	90.17	70	120	
Li	6	1	nogas	964210	0.85	1174457	82.10	70	120	
Bi	209	1	nogas	1764155	4.62	2153831	81.91	70	120	
Ge	72	2	He	666296	1.64	727166	91.63	70	120	
In	115	2	He	998791	1.13	1141850	87.47	70	120	

Sample Report

Sample Table

Sample Name	HS20120449-01
Data File Name	039SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T11:17:11-06:00
Sample Type	Sample
Dilution	1
Comment	TW 160930
ISTD Ref FileName	010CALB.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	0.087	0.087	4.90	412	0.02	2000	
B	11	1	nogas	54.347	54.347	1.30	188795	0.03	2000	
Al	27	1	nogas	83.671	83.671	1.42	1179219	0.01	2000	
Ti	47	1	nogas	2.372	2.372	5.62	3660	0.06	2000	
Ni	60	1	nogas	17.417	17.417	1.72	66934	0.03	2000	
Cu	63	1	nogas	8.578	8.578	2.18	79956	0.01	2000	
Zn	66	1	nogas	199.159	199.159	1.20	438014	0.05	2000	
Se	77	1	nogas	23.895	23.895	4.60	5364	0.45	2000	
Se	82	1	nogas	1.468	1.468	36.22	367	0.40	2000	
Sr	88	1	nogas	601.584	601.584	1.04	14930969	0.00	2000	
Mo	95	1	nogas	1.328	1.328	11.30	6148	0.02	2000	
Ag	107	1	nogas	0.015	0.015	34.73	210	0.01	2000	
Cd	111	1	nogas	0.290	0.290	26.09	617	0.05	2000	
Sn	118	1	nogas	0.499	0.499	15.51	4691	0.01	2000	
Sb	121	1	nogas	0.453	0.453	7.68	4767	0.01	2000	
Ba	137	1	nogas	654.796	654.796	2.96	2289441	0.03	2000	
Tl	205	1	nogas	0.425	0.425	38.88	8543	0.00	2000	
Pb	208	1	nogas	0.234	0.234	3.05	6747	0.00	2000	
U	238	1	nogas	0.168	0.168	8.94	5538	0.00	2000	
Si	28	1	nogas	230008.124	230008.124	1.96	154198591	0.15	2000	>LDR
Na	23	2	He	184312.564	184312.564	1.27	268500943	0.07	200000	>LDR
Mg	24	2	He	25249.338	25249.338	2.00	21948416	0.12	200000	
Al	27	2	He	86.448	86.448	2.91	50177	0.17	2000	
K	39	2	He	1574.569	1574.569	3.43	1620755	0.10	200000	
Ca	43	2	He	35945.156	35945.156	1.05	107573	33.41	200000	
Ca	44	2	He	39019.879	39019.879	1.52	1922076	2.03	200000	
V	51	2	He	0.471	0.471	2.30	4504	0.01	2000	
Cr	52	2	He	2.399	2.399	2.67	18246	0.01	2000	
Mn	55	2	He	339.830	339.830	1.73	1792706	0.02	2000	
Fe	56	2	He	671.432	671.432	2.37	4175768	0.02	200000	
Co	59	2	He	4.547	4.547	1.56	43545	0.01	2000	
Ni	60	2	He	16.519	16.519	1.58	38854	0.04	2000	
Cu	63	2	He	7.909	7.909	2.08	47645	0.02	2000	
Zn	66	2	He	202.346	202.346	0.92	213181	0.09	2000	
As	75	2	He	0.903	0.903	9.00	719	0.13	2000	
Sb	121	2	He	0.497	0.497	8.99	2774	0.02	2000	
Se	78	2	He	0.390	0.390	64.64	159	0.25	2000	
Ti	47	2	He	1.068	1.068	20.13	283	0.38	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2162498	0.66	2150099	100.58	70	120	
In	115	1	nogas	2273310	0.73	2337343	97.26	70	120	
Li	6	1	nogas	1169041	1.21	1174457	99.54	70	120	
Bi	209	1	nogas	1973023	1.94	2153831	91.61	70	120	
Ge	72	2	He	721646	0.73	727166	99.24	70	120	
In	115	2	He	1080082	2.24	1141850	94.59	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	048_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T11:35:13-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	101.512	1.002	432619	0.33	100	101.5	90	110	
B	11	1	nogas	505.963	1.541	1436603	0.98	500	101.2	90	110	
Al	27	1	nogas	101.837	3.194	1406283	2.32	100	101.8	90	110	
P	31	1	nogas	505.929	0.720	366617	1.13	500	101.2	90	110	
Ti	47	1	nogas	97.436	2.811	136657	1.70	100	97.4	90	110	
Ni	60	1	nogas	98.922	1.879	372164	0.63	100	98.9	90	110	
Cu	63	1	nogas	96.754	1.483	874807	0.36	100	96.8	90	110	
Zn	66	1	nogas	101.745	1.686	221079	0.49	100	101.7	90	110	
Se	77	1	nogas	113.562	1.120	15480	1.55	100	113.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	103.924	3.573	15193	2.68	100	103.9	90	110	
Sr	88	1	nogas	100.543	0.174	2495226	1.06	100	100.5	90	110	
Mo	95	1	nogas	97.541	1.388	439072	0.58	100	97.5	90	110	
Ag	107	1	nogas	97.372	1.769	1046941	1.01	100	97.4	90	110	
Cd	111	1	nogas	99.260	1.829	210934	0.94	100	99.3	90	110	
Sn	118	1	nogas	93.099	1.874	665688	0.87	100	93.1	90	110	
Sb	121	1	nogas	94.489	2.617	800741	1.36	100	94.5	90	110	
Ba	137	1	nogas	97.925	1.403	342335	0.49	100	97.9	90	110	
Tl	205	1	nogas	100.760	2.200	2036776	0.48	100	100.8	90	110	
Pb	208	1	nogas	99.125	2.762	2733390	1.55	100	99.1	90	110	
U	238	1	nogas	99.779	2.253	3359037	0.27	100	99.8	90	110	
Li	7	1	nogas	102.772	1.526	1616586	0.73	100	102.8	90	110	
Si	28	1	nogas	5693.636	1.660	7519164	0.98	5000	113.9	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	97.419	2.292	197334	1.39	100	97.4	90	110	
Tl	203	1	nogas	92.083	3.011	784402	1.05	100	92.1	90	110	
Na	23	2	He	9922.344	0.622	14455431	0.68	10000	99.2	90	110	
Mg	24	2	He	10128.852	0.104	8789919	0.35	10000	101.3	90	110	
Al	27	2	He	100.409	0.077	57905	0.41	100	100.4	90	110	
K	39	2	He	9947.867	1.297	9978811	1.39	10000	99.5	90	110	
Ca	43	2	He	10048.588	3.186	30048	3.22	10000	100.5	90	110	
Ca	44	2	He	9975.295	1.467	490858	1.53	10000	99.8	90	110	
V	51	2	He	95.561	1.451	610415	1.30	100	95.6	90	110	
Cr	52	2	He	94.437	0.901	658280	1.13	100	94.4	90	110	
Mn	55	2	He	99.267	1.241	523426	1.18	100	99.3	90	110	
Fe	56	2	He	9997.922	1.288	61866434	0.96	10000	100.0	90	110	
Co	59	2	He	96.499	0.915	918992	0.85	100	96.5	90	110	
Ni	60	2	He	97.879	0.612	228992	0.95	100	97.9	90	110	
Cu	63	2	He	99.278	0.614	588557	0.69	100	99.3	90	110	
Zn	66	2	He	102.501	1.277	107915	1.10	100	102.5	90	110	
As	75	2	He	101.019	1.556	71477	1.51	100	101.0	90	110	
Sb	121	2	He	98.248	2.095	465824	2.05	100	98.2	90	110	
Se	78	2	He	103.794	6.185	8193	5.96	100	103.8	90	110	
Ti	47	2	He	98.104	1.428	25681	1.09	100	98.1	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	2134483	1.27	2150099	99.27	70	120	
In	115	1	nogas	2271961	1.01	2337343	97.20	70	120	
Li	6	1	nogas	1107336	1.07	1174457	94.28	70	120	
Bi	209	1	nogas	2035932	2.31	2153831	94.53	70	120	
Ge	72	2	He	720348	0.34	727166	99.06	70	120	
In	115	2	He	1110189	0.87	1141850	97.23	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	049_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T11:37:11-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	44.9	160	39.0	1	
B	11	1	nogas	18.654	14.6	80099	7.7	10	CCB Main CR1 Failed
Al	27	1	nogas	-1.284	-2.1	28972	1.2	5	
P	31	1	nogas	-0.277	-195.6	24229	2.0	10	
Ti	47	1	nogas	-0.033	-128.9	243	24.8	2.5	
Ni	60	1	nogas	0.178	3.4	1297	1.6	2.5	
Cu	63	1	nogas	0.061	9.4	2010	2.3	2	
Zn	66	1	nogas	0.321	24.4	1153	14.4	2.5	
Se	77	1	nogas	4.802	55.1	3084	9.8	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.721	10.2	250	4.0	2	
Sr	88	1	nogas	0.086	4.7	3624	5.4	2.5	
Mo	95	1	nogas	0.600	15.8	2910	12.2	2.5	
Ag	107	1	nogas	0.028	28.9	350	22.9	2.5	
Cd	111	1	nogas	0.039	5.0	83	6.9	1	
Sn	118	1	nogas	0.351	15.6	3684	8.2	5	
Sb	121	1	nogas	0.198	6.3	2514	4.5	2.5	
Ba	137	1	nogas	0.088	31.5	493	18.4	2.5	
Tl	205	1	nogas	0.287	39.5	6185	41.4	1	
Pb	208	1	nogas	0.043	31.0	1723	24.5	2.5	
U	238	1	nogas	0.043	28.7	1533	30.7	2.5	
Si	28	1	nogas	-129.298	-69.2	3711803	1.1	5	
Na	23	2	He	71.985	3.3	124268	1.4	100	
Mg	24	2	He	4.548	4.6	4374	2.8	100	
Al	27	2	He	-0.611	-80.5	1283	18.8	5	
K	39	2	He	13.936	5.8	56067	1.0	100	
Ca	43	2	He	7.080	91.9	60	28.9	100	
Ca	44	2	He	6.133	21.3	787	8.2	100	
V	51	2	He	0.060	25.1	1760	6.2	2.5	
Cr	52	2	He	0.004	356.6	1470	7.2	2.5	
Mn	55	2	He	0.069	29.6	1307	8.4	2.5	
Fe	56	2	He	3.506	1.8	33599	1.7	100	
Co	59	2	He	0.021	22.8	343	11.8	2.5	
Ni	60	2	He	0.098	31.7	373	19.4	2.5	
Cu	63	2	He	0.038	41.8	897	10.1	2	
Zn	66	2	He	0.314	18.7	543	11.2	2.5	
As	75	2	He	0.168	32.3	186	18.0	2.5	
Sb	121	2	He	0.202	17.7	1287	12.5	2.5	
Se	78	2	He	0.149	22.2	131	0.9	2	
Ti	47	2	He	0.096	23.2	27	21.7	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	2105312	0.49	2150099	97.92	70	120	
In	115	1	nogas	2307563	2.64	2337343	98.73	70	120	

Continuing Calibration Blank (CCB) Report

Li	6	1	nogas	1118348	2.18	1174457	95.22	70	120	
Bi	209	1	nogas	2092726	2.90	2153831	97.16	70	120	
Ge	72	2	He	677309	1.38	727166	93.14	70	120	
In	115	2	He	1067527	1.69	1141850	93.49	70	120	

Sample Report

Sample Table

Sample Name	HS20120486-08SD
Data File Name	056SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T11:52:14-06:00
Sample Type	Sample
Dilution	250
Comment	
ISTD Ref FileName	010CALB.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	0.008	2.007	80.99	48	0.02	2000	
B	11	1	nogas	4.436	1109.001	2.61	37496	0.01	2000	
Al	27	1	nogas	2.058	514.608	3.54	68909	0.00	2000	
Ti	47	1	nogas	-0.132	-33.125	-22.34	100	-0.13	2000	
Ni	60	1	nogas	0.743	185.675	6.40	3200	0.02	2000	
Cu	63	1	nogas	0.109	27.154	2.46	2300	0.00	2000	
Zn	66	1	nogas	0.373	93.309	18.36	1193	0.03	2000	
Se	77	1	nogas	15.212	3802.927	8.33	4014	0.38	2000	
Se	82	1	nogas	0.108	27.012	43.54	153	0.07	2000	
Sr	88	1	nogas	3.949	987.194	3.57	94091	0.00	2000	
Mo	95	1	nogas	0.048	11.954	57.43	367	0.01	2000	
Ag	107	1	nogas	0.000	0.091	800.50	50	0.00	2000	
Cd	111	1	nogas	0.003	0.834	86.61	7	0.05	2000	
Sn	118	1	nogas	0.060	14.895	71.43	1470	0.00	2000	
Sb	121	1	nogas	-0.020	-5.064	-83.87	650	0.00	2000	
Ba	137	1	nogas	0.234	58.510	6.20	943	0.02	2000	
Tl	205	1	nogas	-0.002	-0.611	-90.87	123	0.00	2000	
Pb	208	1	nogas	0.006	1.416	63.60	640	0.00	2000	
U	238	1	nogas	0.001	0.197	16.19	67	0.00	2000	
Si	28	1	nogas	1287.026	321756.448	18.83	4353899	0.03	2000	
Na	23	2	He	3151.115	787778.649	3.70	4084684	0.08	200000	
Mg	24	2	He	173.926	43481.585	1.52	134394	0.13	200000	
Al	27	2	He	2.917	729.198	15.83	2960	0.10	2000	
K	39	2	He	7.818	1954.562	15.36	47443	0.02	200000	
Ca	43	2	He	233.640	58409.982	18.56	657	35.58	200000	
Ca	44	2	He	225.762	56440.624	2.14	10313	2.19	200000	
V	51	2	He	0.171	42.759	12.82	2288	0.01	2000	
Cr	52	2	He	-0.007	-1.711	-362.30	1317	0.00	2000	
Mn	55	2	He	20.885	5221.140	1.44	98326	0.02	2000	
Fe	56	2	He	0.647	161.862	17.69	15997	0.00	200000	
Co	59	2	He	0.057	14.336	17.25	633	0.01	2000	
Ni	60	2	He	0.719	179.804	22.87	1637	0.04	2000	
Cu	63	2	He	0.092	22.888	16.44	1123	0.01	2000	
Zn	66	2	He	0.401	100.356	3.37	593	0.07	2000	
As	75	2	He	0.056	14.012	80.44	106	0.05	2000	
Sb	121	2	He	-0.002	-0.553	-591.96	357	0.00	2000	
Se	78	2	He	-0.130	-32.534	-88.11	105	-0.12	2000	
Ti	47	2	He	0.059	14.865	43.14	17	0.36	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1987834	2.26	2150099	92.45	70	120	
In	115	1	nogas	2152143	1.47	2337343	92.08	70	120	
Li	6	1	nogas	1043226	1.11	1174457	88.83	70	120	

Sample Report

Bi	209	1	nogas	1999784	2.52	2153831	92.85	70	120	
Ge	72	2	He	638540	1.36	727166	87.81	70	120	
In	115	2	He	1000971	0.47	1141850	87.66	70	120	

Sample Report

Sample Table

Sample Name	HS20120486-08PDS
Data File Name	057SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T11:54:15-06:00
Sample Type	Sample
Dilution	50
Comment	
ISTD Ref FileName	010CALB.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	95.848	4792.380	2.20	372645	0.03	2000	
B	11	1	nogas	3.843	192.169	11.45	34805	0.01	2000	
Al	27	1	nogas	102.817	5140.836	0.92	1254931	0.01	2000	
Ti	47	1	nogas	93.305	4665.241	1.89	115720	0.08	2000	
Ni	60	1	nogas	99.928	4996.390	1.30	332383	0.03	2000	
Cu	63	1	nogas	94.586	4729.310	0.71	756122	0.01	2000	
Zn	66	1	nogas	102.038	5101.906	1.31	196024	0.05	2000	
Se	77	1	nogas	106.536	5326.823	4.82	12978	0.82	2000	
Se	82	1	nogas	104.613	5230.646	2.45	13522	0.77	2000	
Sr	88	1	nogas	18.941	947.071	2.07	429255	0.00	2000	
Mo	95	1	nogas	95.266	4763.278	1.60	390686	0.02	2000	
Ag	107	1	nogas	94.349	4717.474	1.29	924222	0.01	2000	
Cd	111	1	nogas	96.659	4832.952	1.57	187137	0.05	2000	
Sn	118	1	nogas	0.059	2.947	52.75	1410	0.00	2000	
Sb	121	1	nogas	89.589	4479.427	0.94	671329	0.01	2000	
Ba	137	1	nogas	98.136	4906.778	2.90	312523	0.03	2000	
Tl	205	1	nogas	100.100	5004.976	1.61	1865063	0.01	2000	
Pb	208	1	nogas	96.336	4816.777	2.95	2448186	0.00	2000	
U	238	1	nogas	0.001	0.040	95.89	63	0.00	2000	
Si	28	1	nogas	7204.039	360201.931	2.36	7508289	0.10	2000	>LDR
Na	23	2	He	24496.374	1224818.685	0.85	30767756	0.08	200000	
Mg	24	2	He	10861.750	543087.484	2.16	8133558	0.13	200000	
Al	27	2	He	102.220	5111.019	3.89	50831	0.20	2000	
K	39	2	He	9732.535	486626.759	1.05	8426421	0.12	200000	
Ca	43	2	He	10367.403	518370.128	3.05	26763	38.74	200000	
Ca	44	2	He	10630.371	531518.553	1.27	451401	2.35	200000	
V	51	2	He	94.970	4748.513	1.06	523597	0.02	2000	
Cr	52	2	He	93.588	4679.397	1.09	563035	0.02	2000	
Mn	55	2	He	195.217	9760.862	1.28	887495	0.02	2000	
Fe	56	2	He	9804.305	490215.271	1.64	52356204	0.02	200000	
Co	59	2	He	96.536	4826.775	1.03	793428	0.01	2000	
Ni	60	2	He	101.951	5097.539	0.74	205851	0.05	2000	
Cu	63	2	He	99.250	4962.503	0.40	507870	0.02	2000	
Zn	66	2	He	103.110	5155.521	1.02	93705	0.11	2000	
As	75	2	He	100.769	5038.467	1.01	61546	0.16	2000	
Sb	121	2	He	95.438	4771.908	1.43	390516	0.02	2000	
Se	78	2	He	101.068	5053.422	3.89	6886	1.47	2000	
Ti	47	2	He	94.782	4739.089	0.41	21416	0.44	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	1886853	0.21	2150099	87.76	70	120	
In	115	1	nogas	2069847	0.95	2337343	88.56	70	120	
Li	6	1	nogas	1010535	3.11	1174457	86.04	70	120	

Sample Report

Bi	209	1	nogas	1876297	1.82	2153831	87.11	70	120	
Ge	72	2	He	621776	2.16	727166	85.51	70	120	
In	115	2	He	975832	1.16	1141850	85.46	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	060_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T12:00:16-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	102.145	1.360	370344	0.50	100	102.1	90	110	
B	11	1	nogas	505.538	3.008	1221033	1.75	500	101.1	90	110	
Al	27	1	nogas	96.262	3.395	1168079	3.27	100	96.3	90	110	
P	31	1	nogas	493.467	0.983	314093	0.31	500	98.7	90	110	
Ti	47	1	nogas	97.625	2.514	120086	2.38	100	97.6	90	110	
Ni	60	1	nogas	100.216	1.233	330659	1.40	100	100.2	90	110	
Cu	63	1	nogas	96.588	1.489	765890	1.67	100	96.6	90	110	
Zn	66	1	nogas	101.154	1.620	192756	1.25	100	101.2	90	110	
Se	77	1	nogas	103.122	1.847	12534	1.65	100	103.1	90	110	
Se	82	1	nogas	102.305	2.573	13122	3.14	100	102.3	90	110	
Sr	88	1	nogas	98.057	3.093	2190733	1.63	100	98.1	90	110	
Mo	95	1	nogas	95.022	0.175	385209	1.52	100	95.0	90	110	
Ag	107	1	nogas	96.634	0.854	935684	1.49	100	96.6	90	110	
Cd	111	1	nogas	99.132	1.963	189721	2.48	100	99.1	90	110	
Sn	118	1	nogas	92.563	1.638	596128	2.74	100	92.6	90	110	
Sb	121	1	nogas	96.454	1.524	716900	1.60	100	96.5	90	110	
Ba	137	1	nogas	98.078	2.018	308755	2.05	100	98.1	90	110	
Tl	205	1	nogas	99.592	2.573	1875168	0.06	100	99.6	90	110	
Pb	208	1	nogas	95.851	3.635	2461572	1.16	100	95.9	90	110	
U	238	1	nogas	98.194	3.973	3078475	1.74	100	98.2	90	110	
Li	7	1	nogas	104.060	1.935	1391750	1.15	100	104.1	90	110	
Si	28	1	nogas	4936.811	2.740	6165359	0.75	5000	98.7	90	110	
Ba	135	1	nogas	97.921	1.531	178657	2.77	100	97.9	90	110	
Tl	203	1	nogas	89.261	4.487	708099	2.15	100	89.3	90	110	CCV Main CR1-2 Failed
Na	23	2	He	9863.887	1.993	12272139	1.55	10000	98.6	90	110	
Mg	24	2	He	10068.373	3.101	7460338	1.68	10000	100.7	90	110	
Al	27	2	He	100.652	1.743	49572	2.12	100	100.7	90	110	
K	39	2	He	9714.082	1.247	8322718	1.10	10000	97.1	90	110	
Ca	43	2	He	9473.048	3.837	24189	2.95	10000	94.7	90	110	
Ca	44	2	He	9802.603	1.844	411920	0.82	10000	98.0	90	110	
V	51	2	He	95.224	1.527	519458	0.77	100	95.2	90	110	
Cr	52	2	He	94.360	1.769	561680	0.76	100	94.4	90	110	
Mn	55	2	He	99.805	2.298	449375	0.84	100	99.8	90	110	
Fe	56	2	He	10034.568	2.446	53020529	0.25	10000	100.3	90	110	
Co	59	2	He	96.161	2.086	782031	1.21	100	96.2	90	110	
Ni	60	2	He	99.049	2.800	197851	0.62	100	99.0	90	110	
Cu	63	2	He	100.526	2.119	508887	0.52	100	100.5	90	110	
Zn	66	2	He	104.077	3.550	93547	1.47	100	104.1	90	110	
As	75	2	He	102.429	1.251	61899	1.85	100	102.4	90	110	
Sb	121	2	He	102.335	2.013	414320	0.85	100	102.3	90	110	
Se	78	2	He	102.547	0.266	6916	2.24	100	102.5	90	110	
Ti	47	2	He	97.254	2.264	21740	0.28	100	97.3	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	1871707	0.75	2150099	87.05	70	120	
In	115	1	nogas	2045915	1.70	2337343	87.53	70	120	
Li	6	1	nogas	942136	1.67	1174457	80.22	70	120	
Bi	209	1	nogas	1896586	2.59	2153831	88.06	70	120	
Ge	72	2	He	615301	2.22	727166	84.62	70	120	
In	115	2	He	974333	1.01	1141850	85.33	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	061_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T12:02:15-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	38.5	137	36.1	1	
B	11	1	nogas	16.441	11.2	64811	8.3	10	CCB Main CR1 Failed
Al	27	1	nogas	-1.231	-2.3	26248	1.3	5	
P	31	1	nogas	-1.756	-99.7	20562	4.5	10	
Ti	47	1	nogas	0.014	971.4	273	62.4	2.5	
Ni	60	1	nogas	0.032	94.0	667	14.6	2.5	
Cu	63	1	nogas	0.039	86.1	1610	16.3	2	
Zn	66	1	nogas	0.372	32.3	1117	20.0	2.5	
Se	77	1	nogas	-0.056	-1860.1	2247	4.9	2.5	
Se	82	1	nogas	1.055	11.9	263	5.8	2	
Sr	88	1	nogas	0.022	30.8	1800	10.3	2.5	
Mo	95	1	nogas	0.645	13.6	2807	12.8	2.5	
Ag	107	1	nogas	0.027	18.1	307	13.6	2.5	
Cd	111	1	nogas	0.029	35.6	57	36.7	1	
Sn	118	1	nogas	0.336	13.3	3214	8.6	5	
Sb	121	1	nogas	0.376	2.5	3537	1.7	2.5	
Ba	137	1	nogas	0.035	49.9	273	20.1	2.5	
Tl	205	1	nogas	0.282	41.9	5618	42.4	1	
Pb	208	1	nogas	0.046	22.2	1670	16.5	2.5	
U	238	1	nogas	0.039	35.1	1293	35.9	2.5	
Si	28	1	nogas	-348.374	-23.9	3160889	1.0	5	
Na	23	2	He	28.346	4.2	57941	1.7	100	
Mg	24	2	He	2.463	9.6	2397	6.7	100	
Al	27	2	He	-0.718	-74.9	1100	22.3	5	
K	39	2	He	4.361	7.7	42218	2.0	100	
Ca	43	2	He	-6.384	-63.6	20	50.0	100	
Ca	44	2	He	3.367	48.7	590	10.3	100	
V	51	2	He	0.019	63.4	1358	3.3	2.5	
Cr	52	2	He	-0.015	-137.2	1203	8.9	2.5	
Mn	55	2	He	-0.004	-1209.5	850	25.3	2.5	
Fe	56	2	He	2.943	10.0	27177	4.3	100	
Co	59	2	He	0.021	53.4	310	28.1	2.5	
Ni	60	2	He	0.089	18.3	317	9.6	2.5	
Cu	63	2	He	0.052	59.4	873	18.0	2	
Zn	66	2	He	0.291	12.4	467	7.5	2.5	
As	75	2	He	0.166	36.3	166	22.3	2.5	
Sb	121	2	He	0.376	6.9	1850	6.6	2.5	
Se	78	2	He	0.478	9.5	139	0.8	2	
Ti	47	2	He	0.047	144.5	13	114.6	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	1862788	0.49	2150099	86.64	70	120	
In	115	1	nogas	2073558	2.30	2337343	88.71	70	120	

Continuing Calibration Blank (CCB) Report

Li	6	1	nogas	979514	3.02	1174457	83.40	70	120	
Bi	209	1	nogas	1935659	2.21	2153831	89.87	70	120	
Ge	72	2	He	607281	1.38	727166	83.51	70	120	
In	115	2	He	964518	0.86	1141850	84.47	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	162_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T16:01:58-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	99.112	2.162	388513	0.85	100	99.1	90	110	
B	11	1	nogas	520.156	1.551	1358093	2.38	500	104.0	90	110	
Al	27	1	nogas	97.745	1.349	1295373	1.61	100	97.7	90	110	
P	31	1	nogas	488.730	0.945	340142	0.46	500	97.7	90	110	
Ti	47	1	nogas	96.953	0.753	130332	1.89	100	97.0	90	110	
Ni	60	1	nogas	97.820	1.310	352737	2.52	100	97.8	90	110	
Cu	63	1	nogas	94.145	0.818	815765	1.35	100	94.1	90	110	
Zn	66	1	nogas	99.332	1.457	206873	2.51	100	99.3	90	110	
Se	77	1	nogas	105.349	3.819	13936	1.80	100	105.3	90	110	
Se	82	1	nogas	103.144	5.145	14449	4.36	100	103.1	90	110	
Sr	88	1	nogas	97.035	1.256	2368916	0.92	100	97.0	90	110	
Mo	95	1	nogas	95.320	0.901	422141	1.37	100	95.3	90	110	
Ag	107	1	nogas	95.795	1.400	1013385	2.06	100	95.8	90	110	
Cd	111	1	nogas	97.673	1.710	204218	2.28	100	97.7	90	110	
Sn	118	1	nogas	93.140	2.269	655251	2.65	100	93.1	90	110	
Sb	121	1	nogas	95.535	1.173	775965	2.10	100	95.5	90	110	
Ba	137	1	nogas	98.871	1.185	340060	1.78	100	98.9	90	110	
Tl	205	1	nogas	98.919	2.962	1952262	0.41	100	98.9	90	110	
Pb	208	1	nogas	100.484	4.311	2636577	1.46	100	100.5	90	110	
U	238	1	nogas	98.662	2.381	3243240	0.54	100	98.7	90	110	
Li	7	1	nogas	99.222	4.286	1437811	2.93	100	99.2	90	110	
Si	28	1	nogas	4807.640	5.801	6656091	1.26	5000	96.2	90	110	
Ba	135	1	nogas	98.803	1.053	196915	1.67	100	98.8	90	110	
Tl	203	1	nogas	91.779	4.302	763195	1.38	100	91.8	90	110	
Na	23	2	He	9691.228	1.784	12721794	3.82	10000	96.9	90	110	
Mg	24	2	He	9965.647	1.494	7791952	3.52	10000	99.7	90	110	
Al	27	2	He	100.578	0.735	52275	4.59	100	100.6	90	110	
K	39	2	He	9441.063	2.350	8543189	6.66	10000	94.4	90	110	
Ca	43	2	He	9444.302	0.884	25454	4.44	10000	94.4	90	110	
Ca	44	2	He	9668.907	1.561	429033	6.03	10000	96.7	90	110	
V	51	2	He	93.376	0.789	537729	5.18	100	93.4	90	110	
Cr	52	2	He	92.039	0.254	578322	4.81	100	92.0	90	110	
Mn	55	2	He	95.614	0.945	454581	5.52	100	95.6	90	110	
Fe	56	2	He	9646.470	0.332	53799898	4.41	10000	96.5	90	110	
Co	59	2	He	95.129	0.310	816610	4.82	100	95.1	90	110	
Ni	60	2	He	98.681	0.491	208054	4.17	100	98.7	90	110	
Cu	63	2	He	99.184	0.525	529910	4.21	100	99.2	90	110	
Zn	66	2	He	96.885	0.033	95015	4.62	100	96.9	90	110	
As	75	2	He	98.754	0.486	62991	5.06	100	98.8	90	110	
Sb	121	2	He	100.632	0.609	429969	4.09	100	100.6	90	110	
Se	78	2	He	99.832	4.603	7117	8.98	100	99.8	90	110	
Ti	47	2	He	97.374	1.411	22971	4.18	100	97.4	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	2045280	1.33	2150099	95.12	70	120	
In	115	1	nogas	2234973	0.68	2337343	95.62	70	120	
Li	6	1	nogas	1018741	2.13	1174457	86.74	70	120	
Bi	209	1	nogas	1988245	2.91	2153831	92.31	70	120	
Ge	72	2	He	649264	4.60	727166	89.29	70	120	
In	115	2	He	1045733	4.69	1141850	91.58	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	163_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T16:03:57-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	0.070	4.7	298	7.6	1	
B	11	1	nogas	28.322	2.7	100336	5.4	10	CCB Main CR1 Failed
Al	27	1	nogas	-1.637	-2.8	23755	0.5	5	
P	31	1	nogas	-1.339	-190.6	22961	4.6	10	
Ti	47	1	nogas	-0.057	-28.9	207	12.2	2.5	
Ni	60	1	nogas	0.157	27.2	1193	15.5	2.5	
Cu	63	1	nogas	0.141	26.2	2660	11.0	2	
Zn	66	1	nogas	0.076	28.5	617	8.3	2.5	
Se	77	1	nogas	2.050	98.1	2714	9.1	2.5	
Se	82	1	nogas	0.841	45.2	260	17.6	2	
Sr	88	1	nogas	0.067	18.5	3024	8.6	2.5	
Mo	95	1	nogas	0.701	12.7	3257	11.0	2.5	
Ag	107	1	nogas	0.048	31.0	550	27.2	2.5	
Cd	111	1	nogas	0.051	20.3	107	19.5	1	
Sn	118	1	nogas	0.507	17.1	4644	11.7	5	
Sb	121	1	nogas	0.285	7.2	3160	3.3	2.5	
Ba	137	1	nogas	0.054	32.5	360	15.5	2.5	
Tl	205	1	nogas	0.323	37.2	7005	42.2	1	
Pb	208	1	nogas	0.074	11.9	2570	15.3	2.5	
U	238	1	nogas	0.072	18.6	2547	23.8	2.5	
Si	28	1	nogas	-714.085	-30.5	3262283	1.6	5	
Na	23	2	He	50.400	0.5	88026	5.9	100	
Mg	24	2	He	3.182	3.8	3027	5.7	100	
Al	27	2	He	-0.862	-48.1	1063	13.3	5	
K	39	2	He	1.159	157.8	40915	6.1	100	
Ca	43	2	He	5.196	212.2	50	52.9	100	
Ca	44	2	He	2.758	85.8	583	15.5	100	
V	51	2	He	0.034	38.0	1496	10.0	2.5	
Cr	52	2	He	0.004	353.5	1360	1.5	2.5	
Mn	55	2	He	-0.025	-74.2	787	16.3	2.5	
Fe	56	2	He	4.313	9.6	35484	3.3	100	
Co	59	2	He	0.035	13.7	440	3.9	2.5	
Ni	60	2	He	0.054	63.1	260	30.8	2.5	
Cu	63	2	He	0.031	83.8	790	10.8	2	
Zn	66	2	He	0.001	4947.4	217	18.7	2.5	
As	75	2	He	0.231	14.3	212	15.3	2.5	
Sb	121	2	He	0.313	13.4	1650	4.6	2.5	
Se	78	2	He	0.632	44.0	154	6.0	2	
Ti	47	2	He	0.102	61.6	27	57.3	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	2057967	2.95	2150099	95.71	70	120	
In	115	1	nogas	2226567	1.47	2337343	95.26	70	120	

Continuing Calibration Blank (CCB) Report

Li	6	1	nogas	1044437	3.39	1174457	88.93	70	120	
Bi	209	1	nogas	2098315	5.72	2153831	97.42	70	120	
Ge	72	2	He	629014	5.96	727166	86.50	70	120	
In	115	2	He	1020358	5.39	1141850	89.36	70	120	

Sample Report

Sample Table

Sample Name	HS20120486-08SD
Data File Name	166SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T16:12:45-06:00
Sample Type	Sample
Dilution	5
Comment	TW 160930
ISTD Ref FileName	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.198	0.988	10.54	828	0.02	2000	
B	11	1	nogas	19.179	95.893	2.30	77848	0.02	2000	
Al	27	1	nogas	25.296	126.478	3.01	382403	0.01	2000	
Ti	47	1	nogas	0.702	3.511	9.75	1270	0.06	2000	
Ni	60	1	nogas	33.391	166.953	2.86	125413	0.03	2000	
Cu	63	1	nogas	1.618	8.089	2.21	16010	0.01	2000	
Zn	66	1	nogas	14.454	72.268	1.04	31658	0.05	2000	
Se	77	1	nogas	19.864	99.319	12.59	4811	0.41	2000	
Se	82	1	nogas	1.422	7.108	16.76	353	0.40	2000	
Sr	88	1	nogas	207.515	1037.574	0.78	5161553	0.00	2000	
Mo	95	1	nogas	0.069	0.344	13.38	483	0.01	2000	
Ag	107	1	nogas	-0.001	-0.007	-38.13	33	0.00	2000	
Cd	111	1	nogas	0.048	0.242	64.97	103	0.05	2000	
Sn	118	1	nogas	0.046	0.231	4.08	1460	0.00	2000	
Sb	121	1	nogas	0.005	0.026	205.68	907	0.00	2000	
Ba	137	1	nogas	10.270	51.348	1.06	36155	0.03	2000	
Tl	205	1	nogas	0.003	0.015	76.69	227	0.00	2000	
Pb	208	1	nogas	0.030	0.148	12.45	1253	0.00	2000	
U	238	1	nogas	0.012	0.061	28.24	440	0.00	2000	
Si	28	1	nogas	76013.387	380066.935	1.58	52608301	0.14	2000	>LDR
Na	23	2	He	166402.774	832013.868	5.51	152942111	0.11	200000	
Mg	24	2	He	9934.404	49672.020	6.88	5435147	0.18	200000	
Al	27	2	He	30.447	152.235	5.56	11874	0.26	2000	
K	39	2	He	111.027	555.133	10.81	101053	0.11	200000	
Ca	43	2	He	9297.621	46488.105	7.50	17936	51.84	200000	
Ca	44	2	He	9570.142	47850.711	2.93	301521	3.17	200000	
V	51	2	He	0.164	0.822	37.08	1659	0.01	2000	
Cr	52	2	He	0.038	0.191	69.52	1130	0.00	2000	
Mn	55	2	He	1050.192	5250.959	2.00	3521450	0.03	2000	
Fe	56	2	He	44.148	220.739	1.81	182699	0.02	200000	
Co	59	2	He	2.833	14.163	5.47	17155	0.02	2000	
Ni	60	2	He	37.388	186.938	5.53	55332	0.07	2000	
Cu	63	2	He	0.429	2.143	12.59	2050	0.02	2000	
Zn	66	2	He	15.675	78.374	4.63	10960	0.14	2000	
As	75	2	He	0.159	0.797	34.62	122	0.13	2000	
Sb	121	2	He	0.028	0.141	28.93	350	0.01	2000	
Se	78	2	He	-0.649	-3.247	-11.74	50	-1.30	2000	
Ti	47	2	He	0.157	0.785	59.20	27	0.59	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2123763	1.06	2150099	98.78	70	120	
In	115	1	nogas	2277632	0.89	2337343	97.45	70	120	
Li	6	1	nogas	1066186	1.81	1174457	90.78	70	120	
Bi	209	1	nogas	1972080	1.67	2153831	91.56	70	120	
Ge	72	2	He	459223	24.23	727166	63.15	70	120	ISTD Failed
In	115	2	He	733484	24.33	1141850	64.24	70	120	ISTD Failed

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	168_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T16:19:11-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	101.171	2.373	420990	1.20	100	101.2	90	110	
B	11	1	nogas	531.729	3.320	1472723	2.24	500	106.3	90	110	
Al	27	1	nogas	99.281	2.021	1368332	2.03	100	99.3	90	110	
P	31	1	nogas	499.598	1.173	361287	1.73	500	99.9	90	110	
Ti	47	1	nogas	98.344	2.435	137563	3.12	100	98.3	90	110	
Ni	60	1	nogas	98.205	0.762	368448	1.48	100	98.2	90	110	
Cu	63	1	nogas	95.079	1.604	857307	2.30	100	95.1	90	110	
Zn	66	1	nogas	99.703	1.352	216052	2.02	100	99.7	90	110	
Se	77	1	nogas	109.857	3.025	15016	3.21	100	109.9	90	110	
Se	82	1	nogas	102.314	5.444	14923	6.11	100	102.3	90	110	
Sr	88	1	nogas	97.447	3.850	2473094	1.76	100	97.4	90	110	
Mo	95	1	nogas	94.483	4.223	434958	2.39	100	94.5	90	110	
Ag	107	1	nogas	94.743	4.539	1041773	2.87	100	94.7	90	110	
Cd	111	1	nogas	97.497	4.463	211875	2.38	100	97.5	90	110	
Sn	118	1	nogas	90.869	4.782	664512	3.16	100	90.9	90	110	
Sb	121	1	nogas	93.075	2.627	786698	3.34	100	93.1	90	110	
Ba	137	1	nogas	96.493	4.019	345039	3.02	100	96.5	90	110	
Tl	205	1	nogas	99.749	4.965	2045319	0.88	100	99.7	90	110	
Pb	208	1	nogas	100.094	7.085	2727695	2.98	100	100.1	90	110	
U	238	1	nogas	98.353	5.055	3358551	0.89	100	98.4	90	110	
Li	7	1	nogas	100.338	1.679	1542955	0.84	100	100.3	90	110	
Si	28	1	nogas	4937.156	1.179	7010464	0.22	5000	98.7	90	110	
Ba	135	1	nogas	96.651	4.023	200245	2.53	100	96.7	90	110	
Tl	203	1	nogas	89.882	6.499	776415	2.49	100	89.9	90	110	CCV Main CR1-2 Failed
Na	23	2	He	10083.242	0.808	13979184	1.29	10000	100.8	90	110	
Mg	24	2	He	10216.626	1.361	8437111	1.33	10000	102.2	90	110	
Al	27	2	He	99.790	1.038	54772	0.04	100	99.8	90	110	
K	39	2	He	9960.116	2.706	9507645	2.70	10000	99.6	90	110	
Ca	43	2	He	9469.829	2.470	26953	3.16	10000	94.7	90	110	
Ca	44	2	He	10002.196	1.550	468402	2.16	10000	100.0	90	110	
V	51	2	He	95.047	1.289	577794	1.65	100	95.0	90	110	
Cr	52	2	He	94.263	0.331	625304	1.25	100	94.3	90	110	
Mn	55	2	He	98.687	1.571	495240	2.19	100	98.7	90	110	
Fe	56	2	He	10025.425	1.639	59038259	1.84	10000	100.3	90	110	
Co	59	2	He	96.522	0.437	874783	1.16	100	96.5	90	110	
Ni	60	2	He	99.546	1.392	221613	0.96	100	99.5	90	110	
Cu	63	2	He	100.562	1.425	567357	1.99	100	100.6	90	110	
Zn	66	2	He	98.369	0.808	101855	1.48	100	98.4	90	110	
As	75	2	He	99.637	1.647	67096	2.27	100	99.6	90	110	
Sb	121	2	He	99.074	1.500	447043	2.04	100	99.1	90	110	
Se	78	2	He	101.944	1.279	7661	1.96	100	101.9	90	110	
Ti	47	2	He	93.318	2.964	23251	3.75	100	93.3	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	2128144	0.72	2150099	98.98	70	120	
In	115	1	nogas	2324654	2.34	2337343	99.46	70	120	
Li	6	1	nogas	1081330	1.18	1174457	92.07	70	120	
Bi	209	1	nogas	2067432	4.28	2153831	95.99	70	120	
Ge	72	2	He	685521	1.03	727166	94.27	70	120	
In	115	2	He	1093925	1.15	1141850	95.80	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	169_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq Date Time	2020-12-24T16:21:08-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.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	0.087	3.7	385	3.9	1	
B	11	1	nogas	26.954	9.1	101817	6.4	10	CCB Main CR1 Failed
Al	27	1	nogas	-1.585	-0.8	24927	0.8	5	
P	31	1	nogas	0.017	5732.7	24349	1.4	10	
Ti	47	1	nogas	-0.060	-92.5	207	37.0	2.5	
Ni	60	1	nogas	0.263	28.4	1603	16.6	2.5	
Cu	63	1	nogas	0.195	9.9	3200	5.0	2	
Zn	66	1	nogas	0.144	29.3	773	12.0	2.5	
Se	77	1	nogas	5.632	9.2	3167	1.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.681	58.3	243	22.6	2	
Sr	88	1	nogas	0.093	13.6	3820	8.4	2.5	
Mo	95	1	nogas	0.616	12.3	3020	10.3	2.5	
Ag	107	1	nogas	0.060	15.8	713	13.5	2.5	
Cd	111	1	nogas	0.081	42.5	177	42.5	1	
Sn	118	1	nogas	0.366	24.8	3834	16.0	5	
Sb	121	1	nogas	0.219	2.1	2677	0.2	2.5	
Ba	137	1	nogas	0.050	57.3	360	27.8	2.5	
Tl	205	1	nogas	0.334	39.1	7115	40.3	1	
Pb	208	1	nogas	0.082	15.8	2757	15.2	2.5	
U	238	1	nogas	0.078	11.0	2717	12.6	2.5	
Si	28	1	nogas	-560.450	-15.6	3427437	0.3	5	
Na	23	2	He	69.238	2.5	120960	1.1	100	
Mg	24	2	He	4.911	7.1	4687	5.5	100	
Al	27	2	He	-0.949	-41.7	1110	18.0	5	
K	39	2	He	2.586	5.8	45582	1.8	100	
Ca	43	2	He	12.977	90.3	77	41.9	100	
Ca	44	2	He	4.695	43.6	723	14.2	100	
V	51	2	He	0.051	17.2	1715	2.6	2.5	
Cr	52	2	He	0.013	229.8	1530	12.0	2.5	
Mn	55	2	He	0.081	29.3	1370	8.1	2.5	
Fe	56	2	He	4.741	7.5	40929	4.8	100	
Co	59	2	He	0.035	50.0	473	34.0	2.5	
Ni	60	2	He	0.049	9.0	267	2.2	2.5	
Cu	63	2	He	0.067	16.1	1060	5.0	2	
Zn	66	2	He	0.055	24.7	290	3.4	2.5	
As	75	2	He	0.187	48.8	199	29.4	2.5	
Sb	121	2	He	0.198	20.9	1273	13.5	2.5	
Se	78	2	He	0.430	62.9	153	14.6	2	
Ti	47	2	He	0.082	76.4	23	65.5	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	2099352	1.32	2150099	97.64	70	120	
In	115	1	nogas	2331465	1.29	2337343	99.75	70	120	

Continuing Calibration Blank (CCB) Report

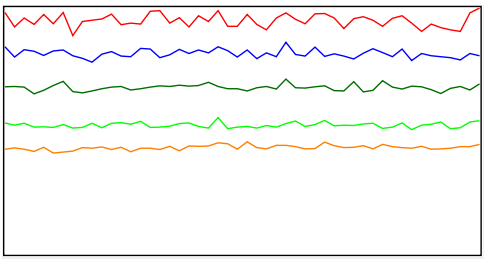
Li	6	1	nogas	1099914	0.60	1174457	93.65	70	120	
Bi	209	1	nogas	2081315	2.24	2153831	96.63	70	120	
Ge	72	2	He	679769	1.53	727166	93.48	70	120	
In	115	2	He	1084086	0.94	1141850	94.94	70	120	

Tune Check Report

Operator Name	ALSHS NoUser
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\122420A.b
Acq. Date-Time	12/24/2020 8:56:04 AM
Report Comment	---
Instrument Name	G3281A JP11080910

[nogas]

Sensitivity



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

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	5000	4741	47408.52		
24	20000	10469	104690.56		
59	20000	16273	162726.17		
115	50000	21631	216313.24		
208	20000	13517	135167.04		

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

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	2.750	5.000	
24	2.024	5.000	
59	2.076	5.000	
115	2.253	5.000	
208	1.917	5.000	

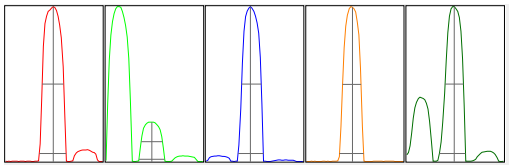
Mass	Background	Background (Required)	Background (Flag)
9	1.400		
24	0.500		
59	0.200		
115	1.400		
208	3.000		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.769 %
Doubly Charged	70 / 140 1.281 %

Tune Check Report

Resolution/Axis



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

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	4750.22	9.00	8.90 - 9.10	
24	10301.11	23.95	23.90 - 24.10	
59	16739.22	58.90	58.90 - 59.10	
115	21884.41	114.95	114.90 - 115.10	
208	13303.62	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.65	0.820		
24	0.65	0.787		
59	0.60	0.770		
115	0.56	0.734		
208	0.56	0.797		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.48 L/min	Dilution Gas	0.55 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	---
RF Matching	1.70 V	Nebulizer Pump	0.10 rps	Plasma Gas	---
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens 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

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

QP Parameters

Mass Gain	123	Axis Gain	0.9992	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	0.06		

Hardware Settings

Torch

Torch H	-0.1 mm	Torch V	0.2 mm

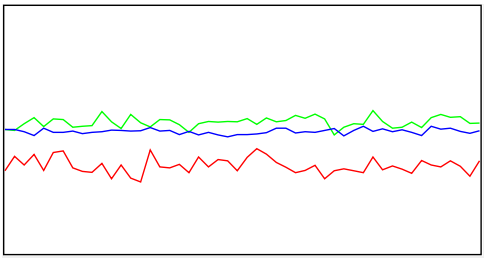
EM

Discriminator	4.5 mV	Analog HV	1566 V	Pulse HV	1117 V

[He]

Tune Check Report

Sensitivity



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

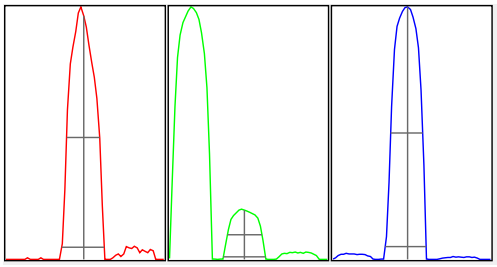
Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	500	177	1772.08		
24	2000	1063	10627.73		
59	20000	9871	98711.35		

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

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	8.956	5.000	Fail
24	3.979	5.000	
59	2.057	5.000	

Mass	Background	Background (Required)	Background (Flag)
9			
24			
59			

Resolution/Axis



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

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	187.52	9.00	8.90 - 9.10	
24	1039.07	23.95	23.90 - 24.10	
59	9903.65	58.95	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.62	0.800		
24	0.65	0.786		
59	0.60	0.766		

Tune Parameters

Plasma Parameters

Tune Check Report

Plasma Mode	---	Nebulizer Gas	0.48 L/min	Dilution Gas	0.55 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	---
RF Matching	1.70 V	Nebulizer Pump	0.10 rps	Plasma Gas	---
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens 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

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.7 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	190 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9992	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	0.06		

Hardware Settings

Torch

Torch H	-0.1 mm	Torch V	0.2 mm		

EM

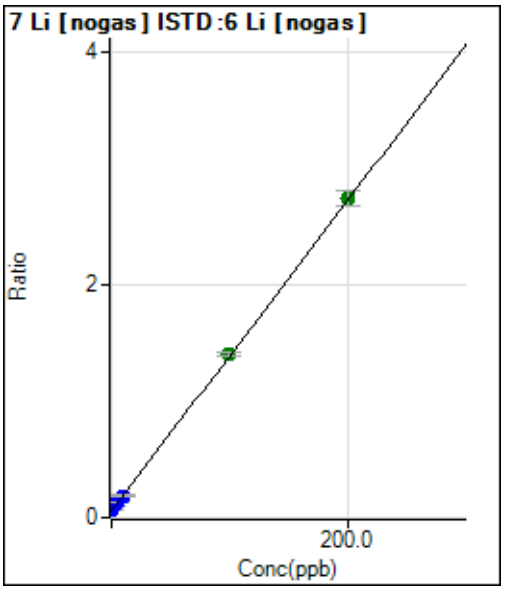
Discriminator	4.5 mV	Analog HV	1566 V	Pulse HV	1117 V

Calibration for 121_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\122820A.b\
Analysis File: 122820A.batch.bin
DA Date-Time: 12/28/2020 11:52:11 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	114CALB.d	CAL BLK	12/28/2020 4:45:37 PM
2	115CALS.d	2/10/200	12/28/2020 4:47:38 PM
3	116CALS.d	5/25/500	12/28/2020 4:49:39 PM
4	117CALS.d	10/50/1000	12/28/2020 4:51:39 PM
5	118CALS.d	100/500/10K	12/28/2020 4:53:38 PM
6	119CALS.d	200/1000/20K	12/28/2020 4:55:33 PM
7			

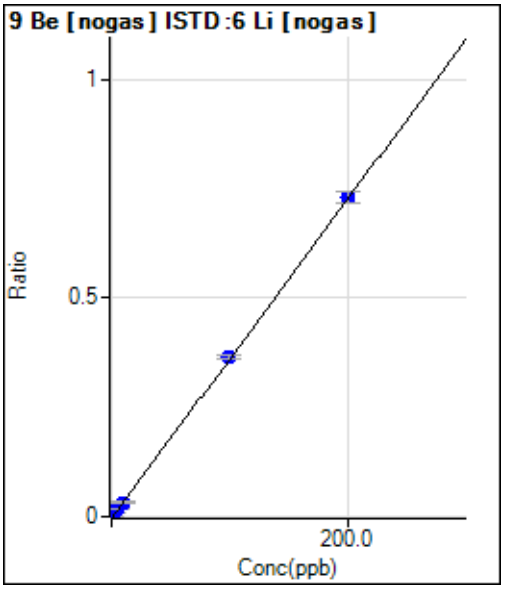
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	112797.31	0.0700	P	1.9	
2	☐	2.000	1.790	152784.76	0.0939	P	1.3	-10.5
3	☐	5.000	4.676	214987.88	0.1325	P	2.3	-6.5
4	☐	10.000	8.939	308718.38	0.1894	P	2.6	-10.6
5	☐	100.000	99.874	2076780.07	1.4040	A	2.4	-0.1
6	☐	200.000	200.126	3877770.15	2.7430	A	5.4	0.1
7	☐	1.000						

y = 0.0134 * x + 0.0700
R = 1.0000
DL = 0.2931 ppb
BEC = 5.242 ppb

Weight: <None>
Min Conc: <None>

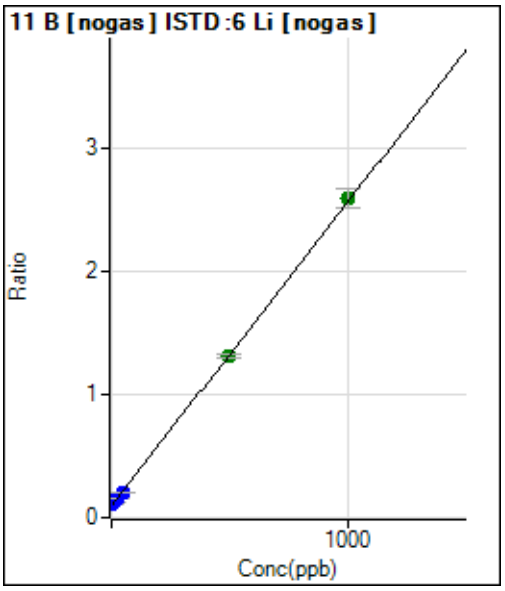


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	25.00	0.0000	P	52.6	
2	☐	2.000	1.875	11156.62	0.0069	P	6.3	-6.2
3	☐	5.000	4.682	27773.35	0.0171	P	0.9	-6.4
4	☐	10.000	9.012	53667.52	0.0329	P	1.8	-9.9
5	☐	100.000	99.918	539577.21	0.3648	P	2.0	-0.1
6	☐	200.000	200.100	1033244.05	0.7306	P	3.9	0.0
7	☐	1.000						

y = 0.0037 * x + 1.5504E-005
R = 1.0000
DL = 0.006705 ppb
BEC = 0.004247 ppb

Weight: <None>
Min Conc: <None>

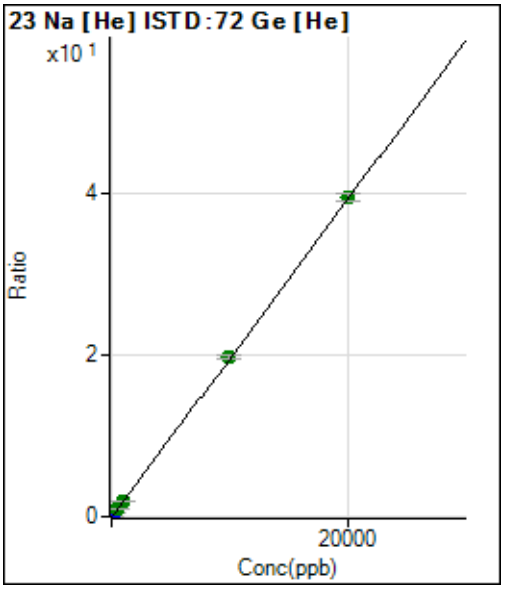
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	177448.21	0.1101	P	2.5	
2	☐	10.000	5.536	201423.20	0.1238	P	1.3	-44.6
3	☐	25.000	18.000	250952.95	0.1546	P	2.3	-28.0
4	☐	50.000	37.949	332429.48	0.2039	P	2.1	-24.1
5	☐	500.000	486.874	1942759.03	1.3135	A	2.3	-2.6
6	☐	1000.000	1007.385	3675367.13	2.6000	A	6.3	0.7
7	☐	5.000						

y = 0.0025 * x + 0.1101
R = 0.9999
DL = 3.351 ppb
BEC = 44.56 ppb

Weight: <None>
Min Conc: <None>

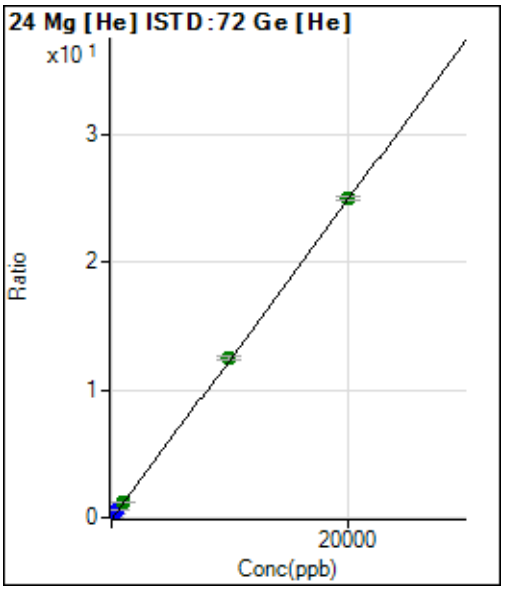


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	106308.13	0.0890	P	6.6	
2	☐	200.000	179.501	604909.57	0.4426	P	1.6	-10.2
3	☐	500.000	488.907	1440111.28	1.0523	A	0.5	-2.2
4	☐	1000.000	938.536	2666542.67	1.9382	A	3.5	-6.1
5	☐	10000.00	9954.592	24363466.30	19.7024	A	2.2	-0.5
6	☐	20000.00	20026.26	47308632.63	39.5465	A	1.9	0.1
7	☐	100.000						

y = 0.0020 * x + 0.0890
R = 1.0000
DL = 8.961 ppb
BEC = 45.16 ppb

Weight: <None>
Min Conc: <None>

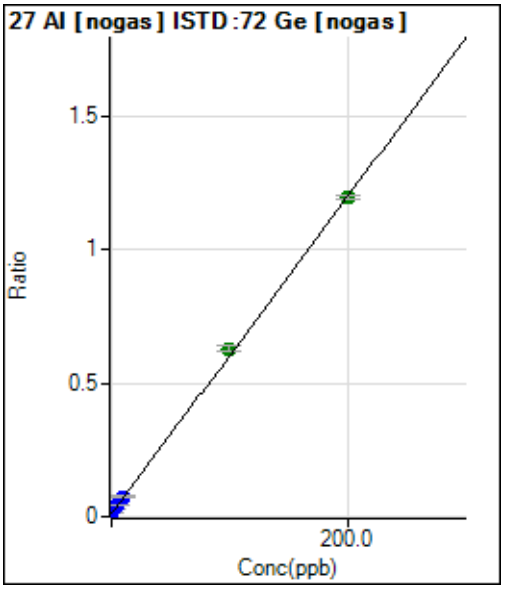
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2223.50	0.0019	P	4.1	
2	☐	200.000	186.253	320894.70	0.2348	P	1.3	-6.9
3	☐	500.000	470.732	808344.68	0.5907	P	0.9	-5.9
4	☐	1000.000	970.348	1672360.13	1.2156	A	1.6	-3.0
5	☐	10000.00	9996.184	15463709.35	12.5058	A	2.5	0.0
6	☐	20000.00	20004.26	29937177.05	25.0245	A	0.9	0.0
7	☐	100.000						

y = 0.0013 * x + 0.0019
R = 1.0000
DL = 0.181 ppb
BEC = 1.48 ppb

Weight: <None>
Min Conc: <None>

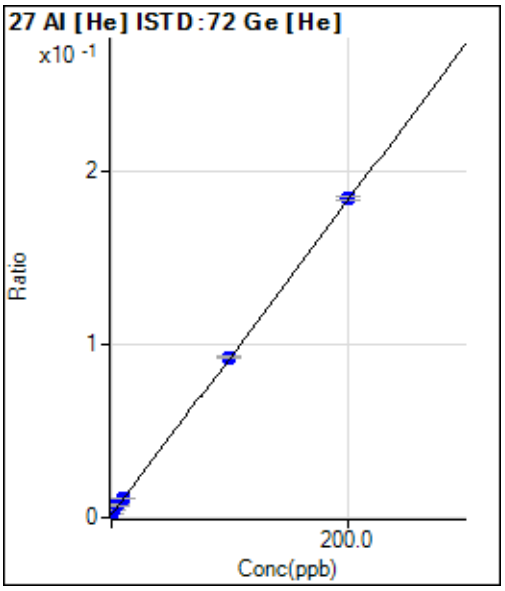


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	51125.92	0.0167	P	3.7	
2	☐	2.000	1.820	84826.26	0.0275	P	3.3	-9.0
3	☐	5.000	4.994	141256.95	0.0463	P	1.6	-0.1
4	☐	10.000	9.839	226391.00	0.0751	P	1.6	-1.6
5	☐	100.000	103.238	1824769.76	0.6296	A	4.0	3.2
6	☐	200.000	198.391	3370846.10	1.1945	A	1.5	-0.8
7	☐	1.000						

y = 0.0059 * x + 0.0167
R = 0.9998
DL = 0.3147 ppb
BEC = 2.811 ppb

Weight: <None>
Min Conc: <None>

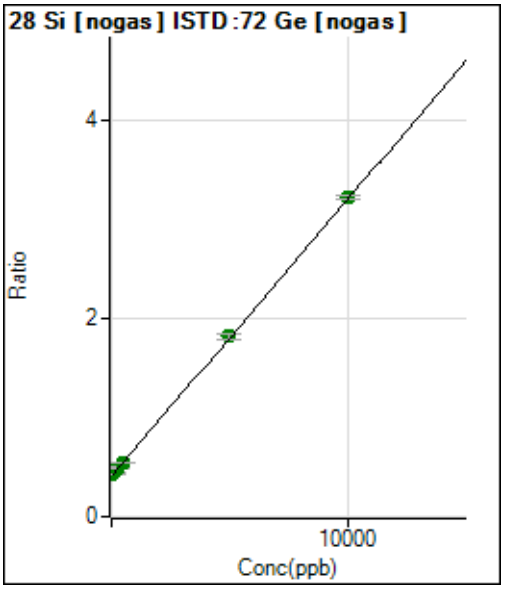
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3100.31	0.0026	P	2.7	
2	☐	2.000	1.635	5570.94	0.0041	P	1.1	-18.3
3	☐	5.000	5.144	9946.12	0.0073	P	5.5	2.9
4	☐	10.000	9.222	15089.49	0.0110	P	6.2	-7.8
5	☐	100.000	99.204	114744.10	0.0928	P	1.5	-0.8
6	☐	200.000	200.437	221118.45	0.1848	P	1.7	0.2
7	☐	1.000						

y = 9.0918E-004 * x + 0.0026
R = 1.0000
DL = 0.2299 ppb
BEC = 2.849 ppb

Weight: <None>
Min Conc: <None>

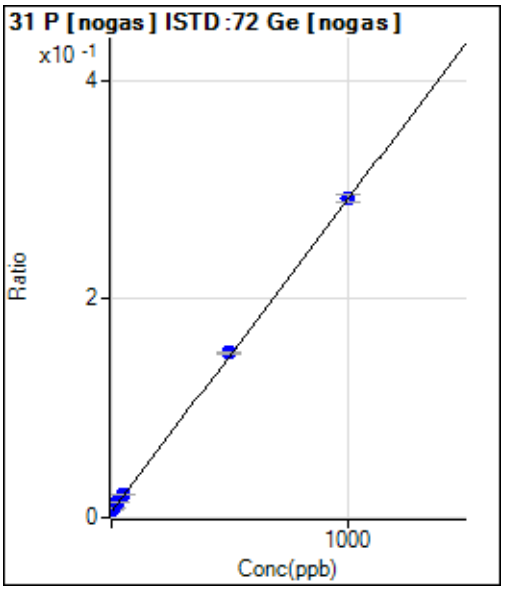


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1311870.89	0.4282	A	3.6	
2	☐	100.000	37.239	1353493.26	0.4386	A	3.0	-62.8
3	☐	250.000	239.333	1509301.02	0.4952	A	2.1	-4.3
4	☐	500.000	447.767	1668583.83	0.5535	A	0.1	-10.4
5	☐	5000.000	4981.201	5280169.71	1.8216	A	2.8	-0.4
6	☐	10000.00	10012.90	9111275.07	3.2292	A	1.3	0.1
7	☐	50.000						

y = 2.7973E-004 * x + 0.4282
R = 1.0000
DL = 163.5 ppb
BEC = 1531 ppb

Weight: <None>
Min Conc: <None>

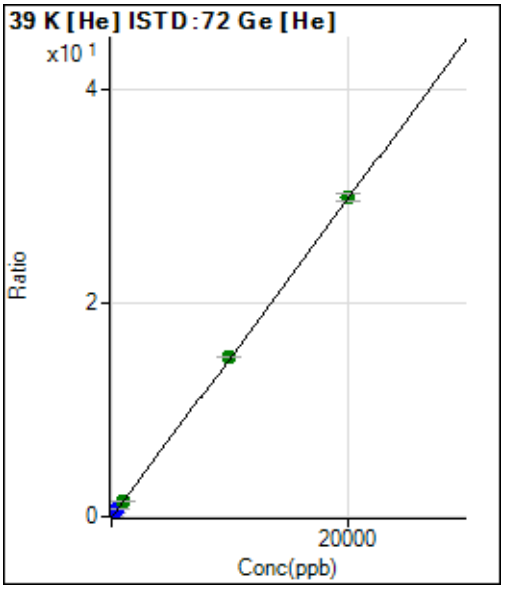
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	21782.79	0.0071	P	1.6	
2	☐	10.000	8.341	29279.57	0.0095	P	1.9	-16.6
3	☐	25.000	24.696	43154.05	0.0142	P	1.7	-1.2
4	☐	50.000	49.832	64319.33	0.0213	P	1.3	-0.3
5	☐	500.000	503.278	437109.84	0.1508	P	1.7	0.7
6	☐	1000.000	998.393	824094.47	0.2921	P	2.6	-0.2
7	☐	5.000						

y = 2.8546E-004 * x + 0.0071
R = 1.0000
DL = 1.182 ppb
BEC = 24.9 ppb

Weight: <None>
Min Conc: <None>

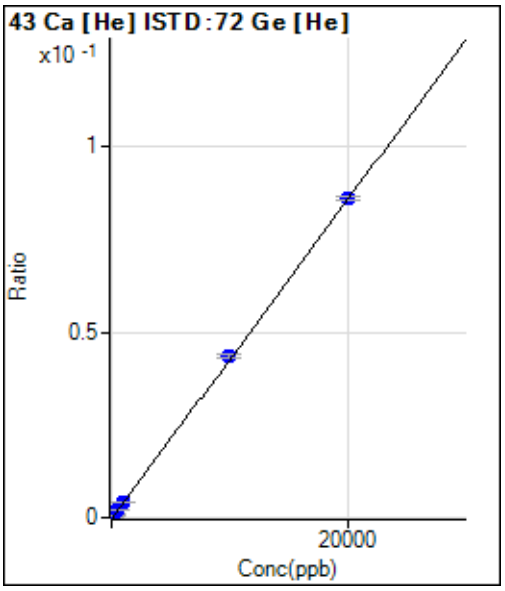


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	85851.94	0.0719	P	6.6	
2	☐	200.000	178.425	462434.11	0.3384	P	0.6	-10.8
3	☐	500.000	461.576	1041897.04	0.7614	P	1.9	-7.7
4	☐	1000.000	939.469	2028874.34	1.4752	A	4.3	-6.1
5	☐	10000.00	9994.800	18553410.55	15.0021	A	0.8	-0.1
6	☐	20000.00	20006.80	35839793.63	29.9581	A	2.3	0.0
7	☐	100.000						

y = 0.0015 * x + 0.0719
R = 1.0000
DL = 9.462 ppb
BEC = 48.1 ppb

Weight: <None>
Min Conc: <None>

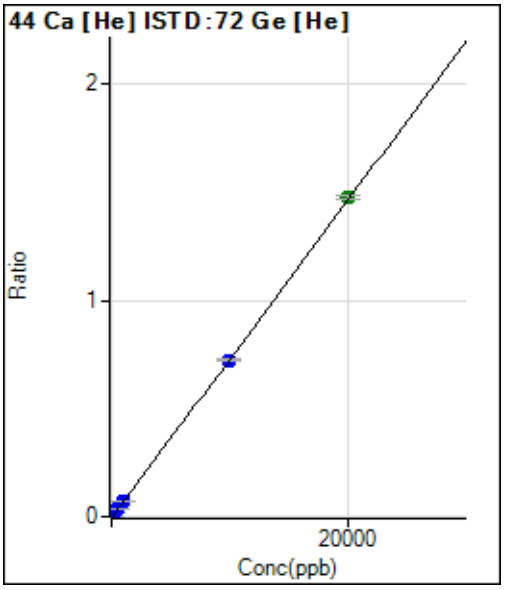
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	76.67	0.0001	P	31.4	
2	☐	200.000	171.522	1096.72	0.0008	P	9.0	-14.2
3	☐	500.000	475.944	2890.27	0.0021	P	16.3	-4.8
4	☐	1000.000	941.371	5660.97	0.0041	P	2.6	-5.9
5	☐	10000.00	10064.55	53646.84	0.0434	P	2.2	0.6
6	☐	20000.00	19971.54	102898.54	0.0860	P	1.3	-0.1
7	☐	100.000						

y = 4.3036E-006 * x + 6.4011E-005
R = 1.0000
DL = 14.02 ppb
BEC = 14.87 ppb

Weight: <None>
Min Conc: <None>

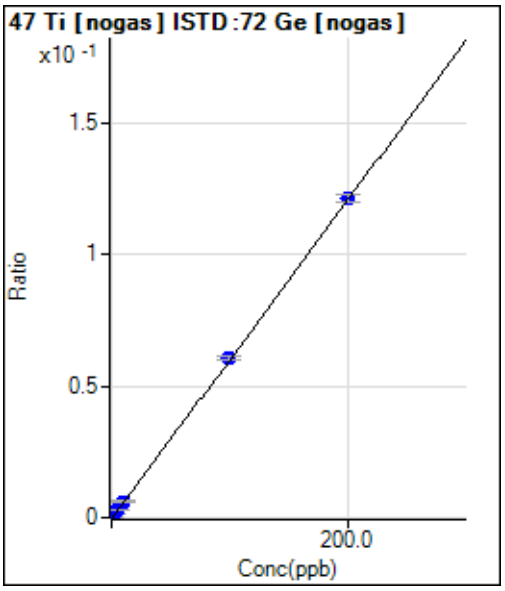


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1346.74	0.0011	P	9.9	
2	☐	200.000	183.979	20010.91	0.0146	P	2.2	-8.0
3	☐	500.000	467.937	48590.14	0.0355	P	3.1	-6.4
4	☐	1000.000	908.057	93301.47	0.0678	P	3.1	-9.2
5	☐	10000.00	9833.846	894674.34	0.7235	P	1.3	-1.7
6	☐	20000.00	20088.63	1766569.82	1.4767	A	1.1	0.4
7	☐	100.000						

y = 7.3453E-005 * x + 0.0011
R = 1.0000
DL = 4.584 ppb
BEC = 15.37 ppb

Weight: <None>
Min Conc: <None>

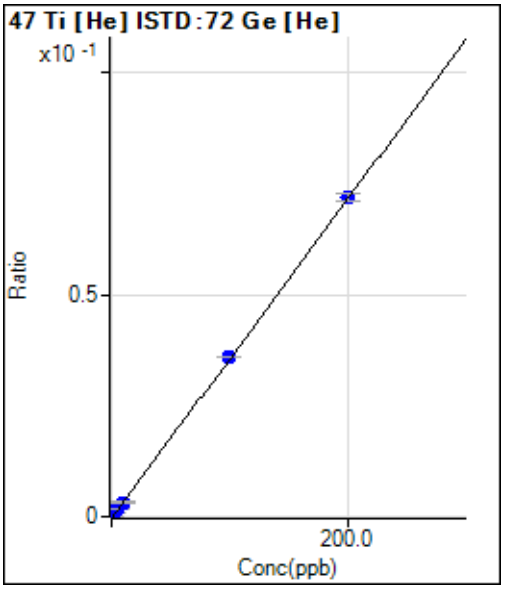
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	83.33	0.0000	P	68.1	
2	☐	2.000	1.928	3697.10	0.0012	P	7.6	-3.6
3	☐	5.000	4.907	9169.09	0.0030	P	1.2	-1.9
4	☐	10.000	10.099	18572.82	0.0062	P	3.5	1.0
5	☐	100.000	99.903	176021.24	0.0607	P	2.1	-0.1
6	☐	200.000	200.046	342935.27	0.1216	P	2.0	0.0
7	☐	1.000						

y = 6.0749E-004 * x + 2.6887E-005
R = 1.0000
DL = 0.09044 ppb
BEC = 0.04426 ppb

Weight: <None>
Min Conc: <None>

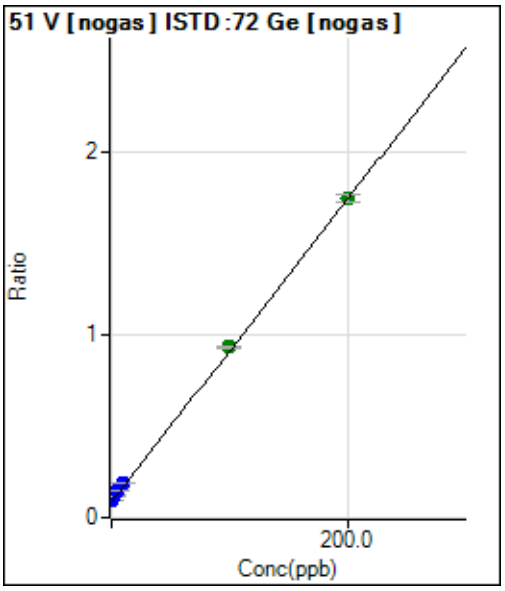


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6.67	0.0000	P	173.	
2	☐	2.000	1.960	970.05	0.0007	P	5.4	-2.0
3	☐	5.000	4.686	2313.52	0.0017	P	6.5	-6.3
4	☐	10.000	9.004	4460.62	0.0032	P	4.0	-10.0
5	☐	100.000	100.015	44469.91	0.0360	P	0.9	0.0
6	☐	200.000	200.050	86037.71	0.0719	P	2.7	0.0
7	☐	1.000						

y = 3.5945E-004 * x + 5.4748E-006
R = 1.0000
DL = 0.07914 ppb
BEC = 0.01523 ppb

Weight: <None>
Min Conc: <None>

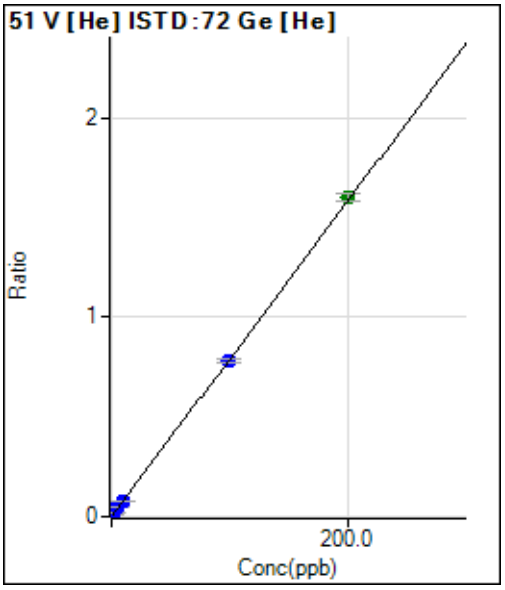
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	290320.71	0.0947	P	1.3	
2	☐	2.000	3.069	370716.54	0.1201	P	1.5	53.5
3	☐	5.000	6.767	459536.27	0.1507	P	1.1	35.3
4	☐	10.000	11.601	575039.37	0.1908	P	1.6	16.0
5	☐	100.000	100.995	2698425.17	0.9308	A	1.9	1.0
6	☐	200.000	199.368	4923521.07	1.7452	A	2.7	-0.3
7	☐	1.000						

y = 0.0083 * x + 0.0947
R = 1.0000
DL = 0.4584 ppb
BEC = 11.44 ppb

Weight: <None>
Min Conc: <None>

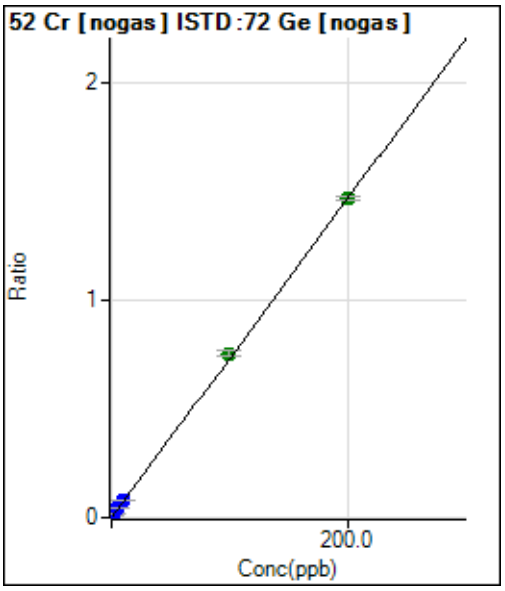


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	11025.53	0.0092	P	10.8	
2	☐	2.000	1.717	31207.21	0.0228	P	1.2	-14.2
3	☐	5.000	4.522	61632.48	0.0450	P	1.3	-9.6
4	☐	10.000	8.706	107498.20	0.0782	P	2.9	-12.9
5	☐	100.000	97.405	964683.37	0.7801	P	2.0	-2.6
6	☐	200.000	201.377	1917726.45	1.6030	A	3.0	0.7
7	☐	1.000						

y = 0.0079 * x + 0.0092
R = 0.9999
DL = 0.3783 ppb
BEC = 1.168 ppb

Weight: <None>
Min Conc: <None>

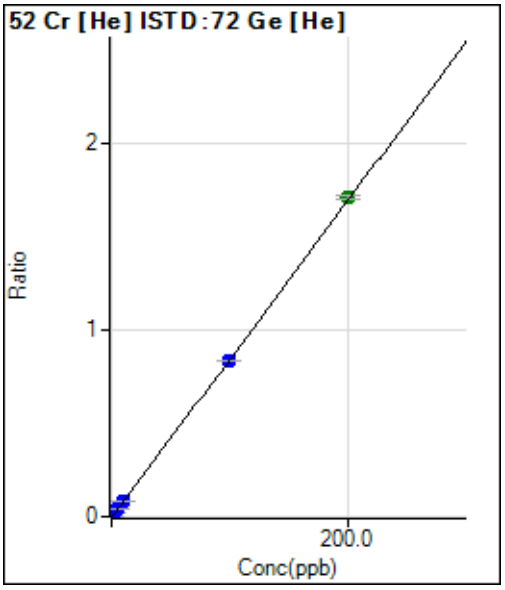
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23044.66	0.0075	P	3.4	
2	☐	2.000	1.953	67395.20	0.0218	P	1.7	-2.4
3	☐	5.000	4.967	133954.91	0.0439	P	0.6	-0.7
4	☐	10.000	9.758	238327.55	0.0791	P	2.0	-2.4
5	☐	100.000	101.952	2188589.81	0.7550	A	3.8	2.0
6	☐	200.000	199.037	4138893.90	1.4669	A	1.5	-0.5
7	☐	1.000						

y = 0.0073 * x + 0.0075
R = 0.9999
DL = 0.1041 ppb
BEC = 1.025 ppb

Weight: <None>
Min Conc: <None>

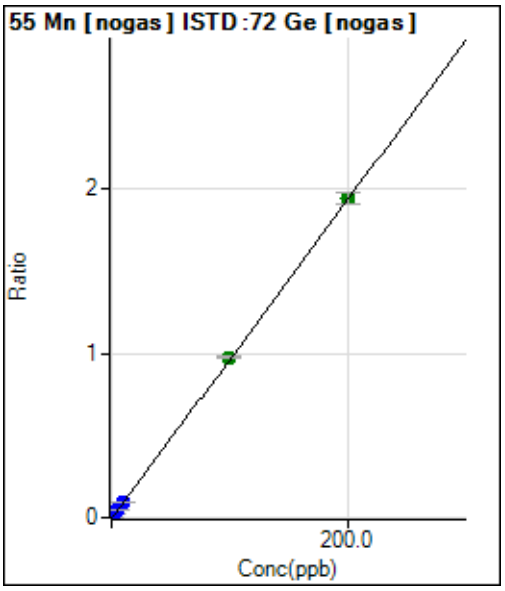


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2890.28	0.0024	P	14.0	
2	☐	2.000	1.839	24633.35	0.0180	P	7.1	-8.0
3	☐	5.000	4.536	55987.72	0.0409	P	1.0	-9.3
4	☐	10.000	8.983	108166.63	0.0786	P	3.5	-10.2
5	☐	100.000	97.921	1030420.38	0.8332	P	0.9	-2.1
6	☐	200.000	201.104	2044113.25	1.7086	A	1.2	0.6
7	☐	1.000						

y = 0.0085 * x + 0.0024
R = 0.9999
DL = 0.1196 ppb
BEC = 0.2858 ppb

Weight: <None>
Min Conc: <None>

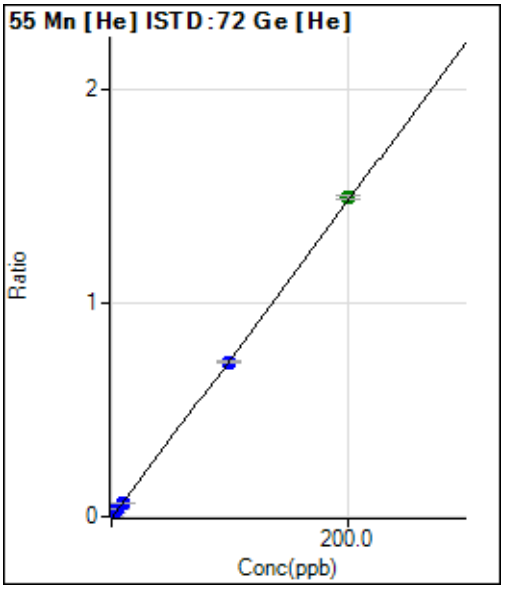
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	7545.00	0.0025	P	2.3	
2	☐	2.000	1.882	64033.75	0.0208	P	2.6	-5.9
3	☐	5.000	4.926	153479.48	0.0503	P	0.5	-1.5
4	☐	10.000	9.662	290527.81	0.0964	P	1.9	-3.4
5	☐	100.000	100.339	2835160.17	0.9779	A	1.7	0.3
6	☐	200.000	199.850	5487271.17	1.9452	A	3.3	-0.1
7	☐	1.000						

y = 0.0097 * x + 0.0025
R = 1.0000
DL = 0.01736 ppb
BEC = 0.2531 ppb

Weight: <None>
Min Conc: <None>

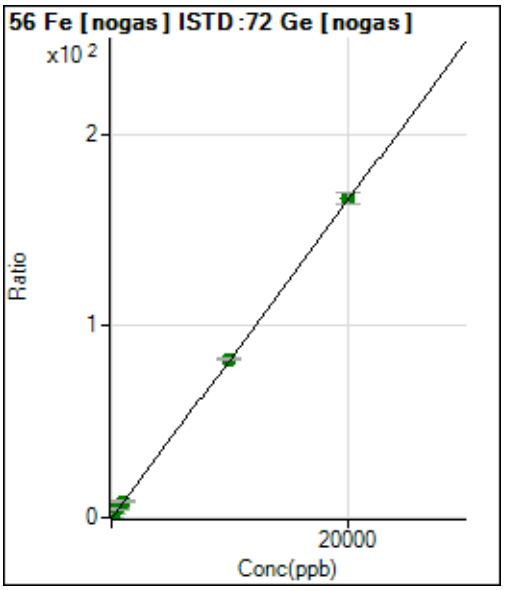


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1036.72	0.0009	P	7.6	
2	☐	2.000	1.827	19674.08	0.0144	P	2.3	-8.7
3	☐	5.000	4.584	47658.00	0.0348	P	1.4	-8.3
4	☐	10.000	8.799	90861.99	0.0660	P	2.0	-12.0
5	☐	100.000	97.248	892065.17	0.7213	P	1.1	-2.8
6	☐	200.000	201.448	1786413.25	1.4933	A	1.2	0.7
7	☐	1.000						

y = 0.0074 * x + 8.6293E-004
R = 0.9999
DL = 0.02663 ppb
BEC = 0.1165 ppb

Weight: <None>
Min Conc: <None>

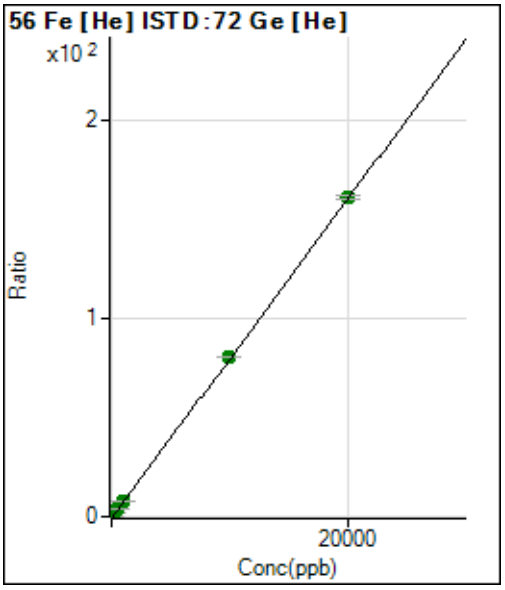
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1116928.65	0.3645	P	2.1	
2	☐	200.000	199.840	6247115.11	2.0244	A	1.6	-0.1
3	☐	500.000	505.689	13915114.38	4.5650	A	1.9	1.1
4	☐	1000.000	980.602	25653151.29	8.5098	A	1.4	-1.9
5	☐	10000.00	9932.831	240291563.0	82.8711	A	0.6	-0.7
6	☐	20000.00	20034.41	470457006.3	166.779	A	3.7	0.2
7	☐	100.000						

y = 0.0083 * x + 0.3645
R = 1.0000
DL = 2.754 ppb
BEC = 43.88 ppb

Weight: <None>
Min Conc: <None>

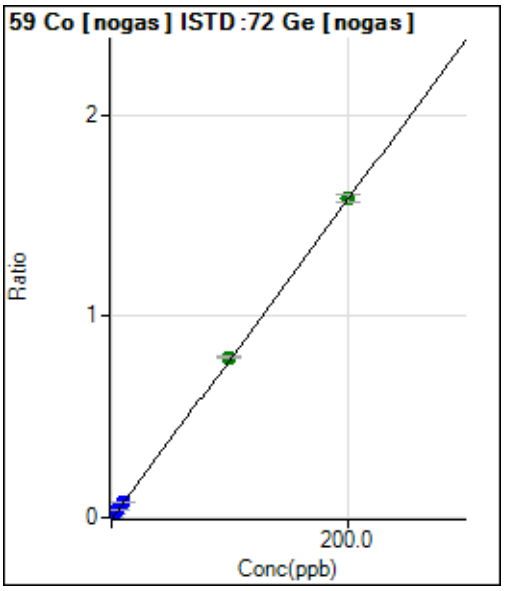


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	22504.06	0.0188	P	6.0	
2	☐	200.000	200.059	2225717.83	1.6287	A	1.2	0.0
3	☐	500.000	481.857	5332788.46	3.8963	A	1.2	-3.6
4	☐	1000.000	931.438	10336812.55	7.5141	A	2.2	-6.9
5	☐	10000.00	9995.860	99499425.19	80.4550	A	1.0	0.0
6	☐	20000.00	20005.95	192607823.8	161.005	A	1.5	0.0
7	☐	100.000						

y = 0.0080 * x + 0.0188
R = 1.0000
DL = 0.4184 ppb
BEC = 2.339 ppb

Weight: <None>
Min Conc: <None>

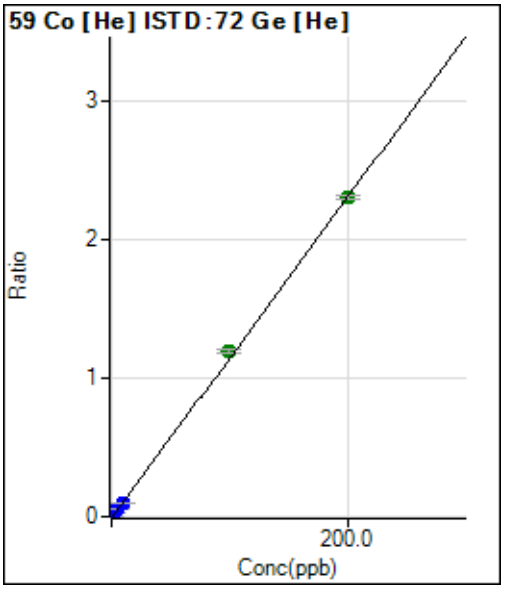
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	610.02	0.0002	P	21.7	
2	☐	2.000	1.956	48553.80	0.0157	P	1.0	-2.2
3	☐	5.000	4.918	119658.71	0.0392	P	1.8	-1.6
4	☐	10.000	9.800	235158.29	0.0780	P	2.2	-2.0
5	☐	100.000	100.391	2311828.92	0.7974	A	1.5	0.4
6	☐	200.000	199.817	4477385.98	1.5869	A	2.0	-0.1
7	☐	1.000						

y = 0.0079 * x + 1.9981E-004
R = 1.0000
DL = 0.01639 ppb
BEC = 0.02516 ppb

Weight: <None>
Min Conc: <None>

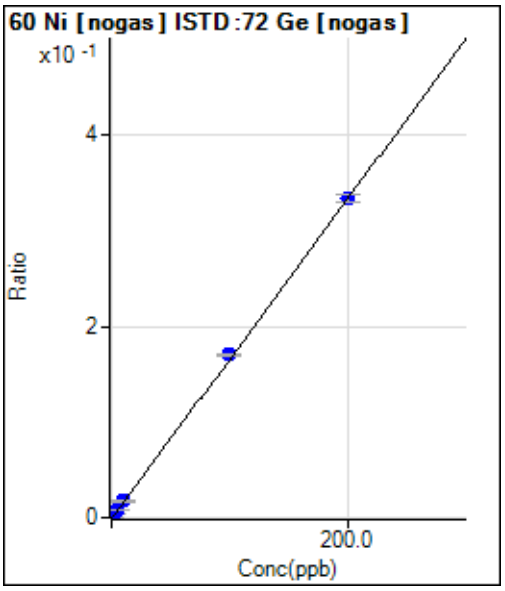


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	290.01	0.0002	P	11.3	
2	☐	2.000	1.834	29463.88	0.0216	P	2.5	-8.3
3	☐	5.000	4.638	74118.39	0.0542	P	0.7	-7.2
4	☐	10.000	8.793	140936.16	0.1025	P	3.3	-12.1
5	☐	100.000	102.627	1475564.72	1.1933	A	2.1	2.6
6	☐	200.000	198.757	2764515.90	2.3108	A	1.1	-0.6
7	☐	1.000						

y = 0.0116 * x + 2.4131E-004
R = 0.9998
DL = 0.007052 ppb
BEC = 0.02076 ppb

Weight: <None>
Min Conc: <None>

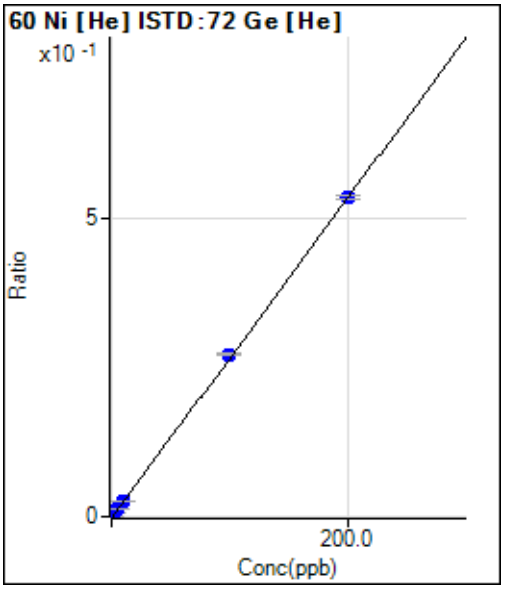
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1083.39	0.0004	P	4.4	
2	☐	2.000	1.978	11310.30	0.0037	P	0.8	-1.1
3	☐	5.000	5.109	27150.27	0.0089	P	2.6	2.2
4	☐	10.000	10.024	51659.06	0.0171	P	2.6	0.2
5	☐	100.000	101.452	493501.05	0.1702	P	1.0	1.5
6	☐	200.000	199.270	942299.23	0.3340	P	2.2	-0.4
7	☐	1.000						

y = 0.0017 * x + 3.5364E-004
R = 1.0000
DL = 0.02803 ppb
BEC = 0.2112 ppb

Weight: <None>
Min Conc: <None>

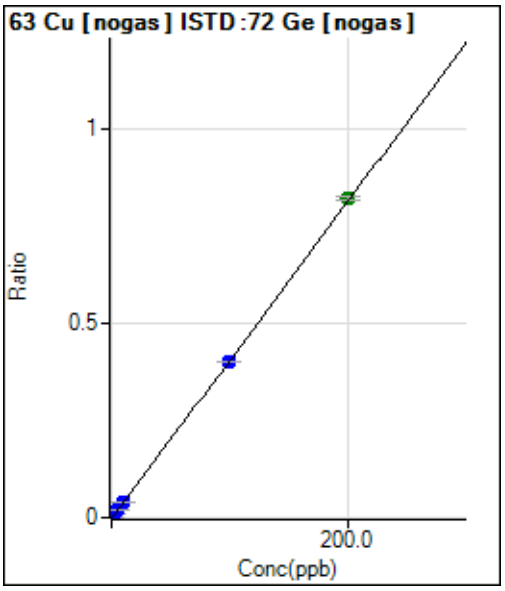


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	363.34	0.0003	P	11.2	
2	☐	2.000	1.899	7404.95	0.0054	P	3.0	-5.0
3	☐	5.000	4.719	17805.51	0.0130	P	2.8	-5.6
4	☐	10.000	9.295	34849.79	0.0253	P	0.7	-7.1
5	☐	100.000	101.392	337991.06	0.2733	P	0.9	1.4
6	☐	200.000	199.347	642443.95	0.5370	P	0.9	-0.3
7	☐	1.000						

y = 0.0027 * x + 3.0474E-004
R = 1.0000
DL = 0.03793 ppb
BEC = 0.1132 ppb

Weight: <None>
Min Conc: <None>

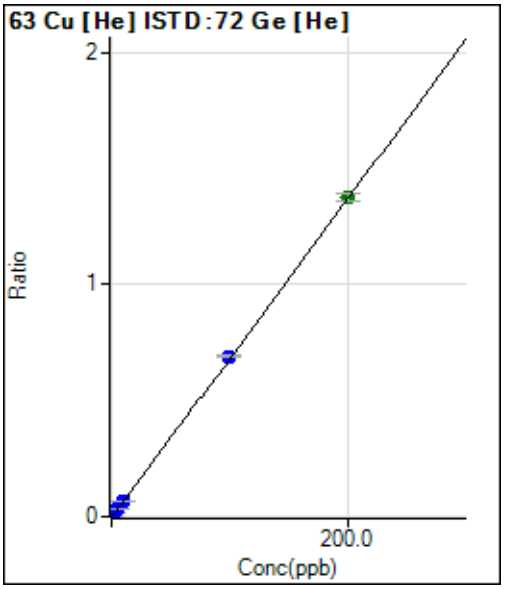
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3126.99	0.0010	P	3.9	
2	☐	2.000	1.969	27951.50	0.0091	P	3.3	-1.5
3	☐	5.000	4.975	65014.72	0.0213	P	0.7	-0.5
4	☐	10.000	9.875	124561.46	0.0413	P	2.5	-1.2
5	☐	100.000	97.864	1161018.29	0.4004	P	0.7	-2.1
6	☐	200.000	201.075	2318762.36	0.8216	A	0.8	0.5
7	☐	1.000						

y = 0.0041 * x + 0.0010
R = 0.9999
DL = 0.02933 ppb
BEC = 0.2501 ppb

Weight: <None>
Min Conc: <None>

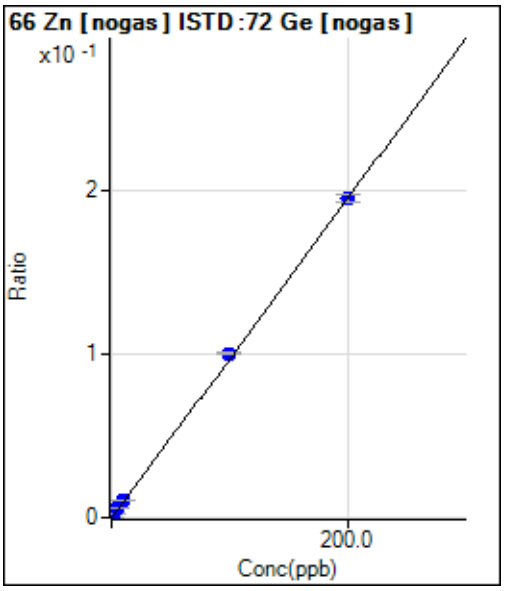


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1343.41	0.0011	P	9.5	
2	☐	2.000	1.880	19230.22	0.0141	P	1.6	-6.0
3	☐	5.000	4.856	47290.90	0.0346	P	0.9	-2.9
4	☐	10.000	9.342	90035.82	0.0654	P	1.1	-6.6
5	☐	100.000	100.277	855129.60	0.6915	P	1.4	0.3
6	☐	200.000	199.899	1647757.37	1.3773	A	2.8	-0.1
7	☐	1.000						

y = 0.0069 * x + 0.0011
R = 1.0000
DL = 0.04641 ppb
BEC = 0.1636 ppb

Weight: <None>
Min Conc: <None>

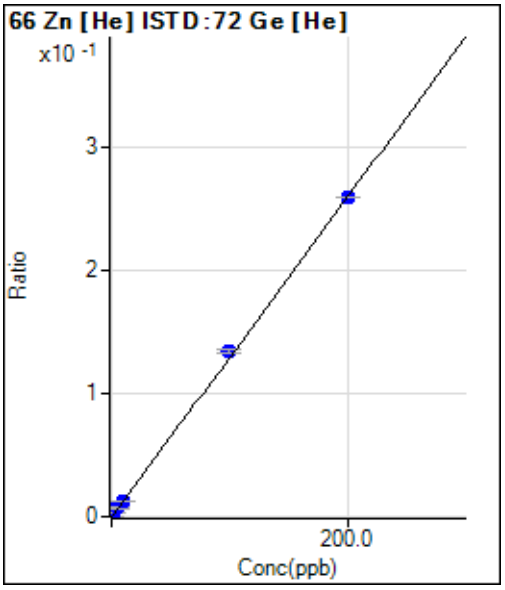
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1500.09	0.0005	P	14.8	
2	☐	2.000	2.074	7765.13	0.0025	P	6.2	3.7
3	☐	5.000	5.054	16534.35	0.0054	P	4.6	1.1
4	☐	10.000	10.088	31176.70	0.0103	P	0.5	0.9
5	☐	100.000	101.920	289962.11	0.1000	P	0.8	1.9
6	☐	200.000	199.034	549699.12	0.1948	P	2.4	-0.5
7	☐	1.000						

y = 9.7644E-004 * x + 4.9059E-004
R = 0.9999
DL = 0.2232 ppb
BEC = 0.5024 ppb

Weight: <None>
Min Conc: <None>

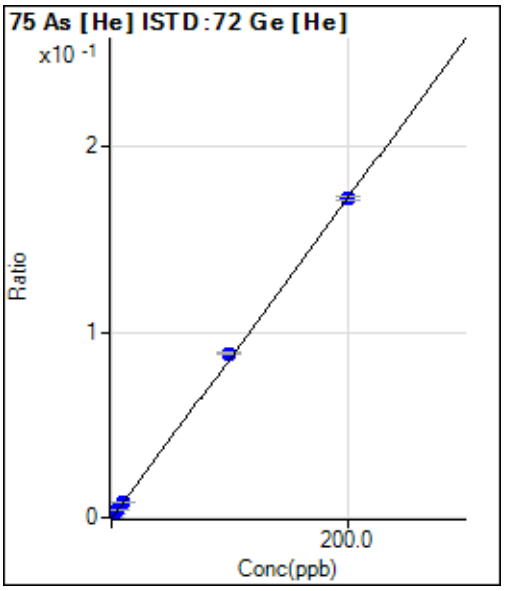


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	710.03	0.0006	P	22.1	
2	☐	2.000	1.957	4307.24	0.0032	P	3.8	-2.1
3	☐	5.000	4.985	9719.37	0.0071	P	4.0	-0.3
4	☐	10.000	9.508	17885.59	0.0130	P	1.4	-4.9
5	☐	100.000	102.930	166772.58	0.1349	P	2.0	2.9
6	☐	200.000	198.560	310577.18	0.2596	P	0.2	-0.7
7	☐	1.000						

y = 0.0013 * x + 5.9786E-004
R = 0.9998
DL = 0.3039 ppb
BEC = 0.4583 ppb

Weight: <None>
Min Conc: <None>

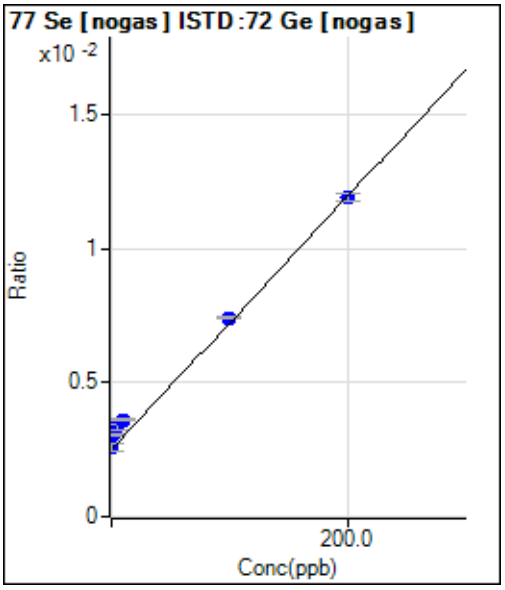
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	312.23	0.0003	P	26.4	
2	☐	2.000	1.976	2695.77	0.0020	P	5.5	-1.2
3	☐	5.000	4.753	5986.57	0.0044	P	0.8	-4.9
4	☐	10.000	9.561	11740.47	0.0085	P	1.2	-4.4
5	☐	100.000	102.235	109690.01	0.0887	P	0.7	2.2
6	☐	200.000	198.911	206142.43	0.1723	P	0.8	-0.5
7	☐	1.000						

y = 8.6496E-004 * x + 2.6371E-004
R = 0.9999
DL = 0.2414 ppb
BEC = 0.3049 ppb

Weight: <None>
Min Conc: <None>

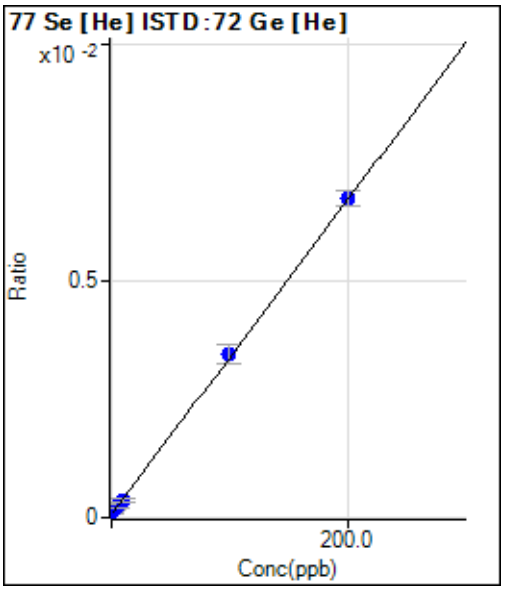


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	7918.53	0.0026	P	9.4	
2	☐	2.000	10.411	9479.30	0.0031	P	1.5	420.
3	☐	5.000	16.408	10223.04	0.0034	P	5.9	228.
4	☐	10.000	22.018	10913.43	0.0036	P	1.9	120.
5	☐	100.000	102.337	21486.19	0.0074	P	1.3	2.3
6	☐	200.000	197.861	33628.06	0.0119	P	2.3	-1.1
7	☐	1.000						

y = 4.7201E-005 * x + 0.0026
R = 0.9984
DL = 15.34 ppb
BEC = 54.67 ppb

Weight: <None>
Min Conc: <None>

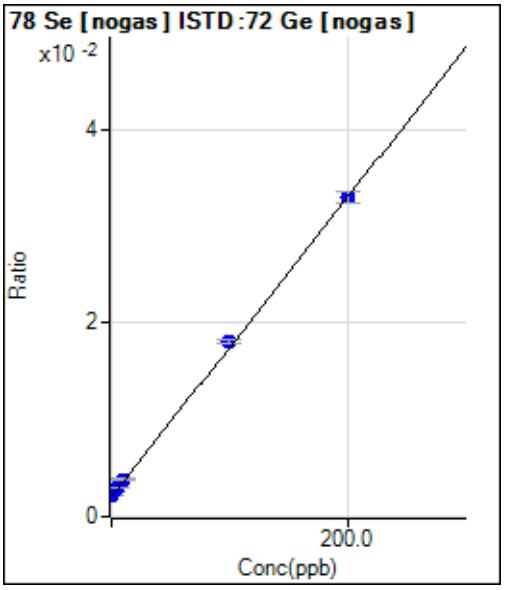
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	123.33	0.0001	P	31.9	
2	☐	2.000	1.948	230.01	0.0002	P	18.2	-2.6
3	☐	5.000	4.147	330.01	0.0002	P	27.9	-17.1
4	☐	10.000	7.491	483.35	0.0004	P	23.5	-25.1
5	☐	100.000	100.517	4253.92	0.0034	P	11.8	0.5
6	☐	200.000	199.889	8065.27	0.0067	P	4.4	-0.1
7	☐	1.000						

y = 3.3213E-005 * x + 1.0342E-004
R = 0.9999
DL = 2.978 ppb
BEC = 3.114 ppb

Weight: <None>
Min Conc: <None>

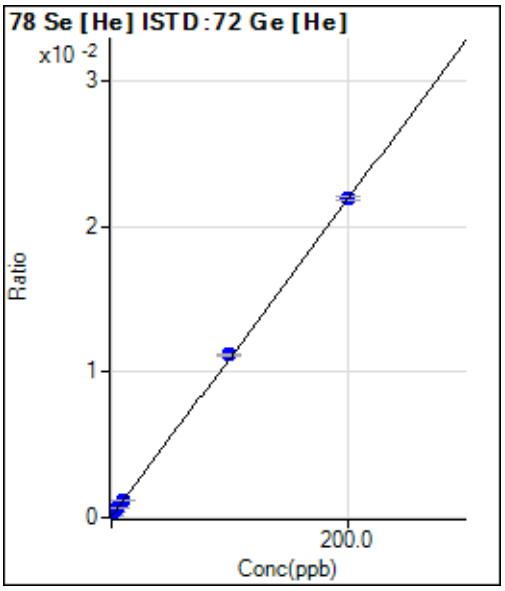


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6811.39	0.0022	P	4.1	
2	☐	2.000	2.090	7861.83	0.0025	P	2.5	4.5
3	☐	5.000	5.156	9215.83	0.0030	P	2.0	3.1
4	☐	10.000	10.321	11520.55	0.0038	P	5.8	3.2
5	☐	100.000	102.420	52469.11	0.0181	P	1.2	2.4
6	☐	200.000	198.769	93177.55	0.0330	P	4.1	-0.6
7	☐	1.000						

y = 1.5499E-004 * x + 0.0022
R = 0.9999
DL = 1.767 ppb
BEC = 14.35 ppb

Weight: <None>
Min Conc: <None>

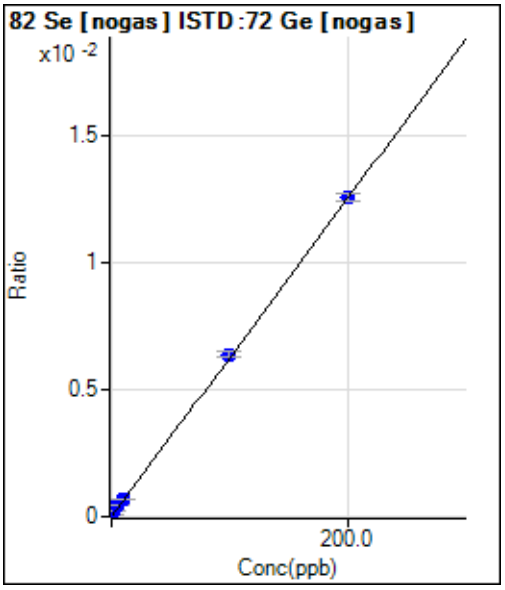
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	214.67	0.0002	P	10.0	
2	☐	2.000	1.722	502.68	0.0004	P	4.2	-13.9
3	☐	5.000	4.469	913.36	0.0007	P	3.3	-10.6
4	☐	10.000	9.047	1604.07	0.0012	P	7.3	-9.5
5	☐	100.000	101.011	13847.94	0.0112	P	0.8	1.0
6	☐	200.000	199.558	26253.55	0.0219	P	1.3	-0.2
7	☐	1.000						

y = 1.0907E-004 * x + 1.7997E-004
R = 1.0000
DL = 0.4951 ppb
BEC = 1.65 ppb

Weight: <None>
Min Conc: <None>

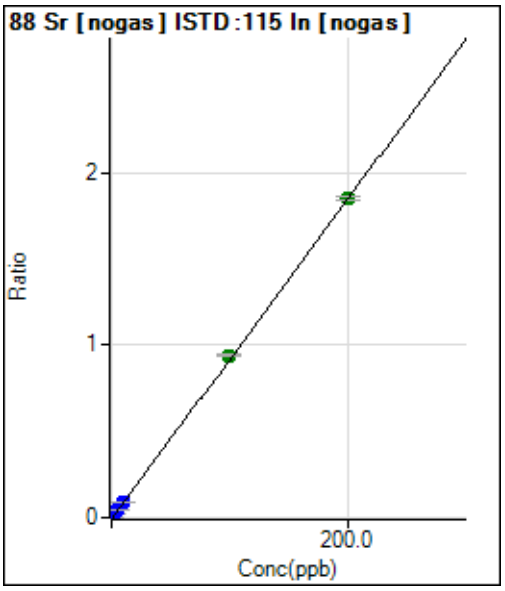


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	216.67	0.0001	P	41.9	
2	☐	2.000	2.197	643.35	0.0002	P	7.9	9.8
3	☐	5.000	5.963	1353.41	0.0004	P	3.1	19.3
4	☐	10.000	9.758	2053.49	0.0007	P	4.2	-2.4
5	☐	100.000	100.870	18486.30	0.0064	P	3.3	0.9
6	☐	200.000	199.551	35394.88	0.0125	P	1.9	-0.2
7	☐	1.000						

y = 6.2511E-005 * x + 7.1241E-005
R = 1.0000
DL = 1.433 ppb
BEC = 1.14 ppb

Weight: <None>
Min Conc: <None>

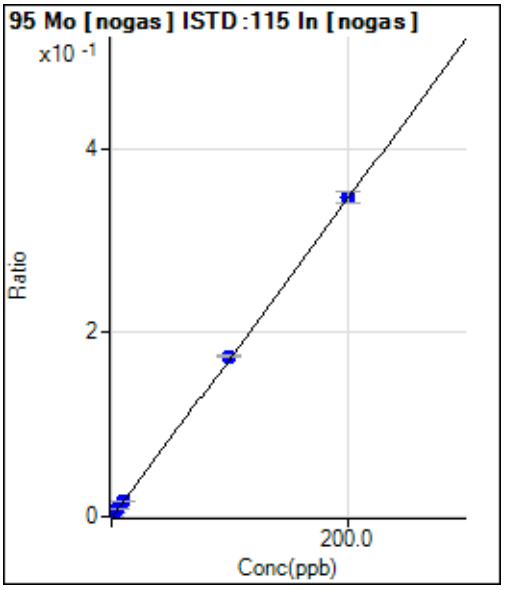
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3580.41	0.0010	P	16.6	
2	☐	2.000	1.939	65987.36	0.0191	P	1.1	-3.0
3	☐	5.000	4.829	161375.10	0.0459	P	2.3	-3.4
4	☐	10.000	9.537	307956.11	0.0897	P	2.9	-4.6
5	☐	100.000	101.094	3101668.81	0.9404	A	1.4	1.1
6	☐	200.000	199.481	6031013.66	1.8545	A	0.6	-0.3
7	☐	1.000						

y = 0.0093 * x + 0.0010
R = 1.0000
DL = 0.05565 ppb
BEC = 0.112 ppb

Weight: <None>
Min Conc: <None>

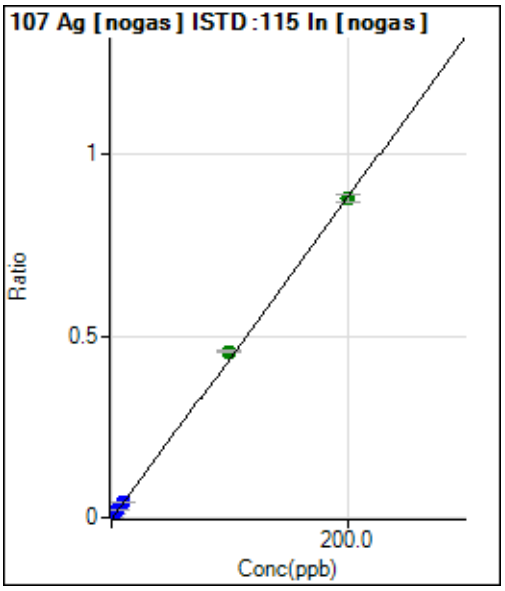


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	293.34	0.0001	P	2.7	
2	☐	2.000	1.920	11847.46	0.0034	P	0.6	-4.0
3	☐	5.000	4.798	29614.70	0.0084	P	1.6	-4.0
4	☐	10.000	9.865	59197.72	0.0172	P	0.7	-1.3
5	☐	100.000	100.292	575262.06	0.1744	P	0.9	0.3
6	☐	200.000	199.867	1129498.42	0.3475	P	3.1	-0.1
7	☐	1.000						

y = 0.0017 * x + 8.5189E-005
R = 1.0000
DL = 0.003975 ppb
BEC = 0.04902 ppb

Weight: <None>
Min Conc: <None>

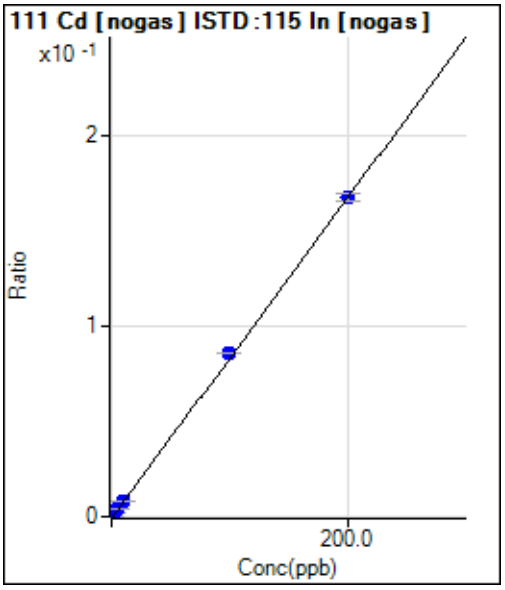
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	63.33	0.0000	P	49.4	
2	☐	2.000	1.916	29514.91	0.0085	P	1.0	-4.2
3	☐	5.000	4.746	74114.45	0.0211	P	3.1	-5.1
4	☐	10.000	9.527	145343.64	0.0423	P	1.3	-4.7
5	☐	100.000	103.331	1513162.79	0.4587	A	1.7	3.3
6	☐	200.000	198.365	2862899.44	0.8806	A	2.5	-0.8
7	☐	1.000						

y = 0.0044 * x + 1.8316E-005
R = 0.9998
DL = 0.006114 ppb
BEC = 0.004126 ppb

Weight: <None>
Min Conc: <None>

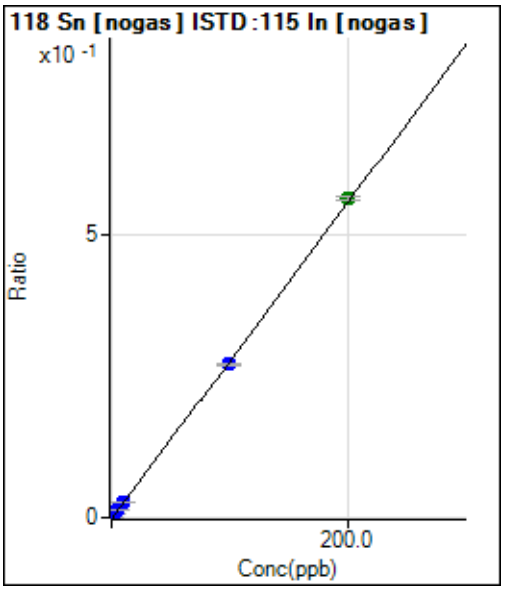


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10.00	0.0000	P	100.	
2	☐	2.000	2.157	6297.88	0.0018	P	1.2	7.8
3	☐	5.000	5.034	14919.91	0.0042	P	2.6	0.7
4	☐	10.000	10.027	29010.68	0.0084	P	2.9	0.3
5	☐	100.000	101.596	282240.71	0.0856	P	0.3	1.6
6	☐	200.000	199.198	545414.79	0.1678	P	2.1	-0.4
7	☐	1.000						

y = 8.4212E-004 * x + 2.9074E-006
R = 1.0000
DL = 0.01044 ppb
BEC = 0.003452 ppb

Weight: <None>
Min Conc: <None>

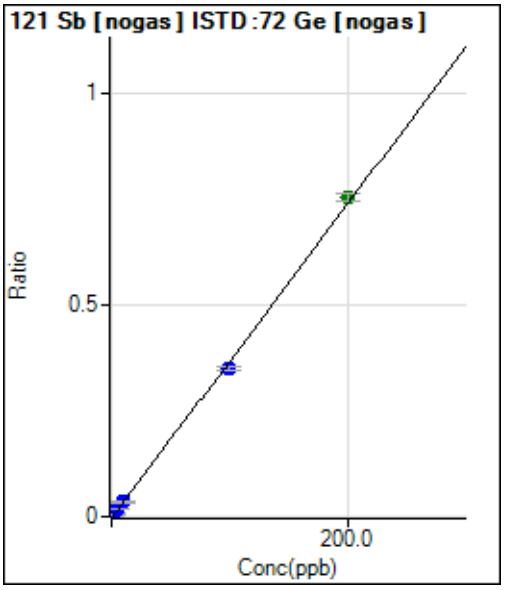
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1506.76	0.0004	P	2.3	
2	☐	2.000	1.867	19604.47	0.0057	P	2.4	-6.6
3	☐	5.000	4.699	47765.32	0.0136	P	4.7	-6.0
4	☐	10.000	9.431	92146.81	0.0268	P	2.0	-5.7
5	☐	100.000	96.633	893412.20	0.2708	P	1.2	-3.4
6	☐	200.000	201.721	1836830.24	0.5649	A	1.1	0.9
7	☐	1.000						

y = 0.0028 * x + 4.3744E-004
R = 0.9998
DL = 0.01101 ppb
BEC = 0.1563 ppb

Weight: <None>
Min Conc: <None>

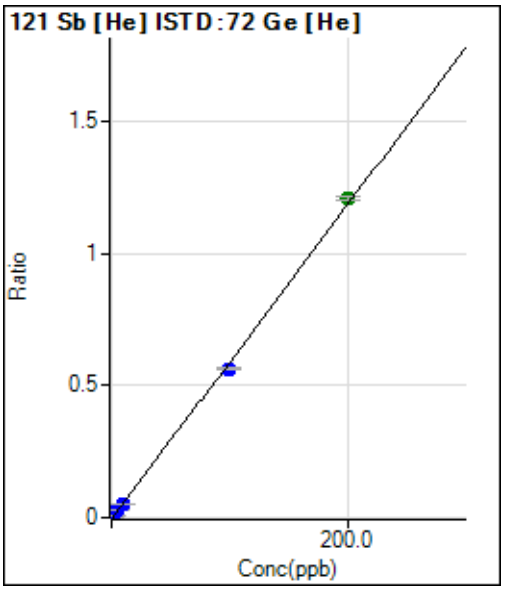


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1576.76	0.0005	P	3.7	
2	☐	2.000	1.696	21036.28	0.0068	P	2.7	-15.2
3	☐	5.000	4.566	53271.13	0.0175	P	3.1	-8.7
4	☐	10.000	9.121	103707.96	0.0344	P	2.5	-8.8
5	☐	100.000	93.973	1013598.84	0.3497	P	3.4	-6.0
6	☐	200.000	203.071	2130011.84	0.7550	A	2.8	1.5
7	☐	1.000						

y = 0.0037 * x + 5.1469E-004
R = 0.9994
DL = 0.01519 ppb
BEC = 0.1385 ppb

Weight: <None>
Min Conc: <None>

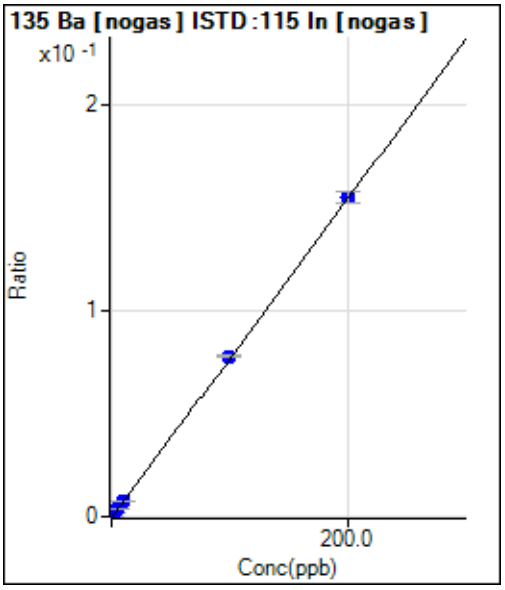
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1110.06	0.0009	P	16.9	
2	☐	2.000	1.651	14726.40	0.0108	P	0.6	-17.4
3	☐	5.000	4.253	35977.21	0.0263	P	2.9	-14.9
4	☐	10.000	8.464	70685.66	0.0514	P	2.3	-15.4
5	☐	100.000	94.442	697255.80	0.5638	P	1.7	-5.6
6	☐	200.000	202.878	1447693.00	1.2102	A	1.1	1.4
7	☐	1.000						

y = 0.0060 * x + 9.3373E-004
R = 0.9995
DL = 0.07933 ppb
BEC = 0.1567 ppb

Weight: <None>
Min Conc: <None>

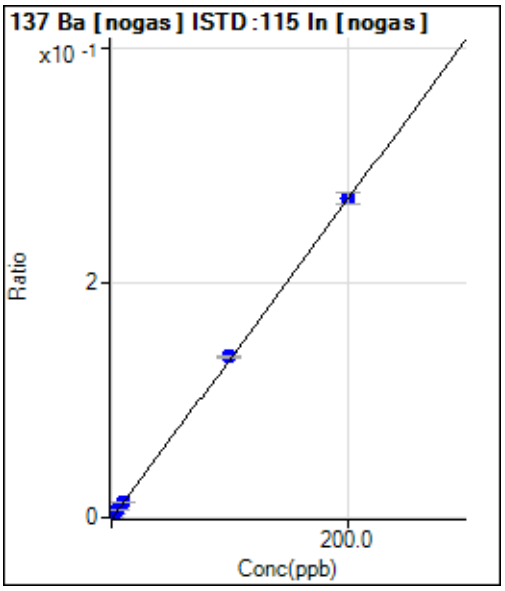


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	353.34	0.0001	P	7.8	
2	☐	2.000	1.823	5254.22	0.0015	P	2.9	-8.9
3	☐	5.000	4.845	13585.59	0.0039	P	1.5	-3.1
4	☐	10.000	9.792	26463.91	0.0077	P	3.4	-2.1
5	☐	100.000	100.294	257203.99	0.0780	P	2.0	0.3
6	☐	200.000	199.869	504787.14	0.1553	P	3.5	-0.1
7	☐	1.000						

y = 7.7644E-004 * x + 1.0253E-004
R = 1.0000
DL = 0.03083 ppb
BEC = 0.1321 ppb

Weight: <None>
Min Conc: <None>

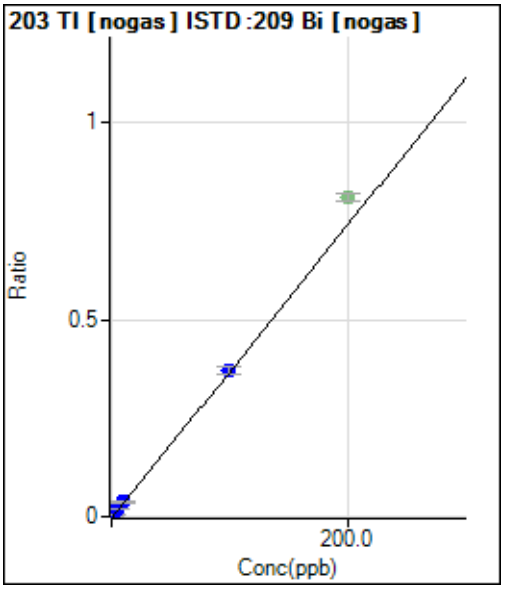
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	623.36	0.0002	P	11.9	
2	☐	2.000	1.910	9619.50	0.0028	P	4.8	-4.5
3	☐	5.000	4.637	22815.36	0.0065	P	2.3	-7.3
4	☐	10.000	9.850	46629.87	0.0136	P	3.4	-1.5
5	☐	100.000	100.821	452949.60	0.1373	P	1.3	0.8
6	☐	200.000	199.607	883015.71	0.2717	P	3.8	-0.2
7	☐	1.000						

y = 0.0014 * x + 1.8115E-004
R = 1.0000
DL = 0.04768 ppb
BEC = 0.1332 ppb

Weight: <None>
Min Conc: <None>

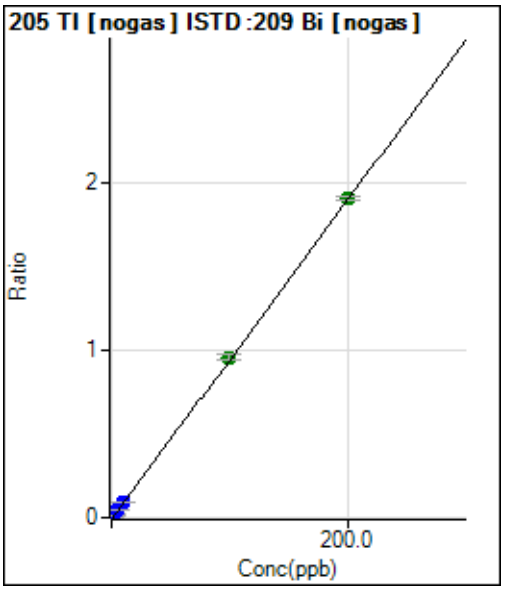


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	80.00	0.0000	P	3.8	
2	☐	2.000	1.912	22812.80	0.0072	P	1.3	-4.4
3	☐	5.000	5.008	58420.24	0.0187	P	3.3	0.2
4	☐	10.000	9.840	114093.85	0.0367	P	2.7	-1.6
5	☐	100.000	100.017	1118183.37	0.3729	P	4.9	0.0
6	☑	200.000		2343069.97	0.8114	A	2.4	
7	☐	1.000						

y = 0.0037 * x + 2.5398E-005
R = 1.0000
DL = 0.0007739 ppb
BEC = 0.006813 ppb

Weight: <None>
Min Conc: <None>

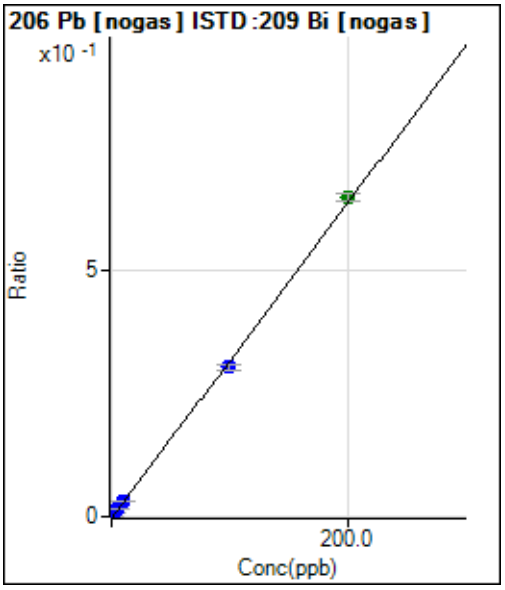
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	300.01	0.0001	P	8.6	
2	☐	2.000	1.795	54952.02	0.0172	P	1.8	-10.3
3	☐	5.000	4.680	139944.52	0.0448	P	5.0	-6.4
4	☐	10.000	9.186	272984.58	0.0878	P	3.0	-8.1
5	☐	100.000	100.259	2872526.94	0.9577	A	3.8	0.3
6	☐	200.000	199.921	5514899.50	1.9097	A	0.9	0.0
7	☐	1.000						

y = 0.0096 * x + 9.5284E-005
R = 1.0000
DL = 0.002566 ppb
BEC = 0.009976 ppb

Weight: <None>
Min Conc: <None>

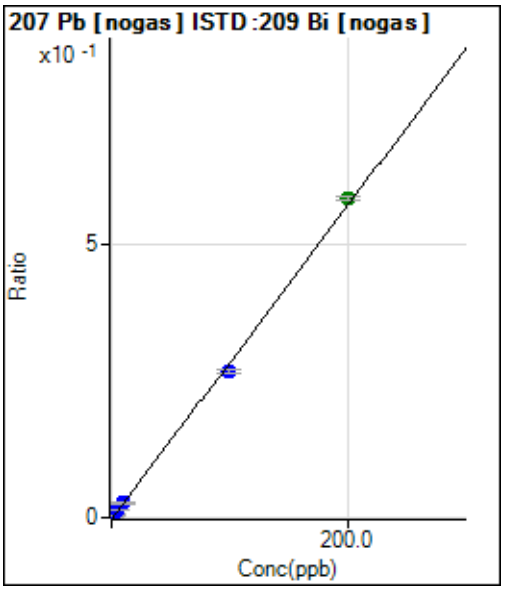


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	190.00	0.0001	P	22.3	
2	☐	2.000	1.848	19021.33	0.0060	P	1.3	-7.6
3	☐	5.000	4.801	48120.72	0.0154	P	4.1	-4.0
4	☐	10.000	9.413	93670.12	0.0301	P	3.4	-5.9
5	☐	100.000	94.924	909902.17	0.3034	P	4.2	-5.1
6	☐	200.000	202.574	1869240.86	0.6474	A	2.0	1.3
7	☐	1.000						

y = 0.0032 * x + 6.0572E-005
R = 0.9996
DL = 0.01269 ppb
BEC = 0.01895 ppb

Weight: <None>
Min Conc: <None>

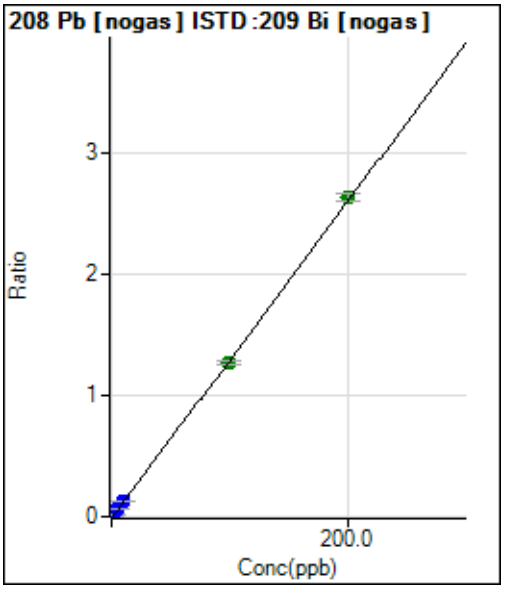
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	156.67	0.0000	P	20.3	
2	☐	2.000	1.813	16705.38	0.0052	P	4.9	-9.4
3	☐	5.000	4.720	42398.32	0.0136	P	2.9	-5.6
4	☐	10.000	9.270	82670.90	0.0266	P	2.2	-7.3
5	☐	100.000	93.181	800474.52	0.2669	P	3.8	-6.8
6	☐	200.000	203.455	1682780.91	0.5827	A	0.7	1.7
7	☐	1.000						

y = 0.0029 * x + 4.9456E-005
R = 0.9992
DL = 0.01051 ppb
BEC = 0.01727 ppb

Weight: <None>
Min Conc: <None>

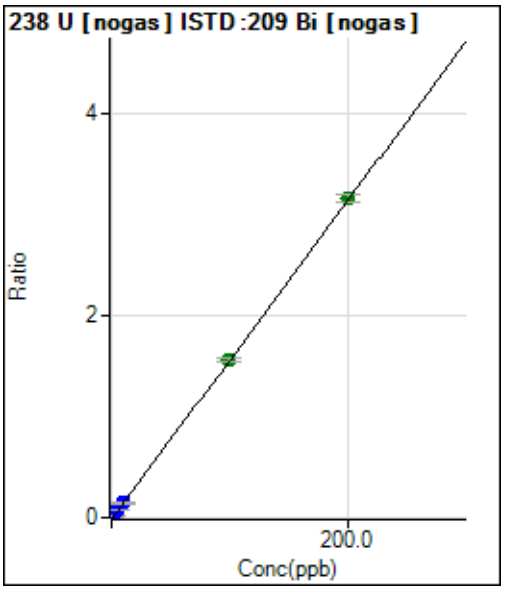


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	723.35	0.0002	P	15.9	
2	☐	2.000	1.786	75211.14	0.0236	P	1.8	-10.7
3	☐	5.000	4.671	191655.96	0.0613	P	3.5	-6.6
4	☐	10.000	9.264	377357.34	0.1214	P	2.3	-7.4
5	☐	100.000	97.007	3806918.74	1.2692	A	3.3	-3.0
6	☐	200.000	201.544	7613082.13	2.6367	A	1.8	0.8
7	☐	1.000						

y = 0.0131 * x + 2.2993E-004
R = 0.9998
DL = 0.008407 ppb
BEC = 0.01758 ppb

Weight: <None>
Min Conc: <None>

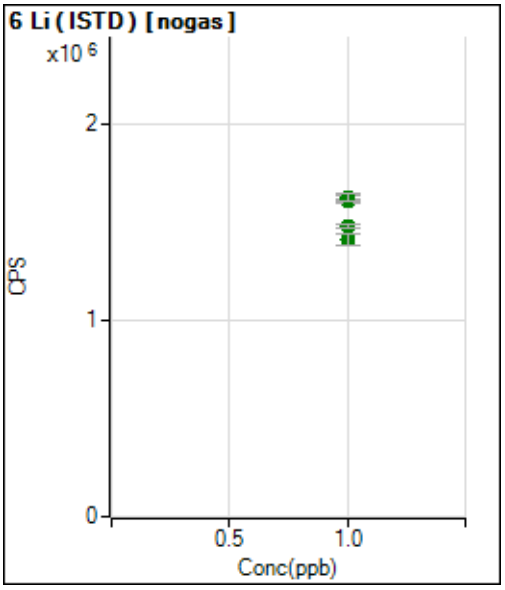
Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	113.33	0.0000	P	67.4	
2	☐	2.000	1.788	90101.93	0.0283	P	2.4	-10.6
3	☐	5.000	4.636	228822.31	0.0732	P	3.1	-7.3
4	☐	10.000	9.111	447166.00	0.1439	P	3.7	-8.9
5	☐	100.000	99.165	4696576.81	1.5657	A	3.3	-0.8
6	☐	200.000	200.473	9139153.62	3.1652	A	2.5	0.2
7	☐	1.000						

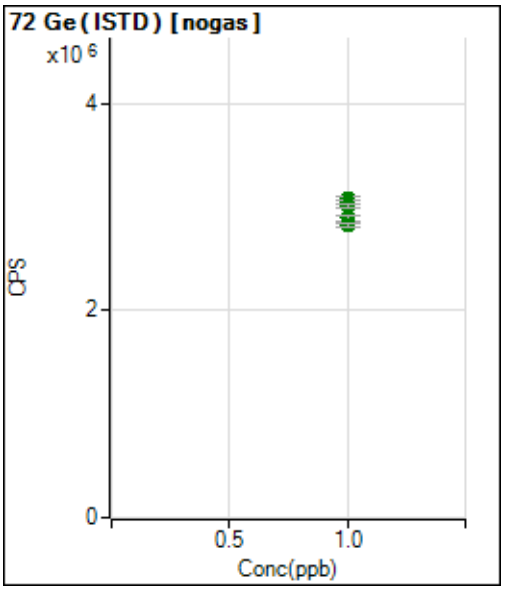
y = 0.0158 * x + 3.6144E-005
R = 1.0000
DL = 0.004628 ppb
BEC = 0.002289 ppb

Weight: <None>
Min Conc: <None>

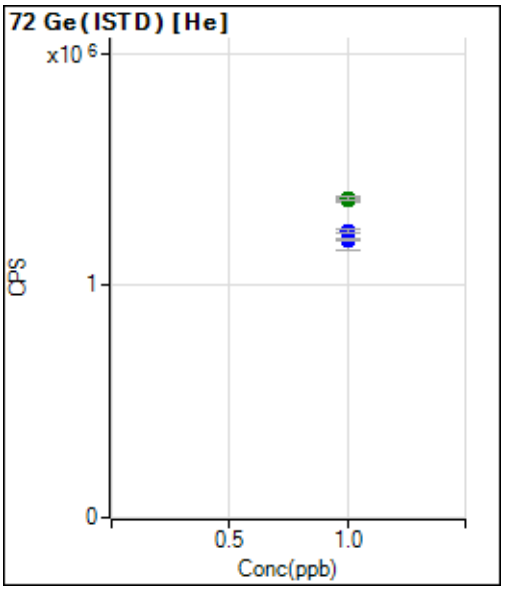


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1611348.41		A	1.1	
2	☐	1.000		1626930.40		A	1.7	
3	☐	1.000		1623504.79		A	2.3	
4	☐	1.000		1630703.57		A	2.6	
5	☐	1.000		1479353.12		A	1.3	
6	☐	1.000		1415852.26		A	4.2	
7	☐	1.000						

Calibration for 121_ICV.d

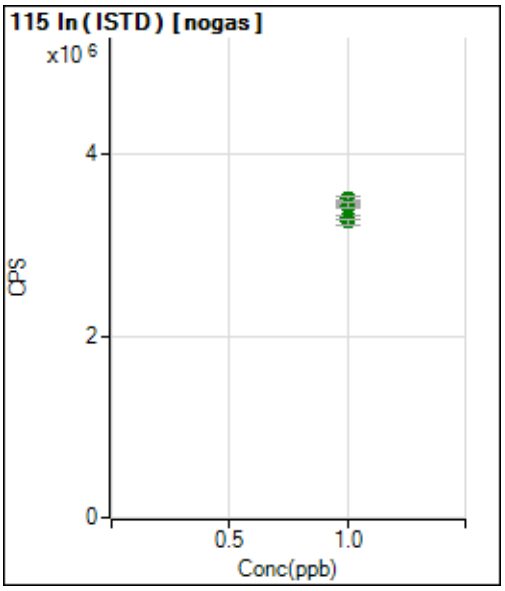


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3065687.56		A	2.9	
2	☐	1.000		3086080.37		A	0.9	
3	☐	1.000		3048678.39		A	1.3	
4	☐	1.000		3014832.87		A	1.1	
5	☐	1.000		2899661.52		A	1.9	
6	☐	1.000		2821882.77		A	1.5	
7	☐	1.000						

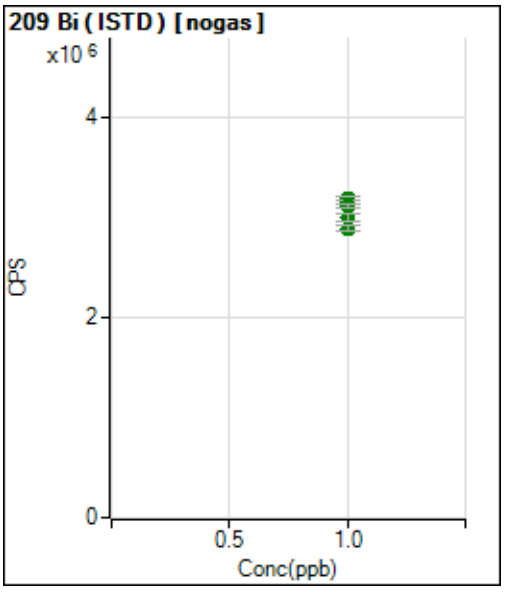


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1198475.79		M	7.1	
2	☐	1.000		1366600.08		A	0.9	
3	☐	1.000		1368583.00		A	0.9	
4	☐	1.000		1375976.07		A	1.8	
5	☐	1.000		1236803.86		P	1.3	
6	☐	1.000		1196324.25		P	0.5	
7	☐	1.000						

Calibration for 121_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3444018.13		A	1.3	
2	☐	1.000		3462319.97		A	0.8	
3	☐	1.000		3516060.82		A	1.8	
4	☐	1.000		3435757.70		A	2.0	
5	☐	1.000		3298734.68		A	1.3	
6	☐	1.000		3252308.81		A	2.3	
7	☐	1.000						



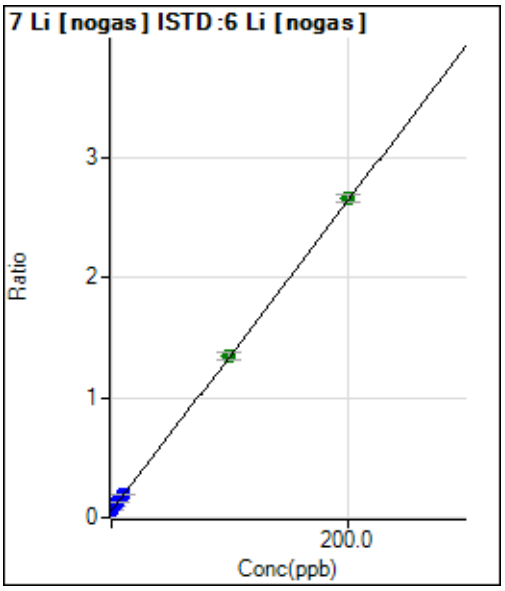
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3152950.58		A	3.8	
2	☐	1.000		3188225.06		A	1.5	
3	☐	1.000		3126752.56		A	2.8	
4	☐	1.000		3108773.39		A	1.4	
5	☐	1.000		3001139.02		A	2.5	
6	☐	1.000		2887993.60		A	1.8	
7	☐	1.000						

Calibration for 025_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\122820A.b\
Analysis File: 122820A.batch.bin
DA Date-Time: 12/28/2020 11:52:11 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	012CALB.d	CAL BLK	12/28/2020 11:53:54 AM
2	013CALS.d	2/10/200	12/28/2020 11:55:58 AM
3	014CALS.d	5/25/500	12/28/2020 11:57:59 AM
4	015CALS.d	10/50/1000	12/28/2020 11:59:59 AM
5	019CALS.d	100/500/10K	12/28/2020 12:09:31 PM
6	017CALS.d	200/1000/20K	12/28/2020 12:03:58 PM
7			

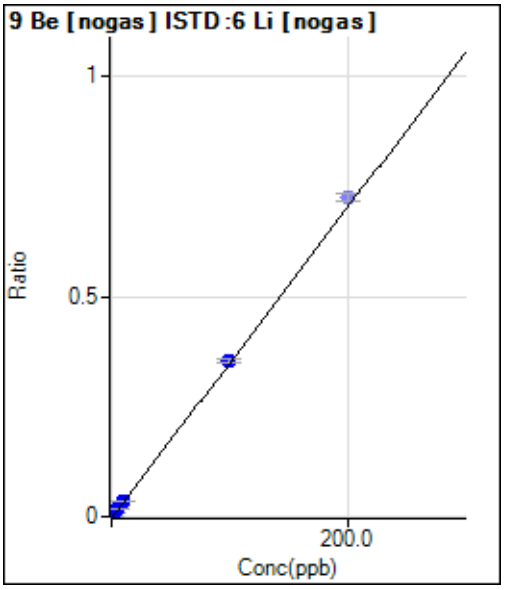
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	85561.13	0.0680	P	1.9	
2	☐	2.000	2.102	115353.52	0.0951	P	1.6	5.1
3	☐	5.000	4.911	159488.05	0.1314	P	1.5	-1.8
4	☐	10.000	9.440	230218.22	0.1899	P	1.7	-5.6
5	☐	100.000	98.766	1565371.43	1.3441	A	4.5	-1.2
6	☐	200.000	200.646	2934357.25	2.6604	A	2.1	0.3
7	☐	1.000						

y = 0.0129 * x + 0.0680
R = 1.0000
DL = 0.293 ppb
BEC = 5.26 ppb

Weight: <None>
Min Conc: <None>

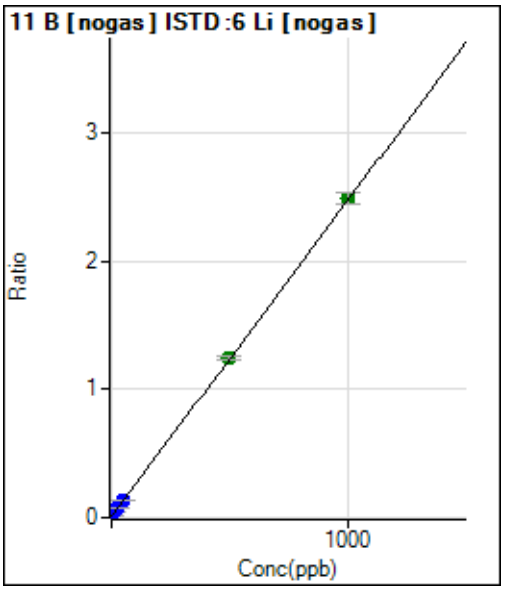


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0000	P	25.8	
2	☐	2.000	1.916	8221.80	0.0068	P	2.8	-4.2
3	☐	5.000	4.878	20919.73	0.0172	P	2.4	-2.4
4	☐	10.000	9.614	41167.09	0.0340	P	2.3	-3.9
5	☐	100.000	100.046	411567.27	0.3533	P	3.0	0.0
6	☑	200.000		799984.15	0.7254	P	2.6	
7	☐	1.000						

y = 0.0035 * x + 1.5905E-005
R = 1.0000
DL = 0.003484 ppb
BEC = 0.004504 ppb

Weight: <None>
Min Conc: <None>

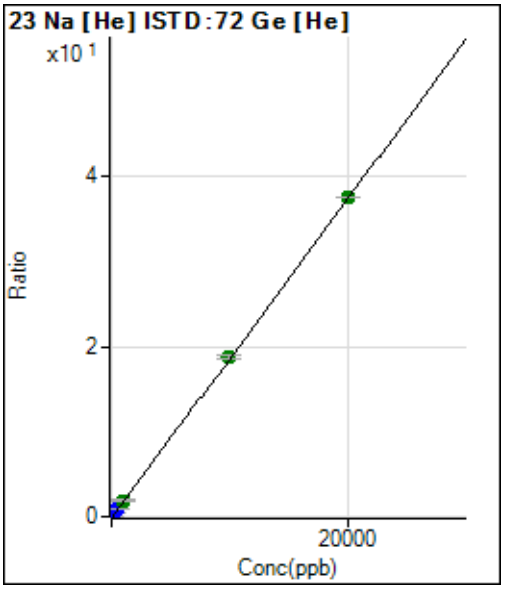
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	27713.29	0.0220	P	2.1	
2	☐	10.000	8.800	53032.76	0.0437	P	0.7	-12.0
3	☐	25.000	22.734	94794.42	0.0781	P	2.2	-9.1
4	☐	50.000	45.521	162842.04	0.1344	P	2.8	-9.0
5	☐	500.000	497.228	1455272.63	1.2491	A	2.3	-0.6
6	☐	1000.000	1001.678	2750069.85	2.4941	A	3.5	0.2
7	☐	5.000						

y = 0.0025 * x + 0.0220
R = 1.0000
DL = 0.563 ppb
BEC = 8.919 ppb

Weight: <None>
Min Conc: <None>

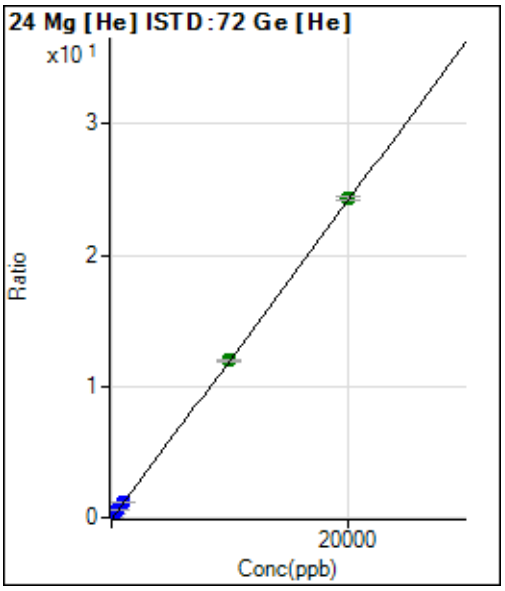


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	30571.44	0.0297	P	1.4	
2	☐	200.000	187.214	403876.35	0.3815	P	4.3	-6.4
3	☐	500.000	496.160	985304.21	0.9619	P	1.0	-0.8
4	☐	1000.000	1004.117	1982187.47	1.9163	A	3.5	0.4
5	☐	10000.00	10012.72	18957615.13	18.8419	A	2.1	0.1
6	☐	20000.00	19993.65	36798767.78	37.5943	A	0.6	0.0
7	☐	100.000						

y = 0.0019 * x + 0.0297
R = 1.0000
DL = 0.6666 ppb
BEC = 15.83 ppb

Weight: <None>
Min Conc: <None>

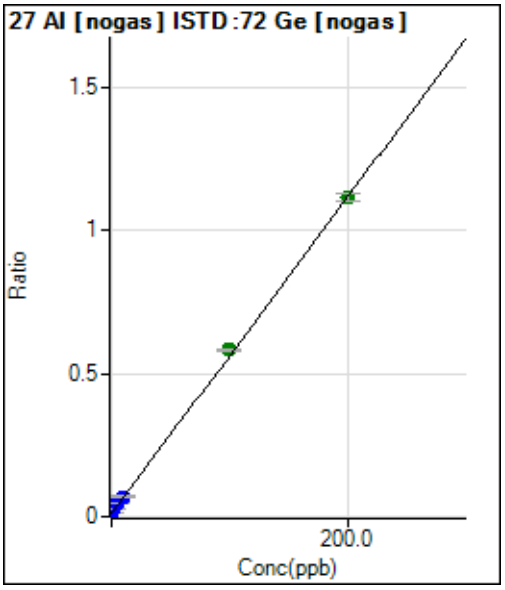
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	590.02	0.0006	P	24.6	
2	☐	200.000	187.736	241646.37	0.2282	P	4.0	-6.1
3	☐	500.000	499.933	621477.13	0.6067	P	1.2	0.0
4	☐	1000.000	949.129	1190993.26	1.1514	P	0.7	-5.1
5	☐	10000.00	9870.409	12041672.32	11.9685	A	1.2	-1.3
6	☐	20000.00	20067.46	23817167.15	24.3325	A	0.9	0.3
7	☐	100.000						

y = 0.0012 * x + 5.7431E-004
R = 1.0000
DL = 0.3502 ppb
BEC = 0.4737 ppb

Weight: <None>
Min Conc: <None>

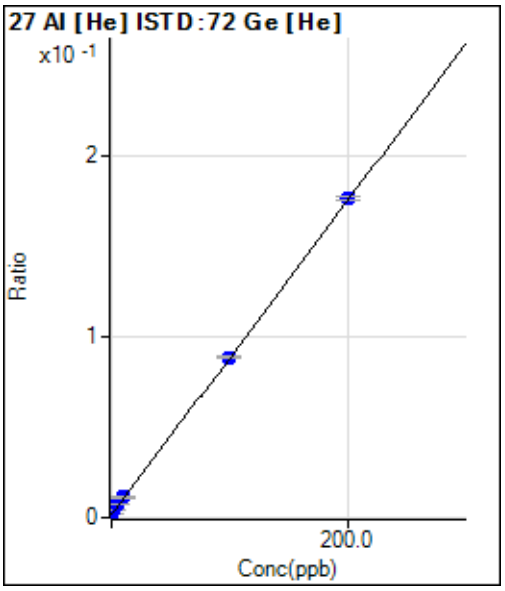


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	38919.98	0.0164	P	0.6	
2	☐	2.000	1.884	64091.34	0.0268	P	4.6	-5.8
3	☐	5.000	5.099	106171.33	0.0446	P	0.2	2.0
4	☐	10.000	9.790	170073.02	0.0706	P	2.5	-2.1
5	☐	100.000	102.557	1361815.40	0.5841	A	0.8	2.6
6	☐	200.000	198.731	2586439.23	1.1165	A	2.7	-0.6
7	☐	1.000						

y = 0.0055 * x + 0.0164
R = 0.9999
DL = 0.05658 ppb
BEC = 2.958 ppb

Weight: <None>
Min Conc: <None>

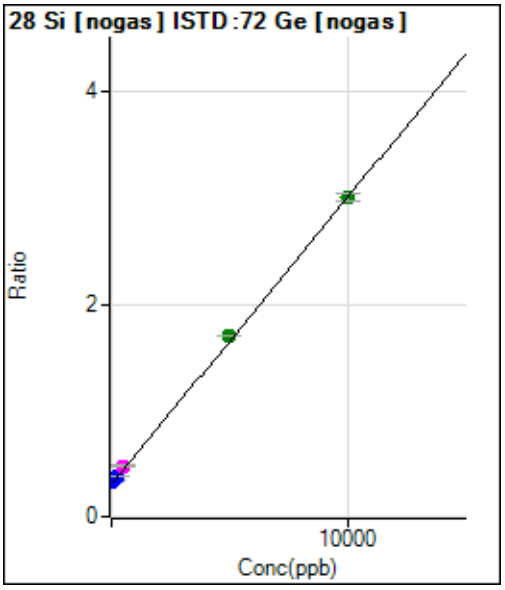
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2626.89	0.0026	P	3.5	
2	☐	2.000	1.841	4403.91	0.0042	P	5.9	-8.0
3	☐	5.000	5.330	7368.22	0.0072	P	5.5	6.6
4	☐	10.000	10.378	11983.98	0.0116	P	8.3	3.8
5	☐	100.000	99.217	89416.01	0.0889	P	0.7	-0.8
6	☐	200.000	200.366	173123.38	0.1769	P	1.2	0.2
7	☐	1.000						

y = 8.6998E-004 * x + 0.0026
R = 1.0000
DL = 0.3094 ppb
BEC = 2.937 ppb

Weight: <None>
Min Conc: <None>

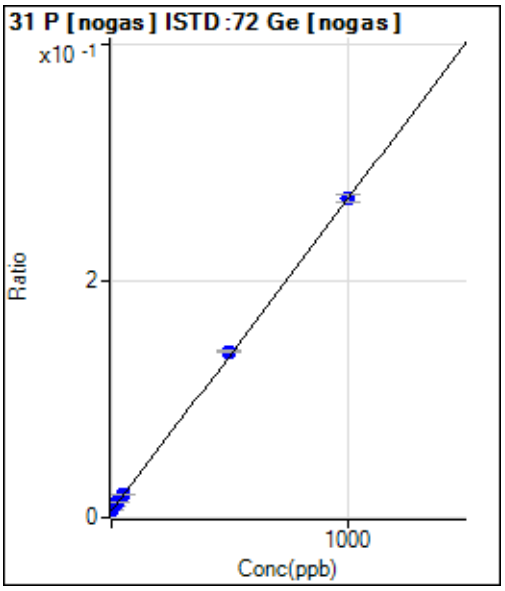


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	761353.37	0.3203	P	0.9	
2	☐	100.000	89.882	824228.09	0.3446	P	0.8	-10.1
3	☐	250.000	236.426	914707.25	0.3843	P	1.1	-5.4
4	☐	500.000	574.161	1146731.34	0.4756	M	5.1	14.8
5	☐	5000.000	5109.459	3968234.01	1.7020	A	0.7	2.2
6	☐	10000.00	9942.003	6971238.23	3.0089	A	1.9	-0.6
7	☐	50.000						

y = 2.7042E-004 * x + 0.3203
R = 0.9999
DL = 33.68 ppb
BEC = 1185 ppb

Weight: <None>
Min Conc: <None>

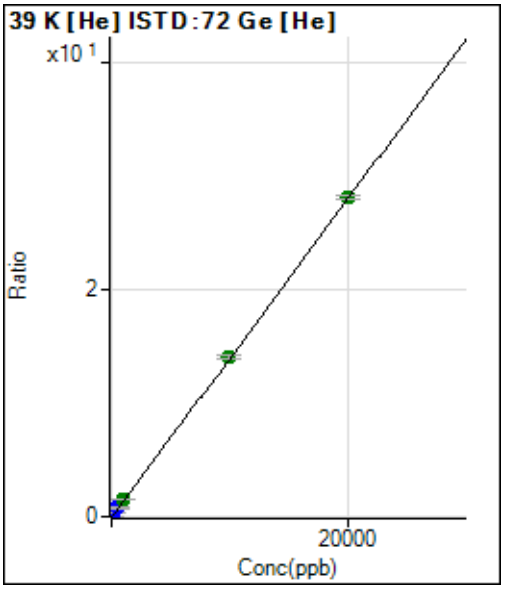
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16170.50	0.0068	P	3.6	
2	☐	10.000	9.164	22043.38	0.0092	P	3.9	-8.4
3	☐	25.000	25.247	32037.38	0.0135	P	2.3	1.0
4	☐	50.000	48.195	47008.63	0.0195	P	2.8	-3.6
5	☐	500.000	506.887	327357.18	0.1404	P	0.5	1.4
6	☐	1000.000	996.649	624349.08	0.2695	P	2.2	-0.3
7	☐	5.000						

y = 2.6357E-004 * x + 0.0068
R = 1.0000
DL = 2.812 ppb
BEC = 25.81 ppb

Weight: <None>
Min Conc: <None>

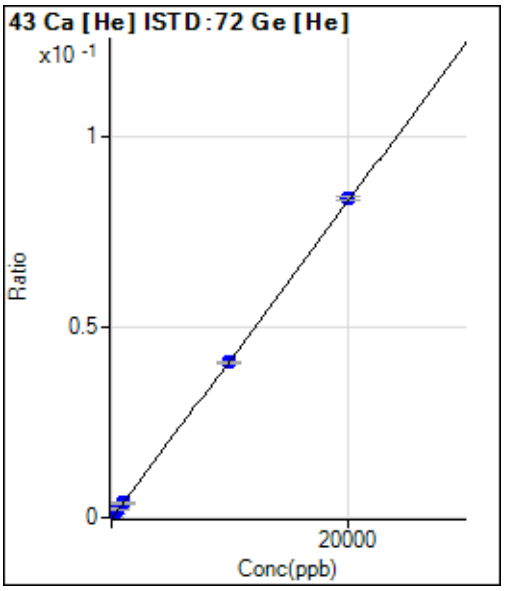


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	57364.44	0.0558	P	3.4	
2	☐	200.000	190.532	342474.02	0.3234	P	3.5	-4.7
3	☐	500.000	503.606	781691.63	0.7631	P	0.9	0.7
4	☐	1000.000	1032.879	1558489.72	1.5065	A	2.3	3.3
5	☐	10000.00	9995.084	14180721.87	14.0943	A	2.1	0.0
6	☐	20000.00	20000.81	27550662.92	28.1477	A	1.4	0.0
7	☐	100.000						

y = 0.0014 * x + 0.0558
R = 1.0000
DL = 4.072 ppb
BEC = 39.74 ppb

Weight: <None>
Min Conc: <None>

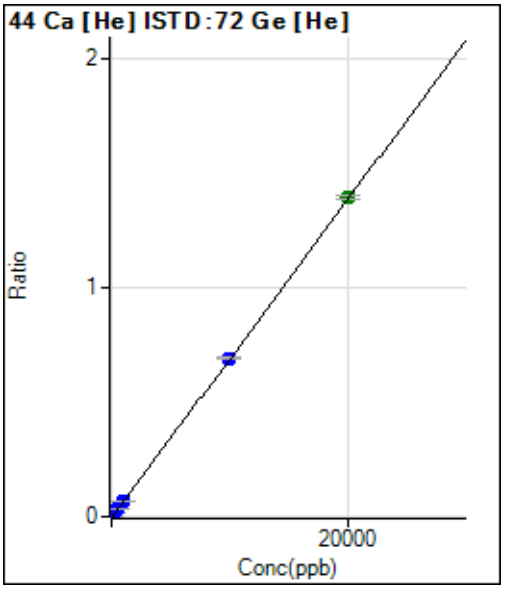
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	46.67	0.0000	P	62.4	
2	☐	200.000	201.782	936.71	0.0009	P	23.3	0.9
3	☐	500.000	533.068	2323.53	0.0023	P	6.2	6.6
4	☐	1000.000	954.863	4163.87	0.0040	P	11.9	-4.5
5	☐	10000.00	9775.485	41045.23	0.0408	P	1.1	-2.2
6	☐	20000.00	20113.67	82119.27	0.0839	P	0.7	0.6
7	☐	100.000						

y = 4.1686E-006 * x + 4.5500E-005
R = 0.9999
DL = 20.44 ppb
BEC = 10.91 ppb

Weight: <None>
Min Conc: <None>

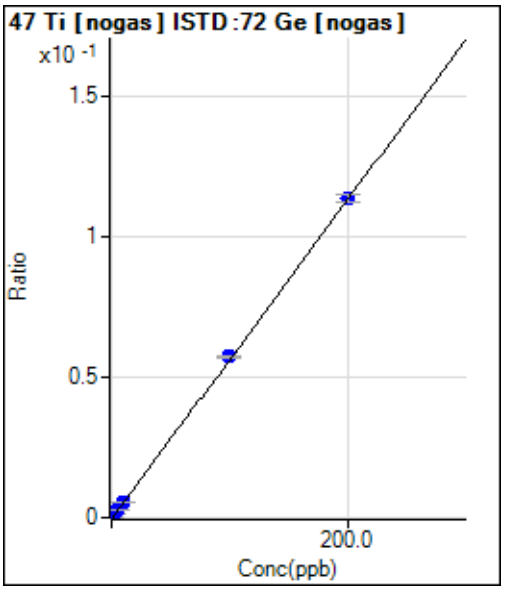


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1076.72	0.0010	P	11.4	
2	☐	200.000	196.087	15573.34	0.0147	P	6.3	-2.0
3	☐	500.000	498.878	36686.17	0.0358	P	1.3	-0.2
4	☐	1000.000	975.170	71386.18	0.0690	P	0.3	-2.5
5	☐	10000.00	9931.131	697446.99	0.6932	P	1.3	-0.7
6	☐	20000.00	20035.74	1367925.97	1.3974	A	0.9	0.2
7	☐	100.000						

y = 6.9695E-005 * x + 0.0010
R = 1.0000
DL = 5.159 ppb
BEC = 15.03 ppb

Weight: <None>
Min Conc: <None>

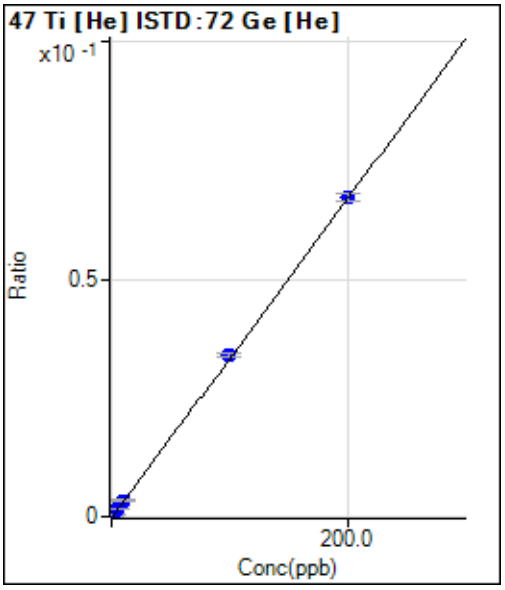
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	96.67	0.0000	P	35.9	
2	☐	2.000	2.056	2896.95	0.0012	P	5.2	2.8
3	☐	5.000	5.161	7088.14	0.0030	P	6.0	3.2
4	☐	10.000	9.691	13388.32	0.0056	P	5.4	-3.1
5	☐	100.000	100.640	133648.14	0.0573	P	1.1	0.6
6	☐	200.000	199.691	263412.38	0.1137	P	2.2	-0.2
7	☐	1.000						

y = 5.6917E-004 * x + 4.0622E-005
R = 1.0000
DL = 0.07694 ppb
BEC = 0.07137 ppb

Weight: <None>
Min Conc: <None>

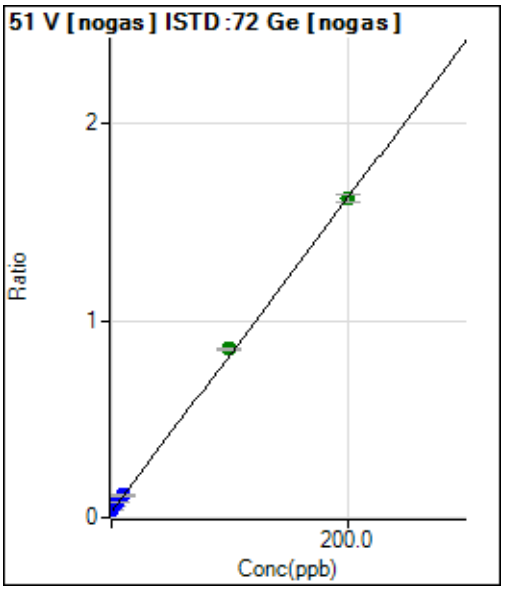


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23.33	0.0000	P	108.	
2	☐	2.000	1.529	570.02	0.0005	P	5.2	-23.6
3	☐	5.000	4.852	1696.77	0.0017	P	8.6	-3.0
4	☐	10.000	9.962	3493.71	0.0034	P	4.3	-0.4
5	☐	100.000	100.626	34118.18	0.0339	P	2.7	0.6
6	☐	200.000	199.697	65849.19	0.0673	P	2.2	-0.2
7	☐	1.000						

y = 3.3679E-004 * x + 2.2790E-005
R = 1.0000
DL = 0.2195 ppb
BEC = 0.06767 ppb

Weight: <None>
Min Conc: <None>

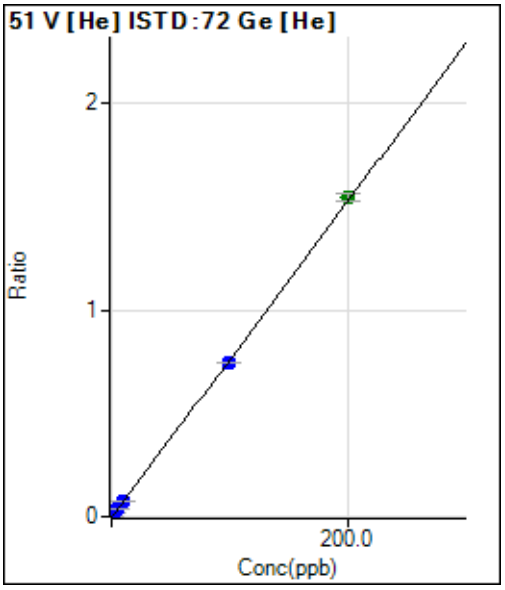
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	92093.73	0.0387	P	0.5	
2	☐	2.000	2.199	134575.58	0.0563	P	2.4	10.0
3	☐	5.000	4.901	185232.39	0.0778	P	0.9	-2.0
4	☐	10.000	9.254	271161.67	0.1125	P	0.8	-7.5
5	☐	100.000	102.615	1997417.05	0.8567	A	1.7	2.6
6	☐	200.000	198.730	3759702.45	1.6228	A	2.5	-0.6
7	☐	1.000						

y = 0.0080 * x + 0.0387
R = 0.9999
DL = 0.06645 ppb
BEC = 4.861 ppb

Weight: <None>
Min Conc: <None>

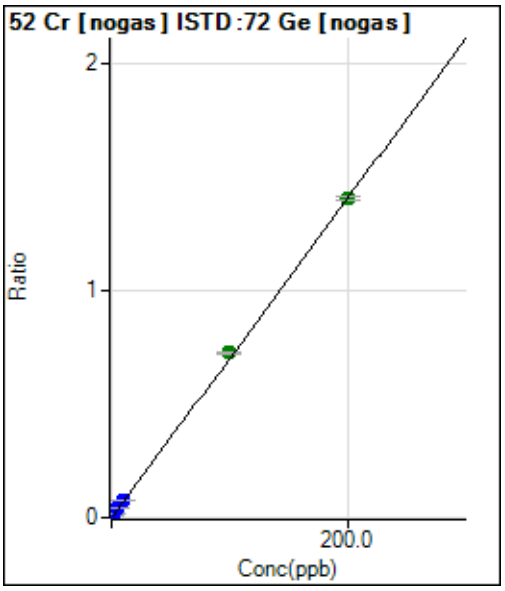


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3492.57	0.0034	P	0.7	
2	☐	2.000	1.886	18880.72	0.0178	P	2.6	-5.7
3	☐	5.000	4.851	41499.32	0.0405	P	1.7	-3.0
4	☐	10.000	9.428	78138.11	0.0755	P	1.5	-5.7
5	☐	100.000	96.994	750139.90	0.7456	P	0.4	-3.0
6	☐	200.000	201.537	1512752.79	1.5455	A	2.5	0.8
7	☐	1.000						

y = 0.0077 * x + 0.0034
R = 0.9998
DL = 0.009353 ppb
BEC = 0.4441 ppb

Weight: <None>
Min Conc: <None>

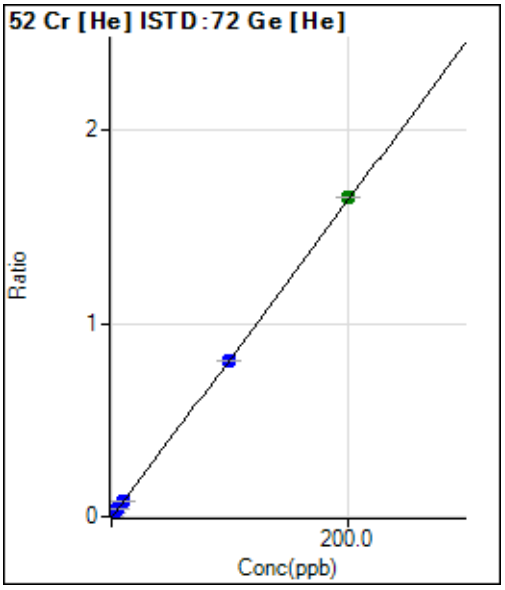
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	14899.50	0.0063	P	3.1	
2	☐	2.000	1.950	47808.55	0.0200	P	3.9	-2.5
3	☐	5.000	4.938	97651.93	0.0410	P	1.2	-1.2
4	☐	10.000	9.769	180833.06	0.0750	P	0.7	-2.3
5	☐	100.000	102.209	1691771.33	0.7256	A	1.4	2.2
6	☐	200.000	198.909	3258317.35	1.4062	A	1.1	-0.5
7	☐	1.000						

y = 0.0070 * x + 0.0063
R = 0.9999
DL = 0.08389 ppb
BEC = 0.8907 ppb

Weight: <None>
Min Conc: <None>

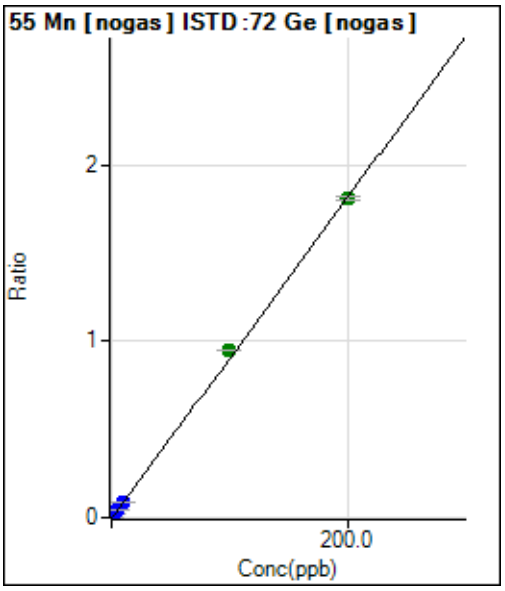


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2256.85	0.0022	P	6.2	
2	☐	2.000	1.774	17738.75	0.0168	P	5.3	-11.3
3	☐	5.000	4.897	43410.99	0.0424	P	1.8	-2.1
4	☐	10.000	9.545	83292.63	0.0805	P	2.3	-4.5
5	☐	100.000	97.719	809042.31	0.8041	P	0.4	-2.3
6	☐	200.000	201.168	1618122.01	1.6531	A	0.6	0.6
7	☐	1.000						

y = 0.0082 * x + 0.0022
R = 0.9999
DL = 0.0494 ppb
BEC = 0.2675 ppb

Weight: <None>
Min Conc: <None>

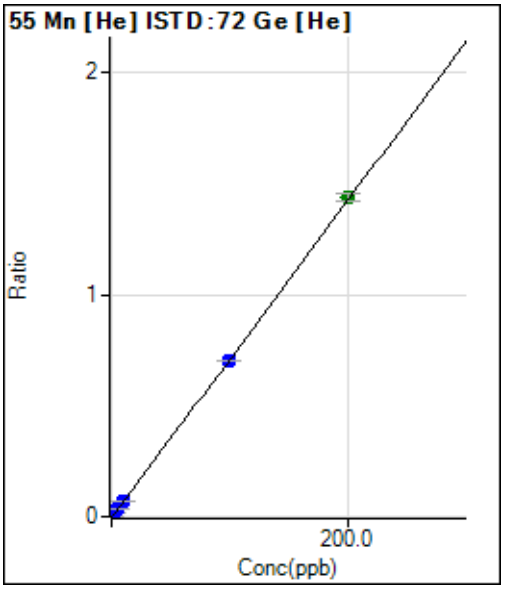
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6417.87	0.0027	P	3.0	
2	☐	2.000	1.924	48389.91	0.0202	P	2.2	-3.8
3	☐	5.000	5.020	115309.64	0.0484	P	2.5	0.4
4	☐	10.000	9.837	222568.35	0.0923	P	0.6	-1.6
5	☐	100.000	103.479	2204779.24	0.9457	A	0.5	3.5
6	☐	200.000	198.269	4192780.98	1.8095	A	1.7	-0.9
7	☐	1.000						

y = 0.0091 * x + 0.0027
R = 0.9998
DL = 0.02668 ppb
BEC = 0.2963 ppb

Weight: <None>
Min Conc: <None>

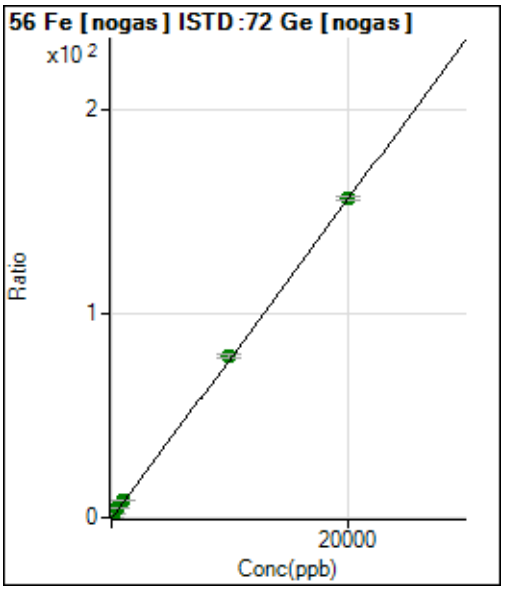


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1316.74	0.0013	P	2.0	
2	☐	2.000	1.849	15343.21	0.0145	P	6.0	-7.5
3	☐	5.000	4.990	37845.62	0.0369	P	0.6	-0.2
4	☐	10.000	9.534	71815.35	0.0694	P	1.6	-4.7
5	☐	100.000	98.110	706787.02	0.7025	P	0.6	-1.9
6	☐	200.000	200.970	1407150.66	1.4377	A	2.7	0.5
7	☐	1.000						

y = 0.0071 * x + 0.0013
R = 0.9999
DL = 0.01064 ppb
BEC = 0.1792 ppb

Weight: <None>
Min Conc: <None>

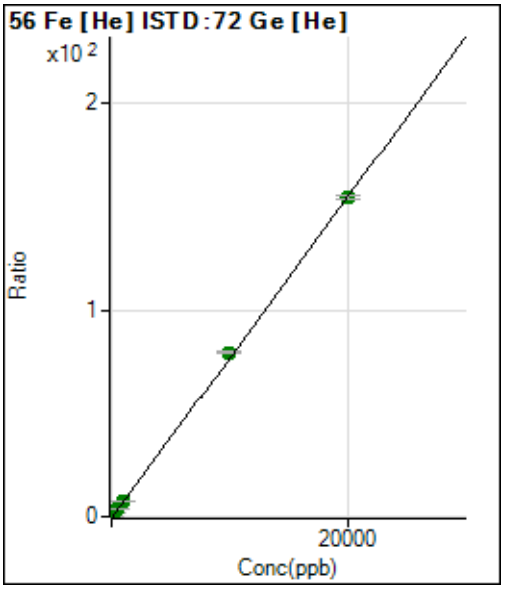
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	664268.19	0.2795	P	0.8	
2	☐	200.000	206.958	4539840.04	1.8985	A	2.3	3.5
3	☐	500.000	523.076	10404387.76	4.3714	A	2.9	4.6
4	☐	1000.000	1000.854	19543604.29	8.1089	A	1.5	0.1
5	☐	10000.00	10067.20	184255823.9	79.0329	A	2.0	0.7
6	☐	20000.00	19965.70	362516234.6	156.466	A	1.7	-0.2
7	☐	100.000						

y = 0.0078 * x + 0.2795
R = 1.0000
DL = 0.8254 ppb
BEC = 35.72 ppb

Weight: <None>
Min Conc: <None>

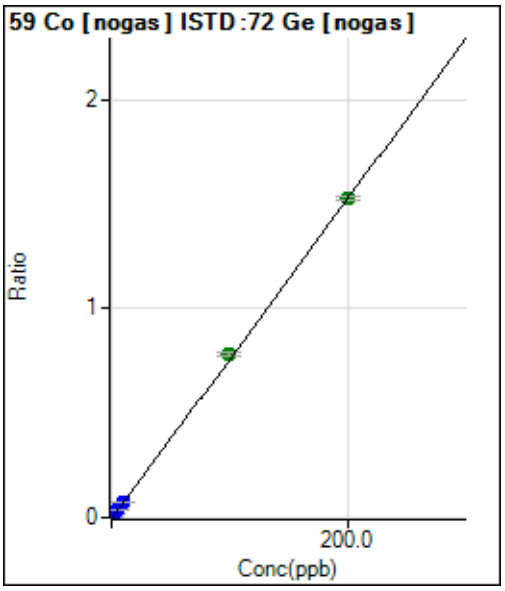


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13992.22	0.0136	P	5.9	
2	☐	200.000	206.414	1713820.08	1.6186	A	3.9	3.2
3	☐	500.000	524.931	4194575.25	4.0952	A	1.4	5.0
4	☐	1000.000	999.509	8053124.26	7.7853	A	1.9	0.0
5	☐	10000.00	10236.07	80089155.47	79.6040	A	1.5	2.4
6	☐	20000.00	19881.30	151324024.4	154.600	A	1.3	-0.6
7	☐	100.000						

y = 0.0078 * x + 0.0136
R = 0.9999
DL = 0.3097 ppb
BEC = 1.751 ppb

Weight: <None>
Min Conc: <None>

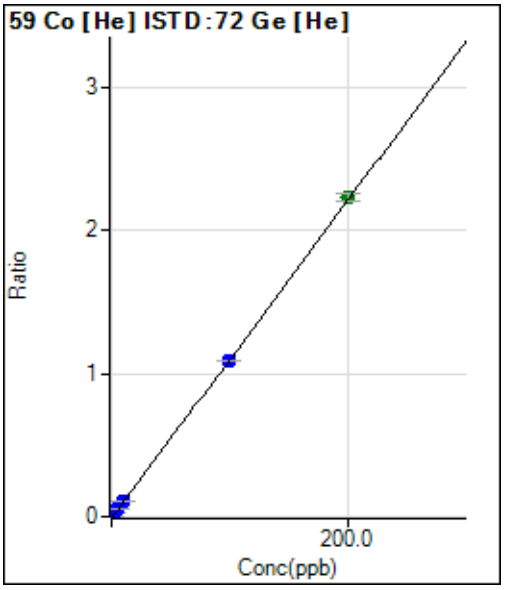
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	716.70	0.0003	P	9.9	
2	☐	2.000	1.934	36222.50	0.0151	P	1.2	-3.3
3	☐	5.000	5.006	92162.09	0.0387	P	2.2	0.1
4	☐	10.000	9.679	179748.34	0.0746	P	1.4	-3.2
5	☐	100.000	101.714	1820664.35	0.7809	A	1.7	1.7
6	☐	200.000	199.159	3542551.82	1.5288	A	1.4	-0.4
7	☐	1.000						

y = 0.0077 * x + 3.0145E-004
R = 0.9999
DL = 0.01165 ppb
BEC = 0.03928 ppb

Weight: <None>
Min Conc: <None>

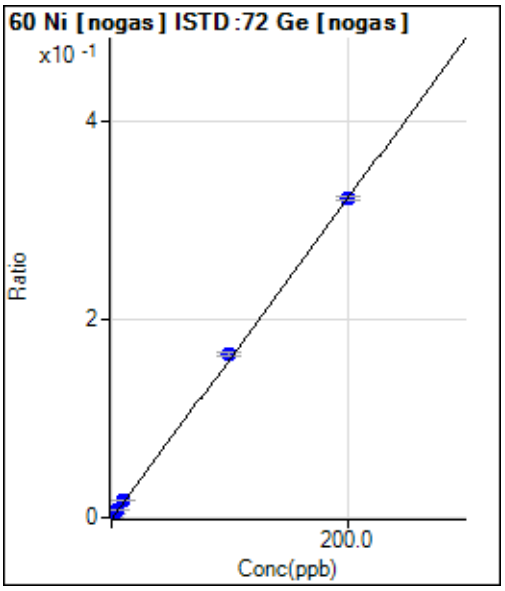


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	336.68	0.0003	P	8.6	
2	☐	2.000	1.873	22390.47	0.0211	P	4.0	-6.3
3	☐	5.000	5.002	57292.32	0.0559	P	1.0	0.0
4	☐	10.000	9.708	111953.74	0.1082	P	0.6	-2.9
5	☐	100.000	98.022	1096476.55	1.0898	P	0.8	-2.0
6	☐	200.000	201.005	2187002.78	2.2344	A	2.0	0.5
7	☐	1.000						

y = 0.0111 * x + 3.2746E-004
R = 0.9999
DL = 0.007581 ppb
BEC = 0.02946 ppb

Weight: <None>
Min Conc: <None>

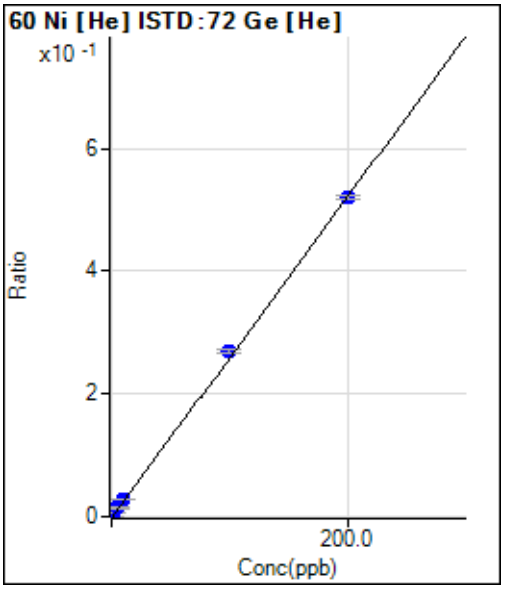
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	323.34	0.0001	P	1.5	
2	☐	2.000	2.081	8378.74	0.0035	P	7.7	4.0
3	☐	5.000	5.275	20651.75	0.0087	P	0.8	5.5
4	☐	10.000	10.265	40377.65	0.0168	P	1.4	2.7
5	☐	100.000	101.910	384964.97	0.1651	P	1.7	1.9
6	☐	200.000	199.024	746799.16	0.3223	P	1.5	-0.5
7	☐	1.000						

y = 0.0016 * x + 1.3603E-004
R = 0.9999
DL = 0.003786 ppb
BEC = 0.08403 ppb

Weight: <None>
Min Conc: <None>

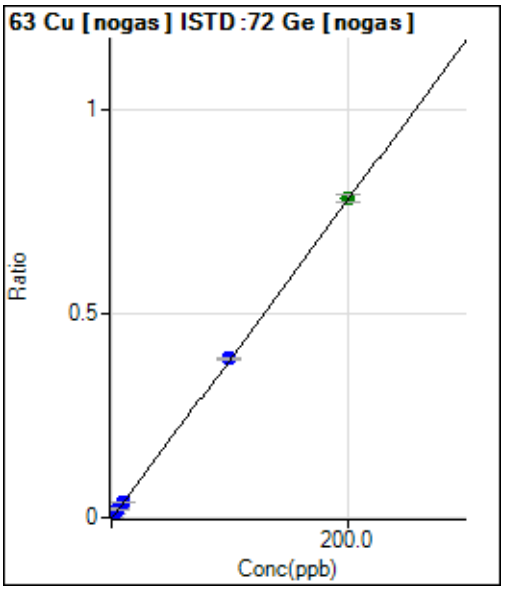


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	353.34	0.0003	P	24.7	
2	☐	2.000	1.967	5811.02	0.0055	P	9.2	-1.7
3	☐	5.000	5.255	14449.22	0.0141	P	1.6	5.1
4	☐	10.000	10.407	28538.95	0.0276	P	4.5	4.1
5	☐	100.000	102.906	271449.87	0.2698	P	1.5	2.9
6	☐	200.000	198.521	509153.38	0.5202	P	1.0	-0.7
7	☐	1.000						

y = 0.0026 * x + 3.4380E-004
R = 0.9999
DL = 0.09734 ppb
BEC = 0.1313 ppb

Weight: <None>
Min Conc: <None>

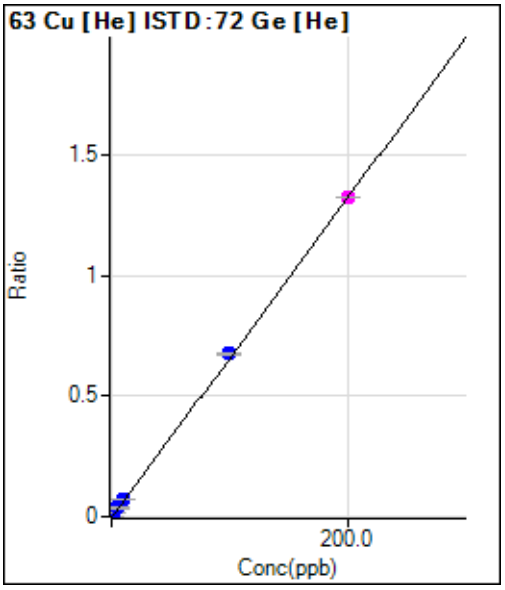
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2176.83	0.0009	P	10.1	
2	☐	2.000	2.043	21335.91	0.0089	P	2.7	2.1
3	☐	5.000	5.144	50151.92	0.0211	P	3.0	2.9
4	☐	10.000	9.826	94993.88	0.0394	P	0.9	-1.7
5	☐	100.000	99.839	914108.63	0.3921	P	1.1	-0.2
6	☐	200.000	200.085	1818142.68	0.7848	A	3.0	0.0
7	☐	1.000						

y = 0.0039 * x + 9.1604E-004
R = 1.0000
DL = 0.07078 ppb
BEC = 0.2338 ppb

Weight: <None>
Min Conc: <None>

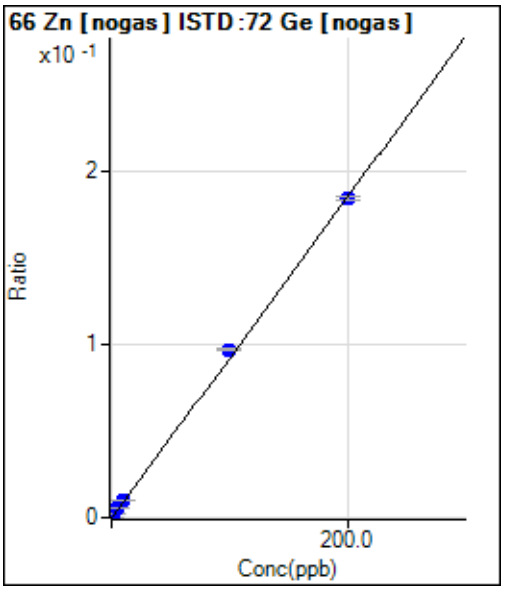


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1296.73	0.0013	P	11.8	
2	☐	2.000	2.006	15483.38	0.0146	P	3.0	0.3
3	☐	5.000	5.263	37191.19	0.0363	P	1.8	5.3
4	☐	10.000	10.172	71371.08	0.0690	P	1.7	1.7
5	☐	100.000	101.523	681463.63	0.6773	P	0.6	1.5
6	☐	200.000	199.223	1299846.62	1.3279	M	0.2	-0.4
7	☐	1.000						

y = 0.0067 * x + 0.0013
R = 1.0000
DL = 0.06697 ppb
BEC = 0.1894 ppb

Weight: <None>
Min Conc: <None>

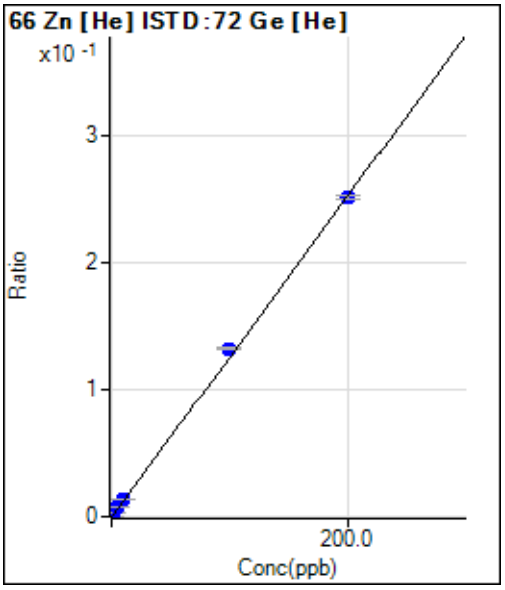
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1016.72	0.0004	P	1.1	
2	☐	2.000	2.059	5607.61	0.0023	P	3.5	3.0
3	☐	5.000	5.291	12744.60	0.0054	P	2.5	5.8
4	☐	10.000	10.167	23845.70	0.0099	P	1.4	1.7
5	☐	100.000	103.930	226613.77	0.0972	P	1.4	3.9
6	☐	200.000	198.019	428188.61	0.1848	P	1.8	-1.0
7	☐	1.000						

y = 9.3107E-004 * x + 4.2774E-004
R = 0.9997
DL = 0.01514 ppb
BEC = 0.4594 ppb

Weight: <None>
Min Conc: <None>

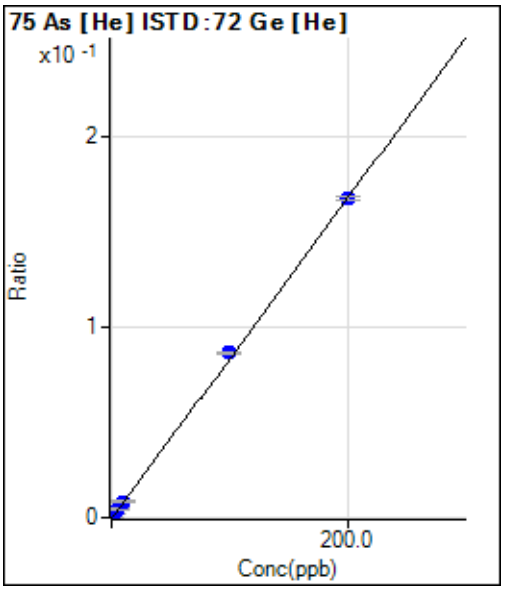


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	580.02	0.0006	P	8.3	
2	☐	2.000	2.074	3367.04	0.0032	P	10.7	3.7
3	☐	5.000	5.466	7655.06	0.0075	P	0.8	9.3
4	☐	10.000	9.986	13638.59	0.0132	P	4.5	-0.1
5	☐	100.000	103.717	132456.92	0.1317	P	1.0	3.7
6	☐	200.000	198.130	245659.53	0.2510	P	1.3	-0.9
7	☐	1.000						

y = 0.0013 * x + 5.6420E-004
R = 0.9998
DL = 0.1109 ppb
BEC = 0.4464 ppb

Weight: <None>
Min Conc: <None>

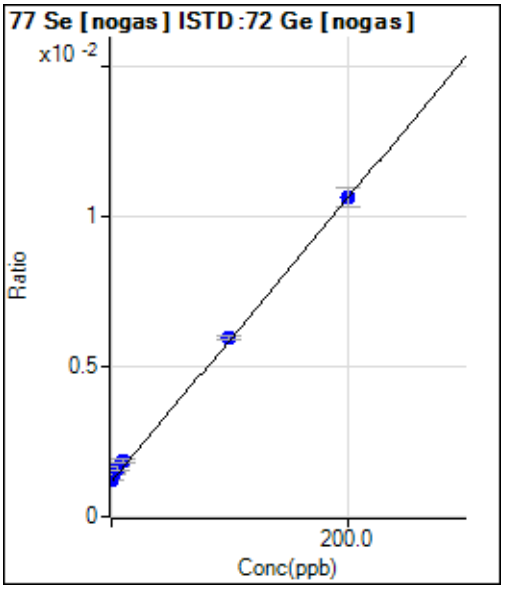
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	168.89	0.0002	P	23.9	
2	☐	2.000	1.971	1932.34	0.0018	P	3.7	-1.4
3	☐	5.000	5.191	4639.50	0.0045	P	1.8	3.8
4	☐	10.000	9.964	8835.50	0.0085	P	1.0	-0.4
5	☐	100.000	102.463	86832.54	0.0863	P	0.8	2.5
6	☐	200.000	198.766	163729.10	0.1673	P	0.9	-0.6
7	☐	1.000						

y = 8.4069E-004 * x + 1.6443E-004
R = 0.9999
DL = 0.1405 ppb
BEC = 0.1956 ppb

Weight: <None>
Min Conc: <None>

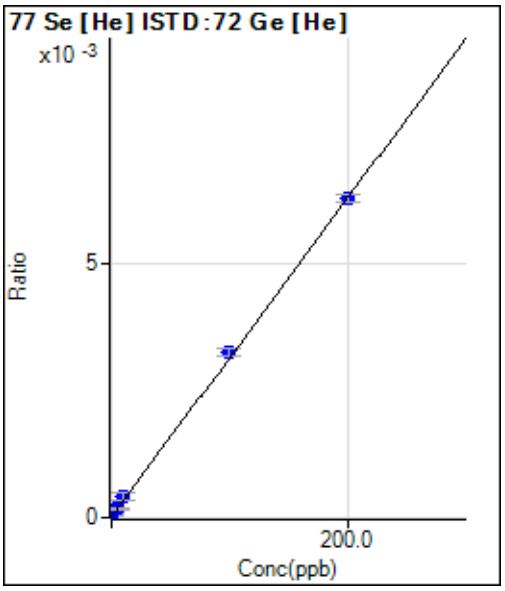


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2913.62	0.0012	P	1.8	
2	☐	2.000	4.321	3420.39	0.0014	P	7.2	116.
3	☐	5.000	7.581	3770.45	0.0016	P	6.7	51.6
4	☐	10.000	13.334	4467.29	0.0019	P	10.1	33.3
5	☐	100.000	100.550	13902.16	0.0060	P	1.5	0.5
6	☐	200.000	199.471	24603.49	0.0106	P	5.5	-0.3
7	☐	1.000						

y = 4.7111E-005 * x + 0.0012
R = 0.9999
DL = 1.429 ppb
BEC = 26.02 ppb

Weight: <None>
Min Conc: <None>

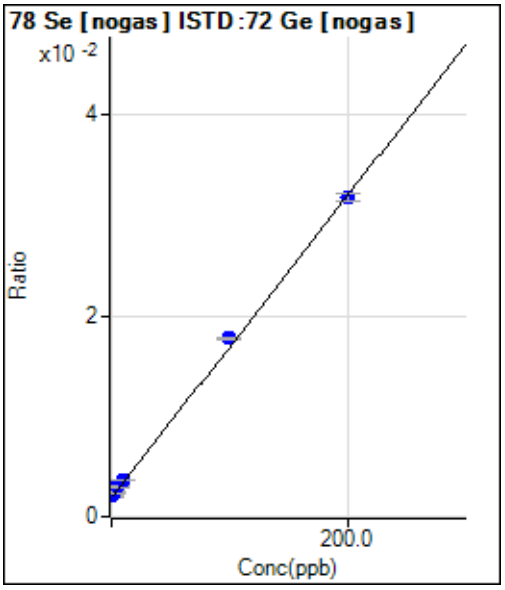
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	53.33	0.0001	P	29.1	
2	☐	2.000	3.570	173.34	0.0002	P	28.0	78.5
3	☐	5.000	3.928	180.00	0.0002	P	27.7	-21.4
4	☐	10.000	11.665	433.35	0.0004	P	37.5	16.6
5	☐	100.000	102.396	3297.02	0.0033	P	4.5	2.4
6	☐	200.000	198.730	6177.83	0.0063	P	2.0	-0.6
7	☐	1.000						

y = 3.1497E-005 * x + 5.1933E-005
R = 0.9998
DL = 1.441 ppb
BEC = 1.649 ppb

Weight: <None>
Min Conc: <None>

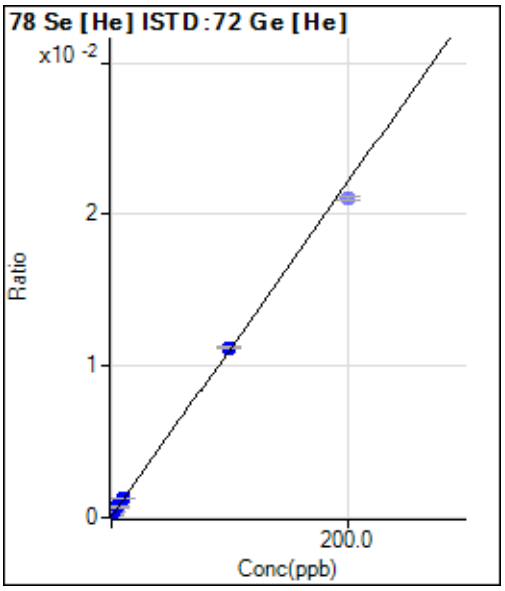


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	4874.07	0.0021	P	5.9	
2	☐	2.000	1.822	5557.64	0.0023	P	6.8	-8.9
3	☐	5.000	6.101	7064.80	0.0030	P	3.6	22.0
4	☐	10.000	10.626	8795.56	0.0036	P	1.9	6.3
5	☐	100.000	104.515	41427.52	0.0178	P	1.5	4.5
6	☐	200.000	197.685	73632.54	0.0318	P	2.6	-1.2
7	☐	1.000						

y = 1.5040E-004 * x + 0.0021
R = 0.9996
DL = 2.412 ppb
BEC = 13.63 ppb

Weight: <None>
Min Conc: <None>

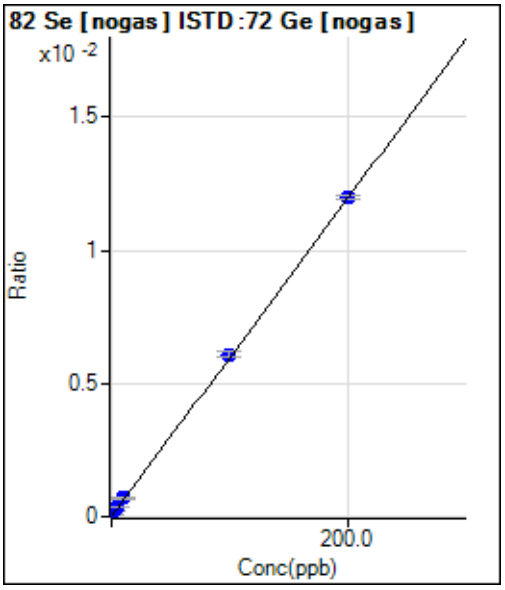
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	188.67	0.0002	P	27.9	
2	☐	2.000	1.786	402.67	0.0004	P	10.4	-10.7
3	☐	5.000	4.717	720.69	0.0007	P	8.0	-5.7
4	☐	10.000	9.907	1320.05	0.0013	P	1.7	-0.9
5	☐	100.000	100.028	11283.51	0.0112	P	0.8	0.0
6	☑	200.000		20616.96	0.0211	P	1.0	
7	☐	1.000						

y = 1.1028E-004 * x + 1.8364E-004
R = 1.0000
DL = 1.395 ppb
BEC = 1.665 ppb

Weight: <None>
Min Conc: <None>

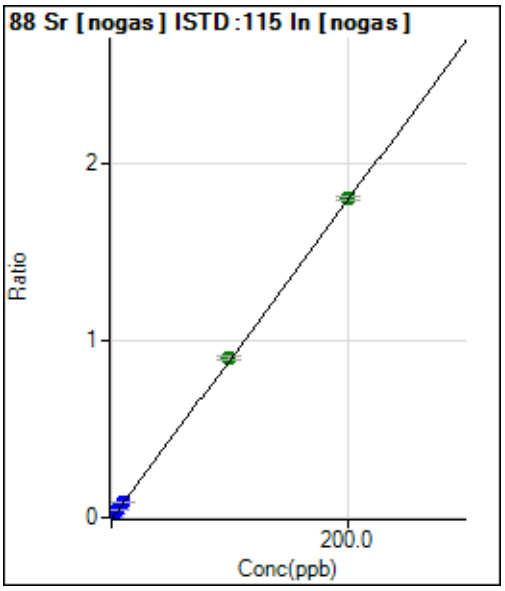


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	166.67	0.0001	P	7.4	
2	☐	2.000	2.023	456.68	0.0002	P	10.3	1.2
3	☐	5.000	4.919	866.70	0.0004	P	7.7	-1.6
4	☐	10.000	10.630	1700.12	0.0007	P	10.4	6.3
5	☐	100.000	100.864	14212.49	0.0061	P	3.7	0.9
6	☐	200.000	199.538	27784.86	0.0120	P	0.7	-0.2
7	☐	1.000						

y = 5.9739E-005 * x + 7.0137E-005
R = 1.0000
DL = 0.2621 ppb
BEC = 1.174 ppb

Weight: <None>
Min Conc: <None>

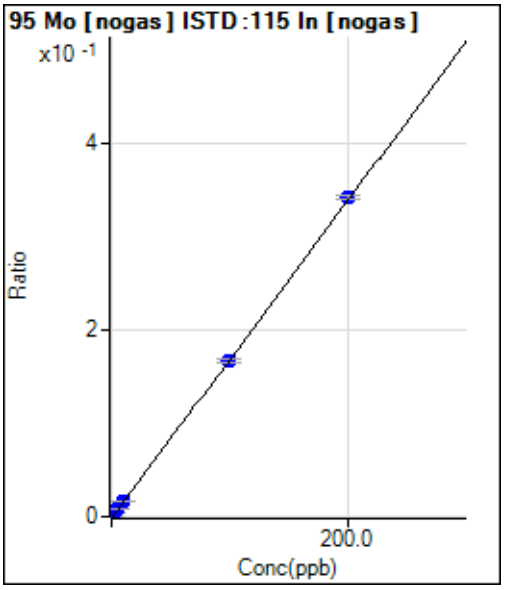
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1083.38	0.0004	P	3.1	
2	☐	2.000	1.865	48244.78	0.0172	P	1.7	-6.8
3	☐	5.000	4.701	120124.19	0.0428	P	2.5	-6.0
4	☐	10.000	9.283	238571.96	0.0841	P	0.9	-7.2
5	☐	100.000	99.580	2466575.38	0.8983	A	2.3	-0.4
6	☐	200.000	200.255	4763654.93	1.8061	A	1.1	0.1
7	☐	1.000						

y = 0.0090 * x + 3.7811E-004
R = 1.0000
DL = 0.00395 ppb
BEC = 0.04193 ppb

Weight: <None>
Min Conc: <None>

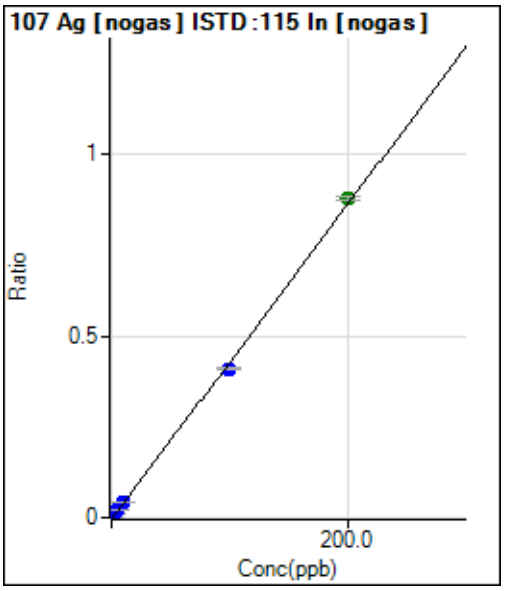


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	210.00	0.0001	P	7.1	
2	☐	2.000	1.900	9285.87	0.0033	P	2.0	-5.0
3	☐	5.000	4.815	23242.11	0.0083	P	2.2	-3.7
4	☐	10.000	9.377	45521.24	0.0160	P	2.8	-6.2
5	☐	100.000	97.964	458323.43	0.1669	P	2.5	-2.0
6	☐	200.000	201.055	903392.49	0.3425	P	1.4	0.5
7	☐	1.000						

y = 0.0017 * x + 7.3278E-005
R = 0.9999
DL = 0.009163 ppb
BEC = 0.04302 ppb

Weight: <None>
Min Conc: <None>

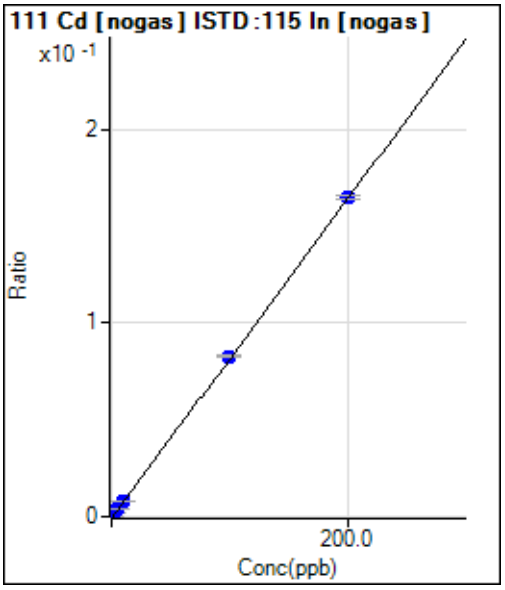
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	30.00	0.0000	P	66.8	
2	☐	2.000	1.842	22437.78	0.0080	P	0.7	-7.9
3	☐	5.000	4.841	58978.10	0.0210	P	2.2	-3.2
4	☐	10.000	9.315	114581.37	0.0404	P	0.5	-6.9
5	☐	100.000	94.492	1124700.82	0.4096	P	1.1	-5.5
6	☐	200.000	202.794	2318277.57	0.8790	A	1.0	1.4
7	☐	1.000						

y = 0.0043 * x + 1.0446E-005
R = 0.9995
DL = 0.004829 ppb
BEC = 0.00241 ppb

Weight: <None>
Min Conc: <None>

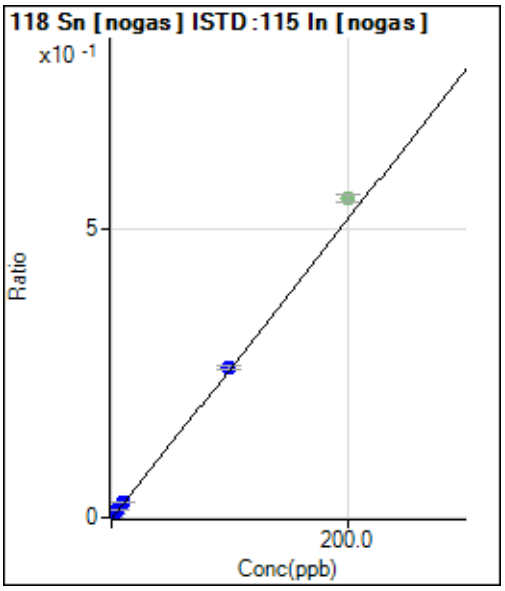


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3.33	0.0000	P	173.	
2	☐	2.000	2.084	4827.40	0.0017	P	4.1	4.2
3	☐	5.000	5.079	11774.11	0.0042	P	4.9	1.6
4	☐	10.000	9.894	23158.87	0.0082	P	1.6	-1.1
5	☐	100.000	100.189	226924.98	0.0826	P	1.6	0.2
6	☐	200.000	199.908	434908.39	0.1649	P	1.8	0.0
7	☐	1.000						

y = 8.2483E-004 * x + 1.1444E-006
R = 1.0000
DL = 0.007209 ppb
BEC = 0.001387 ppb

Weight: <None>
Min Conc: <None>

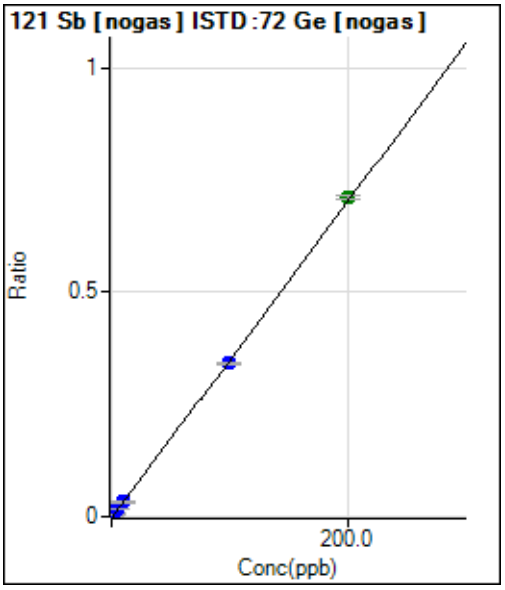
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1220.07	0.0004	P	16.6	
2	☐	2.000	1.997	15760.61	0.0056	P	2.5	-0.1
3	☐	5.000	5.000	37697.35	0.0134	P	0.9	0.0
4	☐	10.000	9.722	72897.95	0.0257	P	2.5	-2.8
5	☐	100.000	100.028	714852.02	0.2604	P	3.0	0.0
6	☑	200.000		1461629.92	0.5541	A	2.1	
7	☐	1.000						

y = 0.0026 * x + 4.2649E-004
R = 1.0000
DL = 0.08164 ppb
BEC = 0.1641 ppb

Weight: <None>
Min Conc: <None>

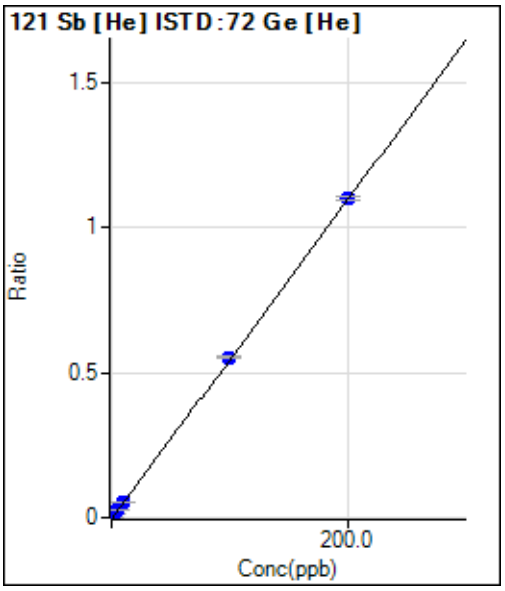


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	860.04	0.0004	P	12.8	
2	☐	2.000	1.707	15253.53	0.0064	P	3.6	-14.6
3	☐	5.000	4.477	38412.27	0.0161	P	2.7	-10.5
4	☐	10.000	9.109	78227.44	0.0325	P	2.7	-8.9
5	☐	100.000	96.715	795527.85	0.3412	P	1.5	-3.3
6	☐	200.000	201.703	1647895.03	0.7112	A	1.7	0.9
7	☐	1.000						

y = 0.0035 * x + 3.6198E-004
R = 0.9998
DL = 0.03946 ppb
BEC = 0.1027 ppb

Weight: <None>
Min Conc: <None>

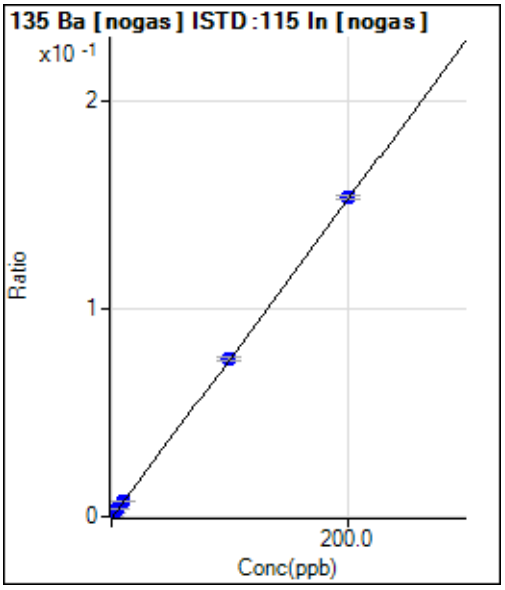
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	503.35	0.0005	P	24.1	
2	☐	2.000	1.808	11083.71	0.0105	P	1.5	-9.6
3	☐	5.000	4.842	27845.72	0.0272	P	4.3	-3.2
4	☐	10.000	9.367	53929.64	0.0521	P	2.1	-6.3
5	☐	100.000	100.322	556992.04	0.5536	P	1.6	0.3
6	☐	200.000	199.877	1079151.49	1.1025	P	0.6	-0.1
7	☐	1.000						

y = 0.0055 * x + 4.9013E-004
R = 1.0000
DL = 0.06429 ppb
BEC = 0.0889 ppb

Weight: <None>
Min Conc: <None>

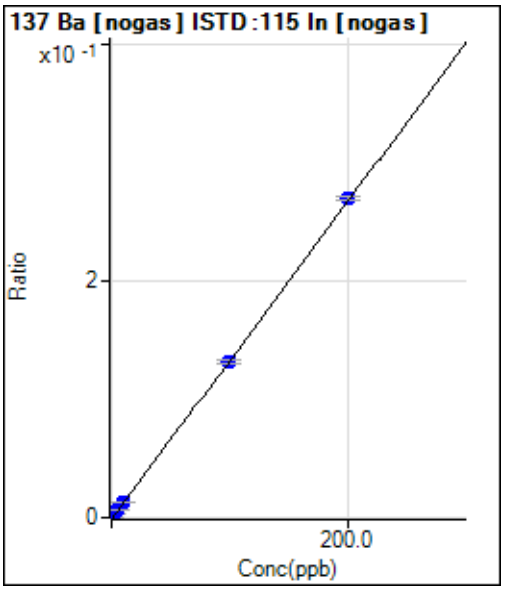


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	106.67	0.0000	P	38.5	
2	☐	2.000	1.923	4240.60	0.0015	P	8.9	-3.8
3	☐	5.000	4.950	10763.50	0.0038	P	1.9	-1.0
4	☐	10.000	9.673	21146.48	0.0075	P	2.2	-3.3
5	☐	100.000	98.881	208245.88	0.0758	P	2.7	-1.1
6	☐	200.000	200.578	405688.30	0.1538	P	0.7	0.3
7	☐	1.000						

y = 7.6665E-004 * x + 3.7147E-005
R = 1.0000
DL = 0.05595 ppb
BEC = 0.04845 ppb

Weight: <None>
Min Conc: <None>

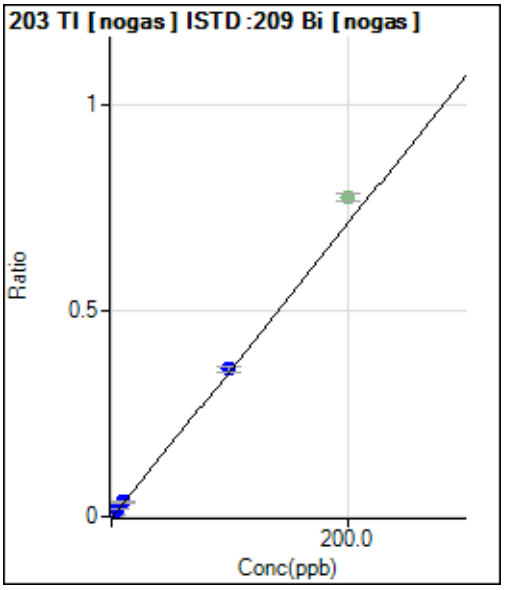
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	196.67	0.0001	P	29.7	
2	☐	2.000	1.879	7278.31	0.0026	P	3.6	-6.1
3	☐	5.000	4.875	18590.21	0.0066	P	3.2	-2.5
4	☐	10.000	9.576	36705.98	0.0129	P	1.9	-4.2
5	☐	100.000	98.008	361783.53	0.1318	P	3.2	-2.0
6	☐	200.000	201.022	712679.60	0.2702	P	0.8	0.5
7	☐	1.000						

y = 0.0013 * x + 6.8459E-005
R = 0.9999
DL = 0.04544 ppb
BEC = 0.05094 ppb

Weight: <None>
Min Conc: <None>

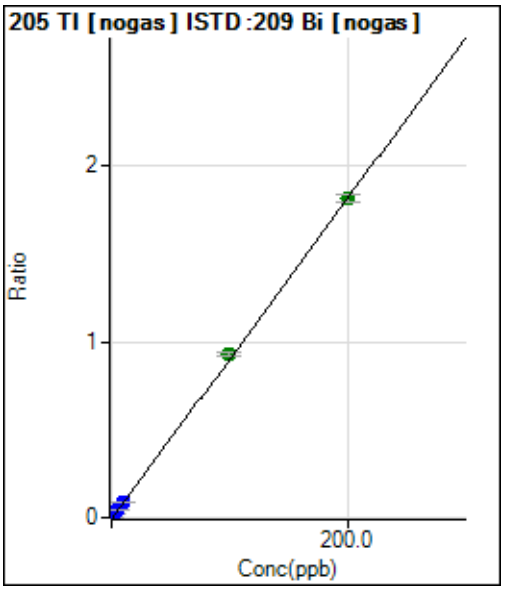


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	163.34	0.0001	P	30.3	
2	☐	2.000	1.902	18377.23	0.0069	P	1.9	-4.9
3	☐	5.000	5.040	48298.01	0.0181	P	2.2	0.8
4	☐	10.000	9.931	93819.54	0.0357	P	3.3	-0.7
5	☐	100.000	100.007	922782.35	0.3588	P	4.0	0.0
6	☑	200.000		1964060.39	0.7774	A	2.5	
7	☐	1.000						

y = 0.0036 * x + 5.9932E-005
R = 1.0000
DL = 0.01519 ppb
BEC = 0.01671 ppb

Weight: <None>
Min Conc: <None>

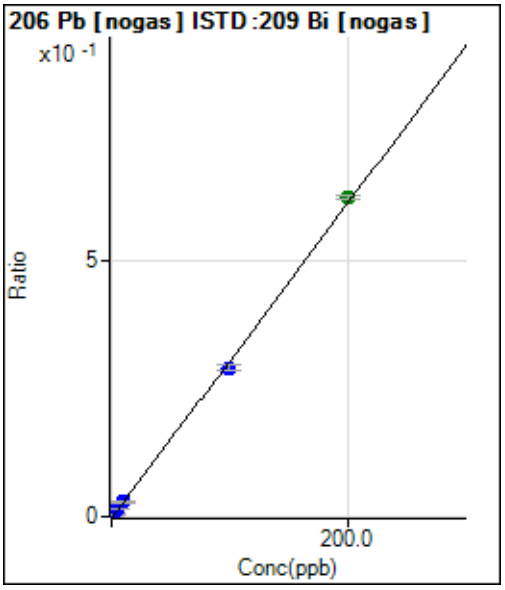
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	370.01	0.0001	P	16.6	
2	☐	2.000	1.842	45275.87	0.0170	P	5.0	-7.9
3	☐	5.000	4.704	114838.61	0.0431	P	3.2	-5.9
4	☐	10.000	9.268	223087.78	0.0848	P	3.3	-7.3
5	☐	100.000	102.099	2401034.19	0.9333	A	1.6	2.1
6	☐	200.000	198.996	4595216.29	1.8188	A	2.1	-0.5
7	☐	1.000						

y = 0.0091 * x + 1.3571E-004
R = 0.9999
DL = 0.007383 ppb
BEC = 0.01485 ppb

Weight: <None>
Min Conc: <None>

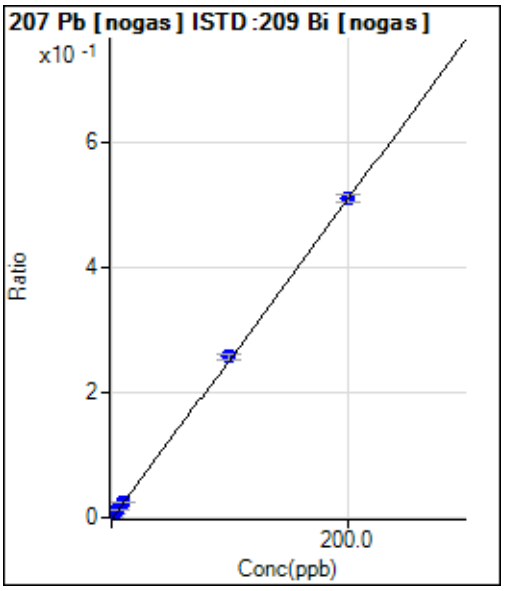


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	210.00	0.0001	P	34.4	
2	☐	2.000	1.843	15390.82	0.0058	P	4.6	-7.9
3	☐	5.000	4.705	38889.64	0.0146	P	3.3	-5.9
4	☐	10.000	9.306	75751.01	0.0288	P	4.4	-6.9
5	☐	100.000	94.472	750557.91	0.2918	P	3.7	-5.5
6	☐	200.000	202.808	1582501.59	0.6263	A	0.8	1.4
7	☐	1.000						

y = 0.0031 * x + 7.7165E-005
R = 0.9995
DL = 0.02579 ppb
BEC = 0.02499 ppb

Weight: <None>
Min Conc: <None>

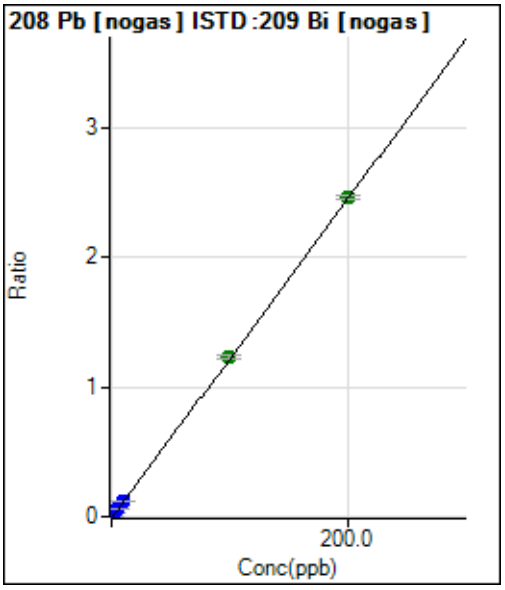
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	130.00	0.0000	P	31.7	
2	☐	2.000	1.961	13539.12	0.0051	P	2.8	-1.9
3	☐	5.000	5.100	34910.70	0.0131	P	1.7	2.0
4	☐	10.000	9.973	67284.60	0.0256	P	3.0	-0.3
5	☐	100.000	100.713	663503.31	0.2580	P	3.9	0.7
6	☐	200.000	199.643	1291711.44	0.5113	P	2.2	-0.2
7	☐	1.000						

y = 0.0026 * x + 4.7930E-005
R = 1.0000
DL = 0.01783 ppb
BEC = 0.01872 ppb

Weight: <None>
Min Conc: <None>

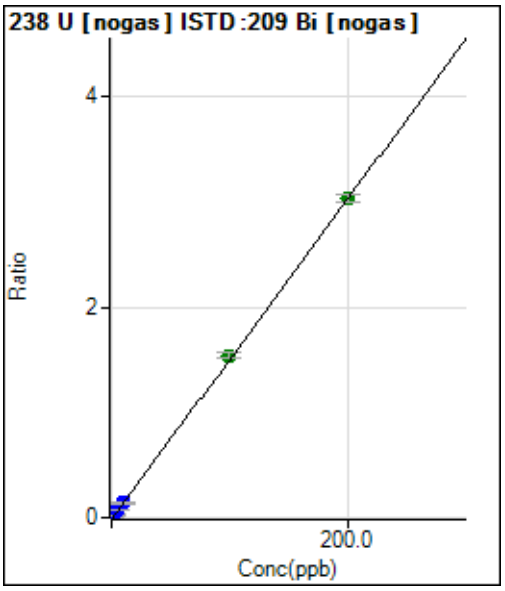


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	690.01	0.0003	P	20.5	
2	☐	2.000	1.846	61315.71	0.0230	P	3.1	-7.7
3	☐	5.000	4.776	157168.33	0.0590	P	1.1	-4.5
4	☐	10.000	9.423	305483.94	0.1162	P	4.1	-5.8
5	☐	100.000	100.069	3167775.88	1.2314	A	2.8	0.1
6	☐	200.000	200.002	6217759.54	2.4609	A	1.1	0.0
7	☐	1.000						

y = 0.0123 * x + 2.5382E-004
R = 1.0000
DL = 0.01269 ppb
BEC = 0.02063 ppb

Weight: <None>
Min Conc: <None>

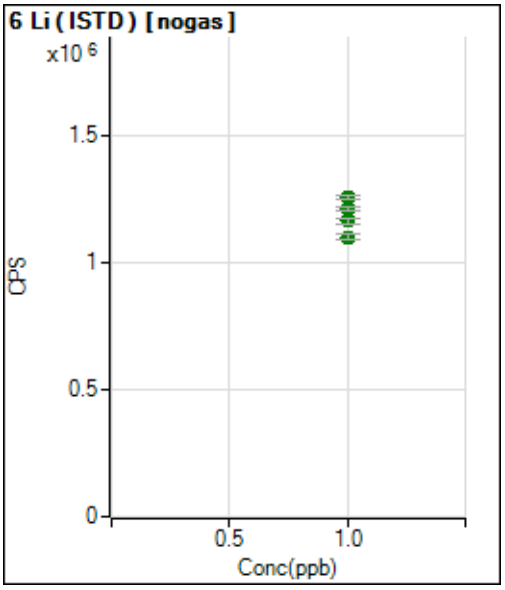
Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	46.67	0.0000	P	65.8	
2	☐	2.000	1.805	73397.96	0.0275	P	4.2	-9.7
3	☐	5.000	4.657	188898.29	0.0709	P	1.3	-6.9
4	☐	10.000	9.136	365890.09	0.1391	P	2.9	-8.6
5	☐	100.000	101.309	3968648.69	1.5427	A	3.0	1.3
6	☐	200.000	199.399	7670889.26	3.0363	A	2.1	-0.3
7	☐	1.000						

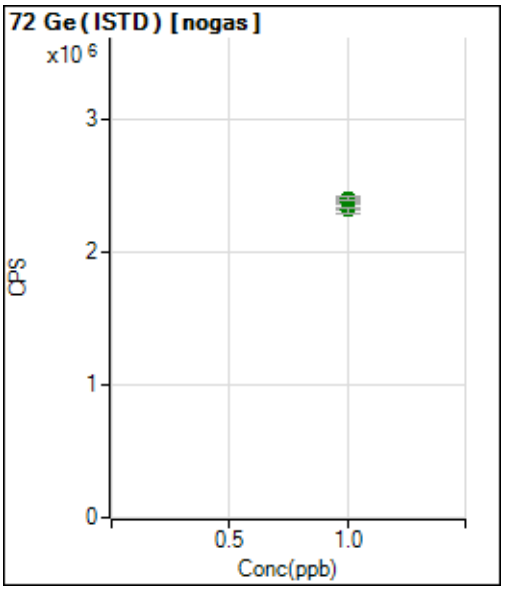
y = 0.0152 * x + 1.7233E-005
R = 1.0000
DL = 0.002233 ppb
BEC = 0.001132 ppb

Weight: <None>
Min Conc: <None>

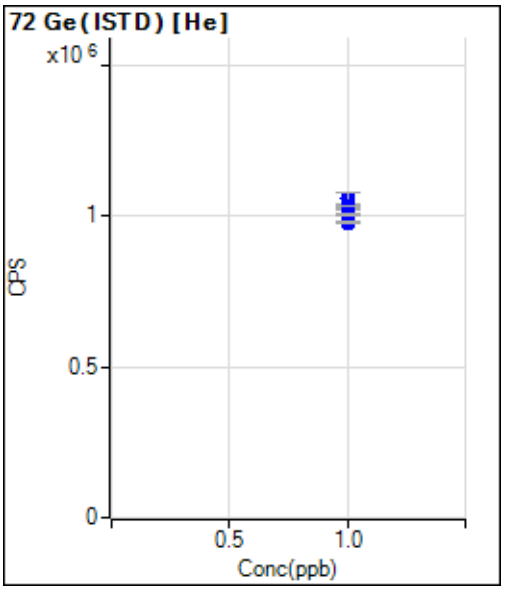


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1258985.24		A	1.0	
2	☐	1.000		1212801.27		A	1.4	
3	☐	1.000		1213687.69		A	1.5	
4	☐	1.000		1212245.48		A	1.2	
5	☐	1.000		1165438.56		A	2.3	
6	☐	1.000		1103255.85		A	2.5	
7	☐	1.000						

Calibration for 025_ICV.d

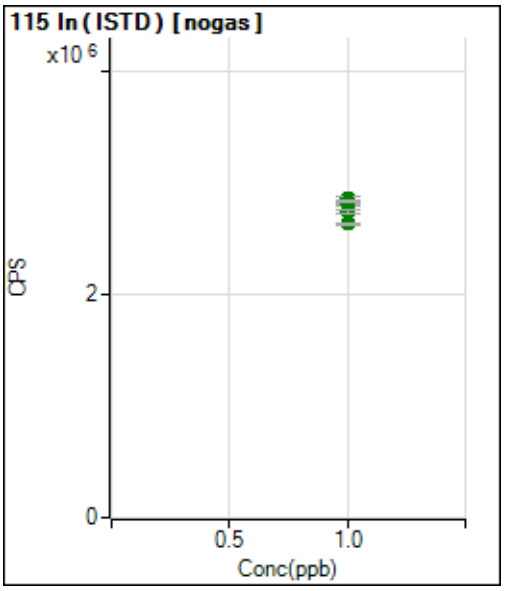


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2376896.42		A	0.5	
2	☐	1.000		2391795.38		A	1.2	
3	☐	1.000		2380643.87		A	1.2	
4	☐	1.000		2410332.78		A	1.2	
5	☐	1.000		2331480.95		A	0.5	
6	☐	1.000		2317346.06		A	1.8	
7	☐	1.000						

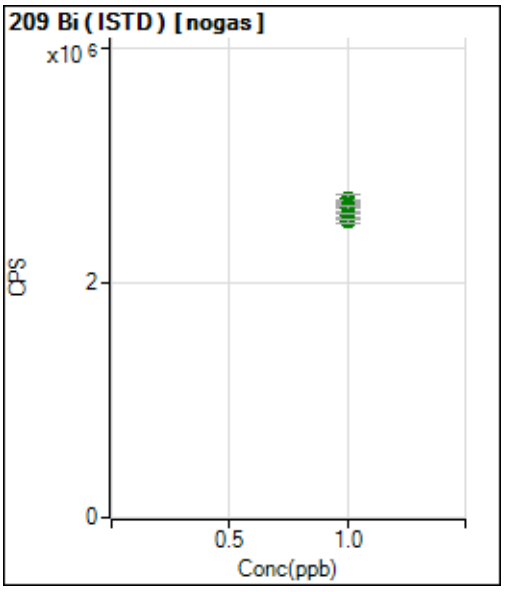


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1027847.46		P	0.5	
2	☐	1.000		1059838.86		P	3.8	
3	☐	1.000		1024353.24		P	0.9	
4	☐	1.000		1034411.39		P	0.6	
5	☐	1.000		1006104.26		P	0.3	
6	☐	1.000		978854.02		P	0.7	
7	☐	1.000						

Calibration for 025_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2864312.25		A	1.6	
2	☐	1.000		2806383.37		A	0.6	
3	☐	1.000		2809023.97		A	0.9	
4	☐	1.000		2837374.91		A	0.1	
5	☐	1.000		2746353.39		A	1.4	
6	☐	1.000		2637585.89		A	0.6	
7	☐	1.000						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2720534.54		A	2.2	
2	☐	1.000		2670499.18		A	2.6	
3	☐	1.000		2663118.61		A	0.9	
4	☐	1.000		2630840.85		A	2.3	
5	☐	1.000		2573135.90		A	1.4	
6	☐	1.000		2526790.69		A	1.2	
7	☐	1.000						

Sample Report

Sample Table

Sample Name	HS20120486-08PDS
Data File Name	125SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122820A.b
Acq Date Time	2020-12-28T17:09:42-06:00
Sample Type	Sample
Dilution	1
Comment	TW 160930
ISTD Ref FileName	114CALB.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	106.215	106.215	1.70	553104	0.02	2000	
B	11	1	nogas	-0.709	-0.709	-198.12	154557	0.00	2000	
Al	27	1	nogas	344.613	344.613	3.96	5459593	0.01	2000	
Ti	47	1	nogas	110.003	110.003	2.93	176973	0.06	2000	
Ni	60	1	nogas	279.506	279.506	2.71	1239821	0.02	2000	
Cu	63	1	nogas	104.189	104.189	1.61	1128809	0.01	2000	
Zn	66	1	nogas	174.106	174.106	2.50	451391	0.04	2000	
Se	77	1	nogas	122.011	122.011	2.23	22090	0.55	2000	
Se	82	1	nogas	118.853	118.853	5.53	19845	0.60	2000	
Sr	88	1	nogas	1239.347	1239.347	3.61	33480138	0.00	2000	
Mo	95	1	nogas	107.180	107.180	2.45	541929	0.02	2000	
Ag	107	1	nogas	90.170	90.170	1.80	1164213	0.01	2000	
Cd	111	1	nogas	102.206	102.206	2.74	250299	0.04	2000	
Sn	118	1	nogas	0.159	0.159	9.10	2570	0.01	2000	
Sb	121	1	nogas	99.037	99.037	3.29	975377	0.01	2000	
Ba	137	1	nogas	166.830	166.830	2.15	660362	0.03	2000	
Tl	205	1	nogas	96.290	96.290	2.75	2407613	0.00	2000	
Pb	208	1	nogas	97.522	97.522	3.53	3339345	0.00	2000	
U	238	1	nogas	0.069	0.069	5.60	2947	0.00	2000	
Si	28	1	nogas	442403.114	442403.114	2.42	328787648	0.13	2000	>LDR
Na	23	2	He	887979.424	887979.424	1.39	1961520451	0.05	200000	>LDR
Mg	24	2	He	60085.933	60085.933	2.63	84245454	0.07	200000	
Al	27	2	He	341.963	341.963	1.41	351492	0.10	2000	
K	39	2	He	11400.738	11400.738	0.85	19173926	0.06	200000	
Ca	43	2	He	68581.230	68581.230	1.35	330994	20.72	200000	
Ca	44	2	He	65614.081	65614.081	1.02	5404987	1.21	200000	
V	51	2	He	105.051	105.051	0.53	942453	0.01	2000	
Cr	52	2	He	101.008	101.008	1.12	963423	0.01	2000	
Mn	55	2	He	5714.525	5714.525	0.38	47464203	0.01	2000	>LDR
Fe	56	2	He	10409.669	10409.669	1.77	93919925	0.01	200000	
Co	59	2	He	114.795	114.795	1.17	1496397	0.01	2000	
Ni	60	2	He	277.438	277.438	1.02	837672	0.03	2000	
Cu	63	2	He	99.332	99.332	0.66	767891	0.01	2000	
Zn	66	2	He	170.839	170.839	1.74	250518	0.07	2000	
As	75	2	He	111.872	111.872	0.51	108779	0.10	2000	
Sb	121	2	He	96.807	96.807	0.96	647912	0.01	2000	
Se	78	2	He	113.582	113.582	0.21	14091	0.81	2000	
Ti	47	2	He	106.612	106.612	1.18	42973	0.25	200	

QC ISTD Table

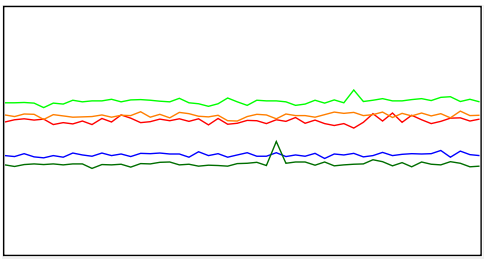
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	2649408	4.26	3065688	86.42	70	120	
In	115	1	nogas	2909482	3.39	3444018	84.48	70	120	
Li	6	1	nogas	1426592	1.88	1611348	88.53	70	120	
Bi	209	1	nogas	2618489	2.17	3152951	83.05	70	120	
Ge	72	2	He	1121116	1.30	1198476	93.55	70	120	

Tune Check Report

Operator Name	ALSHS NoUser
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\122820A.b
Acq. Date-Time	12/28/2020 10:48:35 AM
Report Comment	---
Instrument Name	G3281A JP11080910

[nogas]

Sensitivity



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

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	10000	5411	54108.50		
24	20000	12411	124114.99		
59	50000	20159	201594.76		
115	50000	28148	281477.11		
208	50000	18333	183326.45		

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

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	2.263	5.000	
24	1.794	5.000	
59	1.805	5.000	
115	1.565	5.000	
208	4.035	5.000	

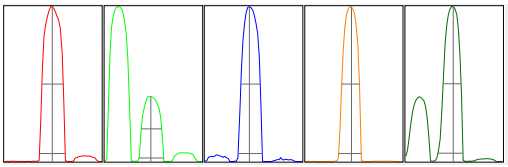
Mass	Background	Background (Required)	Background (Flag)
9	0.800		
24	0.400		
59	0.500		
115	0.900		
208	1.500		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.686 %
Doubly Charged	70 / 140 1.124 %

Tune Check Report

Resolution/Axis



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

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	5415.22	9.00	8.90 - 9.10	
24	12263.16	23.95	23.90 - 24.10	
59	20366.32	58.90	58.90 - 59.10	
115	28362.93	114.95	114.90 - 115.10	
208	18023.08	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.65	0.785		
24	0.62	0.757		
59	0.59	0.738		
115	0.55	0.687		
208	0.55	0.764		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.48 L/min	Dilution Gas	0.55 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	---
RF Matching	1.70 V	Nebulizer Pump	0.10 rps	Plasma Gas	---
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens 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

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

QP Parameters

Mass Gain	123	Axis Gain	0.9989	QP Bias	-3.0 V
Mass Offset	127	Axis Offset	0.07		

Hardware Settings

Torch

Torch H	-0.1 mm	Torch V	0.1 mm

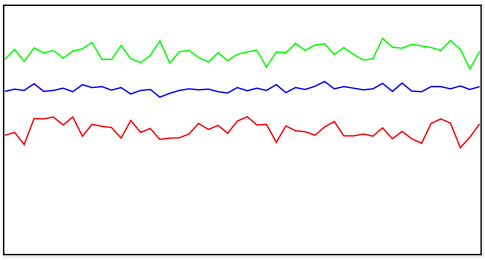
EM

Discriminator	4.5 mV	Analog HV	1567 V	Pulse HV	1135 V

[He]

Tune Check Report

Sensitivity



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

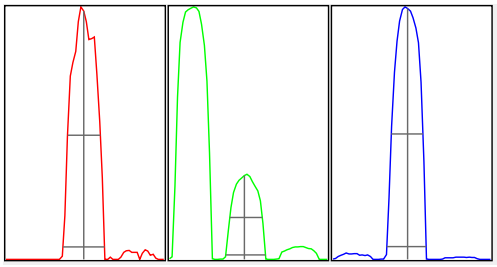
Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	500	250	2497.16		
24	2000	1629	16287.69		
59	20000	13325	133254.00		

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

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	6.445	5.000	Fail
24	3.517	5.000	
59	1.848	5.000	

Mass	Background	Background (Required)	Background (Flag)
9			
24			
59			

Resolution/Axis



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

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	253.28	9.00	8.90 - 9.10	
24	1661.53	23.95	23.90 - 24.10	
59	13246.90	58.95	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.61	0.781		
24	0.61	0.741		
59	0.59	0.737		

Tune Parameters

Plasma Parameters

Tune Check Report

Plasma Mode	---	Nebulizer Gas	0.48 L/min	Dilution Gas	0.55 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	---
RF Matching	1.70 V	Nebulizer Pump	0.10 rps	Plasma Gas	---
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens 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

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.4 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	190 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9989	QP Bias	-13.0 V
Mass Offset	127	Axis Offset	0.07		

Hardware Settings

Torch

Torch H	-0.1 mm	Torch V	0.1 mm		

EM

Discriminator	4.5 mV	Analog HV	1567 V	Pulse HV	1135 V

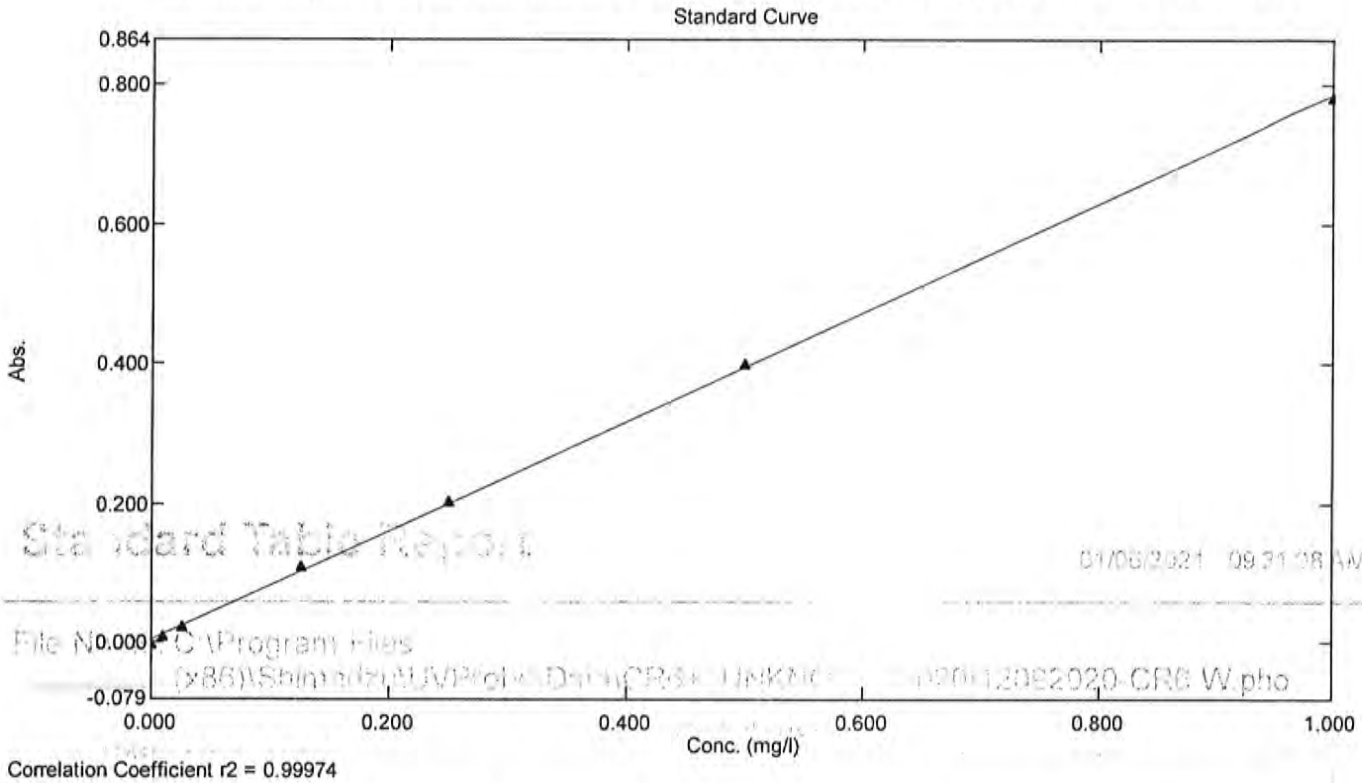
HS20120449 Wet Chem Raw Data (Cr6_W_7196_DOD)

ALS WO# HS20120449

Standard Table Report

01/06/2021 09:21:08 AM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2020\12092020-CR6 W.pho



Correlation Coefficient r2 = 0.99974

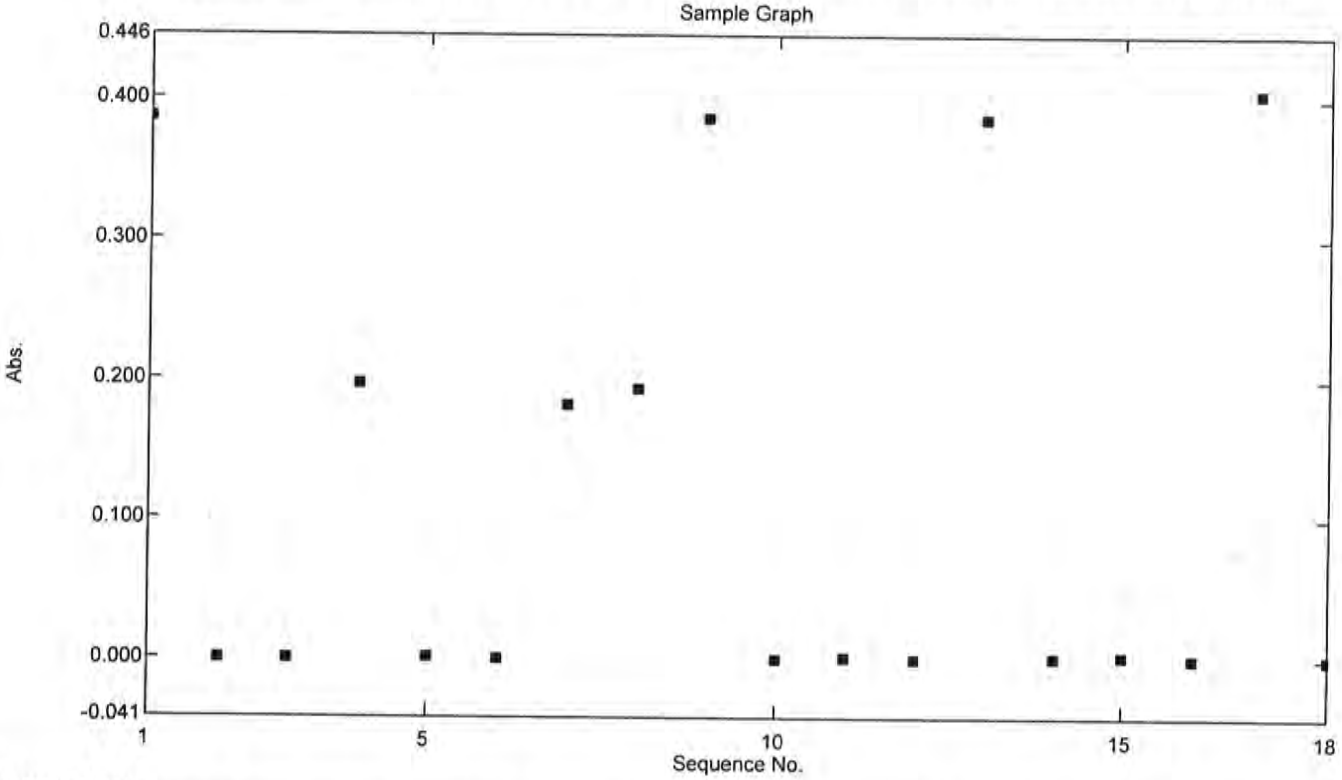
Standard Table

	Sample ID	Type	Ex	Conc	WL540.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.001	1.000	
2	STD2	Standard		0.010	0.010	1.000	
3	STD3	Standard		0.025	0.022	1.000	
4	STD4	Standard		0.125	0.110	1.000	
5	STD5	Standard		0.250	0.203	1.000	
6	STD6	Standard		0.500	0.400	1.000	
7	STD7	Standard		1.000	0.783	1.000	
8							

Sample Table Report

01/06/2021 09:21:14 AM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2020\12092020-CR6 W.pho



Sample Table

	Sample ID	Type	Ex	Conc	WL540.0	Comments
1	CCV	Unknown		0.489	0.387	315012305 WC-14
2	CCB	Unknown		-0.007	-0.000	315010710 WC-13
3	MBLK	Unknown		-0.007	-0.000	315012201 WC-13
4	LCS	Unknown		0.245	0.196	315012304 WC-14
5	HS20120449.01	Unknown		-0.006	0.001	12:41PM,SAMP-BKG=TOTAL
6	HS20120449.01BKG	Unknown		-0.007	-0.000	12:42PM,0.000
7	HS20120449.01MS	Unknown		0.226	0.182	12:43PM
8	HS20120449.01MSD	Unknown		0.240	0.192	12:43PM
9	CCV2	Unknown		0.489	0.387	
10	CCB2	Unknown		-0.006	0.000	
11	HS20120455.01	Unknown		-0.005	0.001	12:51PM,0.000
12	HS20120455.01BKG	Unknown		-0.007	-0.000	12:51PM
13	CCV3	Unknown		0.488	0.386	
14	CCB3	Unknown		-0.005	0.001	
15	HS20120462.01	Unknown		-0.004	0.002	5:14PM
16	HS20120462.01BKG	Unknown		-0.007	0.000	5:15PM
17	CCV4	Unknown		0.512	0.405	
18	CCB4	Unknown		-0.007	-0.000	
19						

HS20120449 - Sub Perch Report IV (E2001210)

ALS WO# HS20120449

December 23, 2020 Service Request No:E2001210

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

Laboratory Results for: HS20120449

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 09, 2020
For your reference, these analyses have been assigned our service request number **E2001210.**

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

Certificate of Analysis

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

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2001210
Project:	HS20120449	**Date Received:**	12/09/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 12/09/20. The sample was received in good condition and is consistent with the accompanying chain of custody form.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000677: 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 RPD exceeded QC limits; the individual recoveries met acceptance criteria.

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:**E2001210
Project: HS20120449

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2001210-001	LH18/24-SP140_120820	12/8/2020	1400

Service Request Summary

Folder #: **E2001210**
Client Name: ALS Environmental - US
Project Name: HS20120449
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: 12/09/20
Internal Due Date: 12/23/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20120449
EDD: No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
Location: EHRMS-WIC 2B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2001210-001	LH18/24-SP140_120820	Water	12/08/20 1400	**IV**

Service Request Summary

Folder #:	**E2001210**
Client Name:	ALS Environmental - US
Project Name:	HS20120449
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:	12/09/20
Internal Due Date:	12/23/2020
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS20120449
EDD:	No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved

Location: EHRMS-WIC 2B

Pressure Gas:

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

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

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:** **15296**

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:	HS20120449
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120449-01**	**LH18/24-SP140_120820**	**Water**	**08 Dec 2020 14:00**
	Provide Level II and Level IV reports in separate pdf			23 Dec 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: 12/8/2020

Received By: _____ Date/Time: 12/8/20 1800

Cooler ID(s): _____ Temperature(s): _____

Cooler Receipt Form

ALS Environmental

Project Chemist: CH

Client/Project: ALS - H

Thermometer ID: 1231

Date/Time Received: 12/9/20 Initials: CH Date/Time Logged in: 12/10/20 Initials: CH

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

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

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

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

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

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
NA		12/9/20	1000	CH	1.4	☒
						☐
						☐
						☐

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:

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#: 371505 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/15/20 08:58

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2001208-001	LH18/24-SP650_120820_BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2001209-001	LH18/24-SP650_120820_BIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2001210-001	LH18/24-SP140_120820	.01	6850/ClO4 DOD			Water	10mL	
4	E2001211-001	MW5_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2001211-002	18CPTMW08DW_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2001211-003	18CPTMW08SW_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2001211-004	18CPTMW08SW_120820_a	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2001211-005	MW23_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2001211-006	MW16_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2001211-007	18CPTMW23_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2001211-008	18WW24_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2001211-009	18CTPMW15_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2001217-001	18CPTMW04_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2001217-002	18CPTMW04SW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2001217-003	AWD3_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2001217-004	AWD3_120920_a	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2001217-005	MW10_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2001217-006	18CPTMW12SW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
19	E2001217-007	18CPTMW12DW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
20	E2001217-008	MW7_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
21	EQ2000677-01	MB		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000677-02	LCS		6850/ClO4 DOD			Liquid	10mL	
23	EQ2000677-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2000677-02 1.00µL EQ2000677-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 214133 Logbook Ref: Sodium Perchlorate Expires On: 08/13/2022

E2001208-001	100.00µL	E2001209-001	100.00µL	E2001210-001	100.00µL	E2001211-001	100.00µL	E2001211-002	100.00µL	E2001211-003	100.00µL
E2001211-004	100.00µL	E2001211-005	100.00µL	E2001211-006	100.00µL	E2001211-007	100.00µL	E2001211-008	100.00µL	E2001211-009	100.00µL
E2001217-001	100.00µL	E2001217-002	100.00µL	E2001217-003	100.00µL	E2001217-004	100.00µL	E2001217-005	100.00µL	E2001217-006	100.00µL
E2001217-007	100.00µL	E2001217-008	100.00µL	EQ2000677-01	100.00µL	EQ2000677-02	100.00µL	EQ2000677-03	100.00µL		

Preparation Information Benchsheet

Prep Run#: 371505 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/15/20 08:58

Preparation Steps

Step: Preparation
Started: 12/15/20 08:58
Finished: 12/15/20 11:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 12/15/20

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:**	E2001210
Project:	HS20120449	**Date Collected:**	12/ 8/20 1400
Sample Matrix:	Water	**Date Received:**	12/ 9/20
Sample Name:	LH18/24-SP140_120820	**Units:**	µg/L
Lab Code:	E2001210-001	**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	**7770**		20.0	10.0	5.00	200	12/15/20	12/21/20 10:15	371505	707966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001210
Project:	HS20120449	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000677-01	**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	12/15/20	12/22/20 17:46	371505	708075	

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: HS20120449
Sample Matrix: Water

Service Request: E2001210
Date Analyzed: 12/22/20

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: 371505

	Lab Control Sample EQ2000677-02			Duplicate Lab Control Sample EQ2000677-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.104	0.100	104	0.0873	0.100	87	84 - 119	17 *	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:**	E2001210
Project:	HS20120449	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000677-02	**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	**0.104**		0.100	0.0500	0.0250	1	12/15/20	12/22/20 15:07	371505	708075	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001210
Project:	HS20120449	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000677-03	**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	**0.0873**	J	0.100	0.0500	0.0250	1	12/15/20	12/22/20 15:15	371505	708075	

Initial Calibration

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

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: EC2000058

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201213_006	Perchlorate6850b.lcm	1x	☒	3100808-05	12/13/2020 12:49
2	PERCHLORATE2		20201213_007	Perchlorate6850b.lcm	1x	☒	3100808-06	12/13/2020 12:57
3	PERCHLORATE3		20201213_008	Perchlorate6850b.lcm	1x	☒	3100808-07	12/13/2020 13:05
4	PERCHLORATE4		20201213_009	Perchlorate6850b.lcm	1x	☒	3100808-08	12/13/2020 13:13
5	PERCHLORATE5		20201213_010	Perchlorate6850b.lcm	1x	☒	3100808-09	12/13/2020 13:20
6	PERCHLORATE6		20201213_011	Perchlorate6850b.lcm	1x	☒	3100809-01	12/13/2020 13:28
7	PERCHLORATE7		20201213_012	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 13:36
8	PERCHLORATE8		20201213_013	Perchlorate6850b.lcm	1x	☒	3100809-03	12/13/2020 13:44
9	PERCHLORATE9		20201213_014	Perchlorate6850b.lcm	1x	☒	3100809-04	12/13/2020 13:52
10	PERCHLORATE10		20201213_015	Perchlorate6850b.lcm	1x	☒	3100809-05	12/13/2020 14:00
11	ICS		20201213_016	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:08
12	PERCHLORATEICV		20201213_017	Perchlorate6850b.lcm	1x	☒	3100809-06	12/13/2020 14:16
13	LODV		20201213_019	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:32
14	PERCHLORATE7		20201213_021	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 14:47
15	E2001161-019		20201213_023	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:17
16	E2001161-020		20201213_024	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:25
17	E2001161-021		20201213_025	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:33
18	E2001161-022		20201213_026	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:41
19	E2001161-023		20201213_027	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:49
20	E2001161-024		20201213_028	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:57
21	E2001161-025X2		20201213_029	Perchlorate6850b.lcm	2x	☒		12/13/2020 16:04
22	E2001161-026		20201213_030	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:12
23	E2001161-028		20201213_031	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:20
24	E2001161-029		20201213_032	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:28
25	PERCHLORATE7		20201213_033	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 16:36
26	E2001161-006X5		20201213_034	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:44
27	E2001161-009X5		20201213_035	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:52
28	E2001161-011X5		20201213_036	Perchlorate6850b.lcm	5X	☒		12/13/2020 17:00
29	E2001161-020X2		20201213_037	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:08
30	E2001161-022X2		20201213_038	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:15
31	E2001161-028X2		20201213_039	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:23
32	PERCHLORATE7		20201213_040	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 17:31
33	EQ2000651-01		20201213_041	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:39
34	EQ2000651-02		20201213_042	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:47
35	EQ2000651-03		20201213_043	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:55
36	E2001166-001		20201213_044	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:03
37	E2001166-002		20201213_045	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:11
38	E2001166-003		20201213_046	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:19
39	E2001166-004		20201213_047	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:26
40	E2001166-005		20201213_048	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:34
41	E2001166-006		20201213_049	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:42
42	E2001166-007		20201213_050	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:50
43	PERCHLORATE7		20201213_051	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 18:58
44	E2001166-008		20201213_052	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:06
45	E2001166-009		20201213_053	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:14
46	E2001166-010		20201213_054	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:22
47	E2001166-011		20201213_055	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:30
48	E2001166-012		20201213_056	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:37
49	E2001166-013		20201213_057	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:45
50	E2001166-014		20201213_058	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:53
51	PERCHLORATE7		20201213_059	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 20:01
52	EQ2000652-01		20201213_060	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:09
53	EQ2000652-02		20201213_061	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:17
54	EQ2000652-03		20201213_062	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:25
55	E2001169-001		20201213_063	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:33
56	E2001170-001X500		20201213_064	Perchlorate6850b.lcm	500X	☒		12/13/2020 20:41
57	E2001171-001		20201213_065	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:48
58	E2001182-001		20201213_066	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:56
59	E2001182-002		20201213_067	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:04
60	E2001182-003		20201213_068	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:12
61	E2001182-004		20201213_069	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:20

20201213

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	PERCHLORATE7		20201213_070	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 21:28
63	E2001182-005		20201213_071	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:36
64	E2001182-006		20201213_072	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:44
65	E2001186-001		20201213_073	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:52
66	E2001186-002		20201213_074	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:00
67	PERCHLORATE7		20201213_075	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 22:07
68	EQ2000653-01		20201213_076	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:15
69	EQ2000653-02		20201213_077	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:23
70	EQ2000653-03		20201213_078	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:31
71	E2001175-001		20201213_079	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:39
72	E2001175-002		20201213_080	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:47
73	E2001175-003		20201213_081	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:55
74	E2001175-004X5		20201213_082	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:03
75	E2001175-005X2		20201213_083	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:11
76	E2001175-006		20201213_084	Perchlorate6850b.lcm	1x	☒		12/13/2020 23:19
77	E2001175-007X5		20201213_085	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:26
78	PERCHLORATE7		20201213_086	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 23:34
79	E2001175-008X2		20201213_087	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:42
80	E2001175-009X2		20201213_088	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:50
81	E2001175-010X2		20201213_089	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:58
82	E2001175-011X5		20201213_090	Perchlorate6850b.lcm	5X	☒		12/14/2020 0:06
83	E2001175-012X20		20201213_091	Perchlorate6850b.lcm	20X	☒		12/14/2020 0:14
84	E2001175-013		20201213_092	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:22
85	E2001175-014		20201213_093	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:30
86	E2001185-001		20201213_094	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:38
87	E2001185-002		20201213_095	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:45
88	E2001185-003		20201213_096	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:53
89	PERCHLORATE7		20201213_097	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:01
90	E2001185-004		20201213_098	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:09
91	E2001185-005		20201213_099	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:17
92	E2001185-006		20201213_100	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:25
93	PERCHLORATE7		20201213_101	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:33
94								

Initial Calibration - Detailed Report

Calibration ID: EC2000058 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000058-01	PERCHLORATE1	20201213_006	12/13/2020 12:49
02	EC2000058-02	PERCHLORATE2	20201213_007	12/13/2020 12:57
03	EC2000058-03	PERCHLORATE3	20201213_008	12/13/2020 13:05
04	EC2000058-04	PERCHLORATE4	20201213_009	12/13/2020 13:13
05	EC2000058-05	PERCHLORATE5	20201213_010	12/13/2020 13:20
06	EC2000058-06	PERCHLORATE6	20201213_011	12/13/2020 13:28
07	EC2000058-07	PERCHLORATE7	20201213_012	12/13/2020 13:36
08	EC2000058-08	PERCHLORATE8	20201213_013	12/13/2020 13:44
09	EC2000058-09	PERCHLORATE9	20201213_014	12/13/2020 13:52
10	EC2000058-10	PERCHLORATE10	20201213_015	12/13/2020 14:00

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

Perchlorate **Average RF** **RSD = 5.994** **Average RF = 0.1361**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1219	02	0.5000	0.142	03	0.7000	0.1452	04	1.0000	0.1394
05	2.0000	0.1451	06	5.0000	0.1424	07	10.0000	0.1339	08	20.0000	0.1304
09	30.0000	0.1353	10	50.0000	0.1255						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.0896	-10.4	02	0.5000	0.522	4.3	03	0.7000	0.747	6.7
04	1.0000	1.02	2.4	05	2.0000	2.13	6.6	06	5.0000	5.23	4.6
07	10.0000	9.84	-1.6	08	20.0000	19.2	-4.2	09	30.0000	29.8	-0.6
10	50.0000	46.1	-7.8								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000058	**Instrument ID:**	E-LCMS-01
Datafile ID:	20201213_017	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000058-11	T	Average RF	10	9.213	ng/mL	-7.9	<= 15

ALS Group Houston

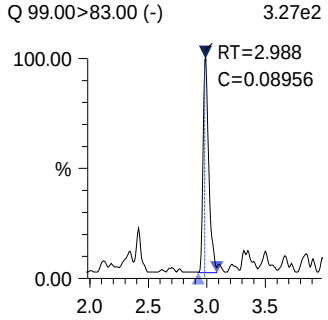
PERCHLORATE1

Date acquired: 12/13/2020 12:49:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_006.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	12/13/2020 12:49:24 PM	1098	0.08956	20201213_006	2.988	25.0000	1.0000	22
Sodium Perchlorate-18O4_IS	PERCHLORATE1	12/13/2020 12:49:24 PM	90045	1.00000	20201213_006	2.986	25.0000	1.0000	22

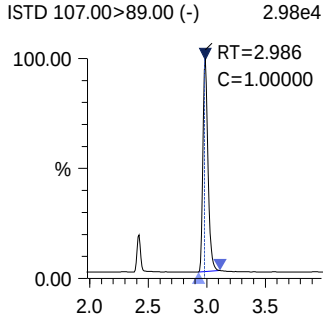
Perchlorate

Conc 0.08956
Area 1098



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 90045



ALS Group Houston

PERCHLORATE2

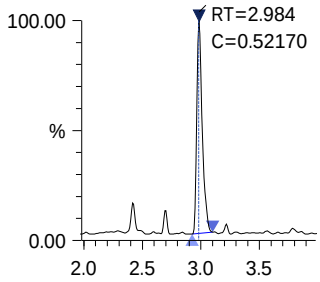
Date acquired: 12/13/2020 12:57:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_007.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	12/13/2020 12:57:20 PM	6242	0.52170	20201213_007	2.984	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	PERCHLORATE2	12/13/2020 12:57:20 PM	87904	1.00000	20201213_007	2.984	25.0000	1.0000	23

Perchlorate

Conc 0.52170
Area 6242

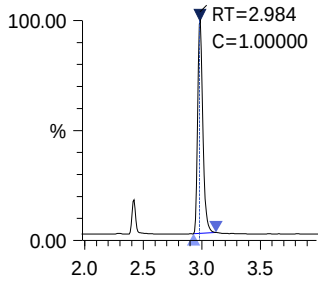
Q 99.00>83.00 (-) 1.94e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 87904

ISTD 107.00>89.00 (-) 2.84e4



ALS Group Houston

PERCHLORATE3

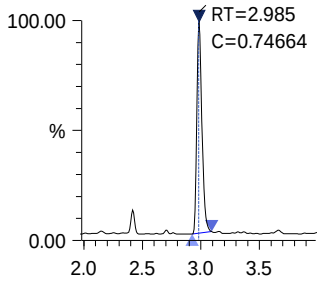
Date acquired: 12/13/2020 1:05:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_008.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	12/13/2020 1:05:13 PM	8872	0.74664	20201213_008	2.985	25.0000	1.0000	24
Sodium Perchlorate-18O4_IS	PERCHLORATE3	12/13/2020 1:05:13 PM	87298	1.00000	20201213_008	2.984	25.0000	1.0000	24

Perchlorate

Conc 0.74664
Area 8872

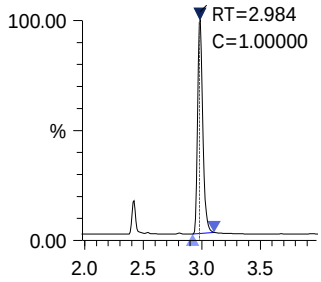
Q 99.00>83.00 (-) 2.99e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 87298

ISTD 107.00>89.00 (-) 2.82e4



ALS Group Houston

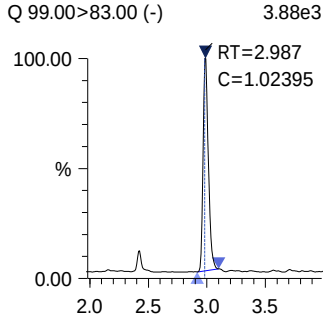
PERCHLORATE4

Date acquired: 12/13/2020 1:13:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_009.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	12/13/2020 1:13:05 PM	11913	1.02395	20201213_009	2.987	25.0000	1.0000	25
Sodium Perchlorate-18O4_IS	PERCHLORATE4	12/13/2020 1:13:05 PM	85470	1.00000	20201213_009	2.986	25.0000	1.0000	25

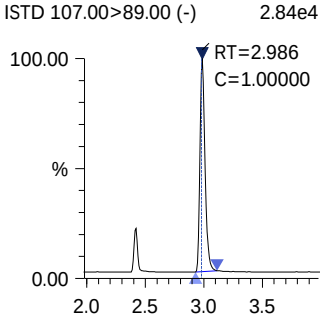
Perchlorate

Conc 1.02395
Area 11913



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 85470



ALS Group Houston

PERCHLORATE5

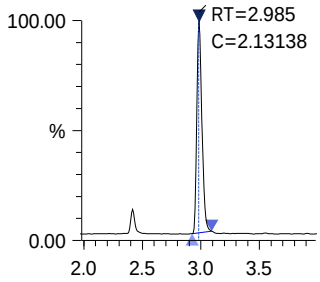
Date acquired: 12/13/2020 1:20:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_010.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	12/13/2020 1:20:58 PM	24278	2.13138	20201213_010	2.985	25.0000	1.0000	26
Sodium Perchlorate-18O4_IS	PERCHLORATE5	12/13/2020 1:20:58 PM	83679	1.00000	20201213_010	2.984	25.0000	1.0000	26

Perchlorate

Conc 2.13138
Area 24278

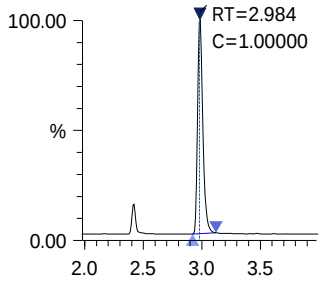
Q 99.00>83.00 (-) 8.14e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 83679

ISTD 107.00>89.00 (-) 2.65e4



ALS Group Houston

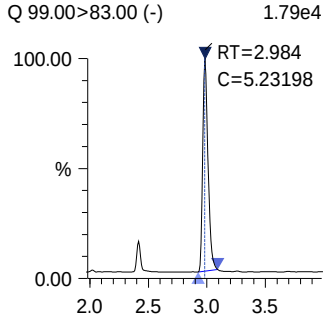
PERCHLORATE6

Date acquired: 12/13/2020 1:28:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_011.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	12/13/2020 1:28:51 PM	55433	5.23198	20201213_011	2.984	25.0000	1.0000	27
Sodium Perchlorate-18O4_IS	PERCHLORATE6	12/13/2020 1:28:51 PM	77835	1.00000	20201213_011	2.983	25.0000	1.0000	27

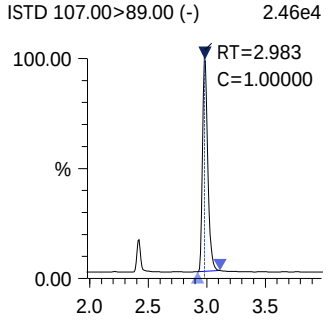
Perchlorate

Conc 5.23198
Area 55433



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 77835



ALS Group Houston

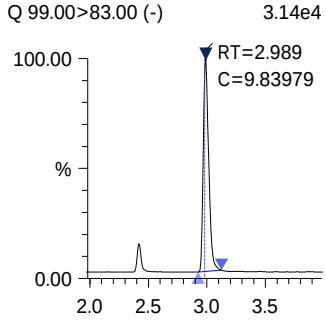
PERCHLORATE7

Date acquired: 12/13/2020 1:36:47 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_012.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/13/2020 1:36:47 PM	99306	9.83979	20201213_012	2.989	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/13/2020 1:36:47 PM	74142	1.00000	20201213_012	2.988	25.0000	1.0000	21

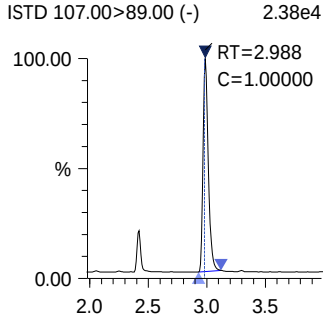
Perchlorate

Conc 9.83979
Area 99306



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 74142



ALS Group Houston

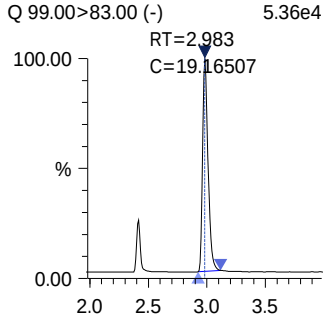
PERCHLORATE8

Date acquired: 12/13/2020 1:44:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_013.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	12/13/2020 1:44:41 PM	171329	19.16507	20201213_013	2.983	25.0000	1.0000	28
Sodium Perchlorate-18O4_IS	PERCHLORATE8	12/13/2020 1:44:41 PM	65674	1.00000	20201213_013	2.982	25.0000	1.0000	28

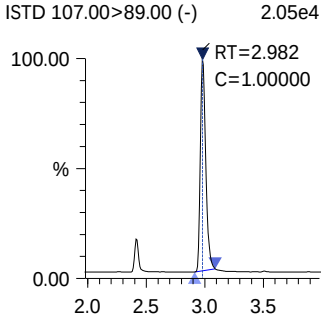
Perchlorate

Conc 19.16507
Area 171329



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 65674



ALS Group Houston

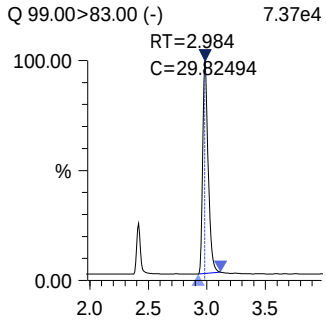
PERCHLORATE9

Date acquired: 12/13/2020 1:52:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_014.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	12/13/2020 1:52:33 PM	234759	29.82494	20201213_014	2.984	25.0000	1.0000	29
Sodium Perchlorate-18O4_IS	PERCHLORATE9	12/13/2020 1:52:33 PM	57825	1.00000	20201213_014	2.983	25.0000	1.0000	29

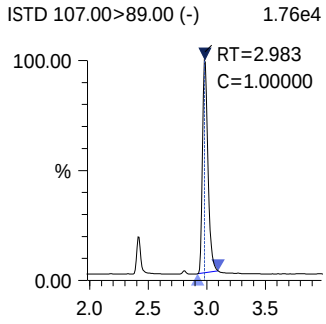
Perchlorate

Conc 29.82494
Area 234759



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 57825



ALS Group Houston

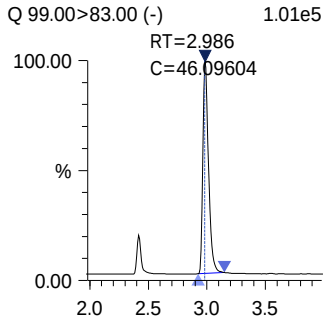
PERCHLORATE10

Date acquired: 12/13/2020 2:00:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_015.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	12/13/2020 2:00:26 PM	331808	46.09604	20201213_015	2.986	25.0000	1.0000	30
Sodium Perchlorate-18O4_IS	PERCHLORATE10	12/13/2020 2:00:26 PM	52880	1.00000	20201213_015	2.985	25.0000	1.0000	30

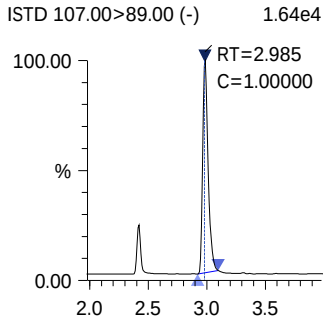
Perchlorate

Conc 46.09604
Area 331808



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 52880



ALS Group Houston

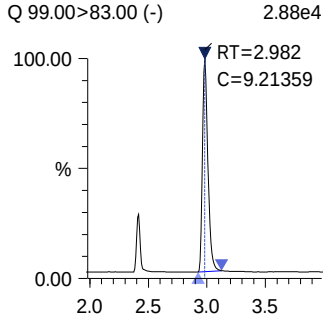
PERCHLORATEICV

Date acquired: 12/13/2020 2:16:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_017.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	12/13/2020 2:16:15 PM	92339	9.21359	20201213_017	2.982	25.0000	1.0000	31
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	12/13/2020 2:16:15 PM	73626	1.00000	20201213_017	2.980	25.0000	1.0000	31

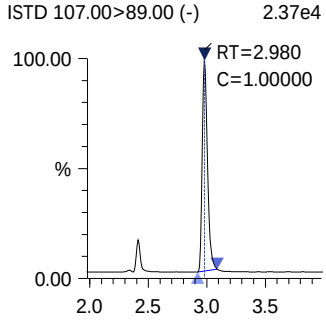
Perchlorate

Conc 9.21359
Area 92339



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 73626



20201222

ALS Environmental

ICAL Date: 12/22/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000061**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201222_004	Perchlorate6850b.lcm	1x	☒	3100808-05	12/22/2020 13:11
2	PERCHLORATE2		20201222_005	Perchlorate6850b.lcm	1x	☒	3100808-06	12/22/2020 13:19
3	PERCHLORATE3		20201222_006	Perchlorate6850b.lcm	1x	☒	3100808-07	12/22/2020 13:27
4	PERCHLORATE4		20201222_007	Perchlorate6850b.lcm	1x	☒	3100808-08	12/22/2020 13:34
5	PERCHLORATE5		20201222_008	Perchlorate6850b.lcm	1x	☒	3100808-09	12/22/2020 13:42
6	PERCHLORATE6		20201222_009	Perchlorate6850b.lcm	1x	☒	3100809-01	12/22/2020 13:50
7	PERCHLORATE7		20201222_010	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 13:58
8	PERCHLORATE8		20201222_011	Perchlorate6850b.lcm	1x	☒	3100809-03	12/22/2020 14:06
9	PERCHLORATE9		20201222_012	Perchlorate6850b.lcm	1x	☒	3100809-04	12/22/2020 14:14
10	PERCHLORATE10		20201222_013	Perchlorate6850b.lcm	1x	☒	3100809-05	12/22/2020 14:22
11	ICS		20201222_014	Perchlorate6850b.lcm	1x	☒		12/22/2020 14:30
12	PERCHLORATEICV		20201222_015	Perchlorate6850b.lcm	1x	☒	3100809-06	12/22/2020 14:38
13	LODV		20201222_016	Perchlorate6850b.lcm	1x	☒		12/22/2020 14:46
14	EQ2000677-01		20201222_017	Perchlorate6850b.lcm	1x	☒		12/22/2020 14:59
15	EQ2000677-02		20201222_018	Perchlorate6850b.lcm	1x	☒		12/22/2020 15:07
16	EQ2000677-03		20201222_019	Perchlorate6850b.lcm	1x	☒		12/22/2020 15:15
17	E2001208-001X5		20201222_020	Perchlorate6850b.lcm	5x	☒		12/22/2020 15:23
18	E2001217-002X2		20201222_021	Perchlorate6850b.lcm	2x	☒		12/22/2020 15:31
19	PERCHLORATE7		20201222_022	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 15:39
20	E2001228-001X10		20201222_024	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:19
21	E2001228-002X10		20201222_025	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:26
22	E2001228-003X10		20201222_026	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:34
23	E2001228-005X200		20201222_027	Perchlorate6850b.lcm	200x	☒		12/22/2020 16:42
24	E2001228-008X10		20201222_028	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:50
25	E2001228-010X5000		20201222_029	Perchlorate6850b.lcm	5000x	☒		12/22/2020 16:58
26	PERCHLORATE7		20201222_030	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 17:06
27	EQ2000703-01		20201222_031	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:14
28	EQ2000703-02		20201222_032	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:22
29	EQ2000703-03		20201222_033	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:30
30	EQ2000677-01		20201222_034	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:46
31	E2001228-008X10		20201222_035	Perchlorate6850b.lcm	10x	☒		12/22/2020 17:54
32	E2001235-001		20201222_036	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:01
33	E2001235-002		20201222_037	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:09
34	E2001235-003		20201222_038	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:17
35	E2001235-004		20201222_039	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:25
36	E2001235-005		20201222_040	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:33
37	PERCHLORATE7		20201222_041	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 18:41
38	E2001235-006		20201222_042	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:49
39	E2001235-007		20201222_043	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:57
40	E2001235-008		20201222_044	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:05
41	E2001235-009		20201222_045	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:12
42	E2001236-001		20201222_046	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 19:20
43	E2001237-001		20201222_047	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:28
44	E2001237-002		20201222_048	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:36
45	E2001237-003		20201222_049	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:44
46	E2001237-004		20201222_050	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:52
47	PERCHLORATE7		20201222_051	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 20:00
48	E2001237-005		20201222_052	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:08
49	E2001237-006		20201222_053	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:16
50	E2001237-007		20201222_054	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:24
51	E2001237-008		20201222_055	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:31
52	E2001237-009		20201222_056	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:39
53	PERCHLORATE7		20201222_057	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 20:47
54	EQ2000704-01		20201222_058	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:55
55	EQ2000704-02		20201222_059	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:03
56	EQ2000704-03		20201222_060	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:11
57	EQ2000704-04		20201222_061	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:19
58	EQ2000704-05		20201222_062	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:27
59	E2001238-001		20201222_063	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:35
60	E2001238-002		20201222_064	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:43
61	E2001238-003		20201222_065	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:50

20201222

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 12/22/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000061**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2001238-004		20201222_066	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:58
63	E2001238-005		20201222_067	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:06
64	PERCHLORATE7		20201222_068	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 22:14
65	E2001238-006		20201222_069	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:22
66	E2001238-007		20201222_070	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:30
67	E2001242-001		20201222_071	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:38
68	E2001242-002		20201222_072	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:46
69	E2001242-003		20201222_073	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:54
70	E2001242-004		20201222_074	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:01
71	E2001242-005		20201222_075	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:09
72	E2001242-006		20201222_076	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:17
73	E2001242-007		20201222_077	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:25
74	E2001242-008		20201222_078	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:33
75	PERCHLORATE7		20201222_079	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 23:41
76	E2001242-009		20201222_080	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:49
77	PERCHLORATE7		20201222_081	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 23:57

Initial Calibration - Detailed Report

Calibration ID: EC2000061 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000061-01	PERCHLORATE1	20201222_004	12/22/2020 13:11
02	EC2000061-02	PERCHLORATE2	20201222_005	12/22/2020 13:19
03	EC2000061-03	PERCHLORATE3	20201222_006	12/22/2020 13:27
04	EC2000061-04	PERCHLORATE4	20201222_007	12/22/2020 13:34
05	EC2000061-05	PERCHLORATE5	20201222_008	12/22/2020 13:42
06	EC2000061-06	PERCHLORATE6	20201222_009	12/22/2020 13:50
07	EC2000061-07	PERCHLORATE7	20201222_010	12/22/2020 13:58
08	EC2000061-08	PERCHLORATE8	20201222_011	12/22/2020 14:06
09	EC2000061-09	PERCHLORATE9	20201222_012	12/22/2020 14:14
10	EC2000061-10	PERCHLORATE10	20201222_013	12/22/2020 14:22

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

Perchlorate **Linear** **Equal** **R2 = 0.9986140625568460** **Y=0.129 X+0.04478**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.2021	02	0.5000	0.1464	03	0.7000	0.1642	04	1.0000	0.1434
05	2.0000	0.1471	06	5.0000	0.1398	07	10.0000	0.1322	08	20.0000	0.1376
09	30.0000	0.1352	10	50.0000	0.1273						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	-0.190	**-290.5**	02	0.5000	0.220	**-56.0**	03	0.7000	0.544	-22.3
04	1.0000	0.765	-23.5	05	2.0000	1.93	-3.4	06	5.0000	5.07	1.4
07	10.0000	9.90	-1.0	08	20.0000	21.0	4.9	09	30.0000	31.1	3.6
10	50.0000	49.0	-2.1								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000061	**Instrument ID:**	E-LCMS-01
Datafile ID:	20201222_015	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000061-11	T	Linear	10	9.838	ng/mL	-1.6	<= 15

ALS Group Houston

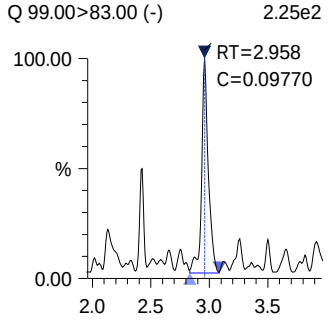
PERCHLORATE1

Date acquired: 12/22/2020 1:11:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_004.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	12/22/2020 1:11:13 PM	912	0.09770	20201222_004	2.958	25.0000	1.0000	22
Sodium Perchlorate-18O4_IS	PERCHLORATE1	12/22/2020 1:11:13 PM	45133	1.00000	20201222_004	2.961	25.0000	1.0000	22

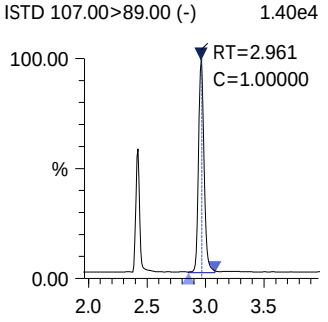
Perchlorate

Conc 0.09770
Area 912



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 45133



ALS Group Houston

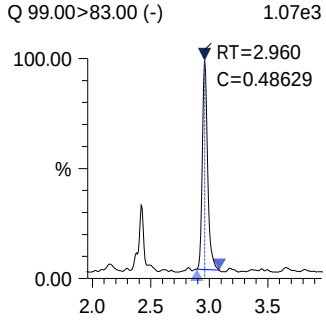
PERCHLORATE2

Date acquired: 12/22/2020 1:19:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_005.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	12/22/2020 1:19:09 PM	3350	0.48629	20201222_005	2.960	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	PERCHLORATE2	12/22/2020 1:19:09 PM	45771	1.00000	20201222_005	2.959	25.0000	1.0000	23

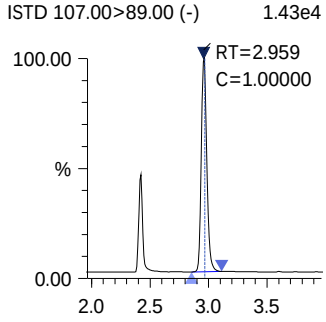
Perchlorate

Conc 0.48629
Area 3350



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 45771



ALS Group Houston

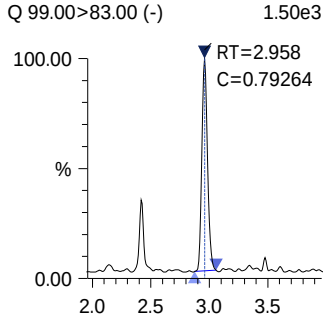
PERCHLORATE3

Date acquired: 12/22/2020 1:27:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_006.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	12/22/2020 1:27:02 PM	5094	0.79264	20201222_006	2.958	25.0000	1.0000	24
Sodium Perchlorate-18O4_IS	PERCHLORATE3	12/22/2020 1:27:02 PM	44312	1.00000	20201222_006	2.958	25.0000	1.0000	24

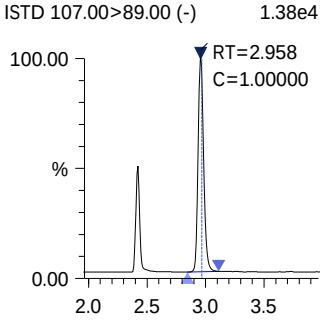
Perchlorate

Conc 0.79264
Area 5094



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 44312



ALS Group Houston

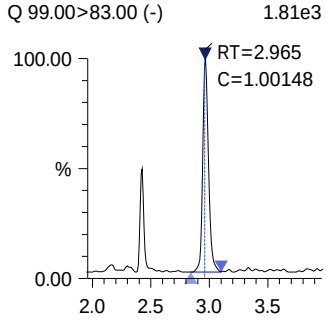
PERCHLORATE4

Date acquired: 12/22/2020 1:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_007.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	12/22/2020 1:34:56 PM	6329	1.00148	20201222_007	2.965	25.0000	1.0000	25
Sodium Perchlorate-18O4_IS	PERCHLORATE4	12/22/2020 1:34:56 PM	44128	1.00000	20201222_007	2.962	25.0000	1.0000	25

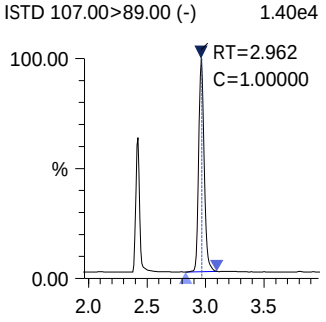
Perchlorate

Conc 1.00148
Area 6329



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 44128



ALS Group Houston

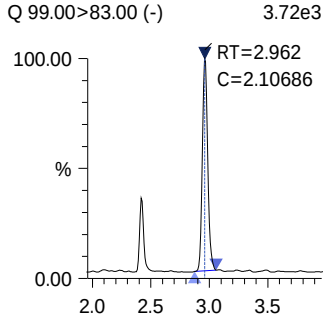
PERCHLORATE5

Date acquired: 12/22/2020 1:42:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_008.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	12/22/2020 1:42:51 PM	11998	2.10686	20201222_008	2.962	25.0000	1.0000	26
Sodium Perchlorate-18O4_IS	PERCHLORATE5	12/22/2020 1:42:51 PM	40789	1.00000	20201222_008	2.957	25.0000	1.0000	26

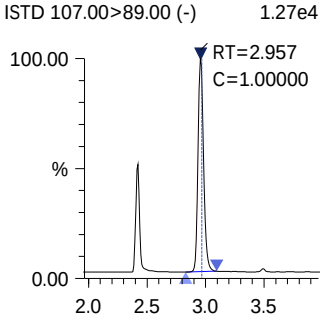
Perchlorate

Conc 2.10686
Area 11998



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 40789



ALS Group Houston

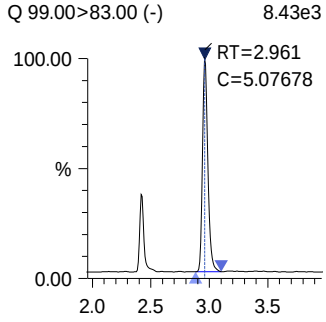
PERCHLORATE6

Date acquired: 12/22/2020 1:50:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_009.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	12/22/2020 1:50:45 PM	27257	5.07678	20201222_009	2.961	25.0000	1.0000	27
Sodium Perchlorate-18O4_IS	PERCHLORATE6	12/22/2020 1:50:45 PM	38990	1.00000	20201222_009	2.960	25.0000	1.0000	27

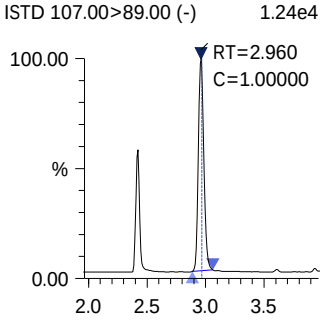
Perchlorate

Conc 5.07678
Area 27257



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 38990



ALS Group Houston

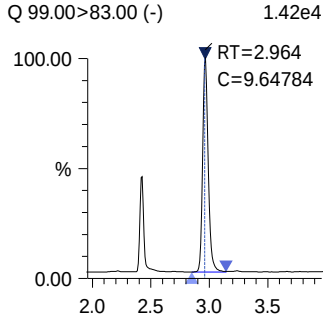
PERCHLORATE7

Date acquired: 12/22/2020 1:58:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_010.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/22/2020 1:58:40 PM	47728	9.64784	20201222_010	2.964	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/22/2020 1:58:40 PM	36093	1.00000	20201222_010	2.963	25.0000	1.0000	21

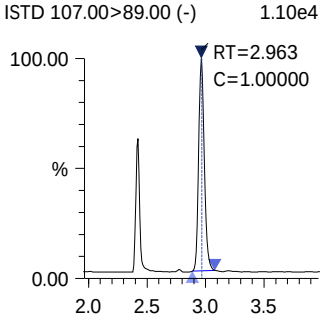
Perchlorate

Conc 9.64784
Area 47728



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 36093



ALS Group Houston

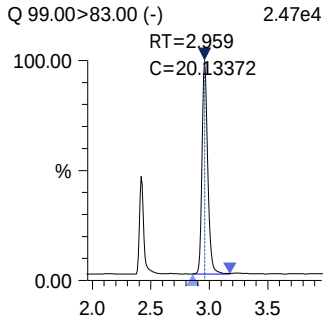
PERCHLORATE8

Date acquired: 12/22/2020 2:06:32 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_011.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	12/22/2020 2:06:32 PM	84778	20.13372	20201222_011	2.959	25.0000	1.0000	28
Sodium Perchlorate-18O4_IS	PERCHLORATE8	12/22/2020 2:06:32 PM	30805	1.00000	20201222_011	2.957	25.0000	1.0000	28

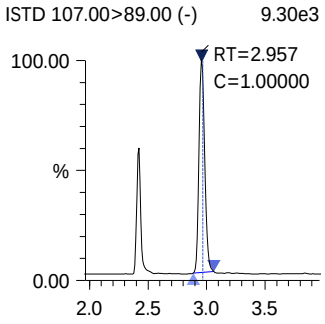
Perchlorate

Conc 20.13372
Area 84778



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 30805



ALS Group Houston

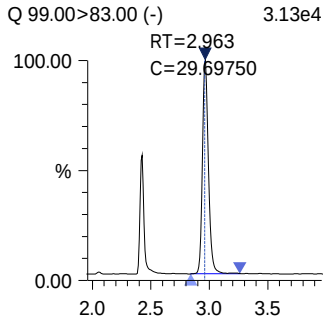
PERCHLORATE9

Date acquired: 12/22/2020 2:14:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_012.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	12/22/2020 2:14:28 PM	113419	29.69750	20201222_012	2.963	25.0000	1.0000	29
Sodium Perchlorate-18O4_IS	PERCHLORATE9	12/22/2020 2:14:28 PM	27962	1.00000	20201222_012	2.961	25.0000	1.0000	29

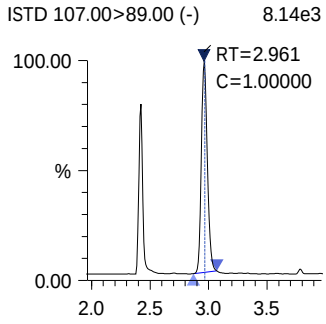
Perchlorate

Conc 29.69750
Area 113419



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 27962



ALS Group Houston

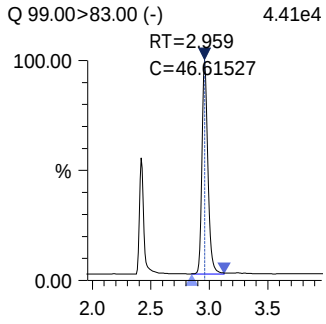
PERCHLORATE10

Date acquired: 12/22/2020 2:22:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_013.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	12/22/2020 2:22:22 PM	157382	46.61527	20201222_013	2.959	25.0000	1.0000	30
Sodium Perchlorate-18O4_IS	PERCHLORATE10	12/22/2020 2:22:22 PM	24734	1.00000	20201222_013	2.957	25.0000	1.0000	30

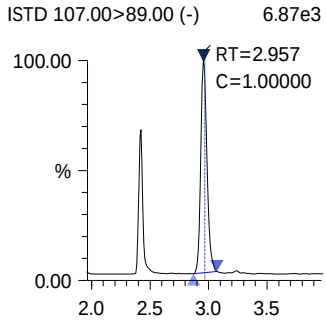
Perchlorate

Conc 46.61527
Area 157382



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 24734



ALS Group Houston

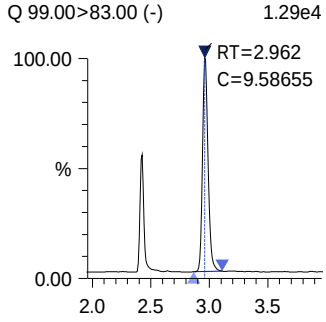
PERCHLORATEICV

Date acquired: 12/22/2020 2:38:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_015.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	12/22/2020 2:38:10 PM	43287	9.58655	20201222_015	2.962	25.0000	1.0000	31
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	12/22/2020 2:38:10 PM	32943	1.00000	20201222_015	2.961	25.0000	1.0000	31

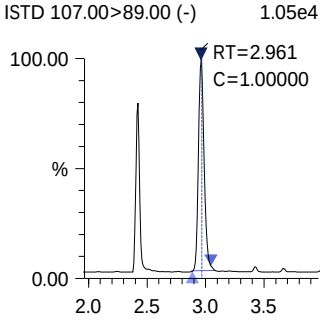
Perchlorate

Conc 9.58655
Area 43287



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 32943



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

20201221

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20201221_001	Perchlorate6850b.lcm	1x	☒		12/21/2020 8:54
2	null		20201221_002	Perchlorate6850b.lcm	1x	☒		12/21/2020 8:59
3	LODV		20201221_003	Perchlorate6850b.lcm	1x	☒		12/21/2020 9:04
4	ICS		20201221_006	Perchlorate6850b.lcm	1x	☒		12/21/2020 9:28
5	PERCHLORATE7		20201221_007	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 9:36
6	EQ2000677-02		20201221_008	Perchlorate6850b.lcm	1x	☒		12/21/2020 9:44
7	EQ2000677-01		20201221_009	Perchlorate6850b.lcm	1x	☒		12/21/2020 9:51
8	E2001208-001X5		20201221_010	Perchlorate6850b.lcm	5x	☒		12/21/2020 9:59
9	E2001209-001X5		20201221_011	Perchlorate6850b.lcm	5x	☒		12/21/2020 10:07
10	E2001210-001X200		20201221_012	Perchlorate6850b.lcm	200x	☒		12/21/2020 10:15
11	E2001211-001X1000		20201221_013	Perchlorate6850b.lcm	1000x	☒		12/21/2020 10:23
12	E2001211-002X100		20201221_014	Perchlorate6850b.lcm	100x	☒		12/21/2020 10:31
13	E2001211-003X1000		20201221_015	Perchlorate6850b.lcm	1000x	☒		12/21/2020 10:39
14	E2001211-004X1000		20201221_016	Perchlorate6850b.lcm	1000x	☒		12/21/2020 10:47
15	EQ2000677-03		20201221_017	Perchlorate6850b.lcm	1x	☒		12/21/2020 10:55
16	PERCHLORATE7		20201221_018	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 11:03
17	E2001211-005X2000		20201221_019	Perchlorate6850b.lcm	2000x	☒		12/21/2020 11:10
18	E2001211-006X2		20201221_020	Perchlorate6850b.lcm	2x	☒		12/21/2020 11:18
19	E2001211-007X5		20201221_021	Perchlorate6850b.lcm	5x	☒		12/21/2020 11:26
20	E2001211-008X10		20201221_022	Perchlorate6850b.lcm	10x	☒		12/21/2020 11:34
21	E2001211-009X5		20201221_023	Perchlorate6850b.lcm	5x	☒		12/21/2020 11:42
22	E2001217-001X10		20201221_024	Perchlorate6850b.lcm	10x	☒		12/21/2020 11:50
23	E2001217-002X2		20201221_025	Perchlorate6850b.lcm	2x	☒		12/21/2020 11:58
24	E2001217-003		20201221_026	Perchlorate6850b.lcm	1x	☒		12/21/2020 12:06
25	E2001217-004		20201221_027	Perchlorate6850b.lcm	1x	☒		12/21/2020 12:13
26	E2001217-005X2		20201221_028	Perchlorate6850b.lcm	1x	☒		12/21/2020 12:21
27	PERCHLORATE7		20201221_029	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 12:29
28	E2001217-006X5		20201221_030	Perchlorate6850b.lcm	5x	☒		12/21/2020 12:37
29	E2001217-007X2		20201221_031	Perchlorate6850b.lcm	2x	☒		12/21/2020 12:45
30	E2001217-008X500		20201221_032	Perchlorate6850b.lcm	500x	☒		12/21/2020 12:53
31	PERCHLORATE7		20201221_033	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 13:01
32	EQ2000707-01		20201221_034	Perchlorate6850b.lcm	1x	☒		12/21/2020 13:09
33	EQ2000707-02		20201221_035	Perchlorate6850b.lcm	1x	☒		12/21/2020 13:17
34	EQ2000707-03		20201221_036	Perchlorate6850b.lcm	1x	☒		12/21/2020 13:24
35	E2001231-001X2		20201221_037	Perchlorate6850b.lcm	2x	☒		12/21/2020 13:32
36	E2001231-002X2		20201221_038	Perchlorate6850b.lcm	2x	☒		12/21/2020 13:40
37	E2001231-003X2		20201221_039	Perchlorate6850b.lcm	2x	☒		12/21/2020 13:48
38	E2001231-004X2		20201221_040	Perchlorate6850b.lcm	2x	☒		12/21/2020 13:56
39	E2001231-005		20201221_041	Perchlorate6850b.lcm	1x	☒		12/21/2020 14:04
40	E2001231-006X10		20201221_042	Perchlorate6850b.lcm	10x	☒		12/21/2020 14:12
41	E2001231-007X100		20201221_043	Perchlorate6850b.lcm	100x	☒		12/21/2020 14:20
42	PERCHLORATE7		20201221_044	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 14:28
43	E2001231-008X5		20201221_045	Perchlorate6850b.lcm	5x	☒		12/21/2020 14:35
44	E2001231-009X5		20201221_046	Perchlorate6850b.lcm	5x	☒		12/21/2020 14:43
45	E2001231-010		20201221_047	Perchlorate6850b.lcm	1x	☒		12/21/2020 14:51
46	E2001231-011X2		20201221_048	Perchlorate6850b.lcm	2x	☒		12/21/2020 14:59
47	E2001231-012X10		20201221_049	Perchlorate6850b.lcm	10x	☒		12/21/2020 15:07
48	PERCHLORATE7		20201221_050	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 15:15
49	EQ2000708-01		20201221_051	Perchlorate6850b.lcm	1x	☒		12/21/2020 15:23
50	EQ2000708-02		20201221_052	Perchlorate6850b.lcm	1x	☒		12/21/2020 15:31
51	EQ2000708-03		20201221_053	Perchlorate6850b.lcm	1x	☒		12/21/2020 15:39
52	E2001223-001X200		20201221_054	Perchlorate6850b.lcm	200x	☒		12/21/2020 15:46
53	E2001223-002X5		20201221_055	Perchlorate6850b.lcm	5x	☒		12/21/2020 15:54
54	E2001223-003X10		20201221_056	Perchlorate6850b.lcm	10x	☒		12/21/2020 16:02
55	E2001223-004X5		20201221_057	Perchlorate6850b.lcm	5x	☒		12/21/2020 16:10
56	E2001223-005X2		20201221_058	Perchlorate6850b.lcm	2x	☒		12/21/2020 16:18
57	E2001223-006X10		20201221_059	Perchlorate6850b.lcm	10x	☒		12/21/2020 16:26
58	E2001223-007X5		20201221_060	Perchlorate6850b.lcm	5x	☒		12/21/2020 16:34
59	PERCHLORATE7		20201221_061	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 16:42
60	E2001223-008X20		20201221_062	Perchlorate6850b.lcm	20x	☒		12/21/2020 16:50
61	E2001223-009X10		20201221_063	Perchlorate6850b.lcm	10x	☒		12/21/2020 16:58

20201221

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2001223-010X10		20201221_064	Perchlorate6850b.lcm	10x	☒		12/21/2020 17:05
63	E2001223-011X10		20201221_065	Perchlorate6850b.lcm	10x	☒		12/21/2020 17:13
64	E2001224-001X10		20201221_066	Perchlorate6850b.lcm	10x	☒		12/21/2020 17:21
65	E2001224-002X1000		20201221_067	Perchlorate6850b.lcm	1000x	☒		12/21/2020 17:29
66	E2001224-003X1000		20201221_068	Perchlorate6850b.lcm	1000x	☒		12/21/2020 17:37
67	E2001224-004X10000		20201221_069	Perchlorate6850b.lcm	10000x	☒		12/21/2020 17:45
68	E2001224-005X10000		20201221_070	Perchlorate6850b.lcm	10000x	☒		12/21/2020 17:53
69	E2001224-006X2000		20201221_071	Perchlorate6850b.lcm	2000x	☒		12/21/2020 18:01
70	PERCHLORATE7		20201221_072	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 18:09
71	E2001224-007X10		20201221_073	Perchlorate6850b.lcm	10x	☒		12/21/2020 18:16
72	E2001224-008X2000		20201221_074	Perchlorate6850b.lcm	2000x	☒		12/21/2020 18:24
73	PERCHLORATE7		20201221_075	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 18:32
74	EQ2000685-01		20201221_076	Perchlorate6850b.lcm	1x	☒		12/21/2020 18:40
75	EQ2000685-02		20201221_077	Perchlorate6850b.lcm	1x	☒		12/21/2020 18:48
76	EQ2000685-03		20201221_078	Perchlorate6850b.lcm	1x	☒		12/21/2020 18:56
77	E2001228-001		20201221_079	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:04
78	E2001228-002		20201221_080	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:12
79	E2001228-003		20201221_081	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:20
80	E2001228-004		20201221_082	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:28
81	E2001228-005		20201221_083	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:35
82	E2001228-006		20201221_084	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:43
83	E2001228-007		20201221_085	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:51
84	PERCHLORATE7		20201221_086	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 19:59
85	E2001228-008		20201221_087	Perchlorate6850b.lcm	1x	☒		12/21/2020 20:07
86	E2001228-009		20201221_088	Perchlorate6850b.lcm	1x	☒		12/21/2020 20:15
87	E2001228-010		20201221_089	Perchlorate6850b.lcm	1x	☒		12/21/2020 20:23
88	PERCHLORATE7		20201221_090	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 20:31
89								

20201222

ALS Environmental

ICAL Date: 12/22/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000061**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201222_004	Perchlorate6850b.lcm	1x	☒	3100808-05	12/22/2020 13:11
2	PERCHLORATE2		20201222_005	Perchlorate6850b.lcm	1x	☒	3100808-06	12/22/2020 13:19
3	PERCHLORATE3		20201222_006	Perchlorate6850b.lcm	1x	☒	3100808-07	12/22/2020 13:27
4	PERCHLORATE4		20201222_007	Perchlorate6850b.lcm	1x	☒	3100808-08	12/22/2020 13:34
5	PERCHLORATE5		20201222_008	Perchlorate6850b.lcm	1x	☒	3100808-09	12/22/2020 13:42
6	PERCHLORATE6		20201222_009	Perchlorate6850b.lcm	1x	☒	3100809-01	12/22/2020 13:50
7	PERCHLORATE7		20201222_010	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 13:58
8	PERCHLORATE8		20201222_011	Perchlorate6850b.lcm	1x	☒	3100809-03	12/22/2020 14:06
9	PERCHLORATE9		20201222_012	Perchlorate6850b.lcm	1x	☒	3100809-04	12/22/2020 14:14
10	PERCHLORATE10		20201222_013	Perchlorate6850b.lcm	1x	☒	3100809-05	12/22/2020 14:22
11	ICS		20201222_014	Perchlorate6850b.lcm	1x	☒		12/22/2020 14:30
12	PERCHLORATEICV		20201222_015	Perchlorate6850b.lcm	1x	☒	3100809-06	12/22/2020 14:38
13	LODV		20201222_016	Perchlorate6850b.lcm	1x	☒		12/22/2020 14:46
14	EQ2000677-01		20201222_017	Perchlorate6850b.lcm	1x	☒		12/22/2020 14:59
15	EQ2000677-02		20201222_018	Perchlorate6850b.lcm	1x	☒		12/22/2020 15:07
16	EQ2000677-03		20201222_019	Perchlorate6850b.lcm	1x	☒		12/22/2020 15:15
17	E2001208-001X5		20201222_020	Perchlorate6850b.lcm	5x	☒		12/22/2020 15:23
18	E2001217-002X2		20201222_021	Perchlorate6850b.lcm	2x	☒		12/22/2020 15:31
19	PERCHLORATE7		20201222_022	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 15:39
20	E2001228-001X10		20201222_024	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:19
21	E2001228-002X10		20201222_025	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:26
22	E2001228-003X10		20201222_026	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:34
23	E2001228-005X200		20201222_027	Perchlorate6850b.lcm	200x	☒		12/22/2020 16:42
24	E2001228-008X10		20201222_028	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:50
25	E2001228-010X5000		20201222_029	Perchlorate6850b.lcm	5000x	☒		12/22/2020 16:58
26	PERCHLORATE7		20201222_030	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 17:06
27	EQ2000703-01		20201222_031	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:14
28	EQ2000703-02		20201222_032	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:22
29	EQ2000703-03		20201222_033	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:30
30	EQ2000677-01		20201222_034	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:46
31	E2001228-008X10		20201222_035	Perchlorate6850b.lcm	10x	☒		12/22/2020 17:54
32	E2001235-001		20201222_036	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:01
33	E2001235-002		20201222_037	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:09
34	E2001235-003		20201222_038	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:17
35	E2001235-004		20201222_039	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:25
36	E2001235-005		20201222_040	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:33
37	PERCHLORATE7		20201222_041	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 18:41
38	E2001235-006		20201222_042	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:49
39	E2001235-007		20201222_043	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:57
40	E2001235-008		20201222_044	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:05
41	E2001235-009		20201222_045	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:12
42	E2001236-001		20201222_046	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 19:20
43	E2001237-001		20201222_047	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:28
44	E2001237-002		20201222_048	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:36
45	E2001237-003		20201222_049	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:44
46	E2001237-004		20201222_050	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:52
47	PERCHLORATE7		20201222_051	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 20:00
48	E2001237-005		20201222_052	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:08
49	E2001237-006		20201222_053	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:16
50	E2001237-007		20201222_054	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:24
51	E2001237-008		20201222_055	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:31
52	E2001237-009		20201222_056	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:39
53	PERCHLORATE7		20201222_057	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 20:47
54	EQ2000704-01		20201222_058	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:55
55	EQ2000704-02		20201222_059	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:03
56	EQ2000704-03		20201222_060	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:11
57	EQ2000704-04		20201222_061	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:19
58	EQ2000704-05		20201222_062	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:27
59	E2001238-001		20201222_063	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:35
60	E2001238-002		20201222_064	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:43
61	E2001238-003		20201222_065	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:50

20201222

ICAL Date: 12/22/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000061**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2001238-004		20201222_066	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:58
63	E2001238-005		20201222_067	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:06
64	PERCHLORATE7		20201222_068	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 22:14
65	E2001238-006		20201222_069	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:22
66	E2001238-007		20201222_070	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:30
67	E2001242-001		20201222_071	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:38
68	E2001242-002		20201222_072	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:46
69	E2001242-003		20201222_073	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:54
70	E2001242-004		20201222_074	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:01
71	E2001242-005		20201222_075	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:09
72	E2001242-006		20201222_076	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:17
73	E2001242-007		20201222_077	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:25
74	E2001242-008		20201222_078	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:33
75	PERCHLORATE7		20201222_079	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 23:41
76	E2001242-009		20201222_080	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:49
77	PERCHLORATE7		20201222_081	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 23:57

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120449

Service Request: E2001210
Date Analyzed: 12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201221\20201221_007

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 707966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.49	0.1361	0.1292	-5.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120449

Service Request: E2001210
Date Analyzed: 12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201221\20201221_018

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 707966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.27	0.1361	0.1262	-7.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120449

Service Request: E2001210
Date Analyzed: 12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201221\20201221_029

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 707966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.89	0.1361	0.1346	-1.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120449

Service Request: E2001210
Date Analyzed: 12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201221\20201221_033

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 707966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.34	0.1361	0.1272	-6.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120449

Service Request: E2001210
Date Analyzed: 12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201221\20201221_075

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 707966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	8.95	0.1361	0.1218	-10.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2001210
Project:	HS20120449	**Date Analyzed:**	12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Calibration Date:**	12/13/20
File ID:	I:\LCMS01\DATA\20201221\20201221_086	**Calibration ID:**	EC2000058
		Analysis Lot:	707966
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.69	0.1361	0.1319	-3.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120449

Service Request: E2001210
Date Analyzed: 12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201221\20201221_090

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 707966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.0	0.1361	0.1502	10.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120449

Service Request: E2001210
Date Analyzed: 12/22/20

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\20201222\20201222_015

Calibration Date: 12/22/20
Calibration ID: EC2000061
Analysis Lot: 708075
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.59	NA	NA	NA	-4.1	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120449

Service Request: E2001210
Date Analyzed: 12/22/20

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\20201222\20201222_022

Calibration Date: 12/22/20
Calibration ID: EC2000061
Analysis Lot: 708075
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.28	NA	NA	NA	-7.2	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120449

Service Request: E2001210
Date Analyzed: 12/22/20

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\20201222\20201222_030

Calibration Date: 12/22/20
Calibration ID: EC2000061
Analysis Lot: 708075
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.54	NA	NA	NA	-4.6	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120449

Service Request: E2001210
Date Analyzed: 12/22/20

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\20201222\20201222_022

Calibration Date: 12/22/20
Calibration ID: EC2000061
Analysis Lot: 708075
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.28	NA	NA	NA	-7.2	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2001210
Project:	HS20120449	**Date Analyzed:**	12/21/20 09:36

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201221\20201221_007	**Lab Code:**	EQ2000709-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-01	55,326	2.97
LH18/24-SP140_120820	E2001210-001	45,478	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:**	E2001210
Project:	HS20120449	**Date Analyzed:**	12/21/20 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\20201221\20201221_018	**Lab Code:**	EQ2000709-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-02	55,243	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:**	E2001210
Project:	HS20120449	**Date Analyzed:**	12/21/20 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\20201221\20201221_029	**Lab Code:**	EQ2000709-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-03	52,769	2.97

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:**	E2001210
Project:	HS20120449	**Date Analyzed:**	12/21/20 13:01

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201221\20201221_033	**Lab Code:**	EQ2000709-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-04	54,421	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:**	E2001210
Project:	HS20120449	**Date Analyzed:**	12/21/20 18:32

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

File ID:	I:\LCMS01\DATA\20201221\20201221_075	**Lab Code:**	EQ2000709-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-05	50,515	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:**	E2001210
Project:	HS20120449	**Date Analyzed:**	12/21/20 19:59

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

File ID:	I:\LCMS01\DATA\20201221\20201221_086	**Lab Code:**	EQ2000709-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-06	46,770	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:**	E2001210
Project:	HS20120449	**Date Analyzed:**	12/21/20 20:31

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

File ID:	I:\LCMS01\DATA\20201221\20201221_090	**Lab Code:**	EQ2000709-07
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-07	41,644	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:**	E2001210
Project:	HS20120449	**Date Analyzed:**	12/22/20 14:38

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

File ID:	I:\LCMS01\DATA\20201222\20201222_015	**Lab Code:**	EQ2000711-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	708075
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	37,872	2.96
	Upper Limit ==>	56,808	4.96
	Lower Limit ==>	18,936	0.96
Associated Analyses			
Continuing Calibration Verification	EQ2000711-01	32,943	2.96
Lab Control Sample	EQ2000677-02	41,981	2.96
Duplicate Lab Control Sample	EQ2000677-03	42,050	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:**	E2001210
Project:	HS20120449	**Date Analyzed:**	12/22/20 15:39

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201222\20201222_022	**Lab Code:**	EQ2000711-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	708075
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	37,872	2.96
	Upper Limit ==>	56,808	4.96
	Lower Limit ==>	18,936	0.96
Associated Analyses			
Continuing Calibration Verification	EQ2000711-02	33,317	2.96
Continuing Calibration Verification	EQ2000711-04	33,317	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:**	E2001210
Project:	HS20120449	**Date Analyzed:**	12/22/20 15:39

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

File ID:	I:\LCMS01\DATA\20201222\20201222_022	**Lab Code:**	EQ2000711-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	708075
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	37,872	2.96
	Upper Limit ==>	56,808	4.96
	Lower Limit ==>	18,936	0.96
Associated Analyses			
Continuing Calibration Verification	EQ2000711-02	33,317	2.96
Continuing Calibration Verification	EQ2000711-04	33,317	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:**	E2001210
Project:	HS20120449	**Date Analyzed:**	12/22/20 17:06

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

File ID:	I:\LCMS01\DATA\20201222\20201222_030	**Lab Code:**	EQ2000711-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	708075
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	37,872	2.96
	Upper Limit ==>	56,808	4.96
	Lower Limit ==>	18,936	0.96
Associated Analyses			
Continuing Calibration Verification	EQ2000711-03	32,762	2.96
Method Blank	EQ2000677-01	35,526	2.96

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

ALS Group Houston

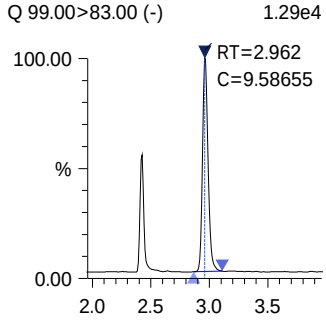
PERCHLORATEICV

Date acquired: 12/22/2020 2:38:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_015.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	12/22/2020 2:38:10 PM	43287	9.58655	20201222_015	2.962	25.0000	1.0000	31
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	12/22/2020 2:38:10 PM	32943	1.00000	20201222_015	2.961	25.0000	1.0000	31

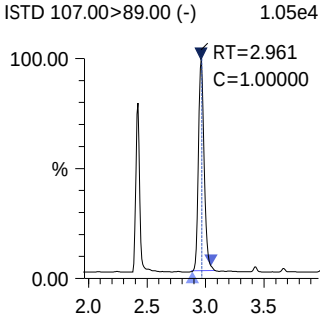
Perchlorate

Conc 9.58655
Area 43287



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 32943



ALS Group Houston

EQ2000677-01

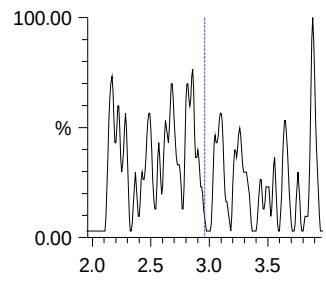
Date acquired: 12/22/2020 2:59:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_017.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000677-01	12/22/2020 2:59:28 PM	----	----	20201222_017	----	25.0000	1.0000	1
Sodium Perchlorate-18O4_IS	EQ2000677-01	12/22/2020 2:59:28 PM	68040	1.00000	20201222_017	2.836	25.0000	1.0000	1

Perchlorate

Conc ----
Area ----

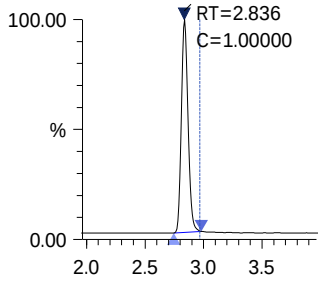
Q 99.00>83.00 (-) 2.90e1



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 68040

ISTD 107.00>89.00 (-) 1.70e4



ALS Group Houston

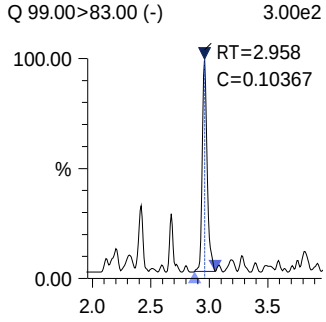
EQ2000677-02

Date acquired: 12/22/2020 3:07:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_018.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000677-02	12/22/2020 3:07:20 PM	882	0.10367	20201222_018	2.958	25.0000	1.0000	2
Sodium Perchlorate-18O4_IS	EQ2000677-02	12/22/2020 3:07:20 PM	41981	1.00000	20201222_018	2.956	25.0000	1.0000	2

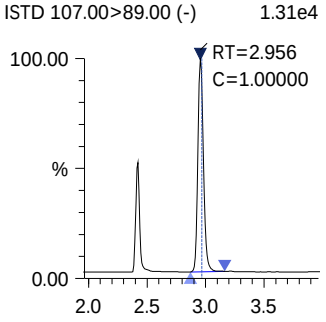
Perchlorate

Conc 0.10367
Area 882



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 41981



ALS Group Houston

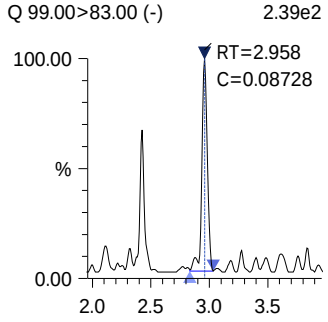
EQ2000677-03

Date acquired: 12/22/2020 3:15:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_019.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000677-03	12/22/2020 3:15:14 PM	790	0.08728	20201222_019	2.958	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	EQ2000677-03	12/22/2020 3:15:14 PM	42050	1.00000	20201222_019	2.959	25.0000	1.0000	3

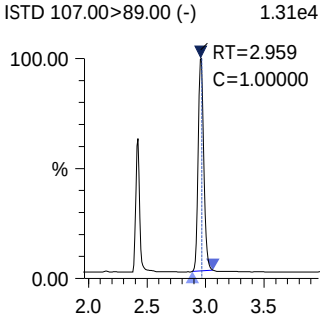
Perchlorate

Conc 0.08728
Area 790



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 42050



ALS Group Houston

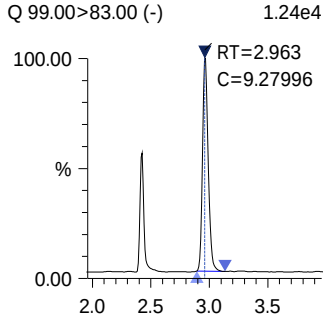
PERCHLORATE7

Date acquired: 12/22/2020 3:39:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_022.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/22/2020 3:39:40 PM	42386	9.27996	20201222_022	2.963	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/22/2020 3:39:40 PM	33317	1.00000	20201222_022	2.962	25.0000	1.0000	21

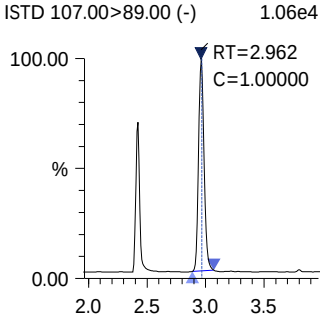
Perchlorate

Conc 9.27996
Area 42386



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 33317



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

WorkOrder: HS20120450

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

29-Dec-2020

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
T : +1 281 530 5656
F : +1 281 530 5887
www.alsglobal.com

Table of Contents

HS20120450 Cover Page
- CoverPage
- HS20120450 Longhorn GW Treatment Plant Weekly Samples Final
  - CoverLetter
  - Sample Summary
  - CaseNarrative
  - LH18/24-SP650_120820
  - LH18/24-SP650_120220-BIX
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList
  - COC
  - HS20120450 - Sub Perch Report II (E2001209)
  - HS20120450 ALS Kelso WA SUB Data_K2011577
- HS20120450 Wet Chem Raw Data (NIT-AMM_W- E350.3 - ISE)
- HS20120450 Wet Chem Raw Data (P-ORTHO)
- HS20120450 ALS Kelso WA SUB Data_K2011577
  - Table of Contents
  - Case Narrative

Table of Contents (continued)

Chain of Custody

General Chemistry

Raw Data

HS20120450 - Sub Perch Report IV (E2001209)

CoverLetter

Certificate of Analysis

Chain of Custody

Preparation Sheets

Analytical Results

Accuracy and Precision

Initial Calibration

Chromatogram

HS20120450 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS20120450

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

December 23, 2020

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

Work Order: **HS20120450**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Dec 09, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 23-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20120450

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20120450-01	LH18/24-SP650_120820	Water		08-Dec-2020 14:00	09-Dec-2020 10:50	☐
HS20120450-02	LH18/24-SP650_120220-BIX	Water		08-Dec-2020 14:00	09-Dec-2020 10:50	☐

ALS Houston, US Date: 23-Dec-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20120450

Work Order Comments

• The analysis for Perchlorate was subcontracted our ALS Houston TX, High Resolution Lab. Final report attached.

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

WetChemistry by Method E350.3

Batch ID: R375197

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

WetChemistry by Method E365.3

Batch ID: R374291

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

ALS Houston, US Date: 23-Dec-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Longhorn GW Treatment Plant Weekly Samples WorkOrder:HS20120450

Sample ID: LH18/24-SP650_120820 Lab ID:HS20120450-01

Collection Date: 08-Dec-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: YP
Nitrogen, Ammonia (As N)	**7.4**	a	**0.10**	**0.20**	**0.20**	**mg/L**	1	17-Dec-2020 09:57
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**2.07**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	09-Dec-2020 15:12
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	22-Dec-2020 13:05

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

ALS Houston, US Date: 23-Dec-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20120450
Sample ID: LH18/24-SP650_120220-BIX
Lab ID:HS20120450-02
Collection Date: 08-Dec-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	23-Dec-2020 16:16

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

ALS Houston, US Date: 23-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20120450

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R374291 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20120450-01	LH18/24-SP650_120820	08 Dec 2020 14:00			09 Dec 2020 15:12	10
Batch ID: R375125 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20120450-01	LH18/24-SP650_120820	08 Dec 2020 14:00			22 Dec 2020 13:05	1
Batch ID: R375197 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20120450-01	LH18/24-SP650_120820	08 Dec 2020 14:00			17 Dec 2020 09:57	1
Batch ID: R375271 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20120450-02	LH18/24-SP650_120220-BIX	08 Dec 2020 14:00			23 Dec 2020 16:16	1

ALS Houston, US Date: 23-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20120450

QC BATCH REPORT

Batch ID: R374291 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

MBLK Sample ID: **MBLK-R374291** Units: **mg/L** Analysis Date: **09-Dec-2020 15:12**
Client ID: Run ID: **UV-2450_374291** SeqNo: **5871254** 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-R374291** Units: **mg/L** Analysis Date: **09-Dec-2020 15:12**
Client ID: Run ID: **UV-2450_374291** SeqNo: **5871253** 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)	0.249	0.0250	0.25	0	99.6	85 - 115				

MS Sample ID: **HS20120459-01MS** Units: **mg/L** Analysis Date: **09-Dec-2020 15:12**
Client ID: Run ID: **UV-2450_374291** SeqNo: **5871256** 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)	0.258	0.0250	0.25	0.038	88.0	80 - 120				

MSD Sample ID: **HS20120459-01MSD** Units: **mg/L** Analysis Date: **09-Dec-2020 15:12**
Client ID: Run ID: **UV-2450_374291** SeqNo: **5871255** 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)	0.259	0.0250	0.25	0.038	88.4	80 - 120	0.258	0.387	20	

The following samples were analyzed in this batch: HS20120450-01

ALS Houston, US Date: 23-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20120450

QC BATCH REPORT

Batch ID: R375197 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-R375197** Units: **mg/L** Analysis Date: **17-Dec-2020 09:57**
Client ID: Run ID: **WetChem_HS_375197** SeqNo: **5894359** 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-R375197** Units: **mg/L** Analysis Date: **17-Dec-2020 09:57**
Client ID: Run ID: **WetChem_HS_375197** SeqNo: **5894358** 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)	9.987	0.20	10	0	99.9	85 - 115				

LCSD Sample ID: **LCSD-R375197** Units: **mg/L** Analysis Date: **17-Dec-2020 09:57**
Client ID: Run ID: **WetChem_HS_375197** SeqNo: **5894357** 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)	10.47	0.20	10	0	105	85 - 115	9.987	4.71	20	

MS Sample ID: **HS20120380-01MS** Units: **mg/L** Analysis Date: **17-Dec-2020 09:57**
Client ID: Run ID: **WetChem_HS_375197** SeqNo: **5894361** 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)	9.74	0.20	10	0.25	94.9	80 - 120				

MSD Sample ID: **HS20120380-01MSD** Units: **mg/L** Analysis Date: **17-Dec-2020 09:57**
Client ID: Run ID: **WetChem_HS_375197** SeqNo: **5894360** 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)	9.981	0.20	10	0.25	97.3	80 - 120	9.74	2.44	20	

The following samples were analyzed in this batch: HS20120450-01

ALS Houston, US Date: 23-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20120450**

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
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 23-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20120450

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20120450-01	LH18/24-SP650_120820	Login	12/9/2020 12:03:14 PM	PMG	WET225
HS20120450-01	LH18/24-SP650_120820	Login	12/9/2020 12:03:14 PM	PMG	WET225
HS20120450-01	LH18/24-SP650_120820	Login	12/9/2020 12:03:14 PM	PMG	Sub
HS20120450-02	LH18/24-SP650_120220-BIX	Login	12/9/2020 12:03:14 PM	PMG	Sub

ALS Houston, US Date: 23-Dec-20

Sample Receipt Checklist

Work Order ID: HS20120450 **Date/Time Received:** 09-Dec-2020 10:50

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

Completed By:	/S/ Paresh M. Giga	09-Dec-2020 12:05	**Reviewed by:**	/S/ RJ Modashia	09-Dec-2020 14:58
	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):	3.6C U/c				IR25	
Cooler(s)/Kit(s):	46339					
Date/Time sample(s) sent to storage:	12/9/2020 12:15					
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

HS20120450
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_120820	Water	12/08/20 / 14:00		3	X	X			H2SO4	
LH18/24-SP650_120820	Water	12/08/20 / 14:00		1			X		NONE	
LH18/24-SP650_120820_BIX	Water	12/08/20 / 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
	12/08/20	14:30	JM PM 12.9.20	10:50							

For Lab Use Only

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

Remarks:

46339 3.6C IR25 4FO

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

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

46339

CUSTODY SEAL

Date: 12/8/20 Time: 1430
Name: Scott Beesinger
Company: BHATE

Seal Broken By: SM
Date: 12109120

46339 DEC 0 9 2020

Must Deliver Next Business Day
Time and Tempature Sensitive!

46339

ORIGIN ID:SGRA (903) 597-2450
SCOTT BEESINGER
BHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 09SEP20
ACTWGT: 1.00 LB MAN
CAD: 3001907/CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656

REF: ADDITIONAL BOTTLES - BO 73689 - RJ

RJ 917 1
10:30
B03

RMA:

FedEx Express

FedEx
TRK# 0221 1891 8880 1544

WED - 09 DEC AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

EID: 1677B5 8801e2020 GCGA SM0G2/9196/05A7

December 23, 2020 Service Request No:E2001209

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

Laboratory Results for: HS20120450

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 09, 2020
For your reference, these analyses have been assigned our service request number **E2001209.**

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.:**	E2001209
Project:	HS20120450	**Date Received:**	12/09/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 12/09/20. The sample was received in good condition and is consistent with the accompanying chain of custody form.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000677: 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 RPD exceeded QC limits; the individual recoveries met acceptance criteria.

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:**E2001209
Project: HS20120450

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2001209-001	LH18/24-SP650_120820_BIX	12/8/2020	1400

Service Request Summary

Folder #: **E2001209**
Client Name: ALS Environmental - US
Project Name: HS20120450
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: 12/09/20
Internal Due Date: 12/23/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20120450
EDD: No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
Location: EHRMS-WIC 2B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2001209-001	LH18/24-SP650_120820_BIX	Water	12/08/20 1400	**IV**

Service Request Summary

Folder #: **E2001209**
Client Name: ALS Environmental - US
Project Name: HS20120450
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: 12/09/20
Internal Due Date: 12/23/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20120450
EDD: No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
Location: EHRMS-WIC 2B
Pressure Gas:

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

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

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:** **15298**

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:	HS20120450
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120450-02**	**LH18/24-SP650_120220-BIX**	**Water**	**08 Dec 2020 14:00**
	Provide Level II and Level IV reports in separate pdf			23 Dec 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: 12/9/2020,

Received By: _____ Date/Time: 12/9/20 1800

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS - H

Thermometer ID 1271

Date/Time Received: 12/9/20 Initials: CH

Date/Time Logged in: 12/10/20 Initials CH

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

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

3. Were custody seals on coolers? ○ Yes ✓ No

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

If yes, how many and where?

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

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

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
NA		12/9/20	1000	CH	1.4	☒
						☐
						☐
						☐

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:

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#: 371505 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/15/20 08:58

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2001208-001	LH18/24-SP650_120820_BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2001209-001	LH18/24-SP650_120820_BIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2001210-001	LH18/24-SP140_120820	.01	6850/ClO4 DOD			Water	10mL	
4	E2001211-001	MW5_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2001211-002	18CPTMW08DW_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2001211-003	18CPTMW08SW_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2001211-004	18CPTMW08SW_120820_a	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2001211-005	MW23_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2001211-006	MW16_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2001211-007	18CPTMW23_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2001211-008	18WW24_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2001211-009	18CTPMW15_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2001217-001	18CPTMW04_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2001217-002	18CPTMW04SW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2001217-003	AWD3_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2001217-004	AWD3_120920_a	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2001217-005	MW10_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2001217-006	18CPTMW12SW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
19	E2001217-007	18CPTMW12DW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
20	E2001217-008	MW7_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
21	EQ2000677-01	MB		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000677-02	LCS		6850/ClO4 DOD			Liquid	10mL	
23	EQ2000677-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2000677-02 1.00µL EQ2000677-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 214133 Logbook Ref: Sodium Perchlorate Expires On: 08/13/2022

E2001208-001	100.00µL	E2001209-001	100.00µL	E2001210-001	100.00µL	E2001211-001	100.00µL	E2001211-002	100.00µL	E2001211-003	100.00µL
E2001211-004	100.00µL	E2001211-005	100.00µL	E2001211-006	100.00µL	E2001211-007	100.00µL	E2001211-008	100.00µL	E2001211-009	100.00µL
E2001217-001	100.00µL	E2001217-002	100.00µL	E2001217-003	100.00µL	E2001217-004	100.00µL	E2001217-005	100.00µL	E2001217-006	100.00µL
E2001217-007	100.00µL	E2001217-008	100.00µL	EQ2000677-01	100.00µL	EQ2000677-02	100.00µL	EQ2000677-03	100.00µL		

Preparation Information Benchsheet

Prep Run#: 371505 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/15/20 08:58

Preparation Steps

Step: Preparation
Started: 12/15/20 08:58
Finished: 12/15/20 11:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 12/15/20

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:**	E2001209
Project:	HS20120450	**Date Collected:**	12/ 8/20 1400
Sample Matrix:	Water	**Date Received:**	12/ 9/20
Sample Name:	LH18/24-SP650_120820_BIX	**Units:**	µg/L
Lab Code:	E2001209-001	**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	0.500	0.250	0.125	5	12/15/20	12/21/20 10:07	371505	707966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001209
Project:	HS20120450	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000677-01	**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	12/15/20	12/22/20 17:46	371505	708075	

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: HS20120450
Sample Matrix: Water

Service Request: E2001209
Date Analyzed: 12/22/20

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: 371505

	Lab Control Sample EQ2000677-02			Duplicate Lab Control Sample EQ2000677-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.104	0.100	104	0.0873	0.100	87	84 - 119	17 *	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:**	E2001209
Project:	HS20120450	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000677-02	**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	**0.104**		0.100	0.0500	0.0250	1	12/15/20	12/22/20 15:07	371505	708075	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001209
Project:	HS20120450	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000677-03	**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	**0.0873**	J	0.100	0.0500	0.0250	1	12/15/20	12/22/20 15:15	371505	708075	

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

December 22, 2020

Analytical Report for Service Request No: K2011577

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

RE: HS20120450

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 10, 2020
For your reference, these analyses have been assigned our service request number **K2011577.**

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

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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

Acronyms
Qualifiers
State Certifications, Accreditations, And Licenses
Case Narrative
Chain of Custody
General Chemistry
Raw Data
    General Chemistry

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
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: ALS Environmental - US
Project: HS20120450
Sample Matrix: Water

Service Request: K2011577
Date Received: 12/10/2020

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 12/10/2020. 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. Diaz Date 12/22/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

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

K2011577

SAMPLING STATE: **Dept of Defense** **COC ID:** **15297**

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:	HS20120450
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120450-01**	**LH18/24-SP650_120820**	**Water**	**08 Dec 2020 14:00**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			23 Dec 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: 12/9/2020 1800.

Received By: K Marrow ALS Kelso Date/Time: 12/10/20 10:10

Cooler ID(s): _____ Temperature(s): _____

PM Kelly

Cooler Receipt and Preservation Form

Client ALS Houston Service Request K20 11577

Received: 12/10/20 Opened: 12/10/20 By: [illegible] Unloaded: 12/10/20 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? Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column below.
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. (NA) Y N

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

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
1.8	—	IR02	15297	—	—	5265 6601 3216	

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

Sample ID on Bottle	Sample ID on COC	Identified by:

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

Notes, Discrepancies, Resolutions: ____

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2011577
Project:	HS20120450	**Date Collected:**	12/8/20
Sample Matrix:	Water	**Date Received:**	12/10/20
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_120820	K2011577-001	**1.15**	0.50	0.20	0.07	1	12/17/20 18:43	
Method Blank	K2011577-MB	ND U	0.50	0.20	0.07	1	12/17/20 18:43	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011577
Project:	HS20120450	**Date Analyzed:**	12/17/20
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:	707530

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2011577-LCS	23.6	25.0	95	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2011577
Project: HS20120450

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	707530	KQ2020442-01	12/17/20 18:43	25.0	25.3	101	90-110
CCV2	707530	KQ2020442-02	12/17/20 18:43	25.0	25.2	101	90-110
CCV3	707530	KQ2020442-03	12/17/20 18:43	25.0	24.7	99	90-110
CCV4	707530	KQ2020442-04	12/17/20 18:43	25.0	25.0	100	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2011577
Project: HS20120450

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	707530	KQ2020442-05	12/17/20 18:43	0.50	0.20	0.07	ND	U
CCB2	707530	KQ2020442-06	12/17/20 18:43	0.50	0.20	0.07	ND	U
CCB3	707530	KQ2020442-07	12/17/20 18:43	0.50	0.20	0.07	ND	U
CCB4	707530	KQ2020442-08	12/17/20 18:43	0.50	0.20	0.07	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2011577
Project:	HS20120450	**Date Collected:**	12/8/20
Sample Matrix:	Water	**Date Received:**	12/10/20
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_120820	K2011577-001	**1.15**	0.50	0.20	0.07	1	12/17/20 18:43	
Method Blank	K2011577-MB	ND U	0.50	0.20	0.07	1	12/17/20 18:43	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011577
Project:	HS20120450	**Date Analyzed:**	12/17/20
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:	707530

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2011577-LCS	23.6	25.0	95	83-117

Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Work Request # Original ( ) K2011385, 1430, 1577, 1788, 1808, 1817

Tier: I IV IV I II I

Date Analyzed: 12/17/20

Analyst: MAS Run # 707530

Analysis: SM 5310 C/TOC T

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:

-Matrix interference on the matrix spike

Final Approved by: _____ Date: 12/18/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** MSPECHT **Analysis Lot:** 707530 **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
K2011385-001	Carbon, Total Organic	N/A		Water	8.68 mg/L	10 mL	8.68 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-002	Carbon, Total Organic	N/A		Water	11.84 mg/L	10 mL	11.8 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-003	Carbon, Total Organic	N/A		Water	1.52 mg/L	10 mL	1.52 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-004	Carbon, Total Organic	N/A		Water	17.59 mg/L	10 mL	17.6 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-005	Carbon, Total Organic	N/A		Water	7.26 mg/L	10 mL	7.26 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-006	Carbon, Total Organic	N/A		Water	20.51 mg/L	10 mL	20.5 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-007	Carbon, Total Organic	N/A		Water	15.94 mg/L	10 mL	15.9 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-008	Carbon, Total Organic	N/A		Water	9.04 mg/L	10 mL	9.04 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-009	Carbon, Total Organic	N/A		Water	20.10 mg/L	10 mL	20.1 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011430-001	Carbon, Total Organic	N/A		Ground Water	11.99 mg/L	10 mL	12.0 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	IV
K2011430-002	Carbon, Total Organic	N/A		Ground Water	2.33 mg/L	10 mL	2.33 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	IV
K2011430-003	Carbon, Total Organic	N/A		Ground Water	21.37 mg/L	10 mL	21.4 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	IV
K2011430-004	Carbon, Total Organic	N/A		Ground Water	1.63 mg/L	10 mL	1.63 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	IV
K2011577-001	Carbon, Total Organic	N/A		Water	1.15 mg/L	10 mL	1.15 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	IV
K2011788-001	Carbon, Total Organic	N/A		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011788-002	Carbon, Total Organic	N/A		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011808-001	Carbon, Total Organic	N/A		Water	0.94 mg/L	10 mL	0.94 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	II
K2011817-001	Carbon, Total Organic	N/A		Water	11.39 mg/L	10 mL	228 mg/L	20	2	10			12/17/20 18:43:00	N	I
KQ2020442-01	Carbon, Total Organic	CCV		Reagent Water	25.26 mg/L	10 mL	25.3 mg/L	1					12/17/20 18:43:00	N	I
KQ2020442-02	Carbon, Total Organic	CCV		Reagent Water	25.21 mg/L	10 mL	25.2 mg/L	1					12/17/20 18:43:00	N	I
KQ2020442-03	Carbon, Total Organic	CCV		Reagent Water	24.71 mg/L	10 mL	24.7 mg/L	1					12/17/20 18:43:00	N	I
KQ2020442-04	Carbon, Total Organic	CCV		Reagent Water	24.96 mg/L	10 mL	25.0 mg/L	1					12/17/20 18:43:00	N	I
KQ2020442-05	Carbon, Total Organic	CCB		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	N	I
KQ2020442-06	Carbon, Total Organic	CCB		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	N	I
KQ2020442-07	Carbon, Total Organic	CCB		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	N	I
KQ2020442-08	Carbon, Total Organic	CCB		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	N	I
KQ2020442-09	Carbon, Total Organic	MB		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	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:** MSPECHT **Analysis Lot:** 707530 **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
KQ2020442-10	Carbon, Total Organic	LCS		Reagent Water	23.64 mg/L	10 mL	23.6 mg/L	1	0.07	0.50	95		12/17/20 18:43:00	N	I
KQ2020442-11	Carbon, Total Organic	MS	K2011430-001	Ground Water	31.67 mg/L	10 mL	31.7 mg/L	1	0.07	0.50	79*		12/17/20 18:43:00	N	IV
KQ2020442-12	Carbon, Total Organic	DUP	K2011430-001	Ground Water	12.31 mg/L	10 mL	12.3 mg/L	1	0.07	0.50		3	12/17/20 18:43:00	N	IV

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

Schedule: 12172020

Version: 4
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/12/18 14:10 - Friday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
A	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
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	LOD	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	LOQ	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2011788-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2011788-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2011430-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2011430-001 DUP	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2011430-001 MS	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
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2011430-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2011430-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2011430-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2011385-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2011385-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2011385-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2011385-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2011385-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2011385-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2011385-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2011385-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2011385-009	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2011577-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2011817-001 20X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2011808-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2010984-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2010984-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2011175-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
29	Sample	K2011175-001 DUP	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2011175-001 MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2011175-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2011175-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
33	Sample	K2011175-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2011175-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	LOD .32	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
36	Sample	LOQ 1.0	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
37	Sample	K2011175-005 2X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
39	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready

Schedule: 12172020

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
40	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
41	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 12172020
Thursday, December 17, 2020 06:42 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/12/18 15:14 - Friday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	12172020	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v1) Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v4)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/12/17 18:43

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	12.76	27.47	14.71	49.44	05:26
2	TC Clean	5.96	19.23	13.28	50.45	04:03
3	TC Clean	1.44	14.72	13.29	50.62	03:49
4	TC Clean	1.16	14.45	13.29	50.37	04:00

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/12/17 19:05

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.34	12.85	13.18	49.85	05:26
2	TC Clean	4.17	17.14	12.97	50.60	04:02
3	TC Clean	0.84	13.90	13.07	50.60	03:48

4	TC Clean	0.61	13.85	13.25	50.18	03:47

Sample Type: Clean From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/12/17 19:27

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.52	12.56	13.08	49.36	05:13
2	TC Clean	3.62	16.83	13.21	50.28	04:06
3	TC Clean	0.87	14.13	13.26	50.33	03:50
4	TC Clean	0.92	14.09	13.18	50.57	03:48

Sample Type: Blank (Creating v1496) From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/12/17 19:48

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.34	12.83	13.17	49.69	05:12
2	TC Clean	3.47	16.83	13.35	50.48	04:05
3	TC Clean	1.49	14.72	13.23	50.63	03:50
4	TC Clean	0.85	14.29	13.44	50.35	03:52
5	Reagent Blank	5.17	18.63	13.45	50.56	05:08
6	Acid Blank	-0.05	13.12	13.17	49.40	05:31

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	A	TOC	RB	0.0087 ppm	0.0000 ppm	0.0000%	2020/12/17 20:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0087	0.0874	9.31	22.61	13.30	51.10	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.2639 ppm (PASS)	0.0000 ppm	0%	2020/12/17 20:37

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.2639	252.6391	187.11	200.39	13.28	51.11	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 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/17 20:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	7.44	20.92	13.47	51.11	10:32

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

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	ICS	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/17 21:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	9.17	22.29	13.12	51.13	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/17 21:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.49	19.89	13.40	51.14	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.6432 ppm (PASS)	0.0000 ppm	0%	2020/12/17 21:35

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.6432	236.4320	175.74	188.89	13.15	51.14	10:28

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

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	LOD	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/17 21:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.33	21.47	13.14	51.15	10:30
2	TOC	0.0000	0.0000	7.56	20.98	13.41	51.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	LOQ	0.1353 ppm	0.0257 ppm	19.0000%	2020/12/17 22:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1171	1.1708	10.07	23.37	13.30	51.17	10:26
2	TOC	0.1534	1.5343	10.32	23.42	13.10	51.18	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2011788-001	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/17 22:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.30	19.58	13.29	51.17	10:26

2	TOC	0.0000	0.0000	6.05	19.48	13.43	51.18	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2011788-002	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/17 23:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.90	19.33	13.43	51.17	10:26
2	TOC	0.0000	0.0000	6.11	19.40	13.29	51.16	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2011430-001	11.9856 ppm	0.3650 ppm	3.0500%	2020/12/17 23:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.2437	122.4368	95.14	108.49	13.35	51.15	10:27
2	TOC	11.7275	117.2749	91.51	104.87	13.36	51.15	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2011430-001 DUP	12.3112 ppm	0.4172 ppm	3.3900%	2020/12/18 00:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.6062	126.0620	97.68	110.99	13.32	51.16	10:30
2	TOC	12.0162	120.1616	93.54	106.87	13.33	51.15	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2011430-001 MS	31.6722 ppm	0.2403 ppm	0.7600%	2020/12/18 00:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	31.8422	318.4217	232.62	245.89	13.28	51.16	10:28
2	TOC	31.5023	315.0232	230.23	243.62	13.38	51.17	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.2089 ppm (PASS)	0.0000 ppm	0%	2020/12/18 01:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.2089	252.0888	186.73	200.18	13.45	51.15	10:30

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

Sample Type: Check Standard --> CCB From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/18 01:21

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	7.17	20.59	13.43	51.16	10:32

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

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2011430-002	2.3330 ppm	0.0922 ppm	3.9500%	2020/12/18 01:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3982	23.9825	26.07	39.32	13.24	51.17	10:27
2	TOC	2.2678	22.6781	25.16	38.54	13.38	51.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2011430-003	21.3688 ppm	0.4943 ppm	2.3100%	2020/12/18 02:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	21.7183	217.1833	161.60	174.92	13.32	51.18	10:26
2	TOC	21.0192	210.1923	156.69	170.15	13.45	51.17	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2011430-004	1.6262 ppm	0.2489 ppm	15.3000%	2020/12/18 02:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8022	18.0222	21.89	35.50	13.61	51.19	10:27
2	TOC	1.4503	14.5025	19.42	32.77	13.35	51.19	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2011385-001	8.6831 ppm	0.0762 ppm	0.8800%	2020/12/18 03:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.7370	87.3696	70.54	83.96	13.42	51.20	10:29
2	TOC	8.6292	86.2919	69.78	83.37	13.59	51.20	10:22

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2011385-002	11.8395 ppm	0.1459 ppm	1.2300%	2020/12/18 03:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	11.9426	119.4260	93.02	106.43	13.41	51.22	10:29
2	TOC	11.7363	117.3633	91.58	105.12	13.55	51.21	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2011385-003	1.5159 ppm	0.1184 ppm	7.8100%	2020/12/18 03:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5997	15.9965	20.47	33.84	13.37	51.22	10:27
2	TOC	1.4322	14.3215	19.29	32.62	13.32	51.22	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2011385-004	17.5889 ppm	0.0029 ppm	0.0200%	2020/12/18 04:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	17.5868	175.8679	132.62	146.14	13.52	51.22	10:30
2	TOC	17.5909	175.9092	132.65	146.11	13.46	51.22	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2011385-005	7.2554 ppm	0.3085 ppm	4.2500%	2020/12/18 04:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.4735	74.7350	61.67	75.19	13.51	51.21	10:26
2	TOC	7.0373	70.3728	58.61	72.36	13.74	51.21	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2011385-006	20.5115 ppm	0.5545 ppm	2.7000%	2020/12/18 05:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	20.9036	209.0362	155.88	169.56	13.68	51.21	10:29
2	TOC	20.1194	201.1943	150.38	163.92	13.54	51.22	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2011385-007	15.9449 ppm	0.3513 ppm	2.2000%	2020/12/18 05:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.1933	161.9331	122.84	136.36	13.51	51.19	10:25
2	TOC	15.6965	156.9651	119.36	132.82	13.46	51.15	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7068 ppm (PASS)	0.0000 ppm	0%	2020/12/18 06:16

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

	Type		#							Time
B	TOC	25 ppm	1	24.7068	247.0680	183.21	196.66	13.45	51.16	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 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/18 06:31

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	6.96	20.41	13.45	51.12	10:32

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

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/18 06:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.15	19.39	13.24	51.12	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.1999 ppm (PASS)	0.0000 ppm	0%	2020/12/18 07:00

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.1999	231.9985	172.64	185.92	13.28	51.07	10:28

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

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2011385-008	9.0350 ppm	0.4155 ppm	4.6000%	2020/12/18 07:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.3289	93.2885	74.69	87.95	13.26	51.11	10:28
2	TOC	8.7412	87.4124	70.57	83.77	13.20	51.09	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	22	TOC	K2011385-009	20.0997 ppm	0.4213 ppm	2.1000%	2020/12/18 07:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	20.3976	203.9755	152.33	165.63	13.30	51.12	10:31
2	TOC	19.8018	198.0181	148.15	161.41	13.26	51.10	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	23	TOC	K2011577-001	1.1495 ppm	0.0643 ppm	5.5900%	2020/12/18 08:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1949	11.9494	17.63	31.10	13.47	51.12	10:29
2	TOC	1.1040	11.0399	16.99	30.28	13.29	51.10	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	K2011817-001 20X	11.3898 ppm	0.1935 ppm	1.7000%	2020/12/18 08:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	11.5266	115.2663	90.10	103.53	13.43	51.04	10:28
2	TOC	11.2529	112.5292	88.18	101.44	13.25	51.05	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2011808-001	0.9356 ppm	0.1962 ppm	20.9700%	2020/12/18 09:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	1.0743	10.7434	16.78	30.09	13.30	51.02	10:26
2	TOC	0.7969	7.9692	14.84	27.97	13.14	51.02	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2010984-001	25.6486 ppm	0.0090 ppm	0.0300%	2020/12/18 09:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	25.6423	256.4230	189.12	202.11	12.99	51.00	10:29
2	TOC	25.6550	256.5499	189.21	202.25	13.03	50.97	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2010984-002	6.8444 ppm	0.1189 ppm	1.7400%	2020/12/18 10:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.9285	69.2851	57.85	70.77	12.92	50.97	10:24
2	TOC	6.7603	67.6029	56.67	69.66	12.99	50.96	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2011175-001	0.2122 ppm	0.0423 ppm	19.9500%	2020/12/18 10:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2421	2.4210	10.95	23.94	12.99	50.98	10:30
2	TOC	0.1822	1.8223	10.53	23.42	12.90	50.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2011175-001 DUP	0.2859 ppm	0.0093 ppm	3.2400%	2020/12/18 10:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2793	2.7931	11.21	24.29	13.08	50.99	10:29
2	TOC	0.2924	2.9242	11.30	24.28	12.98	50.97	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2011175-001 MS	26.2400 ppm	0.2296 ppm	0.8800%	2020/12/18 11:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.0777	260.7766	192.18	205.21	13.03	50.95	10:28
2	TOC	26.4024	264.0240	194.46	207.45	13.00	50.94	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2011175-002	0.2374 ppm	0.0502 ppm	21.1500%	2020/12/18 11:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2729	2.7289	11.16	24.12	12.96	50.97	10:28
2	TOC	0.2019	2.0190	10.66	23.66	12.99	50.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K2011175-003	0.0958 ppm	0.0256 ppm	26.7200%	2020/12/18 12:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1139	1.1394	10.05	22.96	12.92	50.93	10:29
2	TOC	0.0777	0.7773	9.79	22.74	12.95	50.91	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	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)	24.9570 ppm (PASS)	0.0000 ppm	0%	2020/12/18 12:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9570	249.5699	184.96	197.82	12.86	50.91	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 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/18 13:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	6.55	19.45	12.91	50.87	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos A
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
◆	33	TOC	K2011175-004	1.7411 ppm	0.0523 ppm	3.0000%	2020/12/18 13:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7041	17.0415	21.20	34.18	12.97	50.90	10:28
2	TOC	1.7781	17.7813	21.72	34.32	12.60	50.90	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	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
◆	34	TOC	K2011175-005	62.2494 ppm	0.4210 ppm	0.6800%	2020/12/18 13:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	62.5471	625.4713	448.00	460.76	12.76	50.88	10:28
2	TOC	61.9517	619.5168	443.83	456.72	12.89	50.86	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 4

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

◆	37	TOC	K2011175-005 2X	36.3601 ppm	0.1854 ppm	0.5100%	2020/12/18 14:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	36.2290	362.2902	263.39	276.25	12.86	50.84	10:28
2	TOC	36.4912	364.9118	265.23	277.94	12.71	50.84	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.6777 ppm (PASS)	0.0000 ppm	0%	2020/12/18 14:44

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.6777	256.7775	190.02	202.50	12.48	50.82	10:32

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

Sample Type: Check Standard --> CCB From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/18 14:59

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	7.57	20.20	12.62	50.83	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos A
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

v1495	1.8497	-0.0560	0.0000	0.0000	0.0000	2020/12/16 11:47	Fusion1 (Fusion1)
v1496	1.7243	-0.0480	0.0000	0.0000	0.0000	2020/12/17 20:22	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	2020/12/18 15:14

ALS Environmental

StarLIMS Run: 707530

Analysis: DOC/TOC

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

CCV: 19-GEN-8-55J 50 ppm LCS: 19-GEN-8-57K 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-58F

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-55I 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-61M

21 % H3PO4: 19-GEN-08-61L

Equipment ID: K-TOC-03

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

FILTER ID: 16967789

Analyzed By: MAS	Date Analyzed: 12/17/2020
Reviewed By:	Date Reviewed: 12/18/20

HS20120450 Wet Chem Raw Data (NIT-AMM_W- E350.3 - ISE)

ALS WO# HS20120450

NIT_AMM_W_ ISE / 350.3

Logbook **31514**

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Ion Selective Electrode Logbook

Analyst: YP				Date: 12/17/20 10:00 AM	
Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F					
Probe Calibration Date: 12/17/20		Cal Std ID:		Probe ID: X01-11806	
Std Level		mV	Conc., mg/L:	Sodium Thiosulfate ID:	
STD 1 (mg/L):	0.2	141.5	0.201	Std Level	mV / Conc., mg/L:
STD 2 (mg/L):	1	99.1	1.009	STD 4 (mg/L): 10	40.5 / 9.977
STD 3 (mg/L):	5	58.1	5.017	STD 5 (mg/L): 50	0.0 / 49.886
LSC / MS Spike ID: 3100602922				ICAL Date & Slope:	
ICV Cal STD ID:				98.2 / 1 - 57.9 mV	
DPD Reagent ID: 3100602879					

WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Chlorine Check (+/–)	Comments
ICV		50 ml	50 ml		10.030			
ICB					0.010			
MBLK					0.008			
LCS					9.987			
LCSD					10.469			
HS20120664-01					0.150		-ve	
664-02					0.632		-ve	
450-01					7.382		-ve	
380-01					0.250		-ve	
380-01MS					9.740			
380-01MD					9.981			
397-01					16.598		+ve	Reheated.
CCV					9.227			
CCB					0.011			
HS20120538-01					19.220		+ve	Reheated
730-01					0.484		+ve	Reheated
769-01		5 ml		10X	0.200		+ve	Reheated.
771-01				10X	0.041		-ve	
772-01		1 ml		50X	0.009		+ve	Reheated
773-01		5 ml		10X	0.009		+ve	Reheated.
775-01				10X	0.010		+ve	Reheated
776-01				10X	0.012		+ve	Reheated
777-01		50 ml			0.103		-ve	
778-01		5 ml		10X	0.138		+ve	Reheated
CCV		50 ml			9.692			

Batch ID: 374863 / 375197	Reported By YP	Reviewed By: IKL	

©2018 ALS Laboratory Group

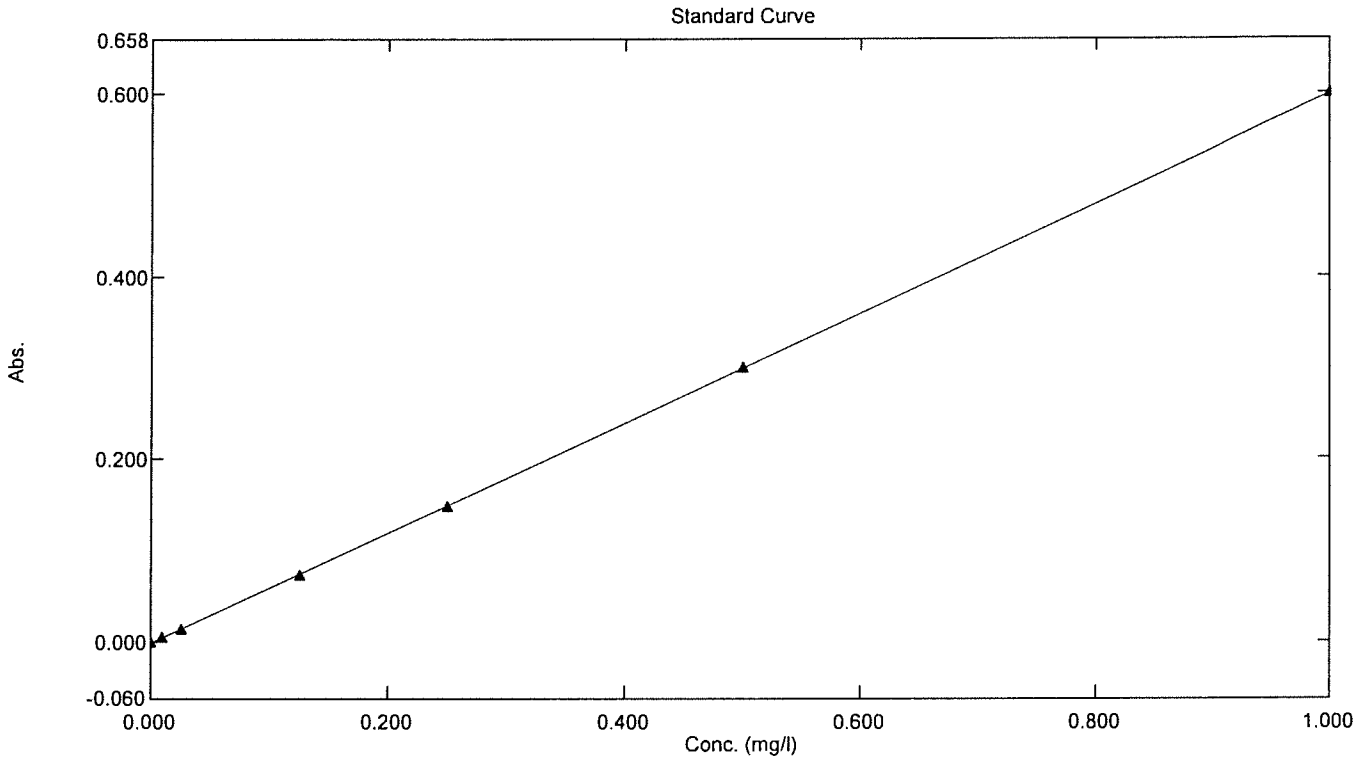
HS20120450 Wet Chem Raw Data (P-ORTHO)

ALS WO# HS20120450

Standard Table Report

12/29/2020 01:23:45 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\12092020_P_ORTHO_W.p



Correlation Coefficient r2 = 0.99999

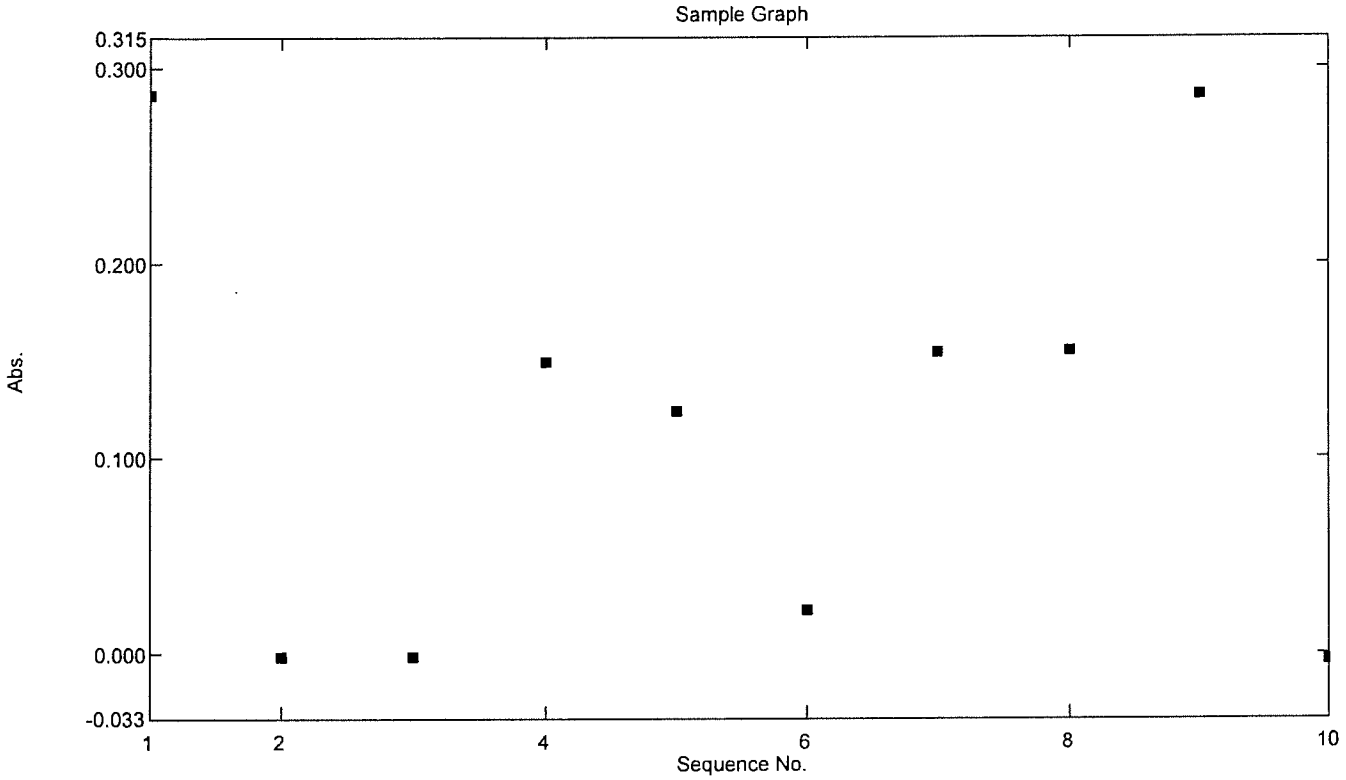
Standard Table

	Sample ID	Type	Ex	Conc	WL880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	0.000	1.000	
2	STD2	Standard		0.010	0.007	1.000	
3	STD3	Standard		0.025	0.015	1.000	
4	STD4	Standard		0.125	0.074	1.000	
5	STD5	Standard		0.250	0.148	1.000	
6	STD6	Standard		0.500	0.300	1.000	
7	STD7	Standard		1.000	0.599	1.000	
8							

Sample Table Report

12/29/2020 01:23:52 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2020\12092020_P_ORTHO_W.



Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.478	0.286	
2	CCB	Unknown		-0.002	-0.002	
3	MBLK	Unknown		-0.003	-0.002	
4	LCS	Unknown		0.249	0.149	
5	HS20120450.01	Unknown		0.207	0.124	PF:10X,03:10PM
6	HS20120459.01	Unknown		0.038	0.022	03:12PM
7	HS20120459.01MS	Unknown		0.258	0.154	03:14PM
8	HS20120459.01MS D	Unknown		0.259	0.155	03:14PM
9	CCV2	Unknown		0.479	0.286	
10	CCB2	Unknown		-0.006	-0.004	
11						

HS20120450 ALS Kelso WA SUB Data_K2011577

ALS WO# HS20120450

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

December 22, 2020 **Analytical Report for Service Request No:** K2011577

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

RE: HS20120450

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 10, 2020
For your reference, these analyses have been assigned our service request number **K2011577.**

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

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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

Acronyms
Qualifiers
State Certifications, Accreditations, And Licenses
Case Narrative
Chain of Custody
General Chemistry
Raw Data
    General Chemistry

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
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: ALS Environmental - US
Project: HS20120450
Sample Matrix: Water

Service Request: K2011577
Date Received: 12/10/2020

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 12/10/2020. 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. Diaz Date 12/22/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

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

K2011577

SAMPLING STATE: **Dept of Defense** **COC ID:** **15297**

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:	HS20120450
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120450-01**	**LH18/24-SP650_120820**	**Water**	**08 Dec 2020 14:00**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			23 Dec 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: 12/9/2020 1800.

Received By: K Marrow ALS Kelso Date/Time: 12/10/20 10:10

Cooler ID(s): _____ Temperature(s): _____

PM Kelly

Cooler Receipt and Preservation Form

Client ALS Houston Service Request K20 11577

Received: 12/10/20 Opened: 12/10/20 By: [signature] Unloaded: 12/10/20 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
4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column below:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. (NA) Y N

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

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
1.8	—	IR02	15297	—	—	526566013246	

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

Sample ID on Bottle	Sample ID on COC	Identified by:

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

Notes, Discrepancies, Resolutions: _____

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2011577
Project:	HS20120450	**Date Collected:**	12/8/20
Sample Matrix:	Water	**Date Received:**	12/10/20
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_120820	K2011577-001	**1.15**	0.50	0.20	0.07	1	12/17/20 18:43	
Method Blank	K2011577-MB	ND U	0.50	0.20	0.07	1	12/17/20 18:43	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011577
Project:	HS20120450	**Date Analyzed:**	12/17/20
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:	707530

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2011577-LCS	23.6	25.0	95	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2011577
Project: HS20120450

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	707530	KQ2020442-01	12/17/20 18:43	25.0	25.3	101	90-110
CCV2	707530	KQ2020442-02	12/17/20 18:43	25.0	25.2	101	90-110
CCV3	707530	KQ2020442-03	12/17/20 18:43	25.0	24.7	99	90-110
CCV4	707530	KQ2020442-04	12/17/20 18:43	25.0	25.0	100	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2011577
Project: HS20120450

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	707530	KQ2020442-05	12/17/20 18:43	0.50	0.20	0.07	ND	U
CCB2	707530	KQ2020442-06	12/17/20 18:43	0.50	0.20	0.07	ND	U
CCB3	707530	KQ2020442-07	12/17/20 18:43	0.50	0.20	0.07	ND	U
CCB4	707530	KQ2020442-08	12/17/20 18:43	0.50	0.20	0.07	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2011577
Project:	HS20120450	**Date Collected:**	12/8/20
Sample Matrix:	Water	**Date Received:**	12/10/20
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_120820	K2011577-001	**1.15**	0.50	0.20	0.07	1	12/17/20 18:43	
Method Blank	K2011577-MB	ND U	0.50	0.20	0.07	1	12/17/20 18:43	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011577
Project:	HS20120450	**Date Analyzed:**	12/17/20
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:	707530

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2011577-LCS	23.6	25.0	95	83-117

Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Work Request # Original ( ) K2011385, 1430, 1577, 1788, 1808, 1817

Tier: I IV IV I II I

Date Analyzed: 12/17/20

Analyst: MAS Run # 707530

Analysis: SM 5310 C/TOC T

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:

- Matrix interference on the matrix spike

Final Approved by: [signature] Date: 12/18/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** MSPECHT **Analysis Lot:** 707530 **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
K2011385-001	Carbon, Total Organic	N/A		Water	8.68 mg/L	10 mL	8.68 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-002	Carbon, Total Organic	N/A		Water	11.84 mg/L	10 mL	11.8 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-003	Carbon, Total Organic	N/A		Water	1.52 mg/L	10 mL	1.52 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-004	Carbon, Total Organic	N/A		Water	17.59 mg/L	10 mL	17.6 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-005	Carbon, Total Organic	N/A		Water	7.26 mg/L	10 mL	7.26 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-006	Carbon, Total Organic	N/A		Water	20.51 mg/L	10 mL	20.5 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-007	Carbon, Total Organic	N/A		Water	15.94 mg/L	10 mL	15.9 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-008	Carbon, Total Organic	N/A		Water	9.04 mg/L	10 mL	9.04 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011385-009	Carbon, Total Organic	N/A		Water	20.10 mg/L	10 mL	20.1 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011430-001	Carbon, Total Organic	N/A		Ground Water	11.99 mg/L	10 mL	12.0 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	IV
K2011430-002	Carbon, Total Organic	N/A		Ground Water	2.33 mg/L	10 mL	2.33 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	IV
K2011430-003	Carbon, Total Organic	N/A		Ground Water	21.37 mg/L	10 mL	21.4 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	IV
K2011430-004	Carbon, Total Organic	N/A		Ground Water	1.63 mg/L	10 mL	1.63 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	IV
K2011577-001	Carbon, Total Organic	N/A		Water	1.15 mg/L	10 mL	1.15 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	IV
K2011788-001	Carbon, Total Organic	N/A		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011788-002	Carbon, Total Organic	N/A		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	N	I
K2011808-001	Carbon, Total Organic	N/A		Water	0.94 mg/L	10 mL	0.94 mg/L	1	0.07	0.50			12/17/20 18:43:00	N	II
K2011817-001	Carbon, Total Organic	N/A		Water	11.39 mg/L	10 mL	228 mg/L	20	2	10			12/17/20 18:43:00	N	I
KQ2020442-01	Carbon, Total Organic	CCV		Reagent Water	25.26 mg/L	10 mL	25.3 mg/L	1					12/17/20 18:43:00	N	I
KQ2020442-02	Carbon, Total Organic	CCV		Reagent Water	25.21 mg/L	10 mL	25.2 mg/L	1					12/17/20 18:43:00	N	I
KQ2020442-03	Carbon, Total Organic	CCV		Reagent Water	24.71 mg/L	10 mL	24.7 mg/L	1					12/17/20 18:43:00	N	I
KQ2020442-04	Carbon, Total Organic	CCV		Reagent Water	24.96 mg/L	10 mL	25.0 mg/L	1					12/17/20 18:43:00	N	I
KQ2020442-05	Carbon, Total Organic	CCB		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	N	I
KQ2020442-06	Carbon, Total Organic	CCB		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	N	I
KQ2020442-07	Carbon, Total Organic	CCB		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	N	I
KQ2020442-08	Carbon, Total Organic	CCB		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	N	I
KQ2020442-09	Carbon, Total Organic	MB		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			12/17/20 18:43:00	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:** MSPECHT **Analysis Lot:** 707530 **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
KQ2020442-10	Carbon, Total Organic	LCS		Reagent Water	23.64 mg/L	10 mL	23.6 mg/L	1	0.07	0.50	95		12/17/20 18:43:00	N	I
KQ2020442-11	Carbon, Total Organic	MS	K2011430-001	Ground Water	31.67 mg/L	10 mL	31.7 mg/L	1	0.07	0.50	79*		12/17/20 18:43:00	N	IV
KQ2020442-12	Carbon, Total Organic	DUP	K2011430-001	Ground Water	12.31 mg/L	10 mL	12.3 mg/L	1	0.07	0.50		3	12/17/20 18:43:00	N	IV

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

Schedule: 12172020

Version: 4
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/12/18 14:10 - Friday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
A	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
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	LOD	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	LOQ	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2011788-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2011788-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2011430-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2011430-001 DUP	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2011430-001 MS	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
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2011430-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2011430-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2011430-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2011385-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2011385-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2011385-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2011385-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2011385-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2011385-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2011385-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2011385-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2011385-009	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2011577-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2011817-001 20X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2011808-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2010984-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2010984-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2011175-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
29	Sample	K2011175-001 DUP	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2011175-001 MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2011175-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2011175-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
33	Sample	K2011175-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2011175-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	LOD .32	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
36	Sample	LOQ 1.0	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
37	Sample	K2011175-005 2X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
39	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready

Schedule: 12172020

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
40	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
41	Sample		CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
A	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 12172020
Thursday, December 17, 2020 06:42 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/12/18 15:14 - Friday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	12172020	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v1) Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v4)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/12/17 18:43

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	12.76	27.47	14.71	49.44	05:26
2	TC Clean	5.96	19.23	13.28	50.45	04:03
3	TC Clean	1.44	14.72	13.29	50.62	03:49
4	TC Clean	1.16	14.45	13.29	50.37	04:00

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/12/17 19:05

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.34	12.85	13.18	49.85	05:26
2	TC Clean	4.17	17.14	12.97	50.60	04:02
3	TC Clean	0.84	13.90	13.07	50.60	03:48

4	TC Clean	0.61	13.85	13.25	50.18	03:47

Sample Type: Clean From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/12/17 19:27

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.52	12.56	13.08	49.36	05:13
2	TC Clean	3.62	16.83	13.21	50.28	04:06
3	TC Clean	0.87	14.13	13.26	50.33	03:50
4	TC Clean	0.92	14.09	13.18	50.57	03:48

Sample Type: Blank (Creating v1496) From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/12/17 19:48

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.34	12.83	13.17	49.69	05:12
2	TC Clean	3.47	16.83	13.35	50.48	04:05
3	TC Clean	1.49	14.72	13.23	50.63	03:50
4	TC Clean	0.85	14.29	13.44	50.35	03:52
5	Reagent Blank	5.17	18.63	13.45	50.56	05:08
6	Acid Blank	-0.05	13.12	13.17	49.40	05:31

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	A	TOC	RB	0.0087 ppm	0.0000 ppm	0.0000%	2020/12/17 20:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0087	0.0874	9.31	22.61	13.30	51.10	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.2639 ppm (PASS)	0.0000 ppm	0%	2020/12/17 20:37

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.2639	252.6391	187.11	200.39	13.28	51.11	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 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/17 20:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	7.44	20.92	13.47	51.11	10:32

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

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	ICS	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/17 21:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	9.17	22.29	13.12	51.13	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/17 21:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.49	19.89	13.40	51.14	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.6432 ppm (PASS)	0.0000 ppm	0%	2020/12/17 21:35

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.6432	236.4320	175.74	188.89	13.15	51.14	10:28

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

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	LOD	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/17 21:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.33	21.47	13.14	51.15	10:30
2	TOC	0.0000	0.0000	7.56	20.98	13.41	51.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	LOQ	0.1353 ppm	0.0257 ppm	19.0000%	2020/12/17 22:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1171	1.1708	10.07	23.37	13.30	51.17	10:26
2	TOC	0.1534	1.5343	10.32	23.42	13.10	51.18	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2011788-001	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/17 22:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.30	19.58	13.29	51.17	10:26

2	TOC	0.0000	0.0000	6.05	19.48	13.43	51.18	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K2011788-002	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/17 23:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.90	19.33	13.43	51.17	10:26
2	TOC	0.0000	0.0000	6.11	19.40	13.29	51.16	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2011430-001	11.9856 ppm	0.3650 ppm	3.0500%	2020/12/17 23:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.2437	122.4368	95.14	108.49	13.35	51.15	10:27
2	TOC	11.7275	117.2749	91.51	104.87	13.36	51.15	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2011430-001 DUP	12.3112 ppm	0.4172 ppm	3.3900%	2020/12/18 00:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.6062	126.0620	97.68	110.99	13.32	51.16	10:30
2	TOC	12.0162	120.1616	93.54	106.87	13.33	51.15	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	9	TOC	K2011430-001 MS	31.6722 ppm	0.2403 ppm	0.7600%	2020/12/18 00:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	31.8422	318.4217	232.62	245.89	13.28	51.16	10:28
2	TOC	31.5023	315.0232	230.23	243.62	13.38	51.17	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.2089 ppm (PASS)	0.0000 ppm	0%	2020/12/18 01:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.2089	252.0888	186.73	200.18	13.45	51.15	10:30

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

Sample Type: Check Standard --> CCB From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/18 01:21

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	7.17	20.59	13.43	51.16	10:32

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

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2011430-002	2.3330 ppm	0.0922 ppm	3.9500%	2020/12/18 01:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3982	23.9825	26.07	39.32	13.24	51.17	10:27
2	TOC	2.2678	22.6781	25.16	38.54	13.38	51.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2011430-003	21.3688 ppm	0.4943 ppm	2.3100%	2020/12/18 02:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	21.7183	217.1833	161.60	174.92	13.32	51.18	10:26
2	TOC	21.0192	210.1923	156.69	170.15	13.45	51.17	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2011430-004	1.6262 ppm	0.2489 ppm	15.3000%	2020/12/18 02:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8022	18.0222	21.89	35.50	13.61	51.19	10:27
2	TOC	1.4503	14.5025	19.42	32.77	13.35	51.19	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K2011385-001	8.6831 ppm	0.0762 ppm	0.8800%	2020/12/18 03:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.7370	87.3696	70.54	83.96	13.42	51.20	10:29
2	TOC	8.6292	86.2919	69.78	83.37	13.59	51.20	10:22

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	14	TOC	K2011385-002	11.8395 ppm	0.1459 ppm	1.2300%	2020/12/18 03:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	11.9426	119.4260	93.02	106.43	13.41	51.22	10:29
2	TOC	11.7363	117.3633	91.58	105.12	13.55	51.21	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	15	TOC	K2011385-003	1.5159 ppm	0.1184 ppm	7.8100%	2020/12/18 03:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5997	15.9965	20.47	33.84	13.37	51.22	10:27
2	TOC	1.4322	14.3215	19.29	32.62	13.32	51.22	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	16	TOC	K2011385-004	17.5889 ppm	0.0029 ppm	0.0200%	2020/12/18 04:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	17.5868	175.8679	132.62	146.14	13.52	51.22	10:30
2	TOC	17.5909	175.9092	132.65	146.11	13.46	51.22	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2011385-005	7.2554 ppm	0.3085 ppm	4.2500%	2020/12/18 04:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.4735	74.7350	61.67	75.19	13.51	51.21	10:26
2	TOC	7.0373	70.3728	58.61	72.36	13.74	51.21	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2011385-006	20.5115 ppm	0.5545 ppm	2.7000%	2020/12/18 05:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	20.9036	209.0362	155.88	169.56	13.68	51.21	10:29
2	TOC	20.1194	201.1943	150.38	163.92	13.54	51.22	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2011385-007	15.9449 ppm	0.3513 ppm	2.2000%	2020/12/18 05:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.1933	161.9331	122.84	136.36	13.51	51.19	10:25
2	TOC	15.6965	156.9651	119.36	132.82	13.46	51.15	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7068 ppm (PASS)	0.0000 ppm	0%	2020/12/18 06:16

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

	Type		#							Time
B	TOC	25 ppm	1	24.7068	247.0680	183.21	196.66	13.45	51.16	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 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/18 06:31

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	6.96	20.41	13.45	51.12	10:32

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

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/12/18 06:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.15	19.39	13.24	51.12	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.1999 ppm (PASS)	0.0000 ppm	0%	2020/12/18 07:00

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.1999	231.9985	172.64	185.92	13.28	51.07	10:28

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

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2011385-008	9.0350 ppm	0.4155 ppm	4.6000%	2020/12/18 07:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.3289	93.2885	74.69	87.95	13.26	51.11	10:28
2	TOC	8.7412	87.4124	70.57	83.77	13.20	51.09	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	22	TOC	K2011385-009	20.0997 ppm	0.4213 ppm	2.1000%	2020/12/18 07:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	20.3976	203.9755	152.33	165.63	13.30	51.12	10:31
2	TOC	19.8018	198.0181	148.15	161.41	13.26	51.10	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	23	TOC	K2011577-001	1.1495 ppm	0.0643 ppm	5.5900%	2020/12/18 08:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1949	11.9494	17.63	31.10	13.47	51.12	10:29
2	TOC	1.1040	11.0399	16.99	30.28	13.29	51.10	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	K2011817-001 20X	11.3898 ppm	0.1935 ppm	1.7000%	2020/12/18 08:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	11.5266	115.2663	90.10	103.53	13.43	51.04	10:28
2	TOC	11.2529	112.5292	88.18	101.44	13.25	51.05	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2011808-001	0.9356 ppm	0.1962 ppm	20.9700%	2020/12/18 09:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	1.0743	10.7434	16.78	30.09	13.30	51.02	10:26
2	TOC	0.7969	7.9692	14.84	27.97	13.14	51.02	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2010984-001	25.6486 ppm	0.0090 ppm	0.0300%	2020/12/18 09:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	25.6423	256.4230	189.12	202.11	12.99	51.00	10:29
2	TOC	25.6550	256.5499	189.21	202.25	13.03	50.97	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2010984-002	6.8444 ppm	0.1189 ppm	1.7400%	2020/12/18 10:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.9285	69.2851	57.85	70.77	12.92	50.97	10:24
2	TOC	6.7603	67.6029	56.67	69.66	12.99	50.96	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2011175-001	0.2122 ppm	0.0423 ppm	19.9500%	2020/12/18 10:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2421	2.4210	10.95	23.94	12.99	50.98	10:30
2	TOC	0.1822	1.8223	10.53	23.42	12.90	50.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2011175-001 DUP	0.2859 ppm	0.0093 ppm	3.2400%	2020/12/18 10:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2793	2.7931	11.21	24.29	13.08	50.99	10:29
2	TOC	0.2924	2.9242	11.30	24.28	12.98	50.97	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2011175-001 MS	26.2400 ppm	0.2296 ppm	0.8800%	2020/12/18 11:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.0777	260.7766	192.18	205.21	13.03	50.95	10:28
2	TOC	26.4024	264.0240	194.46	207.45	13.00	50.94	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2011175-002	0.2374 ppm	0.0502 ppm	21.1500%	2020/12/18 11:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2729	2.7289	11.16	24.12	12.96	50.97	10:28
2	TOC	0.2019	2.0190	10.66	23.66	12.99	50.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K2011175-003	0.0958 ppm	0.0256 ppm	26.7200%	2020/12/18 12:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1139	1.1394	10.05	22.96	12.92	50.93	10:29
2	TOC	0.0777	0.7773	9.79	22.74	12.95	50.91	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	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)	24.9570 ppm (PASS)	0.0000 ppm	0%	2020/12/18 12:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9570	249.5699	184.96	197.82	12.86	50.91	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 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/18 13:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	6.55	19.45	12.91	50.87	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos A
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
◆	33	TOC	K2011175-004	1.7411 ppm	0.0523 ppm	3.0000%	2020/12/18 13:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7041	17.0415	21.20	34.18	12.97	50.90	10:28
2	TOC	1.7781	17.7813	21.72	34.32	12.60	50.90	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	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
◆	34	TOC	K2011175-005	62.2494 ppm	0.4210 ppm	0.6800%	2020/12/18 13:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	62.5471	625.4713	448.00	460.76	12.76	50.88	10:28
2	TOC	61.9517	619.5168	443.83	456.72	12.89	50.86	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 4

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

◆	37	TOC	K2011175-005 2X	36.3601 ppm	0.1854 ppm	0.5100%	2020/12/18 14:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	36.2290	362.2902	263.39	276.25	12.86	50.84	10:28
2	TOC	36.4912	364.9118	265.23	277.94	12.71	50.84	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2477 (IC) (v1496)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.6777 ppm (PASS)	0.0000 ppm	0%	2020/12/18 14:44

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.6777	256.7775	190.02	202.50	12.48	50.82	10:32

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

Sample Type: Check Standard --> CCB From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	A	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/12/18 14:59

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
A	TOC	0 ppm	1	0.0000	0.0000	7.57	20.20	12.62	50.83	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos A
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

v1495	1.8497	-0.0560	0.0000	0.0000	0.0000	2020/12/16 11:47	Fusion1 (Fusion1)
v1496	1.7243	-0.0480	0.0000	0.0000	0.0000	2020/12/17 20:22	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	2020/12/18 15:14

ALS Environmental

StarLIMS Run: 707530

Analysis: DOC/TOC

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

CCV: 19-GEN-8-55J 50 ppm LCS: 19-GEN-8-57K 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-58F

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-55I 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-61M

21 % H3PO4: 19-GEN-08-61L

Equipment ID: K-TOC-03

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

FILTER ID: 16967789

Analyzed By: MAS	Date Analyzed: 12/17/2020
Reviewed By: JC	Date Reviewed: 12/18/20

HS20120450 - Sub Perch Report IV (E2001209)

ALS WO# HS20120450

December 23, 2020 Service Request No:E2001209

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

Laboratory Results for: HS20120450

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 09, 2020
For your reference, these analyses have been assigned our service request number **E2001209.**

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.:**	E2001209
Project:	HS20120450	**Date Received:**	12/09/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 12/09/20. The sample was received in good condition and is consistent with the accompanying chain of custody form.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000677: 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 RPD exceeded QC limits; the individual recoveries met acceptance criteria.

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:**E2001209
Project: HS20120450

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2001209-001	LH18/24-SP650_120820_BIX	12/8/2020	1400

Service Request Summary

Folder #: **E2001209**
Client Name: ALS Environmental - US
Project Name: HS20120450
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: 12/09/20
Internal Due Date: 12/23/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20120450
EDD: No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
Location: EHRMS-WIC 2B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2001209-001	LH18/24-SP650_120820_BIX	Water	12/08/20 1400	**IV**

Service Request Summary

Folder #:	**E2001209**
Client Name:	ALS Environmental - US
Project Name:	HS20120450
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:	12/09/20
Internal Due Date:	12/23/2020
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS20120450
EDD:	No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved

Location: EHRMS-WIC 2B

Pressure Gas:

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

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

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:** **15298**

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:	HS20120450
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120450-02**	**LH18/24-SP650_120220-BIX**	**Water**	**08 Dec 2020 14:00**
	Provide Level II and Level IV reports in separate pdf			23 Dec 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: 12/9/2020

Received By: _____ Date/Time: 12/9/20 1800

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS - H

Thermometer ID 1831

Date/Time Received: 12/9/20 Initials: CH

Date/Time Logged in: 12/10/20 Initials CH

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

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

3. Were custody seals on coolers? ○ Yes ✓ No

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

If yes, how many and where?

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

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

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
NA		12/9/20	1000	CH	1.4	☒
						☐
						☐
						☐

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:

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#: 371505 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/15/20 08:58

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2001208-001	LH18/24-SP650_120820_BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2001209-001	LH18/24-SP650_120820_BIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2001210-001	LH18/24-SP140_120820	.01	6850/ClO4 DOD			Water	10mL	
4	E2001211-001	MW5_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2001211-002	18CPTMW08DW_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2001211-003	18CPTMW08SW_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2001211-004	18CPTMW08SW_120820_a	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2001211-005	MW23_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2001211-006	MW16_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2001211-007	18CPTMW23_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2001211-008	18WW24_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2001211-009	18CTPMW15_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2001217-001	18CPTMW04_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2001217-002	18CPTMW04SW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2001217-003	AWD3_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2001217-004	AWD3_120920_a	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2001217-005	MW10_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2001217-006	18CPTMW12SW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
19	E2001217-007	18CPTMW12DW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
20	E2001217-008	MW7_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
21	EQ2000677-01	MB		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000677-02	LCS		6850/ClO4 DOD			Liquid	10mL	
23	EQ2000677-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2000677-02 1.00µL EQ2000677-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 214133 Logbook Ref: Sodium Perchlorate Expires On: 08/13/2022

E2001208-001	100.00µL	E2001209-001	100.00µL	E2001210-001	100.00µL	E2001211-001	100.00µL	E2001211-002	100.00µL	E2001211-003	100.00µL
E2001211-004	100.00µL	E2001211-005	100.00µL	E2001211-006	100.00µL	E2001211-007	100.00µL	E2001211-008	100.00µL	E2001211-009	100.00µL
E2001217-001	100.00µL	E2001217-002	100.00µL	E2001217-003	100.00µL	E2001217-004	100.00µL	E2001217-005	100.00µL	E2001217-006	100.00µL
E2001217-007	100.00µL	E2001217-008	100.00µL	EQ2000677-01	100.00µL	EQ2000677-02	100.00µL	EQ2000677-03	100.00µL		

Preparation Information Benchsheet

Prep Run#: 371505 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/15/20 08:58

Preparation Steps

Step: Preparation
Started: 12/15/20 08:58
Finished: 12/15/20 11:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 12/15/20

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:**	E2001209
Project:	HS20120450	**Date Collected:**	12/ 8/20 1400
Sample Matrix:	Water	**Date Received:**	12/ 9/20
Sample Name:	LH18/24-SP650_120820_BIX	**Units:**	µg/L
Lab Code:	E2001209-001	**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	0.500	0.250	0.125	5	12/15/20	12/21/20 10:07	371505	707966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001209
Project:	HS20120450	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000677-01	**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	12/15/20	12/22/20 17:46	371505	708075	

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: HS20120450
Sample Matrix: Water

Service Request: E2001209
Date Analyzed: 12/22/20

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: 371505

	Lab Control Sample EQ2000677-02			Duplicate Lab Control Sample EQ2000677-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.104	0.100	104	0.0873	0.100	87	84 - 119	17 *	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:**	E2001209
Project:	HS20120450	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000677-02	**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	**0.104**		0.100	0.0500	0.0250	1	12/15/20	12/22/20 15:07	371505	708075	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001209
Project:	HS20120450	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000677-03	**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	**0.0873**	J	0.100	0.0500	0.0250	1	12/15/20	12/22/20 15:15	371505	708075	

Initial Calibration

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

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: EC2000058

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201213_006	Perchlorate6850b.lcm	1x	☒	3100808-05	12/13/2020 12:49
2	PERCHLORATE2		20201213_007	Perchlorate6850b.lcm	1x	☒	3100808-06	12/13/2020 12:57
3	PERCHLORATE3		20201213_008	Perchlorate6850b.lcm	1x	☒	3100808-07	12/13/2020 13:05
4	PERCHLORATE4		20201213_009	Perchlorate6850b.lcm	1x	☒	3100808-08	12/13/2020 13:13
5	PERCHLORATE5		20201213_010	Perchlorate6850b.lcm	1x	☒	3100808-09	12/13/2020 13:20
6	PERCHLORATE6		20201213_011	Perchlorate6850b.lcm	1x	☒	3100809-01	12/13/2020 13:28
7	PERCHLORATE7		20201213_012	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 13:36
8	PERCHLORATE8		20201213_013	Perchlorate6850b.lcm	1x	☒	3100809-03	12/13/2020 13:44
9	PERCHLORATE9		20201213_014	Perchlorate6850b.lcm	1x	☒	3100809-04	12/13/2020 13:52
10	PERCHLORATE10		20201213_015	Perchlorate6850b.lcm	1x	☒	3100809-05	12/13/2020 14:00
11	ICS		20201213_016	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:08
12	PERCHLORATEICV		20201213_017	Perchlorate6850b.lcm	1x	☒	3100809-06	12/13/2020 14:16
13	LODV		20201213_019	Perchlorate6850b.lcm	1x	☒		12/13/2020 14:32
14	PERCHLORATE7		20201213_021	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 14:47
15	E2001161-019		20201213_023	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:17
16	E2001161-020		20201213_024	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:25
17	E2001161-021		20201213_025	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:33
18	E2001161-022		20201213_026	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:41
19	E2001161-023		20201213_027	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:49
20	E2001161-024		20201213_028	Perchlorate6850b.lcm	1x	☒		12/13/2020 15:57
21	E2001161-025X2		20201213_029	Perchlorate6850b.lcm	2x	☒		12/13/2020 16:04
22	E2001161-026		20201213_030	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:12
23	E2001161-028		20201213_031	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:20
24	E2001161-029		20201213_032	Perchlorate6850b.lcm	1x	☒		12/13/2020 16:28
25	PERCHLORATE7		20201213_033	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 16:36
26	E2001161-006X5		20201213_034	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:44
27	E2001161-009X5		20201213_035	Perchlorate6850b.lcm	5X	☒		12/13/2020 16:52
28	E2001161-011X5		20201213_036	Perchlorate6850b.lcm	5X	☒		12/13/2020 17:00
29	E2001161-020X2		20201213_037	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:08
30	E2001161-022X2		20201213_038	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:15
31	E2001161-028X2		20201213_039	Perchlorate6850b.lcm	2X	☒		12/13/2020 17:23
32	PERCHLORATE7		20201213_040	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 17:31
33	EQ2000651-01		20201213_041	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:39
34	EQ2000651-02		20201213_042	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:47
35	EQ2000651-03		20201213_043	Perchlorate6850b.lcm	1x	☒		12/13/2020 17:55
36	E2001166-001		20201213_044	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:03
37	E2001166-002		20201213_045	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:11
38	E2001166-003		20201213_046	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:19
39	E2001166-004		20201213_047	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:26
40	E2001166-005		20201213_048	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:34
41	E2001166-006		20201213_049	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:42
42	E2001166-007		20201213_050	Perchlorate6850b.lcm	1x	☒		12/13/2020 18:50
43	PERCHLORATE7		20201213_051	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 18:58
44	E2001166-008		20201213_052	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:06
45	E2001166-009		20201213_053	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:14
46	E2001166-010		20201213_054	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:22
47	E2001166-011		20201213_055	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:30
48	E2001166-012		20201213_056	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:37
49	E2001166-013		20201213_057	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:45
50	E2001166-014		20201213_058	Perchlorate6850b.lcm	1x	☒		12/13/2020 19:53
51	PERCHLORATE7		20201213_059	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 20:01
52	EQ2000652-01		20201213_060	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:09
53	EQ2000652-02		20201213_061	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:17
54	EQ2000652-03		20201213_062	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:25
55	E2001169-001		20201213_063	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:33
56	E2001170-001X500		20201213_064	Perchlorate6850b.lcm	500X	☒		12/13/2020 20:41
57	E2001171-001		20201213_065	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:48
58	E2001182-001		20201213_066	Perchlorate6850b.lcm	1x	☒		12/13/2020 20:56
59	E2001182-002		20201213_067	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:04
60	E2001182-003		20201213_068	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:12
61	E2001182-004		20201213_069	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:20

20201213

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	PERCHLORATE7		20201213_070	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 21:28
63	E2001182-005		20201213_071	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:36
64	E2001182-006		20201213_072	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:44
65	E2001186-001		20201213_073	Perchlorate6850b.lcm	1x	☒		12/13/2020 21:52
66	E2001186-002		20201213_074	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:00
67	PERCHLORATE7		20201213_075	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 22:07
68	EQ2000653-01		20201213_076	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:15
69	EQ2000653-02		20201213_077	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:23
70	EQ2000653-03		20201213_078	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:31
71	E2001175-001		20201213_079	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:39
72	E2001175-002		20201213_080	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:47
73	E2001175-003		20201213_081	Perchlorate6850b.lcm	1x	☒		12/13/2020 22:55
74	E2001175-004X5		20201213_082	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:03
75	E2001175-005X2		20201213_083	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:11
76	E2001175-006		20201213_084	Perchlorate6850b.lcm	1x	☒		12/13/2020 23:19
77	E2001175-007X5		20201213_085	Perchlorate6850b.lcm	5X	☒		12/13/2020 23:26
78	PERCHLORATE7		20201213_086	Perchlorate6850b.lcm	1x	☒	3100809-02	12/13/2020 23:34
79	E2001175-008X2		20201213_087	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:42
80	E2001175-009X2		20201213_088	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:50
81	E2001175-010X2		20201213_089	Perchlorate6850b.lcm	2X	☒		12/13/2020 23:58
82	E2001175-011X5		20201213_090	Perchlorate6850b.lcm	5X	☒		12/14/2020 0:06
83	E2001175-012X20		20201213_091	Perchlorate6850b.lcm	20X	☒		12/14/2020 0:14
84	E2001175-013		20201213_092	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:22
85	E2001175-014		20201213_093	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:30
86	E2001185-001		20201213_094	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:38
87	E2001185-002		20201213_095	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:45
88	E2001185-003		20201213_096	Perchlorate6850b.lcm	1x	☒		12/14/2020 0:53
89	PERCHLORATE7		20201213_097	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:01
90	E2001185-004		20201213_098	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:09
91	E2001185-005		20201213_099	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:17
92	E2001185-006		20201213_100	Perchlorate6850b.lcm	1x	☒		12/14/2020 1:25
93	PERCHLORATE7		20201213_101	Perchlorate6850b.lcm	1x	☒	3100809-02	12/14/2020 1:33
94								

Initial Calibration - Detailed Report

Calibration ID: EC2000058 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000058-01	PERCHLORATE1	20201213_006	12/13/2020 12:49
02	EC2000058-02	PERCHLORATE2	20201213_007	12/13/2020 12:57
03	EC2000058-03	PERCHLORATE3	20201213_008	12/13/2020 13:05
04	EC2000058-04	PERCHLORATE4	20201213_009	12/13/2020 13:13
05	EC2000058-05	PERCHLORATE5	20201213_010	12/13/2020 13:20
06	EC2000058-06	PERCHLORATE6	20201213_011	12/13/2020 13:28
07	EC2000058-07	PERCHLORATE7	20201213_012	12/13/2020 13:36
08	EC2000058-08	PERCHLORATE8	20201213_013	12/13/2020 13:44
09	EC2000058-09	PERCHLORATE9	20201213_014	12/13/2020 13:52
10	EC2000058-10	PERCHLORATE10	20201213_015	12/13/2020 14:00

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

Perchlorate **Average RF** **RSD = 5.994** **Average RF = 0.1361**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1219	02	0.5000	0.142	03	0.7000	0.1452	04	1.0000	0.1394
05	2.0000	0.1451	06	5.0000	0.1424	07	10.0000	0.1339	08	20.0000	0.1304
09	30.0000	0.1353	10	50.0000	0.1255						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.0896	-10.4	02	0.5000	0.522	4.3	03	0.7000	0.747	6.7
04	1.0000	1.02	2.4	05	2.0000	2.13	6.6	06	5.0000	5.23	4.6
07	10.0000	9.84	-1.6	08	20.0000	19.2	-4.2	09	30.0000	29.8	-0.6
10	50.0000	46.1	-7.8								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000058	**Instrument ID:**	E-LCMS-01
Datafile ID:	20201213_017	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000058-11	T	Average RF	10	9.213	ng/mL	-7.9	<= 15

ALS Group Houston

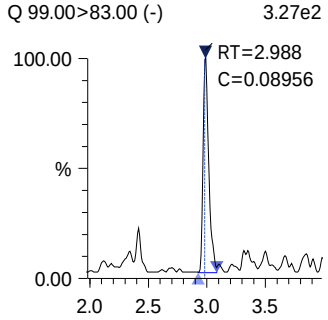
PERCHLORATE1

Date acquired: 12/13/2020 12:49:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_006.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	12/13/2020 12:49:24 PM	1098	0.08956	20201213_006	2.988	25.0000	1.0000	22
Sodium Perchlorate-18O4_IS	PERCHLORATE1	12/13/2020 12:49:24 PM	90045	1.00000	20201213_006	2.986	25.0000	1.0000	22

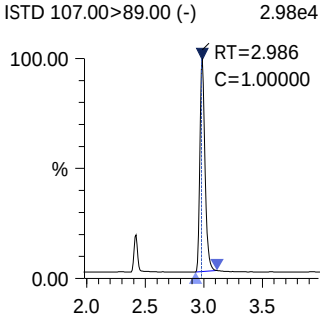
Perchlorate

Conc 0.08956
Area 1098



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 90045



ALS Group Houston

PERCHLORATE2

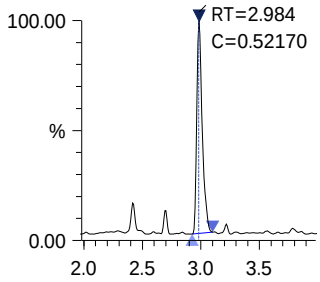
Date acquired: 12/13/2020 12:57:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_007.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	12/13/2020 12:57:20 PM	6242	0.52170	20201213_007	2.984	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	PERCHLORATE2	12/13/2020 12:57:20 PM	87904	1.00000	20201213_007	2.984	25.0000	1.0000	23

Perchlorate

Conc 0.52170
Area 6242

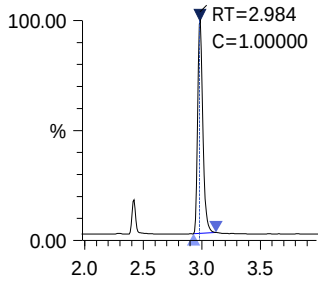
Q 99.00>83.00 (-) 1.94e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 87904

ISTD 107.00>89.00 (-) 2.84e4



ALS Group Houston

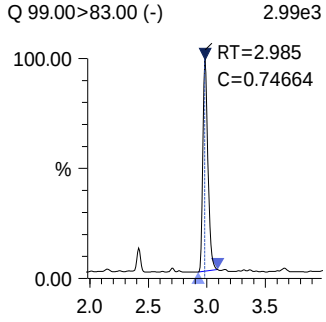
PERCHLORATE3

Date acquired: 12/13/2020 1:05:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_008.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	12/13/2020 1:05:13 PM	8872	0.74664	20201213_008	2.985	25.0000	1.0000	24
Sodium Perchlorate-18O4_IS	PERCHLORATE3	12/13/2020 1:05:13 PM	87298	1.00000	20201213_008	2.984	25.0000	1.0000	24

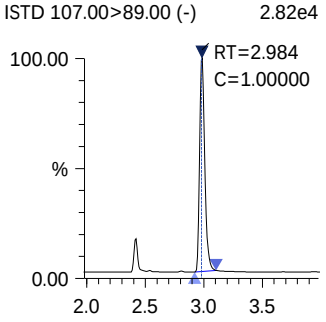
Perchlorate

Conc 0.74664
Area 8872



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 87298



ALS Group Houston

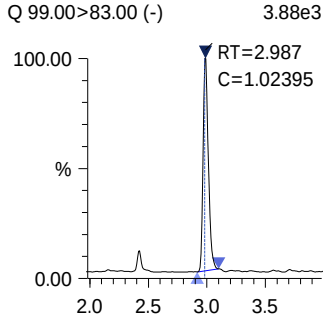
PERCHLORATE4

Date acquired: 12/13/2020 1:13:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_009.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	12/13/2020 1:13:05 PM	11913	1.02395	20201213_009	2.987	25.0000	1.0000	25
Sodium Perchlorate-18O4_IS	PERCHLORATE4	12/13/2020 1:13:05 PM	85470	1.00000	20201213_009	2.986	25.0000	1.0000	25

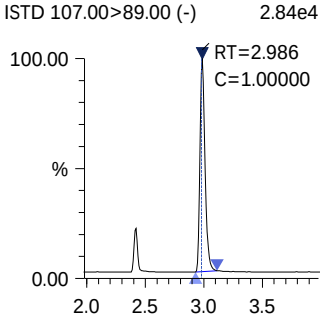
Perchlorate

Conc 1.02395
Area 11913



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 85470



ALS Group Houston

PERCHLORATE5

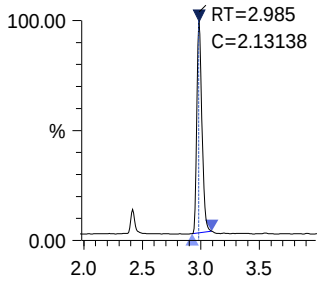
Date acquired: 12/13/2020 1:20:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_010.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	12/13/2020 1:20:58 PM	24278	2.13138	20201213_010	2.985	25.0000	1.0000	26
Sodium Perchlorate-18O4_IS	PERCHLORATE5	12/13/2020 1:20:58 PM	83679	1.00000	20201213_010	2.984	25.0000	1.0000	26

Perchlorate

Conc 2.13138
Area 24278

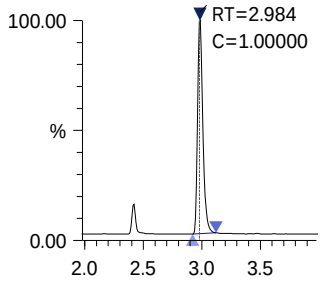
Q 99.00>83.00 (-) 8.14e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 83679

ISTD 107.00>89.00 (-) 2.65e4



ALS Group Houston

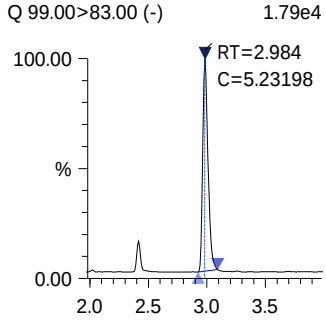
PERCHLORATE6

Date acquired: 12/13/2020 1:28:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_011.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	12/13/2020 1:28:51 PM	55433	5.23198	20201213_011	2.984	25.0000	1.0000	27
Sodium Perchlorate-18O4_IS	PERCHLORATE6	12/13/2020 1:28:51 PM	77835	1.00000	20201213_011	2.983	25.0000	1.0000	27

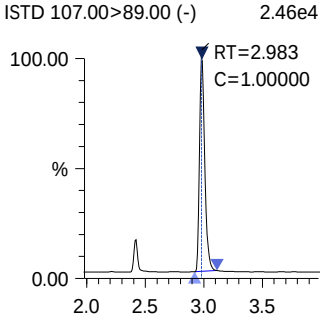
Perchlorate

Conc 5.23198
Area 55433



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 77835



ALS Group Houston

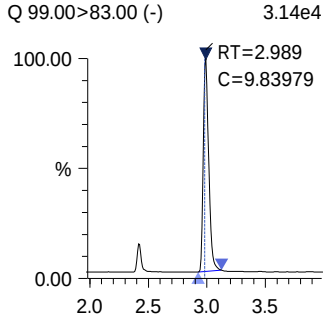
PERCHLORATE7

Date acquired: 12/13/2020 1:36:47 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_012.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/13/2020 1:36:47 PM	99306	9.83979	20201213_012	2.989	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/13/2020 1:36:47 PM	74142	1.00000	20201213_012	2.988	25.0000	1.0000	21

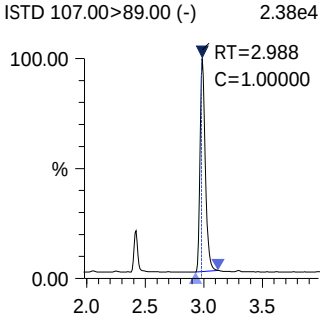
Perchlorate

Conc 9.83979
Area 99306



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 74142



ALS Group Houston

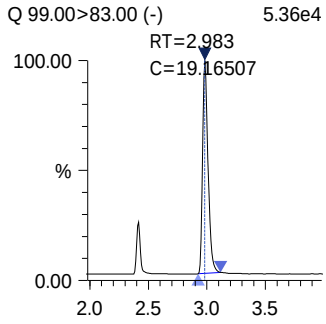
PERCHLORATE8

Date acquired: 12/13/2020 1:44:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_013.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	12/13/2020 1:44:41 PM	171329	19.16507	20201213_013	2.983	25.0000	1.0000	28
Sodium Perchlorate-18O4_IS	PERCHLORATE8	12/13/2020 1:44:41 PM	65674	1.00000	20201213_013	2.982	25.0000	1.0000	28

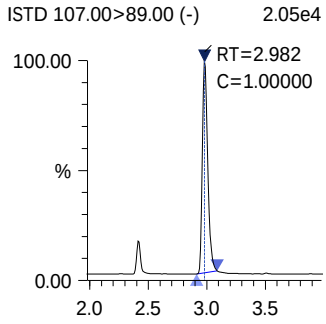
Perchlorate

Conc 19.16507
Area 171329



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 65674



ALS Group Houston

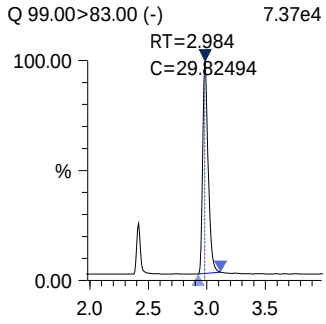
PERCHLORATE9

Date acquired: 12/13/2020 1:52:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_014.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	12/13/2020 1:52:33 PM	234759	29.82494	20201213_014	2.984	25.0000	1.0000	29
Sodium Perchlorate-18O4_IS	PERCHLORATE9	12/13/2020 1:52:33 PM	57825	1.00000	20201213_014	2.983	25.0000	1.0000	29

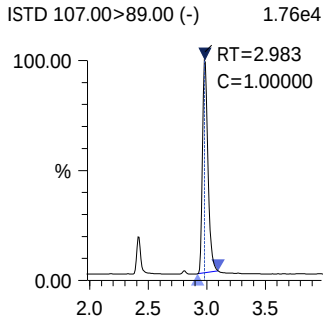
Perchlorate

Conc 29.82494
Area 234759



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 57825



ALS Group Houston

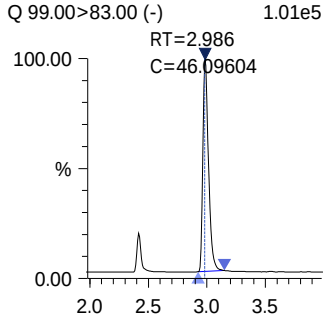
PERCHLORATE10

Date acquired: 12/13/2020 2:00:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_015.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	12/13/2020 2:00:26 PM	331808	46.09604	20201213_015	2.986	25.0000	1.0000	30
Sodium Perchlorate-18O4_IS	PERCHLORATE10	12/13/2020 2:00:26 PM	52880	1.00000	20201213_015	2.985	25.0000	1.0000	30

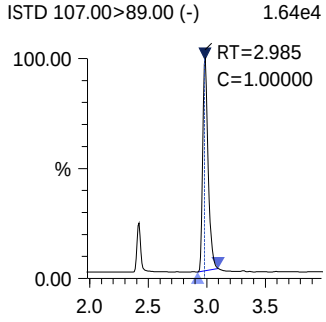
Perchlorate

Conc 46.09604
Area 331808



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 52880



ALS Group Houston

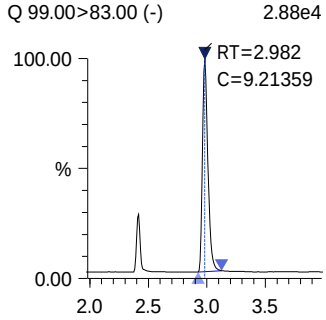
PERCHLORATEICV

Date acquired: 12/13/2020 2:16:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201213\20201213_017.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	12/13/2020 2:16:15 PM	92339	9.21359	20201213_017	2.982	25.0000	1.0000	31
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	12/13/2020 2:16:15 PM	73626	1.00000	20201213_017	2.980	25.0000	1.0000	31

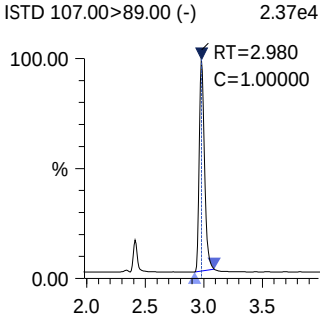
Perchlorate

Conc 9.21359
Area 92339



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 73626



20201222

ALS Environmental

ICAL Date: 12/22/2020
Cal. Std. xp: 5/20/2021
ICAL ID: EC2000061

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201222_004	Perchlorate6850b.lcm	1x	☒	3100808-05	12/22/2020 13:11
2	PERCHLORATE2		20201222_005	Perchlorate6850b.lcm	1x	☒	3100808-06	12/22/2020 13:19
3	PERCHLORATE3		20201222_006	Perchlorate6850b.lcm	1x	☒	3100808-07	12/22/2020 13:27
4	PERCHLORATE4		20201222_007	Perchlorate6850b.lcm	1x	☒	3100808-08	12/22/2020 13:34
5	PERCHLORATE5		20201222_008	Perchlorate6850b.lcm	1x	☒	3100808-09	12/22/2020 13:42
6	PERCHLORATE6		20201222_009	Perchlorate6850b.lcm	1x	☒	3100809-01	12/22/2020 13:50
7	PERCHLORATE7		20201222_010	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 13:58
8	PERCHLORATE8		20201222_011	Perchlorate6850b.lcm	1x	☒	3100809-03	12/22/2020 14:06
9	PERCHLORATE9		20201222_012	Perchlorate6850b.lcm	1x	☒	3100809-04	12/22/2020 14:14
10	PERCHLORATE10		20201222_013	Perchlorate6850b.lcm	1x	☒	3100809-05	12/22/2020 14:22
11	ICS		20201222_014	Perchlorate6850b.lcm	1x	☒		12/22/2020 14:30
12	PERCHLORATEICV		20201222_015	Perchlorate6850b.lcm	1x	☒	3100809-06	12/22/2020 14:38
13	LODV		20201222_016	Perchlorate6850b.lcm	1x	☒		12/22/2020 14:46
14	EQ2000677-01		20201222_017	Perchlorate6850b.lcm	1x	☒		12/22/2020 14:59
15	EQ2000677-02		20201222_018	Perchlorate6850b.lcm	1x	☒		12/22/2020 15:07
16	EQ2000677-03		20201222_019	Perchlorate6850b.lcm	1x	☒		12/22/2020 15:15
17	E2001208-001X5		20201222_020	Perchlorate6850b.lcm	5x	☒		12/22/2020 15:23
18	E2001217-002X2		20201222_021	Perchlorate6850b.lcm	2x	☒		12/22/2020 15:31
19	PERCHLORATE7		20201222_022	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 15:39
20	E2001228-001X10		20201222_024	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:19
21	E2001228-002X10		20201222_025	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:26
22	E2001228-003X10		20201222_026	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:34
23	E2001228-005X200		20201222_027	Perchlorate6850b.lcm	200x	☒		12/22/2020 16:42
24	E2001228-008X10		20201222_028	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:50
25	E2001228-010X5000		20201222_029	Perchlorate6850b.lcm	5000x	☒		12/22/2020 16:58
26	PERCHLORATE7		20201222_030	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 17:06
27	EQ2000703-01		20201222_031	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:14
28	EQ2000703-02		20201222_032	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:22
29	EQ2000703-03		20201222_033	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:30
30	EQ2000677-01		20201222_034	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:46
31	E2001228-008X10		20201222_035	Perchlorate6850b.lcm	10x	☒		12/22/2020 17:54
32	E2001235-001		20201222_036	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:01
33	E2001235-002		20201222_037	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:09
34	E2001235-003		20201222_038	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:17
35	E2001235-004		20201222_039	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:25
36	E2001235-005		20201222_040	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:33
37	PERCHLORATE7		20201222_041	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 18:41
38	E2001235-006		20201222_042	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:49
39	E2001235-007		20201222_043	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:57
40	E2001235-008		20201222_044	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:05
41	E2001235-009		20201222_045	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:12
42	E2001236-001		20201222_046	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 19:20
43	E2001237-001		20201222_047	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:28
44	E2001237-002		20201222_048	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:36
45	E2001237-003		20201222_049	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:44
46	E2001237-004		20201222_050	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:52
47	PERCHLORATE7		20201222_051	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 20:00
48	E2001237-005		20201222_052	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:08
49	E2001237-006		20201222_053	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:16
50	E2001237-007		20201222_054	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:24
51	E2001237-008		20201222_055	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:31
52	E2001237-009		20201222_056	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:39
53	PERCHLORATE7		20201222_057	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 20:47
54	EQ2000704-01		20201222_058	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:55
55	EQ2000704-02		20201222_059	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:03
56	EQ2000704-03		20201222_060	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:11
57	EQ2000704-04		20201222_061	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:19
58	EQ2000704-05		20201222_062	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:27
59	E2001238-001		20201222_063	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:35
60	E2001238-002		20201222_064	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:43
61	E2001238-003		20201222_065	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:50

20201222

ALS Environmental

ICAL Date: 12/22/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000061**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2001238-004		20201222_066	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:58
63	E2001238-005		20201222_067	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:06
64	PERCHLORATE7		20201222_068	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 22:14
65	E2001238-006		20201222_069	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:22
66	E2001238-007		20201222_070	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:30
67	E2001242-001		20201222_071	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:38
68	E2001242-002		20201222_072	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:46
69	E2001242-003		20201222_073	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:54
70	E2001242-004		20201222_074	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:01
71	E2001242-005		20201222_075	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:09
72	E2001242-006		20201222_076	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:17
73	E2001242-007		20201222_077	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:25
74	E2001242-008		20201222_078	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:33
75	PERCHLORATE7		20201222_079	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 23:41
76	E2001242-009		20201222_080	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:49
77	PERCHLORATE7		20201222_081	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 23:57

Initial Calibration - Detailed Report

Calibration ID: EC2000061 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000061-01	PERCHLORATE1	20201222_004	12/22/2020 13:11
02	EC2000061-02	PERCHLORATE2	20201222_005	12/22/2020 13:19
03	EC2000061-03	PERCHLORATE3	20201222_006	12/22/2020 13:27
04	EC2000061-04	PERCHLORATE4	20201222_007	12/22/2020 13:34
05	EC2000061-05	PERCHLORATE5	20201222_008	12/22/2020 13:42
06	EC2000061-06	PERCHLORATE6	20201222_009	12/22/2020 13:50
07	EC2000061-07	PERCHLORATE7	20201222_010	12/22/2020 13:58
08	EC2000061-08	PERCHLORATE8	20201222_011	12/22/2020 14:06
09	EC2000061-09	PERCHLORATE9	20201222_012	12/22/2020 14:14
10	EC2000061-10	PERCHLORATE10	20201222_013	12/22/2020 14:22

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

Perchlorate **Linear** **Equal** **R2 = 0.9986140625568460** **Y=0.129 X+0.04478**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.2021	02	0.5000	0.1464	03	0.7000	0.1642	04	1.0000	0.1434
05	2.0000	0.1471	06	5.0000	0.1398	07	10.0000	0.1322	08	20.0000	0.1376
09	30.0000	0.1352	10	50.0000	0.1273						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	-0.190	**-290.5**	02	0.5000	0.220	**-56.0**	03	0.7000	0.544	-22.3
04	1.0000	0.765	-23.5	05	2.0000	1.93	-3.4	06	5.0000	5.07	1.4
07	10.0000	9.90	-1.0	08	20.0000	21.0	4.9	09	30.0000	31.1	3.6
10	50.0000	49.0	-2.1								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000061	**Instrument ID:**	E-LCMS-01
Datafile ID:	20201222_015	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000061-11	T	Linear	10	9.838	ng/mL	-1.6	<= 15

ALS Group Houston

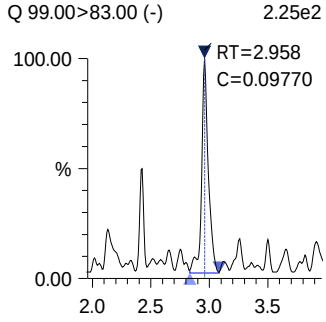
PERCHLORATE1

Date acquired: 12/22/2020 1:11:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_004.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	12/22/2020 1:11:13 PM	912	0.09770	20201222_004	2.958	25.0000	1.0000	22
Sodium Perchlorate-18O4_IS	PERCHLORATE1	12/22/2020 1:11:13 PM	45133	1.00000	20201222_004	2.961	25.0000	1.0000	22

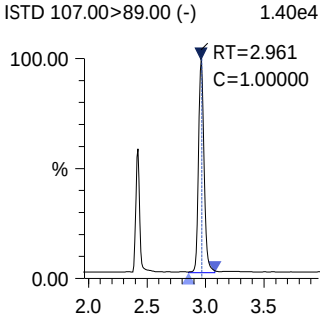
Perchlorate

Conc 0.09770
Area 912



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 45133



ALS Group Houston

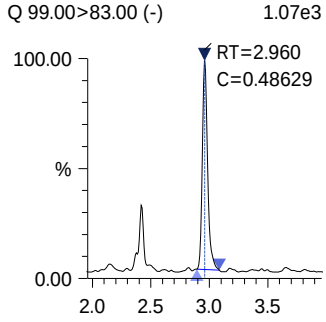
PERCHLORATE2

Date acquired: 12/22/2020 1:19:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_005.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	12/22/2020 1:19:09 PM	3350	0.48629	20201222_005	2.960	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	PERCHLORATE2	12/22/2020 1:19:09 PM	45771	1.00000	20201222_005	2.959	25.0000	1.0000	23

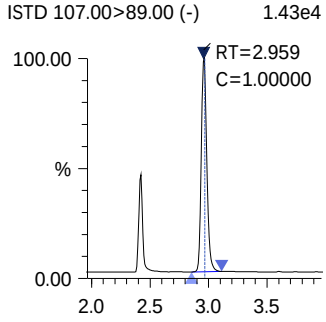
Perchlorate

Conc 0.48629
Area 3350



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 45771



ALS Group Houston

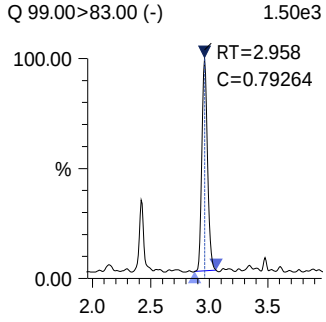
PERCHLORATE3

Date acquired: 12/22/2020 1:27:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_006.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	12/22/2020 1:27:02 PM	5094	0.79264	20201222_006	2.958	25.0000	1.0000	24
Sodium Perchlorate-18O4_IS	PERCHLORATE3	12/22/2020 1:27:02 PM	44312	1.00000	20201222_006	2.958	25.0000	1.0000	24

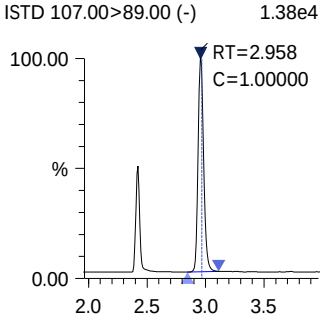
Perchlorate

Conc 0.79264
Area 5094



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 44312



ALS Group Houston

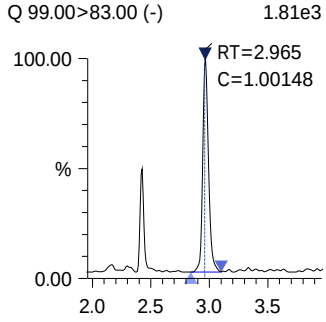
PERCHLORATE4

Date acquired: 12/22/2020 1:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_007.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	12/22/2020 1:34:56 PM	6329	1.00148	20201222_007	2.965	25.0000	1.0000	25
Sodium Perchlorate-18O4_IS	PERCHLORATE4	12/22/2020 1:34:56 PM	44128	1.00000	20201222_007	2.962	25.0000	1.0000	25

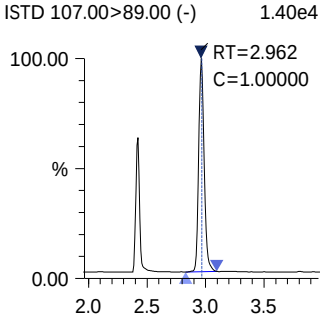
Perchlorate

Conc 1.00148
Area 6329



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 44128



ALS Group Houston

PERCHLORATE5

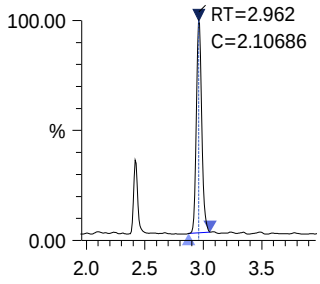
Date acquired: 12/22/2020 1:42:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_008.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	12/22/2020 1:42:51 PM	11998	2.10686	20201222_008	2.962	25.0000	1.0000	26
Sodium Perchlorate-18O4_IS	PERCHLORATE5	12/22/2020 1:42:51 PM	40789	1.00000	20201222_008	2.957	25.0000	1.0000	26

Perchlorate

Conc 2.10686
Area 11998

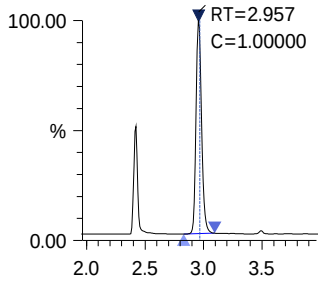
Q 99.00>83.00 (-) 3.72e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 40789

ISTD 107.00>89.00 (-) 1.27e4



ALS Group Houston

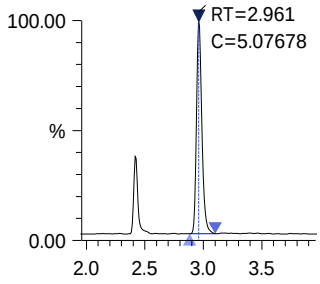
PERCHLORATE6

Date acquired: 12/22/2020 1:50:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_009.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	12/22/2020 1:50:45 PM	27257	5.07678	20201222_009	2.961	25.0000	1.0000	27
Sodium Perchlorate-18O4_IS	PERCHLORATE6	12/22/2020 1:50:45 PM	38990	1.00000	20201222_009	2.960	25.0000	1.0000	27

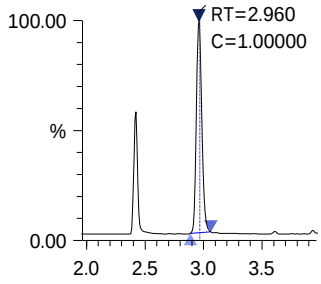
Perchlorate

Conc 5.07678
Area 27257
Q 99.00>83.00 (-) 8.43e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 38990
ISTD 107.00>89.00 (-) 1.24e4



ALS Group Houston

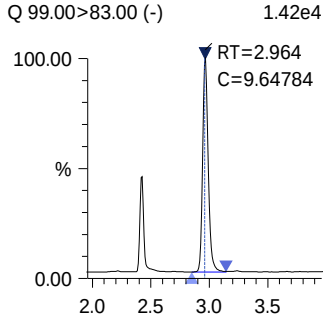
PERCHLORATE7

Date acquired: 12/22/2020 1:58:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_010.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/22/2020 1:58:40 PM	47728	9.64784	20201222_010	2.964	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/22/2020 1:58:40 PM	36093	1.00000	20201222_010	2.963	25.0000	1.0000	21

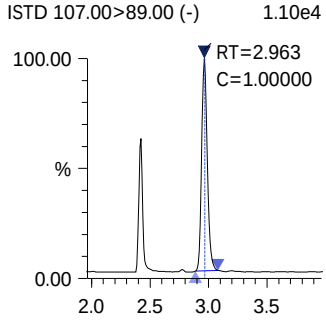
Perchlorate

Conc 9.64784
Area 47728



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 36093



ALS Group Houston

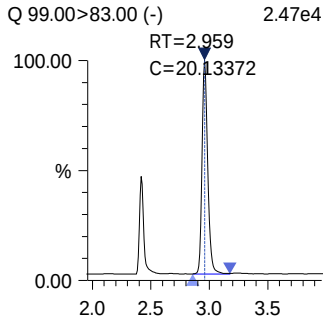
PERCHLORATE8

Date acquired: 12/22/2020 2:06:32 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_011.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	12/22/2020 2:06:32 PM	84778	20.13372	20201222_011	2.959	25.0000	1.0000	28
Sodium Perchlorate-18O4_IS	PERCHLORATE8	12/22/2020 2:06:32 PM	30805	1.00000	20201222_011	2.957	25.0000	1.0000	28

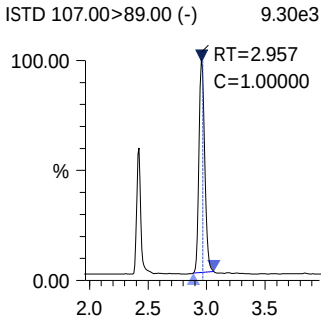
Perchlorate

Conc 20.13372
Area 84778



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 30805



ALS Group Houston

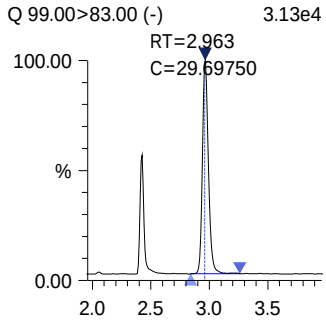
PERCHLORATE9

Date acquired: 12/22/2020 2:14:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_012.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	12/22/2020 2:14:28 PM	113419	29.69750	20201222_012	2.963	25.0000	1.0000	29
Sodium Perchlorate-18O4_IS	PERCHLORATE9	12/22/2020 2:14:28 PM	27962	1.00000	20201222_012	2.961	25.0000	1.0000	29

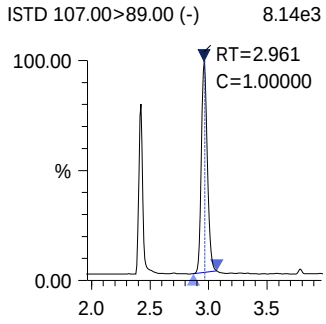
Perchlorate

Conc 29.69750
Area 113419



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 27962



ALS Group Houston

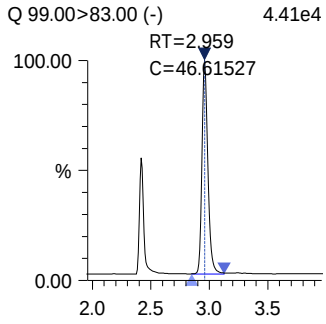
PERCHLORATE10

Date acquired: 12/22/2020 2:22:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_013.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	12/22/2020 2:22:22 PM	157382	46.61527	20201222_013	2.959	25.0000	1.0000	30
Sodium Perchlorate-18O4_IS	PERCHLORATE10	12/22/2020 2:22:22 PM	24734	1.00000	20201222_013	2.957	25.0000	1.0000	30

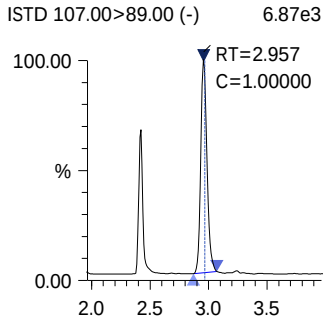
Perchlorate

Conc 46.61527
Area 157382



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 24734



ALS Group Houston

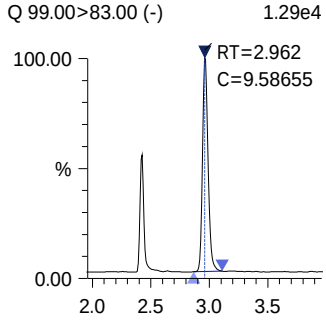
PERCHLORATEICV

Date acquired: 12/22/2020 2:38:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_015.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	12/22/2020 2:38:10 PM	43287	9.58655	20201222_015	2.962	25.0000	1.0000	31
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	12/22/2020 2:38:10 PM	32943	1.00000	20201222_015	2.961	25.0000	1.0000	31

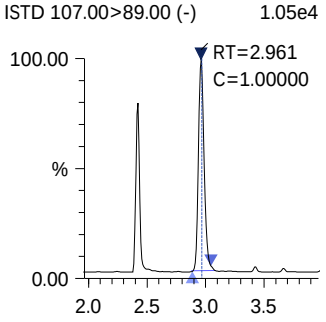
Perchlorate

Conc 9.58655
Area 43287



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 32943



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

20201221

ALS Environmental

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

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		20201221_001	Perchlorate6850b.lcm	1x	☒		12/21/2020 8:54
2	null		20201221_002	Perchlorate6850b.lcm	1x	☒		12/21/2020 8:59
3	LODV		20201221_003	Perchlorate6850b.lcm	1x	☒		12/21/2020 9:04
4	ICS		20201221_006	Perchlorate6850b.lcm	1x	☒		12/21/2020 9:28
5	PERCHLORATE7		20201221_007	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 9:36
6	EQ2000677-02		20201221_008	Perchlorate6850b.lcm	1x	☒		12/21/2020 9:44
7	EQ2000677-01		20201221_009	Perchlorate6850b.lcm	1x	☒		12/21/2020 9:51
8	E2001208-001X5		20201221_010	Perchlorate6850b.lcm	5x	☒		12/21/2020 9:59
9	E2001209-001X5		20201221_011	Perchlorate6850b.lcm	5x	☒		12/21/2020 10:07
10	E2001210-001X200		20201221_012	Perchlorate6850b.lcm	200x	☒		12/21/2020 10:15
11	E2001211-001X1000		20201221_013	Perchlorate6850b.lcm	1000x	☒		12/21/2020 10:23
12	E2001211-002X100		20201221_014	Perchlorate6850b.lcm	100x	☒		12/21/2020 10:31
13	E2001211-003X1000		20201221_015	Perchlorate6850b.lcm	1000x	☒		12/21/2020 10:39
14	E2001211-004X1000		20201221_016	Perchlorate6850b.lcm	1000x	☒		12/21/2020 10:47
15	EQ2000677-03		20201221_017	Perchlorate6850b.lcm	1x	☒		12/21/2020 10:55
16	PERCHLORATE7		20201221_018	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 11:03
17	E2001211-005X2000		20201221_019	Perchlorate6850b.lcm	2000x	☒		12/21/2020 11:10
18	E2001211-006X2		20201221_020	Perchlorate6850b.lcm	2x	☒		12/21/2020 11:18
19	E2001211-007X5		20201221_021	Perchlorate6850b.lcm	5x	☒		12/21/2020 11:26
20	E2001211-008X10		20201221_022	Perchlorate6850b.lcm	10x	☒		12/21/2020 11:34
21	E2001211-009X5		20201221_023	Perchlorate6850b.lcm	5x	☒		12/21/2020 11:42
22	E2001217-001X10		20201221_024	Perchlorate6850b.lcm	10x	☒		12/21/2020 11:50
23	E2001217-002X2		20201221_025	Perchlorate6850b.lcm	2x	☒		12/21/2020 11:58
24	E2001217-003		20201221_026	Perchlorate6850b.lcm	1x	☒		12/21/2020 12:06
25	E2001217-004		20201221_027	Perchlorate6850b.lcm	1x	☒		12/21/2020 12:13
26	E2001217-005X2		20201221_028	Perchlorate6850b.lcm	1x	☒		12/21/2020 12:21
27	PERCHLORATE7		20201221_029	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 12:29
28	E2001217-006X5		20201221_030	Perchlorate6850b.lcm	5x	☒		12/21/2020 12:37
29	E2001217-007X2		20201221_031	Perchlorate6850b.lcm	2x	☒		12/21/2020 12:45
30	E2001217-008X500		20201221_032	Perchlorate6850b.lcm	500x	☒		12/21/2020 12:53
31	PERCHLORATE7		20201221_033	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 13:01
32	EQ2000707-01		20201221_034	Perchlorate6850b.lcm	1x	☒		12/21/2020 13:09
33	EQ2000707-02		20201221_035	Perchlorate6850b.lcm	1x	☒		12/21/2020 13:17
34	EQ2000707-03		20201221_036	Perchlorate6850b.lcm	1x	☒		12/21/2020 13:24
35	E2001231-001X2		20201221_037	Perchlorate6850b.lcm	2x	☒		12/21/2020 13:32
36	E2001231-002X2		20201221_038	Perchlorate6850b.lcm	2x	☒		12/21/2020 13:40
37	E2001231-003X2		20201221_039	Perchlorate6850b.lcm	2x	☒		12/21/2020 13:48
38	E2001231-004X2		20201221_040	Perchlorate6850b.lcm	2x	☒		12/21/2020 13:56
39	E2001231-005		20201221_041	Perchlorate6850b.lcm	1x	☒		12/21/2020 14:04
40	E2001231-006X10		20201221_042	Perchlorate6850b.lcm	10x	☒		12/21/2020 14:12
41	E2001231-007X100		20201221_043	Perchlorate6850b.lcm	100x	☒		12/21/2020 14:20
42	PERCHLORATE7		20201221_044	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 14:28
43	E2001231-008X5		20201221_045	Perchlorate6850b.lcm	5x	☒		12/21/2020 14:35
44	E2001231-009X5		20201221_046	Perchlorate6850b.lcm	5x	☒		12/21/2020 14:43
45	E2001231-010		20201221_047	Perchlorate6850b.lcm	1x	☒		12/21/2020 14:51
46	E2001231-011X2		20201221_048	Perchlorate6850b.lcm	2x	☒		12/21/2020 14:59
47	E2001231-012X10		20201221_049	Perchlorate6850b.lcm	10x	☒		12/21/2020 15:07
48	PERCHLORATE7		20201221_050	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 15:15
49	EQ2000708-01		20201221_051	Perchlorate6850b.lcm	1x	☒		12/21/2020 15:23
50	EQ2000708-02		20201221_052	Perchlorate6850b.lcm	1x	☒		12/21/2020 15:31
51	EQ2000708-03		20201221_053	Perchlorate6850b.lcm	1x	☒		12/21/2020 15:39
52	E2001223-001X200		20201221_054	Perchlorate6850b.lcm	200x	☒		12/21/2020 15:46
53	E2001223-002X5		20201221_055	Perchlorate6850b.lcm	5x	☒		12/21/2020 15:54
54	E2001223-003X10		20201221_056	Perchlorate6850b.lcm	10x	☒		12/21/2020 16:02
55	E2001223-004X5		20201221_057	Perchlorate6850b.lcm	5x	☒		12/21/2020 16:10
56	E2001223-005X2		20201221_058	Perchlorate6850b.lcm	2x	☒		12/21/2020 16:18
57	E2001223-006X10		20201221_059	Perchlorate6850b.lcm	10x	☒		12/21/2020 16:26
58	E2001223-007X5		20201221_060	Perchlorate6850b.lcm	5x	☒		12/21/2020 16:34
59	PERCHLORATE7		20201221_061	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 16:42
60	E2001223-008X20		20201221_062	Perchlorate6850b.lcm	20x	☒		12/21/2020 16:50
61	E2001223-009X10		20201221_063	Perchlorate6850b.lcm	10x	☒		12/21/2020 16:58

20201221

ALS Environmental

ICAL Date: 12/13/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000058**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2001223-010X10		20201221_064	Perchlorate6850b.lcm	10x	☒		12/21/2020 17:05
63	E2001223-011X10		20201221_065	Perchlorate6850b.lcm	10x	☒		12/21/2020 17:13
64	E2001224-001X10		20201221_066	Perchlorate6850b.lcm	10x	☒		12/21/2020 17:21
65	E2001224-002X1000		20201221_067	Perchlorate6850b.lcm	1000x	☒		12/21/2020 17:29
66	E2001224-003X1000		20201221_068	Perchlorate6850b.lcm	1000x	☒		12/21/2020 17:37
67	E2001224-004X10000		20201221_069	Perchlorate6850b.lcm	10000x	☒		12/21/2020 17:45
68	E2001224-005X10000		20201221_070	Perchlorate6850b.lcm	10000x	☒		12/21/2020 17:53
69	E2001224-006X2000		20201221_071	Perchlorate6850b.lcm	2000x	☒		12/21/2020 18:01
70	PERCHLORATE7		20201221_072	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 18:09
71	E2001224-007X10		20201221_073	Perchlorate6850b.lcm	10x	☒		12/21/2020 18:16
72	E2001224-008X2000		20201221_074	Perchlorate6850b.lcm	2000x	☒		12/21/2020 18:24
73	PERCHLORATE7		20201221_075	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 18:32
74	EQ2000685-01		20201221_076	Perchlorate6850b.lcm	1x	☒		12/21/2020 18:40
75	EQ2000685-02		20201221_077	Perchlorate6850b.lcm	1x	☒		12/21/2020 18:48
76	EQ2000685-03		20201221_078	Perchlorate6850b.lcm	1x	☒		12/21/2020 18:56
77	E2001228-001		20201221_079	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:04
78	E2001228-002		20201221_080	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:12
79	E2001228-003		20201221_081	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:20
80	E2001228-004		20201221_082	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:28
81	E2001228-005		20201221_083	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:35
82	E2001228-006		20201221_084	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:43
83	E2001228-007		20201221_085	Perchlorate6850b.lcm	1x	☒		12/21/2020 19:51
84	PERCHLORATE7		20201221_086	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 19:59
85	E2001228-008		20201221_087	Perchlorate6850b.lcm	1x	☒		12/21/2020 20:07
86	E2001228-009		20201221_088	Perchlorate6850b.lcm	1x	☒		12/21/2020 20:15
87	E2001228-010		20201221_089	Perchlorate6850b.lcm	1x	☒		12/21/2020 20:23
88	PERCHLORATE7		20201221_090	Perchlorate6850b.lcm	1x	☒	3100809-02	12/21/2020 20:31
89								

20201222

ALS Environmental

ICAL Date: 12/22/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000061**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201222_004	Perchlorate6850b.lcm	1x	☒	3100808-05	12/22/2020 13:11
2	PERCHLORATE2		20201222_005	Perchlorate6850b.lcm	1x	☒	3100808-06	12/22/2020 13:19
3	PERCHLORATE3		20201222_006	Perchlorate6850b.lcm	1x	☒	3100808-07	12/22/2020 13:27
4	PERCHLORATE4		20201222_007	Perchlorate6850b.lcm	1x	☒	3100808-08	12/22/2020 13:34
5	PERCHLORATE5		20201222_008	Perchlorate6850b.lcm	1x	☒	3100808-09	12/22/2020 13:42
6	PERCHLORATE6		20201222_009	Perchlorate6850b.lcm	1x	☒	3100809-01	12/22/2020 13:50
7	PERCHLORATE7		20201222_010	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 13:58
8	PERCHLORATE8		20201222_011	Perchlorate6850b.lcm	1x	☒	3100809-03	12/22/2020 14:06
9	PERCHLORATE9		20201222_012	Perchlorate6850b.lcm	1x	☒	3100809-04	12/22/2020 14:14
10	PERCHLORATE10		20201222_013	Perchlorate6850b.lcm	1x	☒	3100809-05	12/22/2020 14:22
11	ICS		20201222_014	Perchlorate6850b.lcm	1x	☒		12/22/2020 14:30
12	PERCHLORATEICV		20201222_015	Perchlorate6850b.lcm	1x	☒	3100809-06	12/22/2020 14:38
13	LODV		20201222_016	Perchlorate6850b.lcm	1x	☒		12/22/2020 14:46
14	EQ2000677-01		20201222_017	Perchlorate6850b.lcm	1x	☒		12/22/2020 14:59
15	EQ2000677-02		20201222_018	Perchlorate6850b.lcm	1x	☒		12/22/2020 15:07
16	EQ2000677-03		20201222_019	Perchlorate6850b.lcm	1x	☒		12/22/2020 15:15
17	E2001208-001X5		20201222_020	Perchlorate6850b.lcm	5x	☒		12/22/2020 15:23
18	E2001217-002X2		20201222_021	Perchlorate6850b.lcm	2x	☒		12/22/2020 15:31
19	PERCHLORATE7		20201222_022	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 15:39
20	E2001228-001X10		20201222_024	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:19
21	E2001228-002X10		20201222_025	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:26
22	E2001228-003X10		20201222_026	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:34
23	E2001228-005X200		20201222_027	Perchlorate6850b.lcm	200x	☒		12/22/2020 16:42
24	E2001228-008X10		20201222_028	Perchlorate6850b.lcm	10x	☒		12/22/2020 16:50
25	E2001228-010X5000		20201222_029	Perchlorate6850b.lcm	5000x	☒		12/22/2020 16:58
26	PERCHLORATE7		20201222_030	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 17:06
27	EQ2000703-01		20201222_031	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:14
28	EQ2000703-02		20201222_032	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:22
29	EQ2000703-03		20201222_033	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:30
30	EQ2000677-01		20201222_034	Perchlorate6850b.lcm	1x	☒		12/22/2020 17:46
31	E2001228-008X10		20201222_035	Perchlorate6850b.lcm	10x	☒		12/22/2020 17:54
32	E2001235-001		20201222_036	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:01
33	E2001235-002		20201222_037	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:09
34	E2001235-003		20201222_038	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:17
35	E2001235-004		20201222_039	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:25
36	E2001235-005		20201222_040	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:33
37	PERCHLORATE7		20201222_041	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 18:41
38	E2001235-006		20201222_042	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:49
39	E2001235-007		20201222_043	Perchlorate6850b.lcm	1x	☒		12/22/2020 18:57
40	E2001235-008		20201222_044	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:05
41	E2001235-009		20201222_045	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:12
42	E2001236-001		20201222_046	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 19:20
43	E2001237-001		20201222_047	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:28
44	E2001237-002		20201222_048	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:36
45	E2001237-003		20201222_049	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:44
46	E2001237-004		20201222_050	Perchlorate6850b.lcm	1x	☒		12/22/2020 19:52
47	PERCHLORATE7		20201222_051	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 20:00
48	E2001237-005		20201222_052	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:08
49	E2001237-006		20201222_053	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:16
50	E2001237-007		20201222_054	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:24
51	E2001237-008		20201222_055	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:31
52	E2001237-009		20201222_056	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:39
53	PERCHLORATE7		20201222_057	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 20:47
54	EQ2000704-01		20201222_058	Perchlorate6850b.lcm	1x	☒		12/22/2020 20:55
55	EQ2000704-02		20201222_059	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:03
56	EQ2000704-03		20201222_060	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:11
57	EQ2000704-04		20201222_061	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:19
58	EQ2000704-05		20201222_062	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:27
59	E2001238-001		20201222_063	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:35
60	E2001238-002		20201222_064	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:43
61	E2001238-003		20201222_065	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:50

20201222

ALS Environmental

ICAL Date: 12/22/2020
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2000061**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2001238-004		20201222_066	Perchlorate6850b.lcm	1x	☒		12/22/2020 21:58
63	E2001238-005		20201222_067	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:06
64	PERCHLORATE7		20201222_068	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 22:14
65	E2001238-006		20201222_069	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:22
66	E2001238-007		20201222_070	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:30
67	E2001242-001		20201222_071	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:38
68	E2001242-002		20201222_072	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:46
69	E2001242-003		20201222_073	Perchlorate6850b.lcm	1x	☒		12/22/2020 22:54
70	E2001242-004		20201222_074	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:01
71	E2001242-005		20201222_075	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:09
72	E2001242-006		20201222_076	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:17
73	E2001242-007		20201222_077	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:25
74	E2001242-008		20201222_078	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:33
75	PERCHLORATE7		20201222_079	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 23:41
76	E2001242-009		20201222_080	Perchlorate6850b.lcm	1x	☒		12/22/2020 23:49
77	PERCHLORATE7		20201222_081	Perchlorate6850b.lcm	1x	☒	3100809-02	12/22/2020 23:57

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Calibration Date:**	12/13/20
File ID:	I:\LCMS01\DATA\20201221\20201221_007	**Calibration ID:**	EC2000058
		Analysis Lot:	707966
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.49	0.1361	0.1292	-5.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Calibration Date:**	12/13/20
File ID:	I:\LCMS01\DATA\20201221\20201221_018	**Calibration ID:**	EC2000058
		Analysis Lot:	707966
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.27	0.1361	0.1262	-7.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120450

Service Request: E2001209
Date Analyzed: 12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201221\20201221_029

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 707966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.89	0.1361	0.1346	-1.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120450

Service Request: E2001209
Date Analyzed: 12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201221\20201221_033

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 707966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.34	0.1361	0.1272	-6.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120450

Service Request: E2001209
Date Analyzed: 12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201221\20201221_075

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 707966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	8.95	0.1361	0.1218	-10.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120450

Service Request: E2001209
Date Analyzed: 12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201221\20201221_086

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 707966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.69	0.1361	0.1319	-3.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120450

Service Request: E2001209
Date Analyzed: 12/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201221\20201221_090

Calibration Date: 12/13/20
Calibration ID: EC2000058
Analysis Lot: 707966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.0	0.1361	0.1502	10.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120450

Service Request: E2001209
Date Analyzed: 12/22/20

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\20201222\20201222_015

Calibration Date: 12/22/20
Calibration ID: EC2000061
Analysis Lot: 708075
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.59	NA	NA	NA	-4.1	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120450

Service Request: E2001209
Date Analyzed: 12/22/20

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\20201222\20201222_022

Calibration Date: 12/22/20
Calibration ID: EC2000061
Analysis Lot: 708075
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.28	NA	NA	NA	-7.2	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120450

Service Request: E2001209
Date Analyzed: 12/22/20

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\20201222\20201222_030

Calibration Date: 12/22/20
Calibration ID: EC2000061
Analysis Lot: 708075
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.54	NA	NA	NA	-4.6	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20120450

Service Request: E2001209
Date Analyzed: 12/22/20

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\20201222\20201222_022

Calibration Date: 12/22/20
Calibration ID: EC2000061
Analysis Lot: 708075
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.28	NA	NA	NA	-7.2	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/21/20 09:36

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

File ID:	I:\LCMS01\DATA\20201221\20201221_007	**Lab Code:**	EQ2000709-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-01	55,326	2.97
LH18/24-SP650_120820_BIX	E2001209-001	38,396	2.97

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:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/21/20 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\20201221\20201221_018	**Lab Code:**	EQ2000709-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-02	55,243	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:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/21/20 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\20201221\20201221_029	**Lab Code:**	EQ2000709-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-03	52,769	2.97

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:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/21/20 13:01

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201221\20201221_033	**Lab Code:**	EQ2000709-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-04	54,421	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:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/21/20 18:32

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201221\20201221_075	**Lab Code:**	EQ2000709-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-05	50,515	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:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/21/20 19:59

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201221\20201221_086	**Lab Code:**	EQ2000709-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-06	46,770	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:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/21/20 20:31

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201221\20201221_090	**Lab Code:**	EQ2000709-07
Instrument ID:	E-LCMS-01	**Analysis Lot:**	707966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	76,275	2.98
	Upper Limit ==>	114,413	4.98
	Lower Limit ==>	38,138	0.98
Associated Analyses			
Continuing Calibration Verification	EQ2000709-07	41,644	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:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/22/20 14:38

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201222\20201222_015	**Lab Code:**	EQ2000711-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	708075
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	37,872	2.96
	Upper Limit ==>	56,808	4.96
	Lower Limit ==>	18,936	0.96
Associated Analyses			
Continuing Calibration Verification	EQ2000711-01	32,943	2.96
Lab Control Sample	EQ2000677-02	41,981	2.96
Duplicate Lab Control Sample	EQ2000677-03	42,050	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:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/22/20 15:39

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201222\20201222_022	**Lab Code:**	EQ2000711-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	708075
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	37,872	2.96
	Upper Limit ==>	56,808	4.96
	Lower Limit ==>	18,936	0.96
Associated Analyses			
Continuing Calibration Verification	EQ2000711-02	33,317	2.96
Continuing Calibration Verification	EQ2000711-04	33,317	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:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/22/20 15:39

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201222\20201222_022	**Lab Code:**	EQ2000711-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	708075
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	37,872	2.96
	Upper Limit ==>	56,808	4.96
	Lower Limit ==>	18,936	0.96
Associated Analyses			
Continuing Calibration Verification	EQ2000711-02	33,317	2.96
Continuing Calibration Verification	EQ2000711-04	33,317	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:**	E2001209
Project:	HS20120450	**Date Analyzed:**	12/22/20 17:06

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20201222\20201222_030	**Lab Code:**	EQ2000711-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	708075
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	37,872	2.96
	Upper Limit ==>	56,808	4.96
	Lower Limit ==>	18,936	0.96
Associated Analyses			
Continuing Calibration Verification	EQ2000711-03	32,762	2.96
Method Blank	EQ2000677-01	35,526	2.96

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

ALS Group Houston

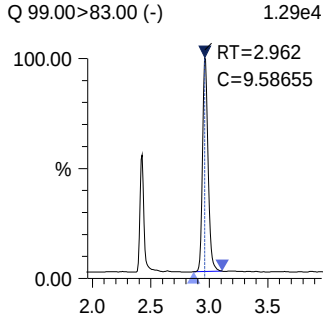
PERCHLORATEICV

Date acquired: 12/22/2020 2:38:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_015.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	12/22/2020 2:38:10 PM	43287	9.58655	20201222_015	2.962	25.0000	1.0000	31
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	12/22/2020 2:38:10 PM	32943	1.00000	20201222_015	2.961	25.0000	1.0000	31

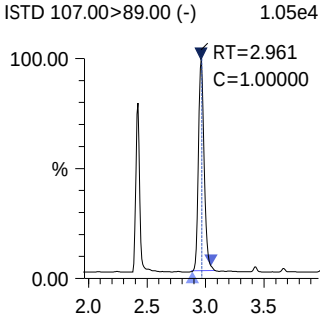
Perchlorate

Conc 9.58655
Area 43287



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 32943



ALS Group Houston

EQ2000677-01

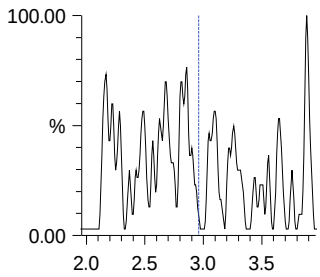
Date acquired: 12/22/2020 2:59:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_017.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000677-01	12/22/2020 2:59:28 PM	----	----	20201222_017	----	25.0000	1.0000	1
Sodium Perchlorate-18O4_IS	EQ2000677-01	12/22/2020 2:59:28 PM	68040	1.00000	20201222_017	2.836	25.0000	1.0000	1

Perchlorate

Conc ----
Area ----

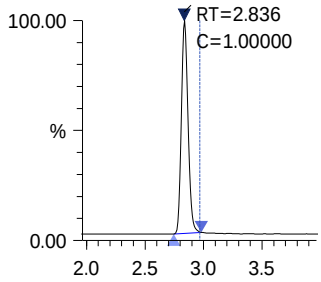
Q 99.00>83.00 (-) 2.90e1



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 68040

ISTD 107.00>89.00 (-) 1.70e4



ALS Group Houston

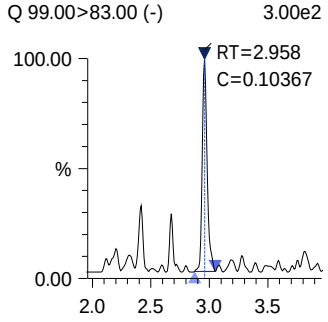
EQ2000677-02

Date acquired: 12/22/2020 3:07:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_018.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000677-02	12/22/2020 3:07:20 PM	882	0.10367	20201222_018	2.958	25.0000	1.0000	2
Sodium Perchlorate-18O4_IS	EQ2000677-02	12/22/2020 3:07:20 PM	41981	1.00000	20201222_018	2.956	25.0000	1.0000	2

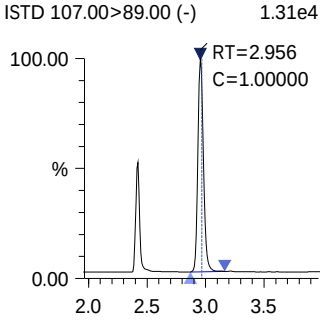
Perchlorate

Conc 0.10367
Area 882



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 41981



ALS Group Houston

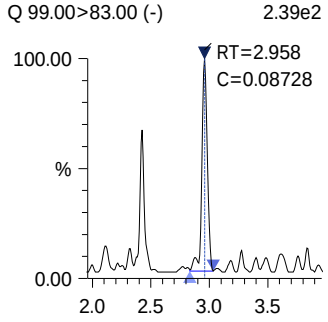
EQ2000677-03

Date acquired: 12/22/2020 3:15:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_019.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000677-03	12/22/2020 3:15:14 PM	790	0.08728	20201222_019	2.958	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	EQ2000677-03	12/22/2020 3:15:14 PM	42050	1.00000	20201222_019	2.959	25.0000	1.0000	3

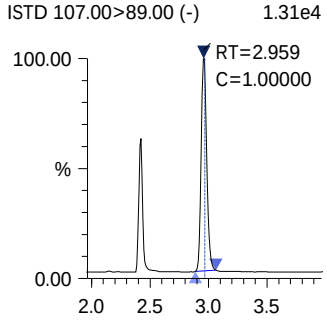
Perchlorate

Conc 0.08728
Area 790



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 42050



ALS Group Houston

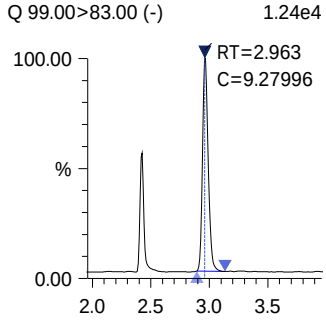
PERCHLORATE7

Date acquired: 12/22/2020 3:39:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201222\20201222_022.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	12/22/2020 3:39:40 PM	42386	9.27996	20201222_022	2.963	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	PERCHLORATE7	12/22/2020 3:39:40 PM	33317	1.00000	20201222_022	2.962	25.0000	1.0000	21

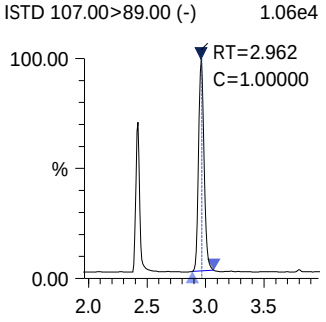
Perchlorate

Conc 9.27996
Area 42386



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 33317



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

WorkOrder: HS20120455

Longhorn GW Treatment Plant Monthly Effluent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

25-Jan-2021

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
T : +1 281 530 5656
F : +1 281 530 5887
www.alsglobal.com

Table of Contents

HS20120455 Cover Page
- CoverPage
- HS20120455 Longhorn GW Treatment Plant Monthly Effluent Samples REV01 Final
  - CoverLetter
  - Sample Summary
  - CaseNarrative
  - LH18/24-SP650_120820
  - LH18/24-SP650_120820_BIX
  - Trip Blank
  - Weight/Volume Log
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList
  - COC
  - HS20120455 - Sub Perch Report II (E2001208)
- HS20120455 8260_W_DOD Raw Data
- HS20120455 8270SIM_W Raw Data
- HS20120455 - ME - ICP_W_DOD
  - Form 11 - ICPMS05 Internal Standard Association

Table of Contents (continued)

- Form 12 - ICPMS05_375348 Preparation Log
- Form 13 - ICPMS05_375348 Run Log
- Form 13 - ICPMS05_375466 Run Log
- Form 2 - ICPMS05_375348 CCV
- Form 3 - ICPMS05_375348 CCB
- Form 4 - ICPMS05_375348 ICSA
- Form 5A - ICPMS05_375348 MS
- Form 5B - ICPMS05_375348 PDS
- Form 7 - ICPMS05_375348 LCS
- Form 8 - ICPMS05_375348 SD

HS20120455 Wet Chem Raw Data (Cr6_W_7196_DOD)

HS20120455 - Sub Perch Report IV (E2001208)

- CoverLetter
- Certificate of Analysis
- Chain of Custody
- Preparation Sheets
- Analytical Results
- Accuracy and Precision
- Initial Calibration
- Chromatogram

HS20120455 Longhorn GW Treatment Plant Monthly Effluent Samples REV01 Final

ALS WO# HS20120455

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 25, 2021

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

Work Order: **HS20120455**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Effluent Samples**

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Dec 09, 2020 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS20120455

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20120455-01	LH18/24-SP650_120820	Water		08-Dec-2020 14:00	09-Dec-2020 10:50	☐
HS20120455-02	LH18/24-SP650_120820_BIX	Water		08-Dec-2020 14:00	09-Dec-2020 10:50	☐
HS20120455-03	Trip Blank	Water	CG-102720-260	08-Dec-2020 00:00	09-Dec-2020 10:50	☐

Revision:1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS20120455

Work Order Comments

- This report was revised on January 25, 2021 to include Internal Standard comments for PAH Semivolatile Organics Method SW8270 Batch 160571: (LCS/LCSD -160571) which was missing from the original report.

The analysis for Perchlorate was subcontracted our ALS Houston TX, High Resolution Lab. Final report attached.

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 160571

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

Sample ID: LCS-160571

- Low area counts for Acenaphthene-d10, Phenanthrene-d10 and Perylene-12, they are not associated with target compound.

Sample ID: LCSD-160571

- Low area counts for Phenanthrene-d10 and Perylene-12, they are not associated with target compound.

GCMS Volatiles by Method SW8260

Batch ID: R375002

Sample ID: CCV

- 1,2-Dibromo-3-Chloropropane exceeded %D limits for CCV. Samples are ND for this compound.

Sample ID: VLCSW-201218

- 1,2,3-Trichlorobenzene exceeded QC limits for LCS. Samples are ND for this compound.

Metals by Method SW6020

Batch ID: 160930

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

Wet Chemistry by Method SW7196

Batch ID: R374281

Sample ID: HS20120449-01MS

- MS is for an unrelated sample

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20120455
Sample ID: LH18/24-SP650_120820 Lab ID:HS20120455-01
Collection Date: 08-Dec-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	18-Dec-2020 14:11
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	18-Dec-2020 14:11
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 14:11
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	18-Dec-2020 14:11
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	18-Dec-2020 14:11
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 14:11
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	18-Dec-2020 14:11
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	18-Dec-2020 14:11
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 14:11
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 14:11
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 14:11
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	18-Dec-2020 14:11
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 14:11
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	18-Dec-2020 14:11
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 14:11
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 14:11
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	18-Dec-2020 14:11
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	18-Dec-2020 14:11
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 14:11
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	18-Dec-2020 14:11
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20120455
Sample ID: LH18/24-SP650_120820 Lab ID:HS20120455-01
Collection Date: 08-Dec-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	18-Dec-2020 14:11
cis-1,2-Dichloroethene	**6.9**		**0.20**	**0.50**	**1.0**	**ug/L**	1	18-Dec-2020 14:11
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 14:11
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 14:11
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	18-Dec-2020 14:11
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	18-Dec-2020 14:11
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	18-Dec-2020 14:11
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 14:11
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Trichloroethene	**2.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	18-Dec-2020 14:11
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 14:11
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 14:11
Surr: 1,2-Dichloroethane-d4	*90.5*			**0**	*81-118*	*%REC*	*1*	*18-Dec-2020 14:11*
Surr: 4-Bromofluorobenzene	*92.0*			**0**	*85-114*	*%REC*	*1*	*18-Dec-2020 14:11*
Surr: Dibromofluoromethane	*88.2*			**0**	*80-119*	*%REC*	*1*	*18-Dec-2020 14:11*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*18-Dec-2020 14:11*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 10-Dec-2020		Analyst: ACN
1,4-Dioxane	**1.3**	a	**0.10**	**0.10**	**0.10**	**ug/L**	10	14-Dec-2020 13:35
Surr: 2-Fluorobiphenyl	*128*			**0**	*40-140*	*%REC*	*10*	*14-Dec-2020 13:35*
Surr: 4-Terphenyl-d14	*110*			**0**	*40-140*	*%REC*	*10*	*14-Dec-2020 13:35*
Surr: Nitrobenzene-d5	*128*			**0**	*40-140*	*%REC*	*10*	*14-Dec-2020 13:35*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 21-Dec-2020		Analyst: JHD
Barium	**0.343**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	24-Dec-2020 11:19
Lead	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	24-Dec-2020 11:19
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	24-Dec-2020 11:19
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	24-Dec-2020 11:19

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:HS20120455
Sample ID: LH18/24-SP650_120820
Lab ID:HS20120455-01
Collection Date: 08-Dec-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**							Analyst: KVL
Chromium, Hexavalent	0.0100	U	0.00600	0.0100	0.0100	mg/L	1	09-Dec-2020 12:40

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

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20120455

Sample ID: LH18/24-SP650_120820_BIX Lab ID:HS20120455-02

Collection Date: 08-Dec-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	23-Dec-2020 16:16

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20120455

Sample ID: Trip Blank Lab ID:HS20120455-03

Collection Date: 08-Dec-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:50
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	18-Dec-2020 13:50
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:50
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:50
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:50
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	18-Dec-2020 13:50
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	18-Dec-2020 13:50
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:50
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	18-Dec-2020 13:50
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	18-Dec-2020 13:50
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:50
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:50
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:50
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:50
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	18-Dec-2020 13:50
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:50
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	18-Dec-2020 13:50
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:50
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:50
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	18-Dec-2020 13:50
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	18-Dec-2020 13:50
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:50
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	18-Dec-2020 13:50
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20120455

Sample ID: Trip Blank Lab ID:HS20120455-03

Collection Date: 08-Dec-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	18-Dec-2020 13:50
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:50
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	18-Dec-2020 13:50
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	18-Dec-2020 13:50
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:50
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:50
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:50
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:50
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:50
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:50
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:50
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:50
Surr: 1,2-Dichloroethane-d4	*88.6*			**0**	*81-118*	*%REC*	*1*	*18-Dec-2020 13:50*
Surr: 4-Bromofluorobenzene	*93.4*			**0**	*85-114*	*%REC*	*1*	*18-Dec-2020 13:50*
Surr: Dibromofluoromethane	*88.3*			**0**	*80-119*	*%REC*	*1*	*18-Dec-2020 13:50*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*18-Dec-2020 13:50*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

Batch ID: 160571 **Start Date:** 10 Dec 2020 10:30 **End Date:** 10 Dec 2020 14:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20120455-01	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat

Batch ID: 160930 **Start Date:** 21 Dec 2020 13:00 **End Date:** 21 Dec 2020 17:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20120455-01		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 160571 (0)	**Test Name :** SEMIVOLATILES SIM				**Matrix:** Water	
HS20120455-01	LH18/24-SP650_120820	08 Dec 2020 14:00		10 Dec 2020 13:05	14 Dec 2020 13:35	10
Batch ID: 160930 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS20120455-01	LH18/24-SP650_120820	08 Dec 2020 14:00		21 Dec 2020 17:00	24 Dec 2020 11:19	1
Batch ID: R374281 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS20120455-01	LH18/24-SP650_120820	08 Dec 2020 14:00			09 Dec 2020 12:40	1
Batch ID: R375002 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20120455-01	LH18/24-SP650_120820	08 Dec 2020 14:00			18 Dec 2020 14:11	1
HS20120455-03	Trip Blank	08 Dec 2020 00:00			18 Dec 2020 13:50	1
Batch ID: R375271 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20120455-02	LH18/24-SP650_120820_BIX	08 Dec 2020 14:00			23 Dec 2020 16:16	1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

QC BATCH REPORT

Batch ID: 160930 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-160930** Units: **mg/L** Analysis Date: **24-Dec-2020 10:49**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897738** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.00250	0.00500								U
Lead	0.00100	0.00500								U
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U

LCS Sample ID: **LCS-160930** Units: **mg/L** Analysis Date: **24-Dec-2020 10:51**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897739** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.047	0.00500	0.05	0	94.0	86 - 114				
Lead	0.04482	0.00500	0.05	0	89.6	88 - 115				
Selenium	0.05751	0.00500	0.05	0	115	80 - 120				
Silver	0.04736	0.00500	0.05	0	94.7	85 - 116				

MS Sample ID: **HS20120486-08MS** Units: **mg/L** Analysis Date: **24-Dec-2020 10:59**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897743** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.103	0.00500	0.05	0.05047	105	86 - 114				
Lead	0.04857	0.00500	0.05	0.000139	96.9	88 - 115				
Selenium	0.05414	0.00500	0.05	-0.000434	109	80 - 120				
Silver	0.04515	0.00500	0.05	0.000029	90.2	85 - 116				

MSD Sample ID: **HS20120486-08MSD** Units: **mg/L** Analysis Date: **24-Dec-2020 11:15**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897749** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1028	0.00500	0.05	0.05047	105	86 - 114	0.103	0.203	20	
Lead	0.04779	0.00500	0.05	0.000139	95.3	88 - 115	0.04857	1.63	20	
Selenium	0.0537	0.00500	0.05	-0.000434	108	80 - 120	0.05414	0.807	20	
Silver	0.04497	0.00500	0.05	0.000029	89.9	85 - 116	0.04515	0.408	20	

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

QC BATCH REPORT

Batch ID: 160930 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

PDS Sample ID: **HS20120486-08PDS** Units: **mg/L** Analysis Date: **24-Dec-2020 11:03**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897745** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1627	0.00500	0.1	0.05047	112	80 - 120				
Lead	0.109	0.00500	0.1	0.000139	109	80 - 120				
Selenium	0.1159	0.00500	0.1	-0.000434	116	80 - 120				
Silver	0.09472	0.00500	0.1	0.000029	94.7	80 - 120				

SD Sample ID: **HS20120486-08SD** Units: **mg/L** Analysis Date: **24-Dec-2020 16:12**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5898069** PrepDate: **21-Dec-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	0.05135	0.0250					0.05047	1.74	10	
Lead	0.00500	0.0250					0.000139	0	10	U
Selenium	0.0125	0.0250					-0.000434	0	10	U
Silver	0.00250	0.0250					0.000029	0	10	U

The following samples were analyzed in this batch: HS20120455-01

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

QC BATCH REPORT

Batch ID: 160571 (0) **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

MBLK Sample ID: **MBLK-160571** Units: **ug/L** Analysis Date: **11-Dec-2020 12:13**
Client ID: Run ID: **SV-6_374543** SeqNo: **5884129** PrepDate: **10-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.010	0.010								U
Surr: 2-Fluorobiphenyl	*0.0734*	*0*	*0.08*	*0*	*91.7*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.07746*	*0*	*0.08*	*0*	*96.8*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.07901*	*0*	*0.08*	*0*	*98.8*	*40 - 140*				

LCS Sample ID: **LCS-160571** Units: **ug/L** Analysis Date: **11-Dec-2020 12:31**
Client ID: Run ID: **SV-6_374543** SeqNo: **5902299** PrepDate: **10-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.05443	0.010	0.08	0	68.0	40 - 140				
Surr: 2-Fluorobiphenyl	*0.07902*	*0*	*0.08*	*0*	*98.8*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.0831*	*0*	*0.08*	*0*	*104*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.07701*	*0*	*0.08*	*0*	*96.3*	*40 - 140*				

LCSD Sample ID: **LCSD-160571** Units: **ug/L** Analysis Date: **11-Dec-2020 12:49**
Client ID: Run ID: **SV-6_374543** SeqNo: **5902300** PrepDate: **10-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.05387	0.010	0.08	0	67.3	40 - 140	0.05443	1.03	20	
Surr: 2-Fluorobiphenyl	*0.08157*	*0*	*0.08*	*0*	*102*	*40 - 140*	*0.07902*	*3.17*	*20*	
Surr: 4-Terphenyl-d14	*0.08221*	*0*	*0.08*	*0*	*103*	*40 - 140*	*0.0831*	*1.08*	*20*	
Surr: Nitrobenzene-d5	*0.08435*	*0*	*0.08*	*0*	*105*	*40 - 140*	*0.07701*	*9.1*	*20*	

The following samples were analyzed in this batch: HS20120455-01

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-201218** Units: **ug/L** Analysis Date: **18-Dec-2020 12:46**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889270** 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	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	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	0.50	1.0								U
1,3,5-Trimethylbenzene	0.50	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	0.50	1.0								U
Bromomethane	0.50	1.0								U

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-201218** Units: **ug/L** Analysis Date: **18-Dec-2020 12:46**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889270** 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	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	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	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	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	0.50	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	0.50	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	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	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.65*	*1.0*	*50*	*0*	*89.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.53*	*1.0*	*50*	*0*	*93.1*	*85 - 114*				
Surr: Dibromofluoromethane	*43.66*	*1.0*	*50*	*0*	*87.3*	*80 - 119*				
Surr: Toluene-d8	*51.01*	*1.0*	*50*	*0*	*102*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-201218** Units: **ug/L** Analysis Date: **18-Dec-2020 12:04**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889269** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.81	1.0	20	0	99.0	78 - 124				
1,1,1-Trichloroethane	20.86	1.0	20	0	104	74 - 131				
1,1,2,2-Tetrachloroethane	20.55	1.0	20	0	103	71 - 121				
1,1,2-Trichloroethane	20.74	1.0	20	0	104	80 - 119				
1,1-Dichloroethane	21.36	1.0	20	0	107	77 - 125				
1,1-Dichloroethene	19.61	1.0	20	0	98.1	71 - 131				
1,1-Dichloropropene	20.92	1.0	20	0	105	78 - 125				
1,2,3-Trichlorobenzene	26.4	1.0	20	0	132	69 - 129				S
1,2,3-Trichloropropane	20.56	1.0	20	0	103	73 - 122				
1,2,4-Trichlorobenzene	22.93	1.0	20	0	115	69 - 130				
1,2,4-Trimethylbenzene	19.93	1.0	20	0	99.6	76 - 124				
1,2-Dibromo-3-chloropropane	22.97	1.0	20	0	115	62 - 128				
1,2-Dibromoethane	21.46	1.0	20	0	107	77 - 121				
1,2-Dichlorobenzene	19.45	1.0	20	0	97.3	80 - 119				
1,2-Dichloroethane	21.92	1.0	20	0	110	73 - 128				
1,2-Dichloropropane	21.3	1.0	20	0	106	78 - 122				
1,3,5-Trimethylbenzene	18.94	1.0	20	0	94.7	75 - 124				
1,3-Dichlorobenzene	19.32	1.0	20	0	96.6	80 - 119				
1,3-Dichloropropane	21.36	1.0	20	0	107	80 - 119				
1,4-Dichlorobenzene	19.81	1.0	20	0	99.1	79 - 118				
2,2-Dichloropropane	21.66	1.0	20	0	108	60 - 139				
2-Butanone	47.29	2.0	40	0	118	56 - 143				
2-Chlorotoluene	20.21	1.0	20	0	101	79 - 122				
2-Hexanone	40.39	2.0	40	0	101	57 - 139				
4-Chlorotoluene	19.55	1.0	20	0	97.8	78 - 122				
4-Isopropyltoluene	18.73	1.0	20	0	93.7	77 - 127				
4-Methyl-2-pentanone	41.18	2.0	40	0	103	67 - 130				
Acetone	44.38	2.0	40	0	111	39 - 160				
Benzene	21	1.0	20	0	105	79 - 120				
Bromobenzene	20	1.0	20	0	100.0	80 - 120				
Bromochloromethane	20.27	1.0	20	0	101	78 - 123				
Bromodichloromethane	22.16	1.0	20	0	111	79 - 125				
Bromoform	22.03	1.0	20	0	110	66 - 130				
Bromomethane	21.82	1.0	20	0	109	53 - 141				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-201218** Units: **ug/L** Analysis Date: **18-Dec-2020 12:04**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889269** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	46.65	2.0	40	0	117	64 - 133				
Carbon tetrachloride	21.32	1.0	20	0	107	72 - 136				
Chlorobenzene	19.89	1.0	20	0	99.5	82 - 118				
Chloroethane	21.78	1.0	20	0	109	60 - 138				
Chloroform	21.05	1.0	20	0	105	79 - 124				
Chloromethane	16.18	1.0	20	0	80.9	50 - 139				
cis-1,2-Dichloroethene	21.03	1.0	20	0	105	78 - 123				
cis-1,3-Dichloropropene	21.64	1.0	20	0	108	75 - 124				
Dibromochloromethane	20.74	1.0	20	0	104	74 - 126				
Dibromomethane	21.79	1.0	20	0	109	79 - 123				
Dichlorodifluoromethane	20.23	1.0	20	0	101	32 - 152				
Ethylbenzene	19.56	1.0	20	0	97.8	79 - 121				
Hexachlorobutadiene	23.8	1.0	20	0	119	66 - 134				
Isopropylbenzene	18.76	1.0	20	0	93.8	72 - 131				
m,p-Xylene	39.11	2.0	40	0	97.8	80 - 121				
Methylene chloride	20.85	2.0	20	0	104	74 - 124				
Naphthalene	23.83	1.0	20	0	119	61 - 128				
n-Butylbenzene	20.43	1.0	20	0	102	75 - 128				
n-Propylbenzene	19.63	1.0	20	0	98.2	76 - 126				
o-Xylene	19.15	1.0	20	0	95.7	78 - 122				
sec-Butylbenzene	18.94	1.0	20	0	94.7	77 - 126				
Styrene	20.16	1.0	20	0	101	78 - 123				
tert-Butylbenzene	18.48	1.0	20	0	92.4	78 - 124				
Tetrachloroethene	19.34	1.0	20	0	96.7	74 - 129				
Toluene	20.4	1.0	20	0	102	80 - 121				
trans-1,2-Dichloroethene	21.25	1.0	20	0	106	75 - 124				
trans-1,3-Dichloropropene	21.36	1.0	20	0	107	73 - 127				
Trichloroethene	20.17	1.0	20	0	101	79 - 123				
Trichlorofluoromethane	19.51	1.0	20	0	97.6	65 - 141				
Vinyl chloride	20.21	1.0	20	0	101	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.78*	*1.0*	*50*	*0*	*104*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.21*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*50.02*	*1.0*	*50*	*0*	*100*	*80 - 119*				
Surr: Toluene-d8	*48.63*	*1.0*	*50*	*0*	*97.3*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20120486-08MS** Units: **ug/L** Analysis Date: **18-Dec-2020 16:17**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889280** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.48	1.0	20	0	97.4	78 - 124				
1,1,1-Trichloroethane	18.94	1.0	20	0	94.7	74 - 131				
1,1,2,2-Tetrachloroethane	18.78	1.0	20	0	93.9	71 - 121				
1,1,2-Trichloroethane	19.24	1.0	20	0	96.2	80 - 119				
1,1-Dichloroethane	17.21	1.0	20	0	86.1	77 - 125				
1,1-Dichloroethene	17.05	1.0	20	0	85.3	71 - 131				
1,1-Dichloropropene	19.6	1.0	20	0	98.0	78 - 125				
1,2,3-Trichlorobenzene	18.62	1.0	20	0	93.1	69 - 129				
1,2,3-Trichloropropane	18.48	1.0	20	0	92.4	73 - 122				
1,2,4-Trichlorobenzene	19.42	1.0	20	0	97.1	69 - 130				
1,2,4-Trimethylbenzene	19.94	1.0	20	0	99.7	76 - 124				
1,2-Dibromo-3-chloropropane	17.29	1.0	20	0	86.5	62 - 128				
1,2-Dibromoethane	18.71	1.0	20	0	93.5	77 - 121				
1,2-Dichlorobenzene	18.64	1.0	20	0	93.2	80 - 119				
1,2-Dichloroethane	18.85	1.0	20	0	94.2	73 - 128				
1,2-Dichloropropane	18.98	1.0	20	0	94.9	78 - 122				
1,3,5-Trimethylbenzene	19.53	1.0	20	0	97.6	75 - 124				
1,3-Dichlorobenzene	19.08	1.0	20	0	95.4	80 - 119				
1,3-Dichloropropane	19.4	1.0	20	0	97.0	80 - 119				
1,4-Dichlorobenzene	19.01	1.0	20	0	95.0	79 - 118				
2,2-Dichloropropane	18.63	1.0	20	0	93.1	60 - 139				
2-Butanone	29.98	2.0	40	0	75.0	56 - 143				
2-Chlorotoluene	20.93	1.0	20	0	105	79 - 122				
2-Hexanone	36.4	2.0	40	0	91.0	57 - 139				
4-Chlorotoluene	20.53	1.0	20	0	103	78 - 122				
4-Isopropyltoluene	19.8	1.0	20	0	99.0	77 - 127				
4-Methyl-2-pentanone	34.28	2.0	40	0	85.7	67 - 130				
Acetone	27.15	2.0	40	0	67.9	39 - 160				
Benzene	19.21	1.0	20	0	96.0	79 - 120				
Bromobenzene	19	1.0	20	0	95.0	80 - 120				
Bromochloromethane	17.93	1.0	20	0	89.7	78 - 123				
Bromodichloromethane	18.82	1.0	20	0	94.1	79 - 125				
Bromoform	18.94	1.0	20	0	94.7	66 - 130				
Bromomethane	19.97	1.0	20	0	99.9	53 - 141				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20120486-08MS** Units: **ug/L** Analysis Date: **18-Dec-2020 16:17**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889280** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	36.42	2.0	40	0	91.0	64 - 133				
Carbon tetrachloride	21.49	1.0	20	0	107	72 - 136				
Chlorobenzene	19.39	1.0	20	0	97.0	82 - 118				
Chloroethane	17.78	1.0	20	0	88.9	60 - 138				
Chloroform	17.61	1.0	20	0	88.0	79 - 124				
Chloromethane	13.56	1.0	20	0	67.8	50 - 139				
cis-1,2-Dichloroethene	17.98	1.0	20	0	89.9	78 - 123				
cis-1,3-Dichloropropene	18.7	1.0	20	0	93.5	75 - 124				
Dibromochloromethane	19.09	1.0	20	0	95.4	74 - 126				
Dibromomethane	19.05	1.0	20	0	95.3	79 - 123				
Dichlorodifluoromethane	15.64	1.0	20	0	78.2	32 - 152				
Ethylbenzene	20.83	1.0	20	0	104	79 - 121				
Hexachlorobutadiene	23.56	1.0	20	0	118	66 - 134				
Isopropylbenzene	20.69	1.0	20	0	103	72 - 131				
m,p-Xylene	41.04	2.0	40	0	103	80 - 121				
Methylene chloride	17.14	2.0	20	0	85.7	74 - 124				
Naphthalene	17.17	1.0	20	0	85.9	61 - 128				
n-Butylbenzene	20.83	1.0	20	0	104	75 - 128				
n-Propylbenzene	20.62	1.0	20	0	103	76 - 126				
o-Xylene	19.53	1.0	20	0	97.7	78 - 122				
sec-Butylbenzene	19.9	1.0	20	0	99.5	77 - 126				
Styrene	19.52	1.0	20	0	97.6	78 - 123				
tert-Butylbenzene	20.1	1.0	20	0	101	78 - 124				
Tetrachloroethene	21.83	1.0	20	0	109	74 - 129				
Toluene	20.21	1.0	20	0	101	80 - 121				
trans-1,2-Dichloroethene	18.57	1.0	20	0	92.8	75 - 124				
trans-1,3-Dichloropropene	19.74	1.0	20	0	98.7	73 - 127				
Trichloroethene	21.45	1.0	20	0	107	79 - 123				
Trichlorofluoromethane	17.38	1.0	20	0	86.9	65 - 141				
Vinyl chloride	16.83	1.0	20	0	84.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.55*	*1.0*	*50*	*0*	*91.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.25*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*44.43*	*1.0*	*50*	*0*	*88.9*	*80 - 119*				
Surr: Toluene-d8	*51.62*	*1.0*	*50*	*0*	*103*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120486-08MSD** Units: **ug/L** Analysis Date: **18-Dec-2020 16:38**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889281** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.72	1.0	20	0	93.6	78 - 124	19.48	3.97	20	
1,1,1-Trichloroethane	18.47	1.0	20	0	92.4	74 - 131	18.94	2.48	20	
1,1,2,2-Tetrachloroethane	19.84	1.0	20	0	99.2	71 - 121	18.78	5.5	20	
1,1,2-Trichloroethane	19.16	1.0	20	0	95.8	80 - 119	19.24	0.4	20	
1,1-Dichloroethane	16.88	1.0	20	0	84.4	77 - 125	17.21	1.97	20	
1,1-Dichloroethene	17.08	1.0	20	0	85.4	71 - 131	17.05	0.15	20	
1,1-Dichloropropene	19.57	1.0	20	0	97.9	78 - 125	19.6	0.13	20	
1,2,3-Trichlorobenzene	19.83	1.0	20	0	99.2	69 - 129	18.62	6.32	20	
1,2,3-Trichloropropane	19.16	1.0	20	0	95.8	73 - 122	18.48	3.61	20	
1,2,4-Trichlorobenzene	20.3	1.0	20	0	101	69 - 130	19.42	4.44	20	
1,2,4-Trimethylbenzene	19.84	1.0	20	0	99.2	76 - 124	19.94	0.479	20	
1,2-Dibromo-3-chloropropane	20.24	1.0	20	0	101	62 - 128	17.29	15.7	20	
1,2-Dibromoethane	19.02	1.0	20	0	95.1	77 - 121	18.71	1.69	20	
1,2-Dichlorobenzene	19.14	1.0	20	0	95.7	80 - 119	18.64	2.66	20	
1,2-Dichloroethane	18.71	1.0	20	0	93.5	73 - 128	18.85	0.74	20	
1,2-Dichloropropane	18.87	1.0	20	0	94.3	78 - 122	18.98	0.566	20	
1,3,5-Trimethylbenzene	19.2	1.0	20	0	96.0	75 - 124	19.53	1.7	20	
1,3-Dichlorobenzene	18.98	1.0	20	0	94.9	80 - 119	19.08	0.502	20	
1,3-Dichloropropane	19.29	1.0	20	0	96.4	80 - 119	19.4	0.603	20	
1,4-Dichlorobenzene	19.05	1.0	20	0	95.2	79 - 118	19.01	0.23	20	
2,2-Dichloropropane	18.58	1.0	20	0	92.9	60 - 139	18.63	0.263	20	
2-Butanone	34.24	2.0	40	0	85.6	56 - 143	29.98	13.3	20	
2-Chlorotoluene	20.46	1.0	20	0	102	79 - 122	20.93	2.28	20	
2-Hexanone	35.02	2.0	40	0	87.6	57 - 139	36.4	3.84	20	
4-Chlorotoluene	20.2	1.0	20	0	101	78 - 122	20.53	1.63	20	
4-Isopropyltoluene	18.35	1.0	20	0	91.7	77 - 127	19.8	7.59	20	
4-Methyl-2-pentanone	34.66	2.0	40	0	86.7	67 - 130	34.28	1.12	20	
Acetone	28.74	2.0	40	0	71.8	39 - 160	27.15	5.68	20	
Benzene	18.85	1.0	20	0	94.2	79 - 120	19.21	1.9	20	
Bromobenzene	19.33	1.0	20	0	96.7	80 - 120	19	1.73	20	
Bromochloromethane	17.48	1.0	20	0	87.4	78 - 123	17.93	2.55	20	
Bromodichloromethane	19.78	1.0	20	0	98.9	79 - 125	18.82	5	20	
Bromoform	18.76	1.0	20	0	93.8	66 - 130	18.94	0.975	20	
Bromomethane	19.22	1.0	20	0	96.1	53 - 141	19.97	3.85	20	

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120486-08MSD** Units: **ug/L** Analysis Date: **18-Dec-2020 16:38**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889281** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	35.75	2.0	40	0	89.4	64 - 133	36.42	1.85	20	
Carbon tetrachloride	21.23	1.0	20	0	106	72 - 136	21.49	1.2	20	
Chlorobenzene	18.38	1.0	20	0	91.9	82 - 118	19.39	5.39	20	
Chloroethane	17.92	1.0	20	0	89.6	60 - 138	17.78	0.797	20	
Chloroform	17.45	1.0	20	0	87.2	79 - 124	17.61	0.907	20	
Chloromethane	13.21	1.0	20	0	66.1	50 - 139	13.56	2.58	20	
cis-1,2-Dichloroethene	17.85	1.0	20	0	89.3	78 - 123	17.98	0.736	20	
cis-1,3-Dichloropropene	18.68	1.0	20	0	93.4	75 - 124	18.7	0.104	20	
Dibromochloromethane	18.34	1.0	20	0	91.7	74 - 126	19.09	4.03	20	
Dibromomethane	19.94	1.0	20	0	99.7	79 - 123	19.05	4.55	20	
Dichlorodifluoromethane	15.93	1.0	20	0	79.7	32 - 152	15.64	1.82	20	
Ethylbenzene	19.75	1.0	20	0	98.7	79 - 121	20.83	5.35	20	
Hexachlorobutadiene	20.2	1.0	20	0	101	66 - 134	23.56	15.4	20	
Isopropylbenzene	19.26	1.0	20	0	96.3	72 - 131	20.69	7.15	20	
m,p-Xylene	38.55	2.0	40	0	96.4	80 - 121	41.04	6.26	20	
Methylene chloride	17.13	2.0	20	0	85.6	74 - 124	17.14	0.0602	20	
Naphthalene	20.84	1.0	20	0	104	61 - 128	17.17	19.3	20	
n-Butylbenzene	19.66	1.0	20	0	98.3	75 - 128	20.83	5.77	20	
n-Propylbenzene	19.99	1.0	20	0	100.0	76 - 126	20.62	3.1	20	
o-Xylene	18.55	1.0	20	0	92.8	78 - 122	19.53	5.17	20	
sec-Butylbenzene	18.88	1.0	20	0	94.4	77 - 126	19.9	5.26	20	
Styrene	18.88	1.0	20	0	94.4	78 - 123	19.52	3.35	20	
tert-Butylbenzene	19.37	1.0	20	0	96.8	78 - 124	20.1	3.72	20	
Tetrachloroethene	20.02	1.0	20	0	100	74 - 129	21.83	8.68	20	
Toluene	19.29	1.0	20	0	96.5	80 - 121	20.21	4.63	20	
trans-1,2-Dichloroethene	17.8	1.0	20	0	89.0	75 - 124	18.57	4.2	20	
trans-1,3-Dichloropropene	18.73	1.0	20	0	93.7	73 - 127	19.74	5.26	20	
Trichloroethene	20.05	1.0	20	0	100	79 - 123	21.45	6.72	20	
Trichlorofluoromethane	17.52	1.0	20	0	87.6	65 - 141	17.38	0.807	20	
Vinyl chloride	17.17	1.0	20	0	85.8	58 - 137	16.83	1.97	20	
Surr: 1,2-Dichloroethane-d4	*44.36*	*1.0*	*50*	*0*	*88.7*	*81 - 118*	*45.55*	*2.64*	*20*	
Surr: 4-Bromofluorobenzene	*50.22*	*1.0*	*50*	*0*	*100*	*85 - 114*	*51.25*	*2.03*	*20*	
Surr: Dibromofluoromethane	*45.19*	*1.0*	*50*	*0*	*90.4*	*80 - 119*	*44.43*	*1.7*	*20*	
Surr: Toluene-d8	*50.42*	*1.0*	*50*	*0*	*101*	*89 - 112*	*51.62*	*2.35*	*20*	

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:	HS20120455

QC BATCH REPORT

Batch ID:	**R375002 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20120455-01 HS20120455-03

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20120455

QC BATCH REPORT

Batch ID: R374281 (0) **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

MBLK Sample ID: **MBLK-R374281** Units: **mg/L** Analysis Date: **09-Dec-2020 12:40**
Client ID: Run ID: **UV-2450_374281** SeqNo: **5871129** 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-R374281** Units: **mg/L** Analysis Date: **09-Dec-2020 12:40**
Client ID: Run ID: **UV-2450_374281** SeqNo: **5871128** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.245	0.0100	0.25	0	98.0	90 - 111				

MS Sample ID: **HS20120449-01MS** Units: **mg/L** Analysis Date: **09-Dec-2020 12:40**
Client ID: Run ID: **UV-2450_374281** SeqNo: **5871131** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.226	0.0100	0.25	0.001	90.0	90 - 111				S

MSD Sample ID: **HS20120449-01MSD** Units: **mg/L** Analysis Date: **09-Dec-2020 12:40**
Client ID: Run ID: **UV-2450_374281** SeqNo: **5871130** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.24	0.0100	0.25	0.001	95.6	90 - 111	0.226	6.01	20	

The following samples were analyzed in this batch: HS20120455-01

Revision: 1

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: **HS20120455**

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
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 25-Jan-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS20120455

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20120455-01	LH18/24-SP650_120820	Login	12/9/2020 12:33:31 PM	PMG	MET100
HS20120455-01	LH18/24-SP650_120820	Login	12/9/2020 12:33:31 PM	PMG	EXT039
HS20120455-01	LH18/24-SP650_120820	Login	12/9/2020 12:33:31 PM	PMG	WET271
HS20120455-01	LH18/24-SP650_120820	Login	12/9/2020 12:33:31 PM	PMG	VOA207
HS20120455-02	LH18/24-SP650_120820_BIX	Login	12/9/2020 12:33:31 PM	PMG	Sub
HS20120455-03	Trip Blank	Login	12/9/2020 12:33:31 PM	PMG	VOA207

ALS Houston, US Date: 25-Jan-21

Sample Receipt Checklist

Work Order ID: HS20120455 **Date/Time Received:** 09-Dec-2020 10:50

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

Completed By:	/S/ Paresh M. Giga	09-Dec-2020 12:36	**Reviewed by:**	/S/ RJ Modashia	09-Dec-2020 14:57
	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):	3.6C U/c	IR25
Cooler(s)/Kit(s):	46339	
Date/Time sample(s) sent to storage:	12/9/2020 12:45	

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

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd., Suite 210 Houston, TX 77099 (281) 530 – 5656 ATTN: 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 EFFLUENT SAMPLES

Prepared By:
Scott Beesinger

P.O. Number

HS20120455
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Monthly Effluent Sample

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOLATILES	SILVER, SELENIUM, LEAD, BARIUM	HEXAVALENT CHROMIUM	1, 4 - DIOXANE	PERCHLORATE					Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_120820	Water	12/08/20 / 14:00		3	X									HCL	
LH18/24-SP650_120820	Water	12/08/20 / 14:00		2			X	X						NONE	
LH18/24-SP650_120820_BIX	Water	12/08/20 / 14:00		1					X					NONE	
LH18/24-SP650_120820	Water	12/08/20 / 14:00		1		X								HNO3	
Trip Blank	Water	12/08/20		2	X									HCL	

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
	12/08/20	14:30	JM PM	12-9-20	10:50						

For Lab Use Only

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

Remarks:

46339 3.6C IR25 CFo

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

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

46339

CUSTODY SEAL

Date: 12/8/20 Time: 1430
Name: Scott Beesinger
Company: BHATE

Seal Broken By:
Date: 12109120

46339 DEC 0 9 2020

Must Deliver Next Business Day
Time and Tempature Sensitive!

46339

ORIGIN ID:SGRA (303) 597-2450
SCOTT BEESINGER
BHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PH8202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 08SEP20
ACTWGT: 1.00 LB MAN
CAD: 3001130/CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656

917 1
10:30
B03

REF: ADDITIONAL BOTTLES - BO 73689 - RJ

RMA:

FedEx Express

FedEx
TRK# 0221 1891 8880 1544

WED - 09 DEC AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FIN: 182785 088ec7020 GGGA 56DG2/9196/[illegible]

December 23, 2020 Service Request No:E2001208

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

Laboratory Results for: HS20120455

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 09, 2020
For your reference, these analyses have been assigned our service request number **E2001208.**

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.:**	E2001208
Project:	HS20120455	**Date Received:**	12/09/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 12/09/20. The sample was received in good condition and is consistent with the accompanying chain of custody form.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000667: 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 RPD exceeded QC limits; the individual recoveries met acceptance criteria.

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:**E2001208
Project: HS20120455

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2001208-001	LH18/24-SP650_120820_BIX	12/8/2020	1400

Service Request Summary

Folder #: **E2001208**
Client Name: ALS Environmental - US
Project Name: HS20120455
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: 12/09/20
Internal Due Date: 12/23/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20120455
EDD: No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
Location: EHRMS-WIC 2B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2001208-001	LH18/24-SP650_120820_BIX	Water	12/08/20 1400	**IV**

Service Request Summary

Folder #:	**E2001208**
Client Name:	ALS Environmental - US
Project Name:	HS20120455
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:	12/09/20
Internal Due Date:	12/23/2020
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS20120455
EDD:	No EDD Specified

1 125 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved

Location: EHRMS-WIC 2B

Pressure Gas:

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

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

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:** **15301**

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:	HS20120455
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120455-02**	**LH18/24-SP650_120820_BIX**	**Water**	**08 Dec 2020 14:00**
	Provide Level II and Level IV reports in separate pdf			23 Dec 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: 12/9/2020

Received By: _____ Date/Time: 12/9/2020 1801

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS - H

Thermometer ID 1271

Date/Time Received: 12/9/20 Initials: CH Date/Time Logged in: 12/10/20 Initials CH

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

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

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

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

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

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
NA		12/9/20	1800	CH	1.4	☒
						☐
						☐
						☐

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:

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#: 371505 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/15/20 08:58

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2001208-001	LH18/24-SP650_120820_BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2001209-001	LH18/24-SP650_120820_BIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2001210-001	LH18/24-SP140_120820	.01	6850/ClO4 DOD			Water	10mL	
4	E2001211-001	MW5_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2001211-002	18CPTMW08DW_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2001211-003	18CPTMW08SW_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2001211-004	18CPTMW08SW_120820_a	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2001211-005	MW23_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2001211-006	MW16_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2001211-007	18CPTMW23_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2001211-008	18WW24_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2001211-009	18CTPMW15_120820	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2001217-001	18CPTMW04_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2001217-002	18CPTMW04SW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2001217-003	AWD3_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2001217-004	AWD3_120920_a	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2001217-005	MW10_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2001217-006	18CPTMW12SW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
19	E2001217-007	18CPTMW12DW_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
20	E2001217-008	MW7_120920	.01	6850/ClO4 DOD			Ground Water	10mL	
21	EQ2000677-01	MB		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000677-02	LCS		6850/ClO4 DOD			Liquid	10mL	
23	EQ2000677-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2000677-02 1.00µL EQ2000677-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 214133 Logbook Ref: Sodium Perchlorate Expires On: 08/13/2022

E2001208-001	100.00µL	E2001209-001	100.00µL	E2001210-001	100.00µL	E2001211-001	100.00µL	E2001211-002	100.00µL	E2001211-003	100.00µL
E2001211-004	100.00µL	E2001211-005	100.00µL	E2001211-006	100.00µL	E2001211-007	100.00µL	E2001211-008	100.00µL	E2001211-009	100.00µL
E2001217-001	100.00µL	E2001217-002	100.00µL	E2001217-003	100.00µL	E2001217-004	100.00µL	E2001217-005	100.00µL	E2001217-006	100.00µL
E2001217-007	100.00µL	E2001217-008	100.00µL	EQ2000677-01	100.00µL	EQ2000677-02	100.00µL	EQ2000677-03	100.00µL		

Preparation Information Benchsheet

Prep Run#: 371505 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 12/15/20 08:58

Preparation Steps

Step: Preparation
Started: 12/15/20 08:58
Finished: 12/15/20 11:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 12/15/2020

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:**	E2001208
Project:	HS20120455	**Date Collected:**	12/ 8/20 1400
Sample Matrix:	Water	**Date Received:**	12/ 9/20
Sample Name:	LH18/24-SP650_120820_BIX	**Units:**	µg/L
Lab Code:	E2001208-001	**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	0.500	0.250	0.125	5	12/15/20	12/22/20 15:23	371505	708075	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001208
Project:	HS20120455	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000677-01	**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	12/15/20	12/22/20 17:46	371505	708075	

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: HS20120455
Sample Matrix: Water

Service Request: E2001208
Date Analyzed: 12/22/20

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: 371505

	Lab Control Sample EQ2000677-02			Duplicate Lab Control Sample EQ2000677-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.104	0.100	104	0.0873	0.100	87	84 - 119	17 *	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:**	E2001208
Project:	HS20120455	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000677-02	**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	**0.104**		0.100	0.0500	0.0250	1	12/15/20	12/22/20 15:07	371505	708075	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2001208
Project:	HS20120455	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000677-03	**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	**0.0873**	J	0.100	0.0500	0.0250	1	12/15/20	12/22/20 15:15	371505	708075	

HS20120455 8260_W_DOD Raw Data

ALS WO# HS20120455

MSVOA06 -Logbook

Batch: 42814 **Analyst:** Devak Giga

Date: 12-03-2020 **Reviewer:**

Method: 8260_W **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-03-2020 10:41 am	1.00	0.00 mL	0.00 mL	X120301.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	12-03-2020 11:01 am	1.00	5.00 mL	0.00 mL	X120302.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	12-03-2020 11:22 am	1.00	5.00 mL	0.00 mL	X120303.D	Liquid	Y	NA
4	VSTD001	ICAL3	12-03-2020 12:04 pm	1.00	5.00 mL	0.00 mL	X120304.D	Liquid	Y	NA
5	VSTD002	ICAL4	12-03-2020 12:25 pm	1.00	5.00 mL	0.00 mL	X120305.D	Liquid	Y	NA
6	VSTD005	ICAL5	12-03-2020 12:46 pm	1.00	5.00 mL	0.00 mL	X120306.D	Liquid	Y	NA
7	VSTD020	ICAL6	12-03-2020 01:07 pm	1.00	5.00 mL	0.00 mL	X120307.D	Liquid	Y	NA
8	VSTD050	ICAL7	12-03-2020 01:28 pm	1.00	5.00 mL	0.00 mL	X120308.D	Liquid	Y	NA
9	VSTD100	ICAL8	12-03-2020 01:49 pm	1.00	5.00 mL	0.00 mL	X120309.D	Liquid	Y	NA
10	VSTD150	ICAL9	12-03-2020 02:10 pm	1.00	5.00 mL	0.00 mL	X120310.D	Liquid	Y	NA
11	VSTD200	ICAL	12-03-2020 02:31 pm	1.00	5.00 mL	0.00 mL	X120311.D	Liquid	Y	NA
12	BLANK	SAMP	12-03-2020 02:52 pm	1.00	5.00 mL	0.00 mL	X120312.D	Liquid	Y	NA
13	BLANK	SAMP	12-03-2020 03:22 pm	1.00	5.00 mL	0.00 mL	X120313.D	Liquid	Y	NA
14	ICV	ICV	12-03-2020 03:43 pm	1.00	5.00 mL	0.00 mL	X120314.D	Liquid	Y	NA
15	CCB	SAMP	12-03-2020 04:04 pm	1.00	5.00 mL	0.00 mL	X120315.D	Liquid	Y	NA
16	VLCSW-201203	LCS	12-03-2020 04:25 pm	1.00	5.00 mL	0.00 mL	X120316.D	Liquid	Y	NA
17	BLANK	SAMP	12-03-2020 04:46 pm	1.00	5.00 mL	0.00 mL	X120317.D	Liquid	Y	NA
18	VBLKW-201203	MBLK	12-03-2020 05:07 pm	1.00	5.00 mL	0.00 mL	X120318.D	Liquid	Y	NA
19	HS20111074-03	SAMP	12-03-2020 05:28 pm	1.00	5.00 mL	0.00 mL	X120319.D	Liquid	Y	NA
20	HS20111080-05	SAMP	12-03-2020 05:49 pm	1.00	5.00 mL	0.00 mL	X120320.D	Liquid	Y	NA
21	HS20111074-01	SAMP	12-03-2020 06:10 pm	1.00	5.00 mL	0.00 mL	X120321.D	Liquid	Y	NA
22	HS20111074-02	SAMP	12-03-2020 06:31 pm	1.00	5.00 mL	0.00 mL	X120322.D	Liquid	Y	NA
23	HS20111080-01	SAMP	12-03-2020 06:52 pm	1.00	5.00 mL	0.00 mL	X120323.D	Liquid	Y	NA
24	HS20111080-02	SAMP	12-03-2020 07:13 pm	1.00	5.00 mL	0.00 mL	X120324.D	Liquid	Y	NA
25	HS20111080-03	SAMP	12-03-2020 07:34 pm	1.00	5.00 mL	0.00 mL	X120325.D	Liquid	Y	NA
26	HS20111080-04	SAMP	12-03-2020 07:56 pm	1.00	5.00 mL	0.00 mL	X120326.D	Liquid	Y	NA
27	HS20120097-01	SAMP	12-03-2020 08:17 pm	1000.0	5.00 mL	0.00 mL	X120327.D	Liquid	Y	NA
28	HS20111074-01MS	MS	12-03-2020 08:38 pm	1.00	5.00 mL	0.00 mL	X120328.D	Liquid	Y	NA
29	HS20111074-01MSD	MSD	12-03-2020 08:59 pm	1.00	5.00 mL	0.00 mL	X120329.D	Liquid	Y	NA
30	CCV-END	CCV	12-03-2020 09:20 pm	1.00	5.00 mL	0.00 mL	X120330.D	Liquid	Y	NA
31	BFB	TUNE	12-03-2020 09:41 pm	1.00	0.00 mL	0.00 mL	Y120301.D	Liquid	Y	NA
32	CCV	CCV	12-03-2020 10:02 pm	1.00	5.00 mL	0.00 mL	Y120302a.D	Liquid	Y	NA
33	CCV	CCV	12-03-2020 10:22 pm	1.00	5.00 mL	0.00 mL	Y120303.D	Liquid	Y	NA
34	CCB	SAMP	12-03-2020 10:44 pm	1.00	5.00 mL	0.00 mL	Y120304.D	Liquid	Y	NA
35	VLCSW-201203	LCS	12-03-2020 11:04 pm	1.00	5.00 mL	0.00 mL	Y120305.D	Liquid	Y	NA
36	BLANK	SAMP	12-03-2020 11:26 pm	1.00	5.00 mL	0.00 mL	Y120306.D	Liquid	Y	NA
37	VBLKW-201203	MBLK	12-03-2020 11:47 pm	1.00	5.00 mL	0.00 mL	Y120307.D	Liquid	Y	NA
38	MBLK-160023	MBLK	12-04-2020 12:08 am	20.00	5.00 mL	0.00 mL	Y120308.D	Liquid	Y	NA
39	HS20110992-01	SAMP	12-04-2020 12:29 am	20.00	5.00 mL	0.00 mL	Y120309.D	Liquid	Y	NA
40	HS20110992-02	SAMP	12-04-2020 12:50 am	20.00	5.00 mL	0.00 mL	Y120310.D	Liquid	Y	NA
41	HS20110992-03	SAMP	12-04-2020 01:11 am	20.00	5.00 mL	0.00 mL	Y120311.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS20110992-04	SAMP	12-04-2020 01:32 am	20.00	5.00 mL	0.00 mL	Y120312.D	Liquid	Y	NA
43	HS20110992-05	SAMP	12-04-2020 01:53 am	20.00	5.00 mL	0.00 mL	Y120313.D	Liquid	Y	NA
44	HS20110992-06	SAMP	12-04-2020 02:14 am	20.00	5.00 mL	0.00 mL	Y120314.D	Liquid	Y	NA
45	HS20110992-07	SAMP	12-04-2020 02:35 am	20.00	5.00 mL	0.00 mL	Y120315.D	Liquid	Y	NA
46	HS20110992-08	SAMP	12-04-2020 02:56 am	20.00	5.00 mL	0.00 mL	Y120316.D	Liquid	Y	NA
47	HS20110992-09	SAMP	12-04-2020 03:17 am	20.00	5.00 mL	0.00 mL	Y120317.D	Liquid	Y	NA
48	HS20110992-07MS	MS	12-04-2020 03:38 am	20.00	5.00 mL	0.00 mL	Y120318.D	Liquid	Y	NA
49	HS20111071-01	SAMP	12-04-2020 03:59 am	20.00	5.00 mL	0.00 mL	Y120319.D	Liquid	Y	NA
50	MBLK-160068	MBLK	12-04-2020 04:20 am	20.00	5.00 mL	0.00 mL	Y120320.D	Liquid	Y	NA
51	HS20110992-10	SAMP	12-04-2020 04:42 am	20.00	5.00 mL	0.00 mL	Y120321.D	Liquid	Y	NA
52	HS20110992-11	SAMP	12-04-2020 05:03 am	20.00	5.00 mL	0.00 mL	Y120322.D	Liquid	Y	NA
53	HS20110992-12	SAMP	12-04-2020 05:24 am	20.00	5.00 mL	0.00 mL	Y120323.D	Liquid	Y	NA
54	HS20110992-13	SAMP	12-04-2020 05:45 am	20.00	5.00 mL	0.00 mL	Y120324.D	Liquid	Y	NA
55	HS20110992-14	SAMP	12-04-2020 06:06 am	20.00	5.00 mL	0.00 mL	Y120325.D	Liquid	Y	NA
56	CCV-END	CCV	12-04-2020 06:27 am	1.00	5.00 mL	0.00 mL	Y120326.D	Liquid	Y	NA
57	HS20111090-01	SAMP	12-04-2020 06:48 am	20.00	5.00 mL	0.00 mL	Y120327.D	Liquid	Y	NA
58	HS20111090-02	SAMP	12-04-2020 07:09 am	20.00	5.00 mL	0.00 mL	Y120328.D	Liquid	Y	NA
59	HS20111110-01	SAMP	12-04-2020 07:30 am	20.00	5.00 mL	0.00 mL	Y120329.D	Liquid	Y	NA
60	HS20111112-01	SAMP	12-04-2020 07:51 am	20.00	5.00 mL	0.00 mL	Y120330.D	Liquid	Y	NA
61	MBLK-160185	MBLK	12-04-2020 08:12 am	20.00	5.00 mL	0.00 mL	Y120331.D	Liquid	Y	NA
62	HS20111292-01	SAMP	12-04-2020 08:33 am	20.00	5.00 mL	0.00 mL	Y120332.D	Liquid	Y	NA
63	BLANK	SAMP	12-04-2020 08:54 am	1.00	5.00 mL	0.00 mL	Y120333.D	Liquid	Y	NA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120455

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
cis-1,3-Dichloropropene	50.00	49.96	100	80-120
trans-1,3-Dichloroprope	50.00	48.88	98	80-120
1,3-Dichlorobenzene	50.00	44.58	89	80-120
2,2-Dichloropropane	50.00	45.30	91	80-120
1,1-Dichloropropene	50.00	44.88	90	80-120
Dibromomethane	50.00	48.83	98	80-120
1,2-Dibromoethane	50.00	48.39	97	80-120
trans-1,2-Dichloroethen	50.00	46.48	93	80-120
1,1,1,2-Tetrachloroetha	50.00	46.56	93	80-120
1,1,1-Trichloroethane	50.00	43.60	87	80-120
1,1,2,2-Tetrachloroetha	50.00	47.58	95	80-120
1,1,2-Trichloroethane	50.00	45.93	92	80-120
1,1-Dichloroethane	50.00	46.65	93	80-120
1,1-Dichloroethene	50.00	42.41	85	80-120
Trichloroethene	50.00	43.44	87	80-120
1,2,3-Trichlorobenzene	50.00	45.94	92	80-120
Trichlorofluoromethane	50.00	40.95	82	80-120
1,2,4-Trichlorobenzene	50.00	47.47	95	80-120
1,2,4-Trimethylbenzene	50.00	44.34	89	80-120
Tetrachloroethene	50.00	43.02	86	80-120
1,2-Dichlorobenzene	50.00	45.13	90	80-120
1,2-Dichloroethane	50.00	48.33	97	80-120
1,2-Dichloropropane	50.00	48.26	96	80-120
1,3,5-Trimethylbenzene	50.00	42.06	84	80-120
1,3-Dichloropropane	50.00	46.45	93	80-120
1,4-Dichlorobenzene	50.00	45.33	91	80-120
Toluene	50.00	45.72	91	80-120
2-Butanone	100.00	99.12	99	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: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120455

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
2-Chlorotoluene	50.00	45.89	92	80-120
2-Hexanone	100.00	91.56	92	80-120
4-Chlorotoluene	50.00	43.34	87	80-120
tert-Butylbenzene	50.00	41.54	83	80-120
4-Methyl-2-Pentanone	100.00	94.99	95	80-120
Acetone	100.00	98.30	98	80-120
Benzene	50.00	46.56	93	80-120
Bromobenzene	50.00	46.17	92	80-120
Bromochloromethane	50.00	47.32	95	80-120
Bromodichloromethane	50.00	49.79	100	80-120
Bromoform	50.00	50.45	101	80-120
Bromomethane	50.00	42.87	86	80-120
Carbon Disulfide	100.00	90.45	90	80-120
Carbon Tetrachloride	50.00	45.40	91	80-120
Chlorobenzene	50.00	46.37	93	80-120
Chloroethane	50.00	40.82	82	80-120
Chloroform	50.00	46.35	93	80-120
Chloromethane	50.00	45.80	92	80-120
cis-1,2-Dichloroethene	50.00	46.52	93	80-120
Dibromochloromethane	50.00	47.32	95	80-120
Dichlorodifluoromethane	50.00	40.89	82	80-120
Ethylbenzene	50.00	44.48	89	80-120
Hexachlorobutadiene	50.00	43.37	87	80-120
Isopropylbenzene	50.00	42.71	85	80-120
m,p-Xylenes	100.00	88.92	89	80-120
Methylene Chloride	50.00	45.27	90	80-120
n-Butylbenzene	50.00	40.18	80	80-120
n-Propylbenzene	50.00	43.12	86	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120455

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Naphthalene	50.00	48.06	96	80-120
o-Xylene	50.00	44.74	89	80-120
sec-Butylbenzene	50.00	40.51	81	80-120
Styrene	50.00	47.61	95	80-120
Vinyl Chloride	50.00	40.36	81	80-120
1,2,3-Trichloropropane	50.00	48.29	96	80-120
p-Isopropyltoluene	50.00	40.72	81	80-120
1,2-Dibromo-3-Chloropro	50.00	47.75	96	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120455

Lab File ID: X120301 BFB Injection Date: 12/03/20

Instrument ID: VOA6 BFB Injection Time: 1041

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	22.8
75	30.0 - 60.0% of mass 95	55.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	1.1 (1.5)1
174	Greater than 50.0% of mass 95	73.0
175	5.0 - 9.0% of mass 174	5.5 (7.5)1
176	95.0 - 101.0% of mass 174	73.7 (101.0)1
177	5.0 - 9.0% of mass 176	4.8 (6.5)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	X120302	12/03/20	1101
02	VSTD000.5	VSTD000.5	X120303	12/03/20	1122
03	VSTD001	VSTD001	X120304	12/03/20	1204
04	VSTD002	VSTD002	X120305	12/03/20	1225
05	VSTD005	VSTD005	X120306	12/03/20	1246
06	VSTD020	VSTD020	X120307	12/03/20	1307
07	VSTD050	VSTD050	X120308	12/03/20	1328
08	VSTD100	VSTD100	X120309	12/03/20	1349
09	VSTD150	VSTD150	X120310	12/03/20	1410
10	VSTD200	VSTD200	X120311	12/03/20	1431
11	ICV	ICV	X120314	12/03/20	1543
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20120455

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

LAB FILE ID: RF0.25: X120302 RF0.5: X120303 RF1: X120304
RF2: X120305 RF5: X120306 RF20: X120307

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
cis-1,3-Dichloropropene		0.716	0.633	0.637	0.615	0.605
trans-1,3-Dichloropropene		0.657	0.534	0.534	0.542	0.520
1,3-Dichlorobenzene		1.902	1.572	1.509	1.413	1.475
2,2-Dichloropropane		1.167	1.141	1.068	0.942	0.987
1,1-Dichloropropene		0.543	0.506	0.497	0.482	0.440
Dibromomethane		0.270	0.260	0.233	0.262	0.251
1,2-Dibromoethane		0.427	0.409	0.344	0.398	0.367
trans-1,2-Dichloroethene		0.630	0.582	0.573	0.581	0.591
1,1,1,2-Tetrachloroethane		0.430	0.392	0.341	0.331	0.341
1,1,1-Trichloroethane		1.249	0.922	1.039	0.883	1.007
1,1,2,2-Tetrachloroethane		1.156	1.079	1.077	1.003	1.000
1,1,2-Trichloroethane		0.374	0.318	0.326	0.321	0.298
1,1-Dichloroethane		1.346	1.284	1.123	1.215	1.164
1,1-Dichloroethene		0.877	0.752	0.731	0.704	0.742
Trichloroethene		0.462	0.403	0.367	0.344	0.335
1,2,3-Trichlorobenzene		0.200	0.324	0.298	0.250	0.233
Trichlorofluoromethane		1.612	1.492	1.420	1.264	1.420
1,2,4-Trichlorobenzene		0.463	0.433	0.520	0.416	0.429
1,2,4-Trimethylbenzene		3.200	2.605	2.455	2.361	2.606
Tetrachloroethene		0.304	0.331	0.225	0.242	0.254
1,2-Dichlorobenzene		1.807	1.363	1.431	1.245	1.379
1,2-Dichloroethane		0.593	0.579	0.610	0.595	0.564
1,2-Dichloropropane		0.405	0.419	0.361	0.382	0.344
1,3,5-Trimethylbenzene		3.498	2.667	2.607	2.340	2.573
1,3-Dichloropropane		0.698	0.600	0.652	0.640	0.603
1,4-Dichlorobenzene		1.595	1.677	1.648	1.495	1.501
Toluene		1.770	1.562	1.529	1.483	1.453
2-Butanone		0.220	0.204	0.282	0.244	0.220
2-Chlorotoluene		3.016	2.328	2.316	2.130	2.269
2-Hexanone		0.291	0.249	0.284	0.232	0.221
4-Chlorotoluene		3.686	2.970	2.574	2.530	2.778
tert-Butylbenzene		2.875	2.185	2.140	1.785	2.099
4-Methyl-2-Pentanone		0.375	0.374	0.386	0.380	0.336
Acetone		7183	7661	10587	17442	49369
Benzene		1.626	1.433	1.352	1.327	1.284
Bromobenzene		1.074	0.891	0.851	0.860	0.844
Bromochloromethane		0.338	0.404	0.385	0.369	0.356
Bromodichloromethane		0.554	0.518	0.468	0.533	0.507
Bromoform		0.221	0.228	0.208	0.230	0.222
Bromomethane		2325	4928	9968	23460	87980
Carbon Disulfide		1.766	1.600	1.644	1.553	1.621
Carbon Tetrachloride		0.455	0.294	0.386	0.363	0.391
Chlorobenzene		1.126	1.048	1.049	0.968	0.970
Chloroethane		0.727	0.557	0.621	0.566	0.586

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2012045

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

LAB FILE ID: RF0.25: X120302 RF0.5: X120303 RF1: X120304
RF2: X120305 RF5: X120306 RF20: X120307

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Chloroform		1.474	1.344	1.247	1.241	1.243
Chloromethane		3221	5480	10331	25288	104619
cis-1,2-Dichloroethene		0.812	0.682	0.726	0.666	0.679
Dibromochloromethane		0.450	0.402	0.405	0.388	0.382
Dichlorodifluoromethane		1748	3828	7432	15656	76291
Ethylbenzene		0.578	0.504	0.482	0.467	0.472
Hexachlorobutadiene		433	1259	2432	4266	20353
Isopropylbenzene		1.853	1.509	1.561	1.228	1.397
m,p-Xylenes		0.782	0.622	0.621	0.562	0.605
Methylene Chloride		0.787	0.689	0.730	0.670	0.640
n-Butylbenzene		6359	10432	19960	36063	206417
n-Propylbenzene		4.896	3.788	3.962	3.434	3.747
Naphthalene		0.760	0.964	0.904	0.712	0.703
o-Xylene		0.790	0.580	0.600	0.580	0.598
sec-Butylbenzene		3.804	3.177	3.156	2.450	2.910
Styrene		1.246	1.000	0.949	0.937	1.032
Vinyl Chloride		1.002	0.914	0.890	0.852	0.866
1,2,3-Trichloropropane		1.307	1.230	1.149	1.161	1.137
p-Isopropyltoluene		3.269	2.783	2.700	2.222	2.422
1,2-Dibromo-3-Chloropropane			469	853	1406	6806
1,2-Dichloroethane-d4		3206	5576	10141	24355	88752
Dibromofluoromethane		1948	3334	7182	19795	70849
Toluene-d8		7857	12569	23817	60361	223091
4-Bromofluorobenzene		3817	5900	12242	23638	88172

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2012045

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

LAB FILE ID: RF50: X120308 RF100: X120309 RF150: X120310
RF200: X120311

COMPOUND	RF50	RF100	RF150	RF200
cis-1,3-Dichloropropene	0.657	0.624	0.673	0.622
trans-1,3-Dichloropropene	0.569	0.554	0.575	0.545
1,3-Dichlorobenzene	1.434	1.522	1.538	1.494
2,2-Dichloropropane	0.974	1.059	1.056	1.056
1,1-Dichloropropene	0.453	0.470	0.490	0.472
Dibromomethane	0.258	0.243	0.265	0.239
1,2-Dibromoethane	0.381	0.379	0.384	0.374
trans-1,2-Dichloroethene	0.561	0.615	0.618	0.645
1,1,1,2-Tetrachloroethane	0.343	0.358	0.361	0.364
1,1,1-Trichloroethane	0.986	1.083	1.096	1.095
1,1,2,2-Tetrachloroethane	0.946	0.962	0.980	0.916
1,1,2-Trichloroethane	0.307	0.316	0.302	0.302
1,1-Dichloroethane	1.059	1.229	1.172	1.217
1,1-Dichloroethene	0.654	0.785	0.762	0.821
Trichloroethene	0.340	0.342	0.354	0.338
1,2,3-Trichlorobenzene	0.255	0.279	0.288	0.260
Trichlorofluoromethane	1.242	1.462	1.472	1.534
1,2,4-Trichlorobenzene	0.454	0.496	0.530	0.487
1,2,4-Trimethylbenzene	2.613	2.866	2.898	2.862
Tetrachloroethene	0.258	0.300	0.298	0.305
1,2-Dichlorobenzene	1.342	1.451	1.515	1.497
1,2-Dichloroethane	0.575	0.513	0.568	0.490
1,2-Dichloropropane	0.380	0.359	0.377	0.357
1,3,5-Trimethylbenzene	2.547	2.911	3.013	3.073
1,3-Dichloropropane	0.619	0.628	0.605	0.611
1,4-Dichlorobenzene	1.467	1.533	1.536	1.502
Toluene	1.452	1.560	1.577	1.592
2-Butanone	0.228	0.242	0.229	0.226
2-Chlorotoluene	2.274	2.357	2.414	2.361
2-Hexanone	0.248	0.246	0.249	0.232
4-Chlorotoluene	2.698	2.999	3.100	3.101
tert-Butylbenzene	2.055	2.400	2.336	2.358
4-Methyl-2-Pentanone	0.359	0.357	0.373	0.350
Acetone	115400	230256	345461	455195
Benzene	1.347	1.252	1.364	1.252
Bromobenzene	0.837	0.871	0.902	0.850
Bromochloromethane	0.331	0.354	0.352	0.338
Bromodichloromethane	0.535	0.498	0.546	0.495
Bromoform	0.234	0.231	0.244	0.232
Bromomethane	207664	424564	691088	953139
Carbon Disulfide	1.458	1.742	1.700	1.802
Carbon Tetrachloride	0.393	0.443	0.460	0.453
Chlorobenzene	0.964	1.017	1.035	1.066
Chloroethane	0.518	0.583	0.580	0.604

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2012045

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

LAB FILE ID: RF50: X120308 RF100: X120309 RF150: X120310
RF200: X120311

COMPOUND	RF50	RF100	RF150	RF200
Chloroform	1.236	1.256	1.292	1.248
Chloromethane	263664	554456	845637	1263538
cis-1,2-Dichloroethene	0.657	0.689	0.719	0.704
Dibromochloromethane	0.400	0.408	0.410	0.408
Dichlorodifluoromethane	172818	402184	658231	961874
Ethylbenzene	0.467	0.515	0.517	0.520
Hexachlorobutadiene	52188	143368	226530	317246
Isopropylbenzene	1.432	1.649	1.623	1.661
m,p-Xylenes	0.626	0.685	0.678	0.714
Methylene Chloride	0.576	0.638	0.662	0.655
n-Butylbenzene	549126	1374517	2184866	3158558
n-Propylbenzene	3.617	4.196	4.311	4.264
Naphthalene	0.758	0.827	0.858	0.761
o-Xylene	0.598	0.649	0.664	0.685
sec-Butylbenzene	2.898	3.493	3.494	3.547
Styrene	1.087	1.133	1.180	1.206
Vinyl Chloride	0.780	0.877	0.874	0.934
1,2,3-Trichloropropane	1.058	1.125	1.122	1.078
p-Isopropyltoluene	2.430	2.928	2.929	2.936
1,2-Dibromo-3-Chloropropane	18561	37818	59701	77694
1,2-Dichloroethane-d4	243264	493358	721913	1007416
Dibromofluoromethane	188739	377139	598380	804284
Toluene-d8	636641	1342152	2026860	2874805
4-Bromofluorobenzene	240109	495764	783951	1059650

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2012045

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	COEFFICENTS A2	%RSD OR R^2	MAX %RSD OR R^2
cis-1,3-Dichloropropene	AVRG		0.64254312		5.386	15.000
trans-1,3-Dichloropropene	AVRG		0.55904144		7.276	15.000
1,3-Dichlorobenzene	AVRG		1.53982640		9.394	15.000
2,2-Dichloropropane	AVRG		1.05005171		7.057	15.000
1,1-Dichloropropene	AVRG		0.48369117		6.302	15.000
Dibromomethane	AVRG		0.25330747		5.007	15.000
1,2-Dibromoethane	AVRG		0.38483987		6.258	15.000
trans-1,2-Dichloroethene	AVRG		0.59961457		4.748	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.36246638		8.558	15.000
1,1,1-Trichloroethane	AVRG		1.04005748		10.437	15.000
1,1,2,2-Tetrachloroethane	AVRG		1.01340692		7.543	15.000
1,1,2-Trichloroethane	AVRG		0.31813769		7.264	15.000
1,1-Dichloroethane	AVRG		1.20117985		7.053	15.000
1,1-Dichloroethene	AVRG		0.75873181		8.559	15.000
Trichloroethene	AVRG		0.36513773		11.480	15.000
1,2,3-Trichlorobenzene	AVRG		0.26521683		13.882	15.000
Trichlorofluoromethane	AVRG		1.43556388		8.302	15.000
1,2,4-Trichlorobenzene	AVRG		0.46979034		8.719	15.000
1,2,4-Trimethylbenzene	AVRG		2.71853698		9.561	15.000
Tetrachloroethene	AVRG		0.27971775		12.687	15.000
1,2-Dichlorobenzene	AVRG		1.44767134		10.936	15.000
1,2-Dichloroethane	AVRG		0.56530920		6.931	15.000
1,2-Dichloropropane	AVRG		0.37617557		6.373	15.000
1,3,5-Trimethylbenzene	AVRG		2.80335971		12.617	15.000
1,3-Dichloropropane	AVRG		0.62844441		4.994	15.000
1,4-Dichlorobenzene	AVRG		1.55058805		4.732	15.000
Toluene	AVRG		1.55310772		6.228	15.000
2-Butanone	AVRG		0.23284903		9.420	15.000
2-Chlorotoluene	AVRG		2.38507824		10.471	15.000
2-Hexanone	AVRG		0.25018942		9.374	15.000
4-Chlorotoluene	AVRG		2.93744227		12.028	15.000
tert-Butylbenzene	AVRG		2.24820476		13.392	15.000
4-Methyl-2-Pentanone	AVRG		0.36567137		4.378	15.000
Acetone	LINR	-0.1639367	5.32621418		0.9981668	0.9900000
Benzene	AVRG		1.35965118		8.479	15.000
Bromobenzene	AVRG		0.88677933		8.261	15.000
Bromochloromethane	AVRG		0.35853310		6.632	15.000
Bromodichloromethane	AVRG		0.51693931		5.334	15.000
Bromoform	AVRG		0.22788022		4.403	15.000
Bromomethane	LINR	5.118e-003	1.28159916		0.9991066	0.9900000
Carbon Disulfide	AVRG		1.65430376		6.656	15.000
Carbon Tetrachloride	AVRG		0.40426371		13.512	15.000
Chlorobenzene	AVRG		1.02704143		5.213	15.000
Chloroethane	AVRG		0.59365963		9.775	15.000

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2012045

Instrument ID: VOA6 Calibration Date(s): 12/03/20 12/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1101 1431

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Chloroform	AVRG		1.28673673		6.100	15.000
Chloromethane	LINR	2.402e-002	0.98700984		0.9985091	0.9900000
cis-1,2-Dichloroethene	AVRG		0.70381496		6.624	15.000
Dibromochloromethane	AVRG		0.40581776		4.680	15.000
Dichlorodifluoromethane	LINR	5.455e-002	1.28626354		0.9964989	0.9900000
Ethylbenzene	AVRG		0.50242379		7.153	15.000
Hexachlorobutadiene	2ORDR	4.138e-002	3.47246638	-0.2719127	0.9964134	0.9900000
Isopropylbenzene	AVRG		1.54581697		11.711	15.000
m,p-Xylenes	AVRG		0.65510485		10.133	15.000
Methylene Chloride	AVRG		0.67162003		8.922	15.000
n-Butylbenzene	2ORDR	3.078e-002	0.36714780	-3.99e-003	0.9984541	0.9900000
n-Propylbenzene	AVRG		4.02373689		11.042	15.000
Naphthalene	AVRG		0.80531932		11.097	15.000
o-Xylene	AVRG		0.63837948		10.727	15.000
sec-Butylbenzene	AVRG		3.21422744		12.997	15.000
Styrene	AVRG		1.08554655		10.433	15.000
Vinyl Chloride	AVRG		0.88770647		6.866	15.000
1,2,3-Trichloropropane	AVRG		1.15191091		6.615	15.000
p-Isopropyltoluene	AVRG		2.73547266		11.970	15.000
1,2-Dibromo-3-Chloropropane	LINR	-1.37e-002	12.6976808		0.9963770	0.9900000
1,2-Dichloroethane-d4	LINR	-1.59e-002	1.20699711		0.9994481	0.9900000
Dibromofluoromethane	LINR	-3.33e-003	1.49820370		0.9991927	0.9900000
Toluene-d8	LINR	7.594e-003	0.75478184		0.9998687	0.9900000
4-Bromofluorobenzene	LINR	-3.71e-003	2.02263830		0.9993308	0.9900000

FORM VI VOA

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120301.D

Date : 03-DEC-2020 10:41

Client ID: BFB

Instrument: voa6.i

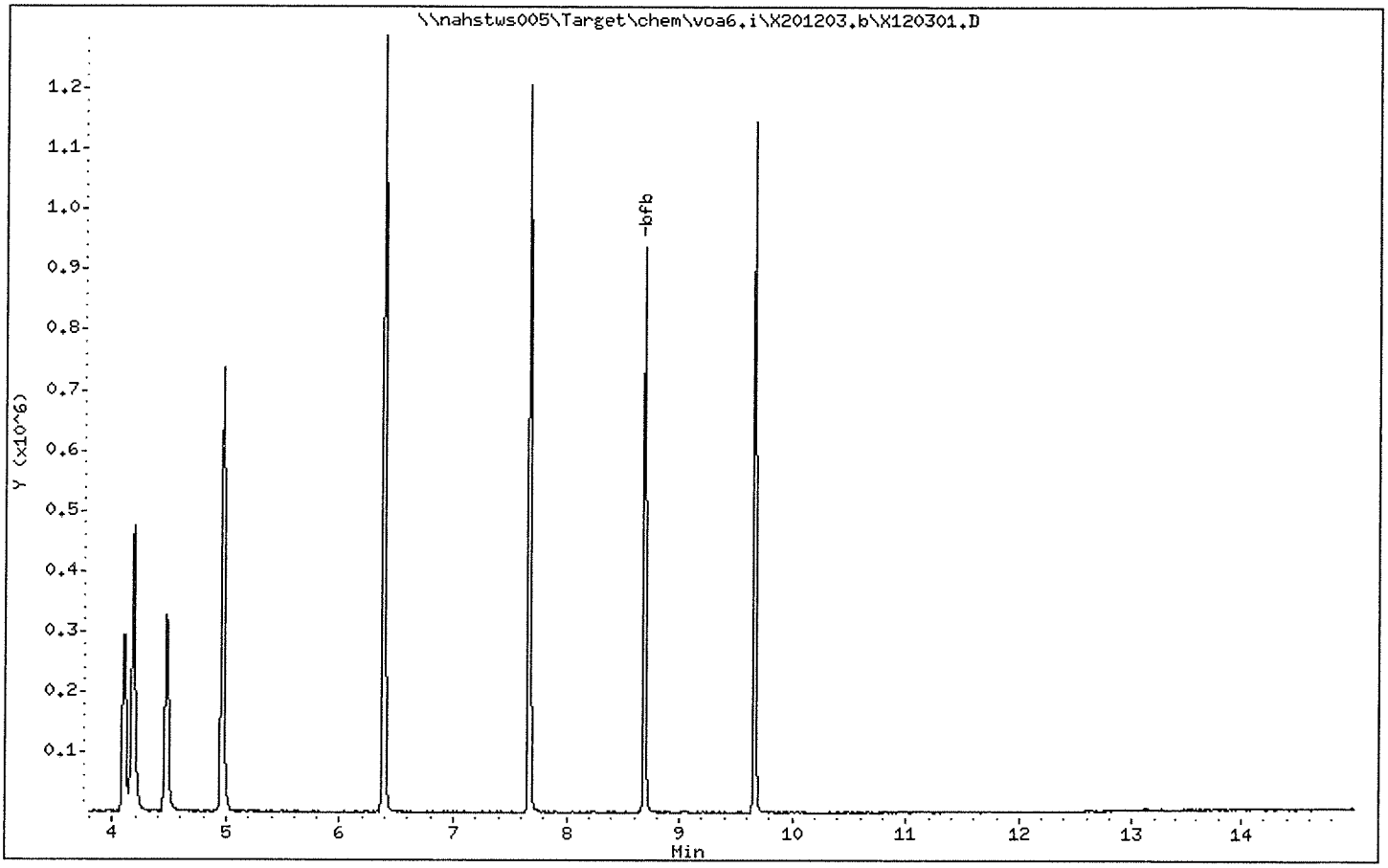
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120301.D

Date : 03-DEC-2020 10:41

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

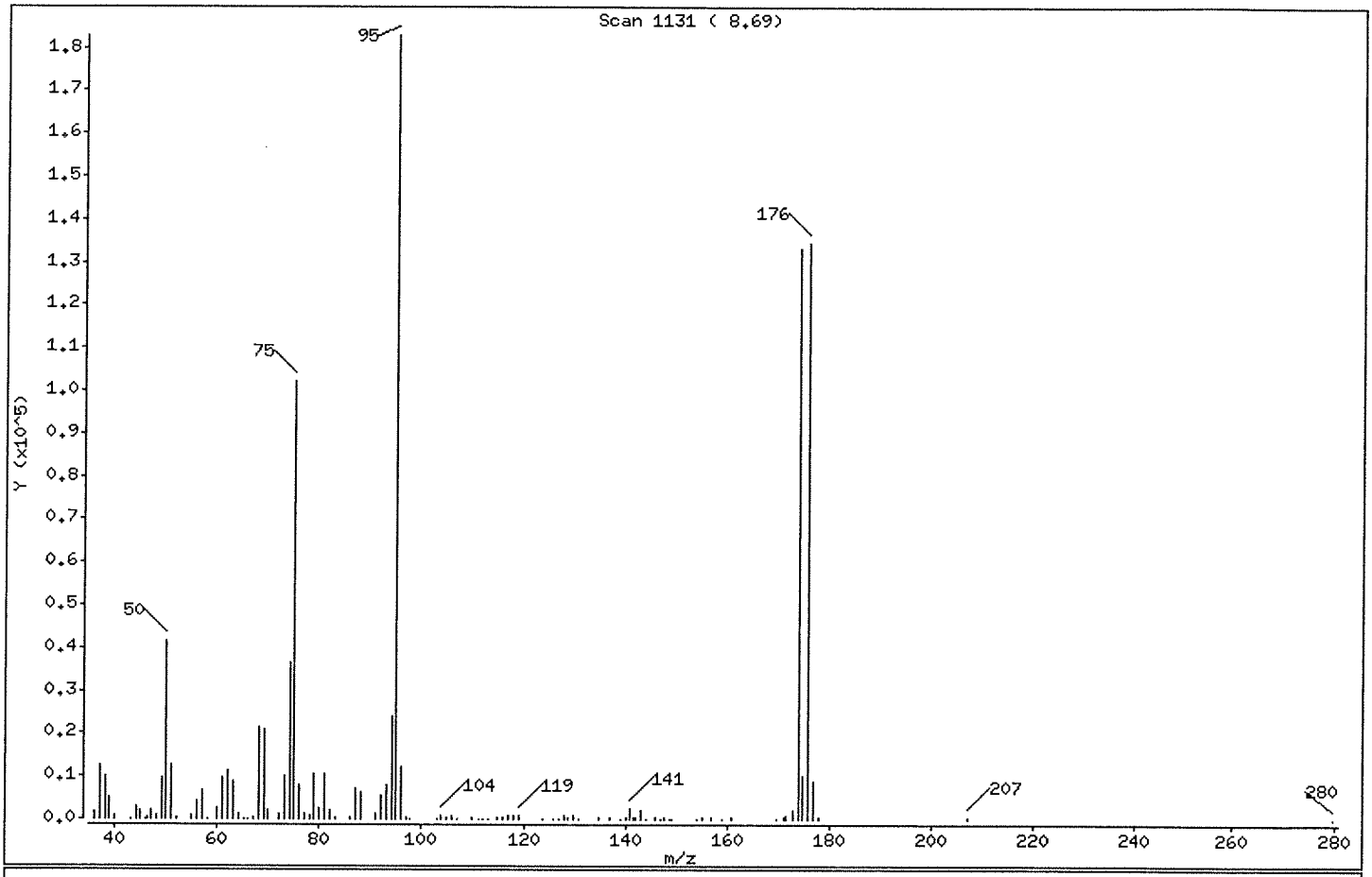
Volume Injected (uL): 2.0

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	22.79
75	30.00 - 60.00% of mass 95	55.77
96	5.00 - 9.00% of mass 95	6.65
173	Less than 2.00% of mass 174	1.10 (1.51)
174	Greater than 50.00% of mass 95	72.97
175	5.00 - 9.00% of mass 174	5.51 (7.55)
176	95.00 - 101.00% of mass 174	73.67 (100.96)
177	5.00 - 9.00% of mass 176	4.78 (6.49)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120301.D

Date : 03-DEC-2020 10:41

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: X120301.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 105

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	1679	66.90	519	102.90	181	142.10	357
37.10	12576	68.00	21608	103.90	1039	142.90	1963
38.10	10136	69.00	20912	105.00	258	144.10	136
39.00	5107	70.00	2089	105.90	992	145.80	326
40.00	770	72.00	1249	106.80	176	146.90	159
43.00	172	73.00	10004	109.80	233	147.70	493
44.00	2768	74.00	36456	111.10	139	148.80	74
45.00	2064	75.00	101936	111.80	128	149.20	67
45.90	186	76.00	7849	113.00	122	153.90	147
46.20	212	76.90	1341	114.80	281	155.00	383
47.00	2163	77.90	991	115.90	613	156.80	260
48.10	1040	78.90	10694	116.90	958	158.90	164
49.00	9601	79.90	2524	117.90	780	160.90	381
50.00	41648	80.90	10713	119.00	971	169.60	81
51.00	12750	81.90	2149	123.90	66	171.10	414
52.00	529	82.90	420	126.00	78	171.70	684
55.00	684	85.90	307	126.90	103	173.00	2011
56.00	4186	86.90	7087	127.90	969	173.90	133376
57.00	6707	87.90	6201	128.80	467	174.90	10066
58.00	210	90.90	1146	129.90	680	175.90	134656
60.00	2446	92.00	5566	131.00	180	176.90	8742
61.00	9874	93.00	7988	134.80	343	178.00	310
62.00	11193	94.00	23792	136.80	442	207.10	219
63.00	8826	95.00	182784	138.90	88	279.70	66
64.00	1142	96.00	12154	140.10	231		
65.10	112	97.00	557	140.80	2395		
66.00	119	97.80	68	141.70	287		

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120302.D Page 1
Report Date: 22-Dec-2020 16:31

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120302.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 03-DEC-2020 11:01
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:31 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 13:28 Cal File: X120308.D
Als bottle: 2 Calibration Sample, Level: 1
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)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	274588	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	490514	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	451313	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	198730	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	1225	0.25000	0.16(aM)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	2145	0.25000	(TaM)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	7123	0.25000	0.97(a)
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	5722	0.25000	1.09(a)
	60 1,1,1,2-Tetrachloroethane	131	7.771	7.771	(1.013)	988	0.25000	0.30(a)
	31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	1759	0.25000	0.30(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1345	0.25000	0.33(aM)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	986	0.25000	0.34(a)
	22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	2039	0.25000	0.30(Ta)
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	1269	0.25000	0.30(aM)
	32 1,1-Dichloropropene	75	4.275	4.275	(0.861)	1706	0.25000	0.35(a)
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	158	0.25000	0.14(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	1360	0.25000	0.29(a)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	610	0.25000	0.32(aM)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	3505	0.25000	0.32(a)
	57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	1098	0.25000	0.31(a)
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	1775	0.25000	0.30(a)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	2082	0.25000	0.37(a)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120302.D Page 2
Report Date: 22-Dec-2020 16:31

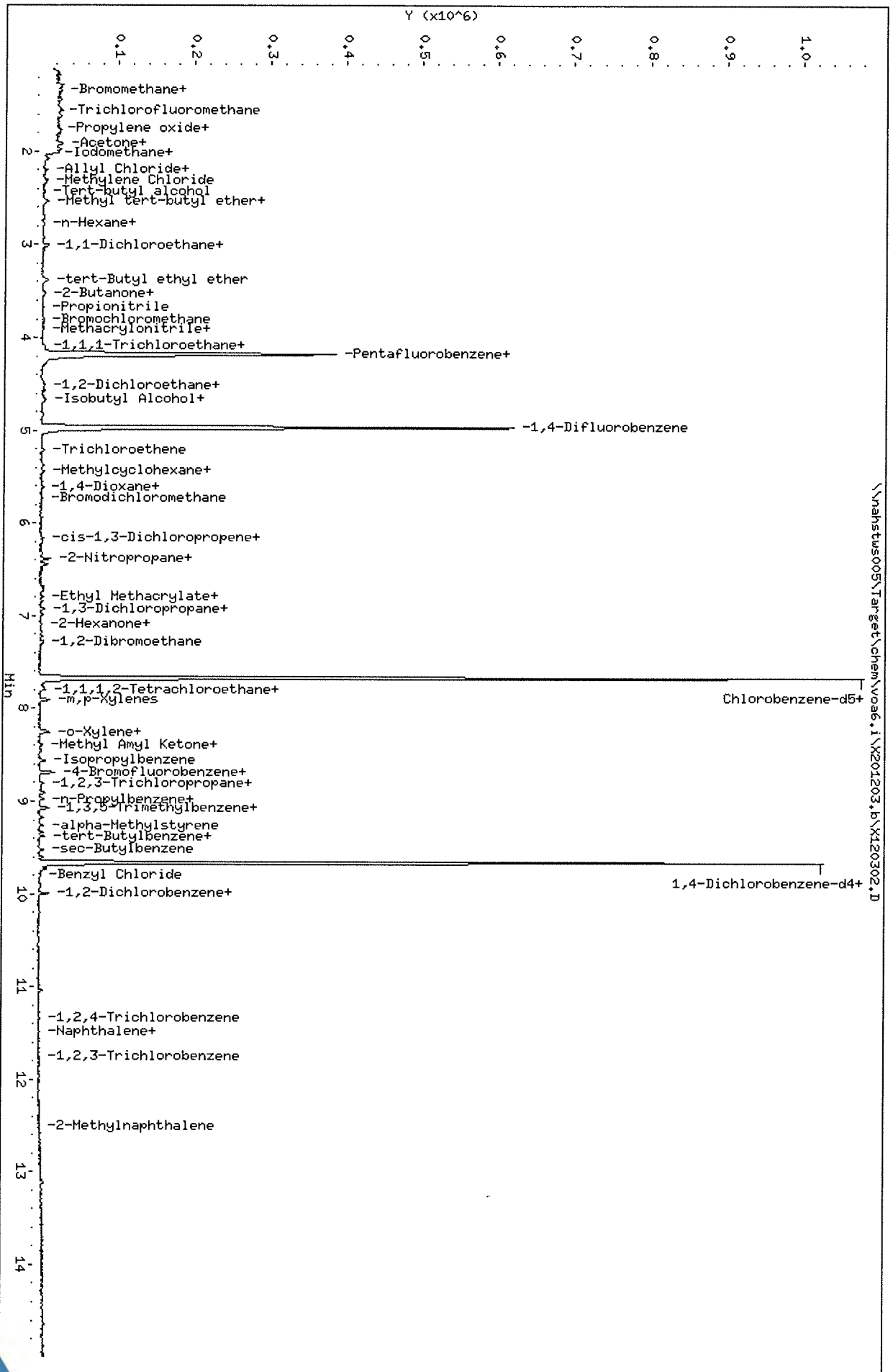
						AMOUNTS	
	QUANT SIG					CAL-AMT	ON-COL
Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
42 1,2-Dichloropropane	63	5.436	5.436	(1.095)	1254	0.25000	0.33(aM)
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	3501	0.25000	0.31(a)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	1723	0.25000	0.28(a)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	1671	0.25000	0.29(a)
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	2418	0.25000	0.39(a)
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	2008	0.25000	0.34(aM)
24 2-Butanone	43	3.595	3.595	(0.860)	781	0.50000	0.61(aM)
76 2-Chlorotoluene	91	8.981	8.981	(0.930)	3628	0.25000	0.38(a)
52 2-Hexanone	43	7.098	7.098	(0.925)	1564	0.50000	0.69(a)
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	4062	0.25000	0.34(a)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	3441	0.25000	0.31(a)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	2124	0.50000	0.64(a)
10 Acetone	43	1.969	1.969	(0.471)	7129	0.50000	(a)
37 Benzene	78	4.519	4.519	(0.911)	4229	0.25000	0.31(a)
74 Bromobenzene	156	8.809	8.809	(0.912)	1161	0.25000	0.32(a)
29 Bromochloromethane	128	3.803	3.803	(0.909)	502	0.25000	0.25(aM)
39 Bromodichloromethane	83	5.729	5.729	(1.154)	1608	0.25000	0.31(aM)
66 Bromoform	173	8.416	8.416	(1.097)	528	0.25000	0.25(aM)
6 Bromomethane	94	1.338	1.338	(0.320)	1529	0.25000	0.61(a)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	5591	0.50000	0.61(aM)
34 Carbon Tetrachloride	117	4.268	4.268	(0.860)	1472	0.25000	0.37(aM)
59 Chlorobenzene	112	7.699	7.699	(1.004)	3473	0.25000	0.37(a)
7 Chloroethane	64	1.403	1.403	(0.336)	987	0.25000	0.30(aM)
28 Chloroform	83	3.910	3.910	(0.935)	2317	0.25000	0.32(a)
3 Chloromethane	50	1.081	1.081	(0.258)	2075	0.25000	1.57(aM)
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	1059	0.25000	0.27(aM)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.241)	1963	0.25000	0.31(a)
55 Dibromochloromethane	129	7.183	7.183	(0.937)	992	0.25000	0.27(a)
44 Dibromomethane	93	5.557	5.557	(1.120)	914	0.25000	0.36(aM)
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1286	0.25000	3.02(aM)
61 Ethylbenzene	106	7.799	7.799	(1.017)	1661	0.25000	0.36(a)
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	227	0.25000	2.26(aM)
67 Isopropylbenzene	105	8.559	8.559	(1.116)	3768	0.25000	0.27(a)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	3108	0.50000	0.52(a)
17 Methylene Chloride	84	2.298	2.298	(0.550)	1375	0.25000	0.37(a)
87 n-Butylbenzene	91	9.991	9.991	(1.034)	3166	0.25000	1.83(aM)
73 n-Propylbenzene	91	8.917	8.917	(0.923)	5046	0.25000	0.31(a)
92 Naphthalene	128	11.546	11.546	(1.195)	1135	0.25000	0.35(a)
63 o-Xylene	106	8.236	8.236	(1.074)	1930	0.25000	0.33(a)
81 sec-Butylbenzene	105	9.519	9.519	(0.985)	3468	0.25000	0.27(a)
64 Styrene	104	8.258	8.258	(1.077)	2374	0.25000	0.24(a)
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	2790	0.25000	0.31(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	897	0.25000	0.35(a)
50 Toluene	91	6.446	6.446	(0.840)	4907	0.25000	0.35(a)
20 trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	1299	0.25000	0.39(Ta)
51 trans-1,3-Dichloropropene	75	6.696	6.696	(1.349)	1512	0.25000	0.27(a)
38 Trichloroethene	130	5.214	5.214	(1.051)	1207	0.25000	0.33(a)
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	2544	0.25000	0.32(a)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1625	0.25000	0.33(aM)

QC Flag Legend

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

QC Flag Legend

M - Compound response manually integrated.



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120302.D
Date : 03-DEC-2020 11:01
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\X201203.b\X120303.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 03-DEC-2020 11:22
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:31 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 11:01 Cal File: X120302.D
Als bottle: 3 Calibration Sample, Level: 2
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

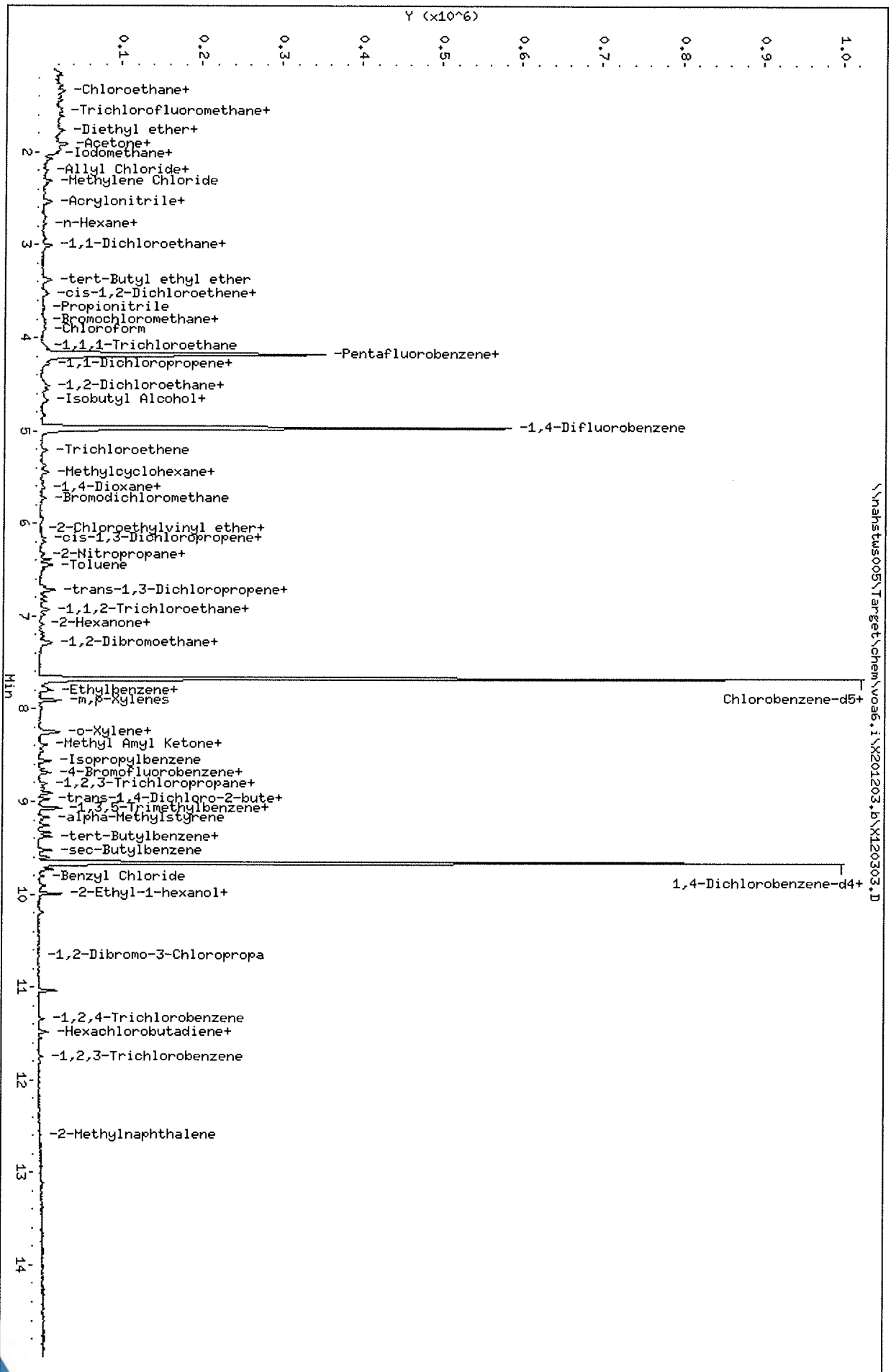
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	256515	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	457625	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	421111	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	189186	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	1948	0.50000	0.40(a)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	3206	0.50000	(Ta)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	7857	0.50000	1.08(a)
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	3817	0.50000	0.73(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1809	0.50000	0.59(aM)
	31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	3204	0.50000	0.60(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	2187	0.50000	0.57(aM)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	1576	0.50000	0.58(a)
	22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	3452	0.50000	0.56(Ta)
	11 1,1-Dichloroethene	96	1.926	1.926	(0.461)	2250	0.50000	0.57(aM)
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	2485	0.50000	0.56(a)
	93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	379	0.50000	0.37(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	2473	0.50000	0.56(a)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	876	0.50000	0.49(aM)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	6054	0.50000	0.58(aM)
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	156	0.50000	(aM)
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	1797	0.50000	0.55(a)
	88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	3418	0.50000	0.62(aM)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D Page 2
Report Date: 22-Dec-2020 16:32

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)	2712	0.50000	0.52(a)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	1853	0.50000	0.53(aM)
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	6618	0.50000	0.62(aM)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	3599	0.50000	0.61(aM)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	2938	0.50000	0.55(a)
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	3018	0.50000	0.51(aM)
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	2994	0.50000	0.55(aM)
24 2-Butanone	43	3.595	3.595	(0.860)	1128	1.00000	0.94(aM)
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	5706	0.50000	0.63(aM)
52 2-Hexanone	43	7.083	7.083	(0.923)	2455	1.00000	1.16(a)
77 4-Chlorotoluene	91	9.074	9.074	(0.939)	6973	0.50000	0.62(aM)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	6184	0.50000	0.59(aM)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	3158	1.00000	1.02(a)
10 Acetone	43	1.976	1.976	(0.473)	7183	1.00000	(a)
37 Benzene	78	4.519	4.519	(0.909)	7440	0.50000	0.59(aM)
74 Bromobenzene	156	8.809	8.809	(0.912)	2031	0.50000	0.60(a)
29 Bromochloromethane	128	3.803	3.803	(0.909)	867	0.50000	0.47(a)
39 Bromodichloromethane	83	5.729	5.729	(1.153)	2534	0.50000	0.53(aM)
66 Bromoform	173	8.408	8.408	(1.096)	929	0.50000	0.48(aM)
6 Bromomethane	94	1.338	1.338	(0.320)	2325	0.50000	0.83(aM)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	9061	1.00000	1.06(aM)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	2081	0.50000	0.56(aM)
59 Chlorobenzene	112	7.699	7.699	(1.004)	4741	0.50000	0.54(a)
7 Chloroethane	64	1.403	1.403	(0.336)	1866	0.50000	0.61(a)
28 Chloroform	83	3.910	3.910	(0.935)	3782	0.50000	0.57(a)
3 Chloromethane	50	1.073	1.073	(0.257)	3221	0.50000	1.82(aM)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	2083	0.50000	0.57(a)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	3278	0.50000	0.55(a)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	1893	0.50000	0.55(a)
44 Dibromomethane	93	5.557	5.557	(1.118)	1234	0.50000	0.53(aM)
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1748	0.50000	3.16(a)
61 Ethylbenzene	106	7.807	7.807	(1.018)	2436	0.50000	0.57(a)
91 Hexachlorobutadiene	225	11.474	11.474	(1.188)	433	0.50000	2.46(aM)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	7802	0.50000	0.59(a)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	6588	1.00000	1.19(a)
17 Methylene Chloride	84	2.305	2.305	(0.551)	2018	0.50000	0.58(aM)
87 n-Butylbenzene	91	9.999	9.999	(1.035)	6359	0.50000	2.15(aM)
73 n-Propylbenzene	91	8.910	8.910	(0.922)	9262	0.50000	0.60(aM)
92 Naphthalene	128	11.546	11.546	(1.195)	1437	0.50000	0.47(aM)
63 o-Xylene	106	8.244	8.244	(1.075)	3329	0.50000	0.61(a)
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	7196	0.50000	0.59(aM)
64 Styrene	104	8.258	8.258	(1.077)	5249	0.50000	0.57(a)
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	5439	0.50000	0.63(aM)
56 Tetrachloroethene	164	6.926	6.926	(0.903)	1279	0.50000	0.54(a)
50 Toluene	91	6.453	6.453	(0.841)	7452	0.50000	0.56(a)
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	1616	0.50000	0.52(a)
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	3007	0.50000	0.58(a)
38 Trichloroethene	130	5.206	5.206	(1.048)	2112	0.50000	0.63(a)
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	4135	0.50000	0.56(a)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	2571	0.50000	0.56(aM)

QC Flag Legend

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



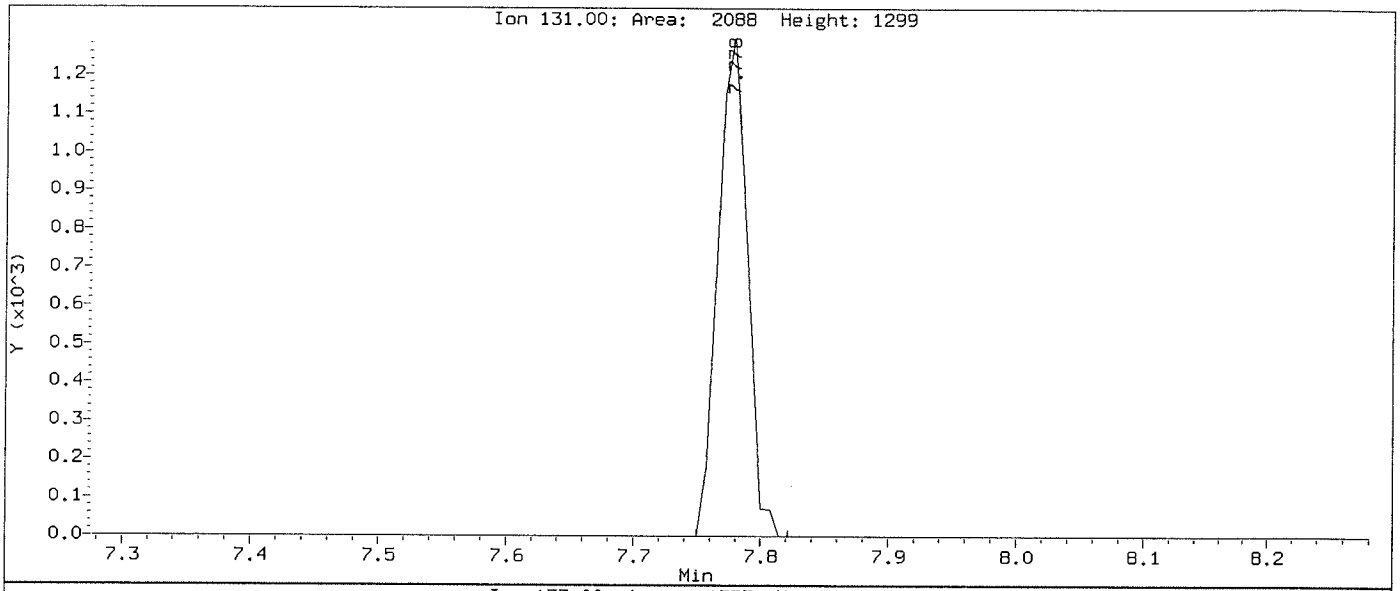
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Date : 03-DEC-2020 11:22
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

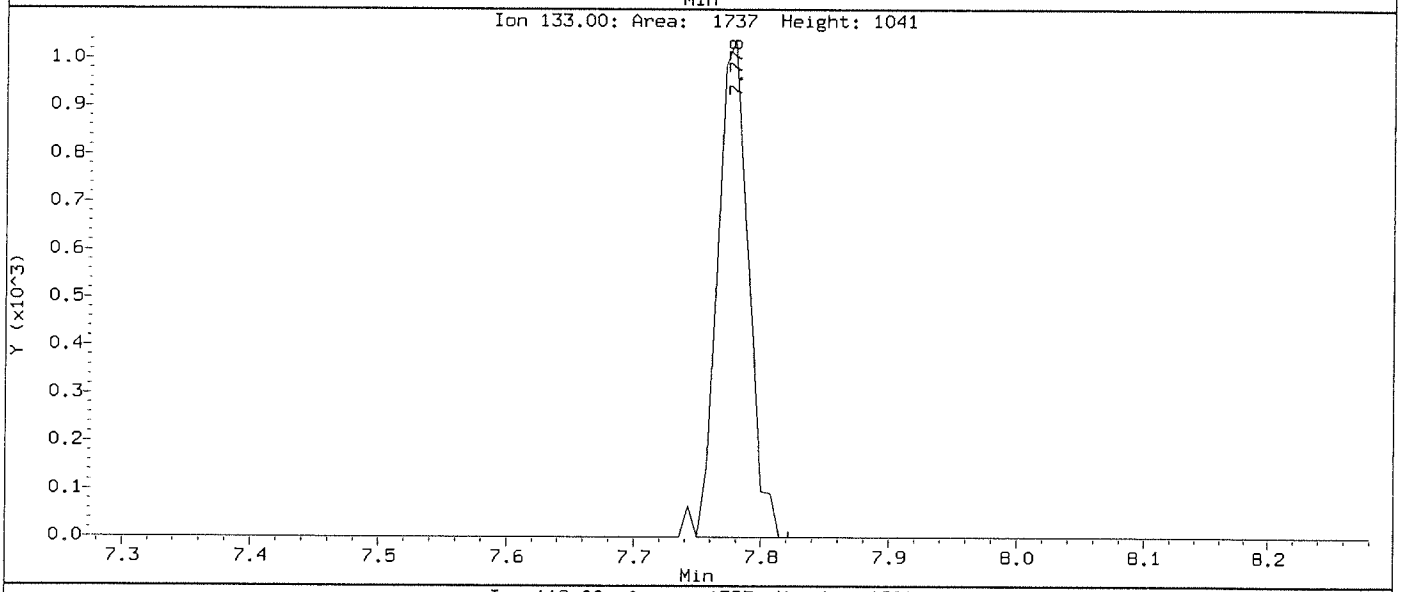
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

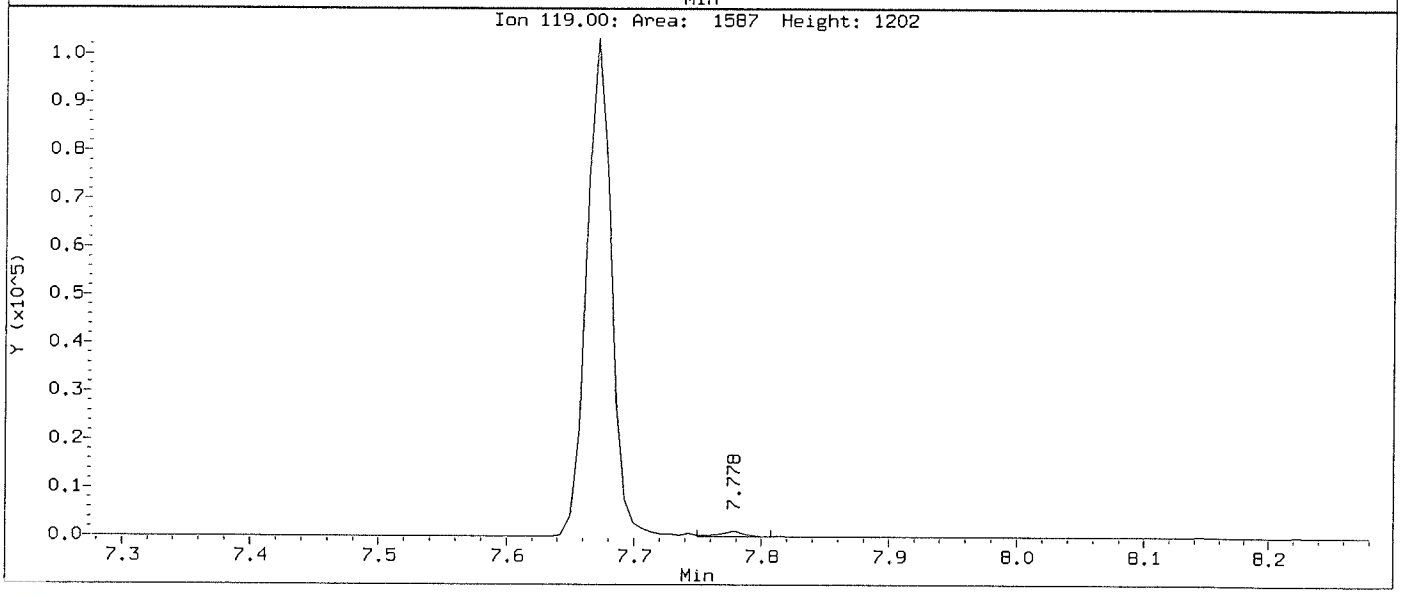
\\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,1,2-Tetrachloroethane
CAS Number: 630-20-6

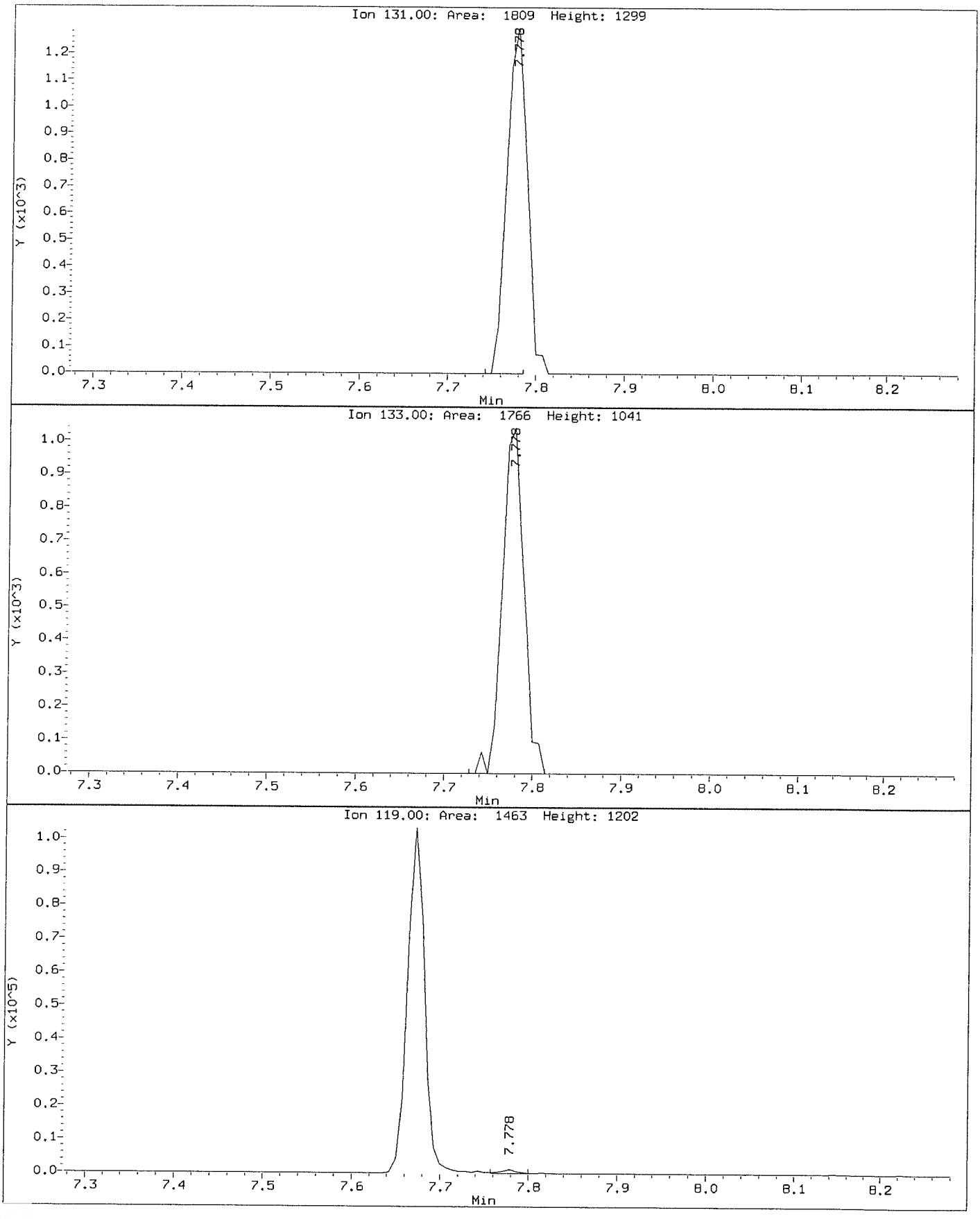






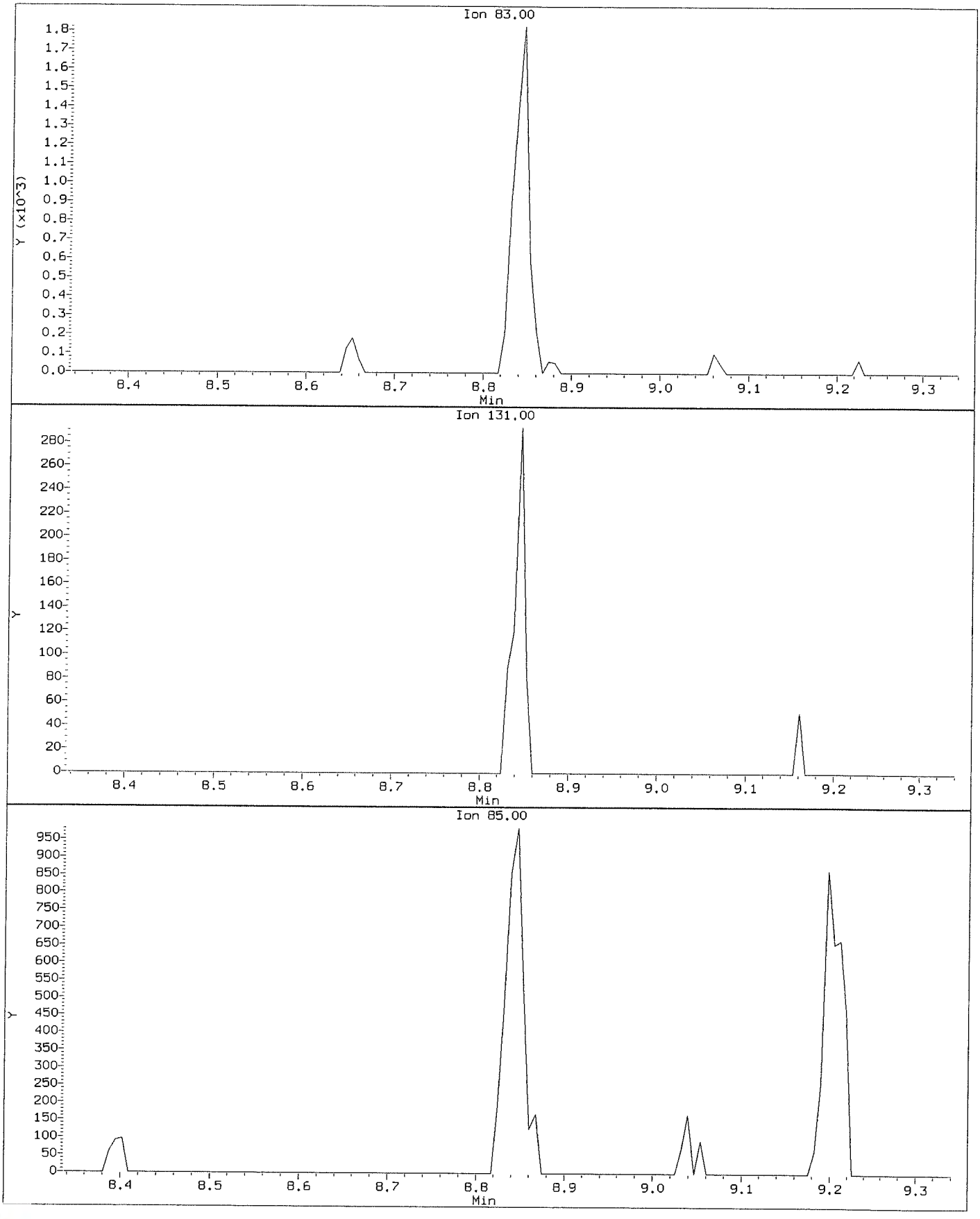
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,1,2-Tetrachloroethane
CAS Number: 630-20-6



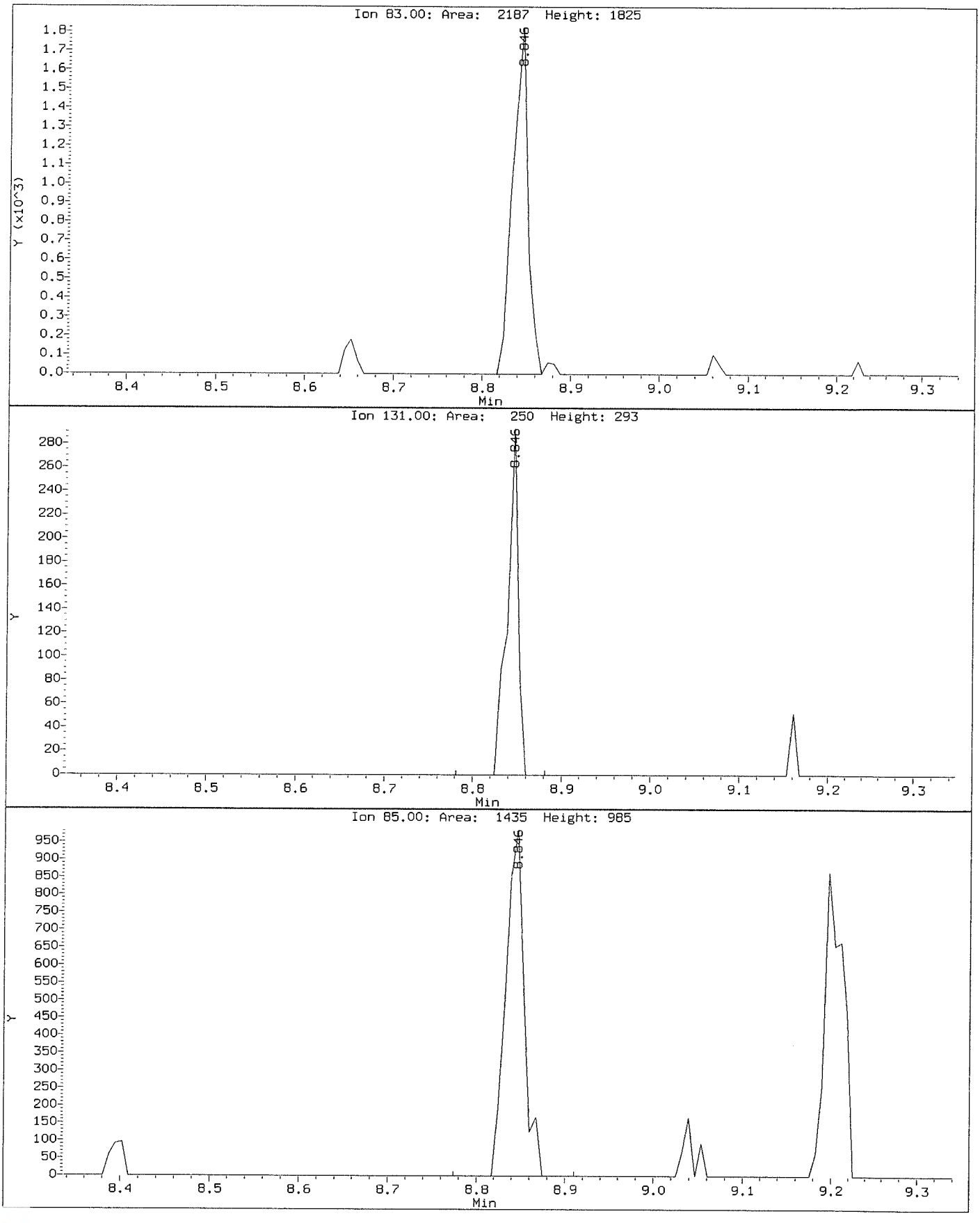
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



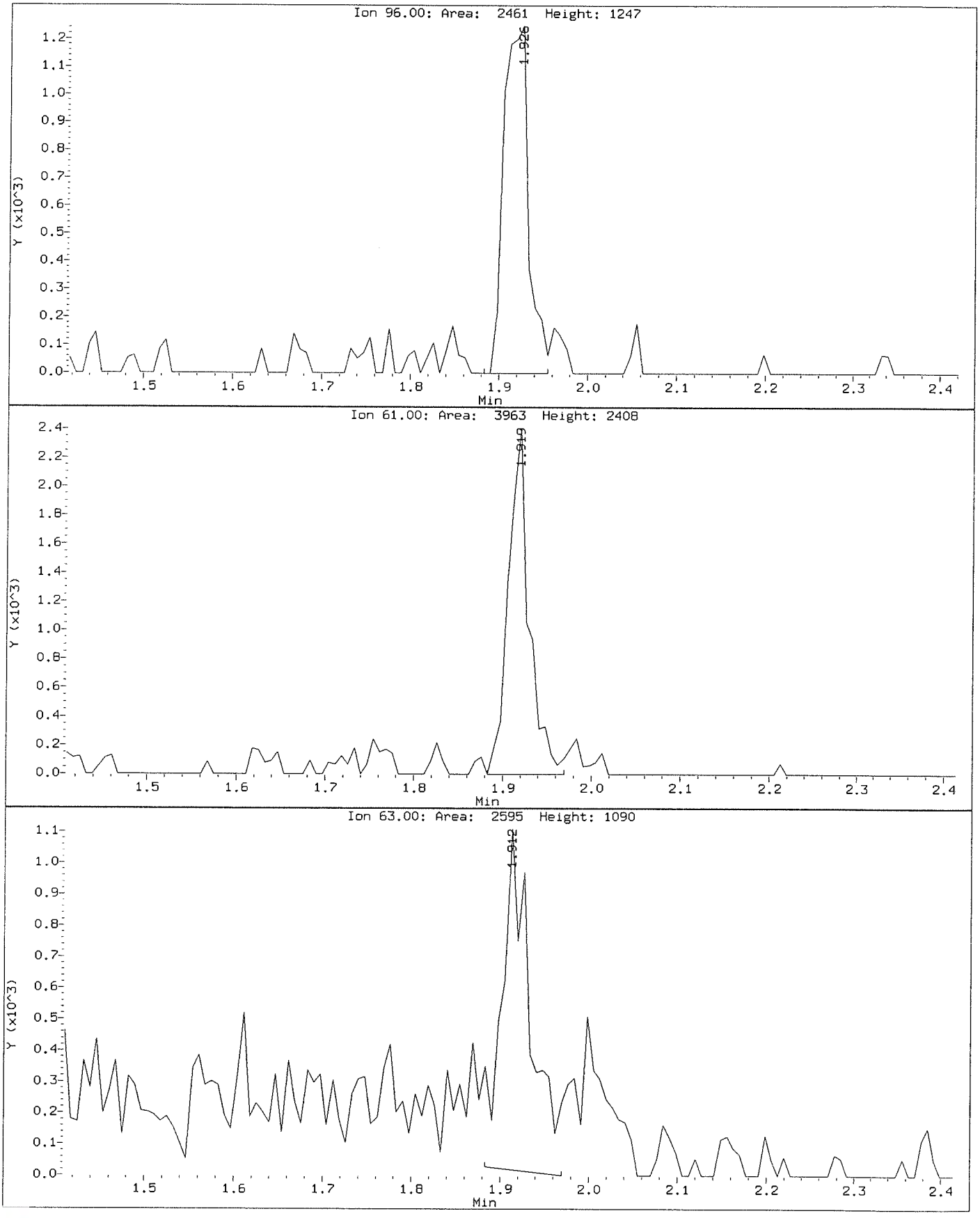
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



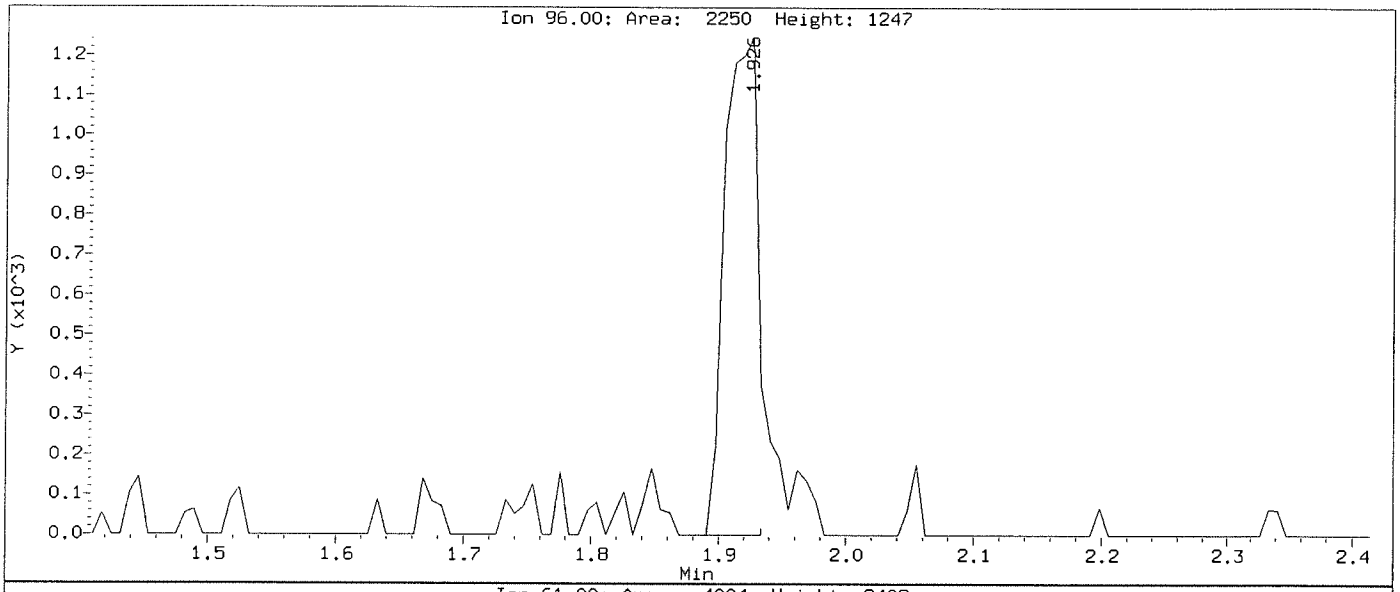
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

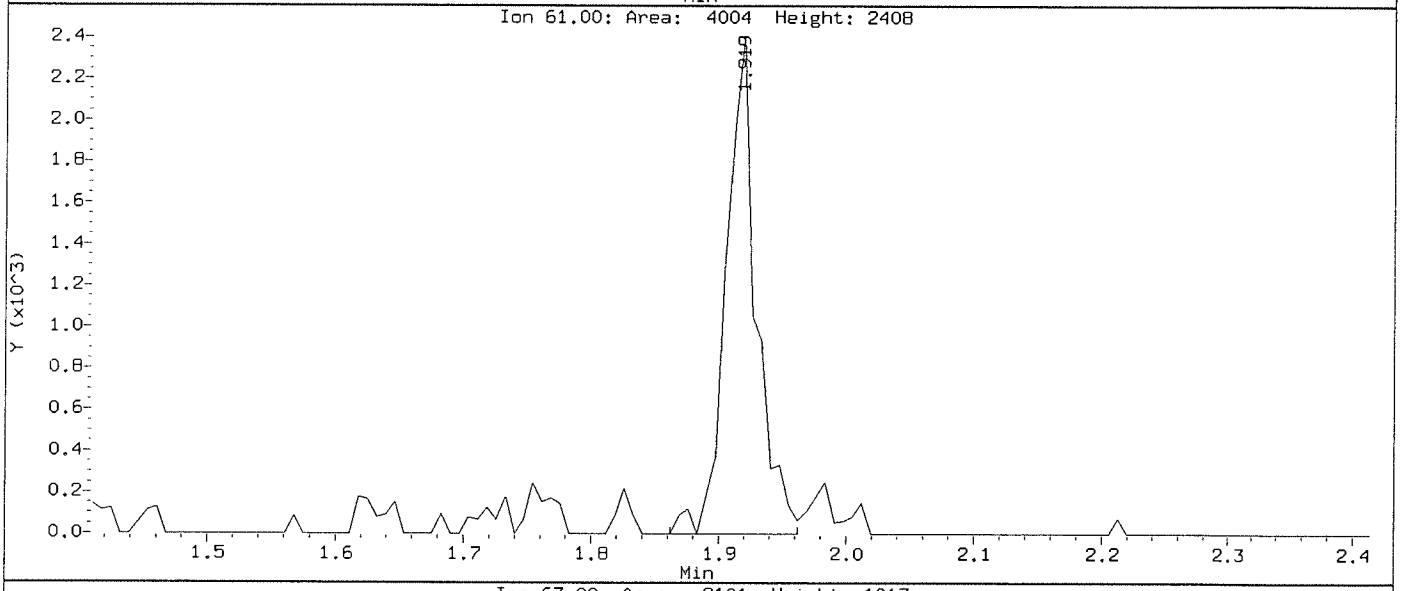
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

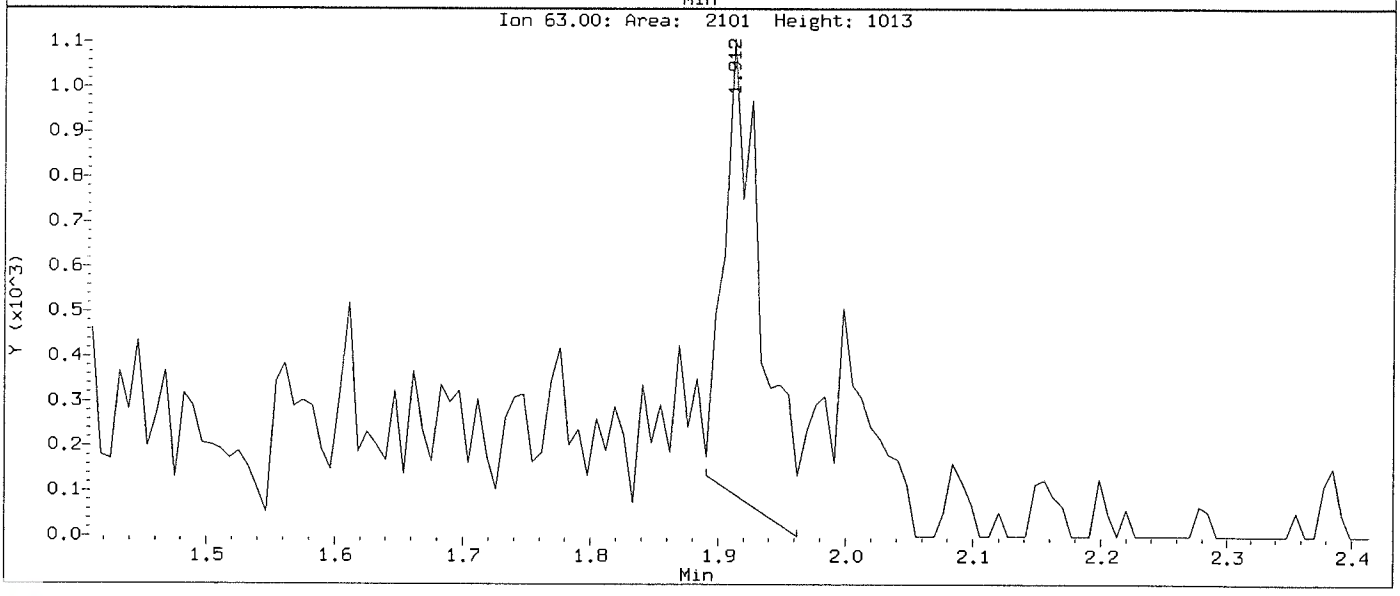


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

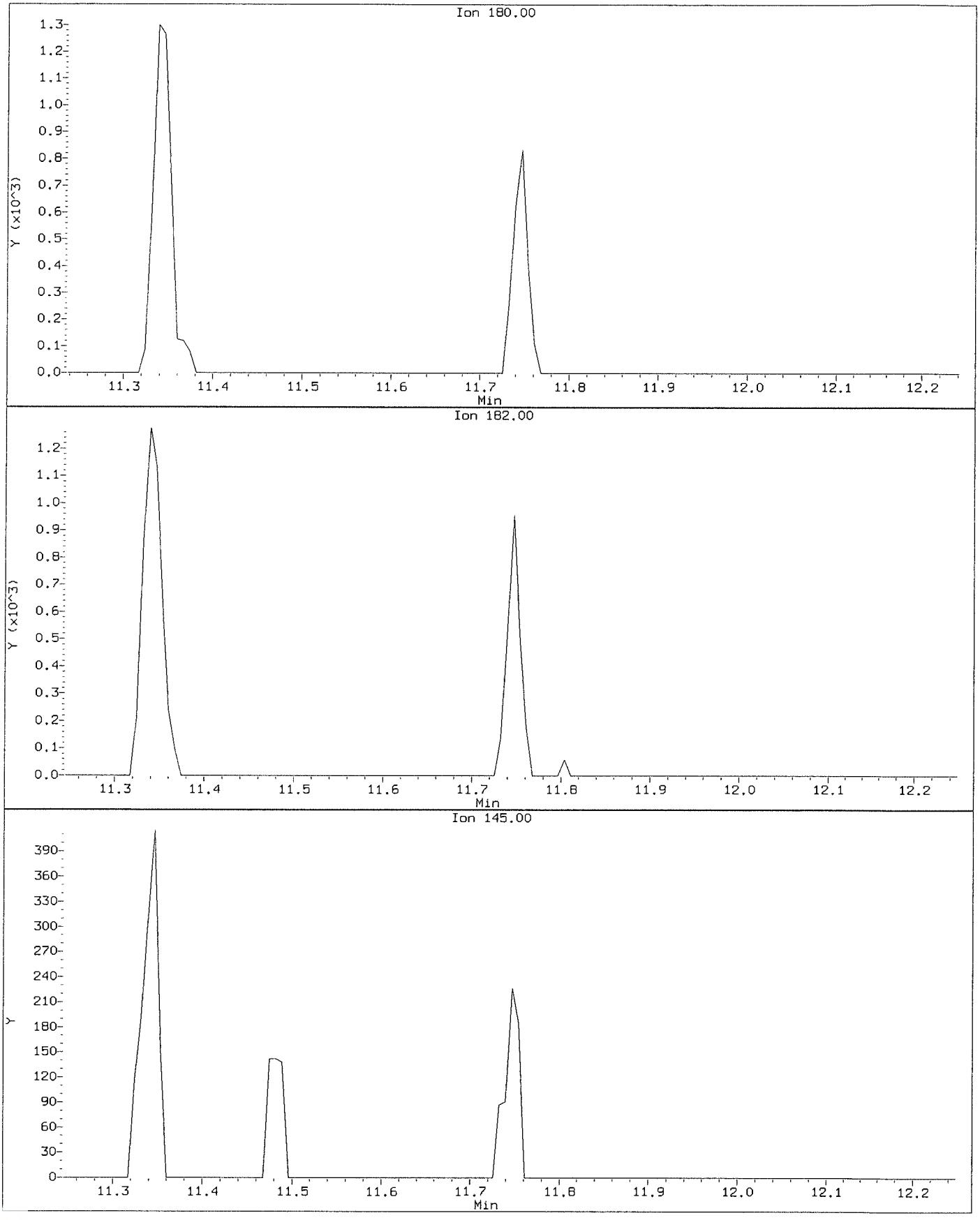






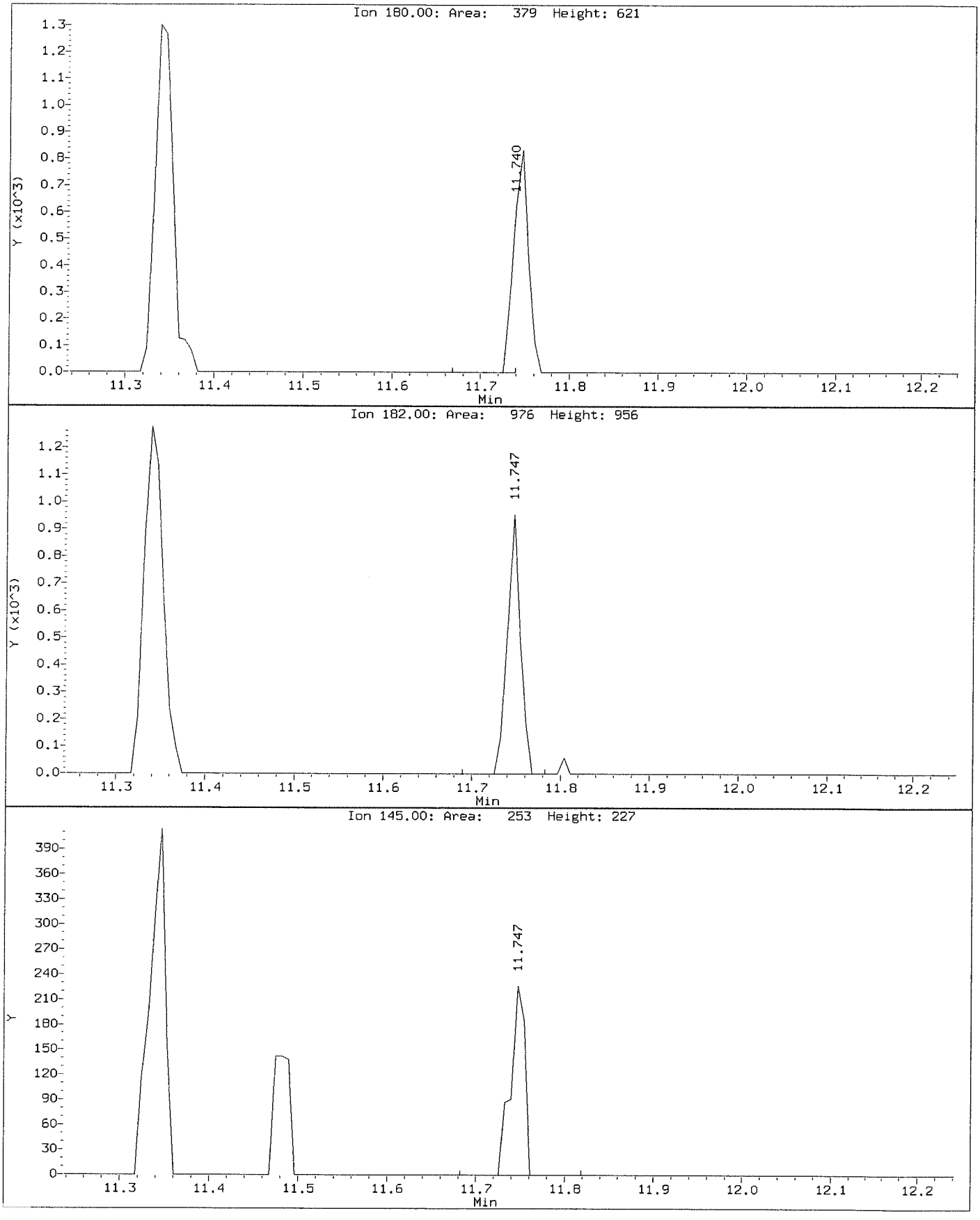
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



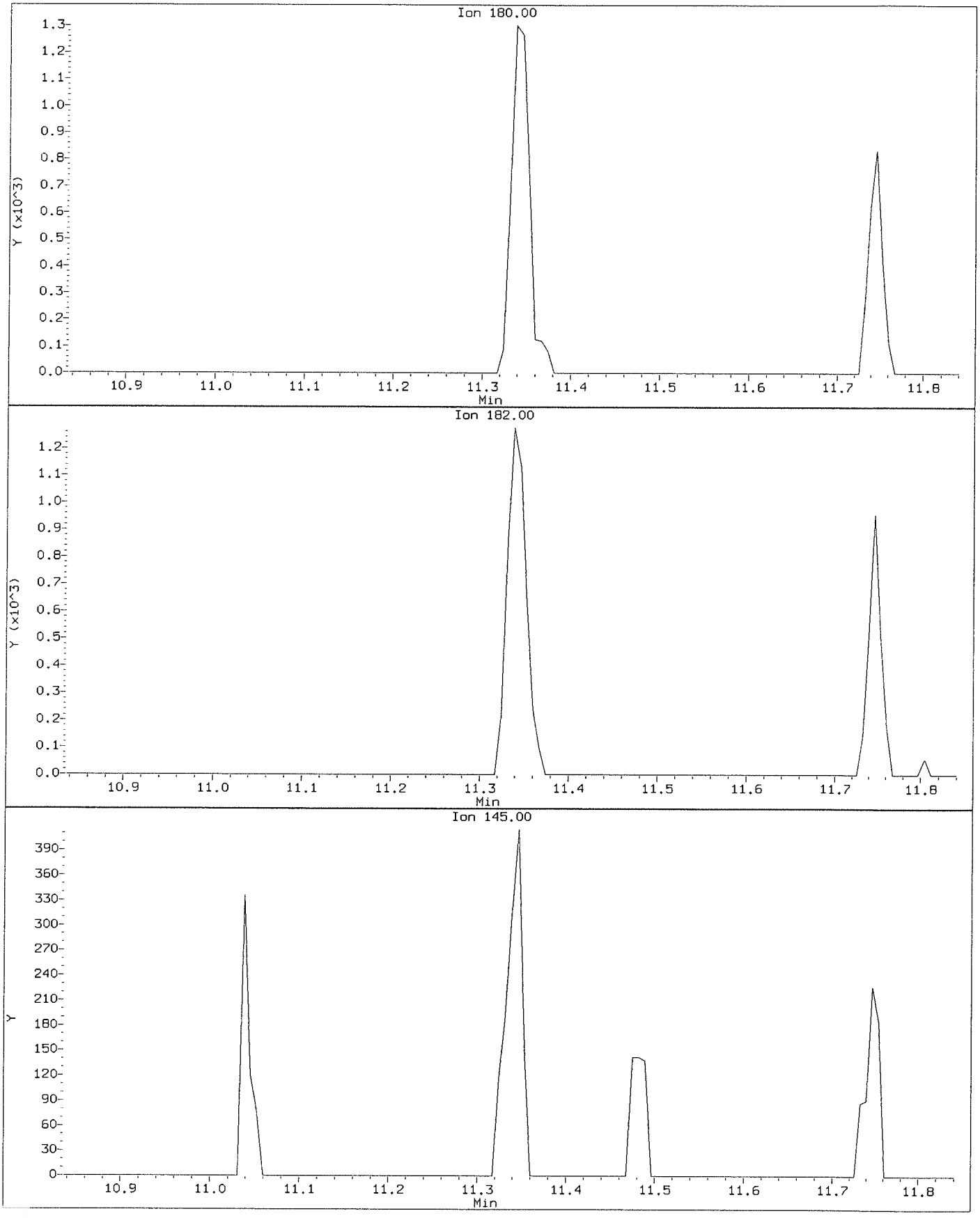
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



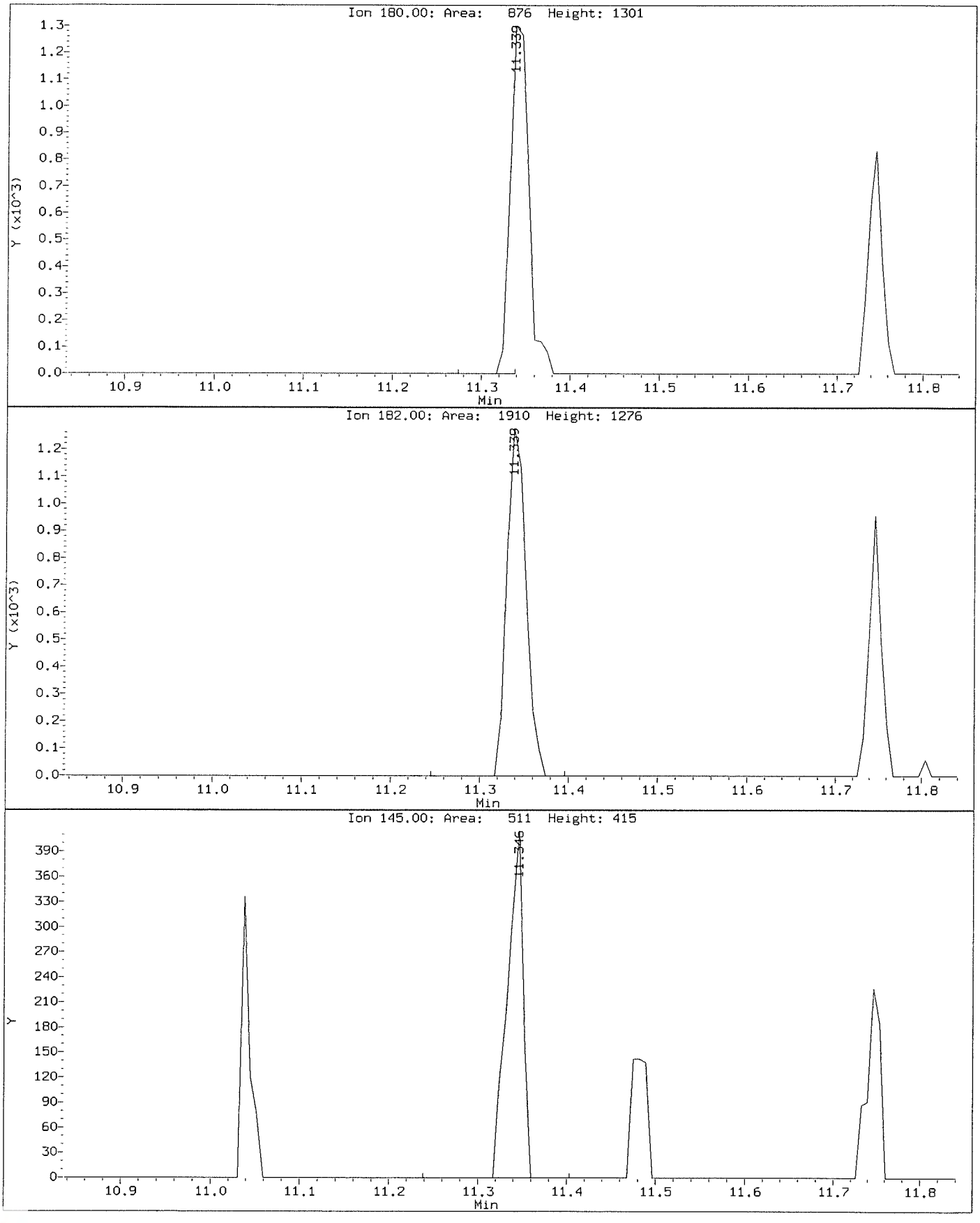
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



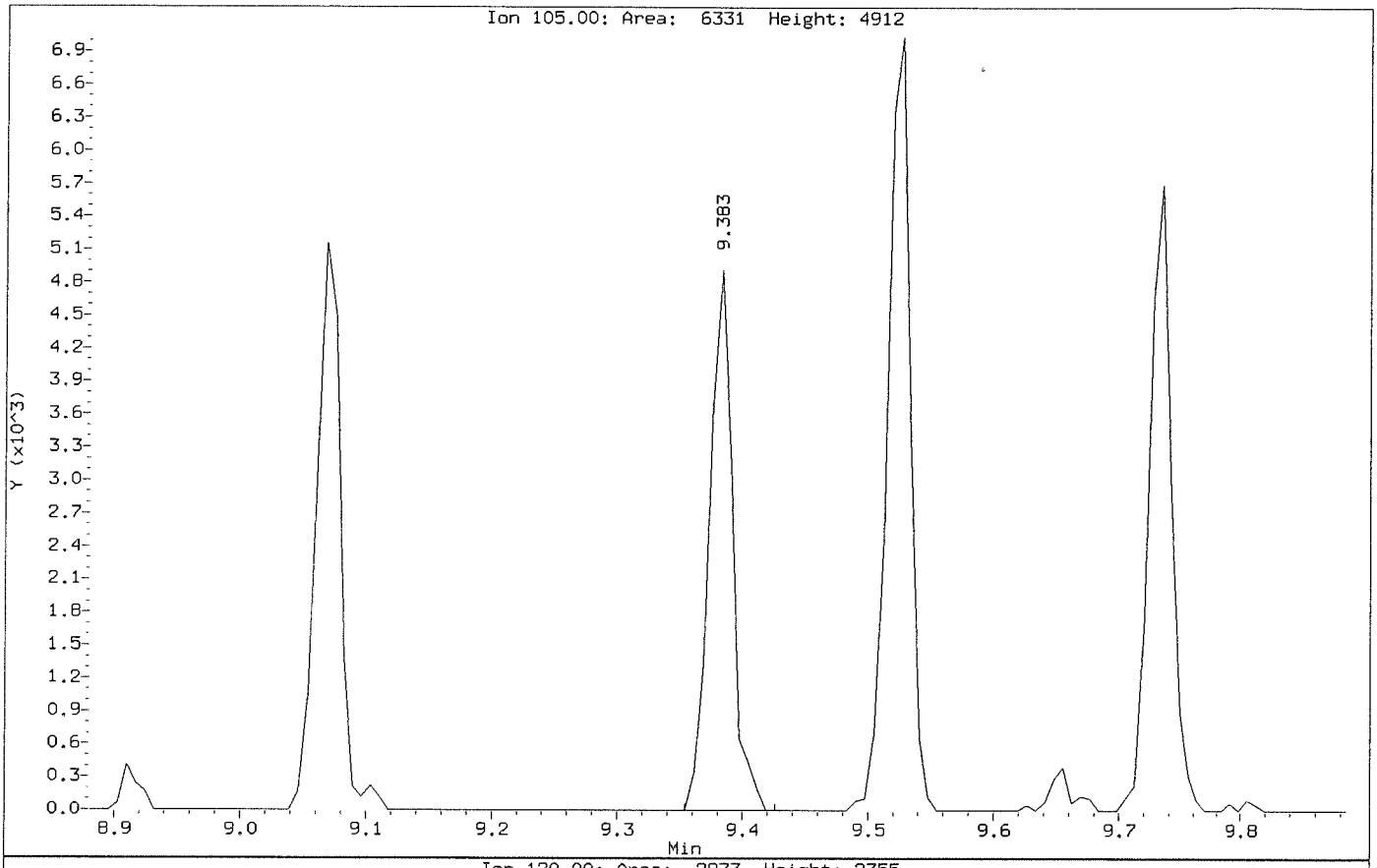
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

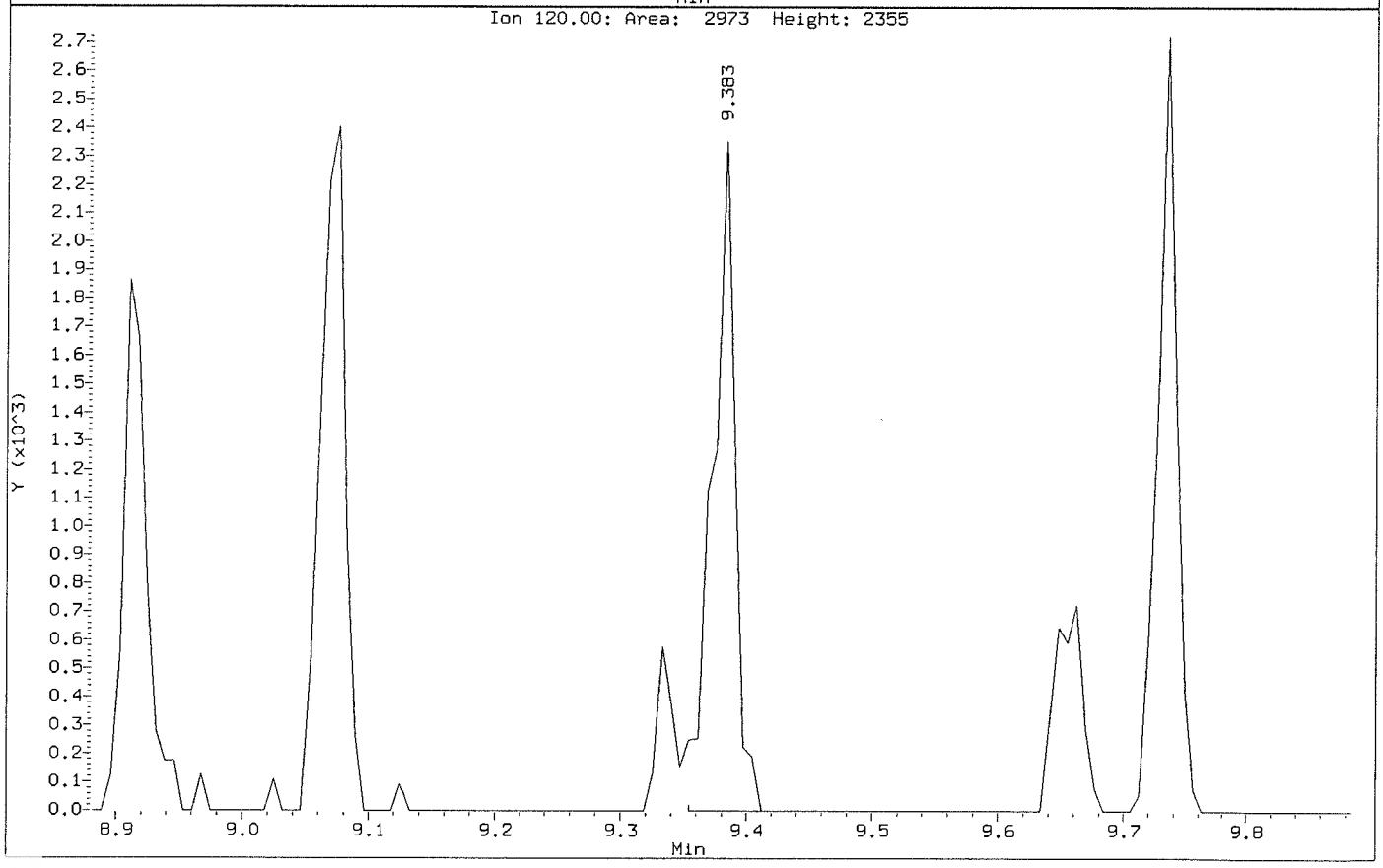
Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

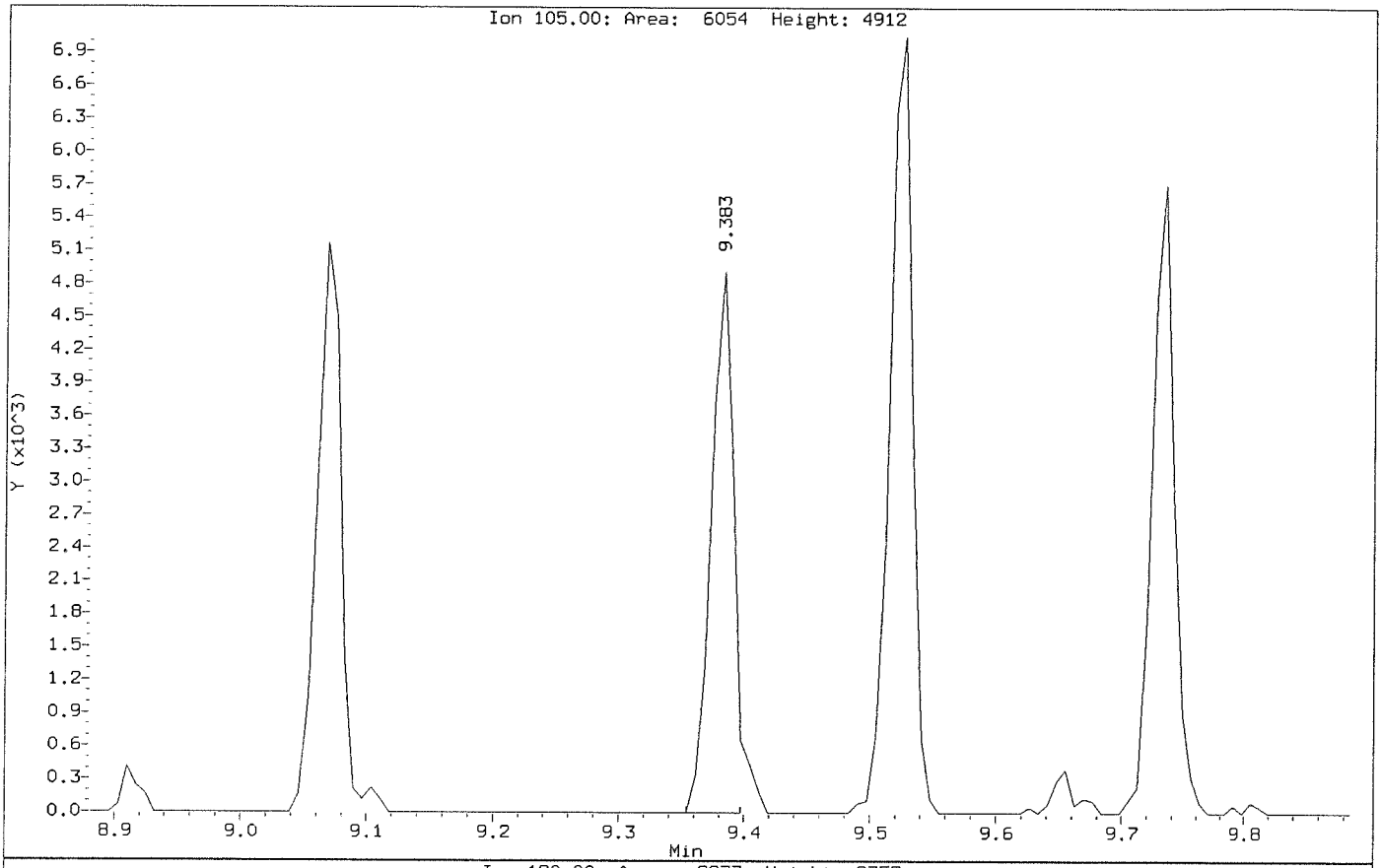
Compound: 1,2,4-Trimethylbenzene
CAS Number: 95-63-6

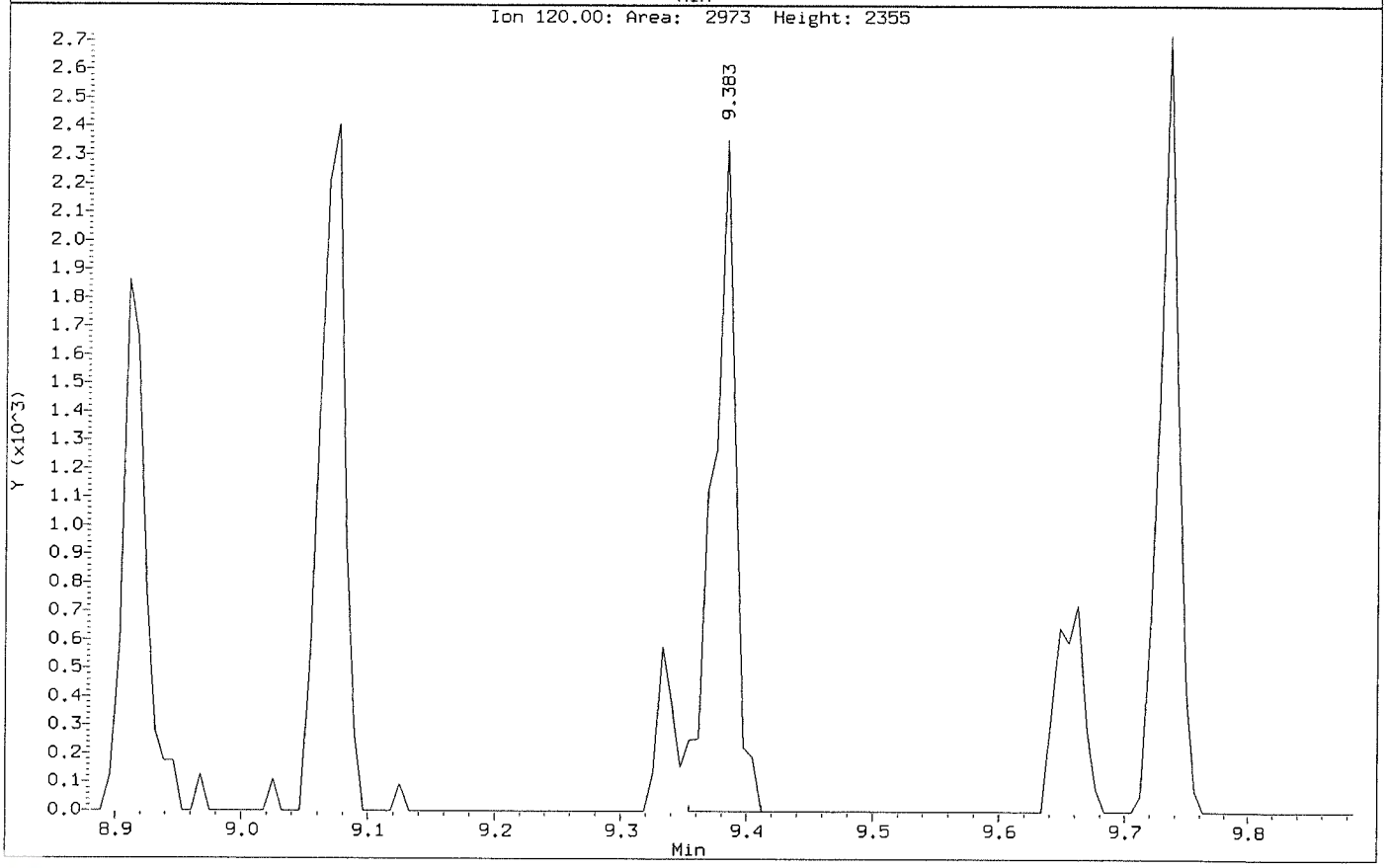




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

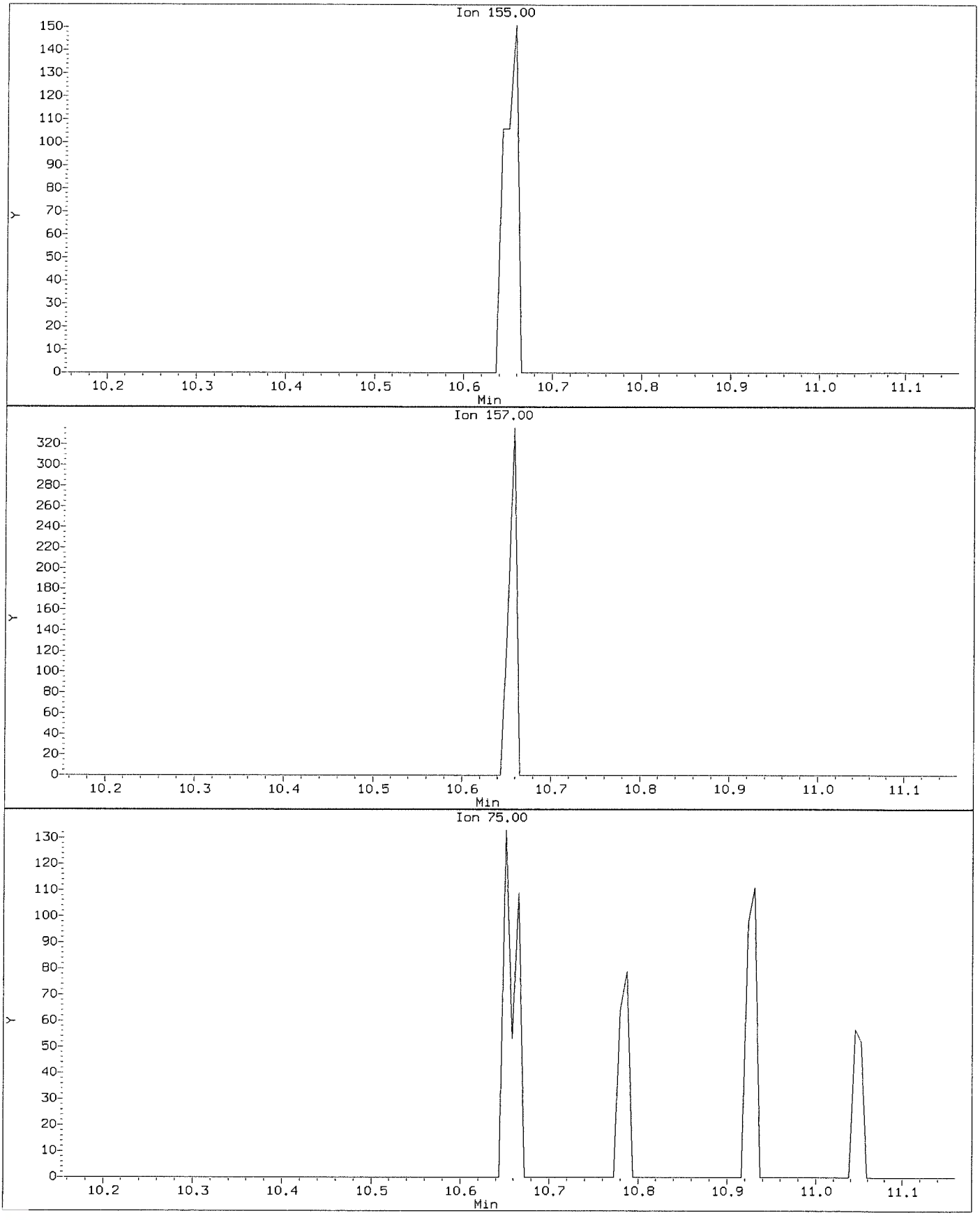
Compound: 1,2,4-Trimethylbenzene
CAS Number: 95-63-6





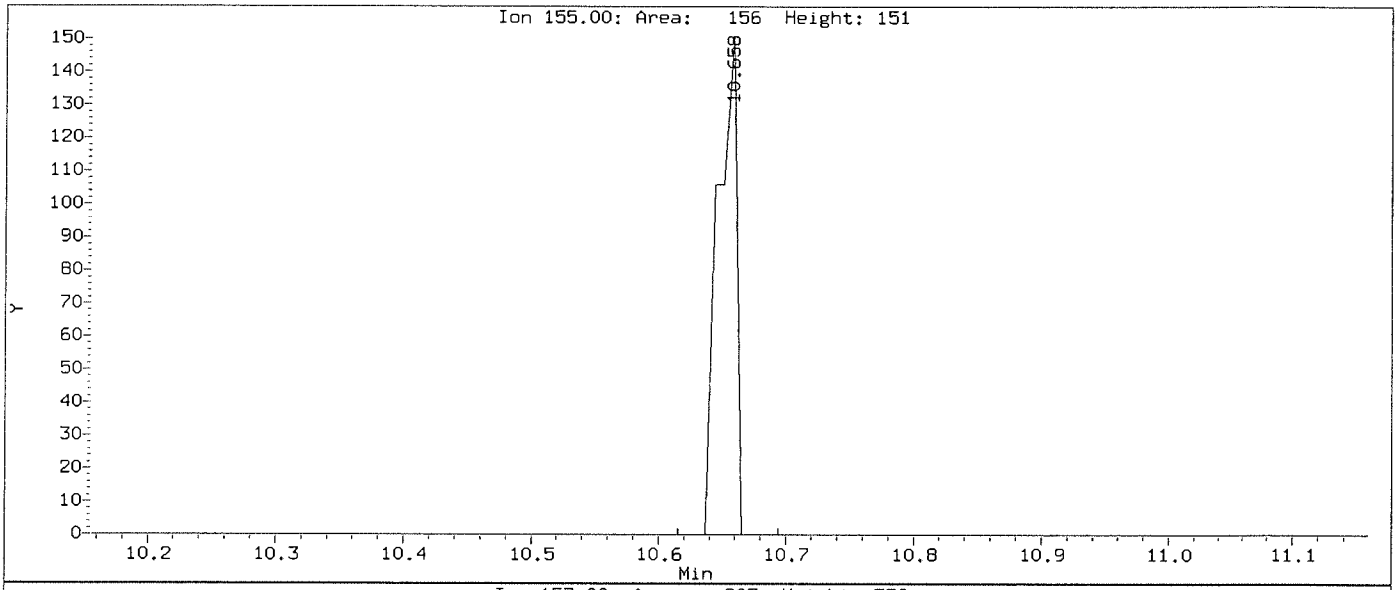
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

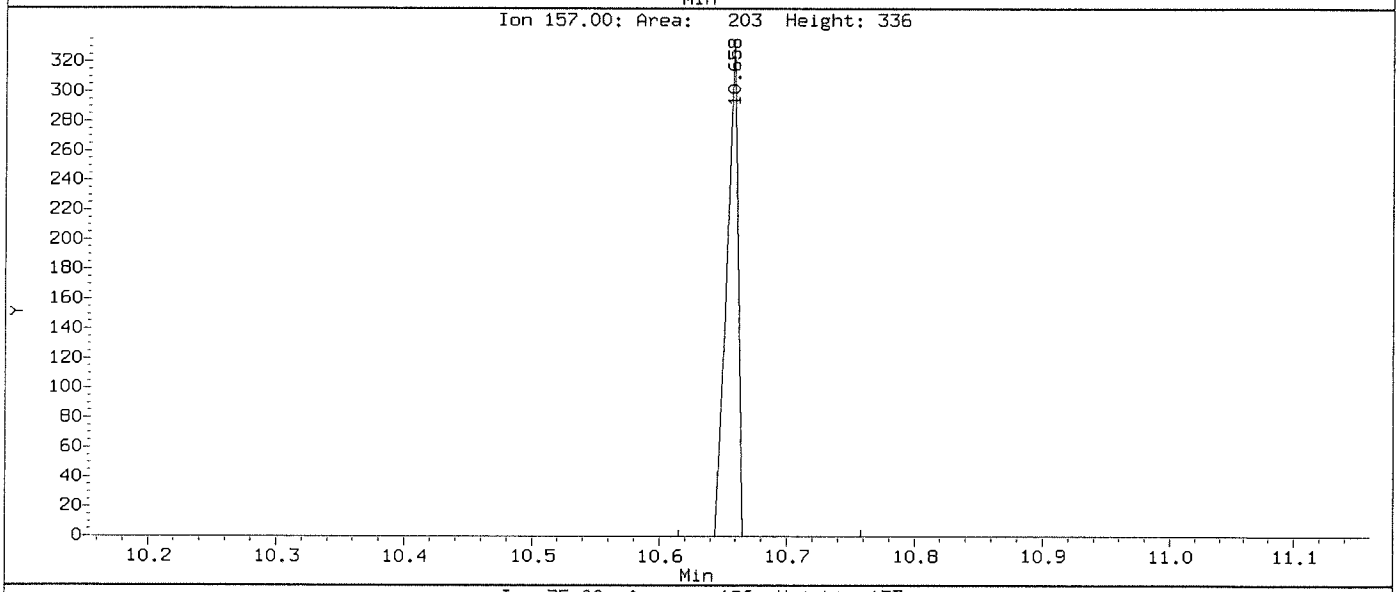
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

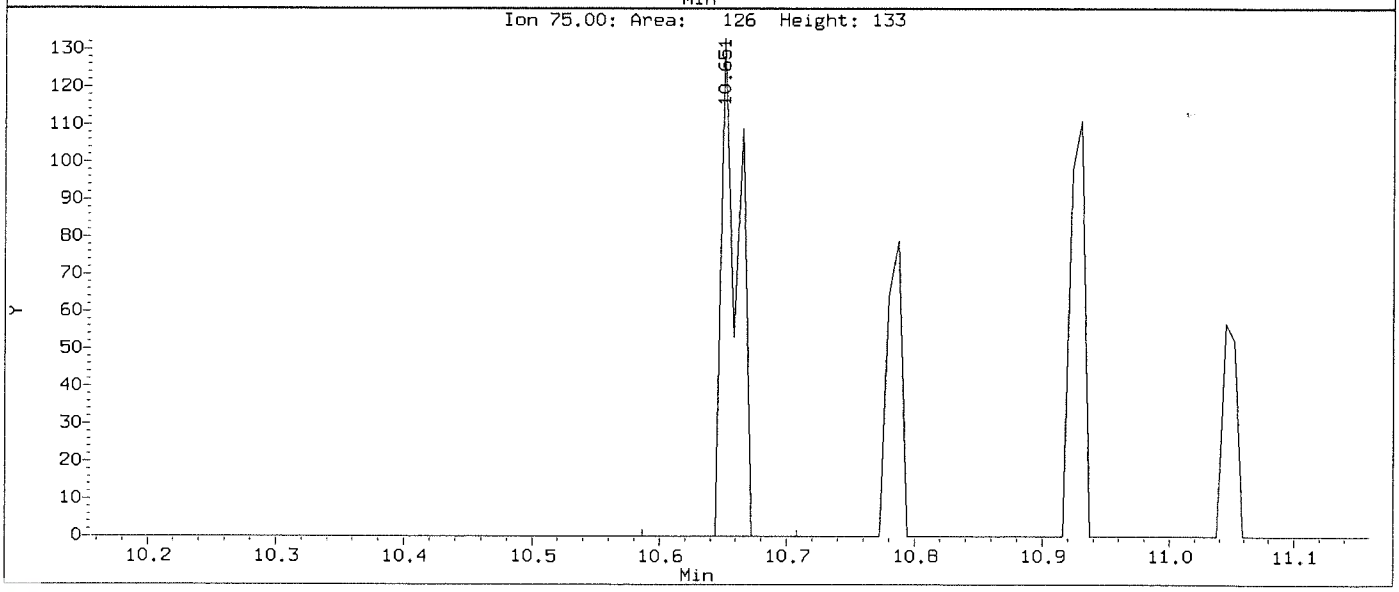


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

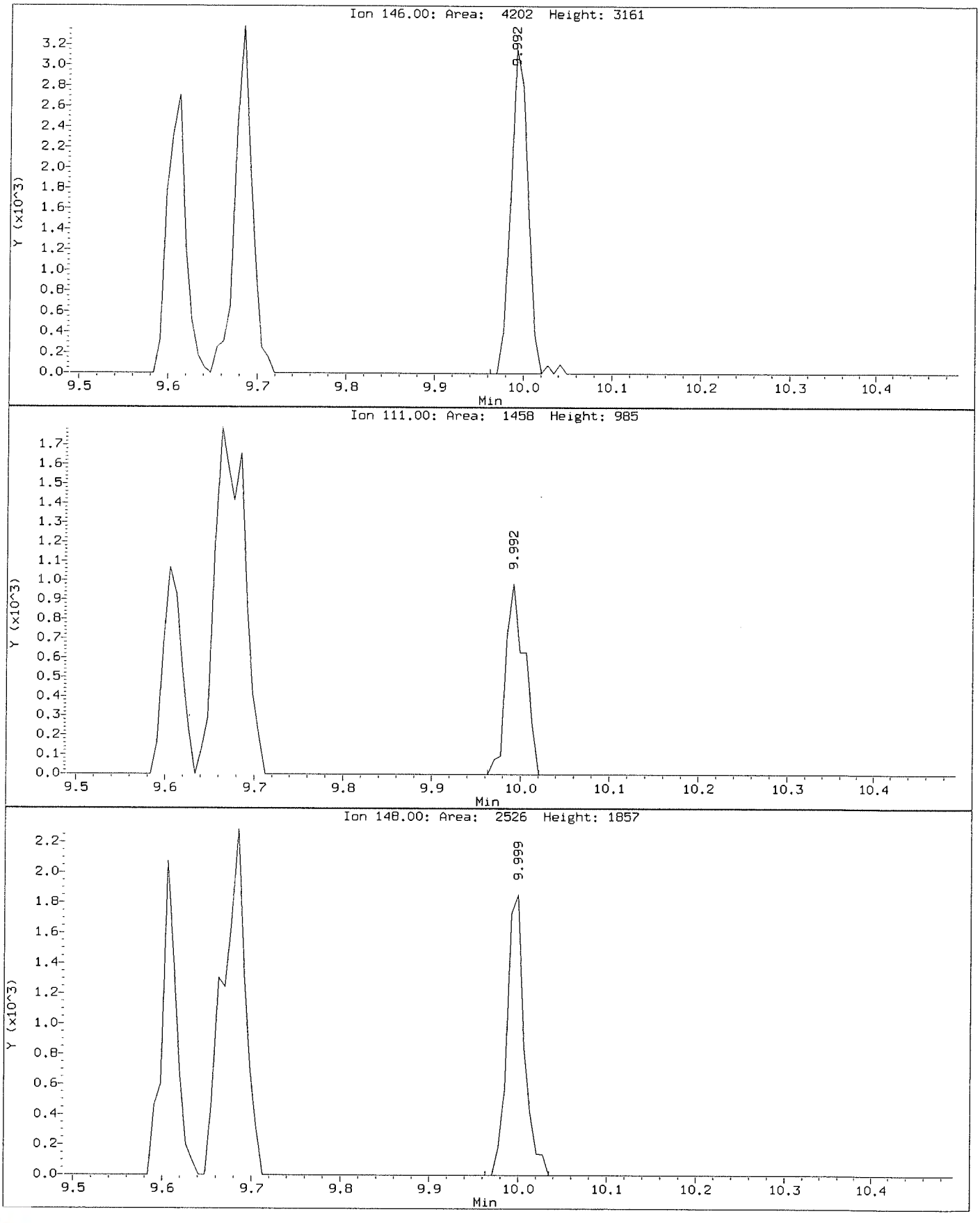






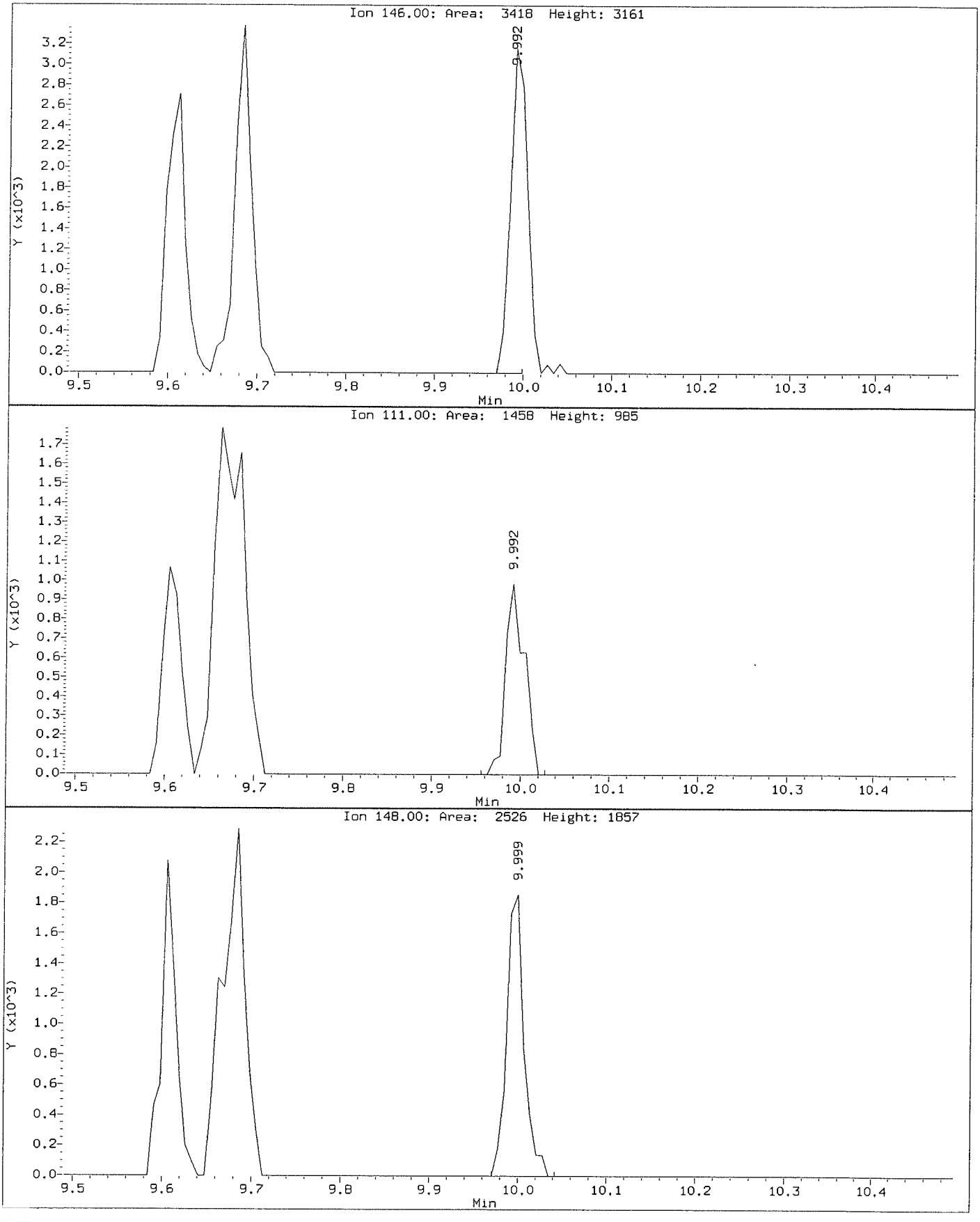
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichlorobenzene
CAS Number: 95-50-1



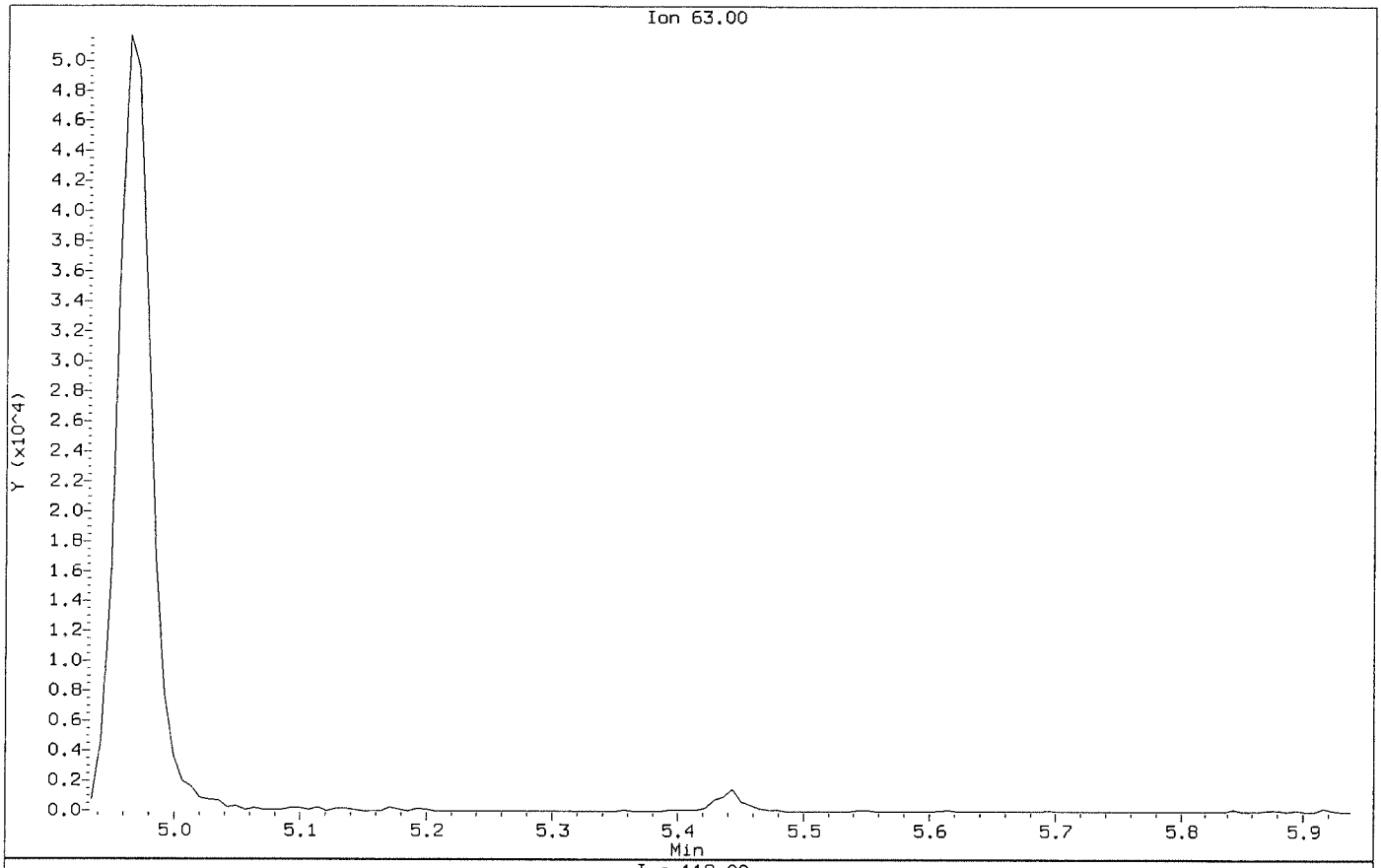
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

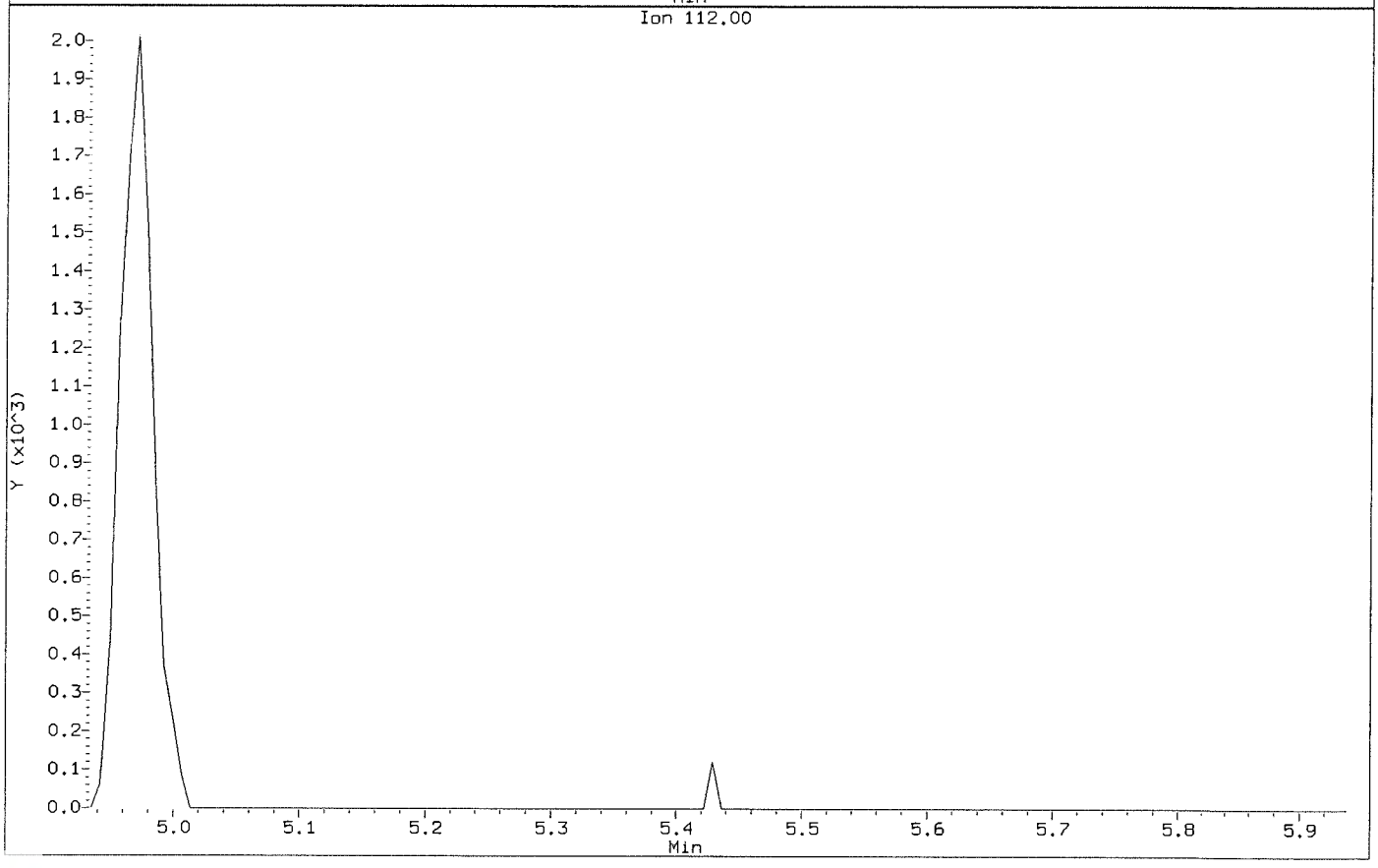
Compound: 1,2-Dichlorobenzene
CAS Number: 95-50-1



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

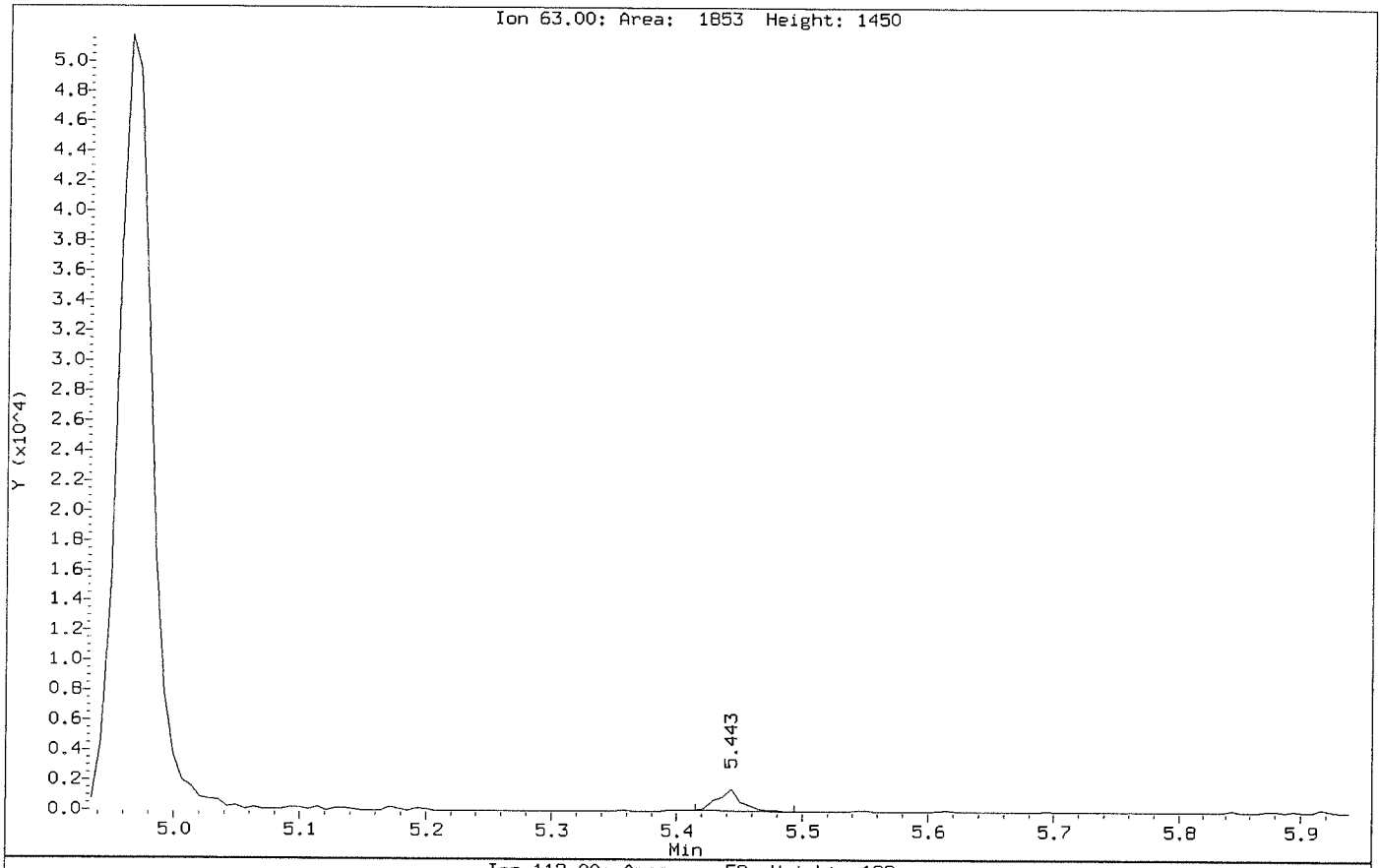
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

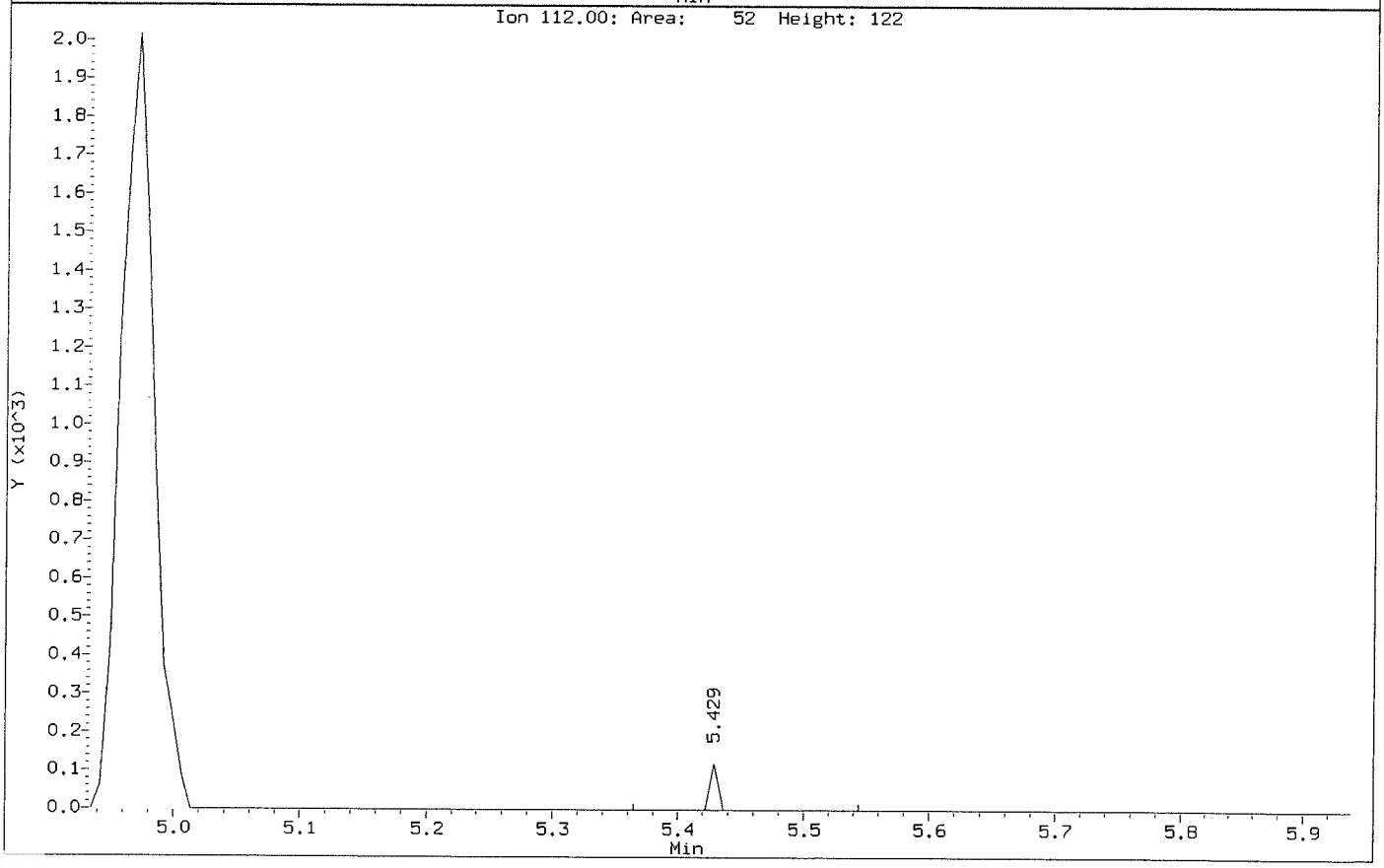




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

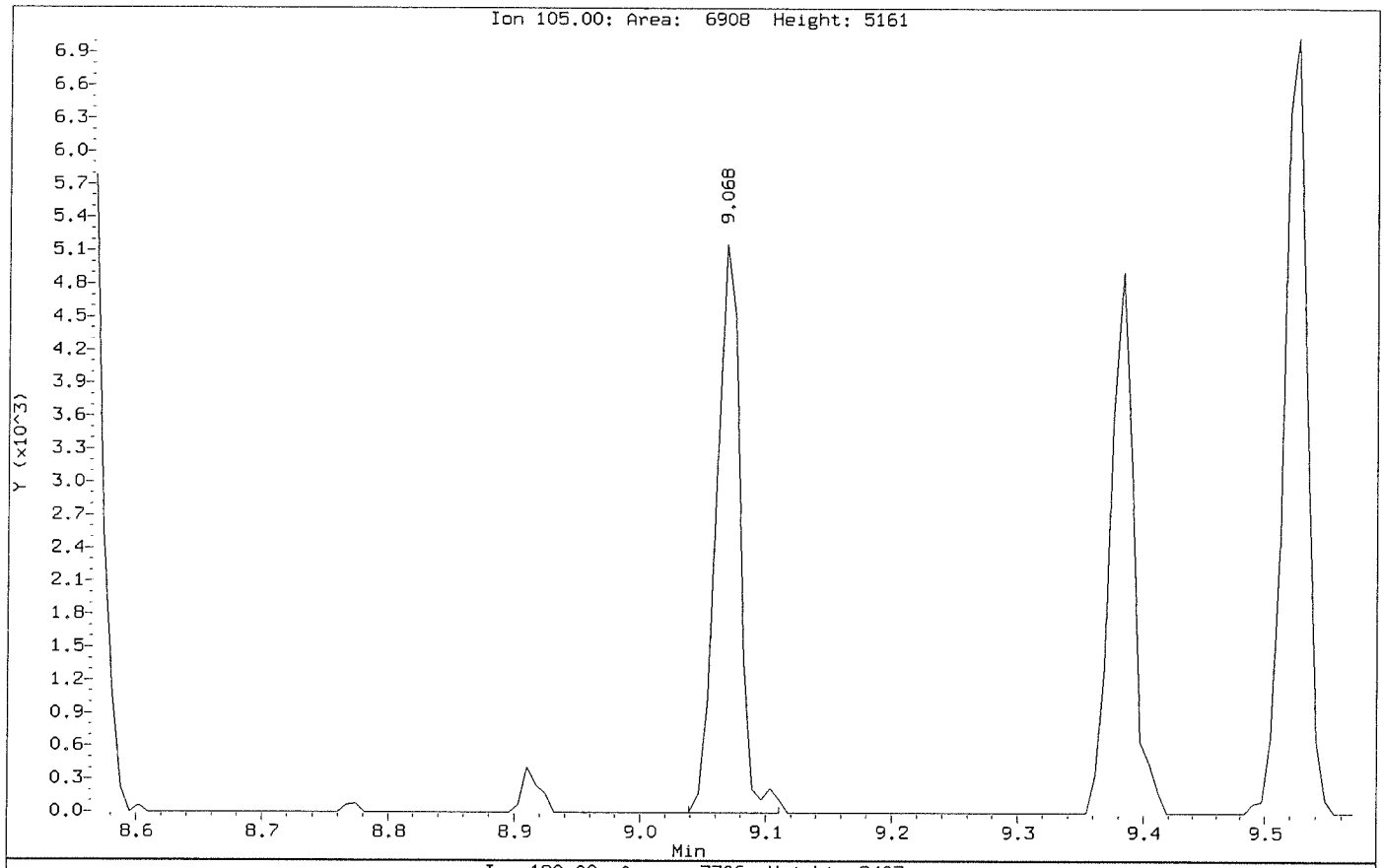
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

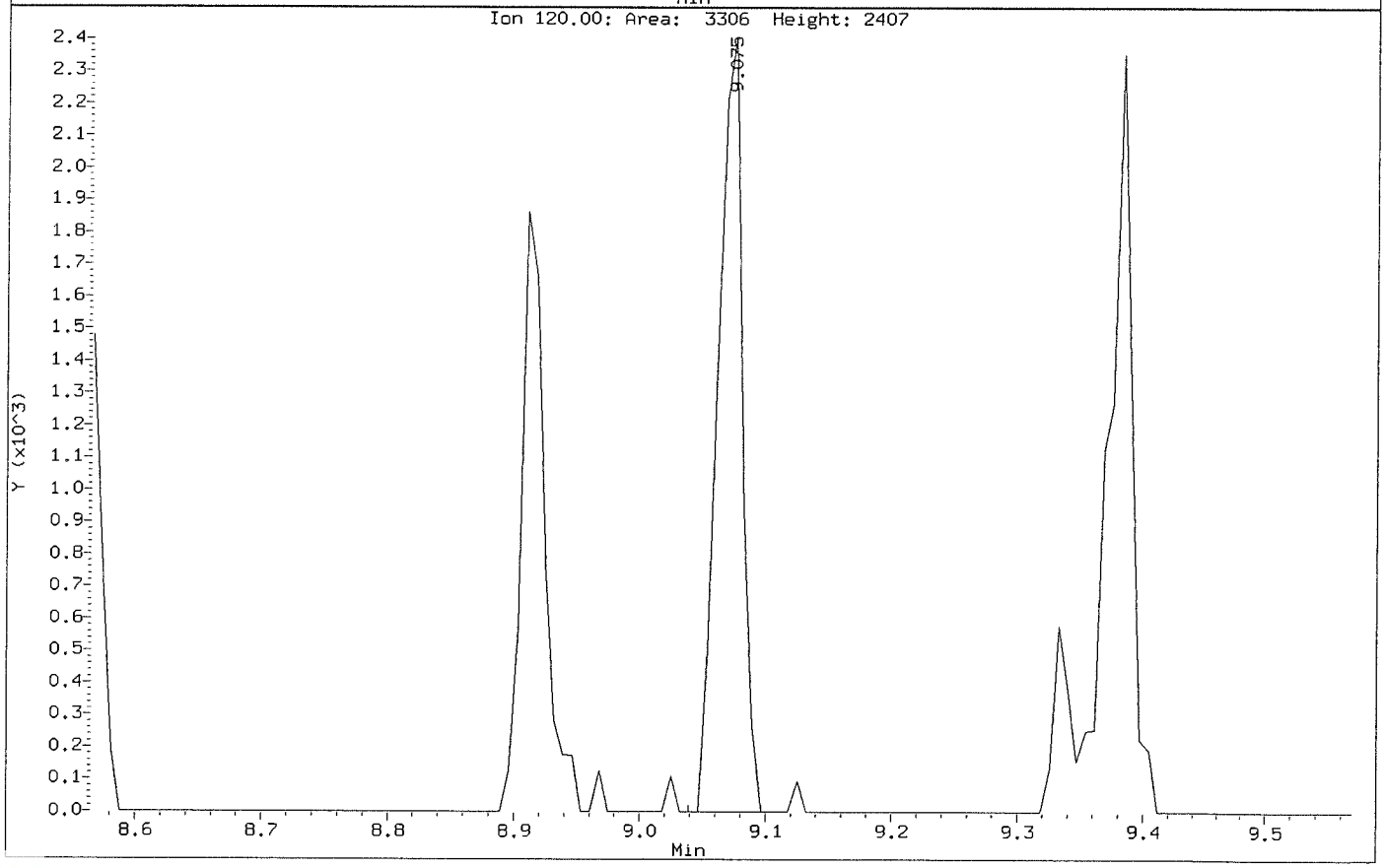




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

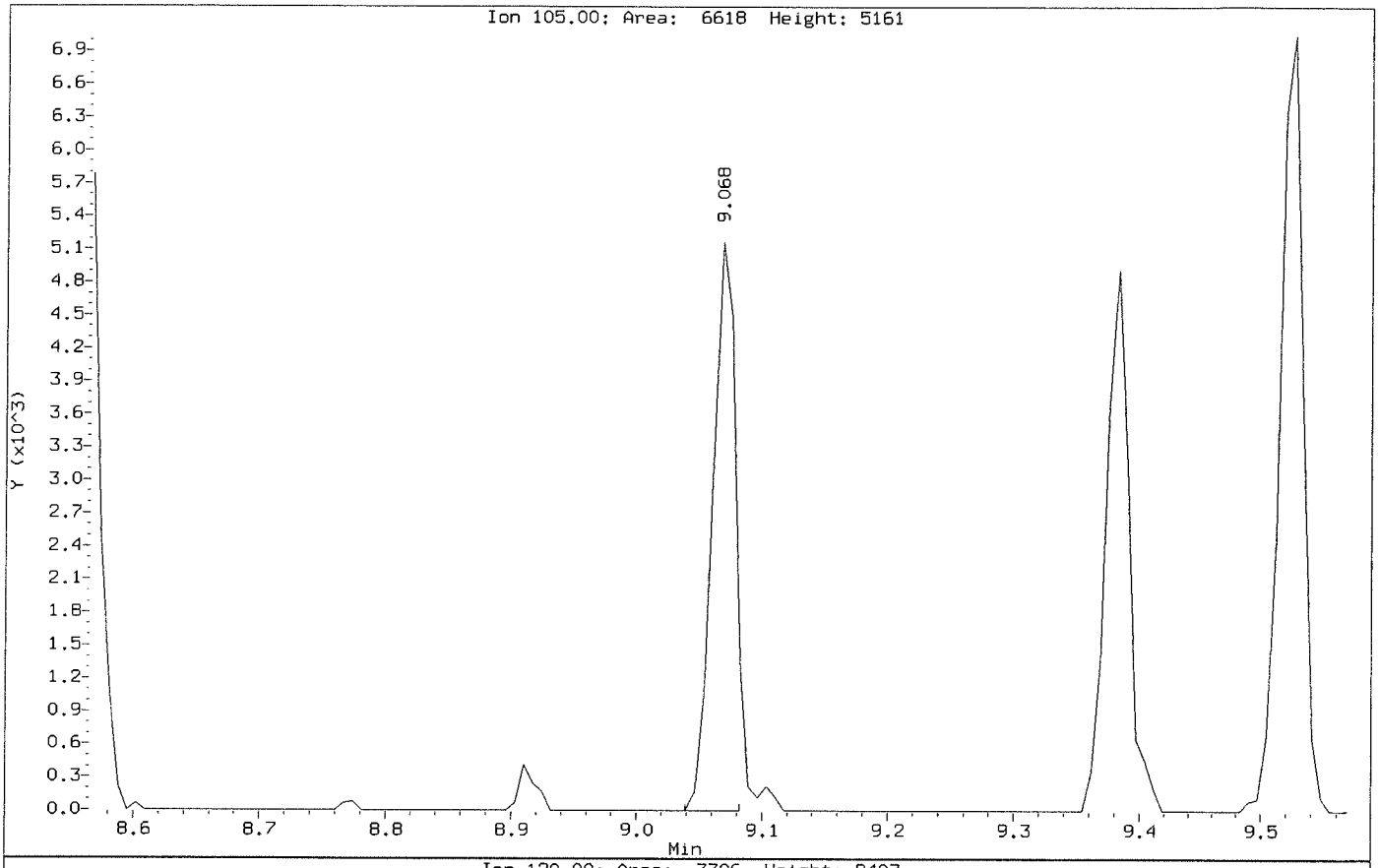
Compound: 1,3,5-Trimethylbenzene
CAS Number: 108-67-8

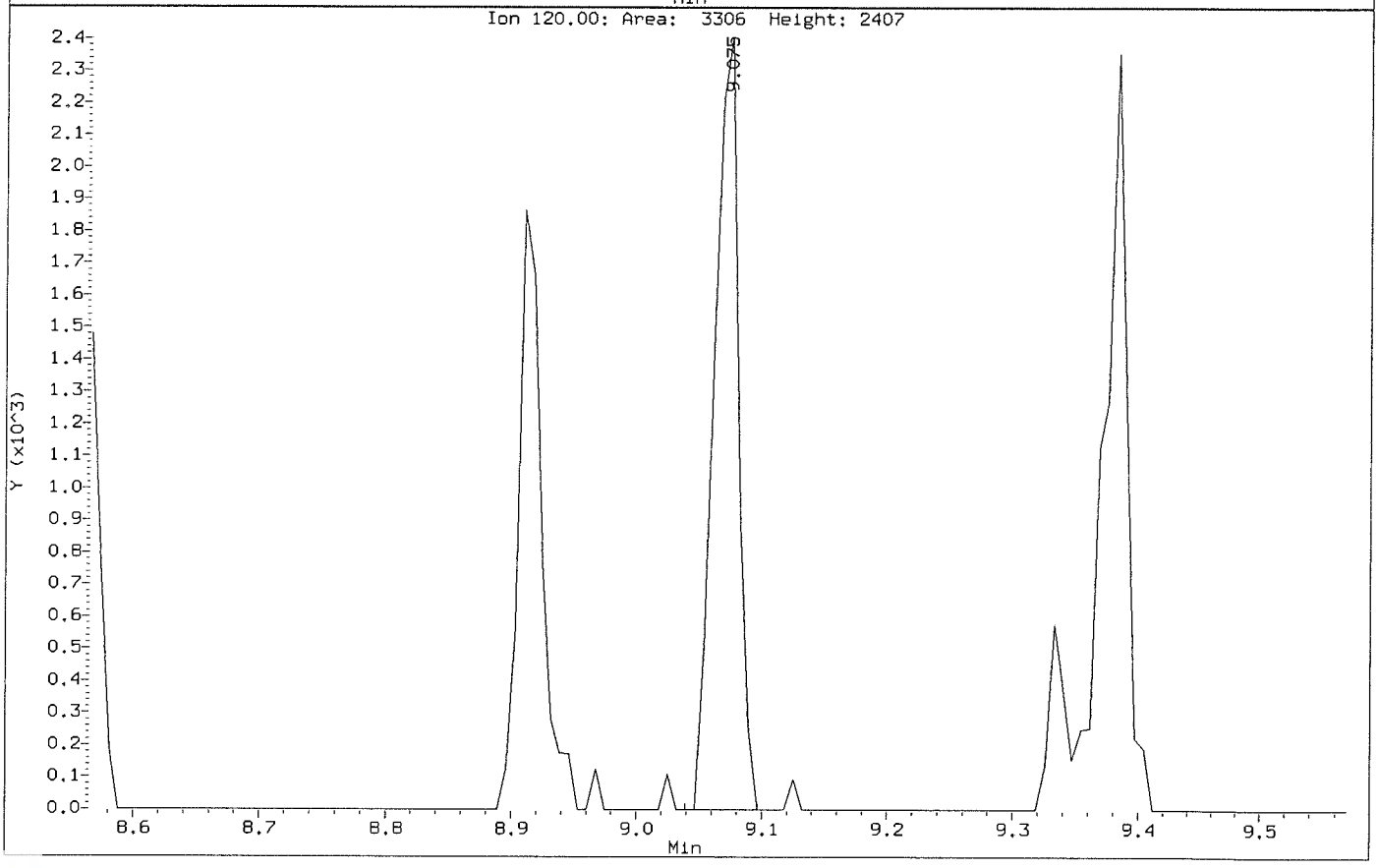




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

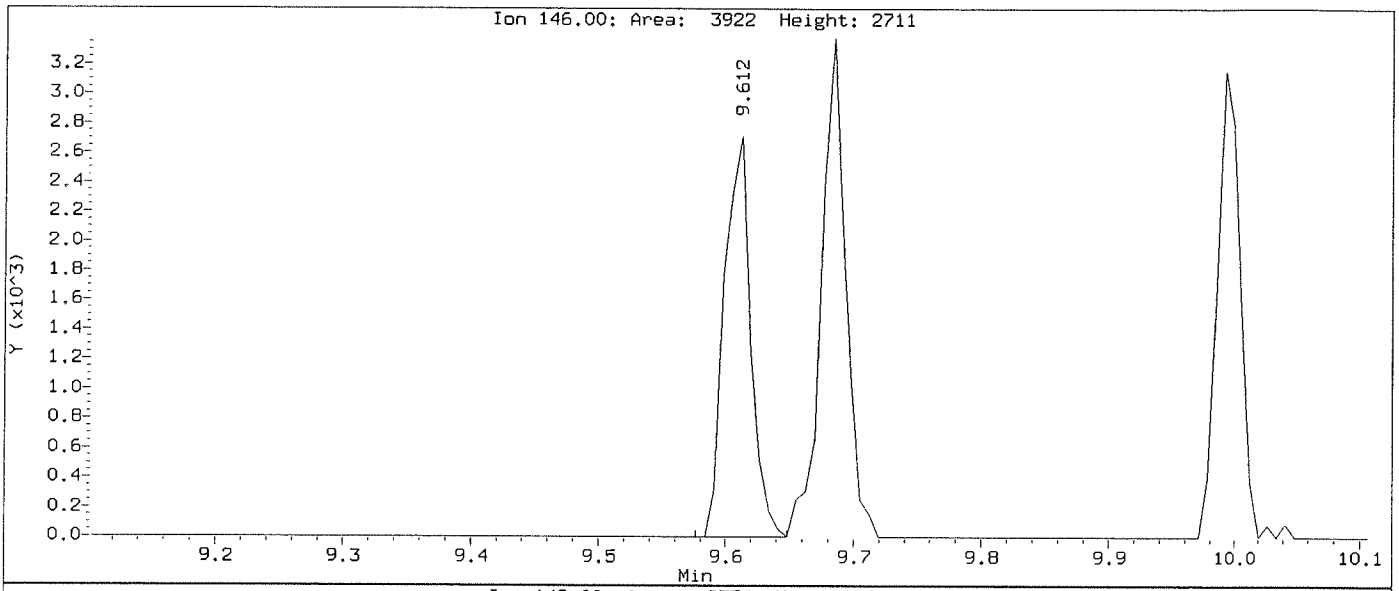
Compound: 1,3,5-Trimethylbenzene
CAS Number: 108-67-8

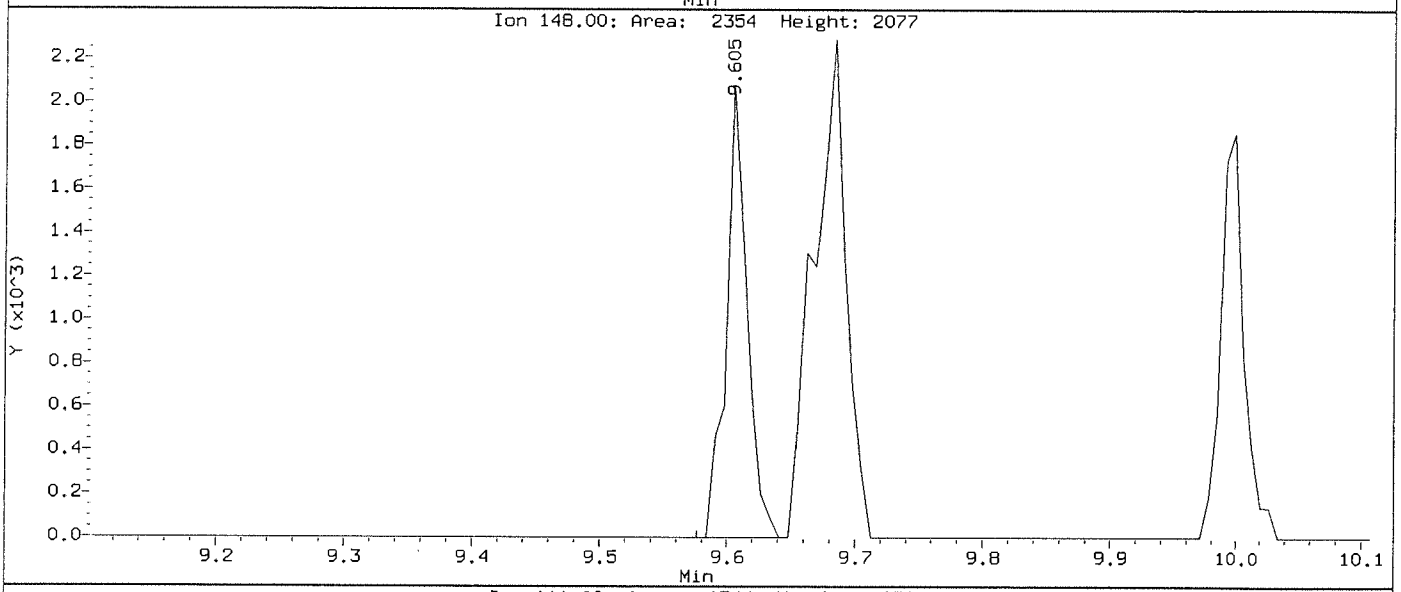


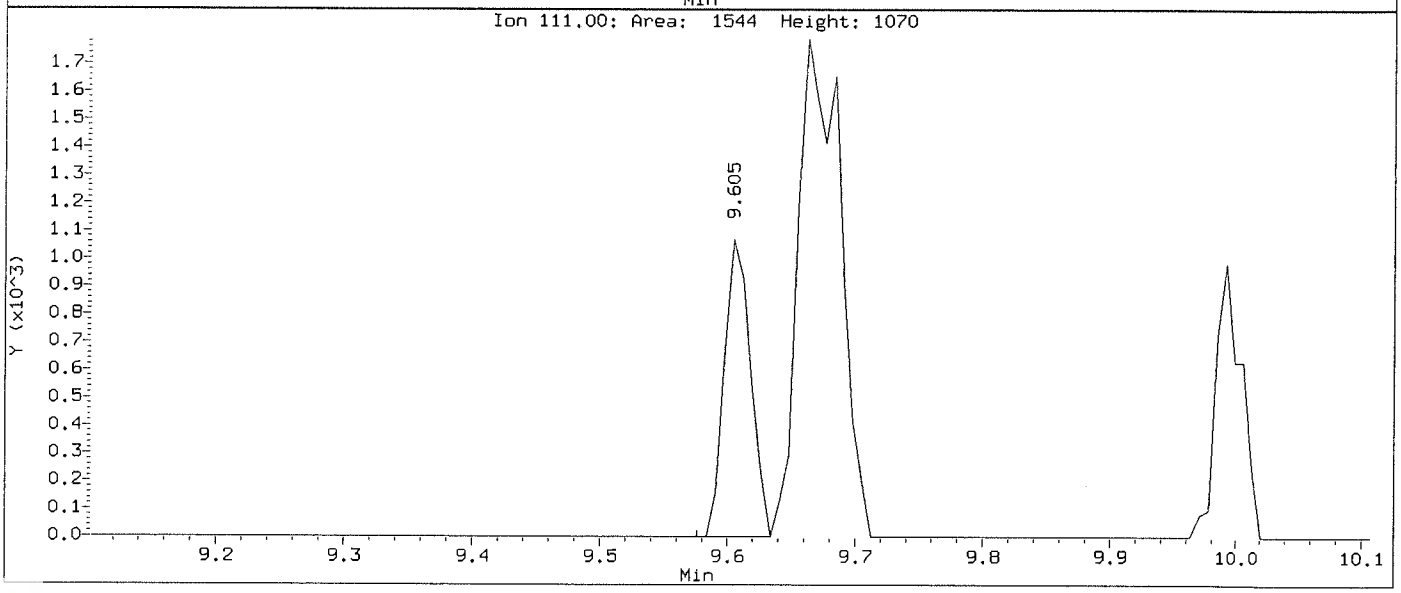


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,3-Dichlorobenzene
CAS Number: 541-73-1

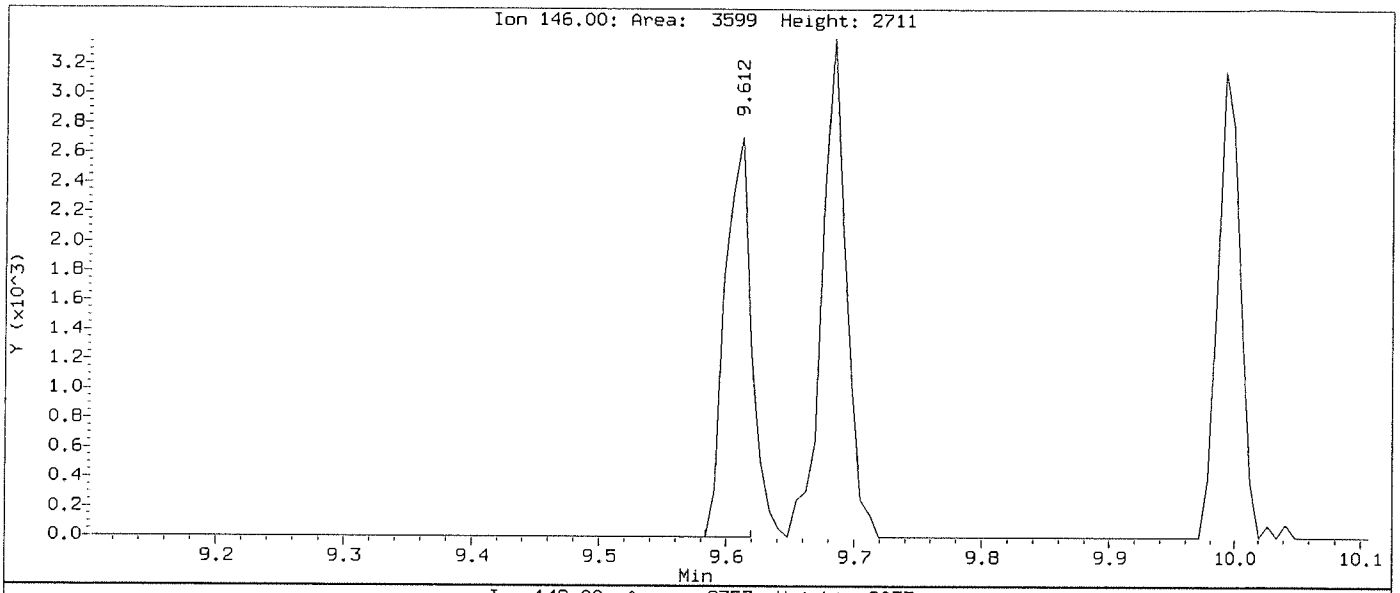


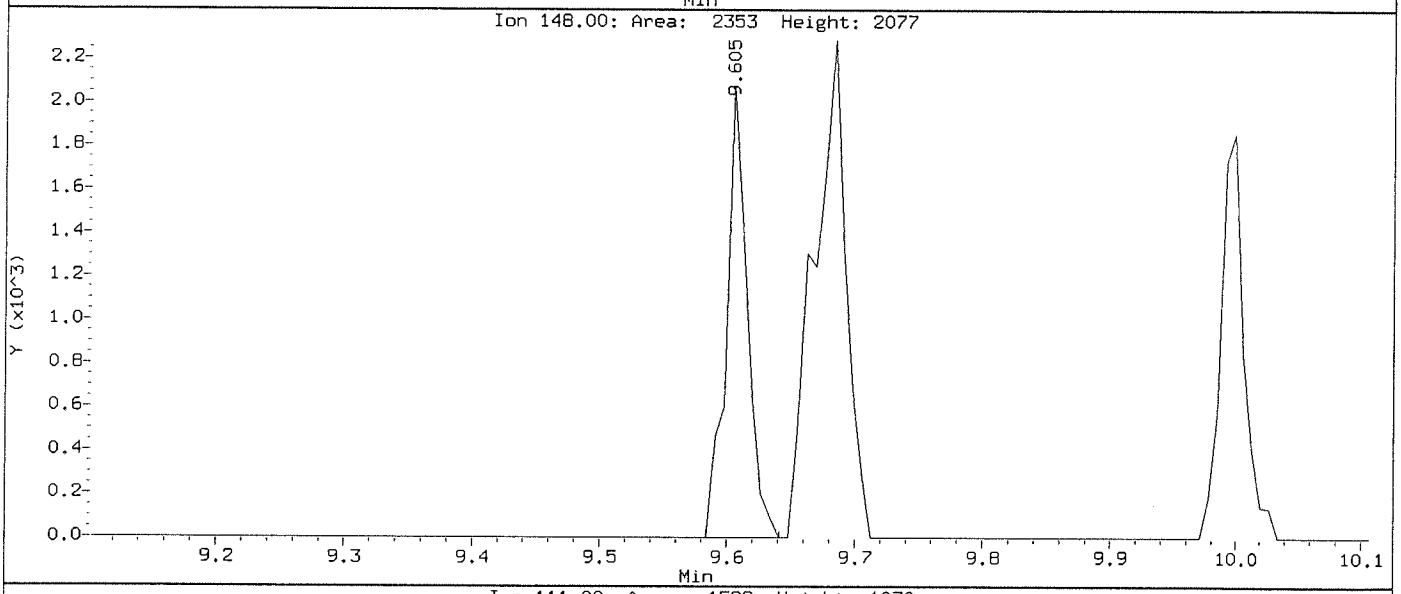


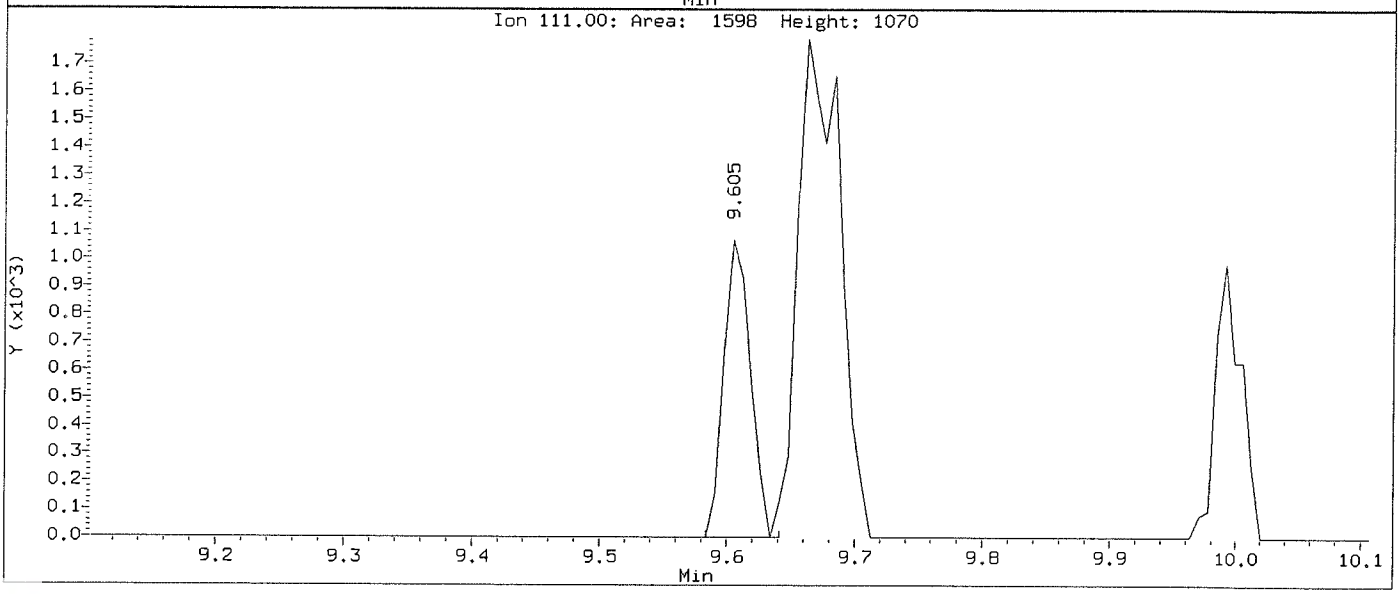


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,3-Dichlorobenzene
CAS Number: 541-73-1

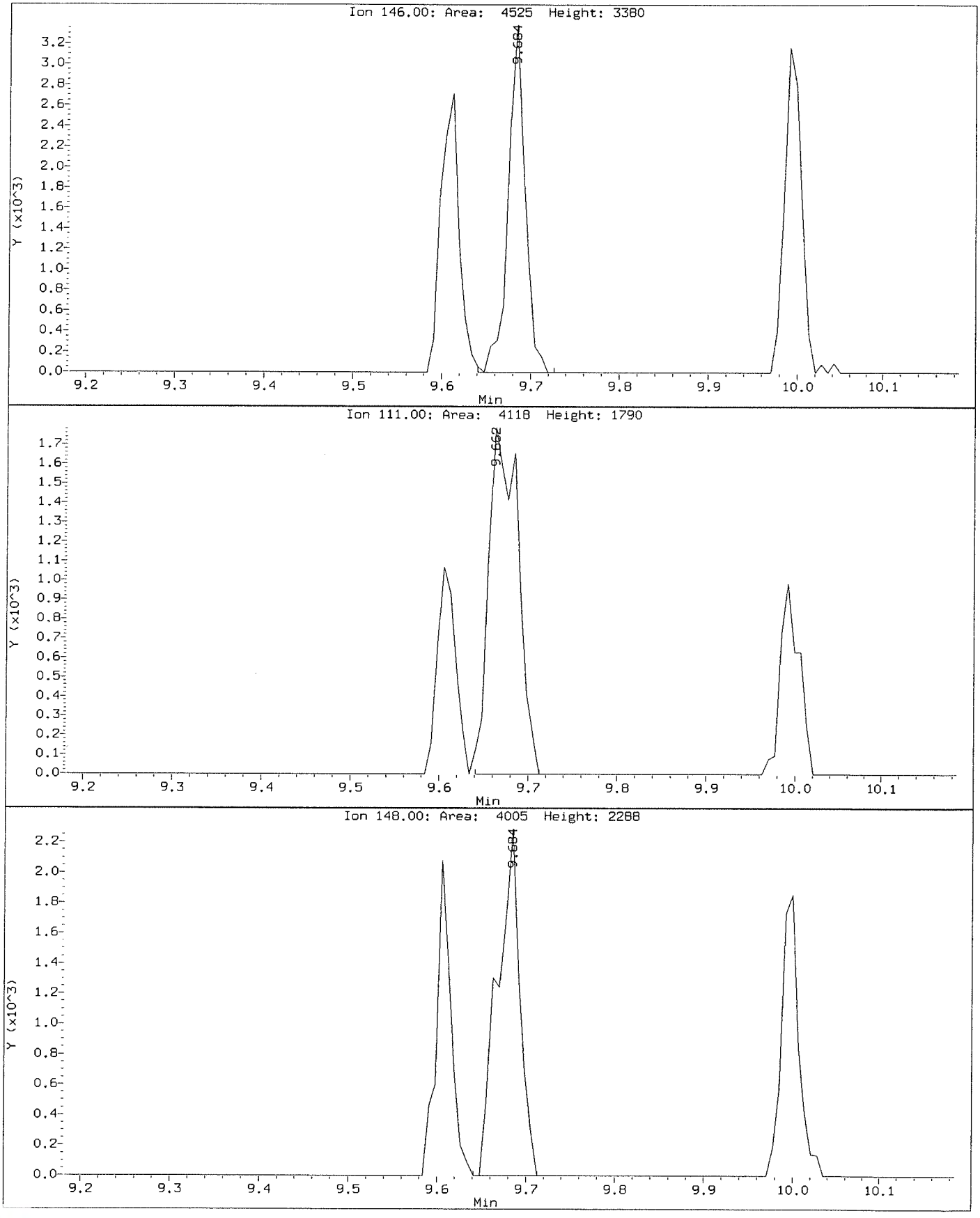






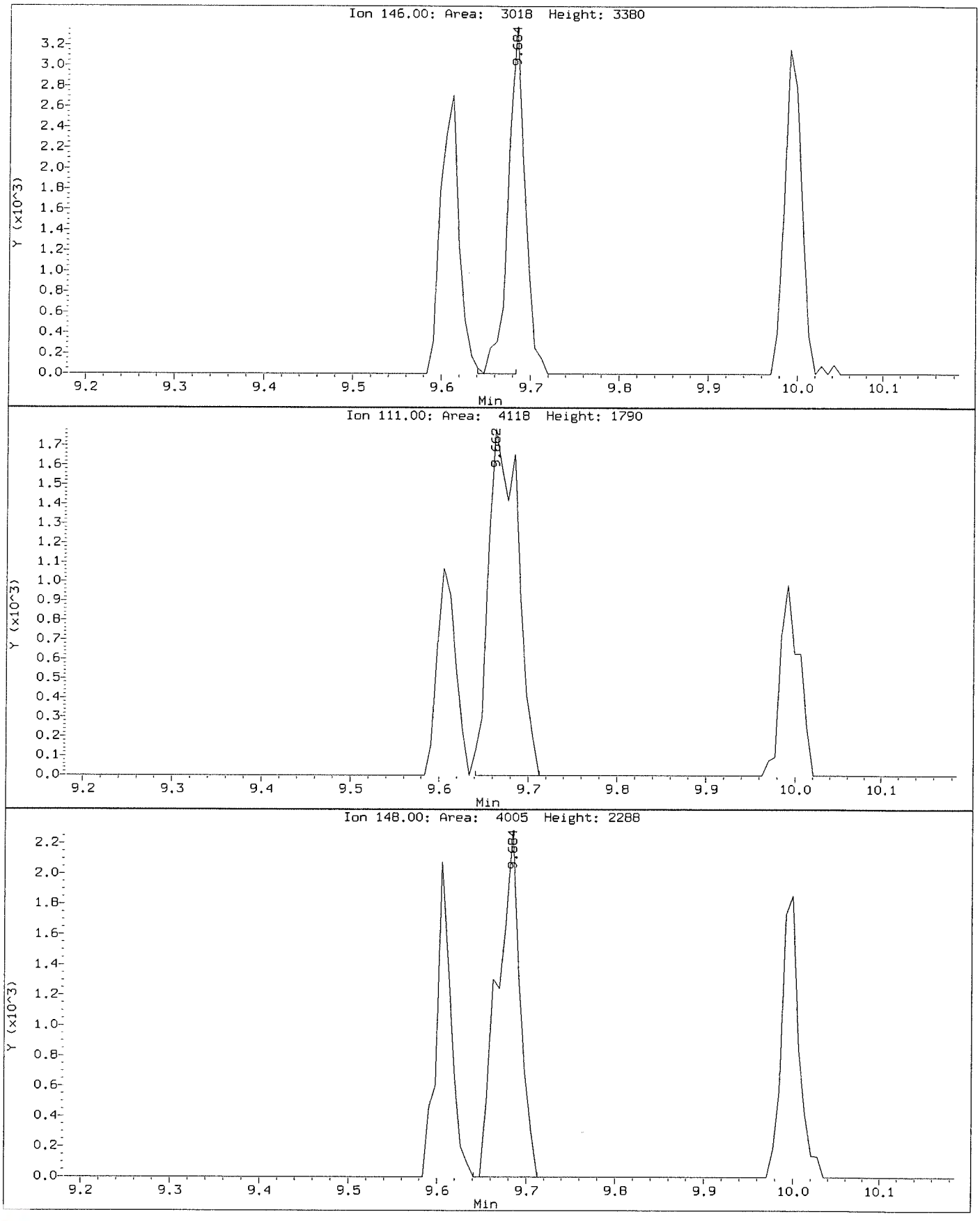
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7



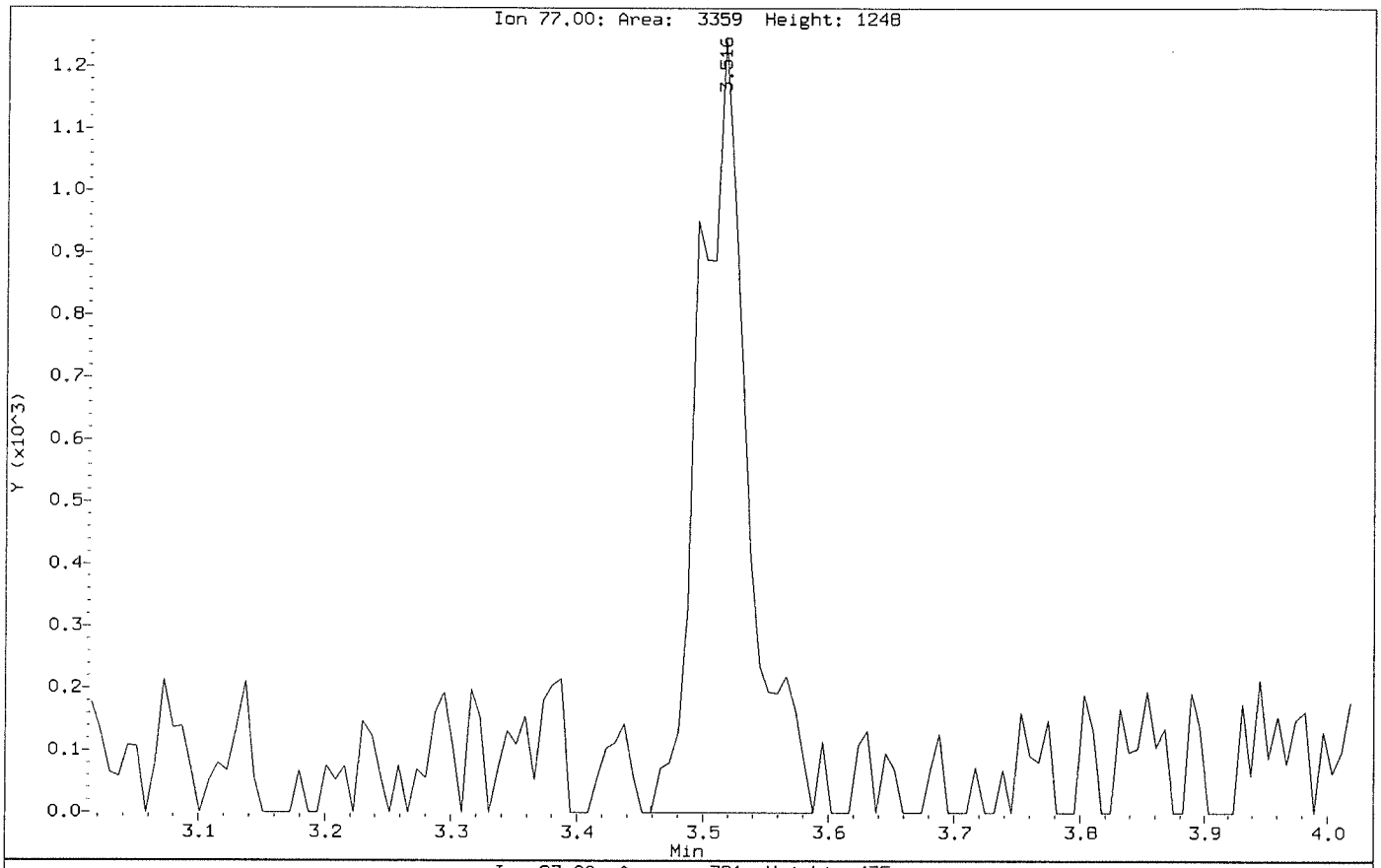
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

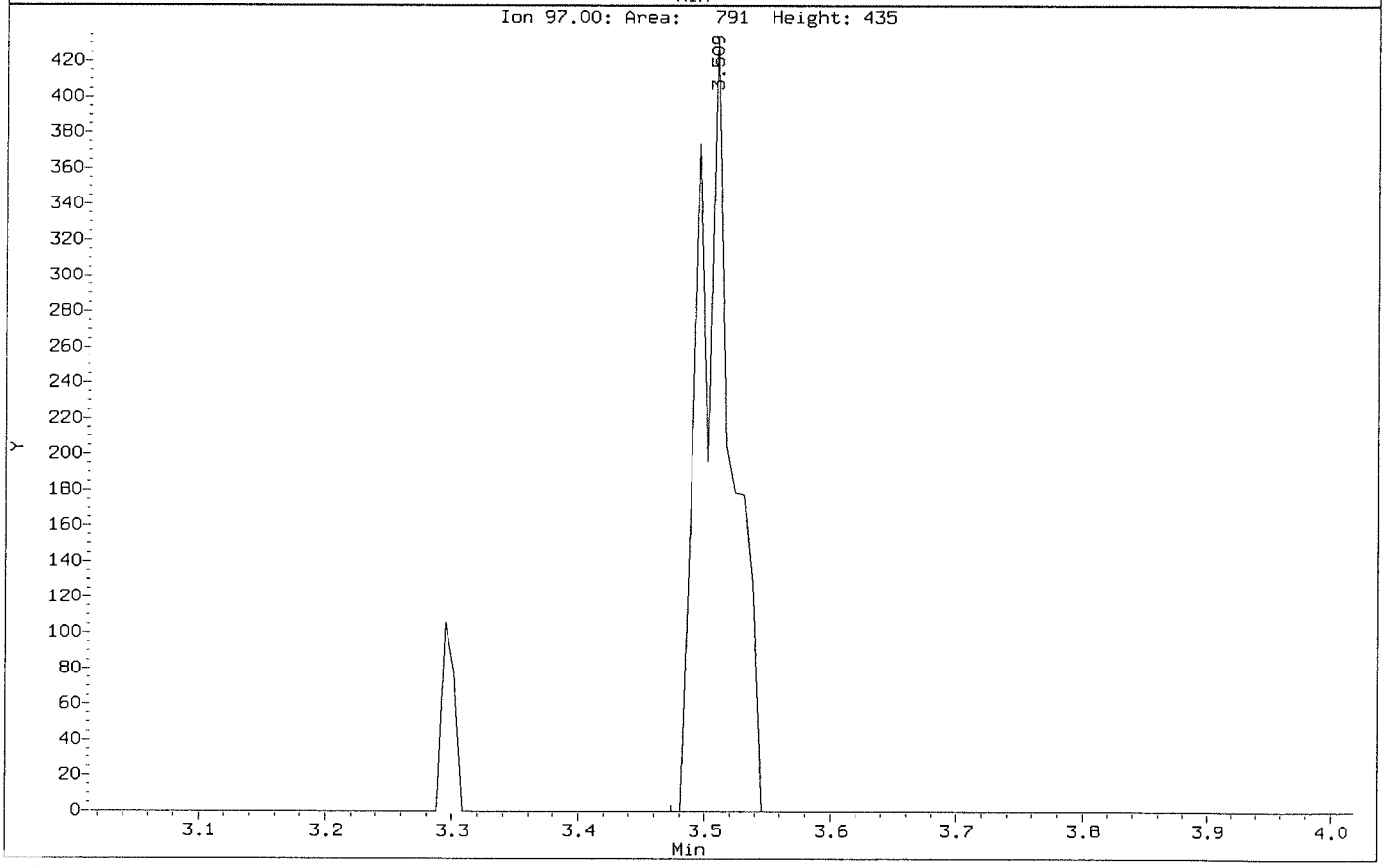
Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

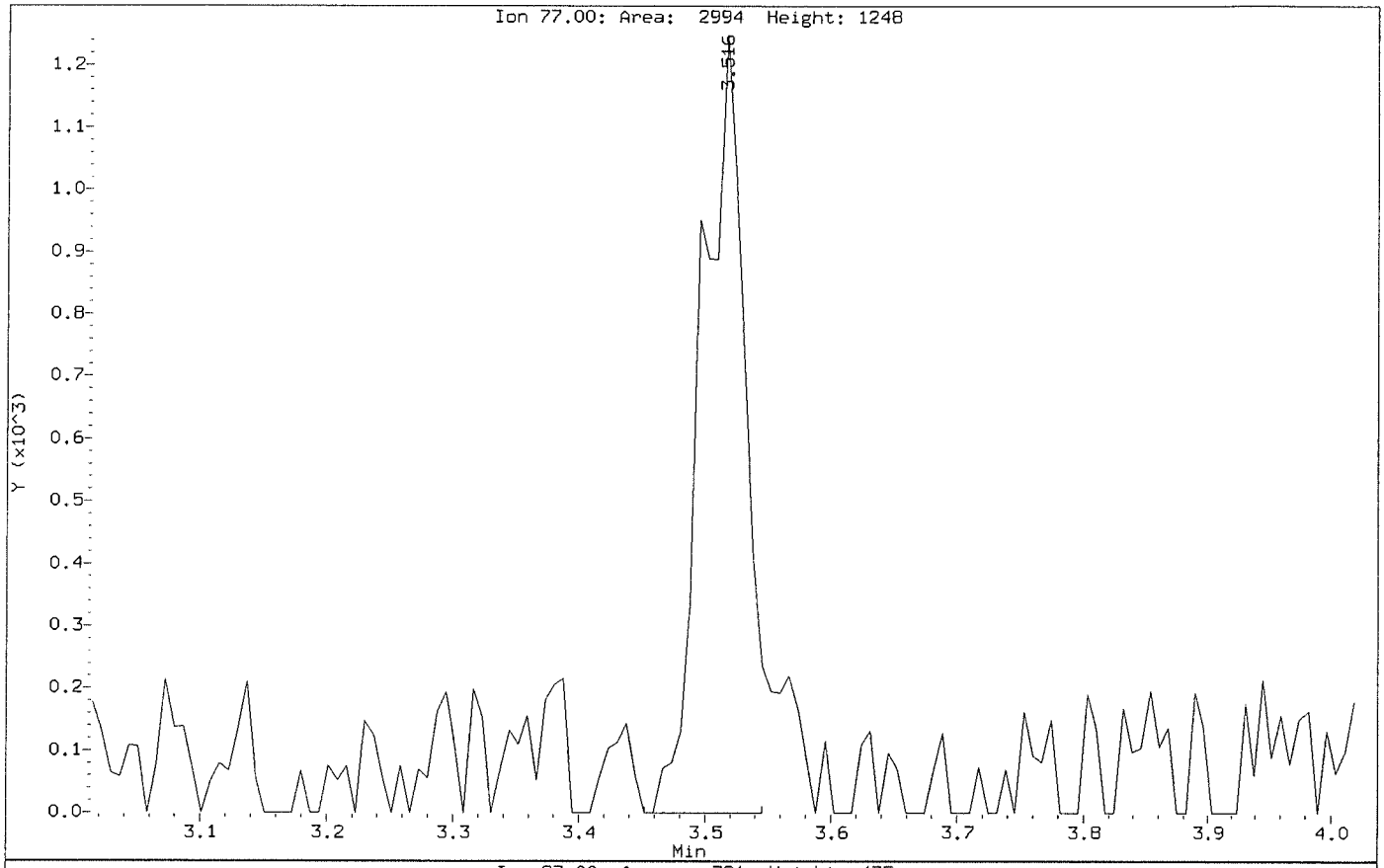
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

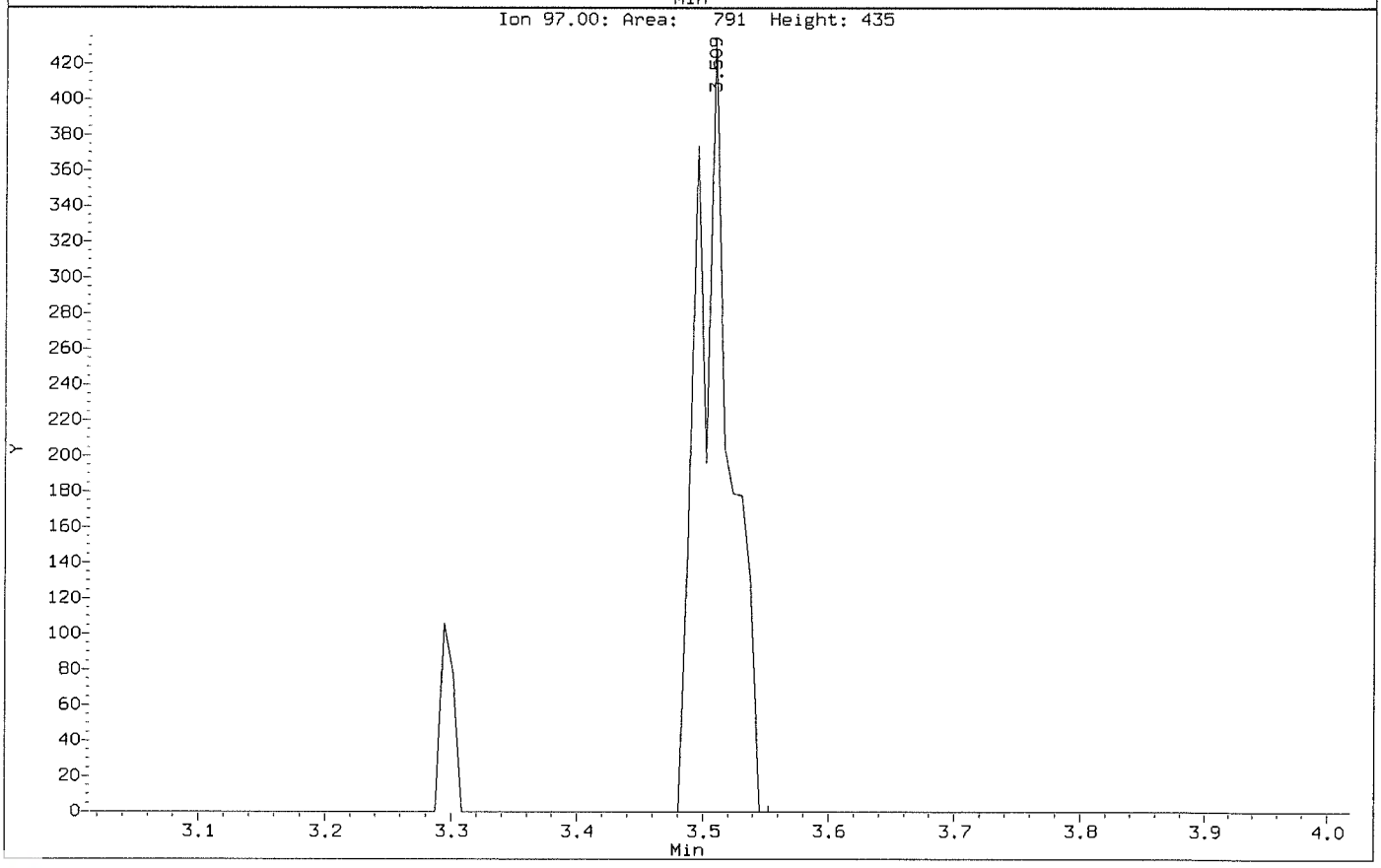




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

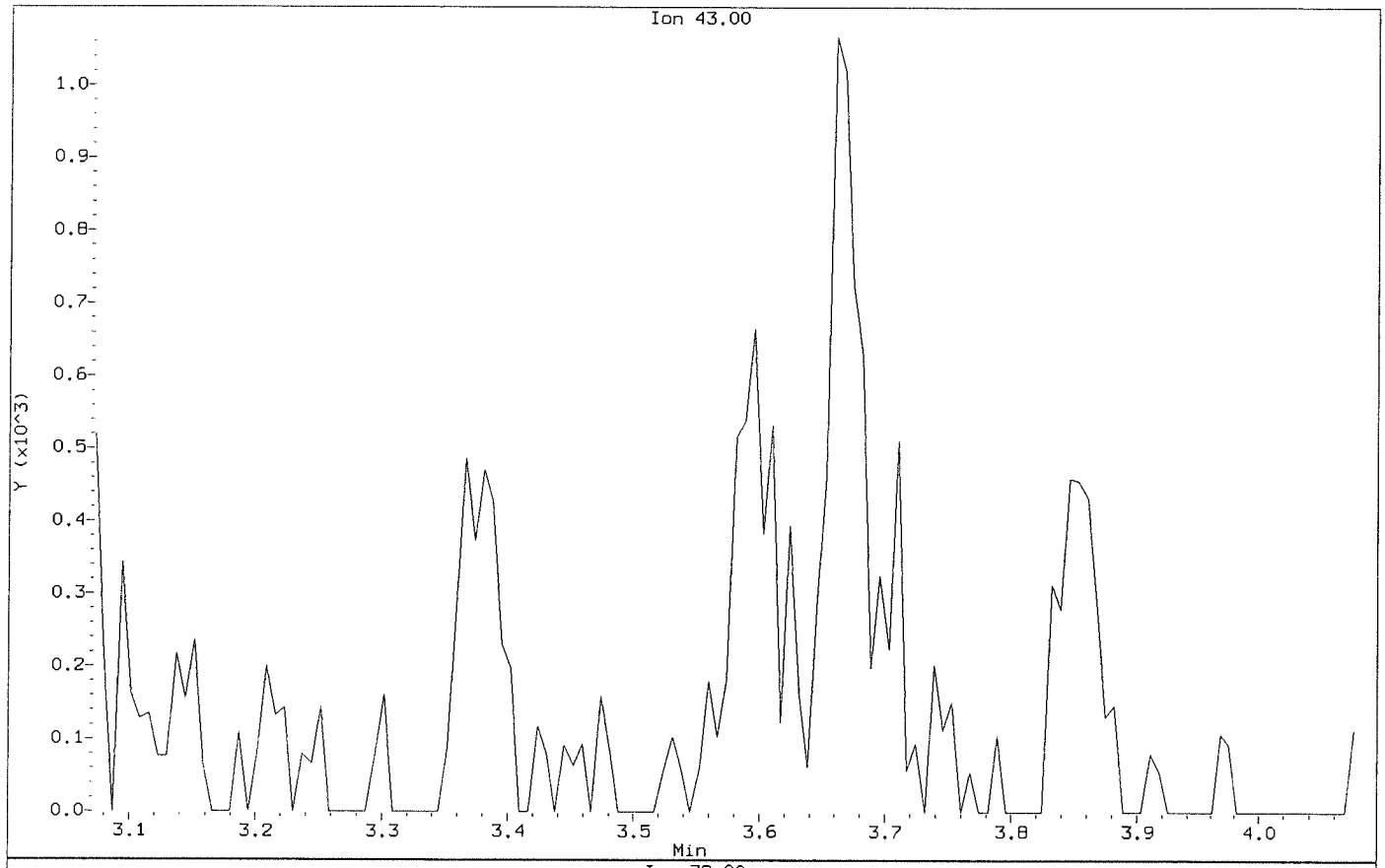
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

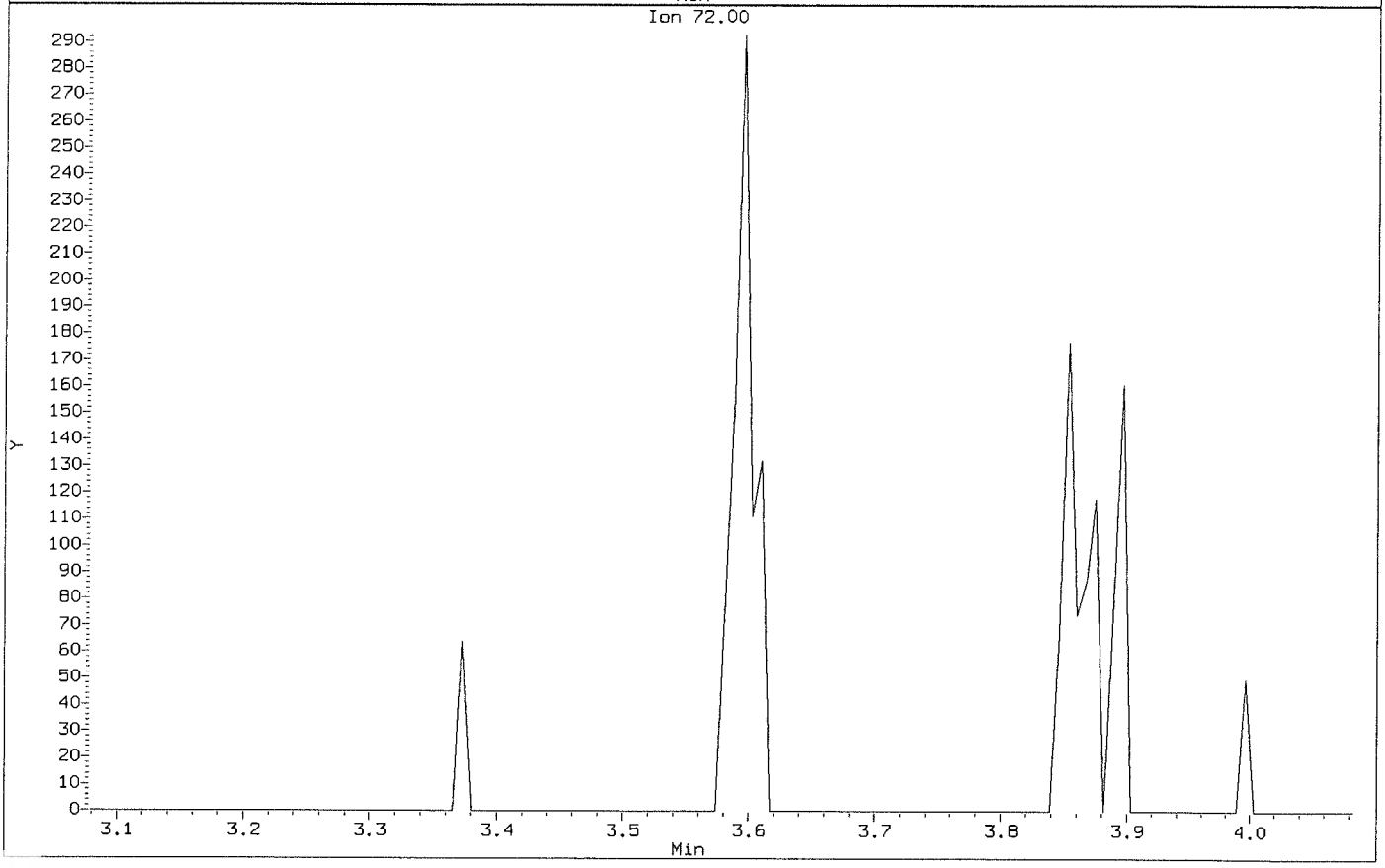




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

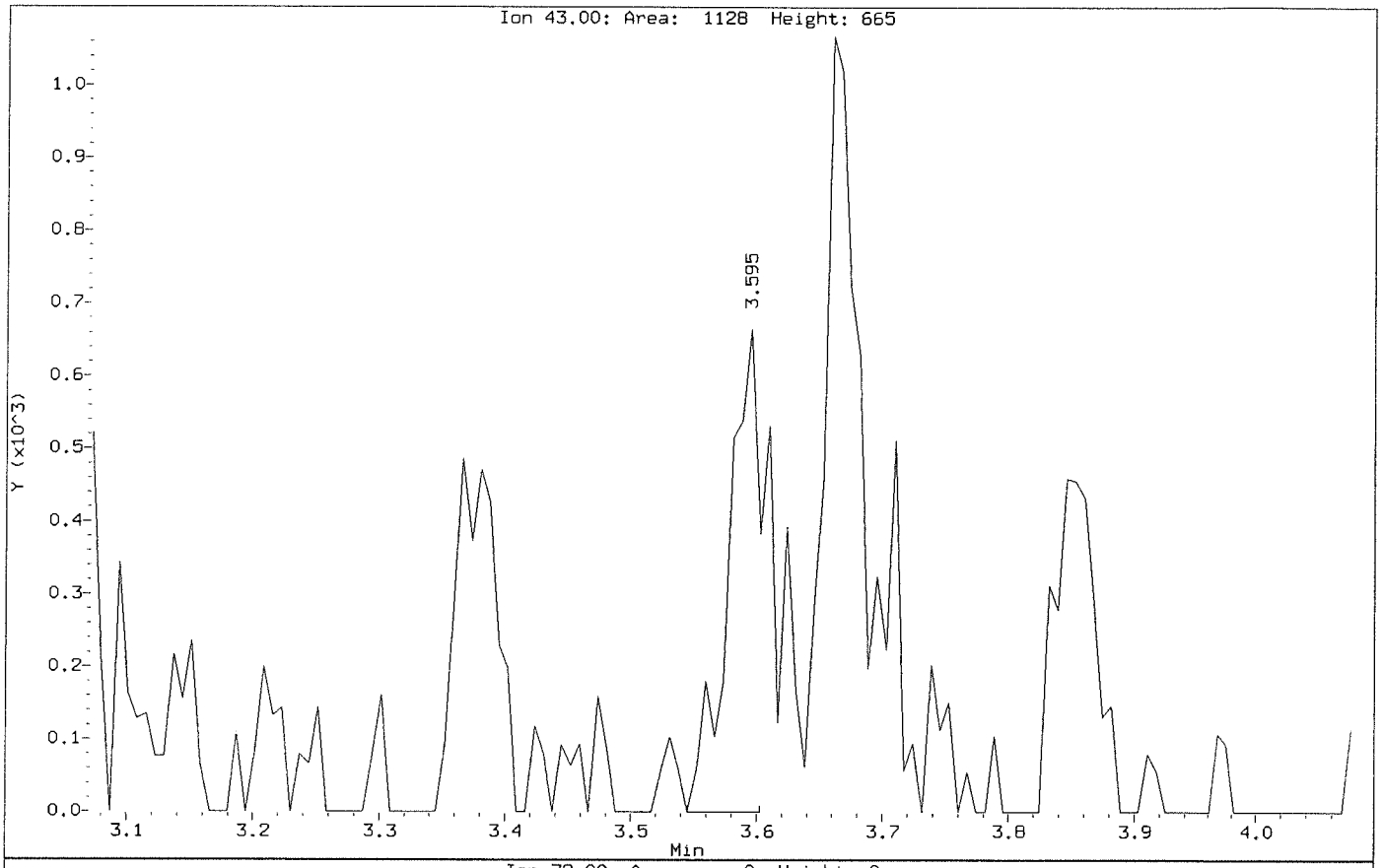
Compound: 2-Butanone
CAS Number: 78-93-3

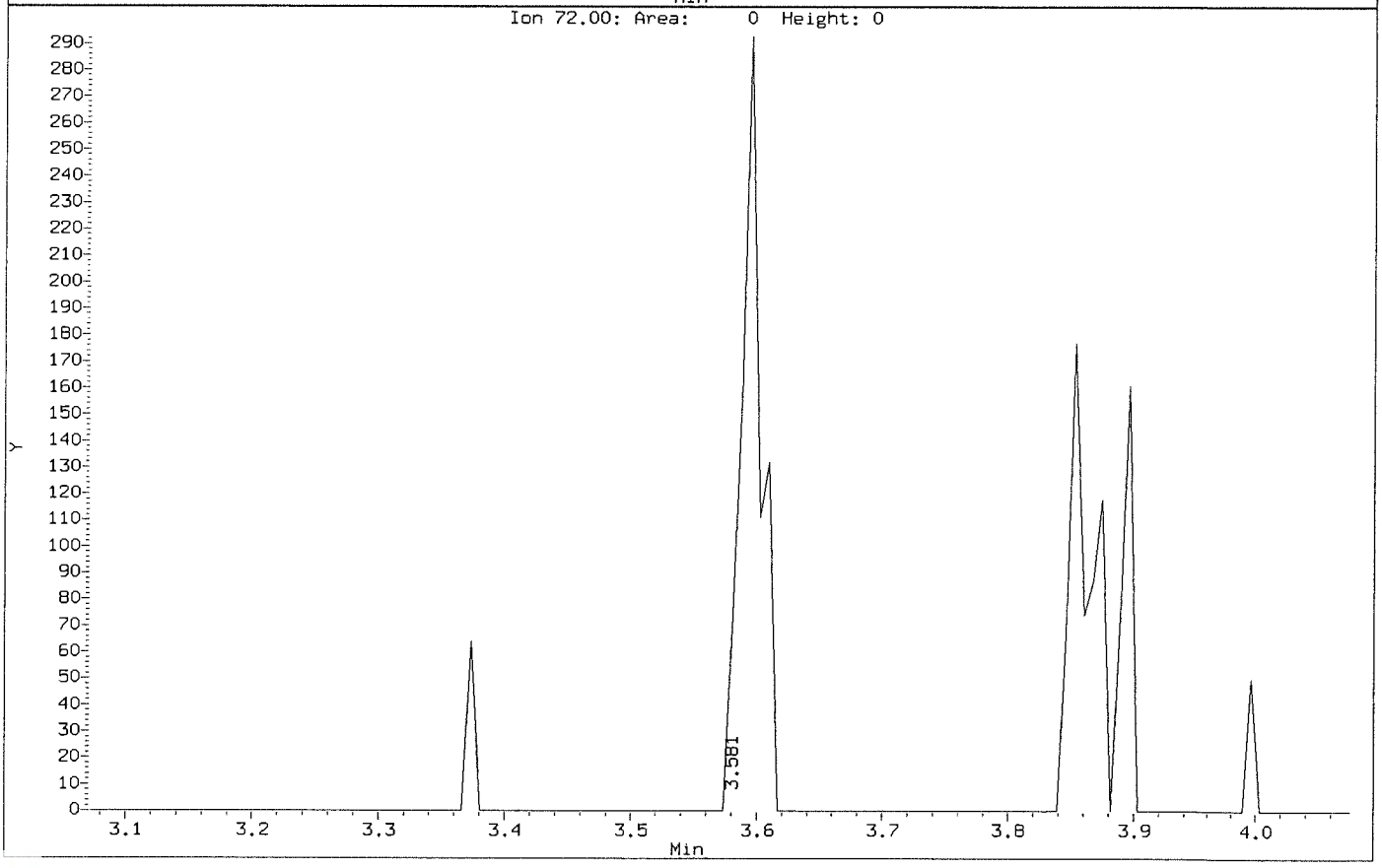




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

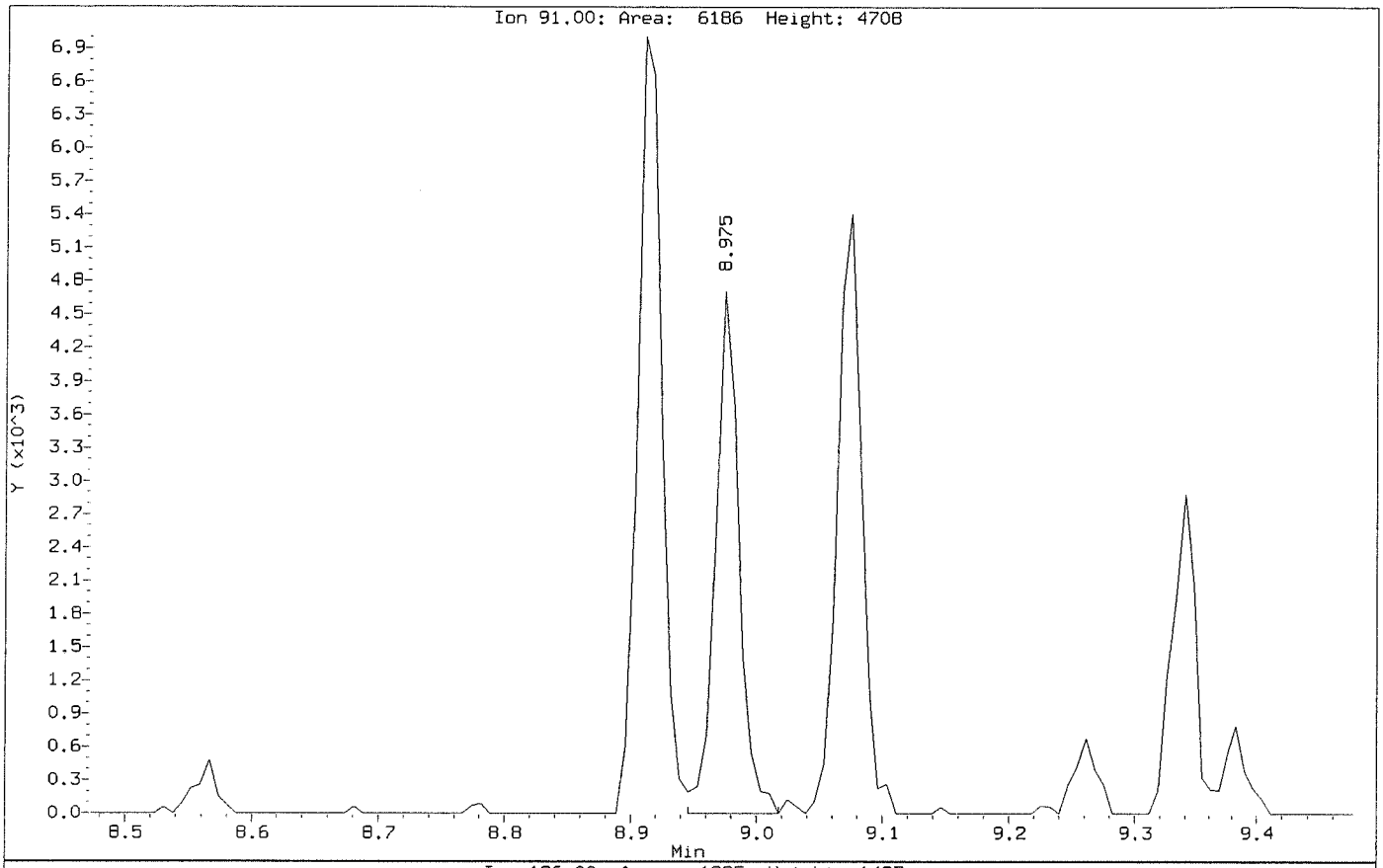
Compound: 2-Butanone
CAS Number: 78-93-3

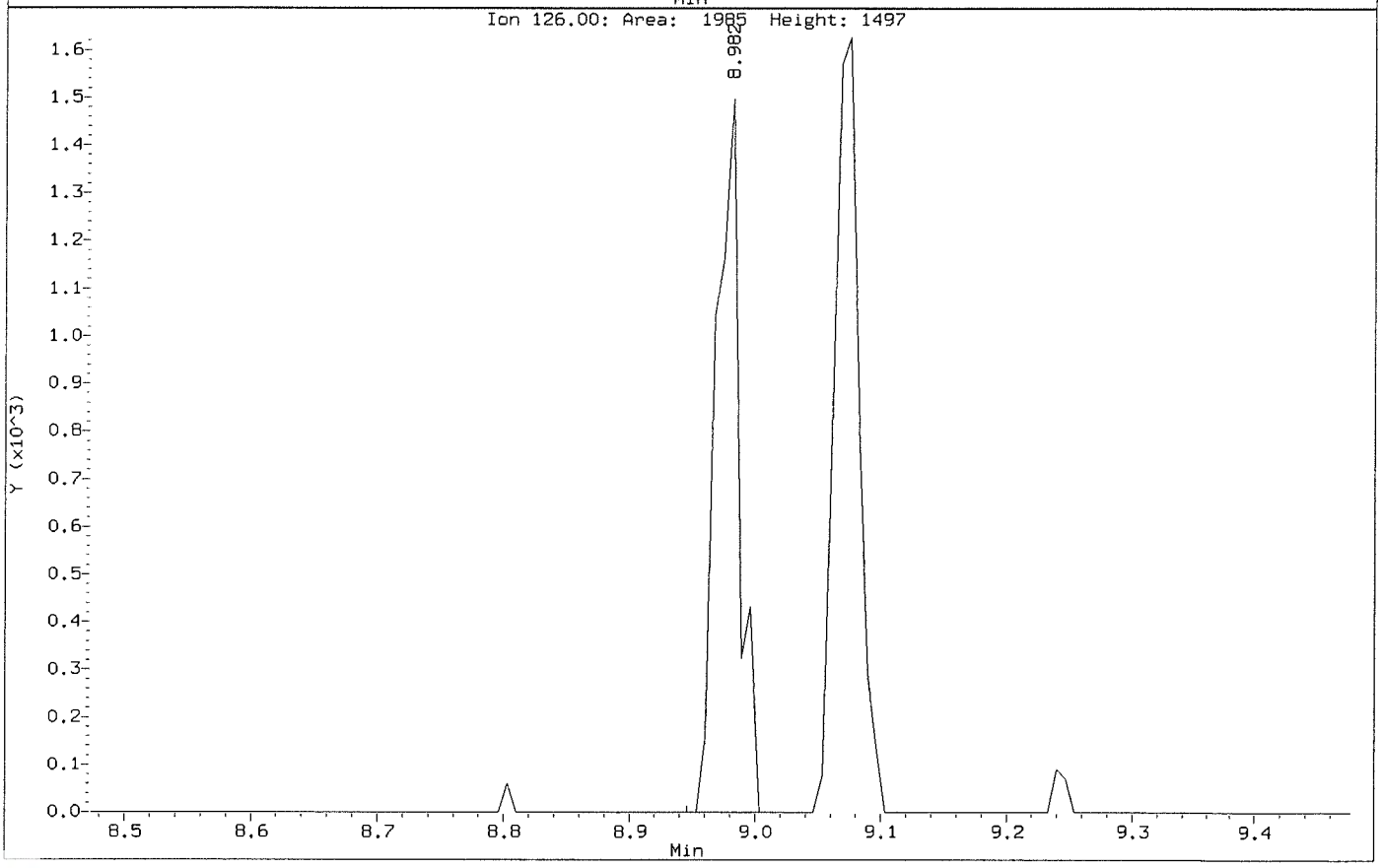




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

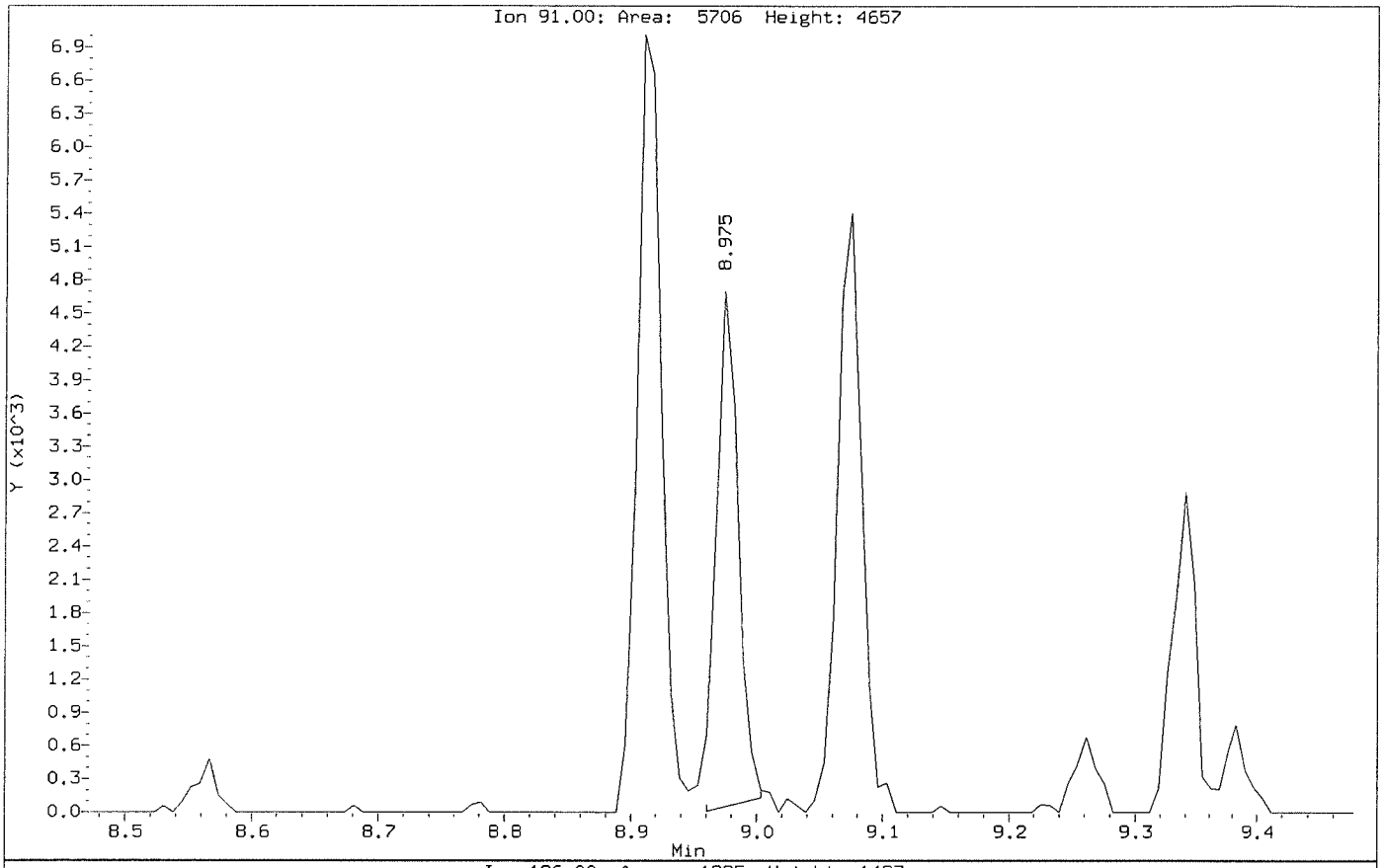
Compound: 2-Chlorotoluene
CAS Number: 95-49-8

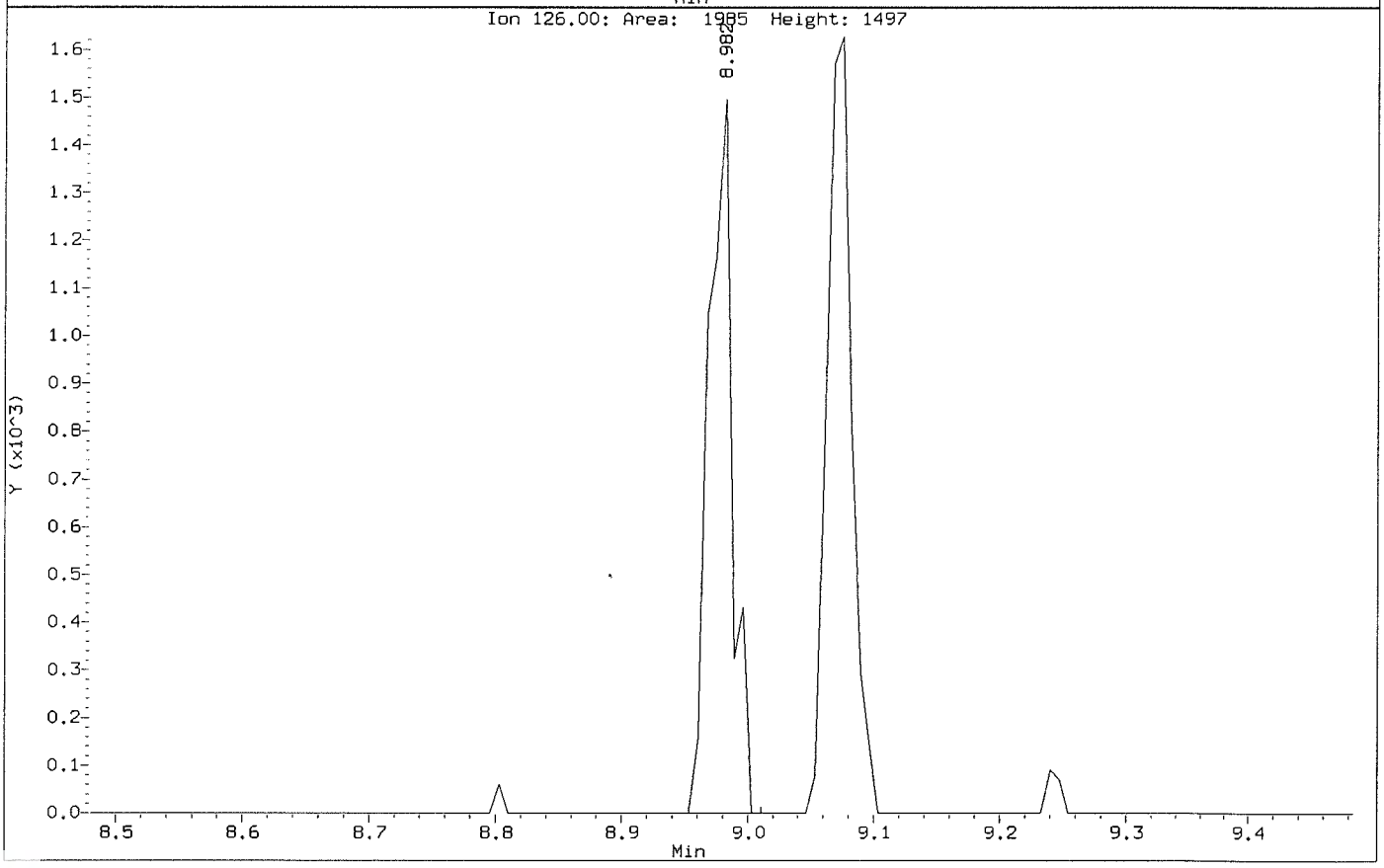




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

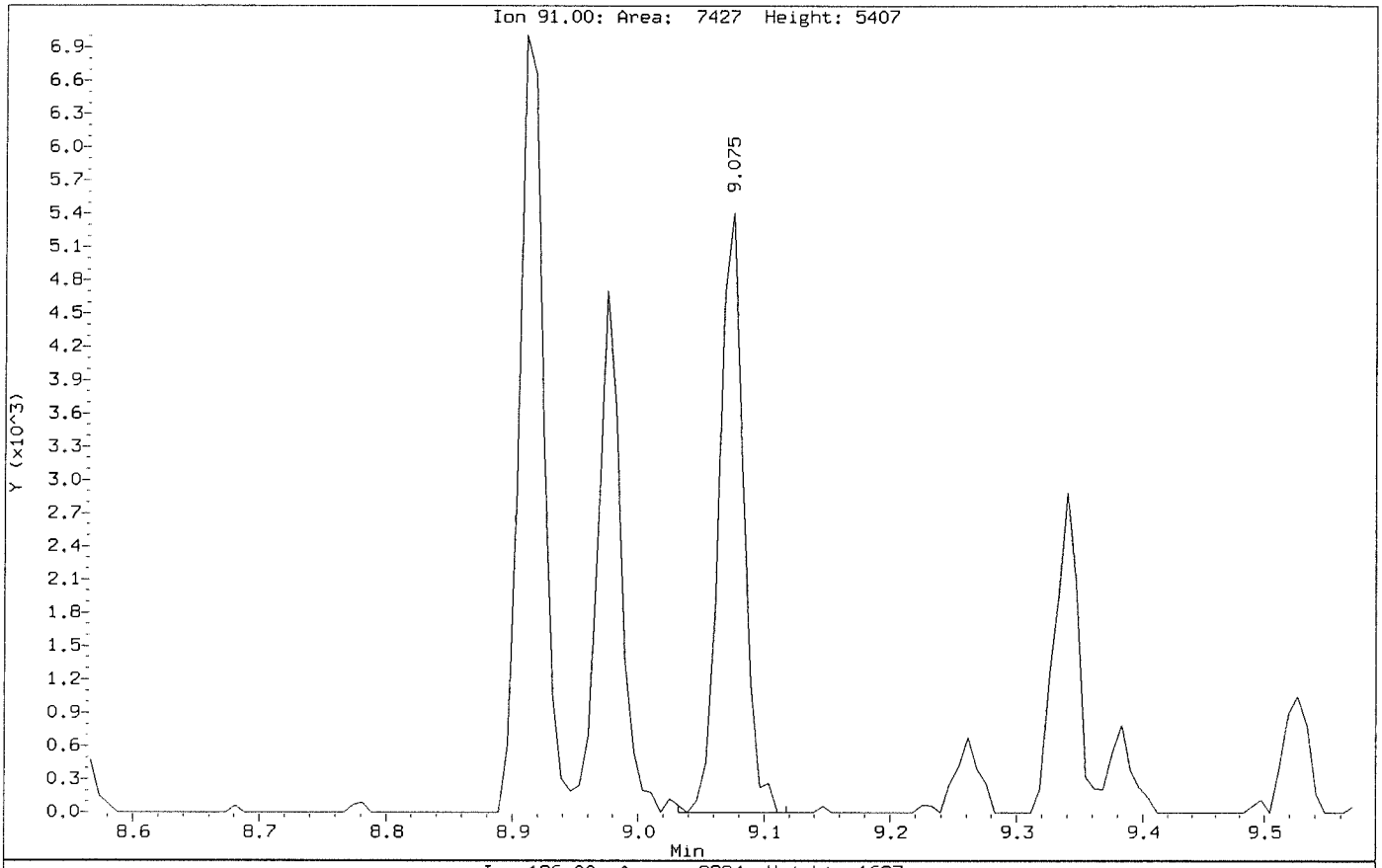
Compound: 2-Chlorotoluene
CAS Number: 95-49-8

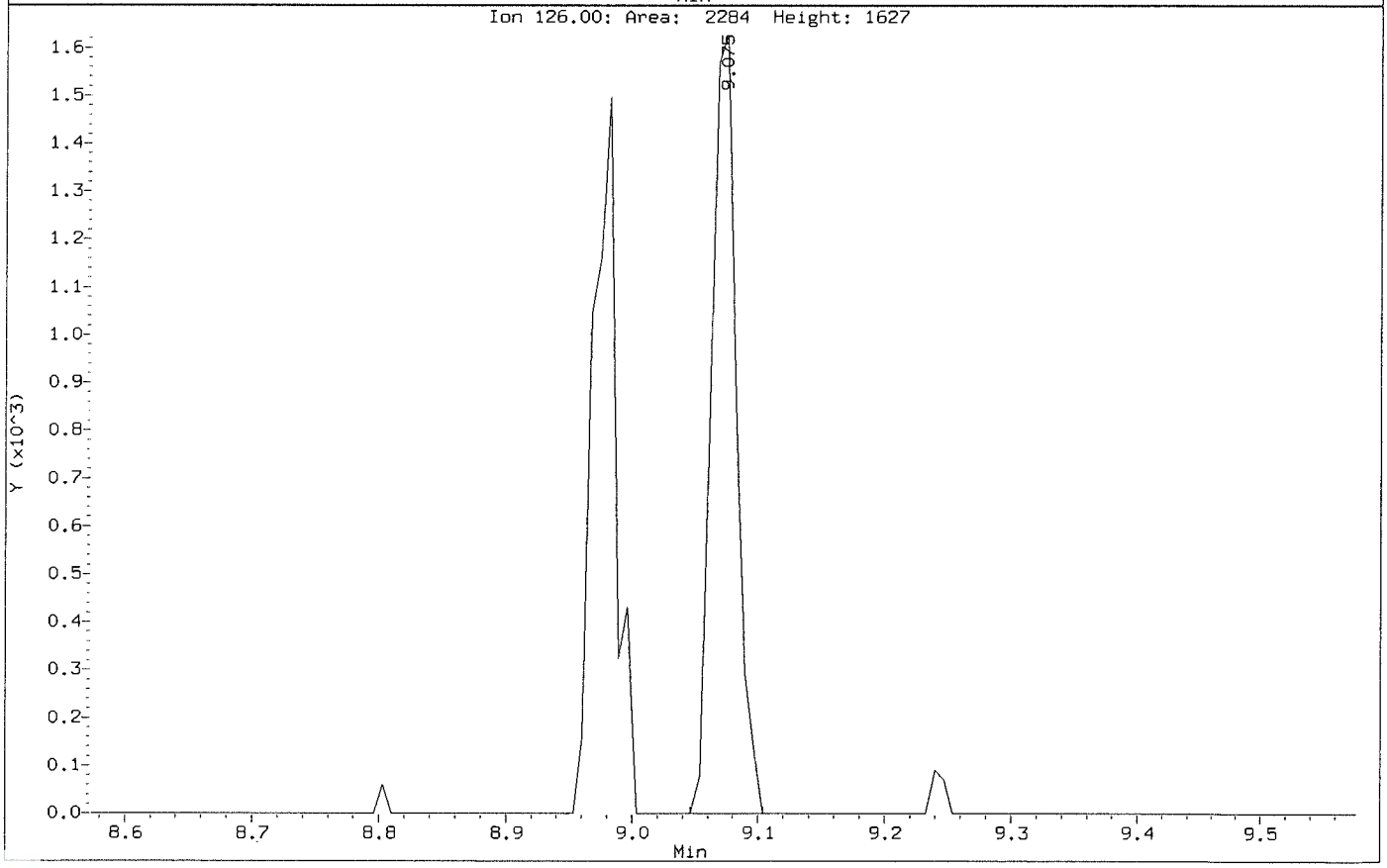




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

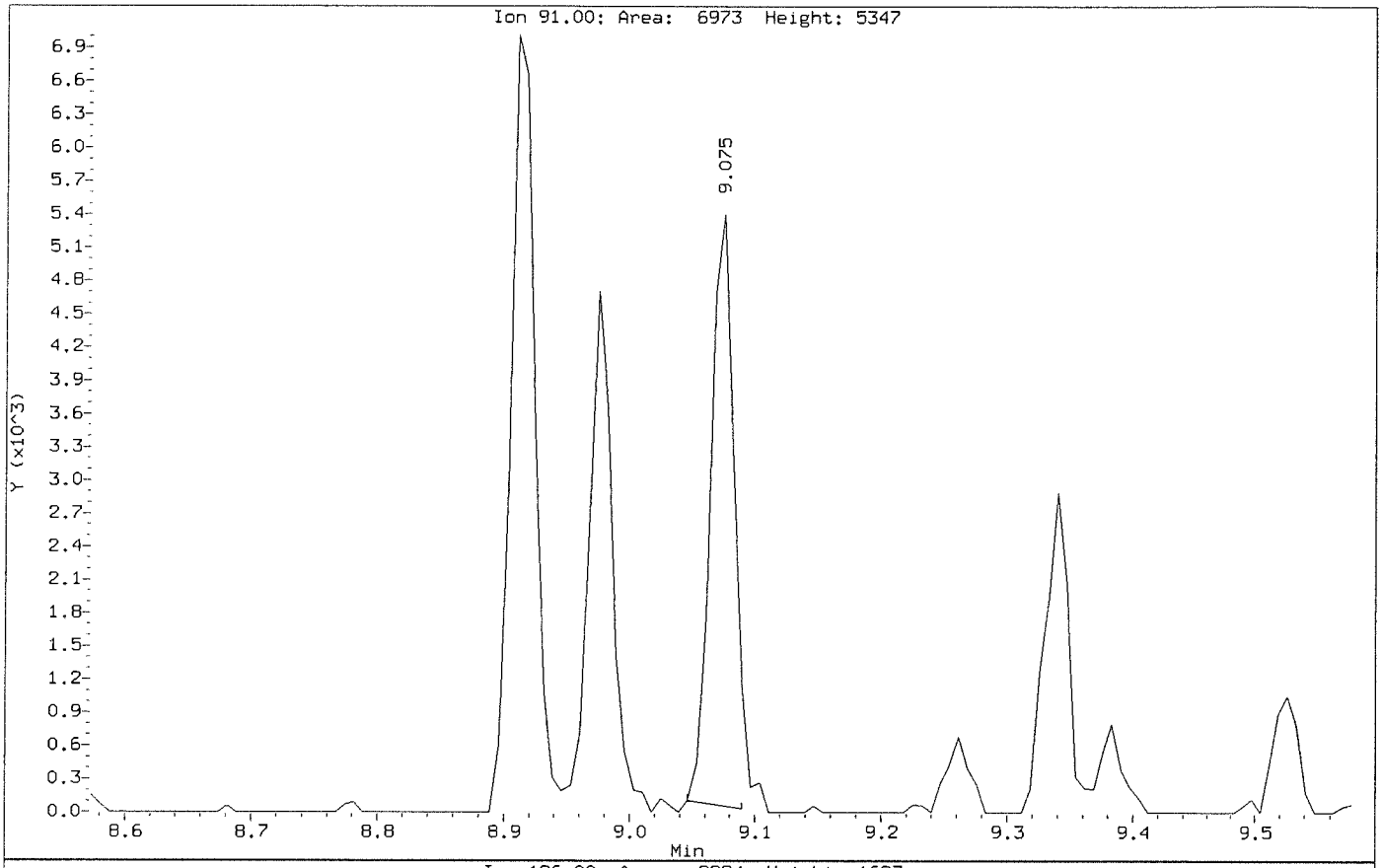
Compound: 4-Chlorotoluene
CAS Number: 106-43-4

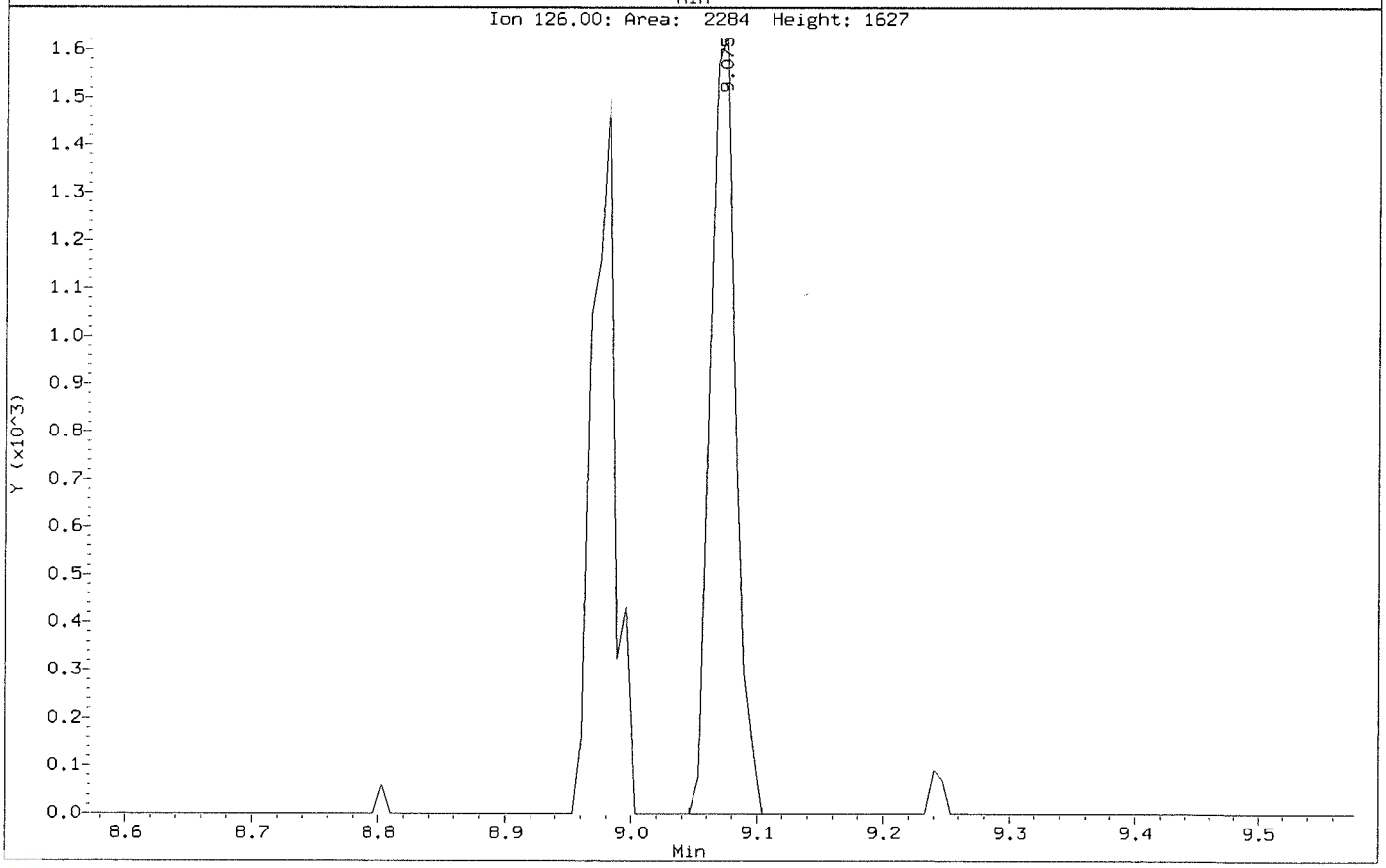




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

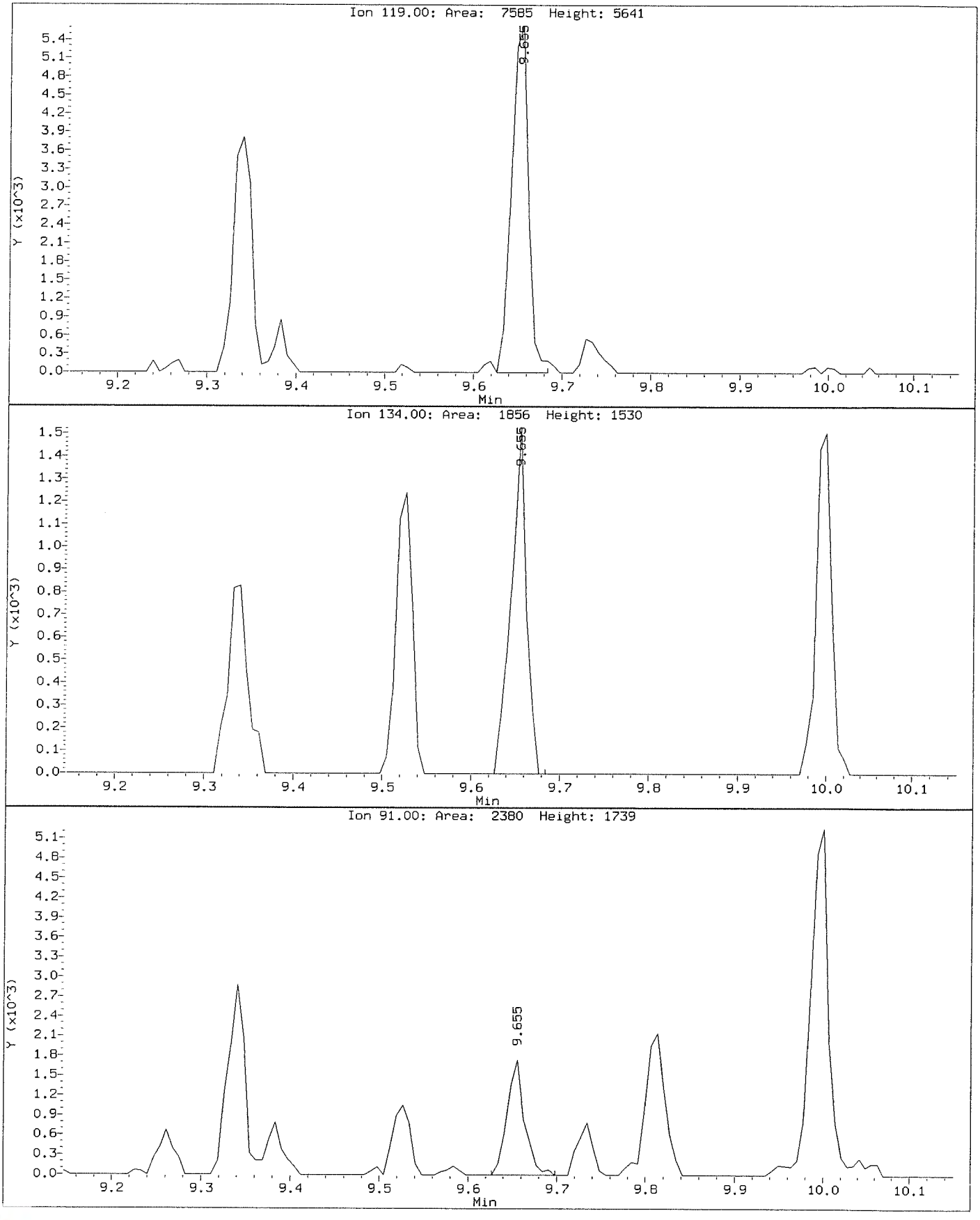
Compound: 4-Chlorotoluene
CAS Number: 106-43-4





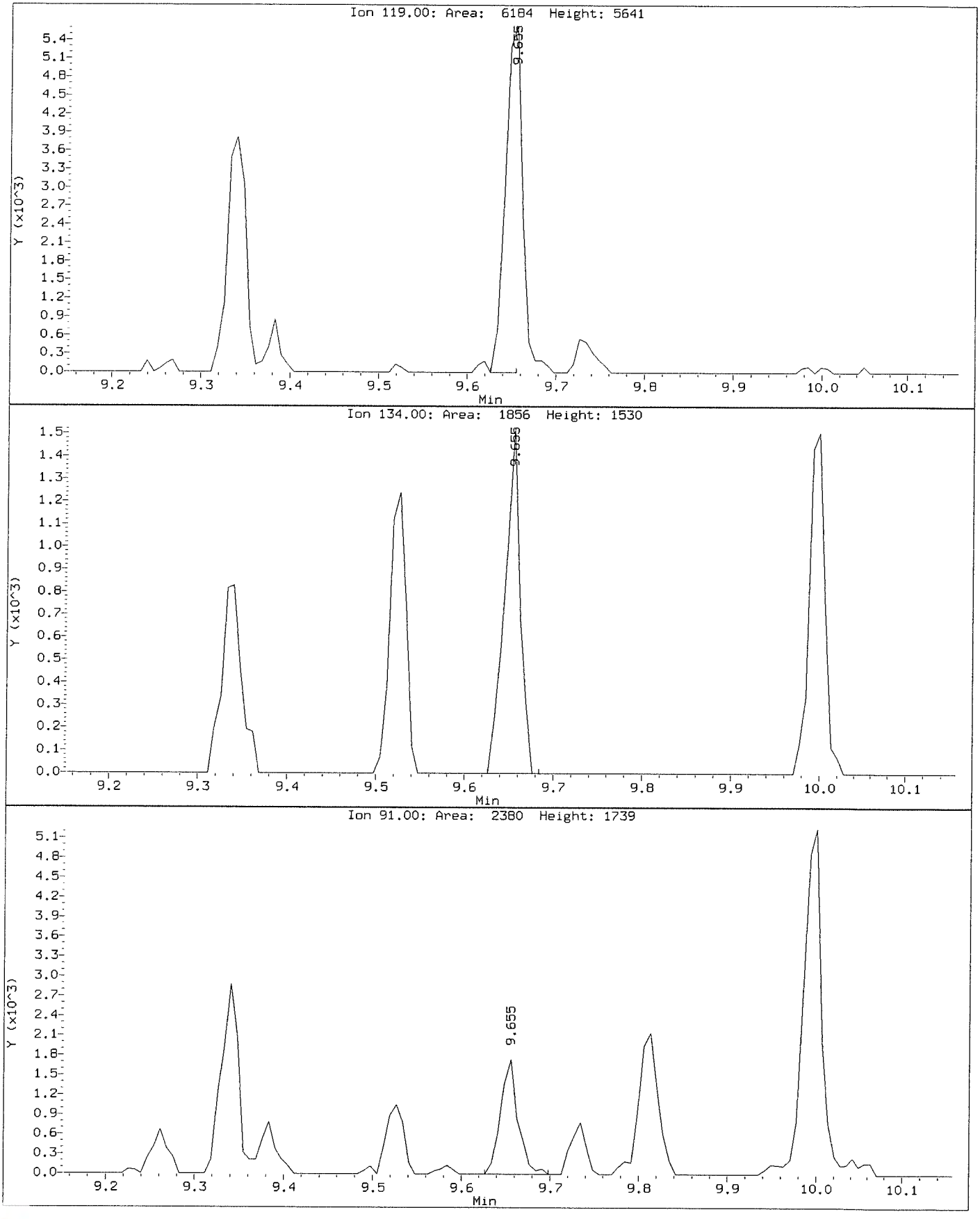
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: p-Isopropyltoluene
CAS Number: 99-87-6



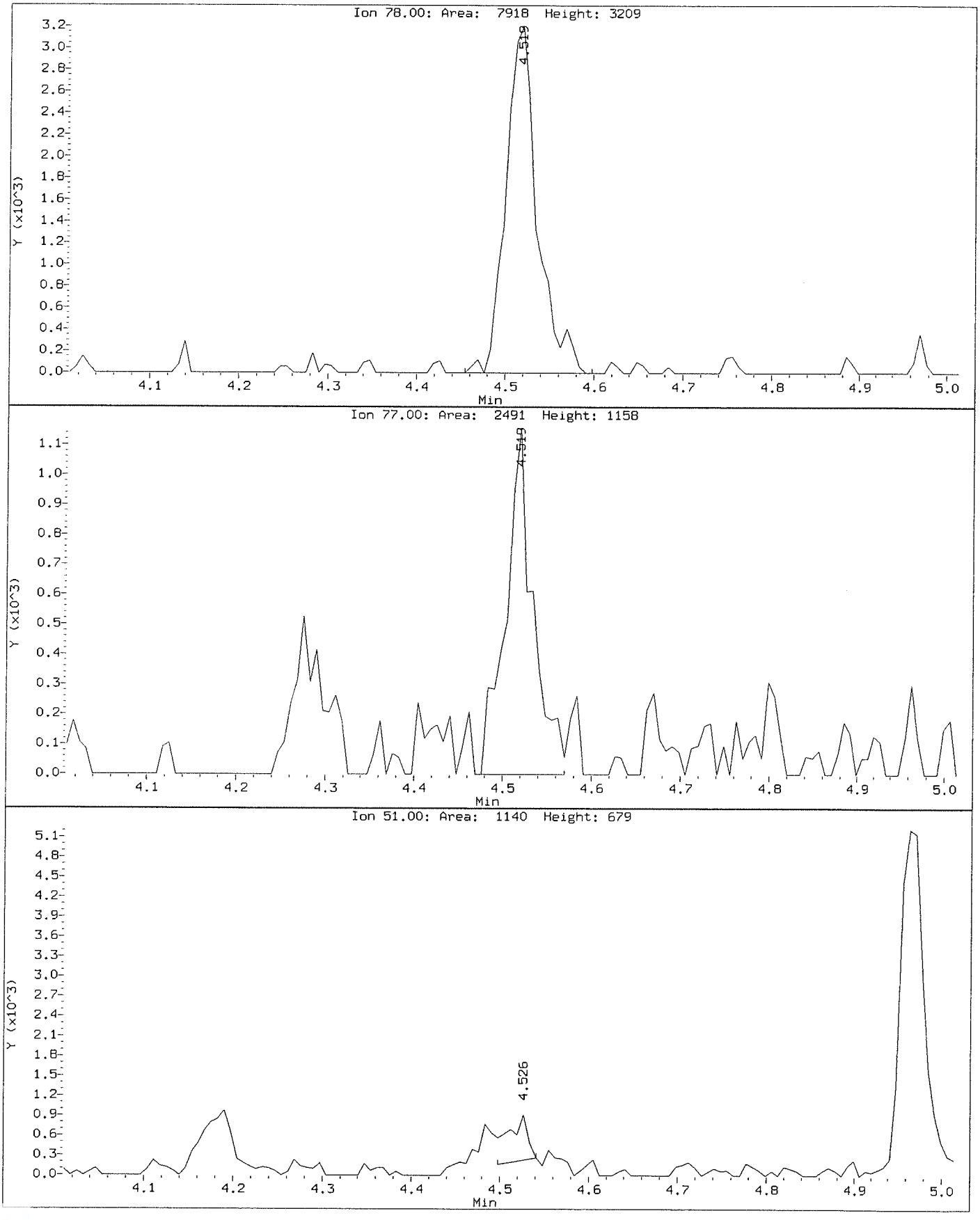
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: p-Isopropyltoluene
CAS Number: 99-87-6



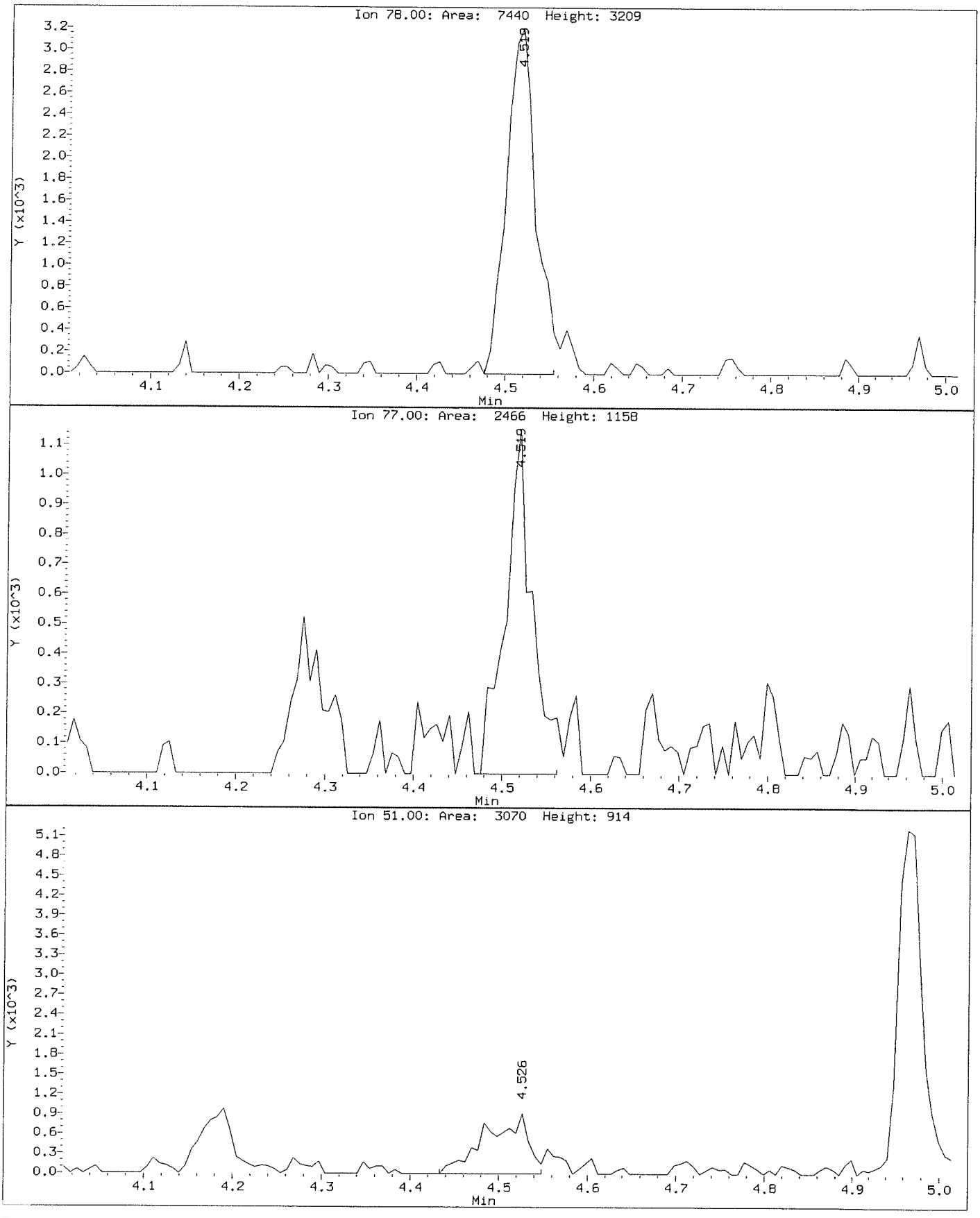
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Benzene
CAS Number: 71-43-2



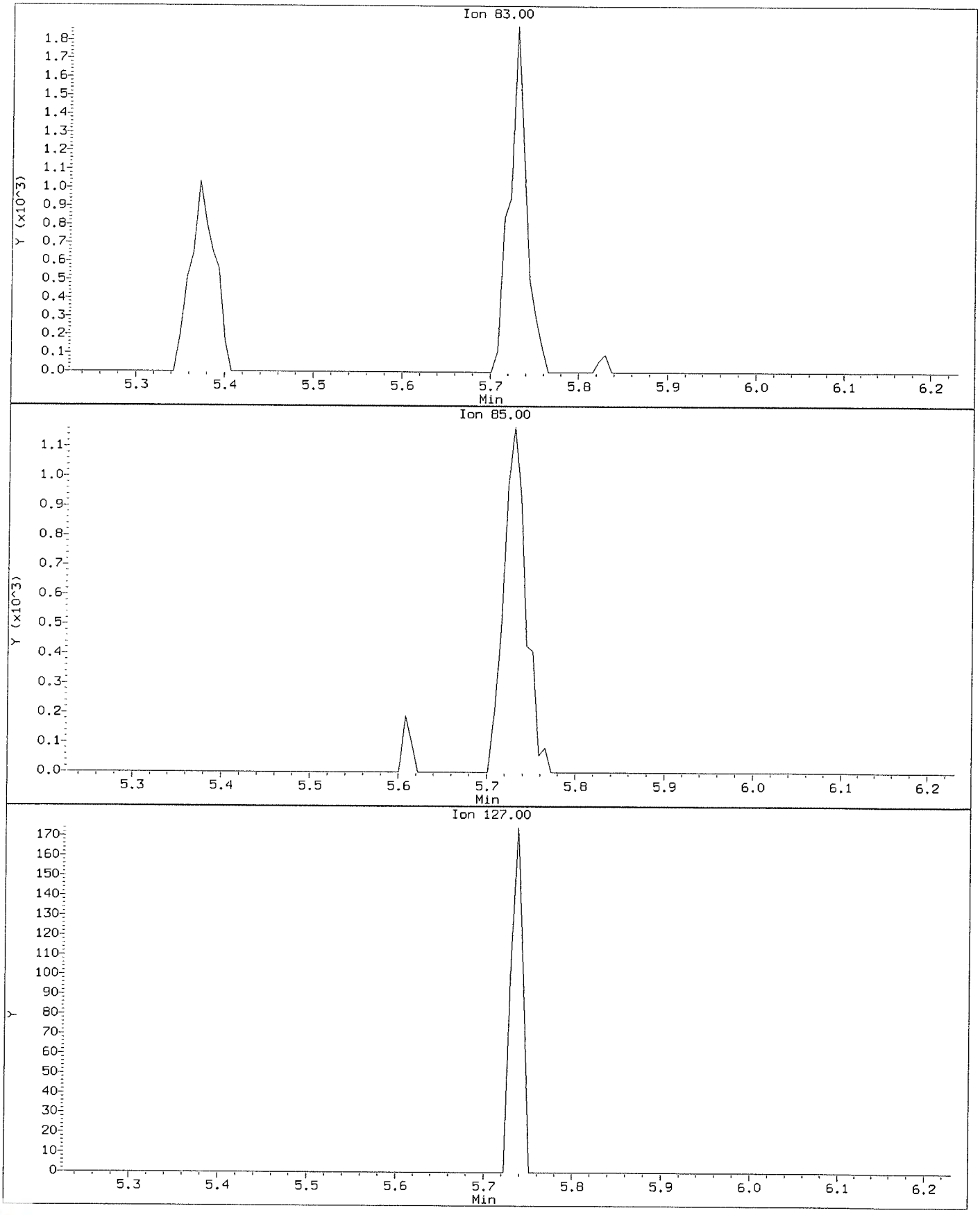
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Benzene
CAS Number: 71-43-2



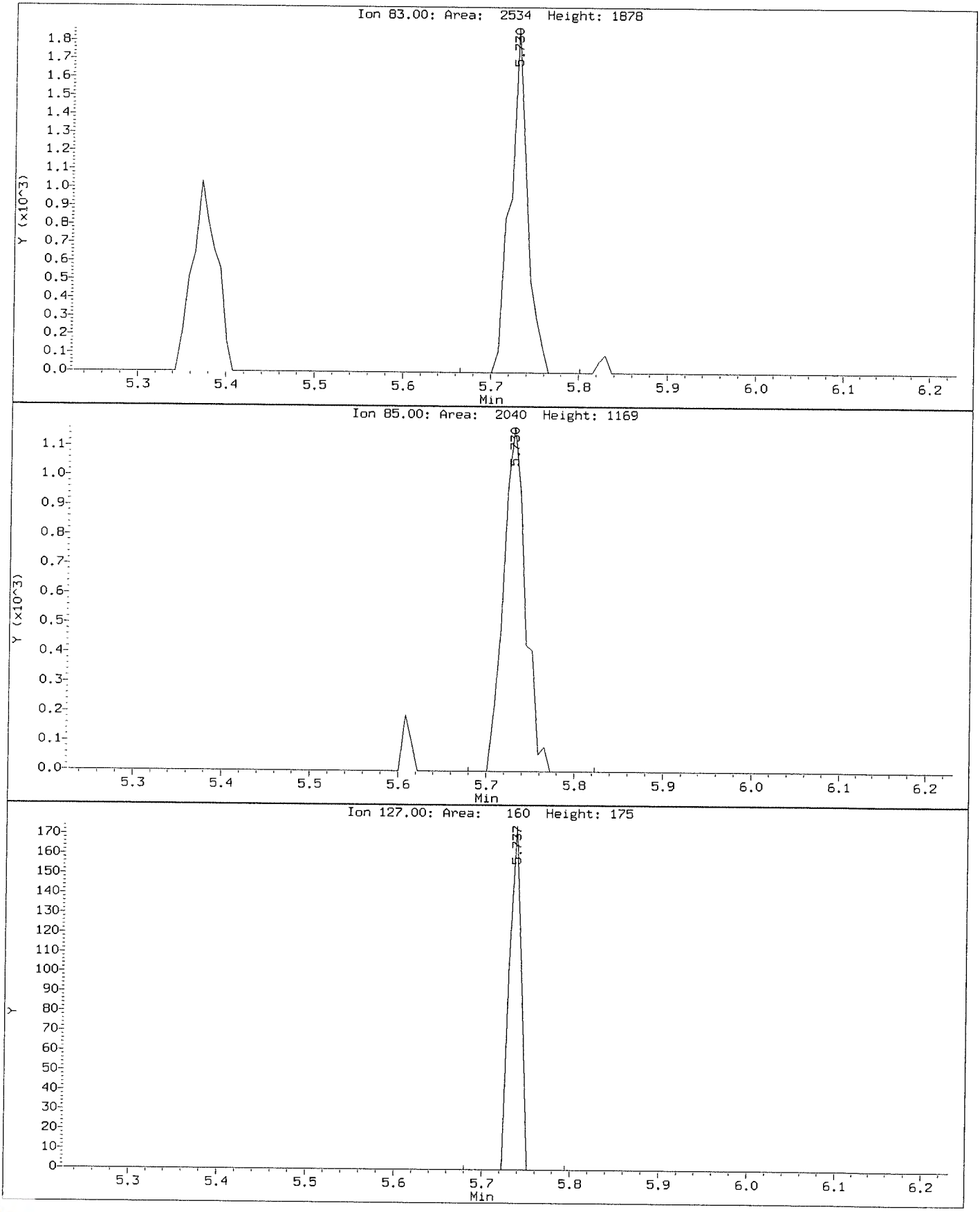
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



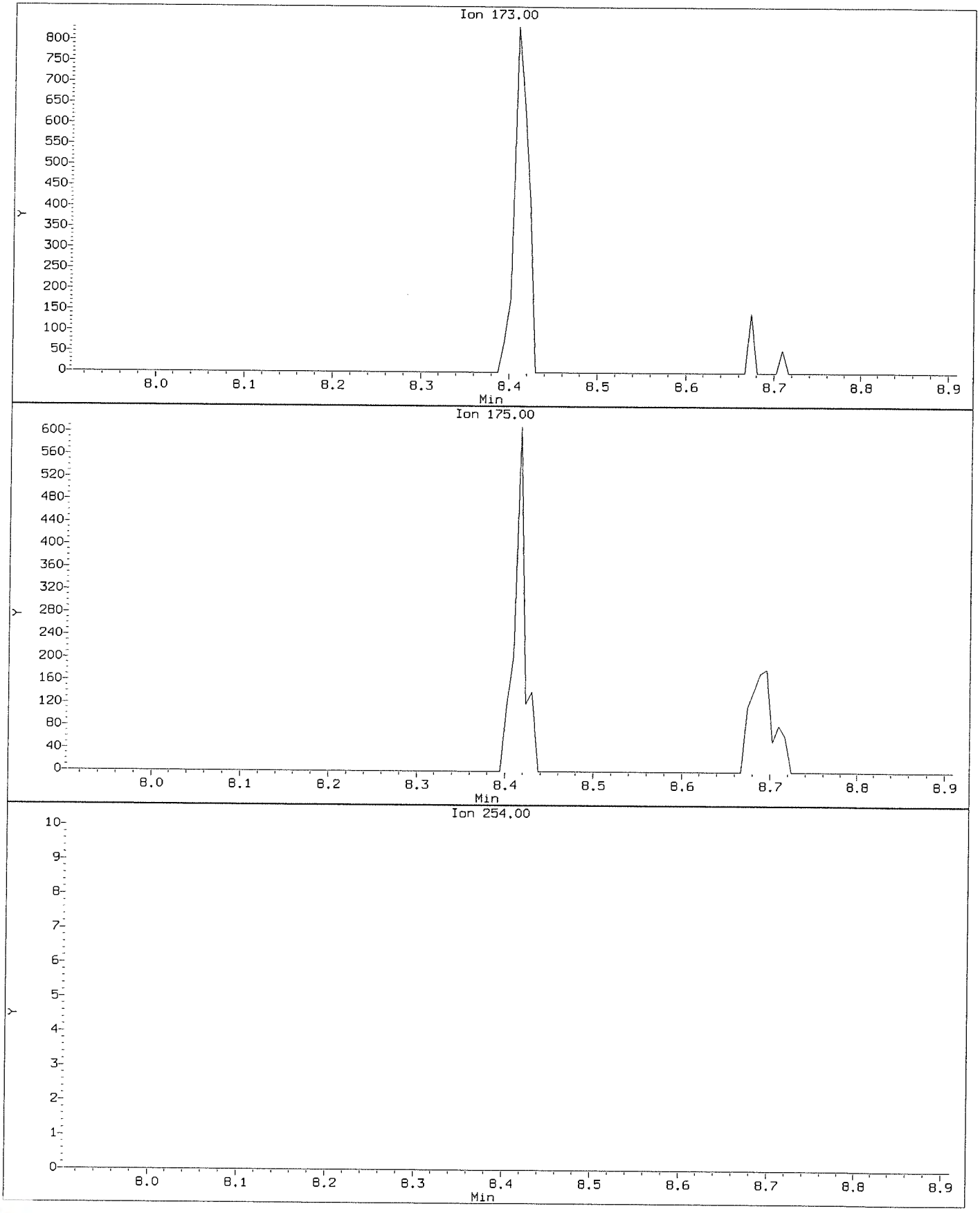
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



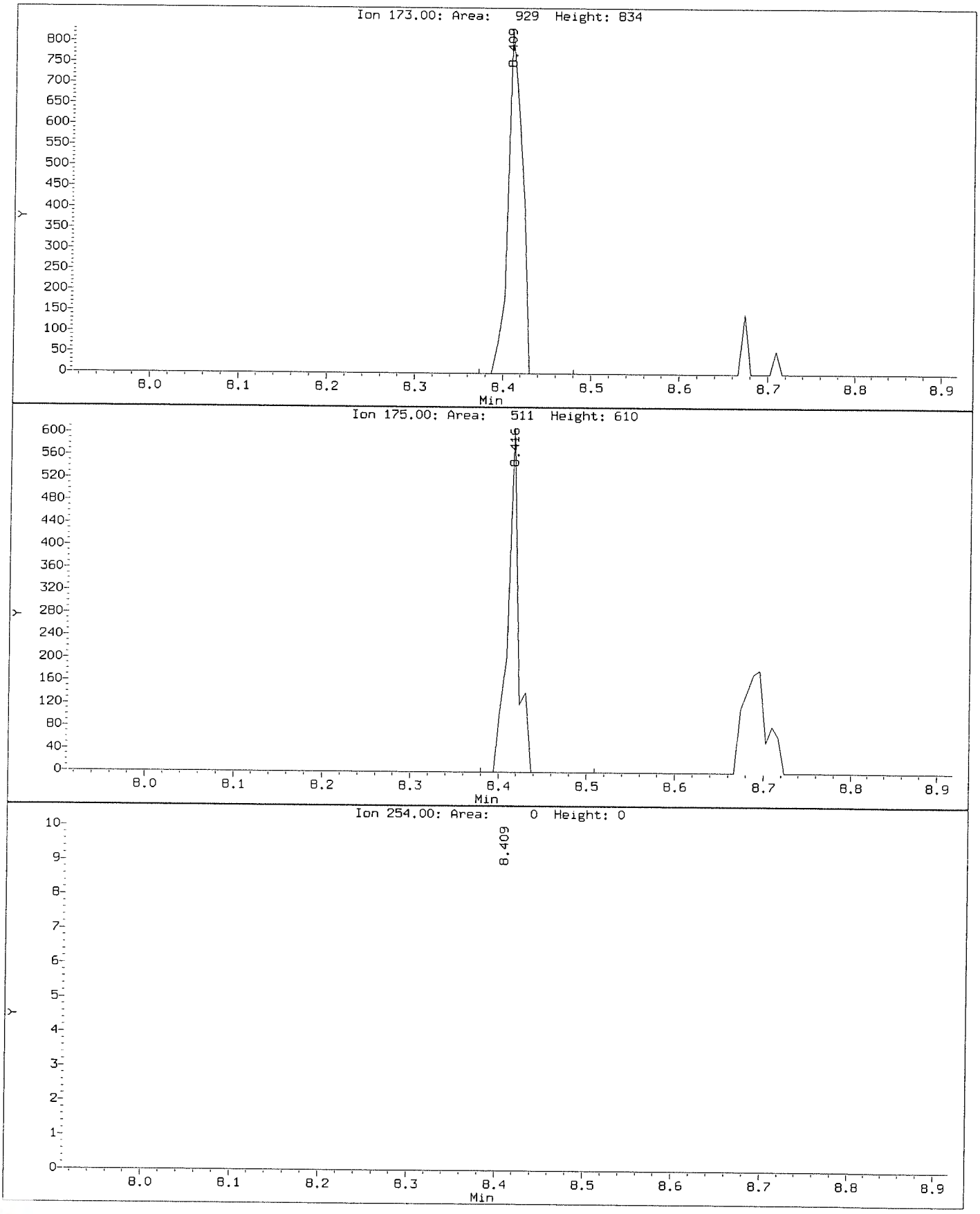
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



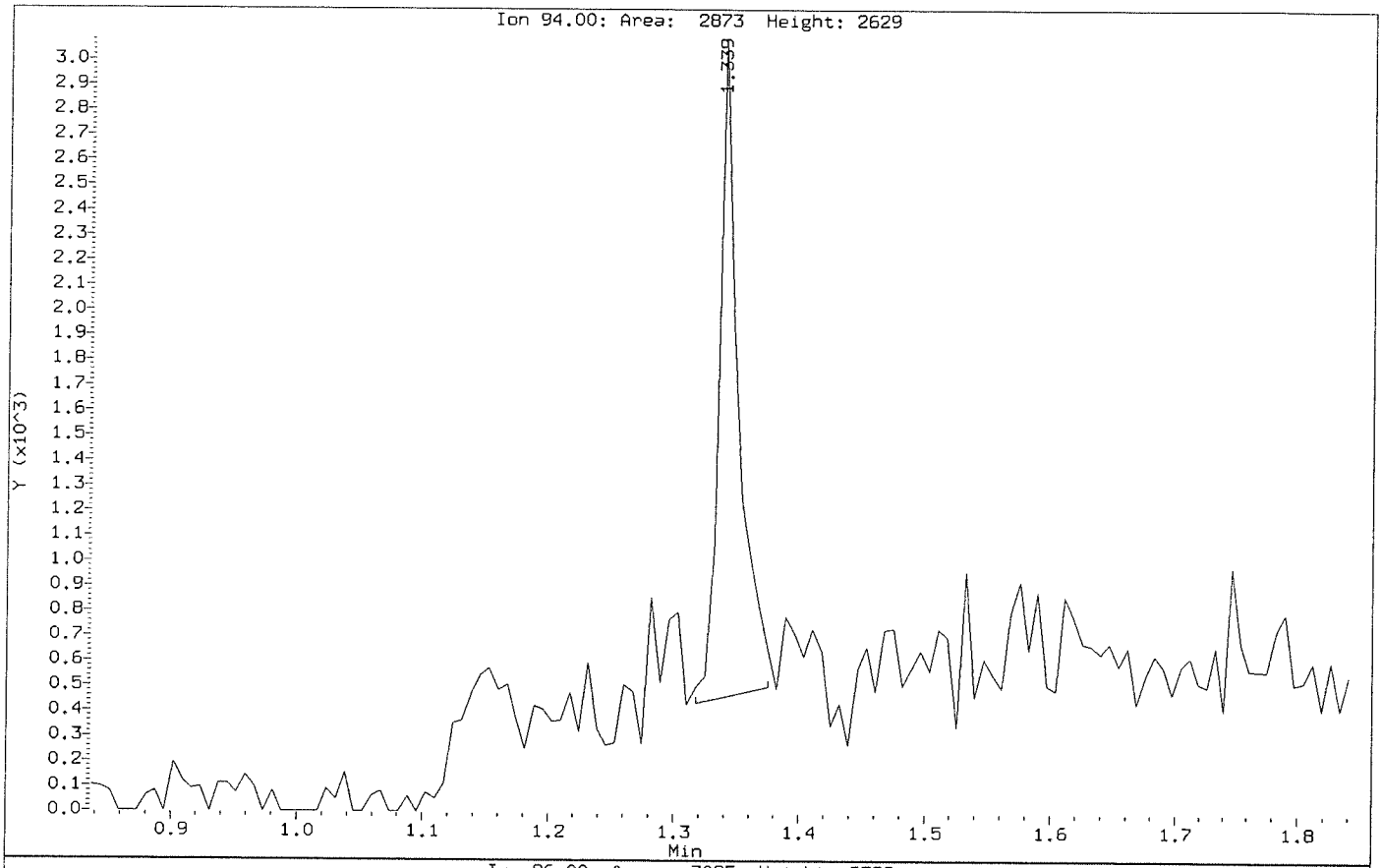
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

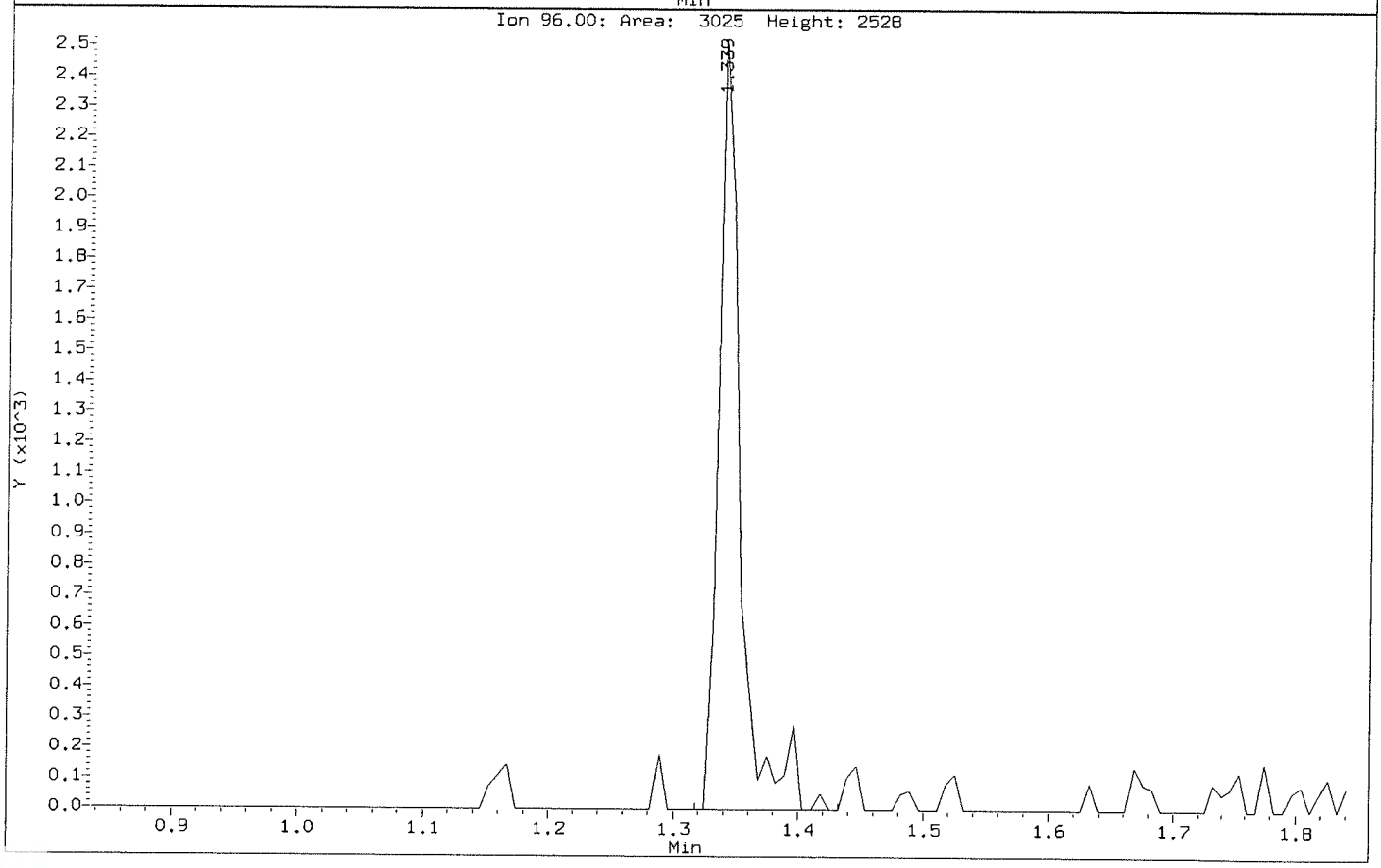
Compound: Bromoform
CAS Number: 75-25-2



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

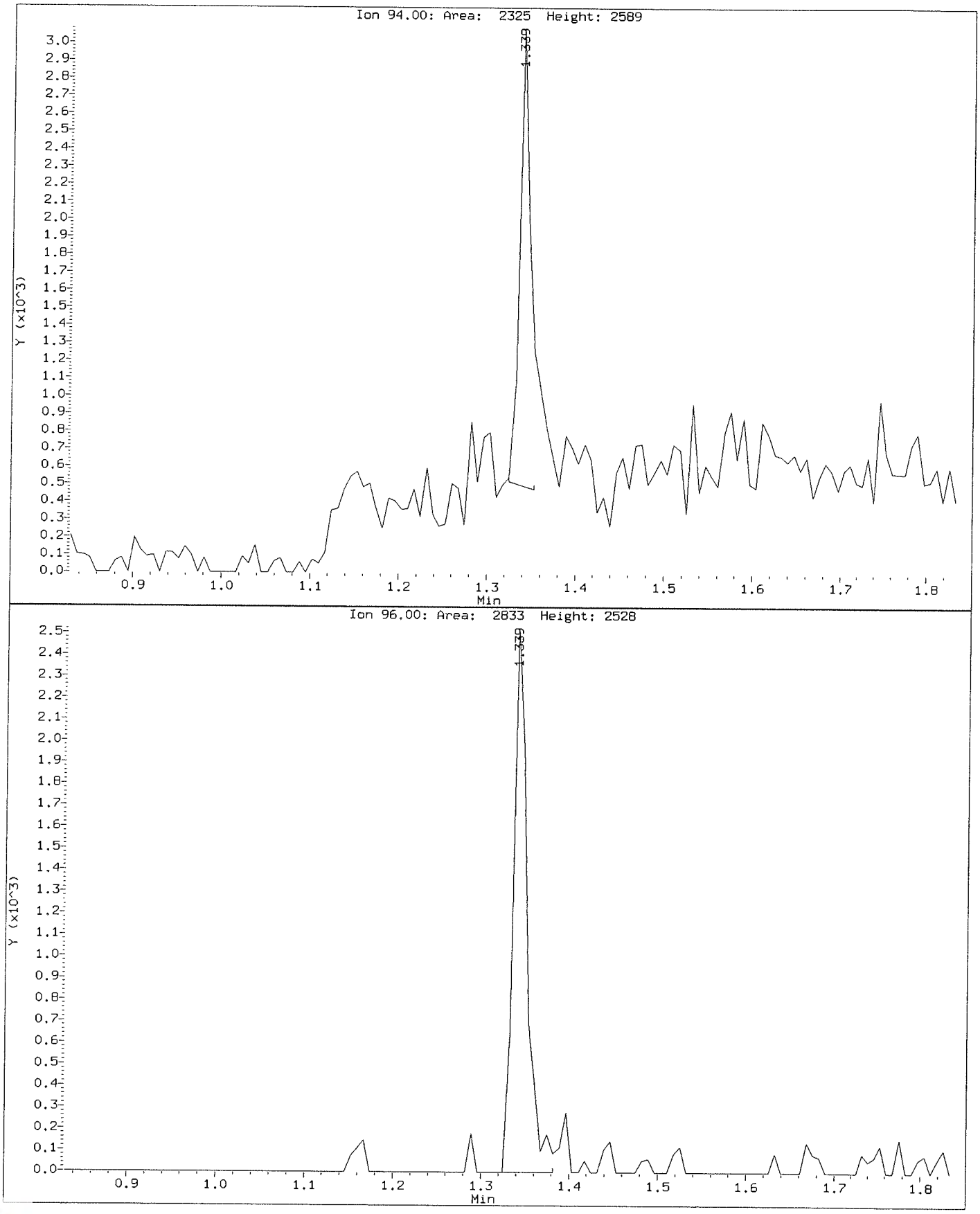
Compound: Bromomethane
CAS Number: 74-83-9





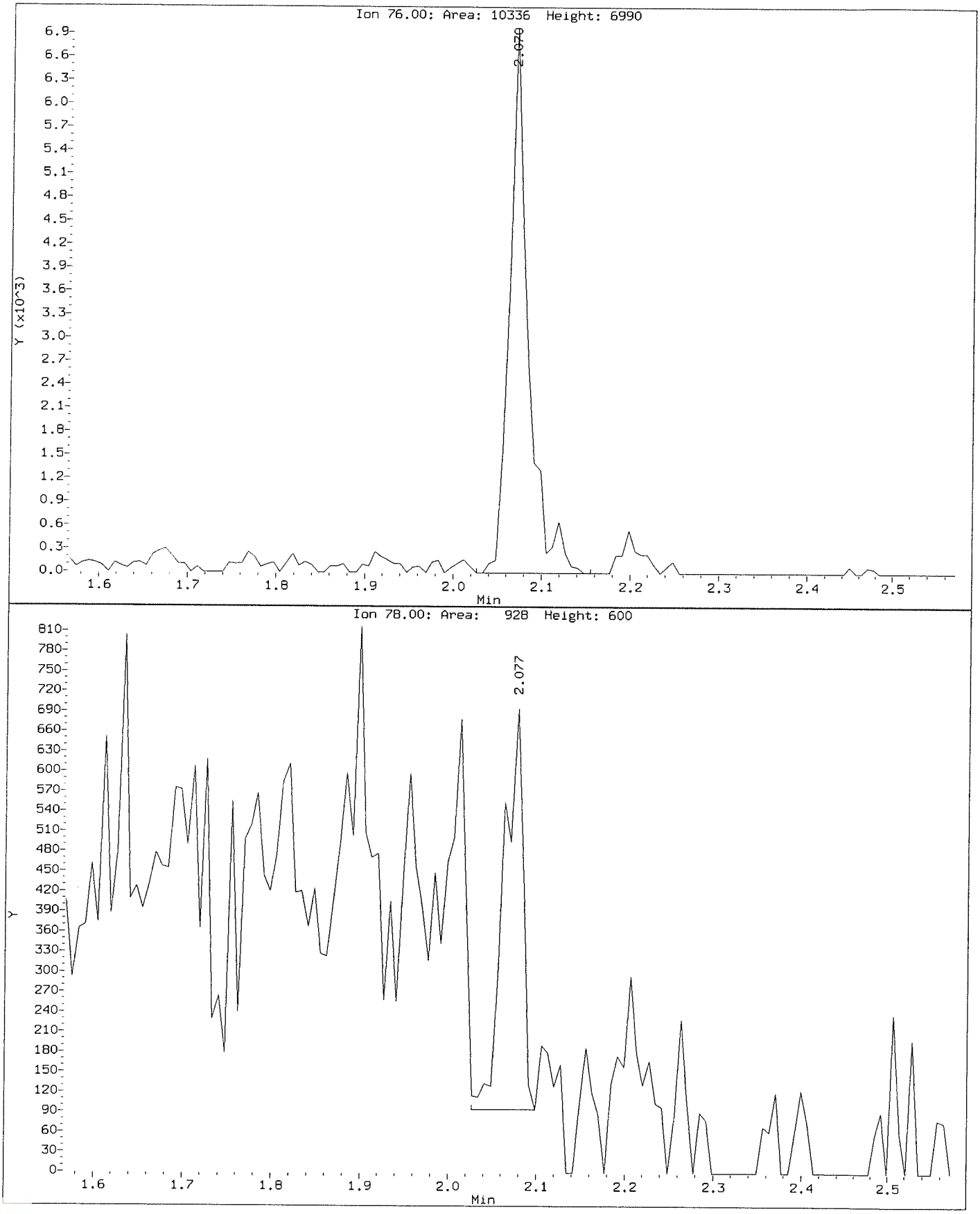
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromomethane
CAS Number: 74-83-9



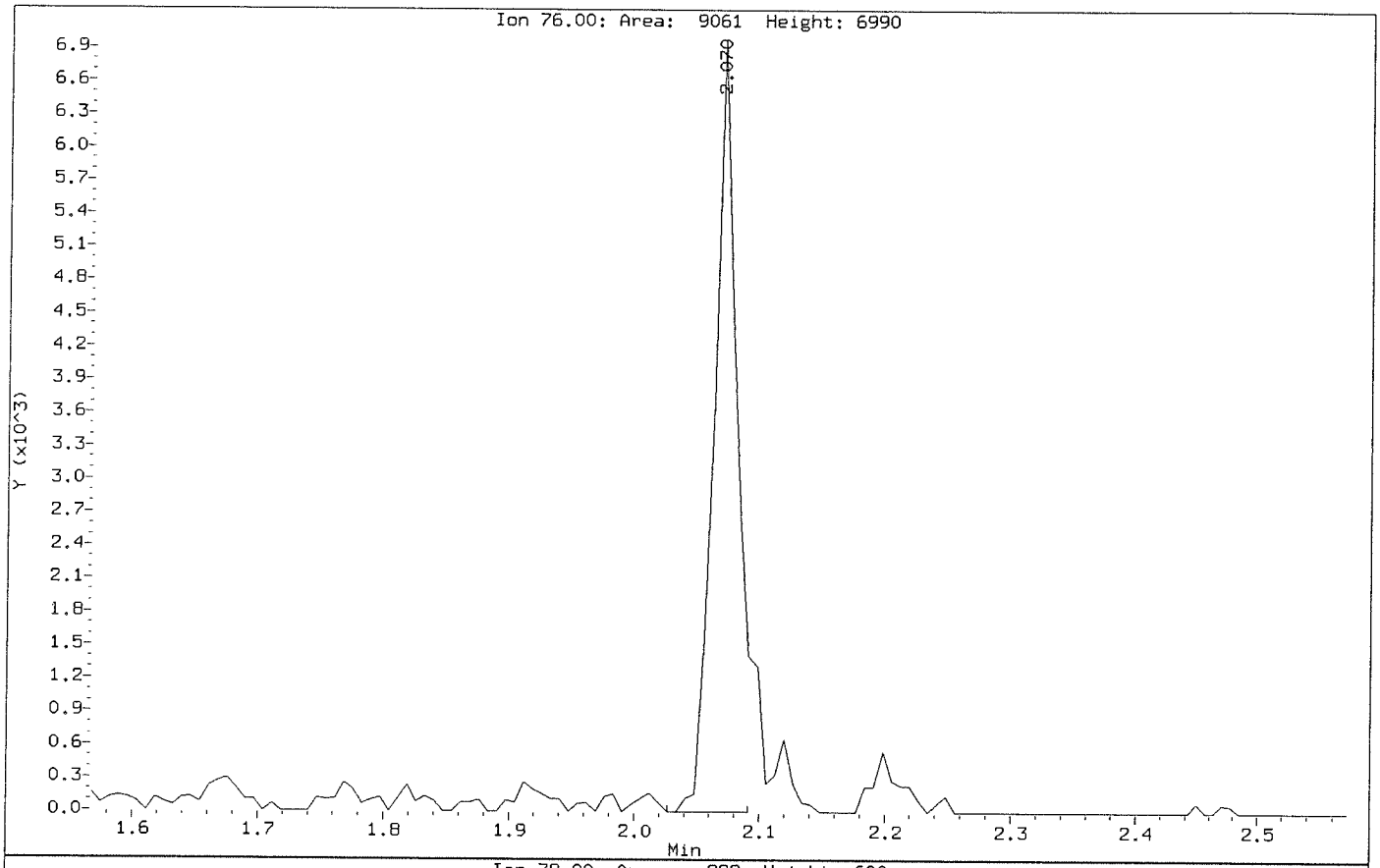
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

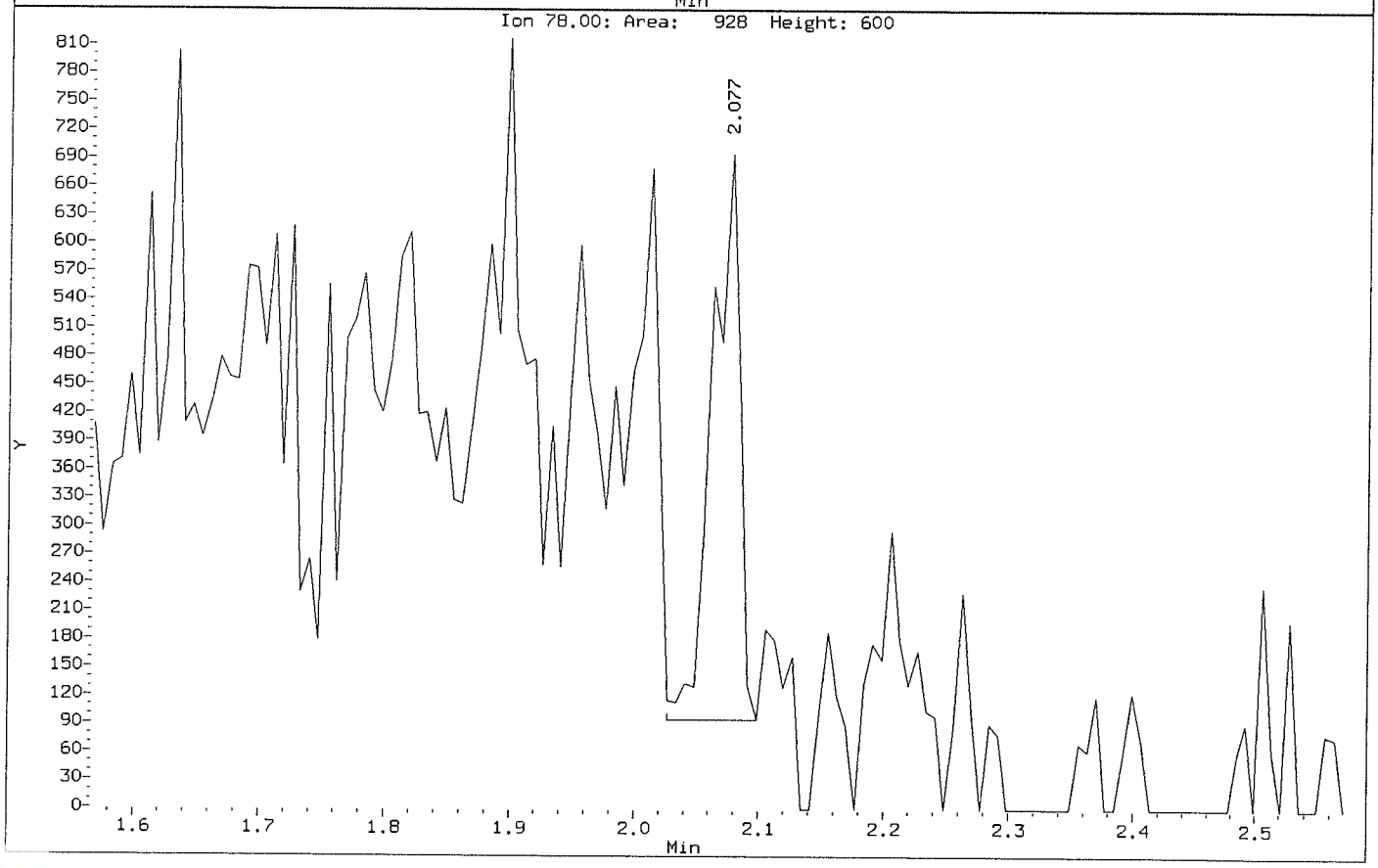
Compound: Carbon Disulfide
CAS Number: 75-15-0



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

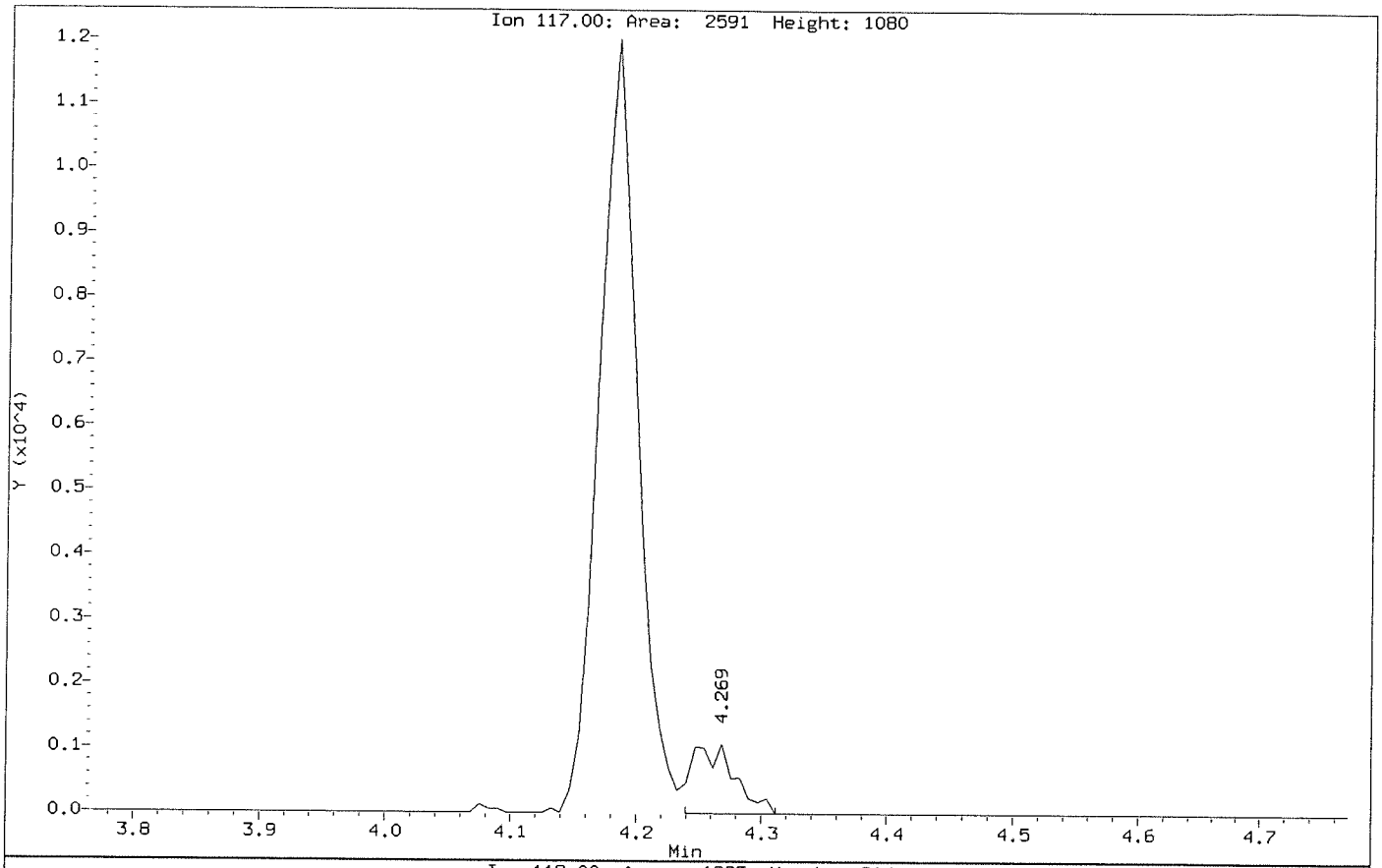
Compound: Carbon Disulfide
CAS Number: 75-15-0

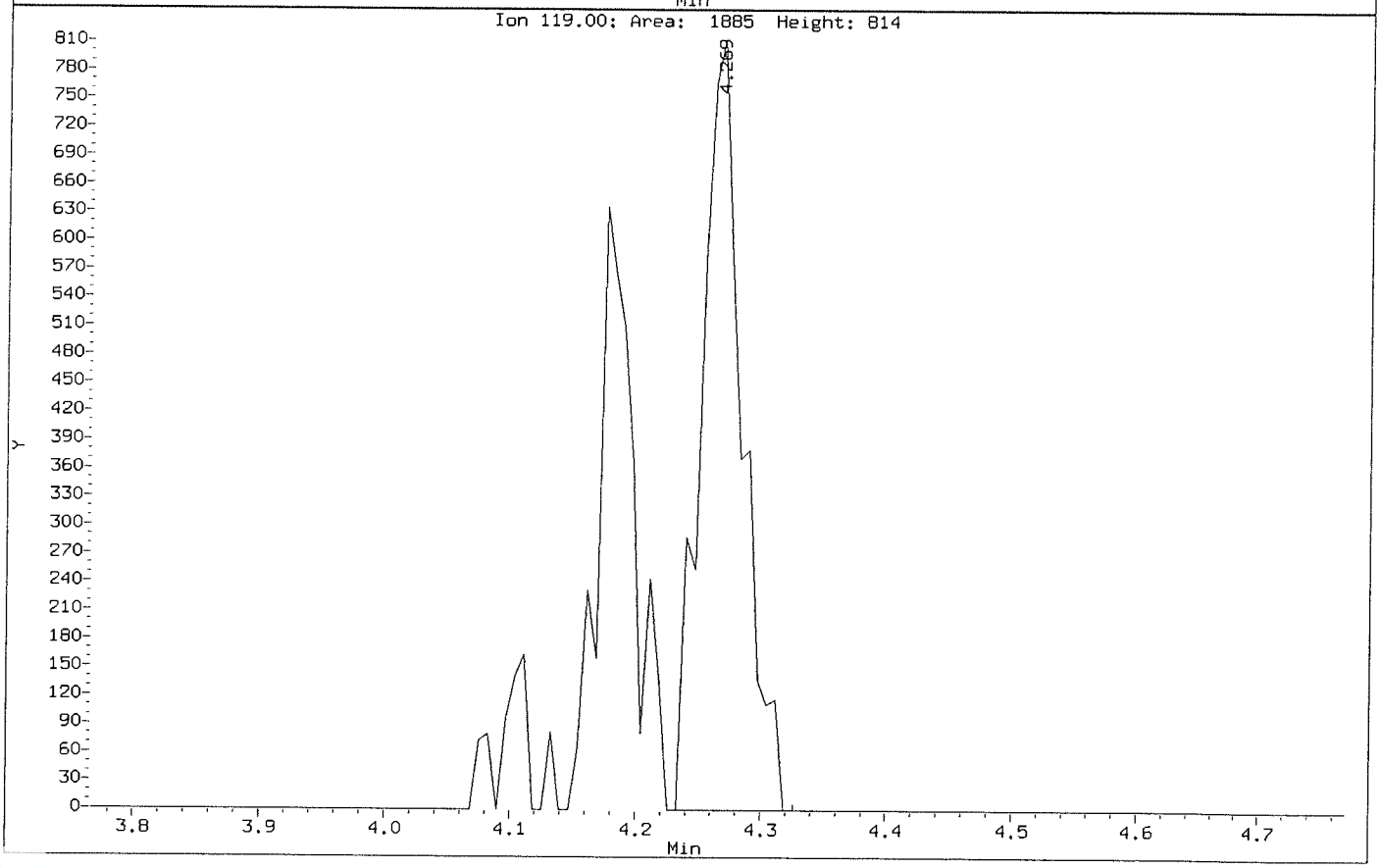




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

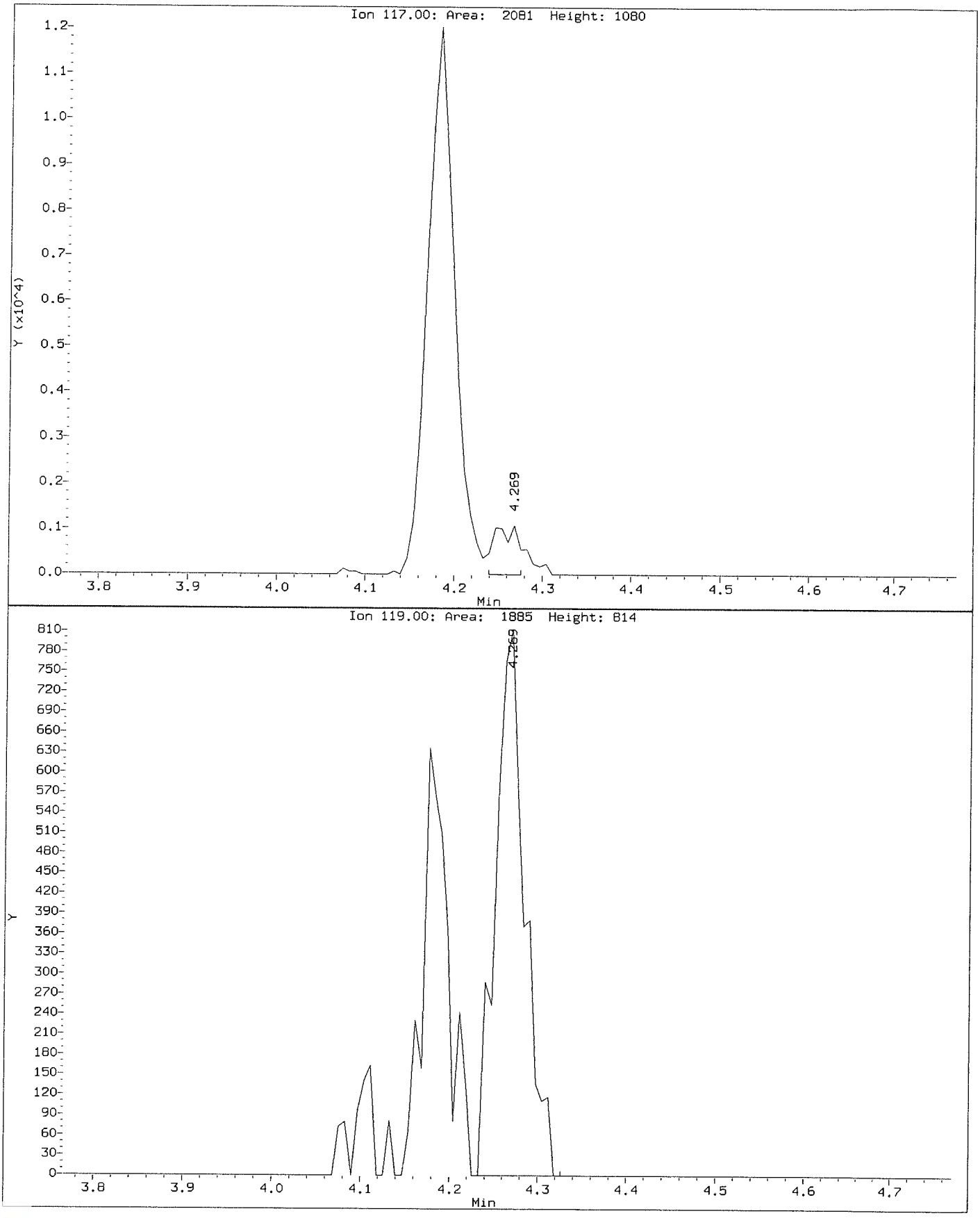
Compound: Carbon Tetrachloride
CAS Number: 56-23-5





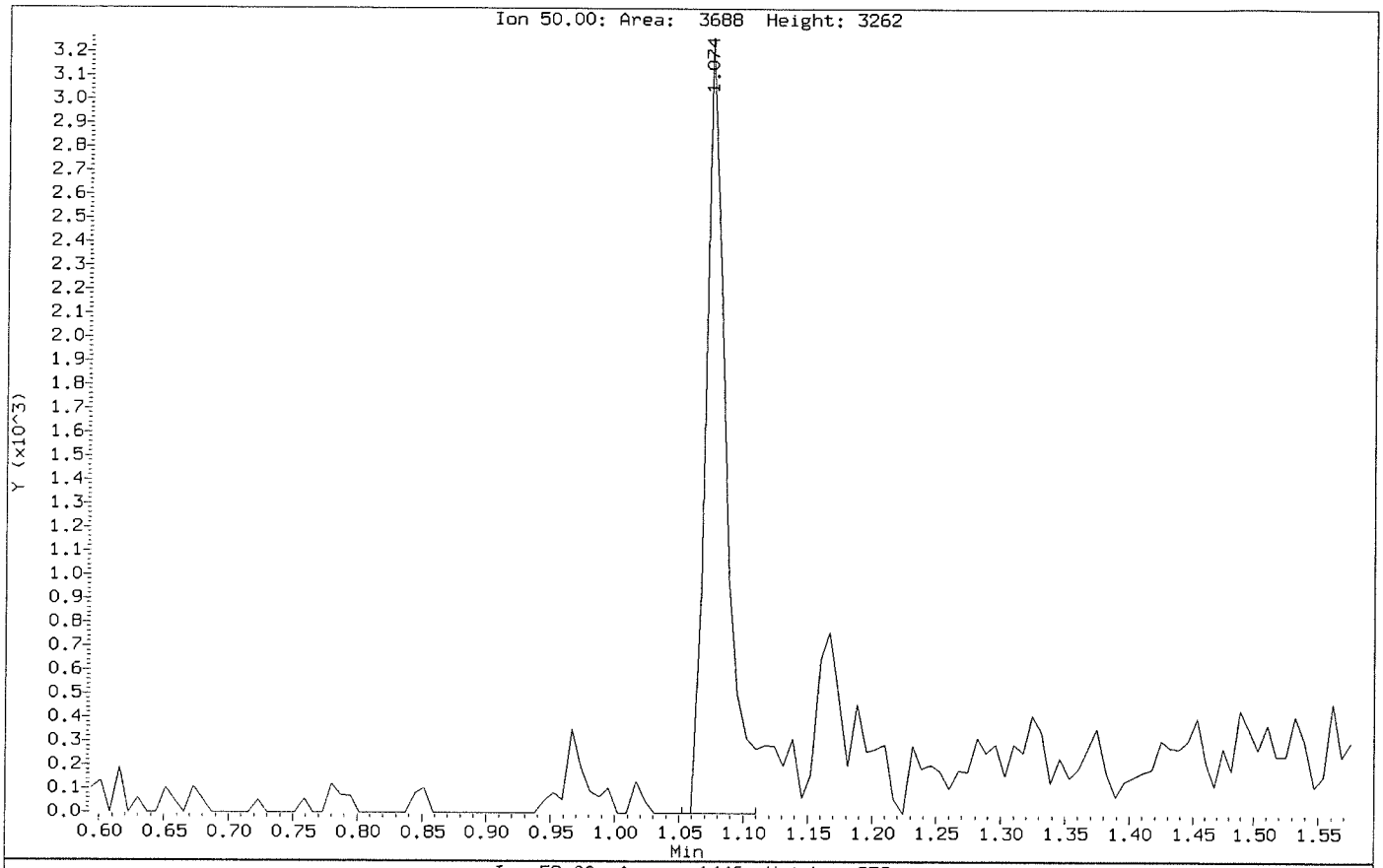
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

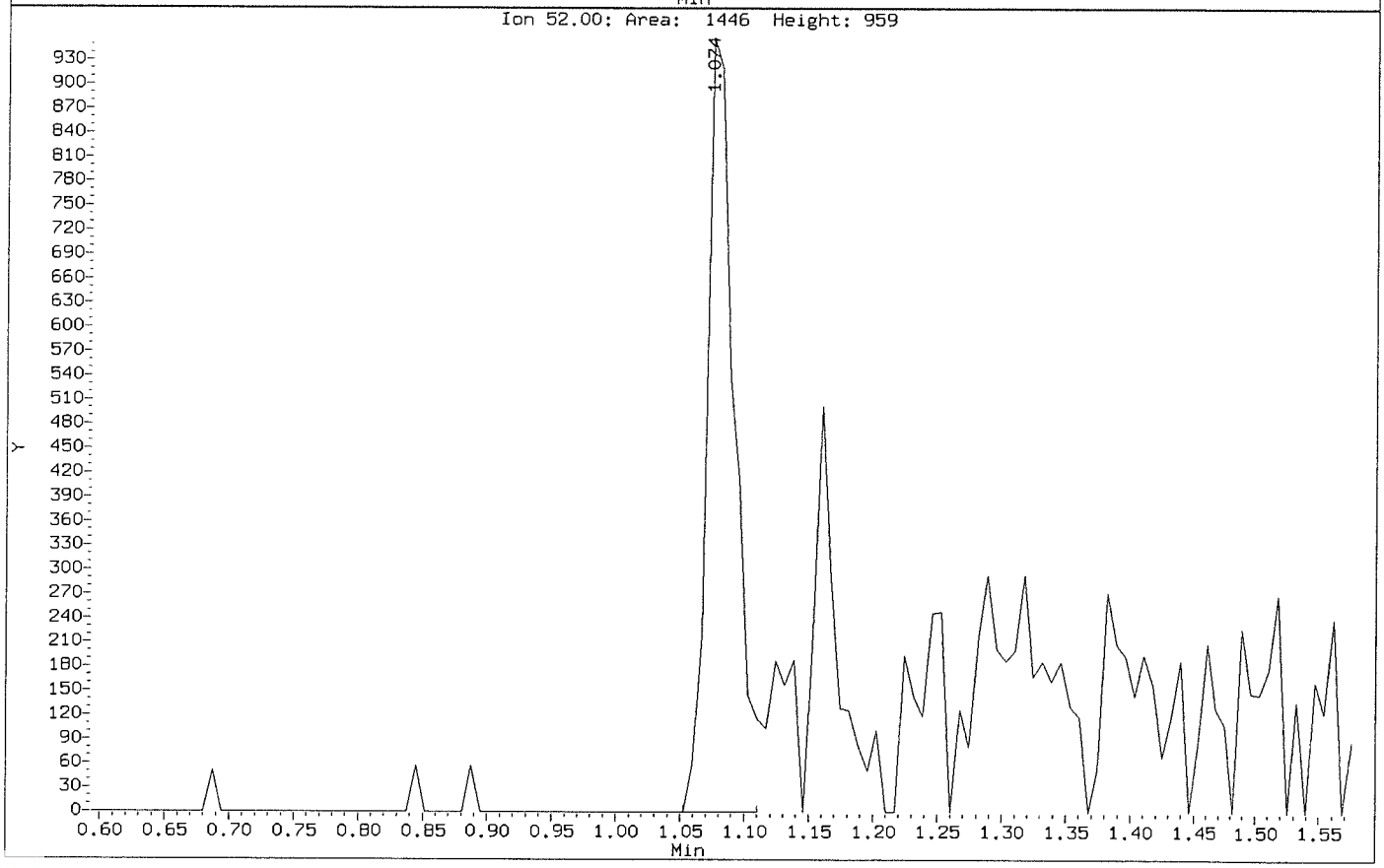
Compound: Carbon Tetrachloride
CAS Number: 56-23-5



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

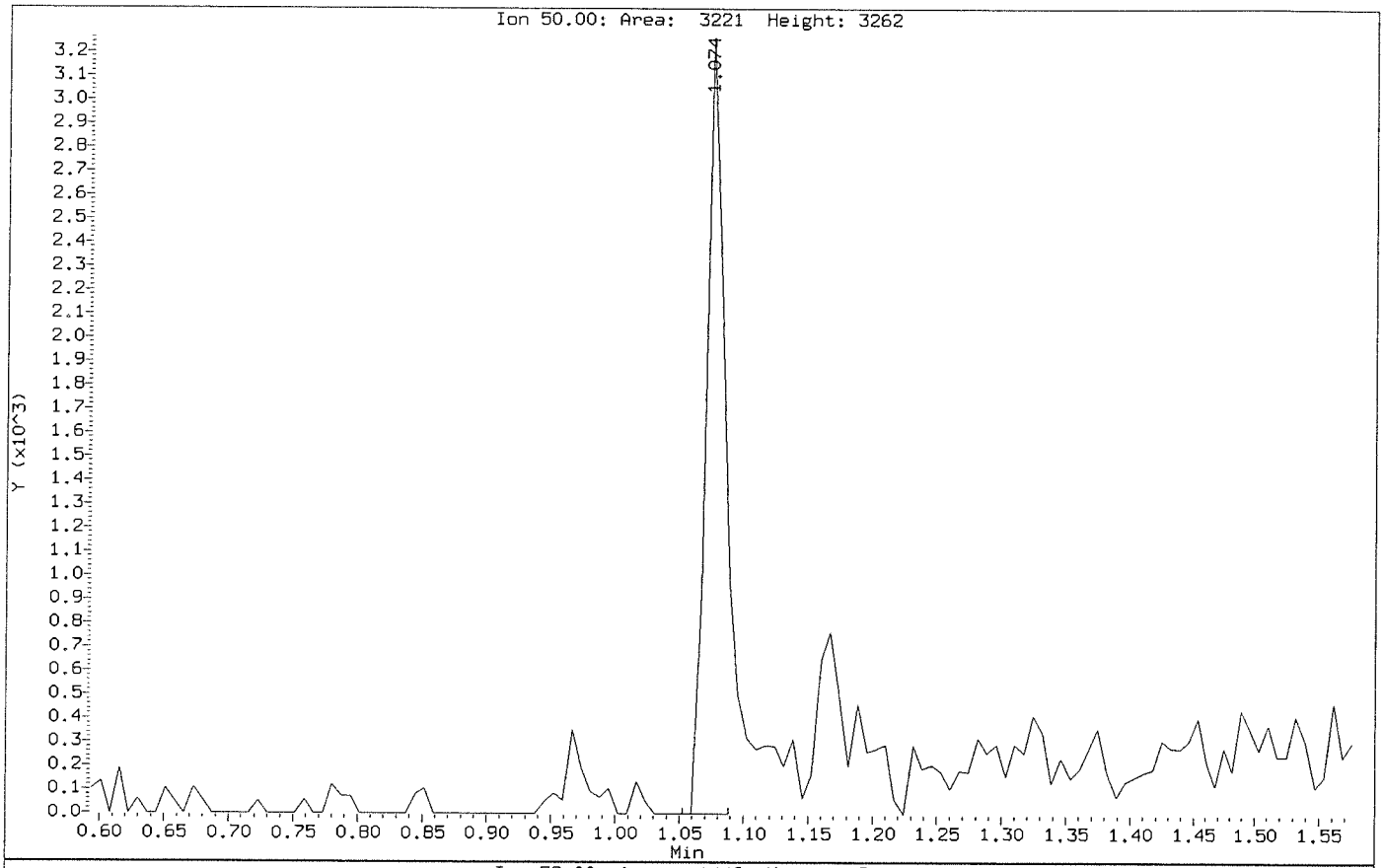
Compound: Chloromethane
CAS Number: 74-87-3

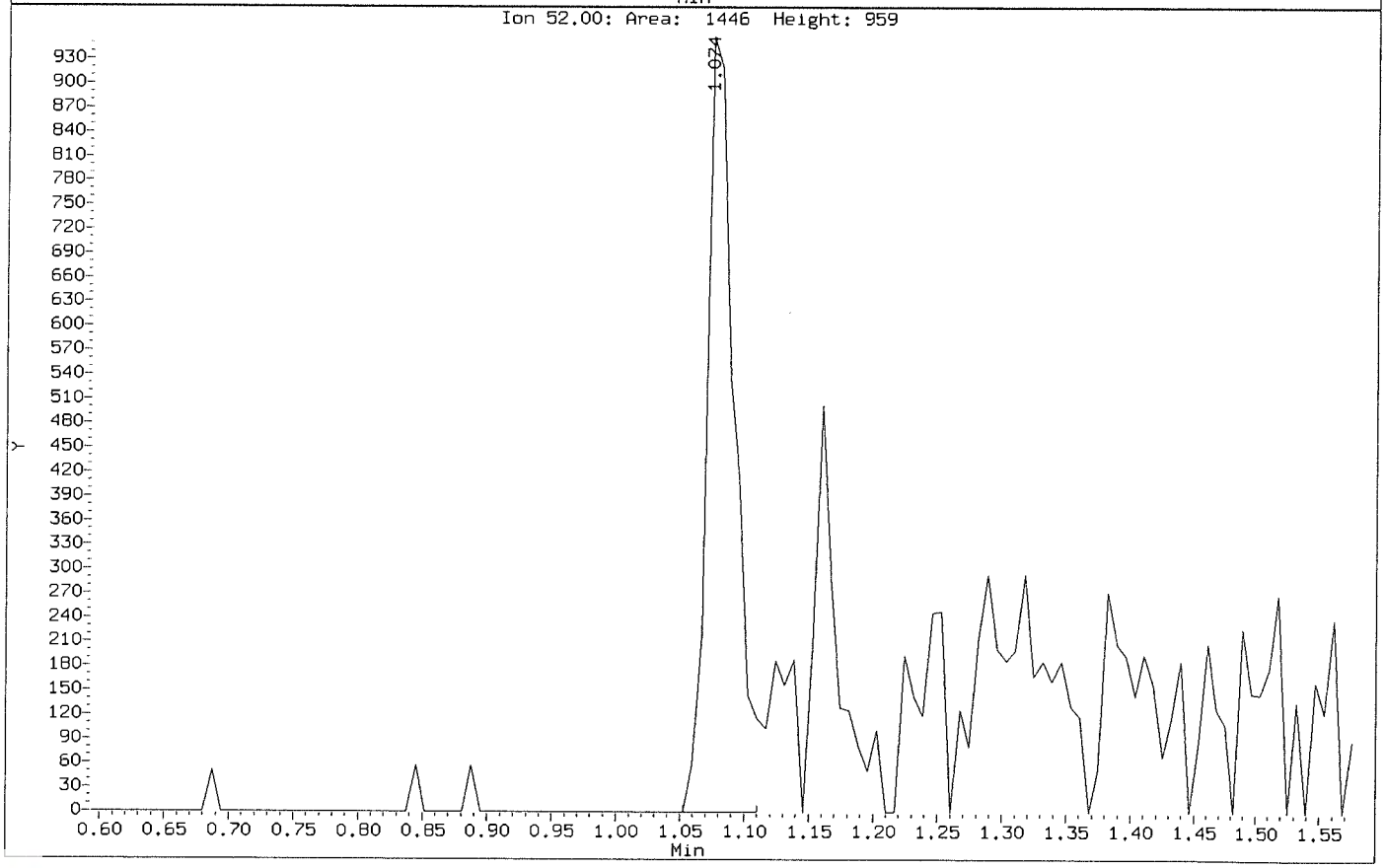




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

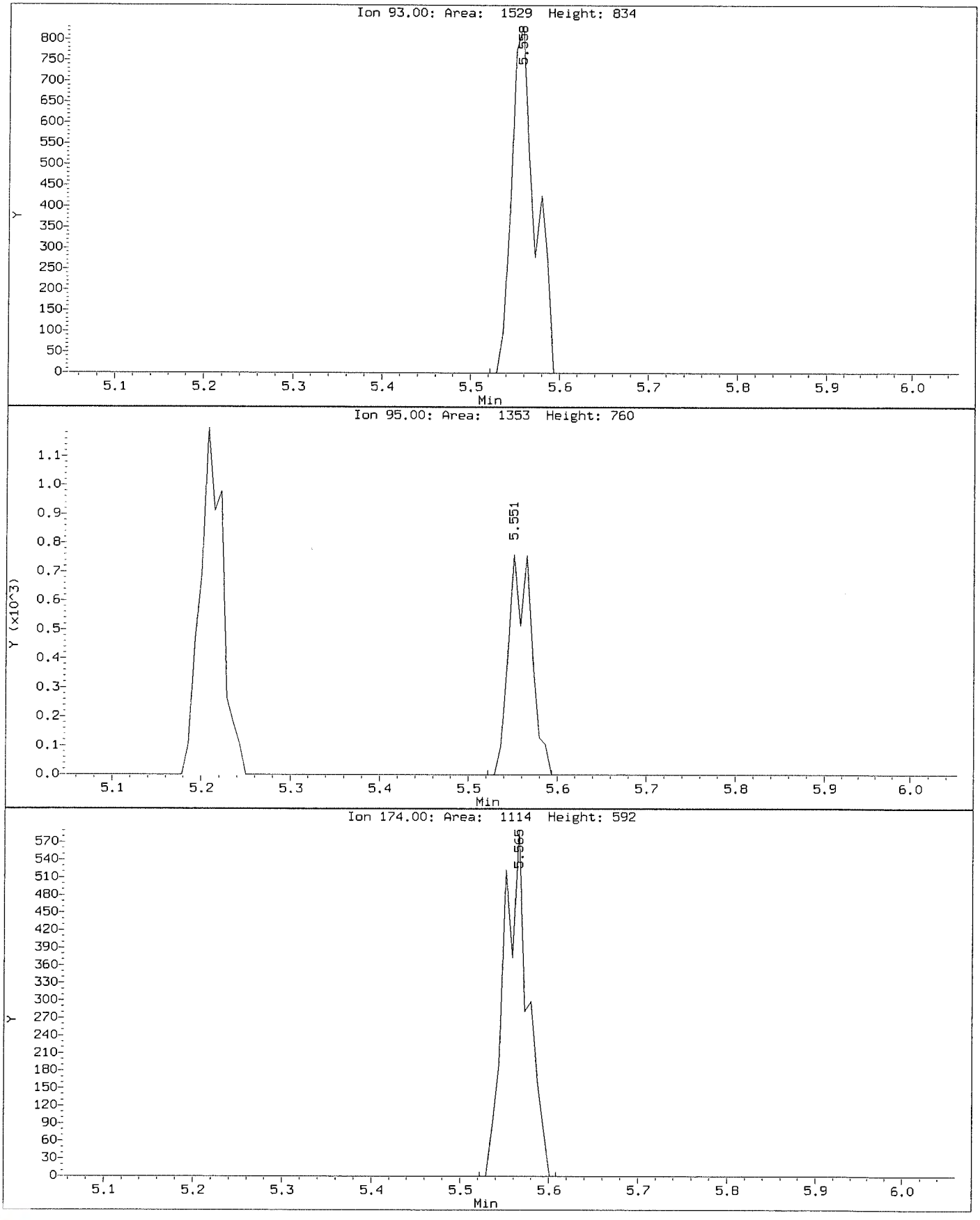
Compound: Chloromethane
CAS Number: 74-87-3





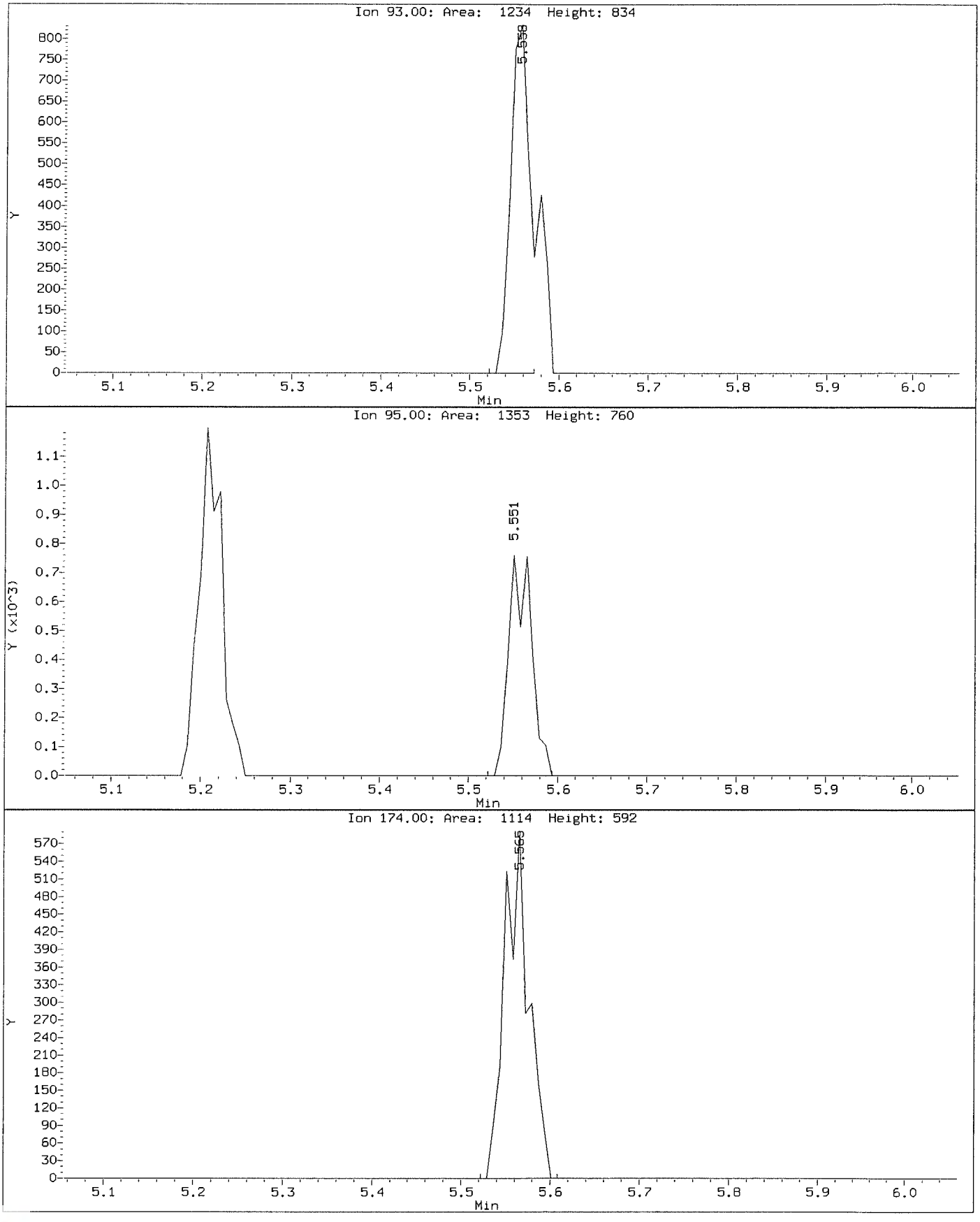
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dibromomethane
CAS Number: 74-95-3



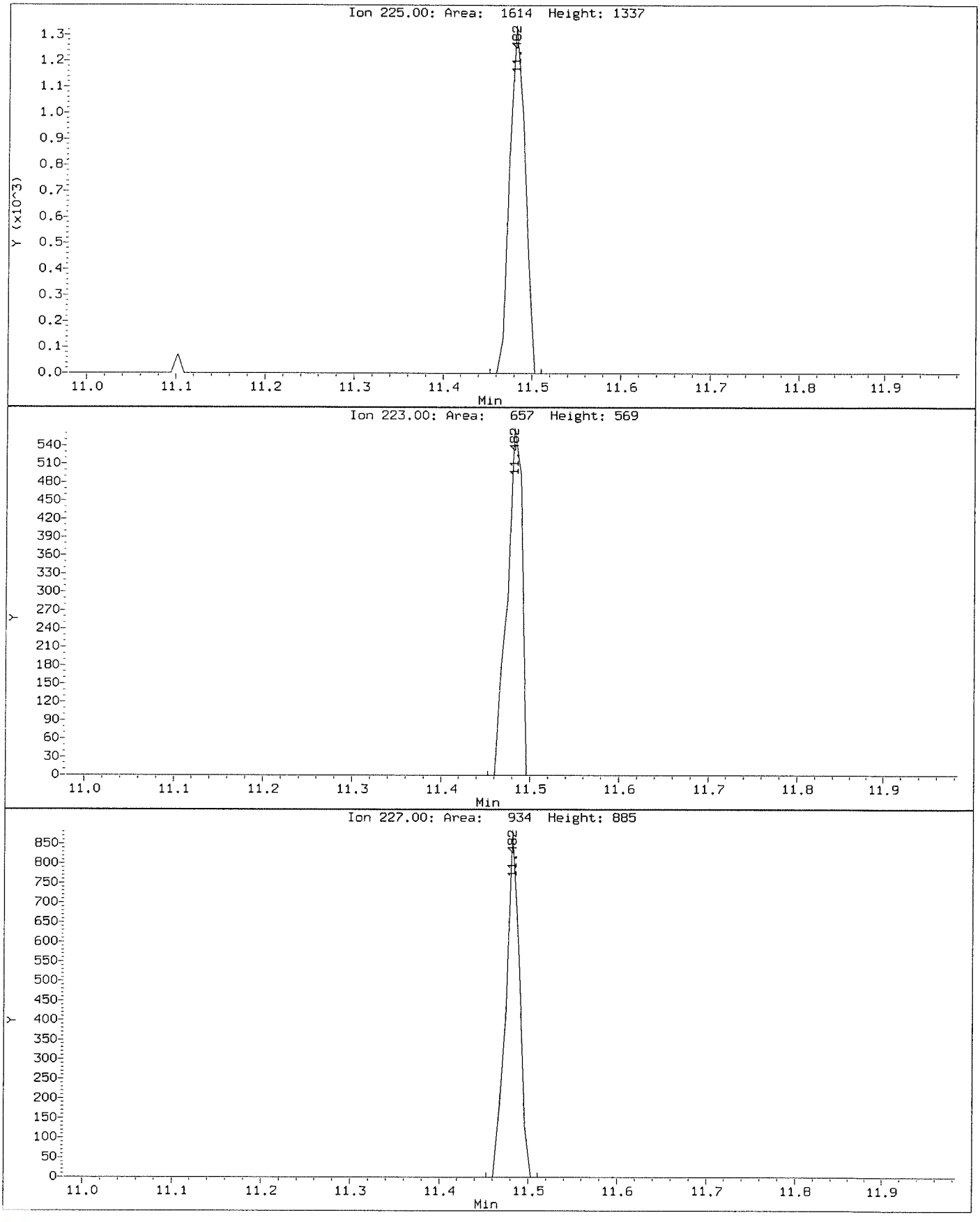
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dibromomethane
CAS Number: 74-95-3



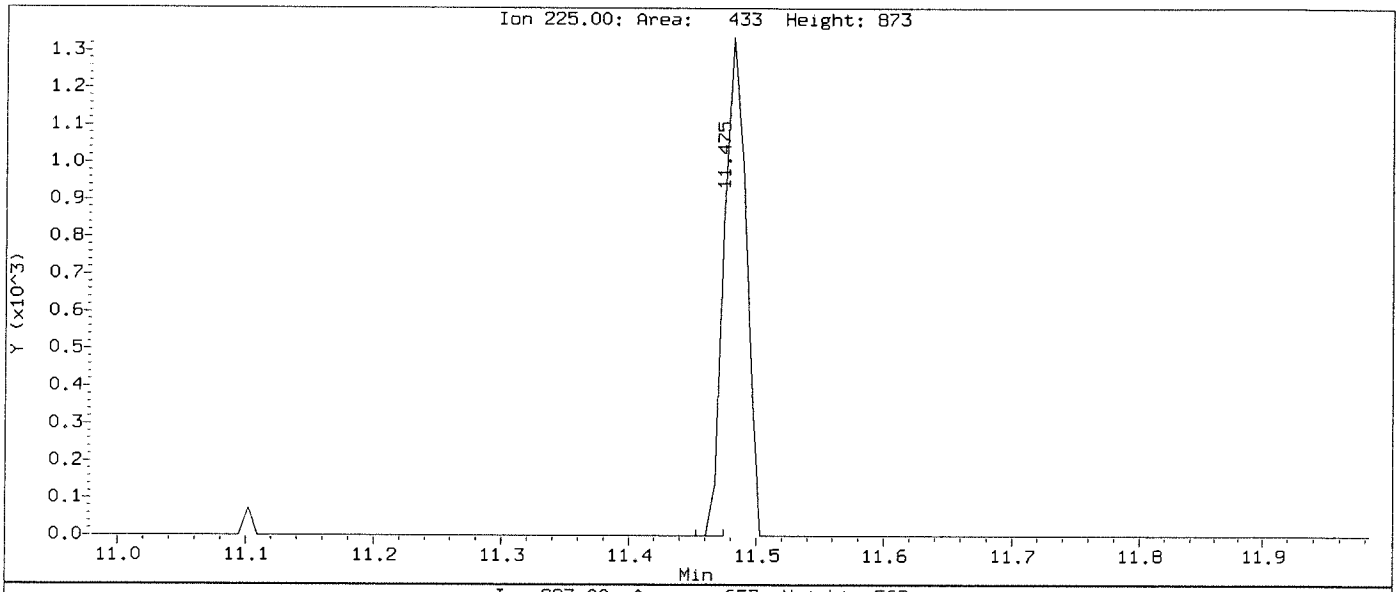
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

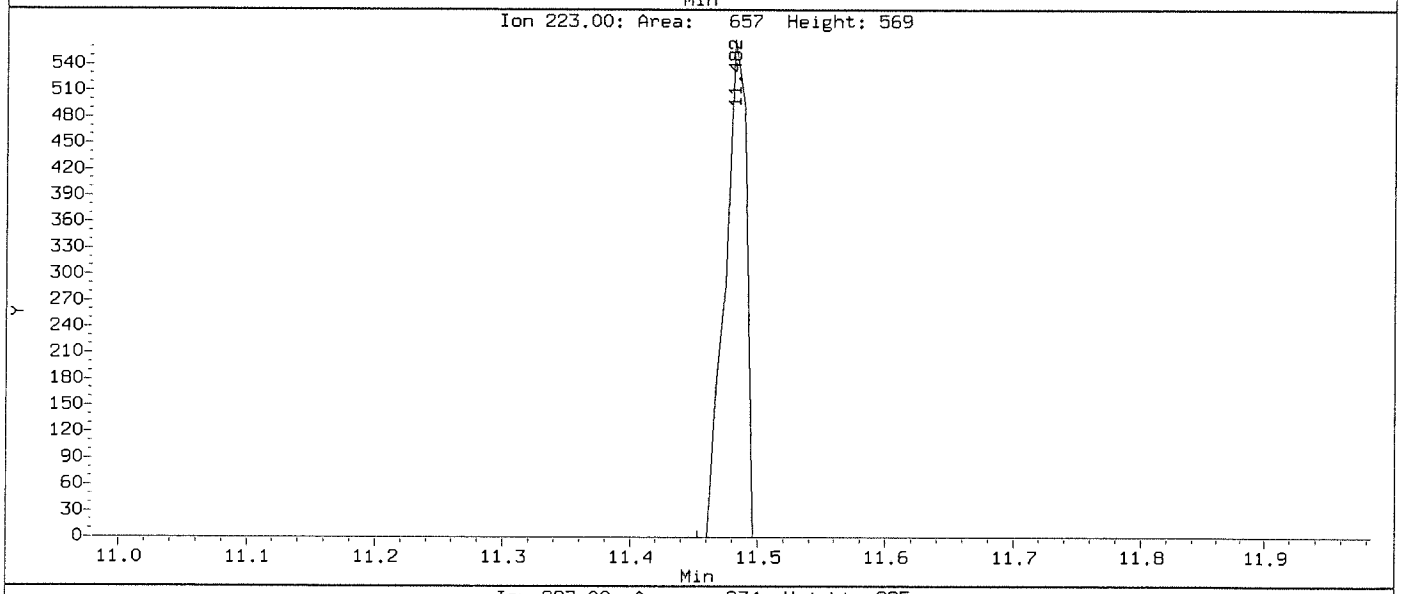
Compound: Hexachlorobutadiene
CAS Number: 87-68-3

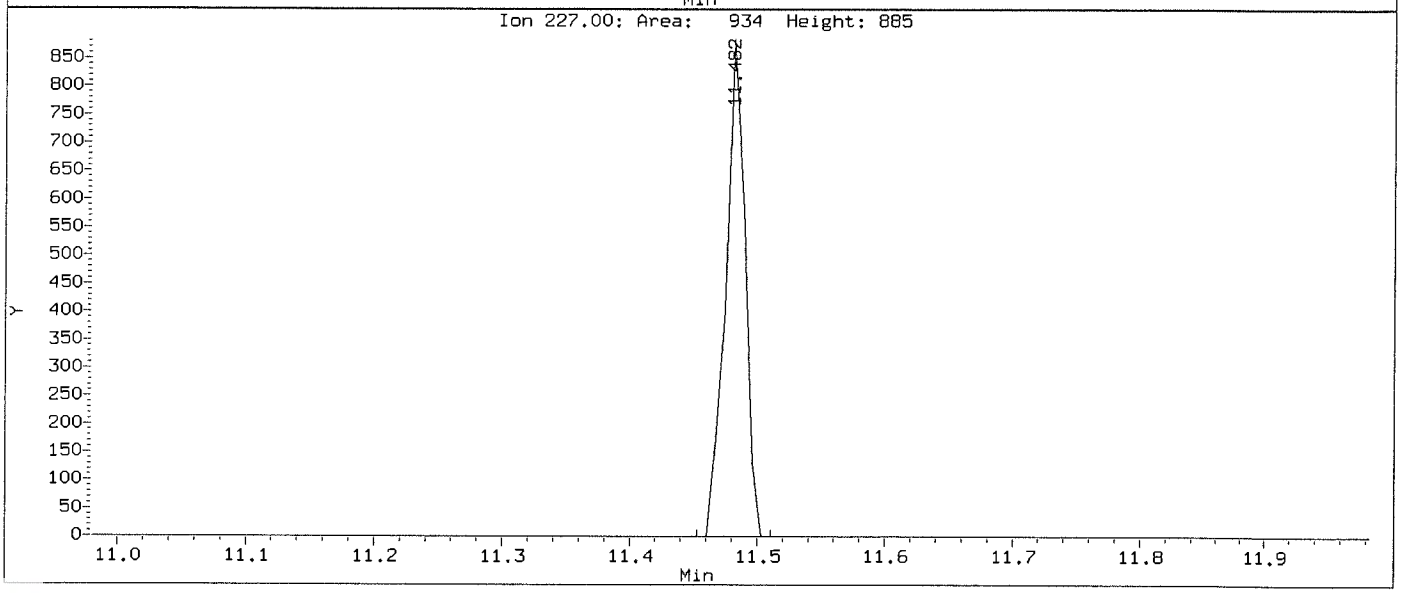


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3

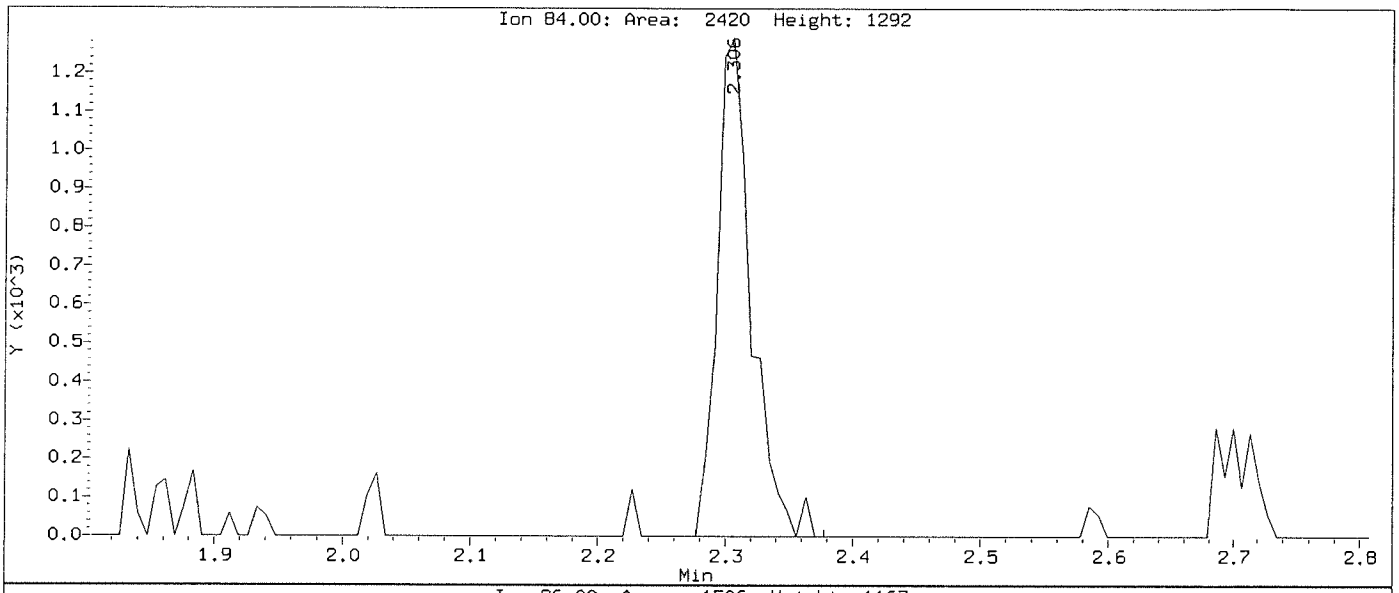


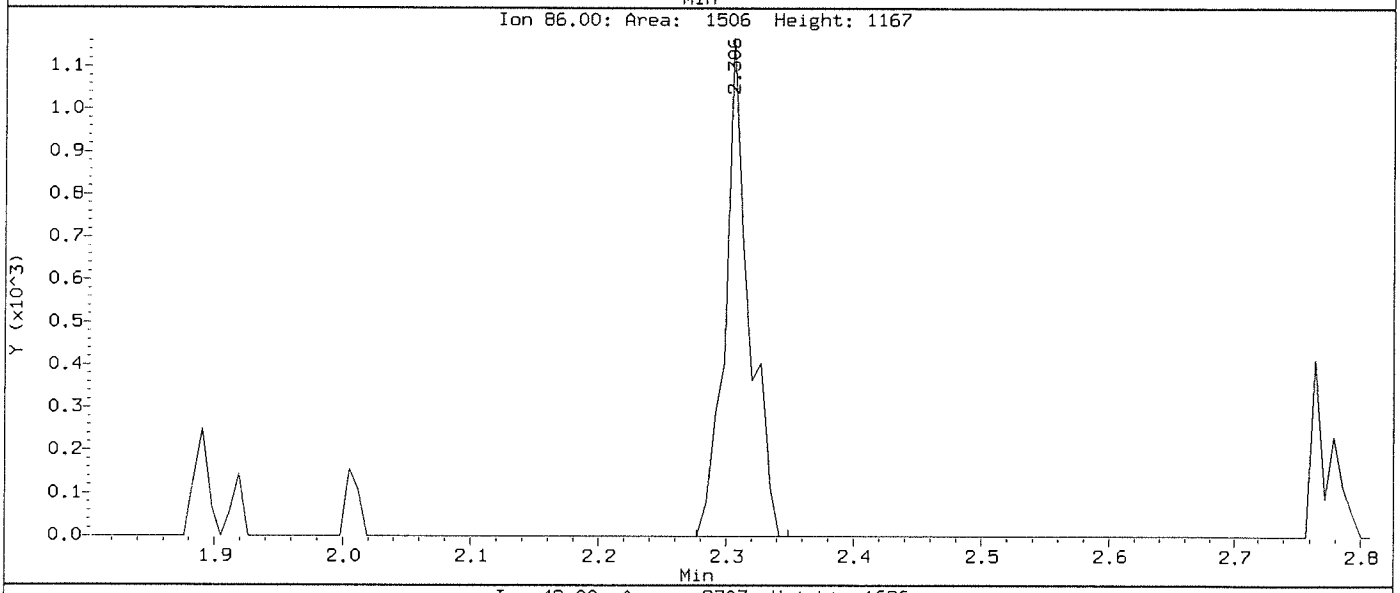


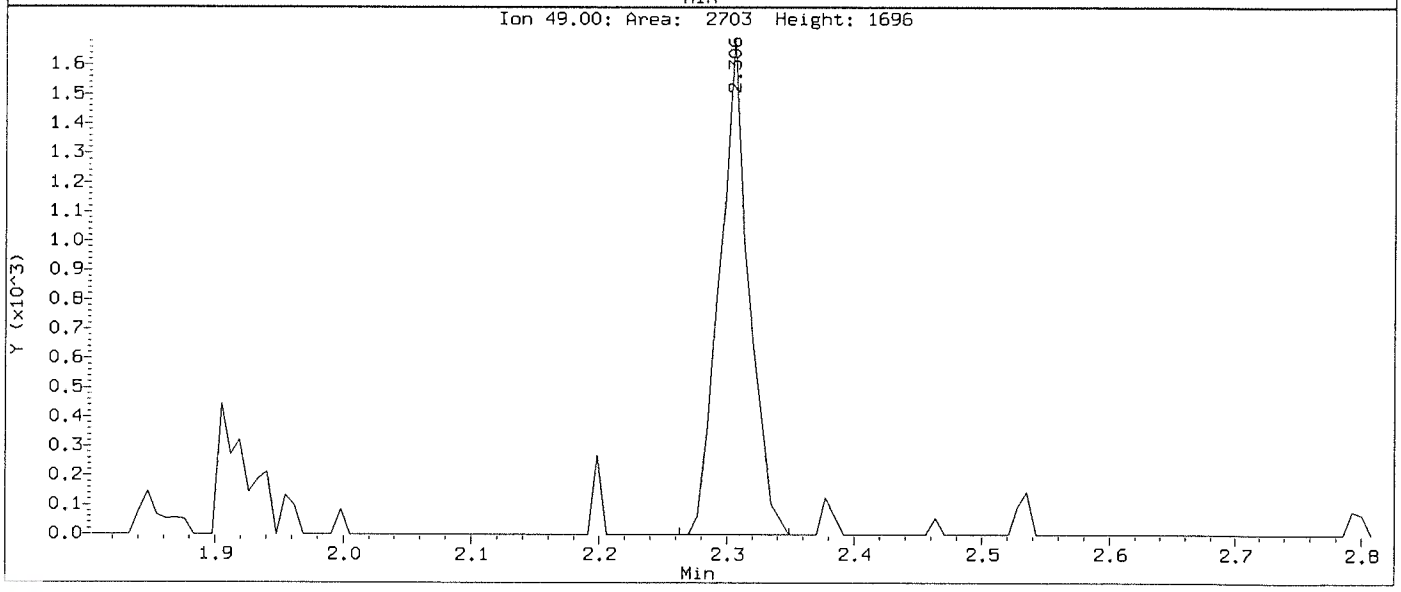


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2

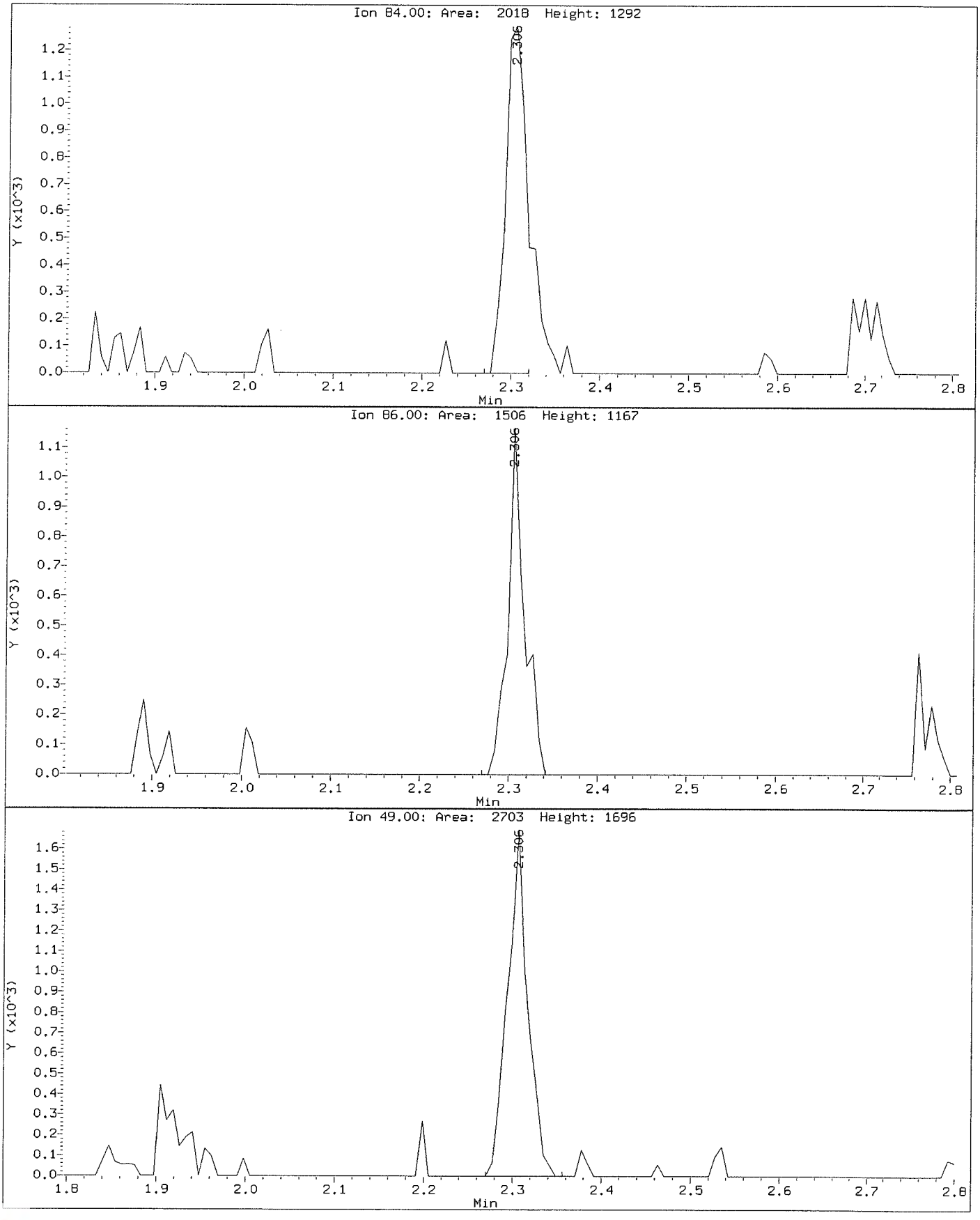






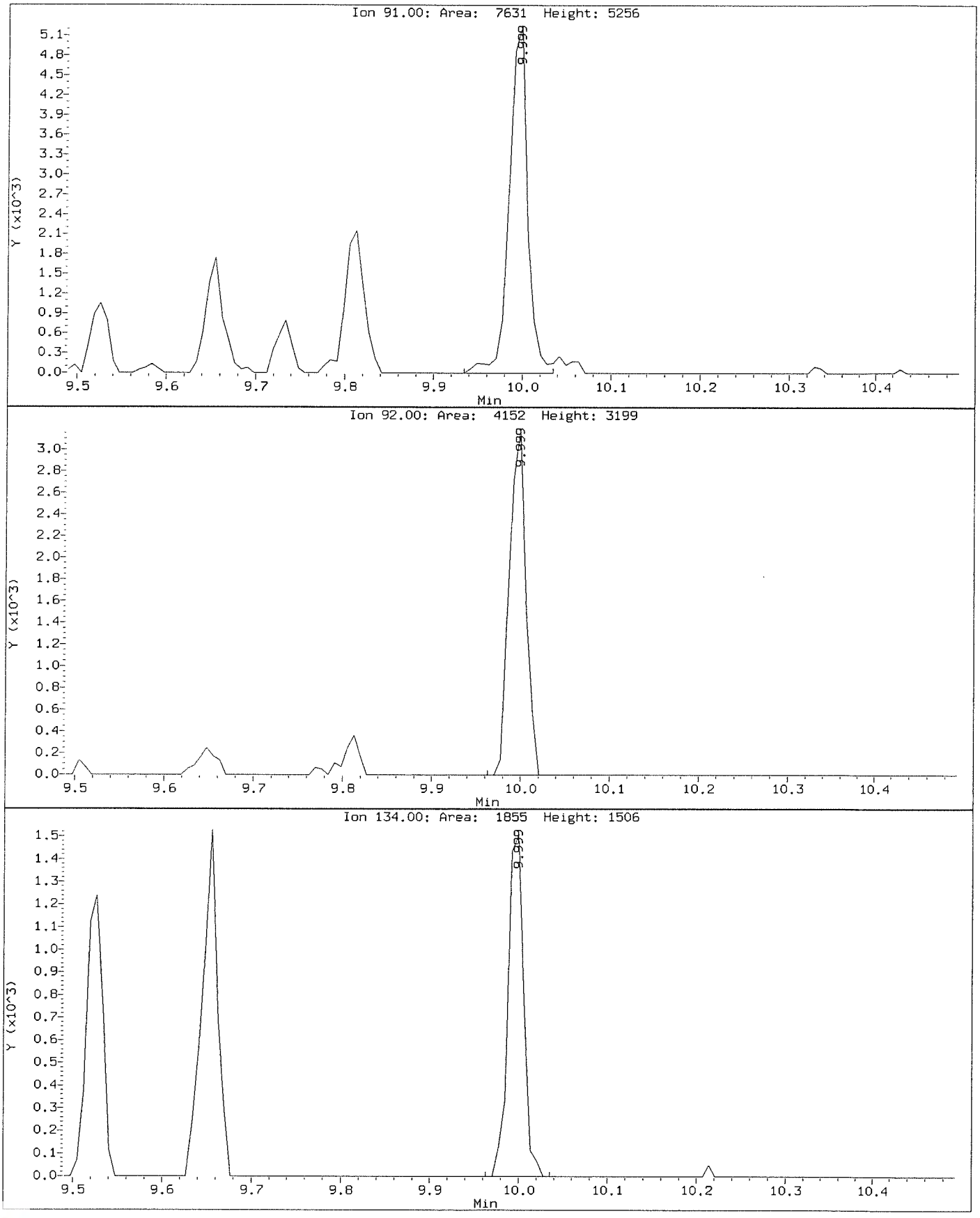
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2



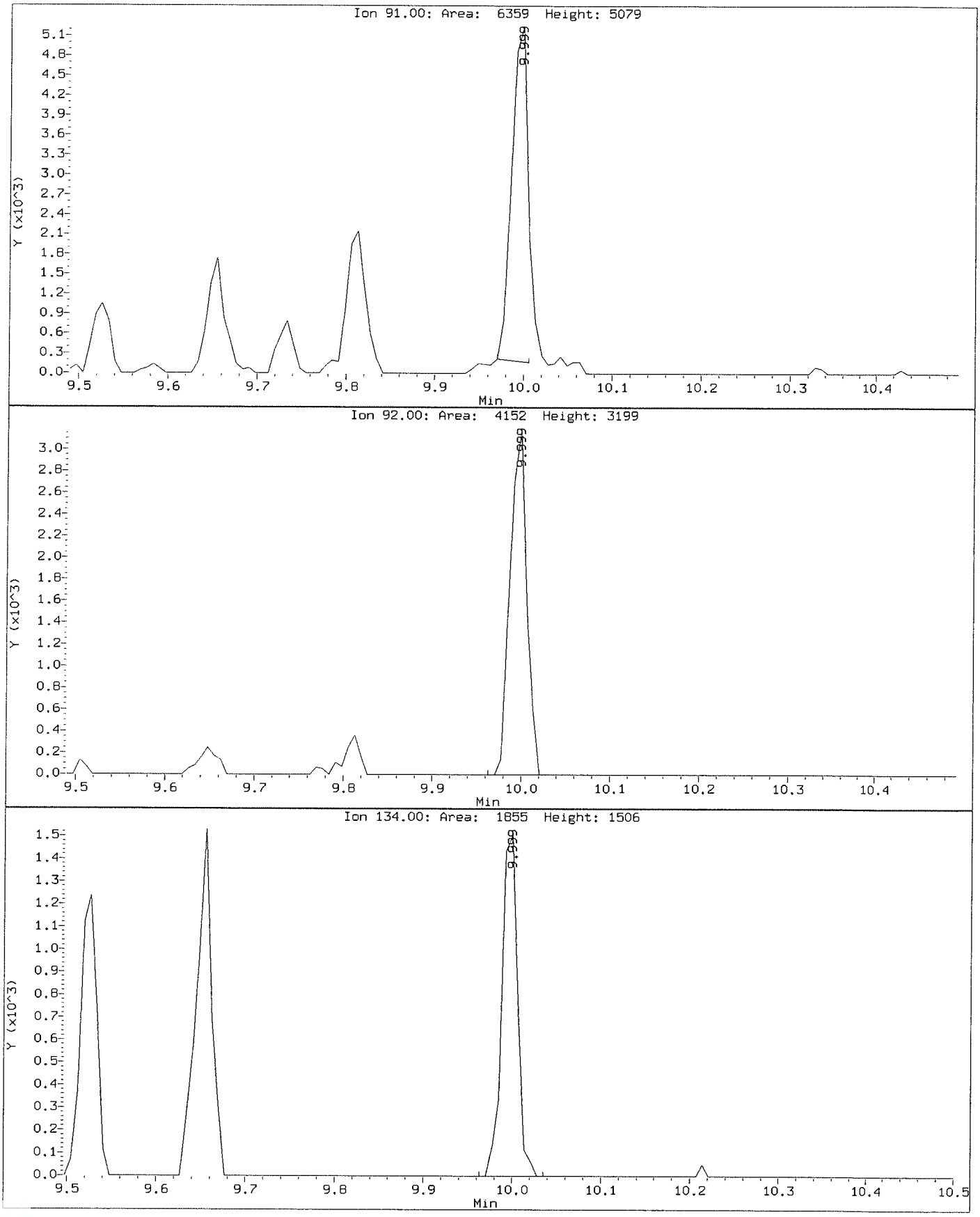
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: n-Butylbenzene
CAS Number: 104-51-8



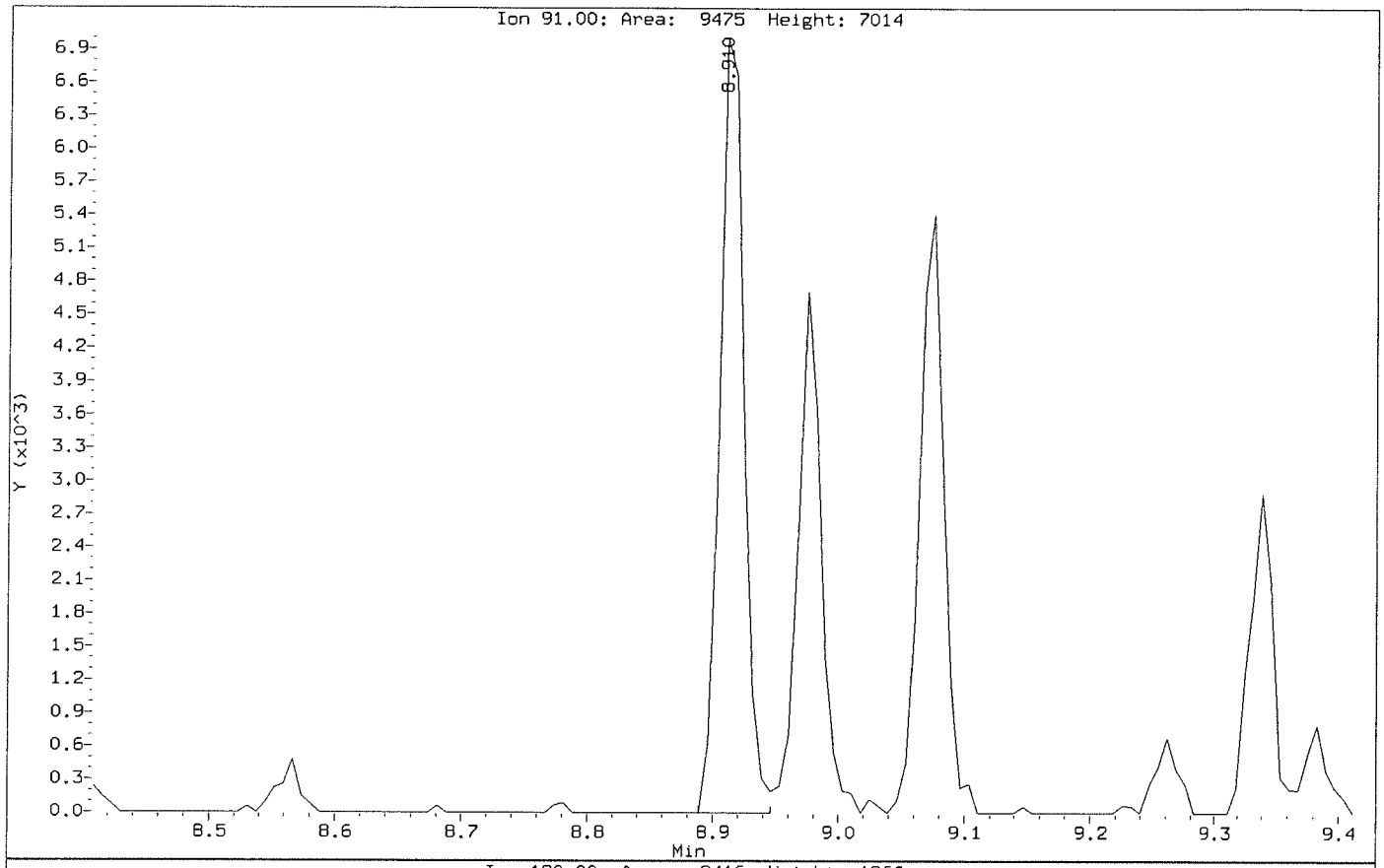
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

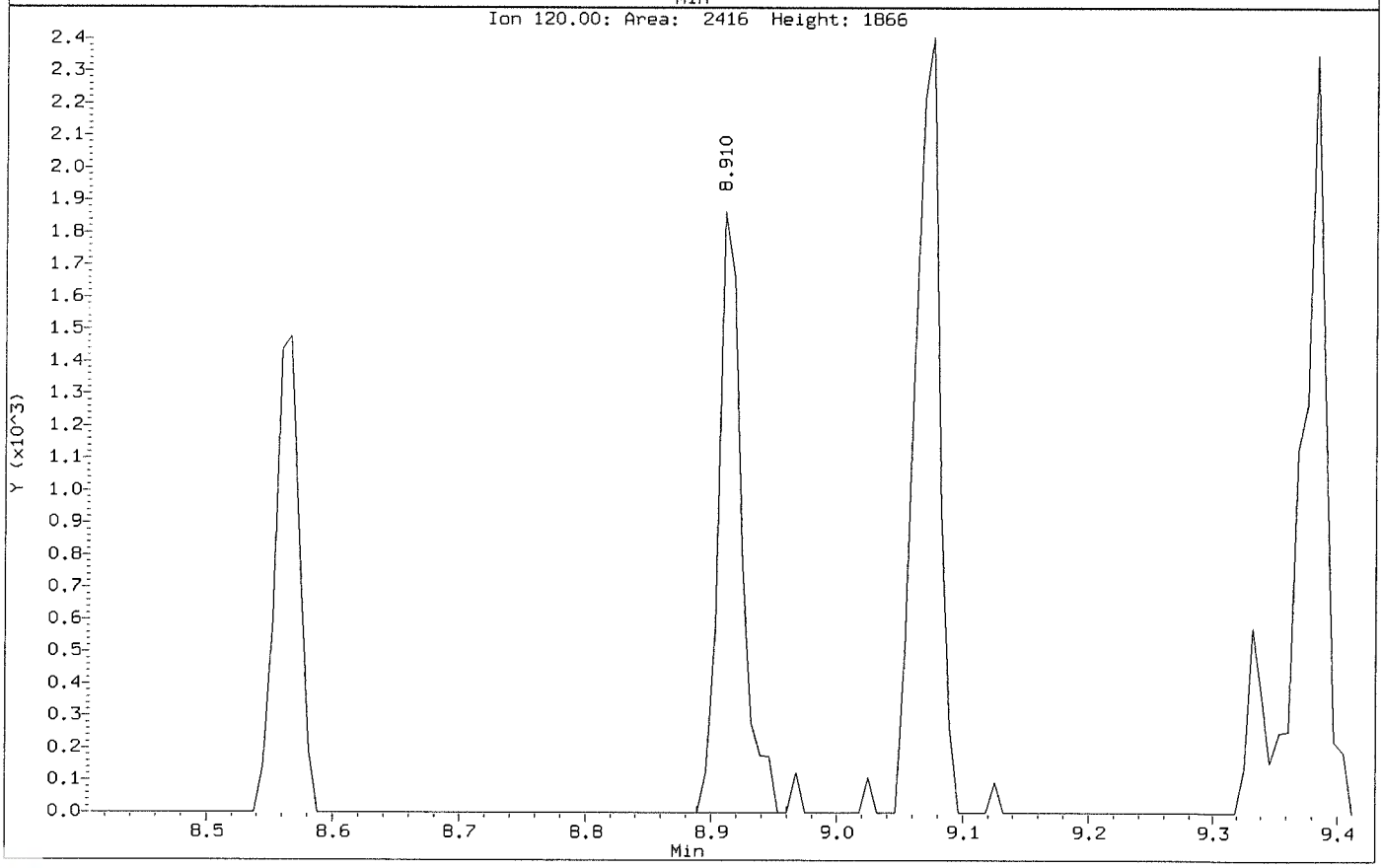
Compound: n-Butylbenzene
CAS Number: 104-51-8



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

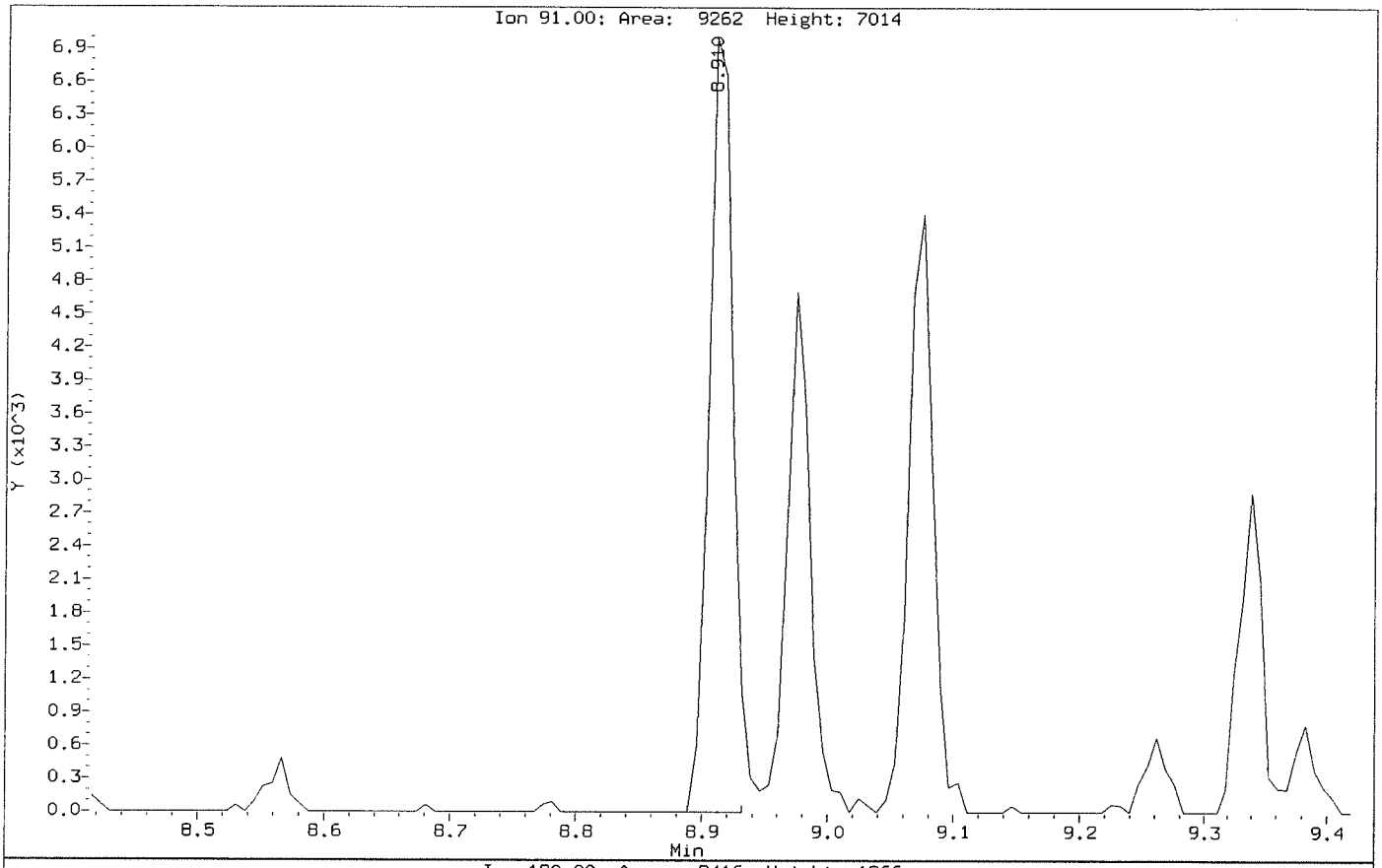
Compound: n-Propylbenzene
CAS Number: 106-65-1

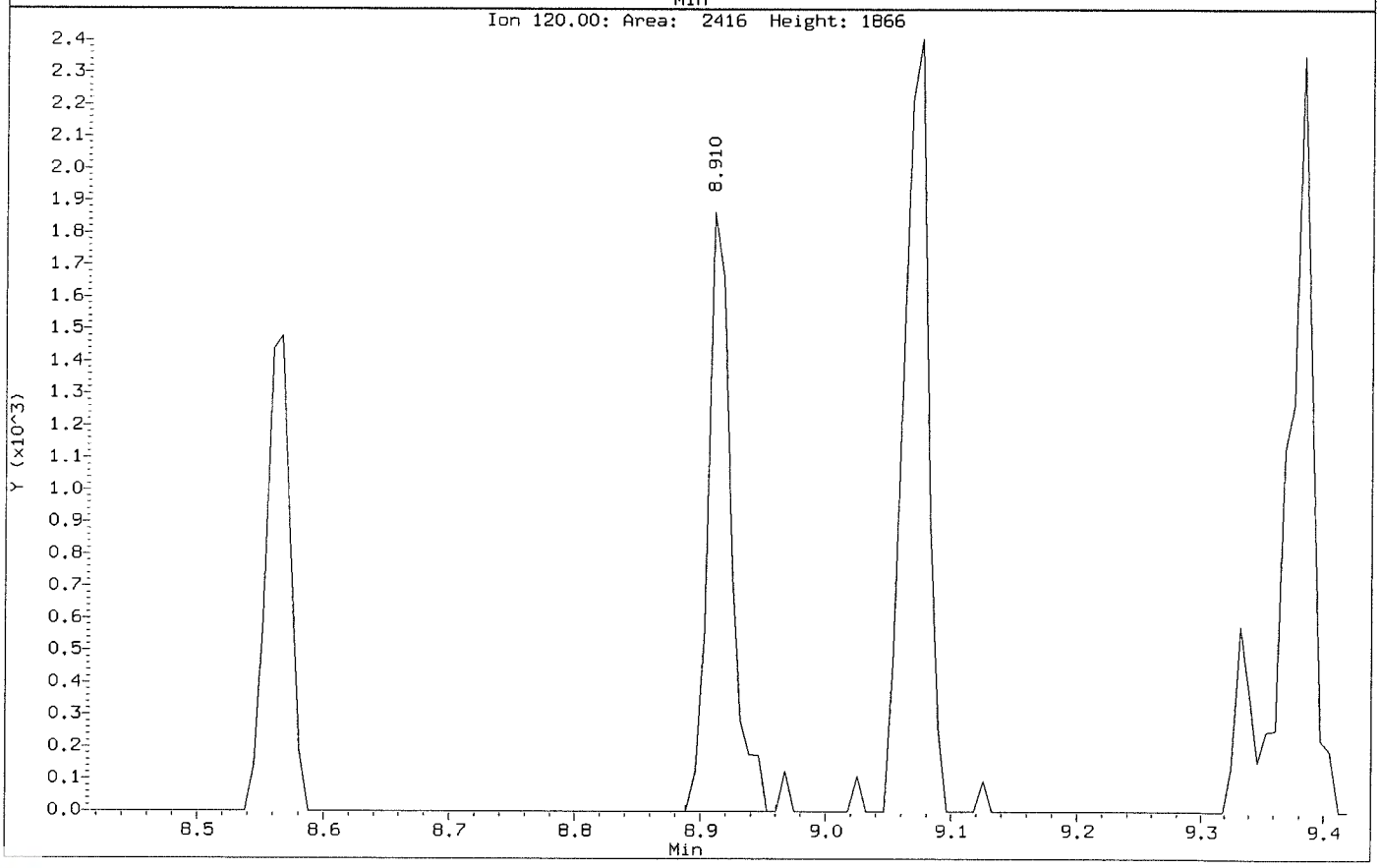




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

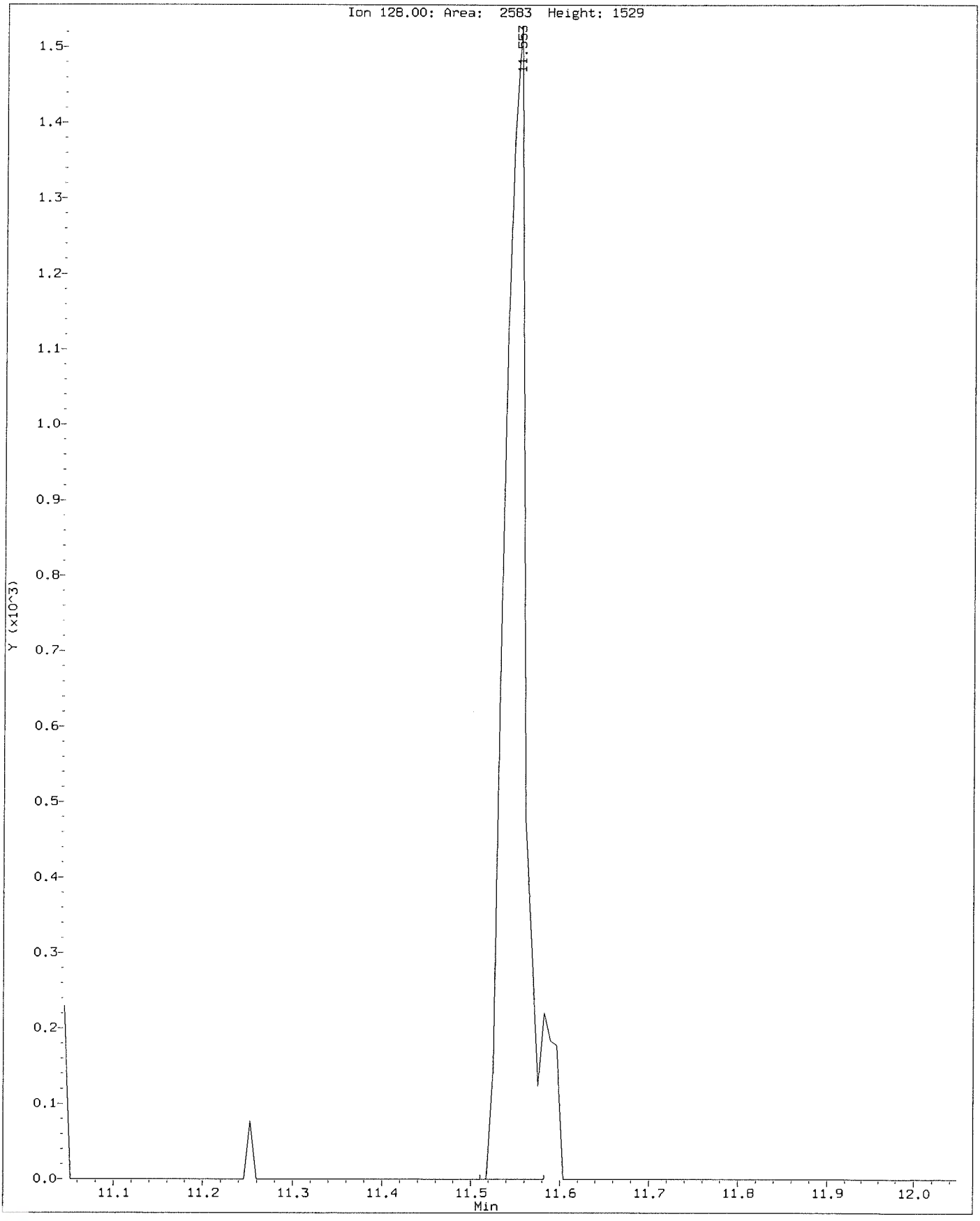
Compound: n-Propylbenzene
CAS Number: 106-65-1





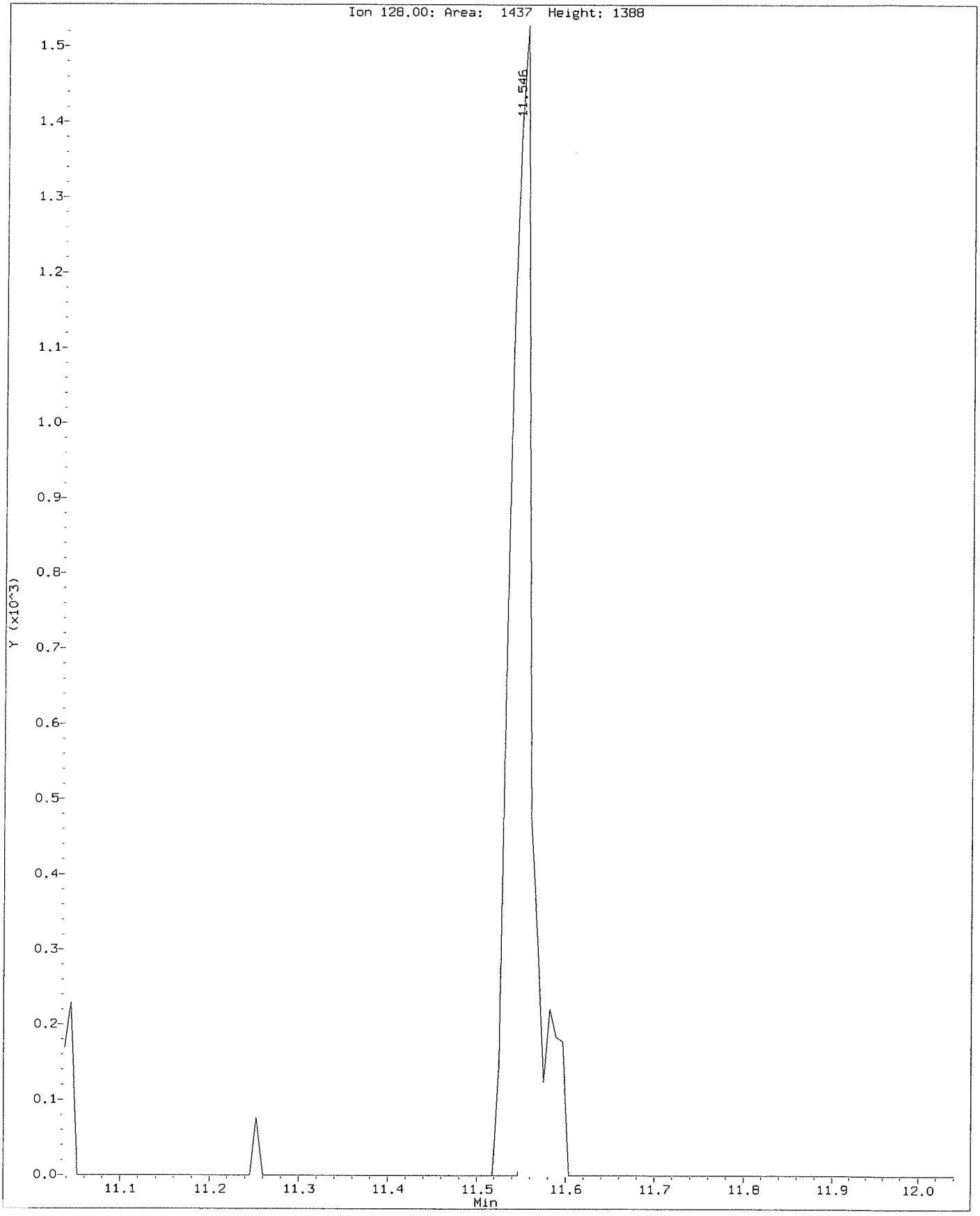
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Naphthalene
CAS Number: 91-20-3



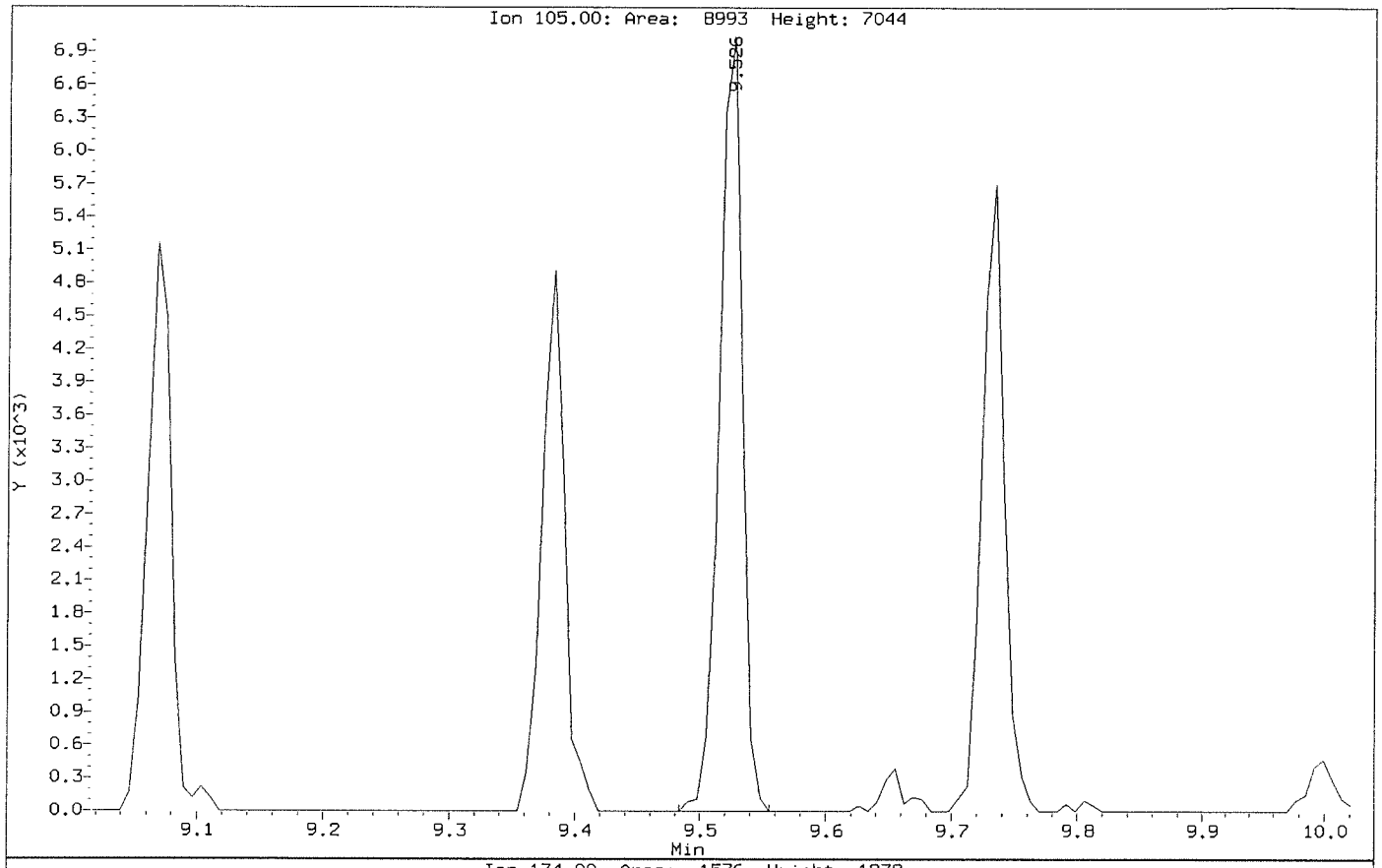
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

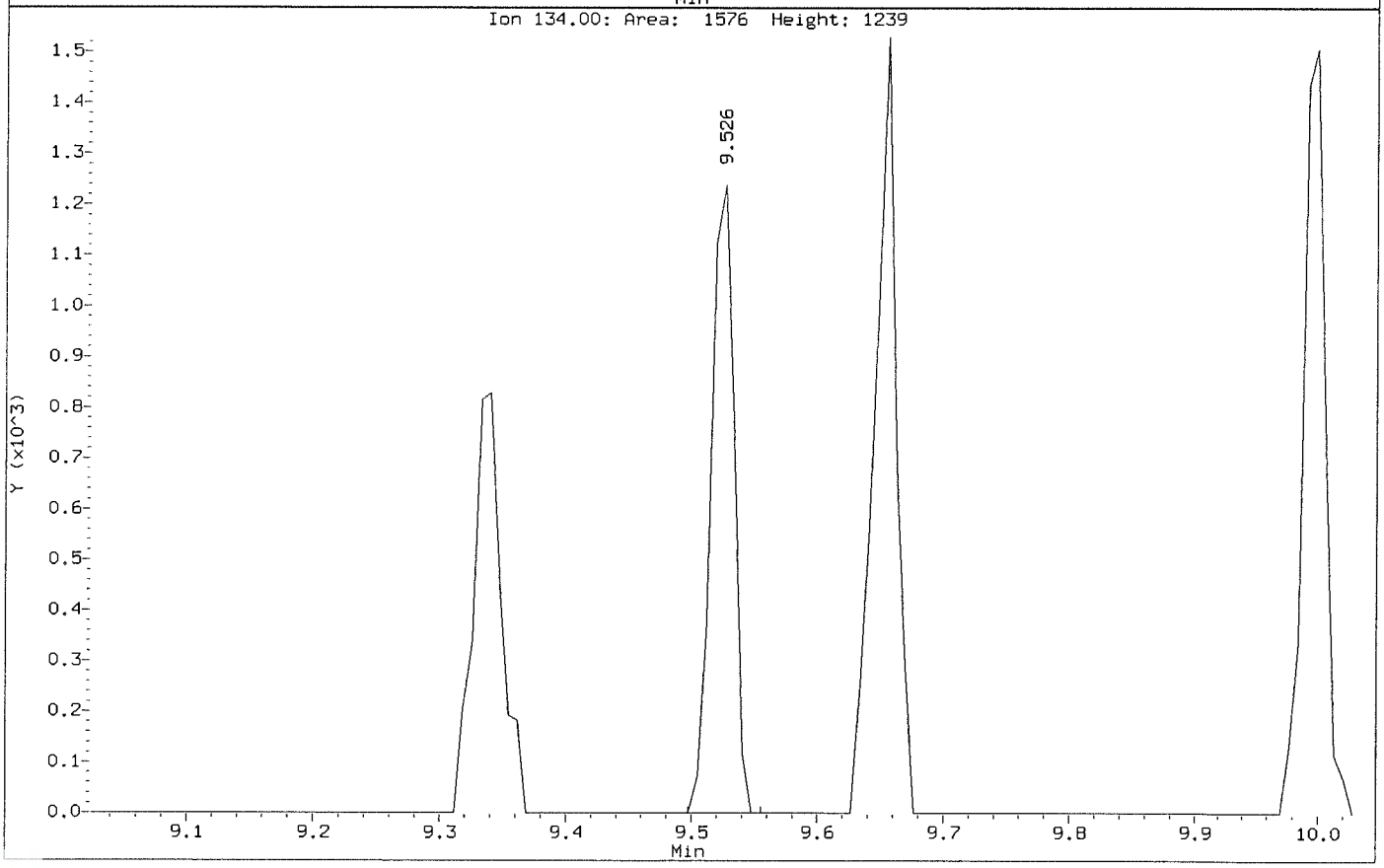
Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

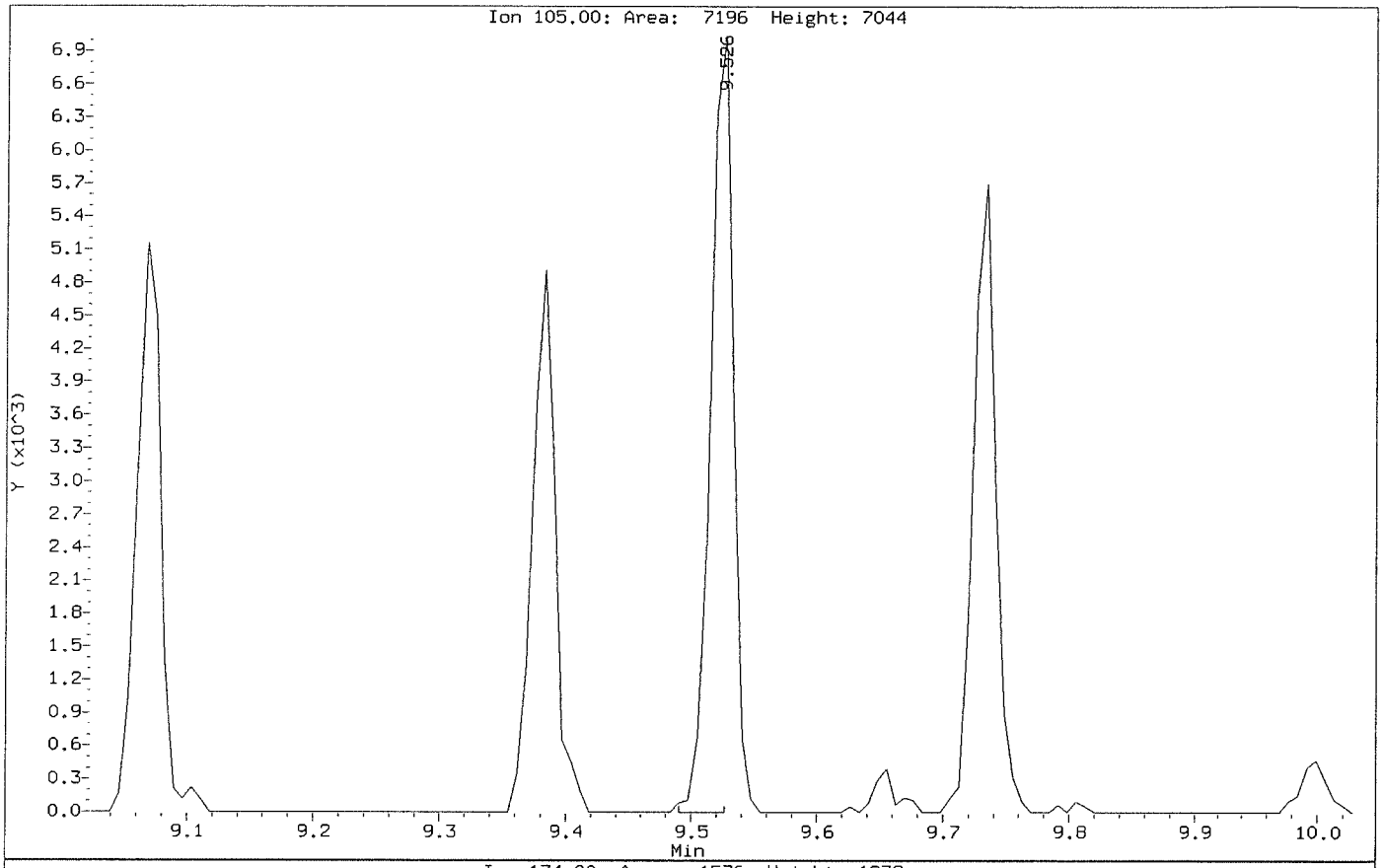
Compound: sec-Butylbenzene
CAS Number: 135-98-8

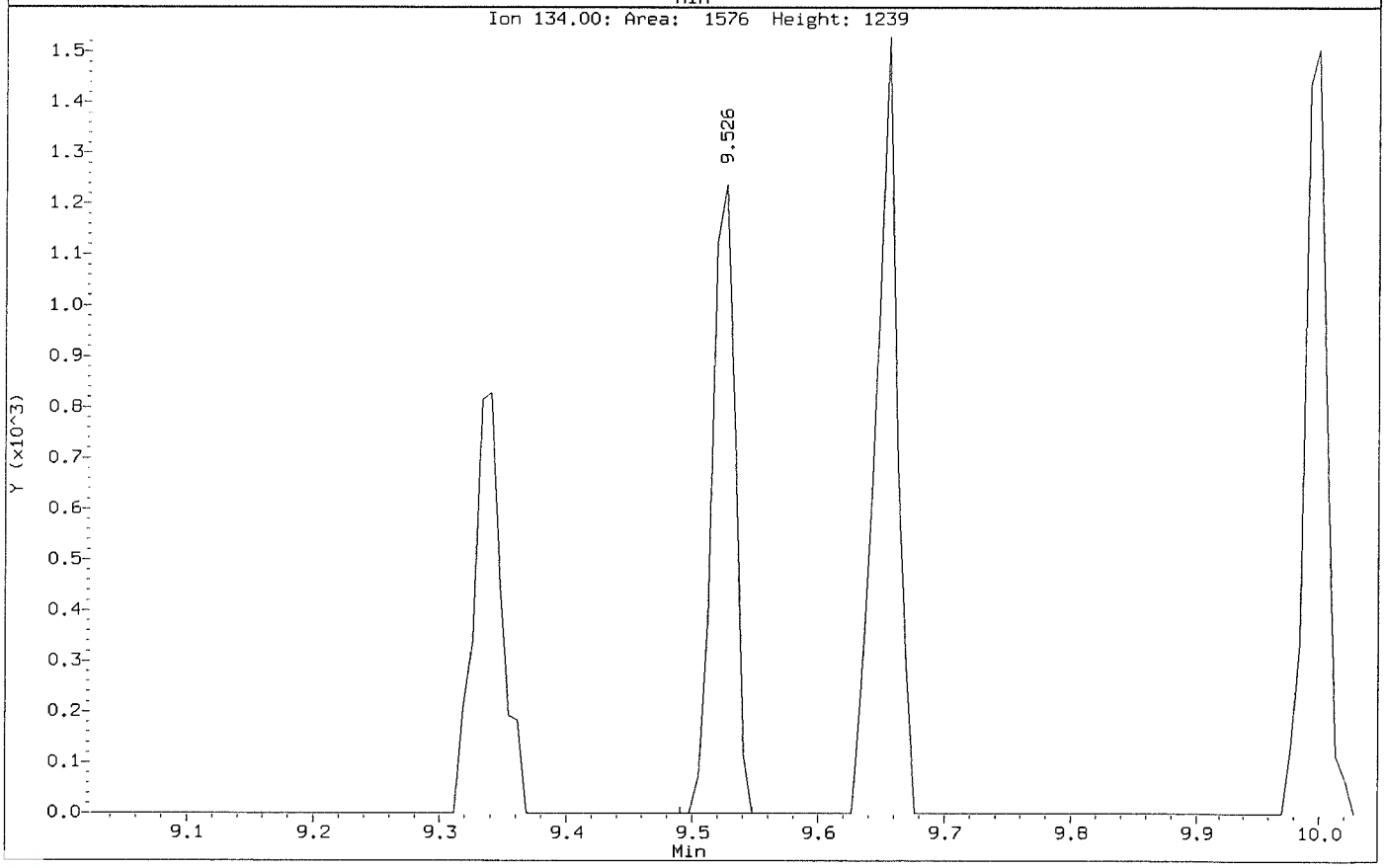




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

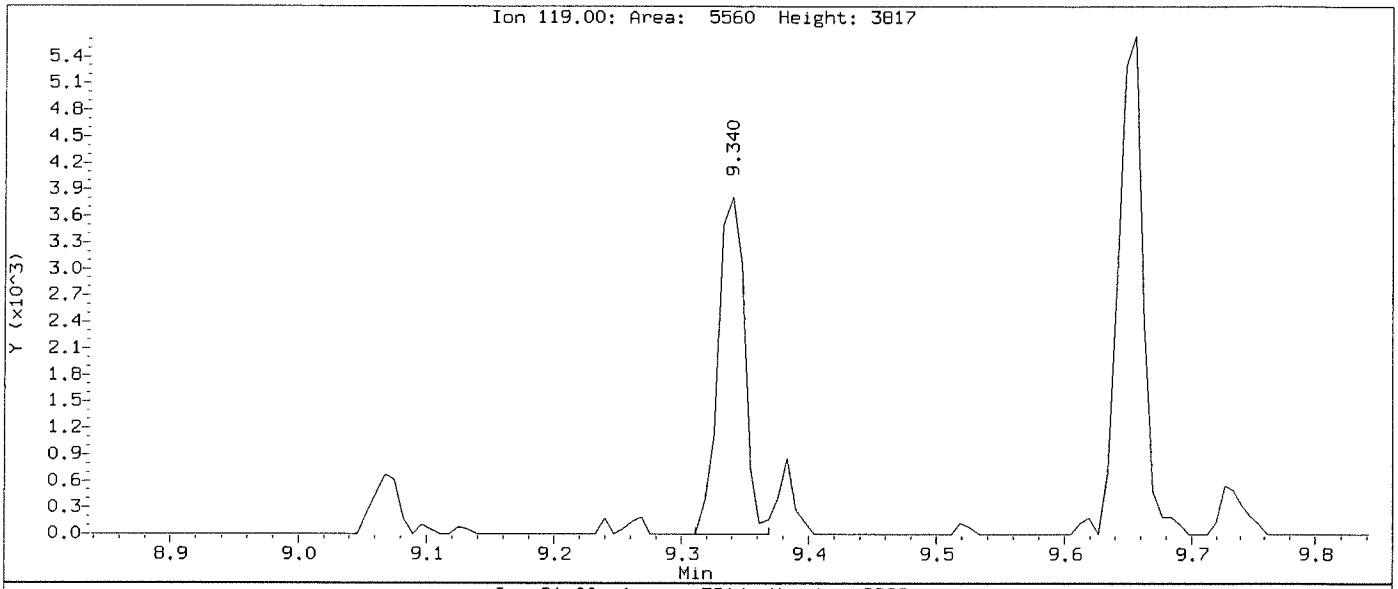
Compound: sec-Butylbenzene
CAS Number: 135-98-8

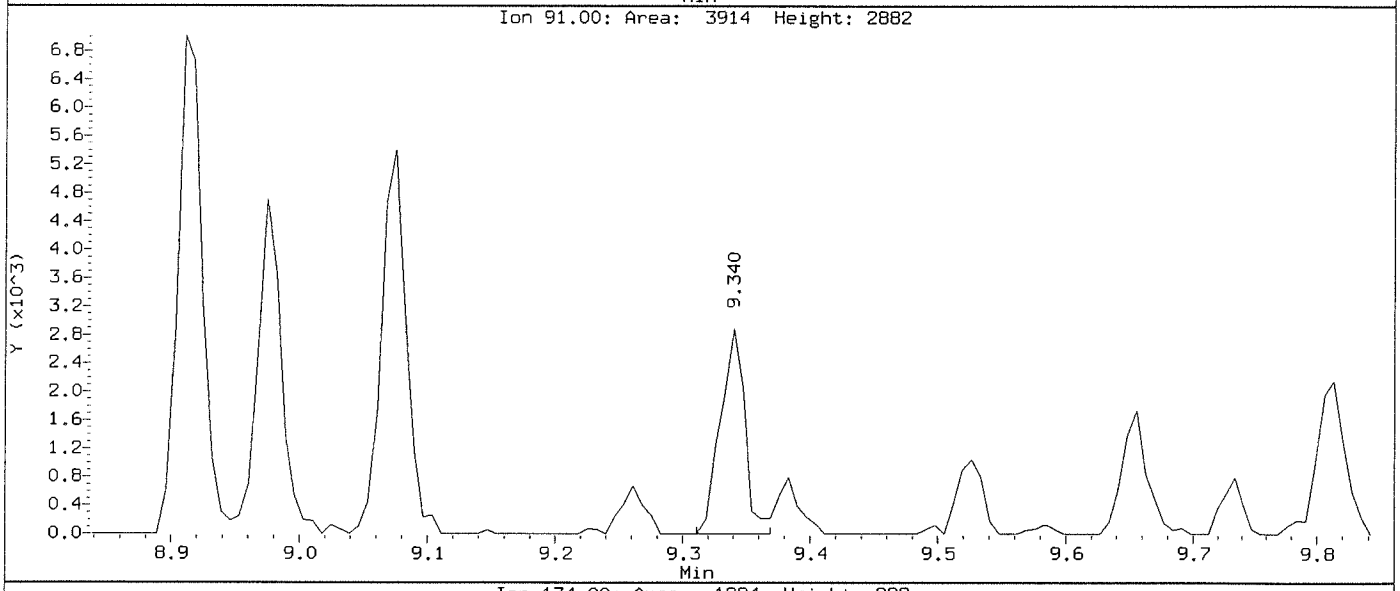


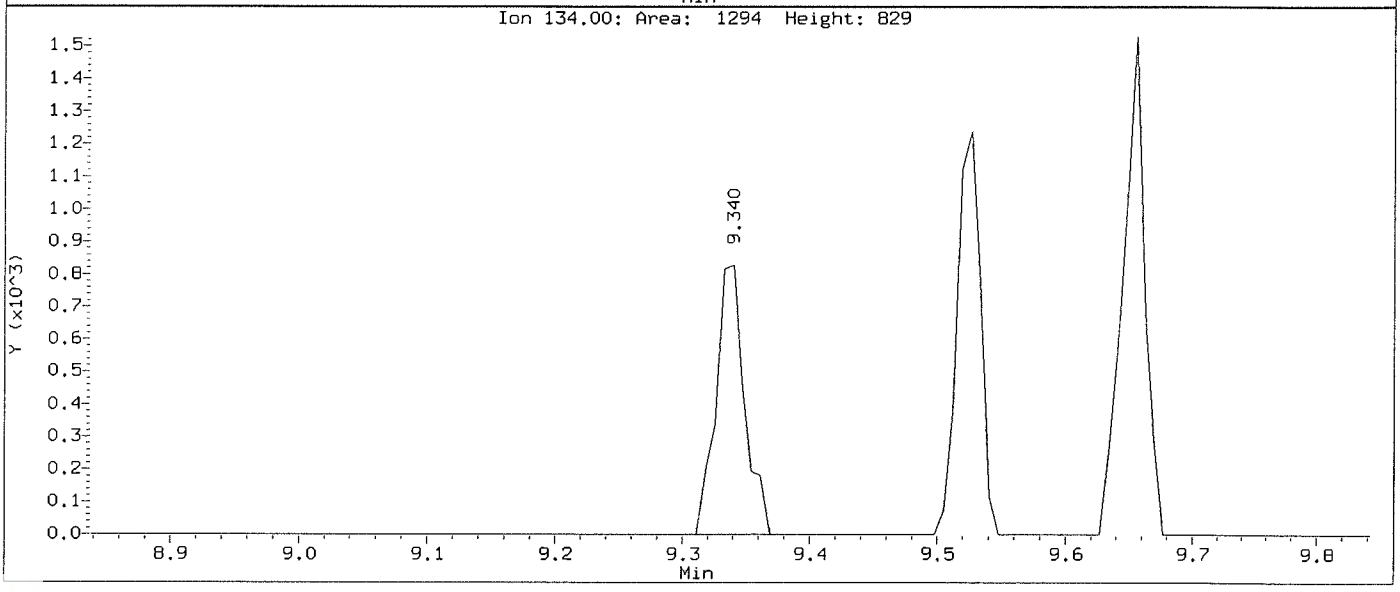


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: tert-Butylbenzene
CAS Number: 98-06-6

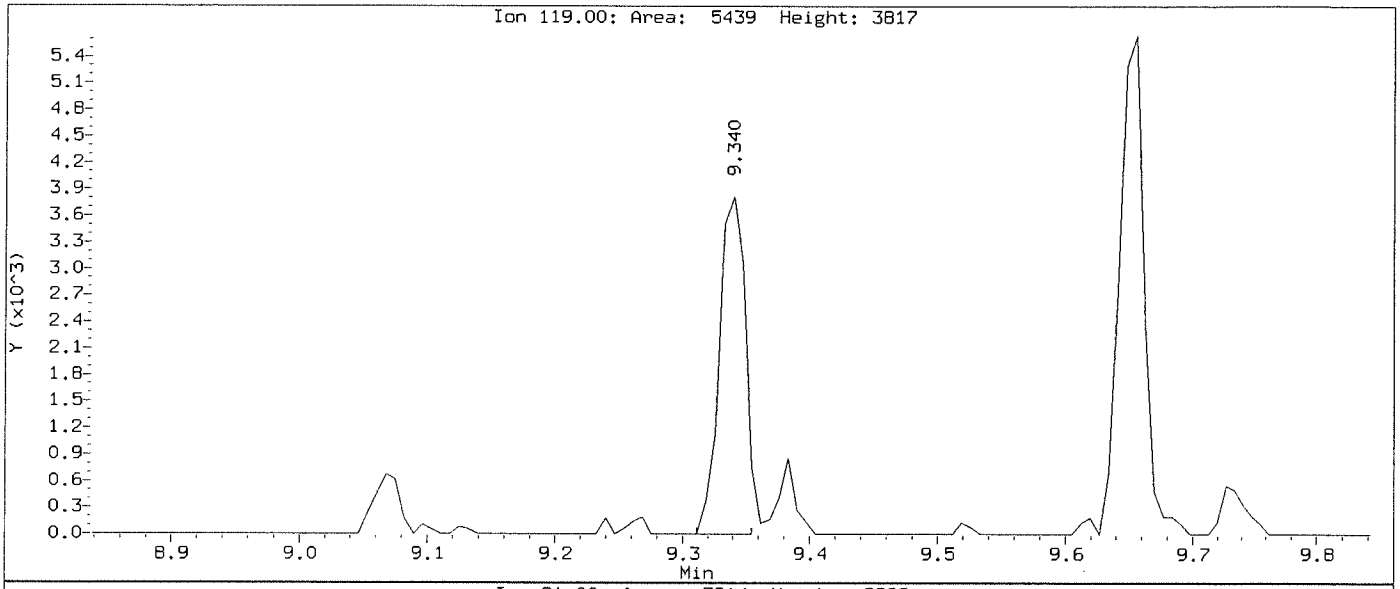


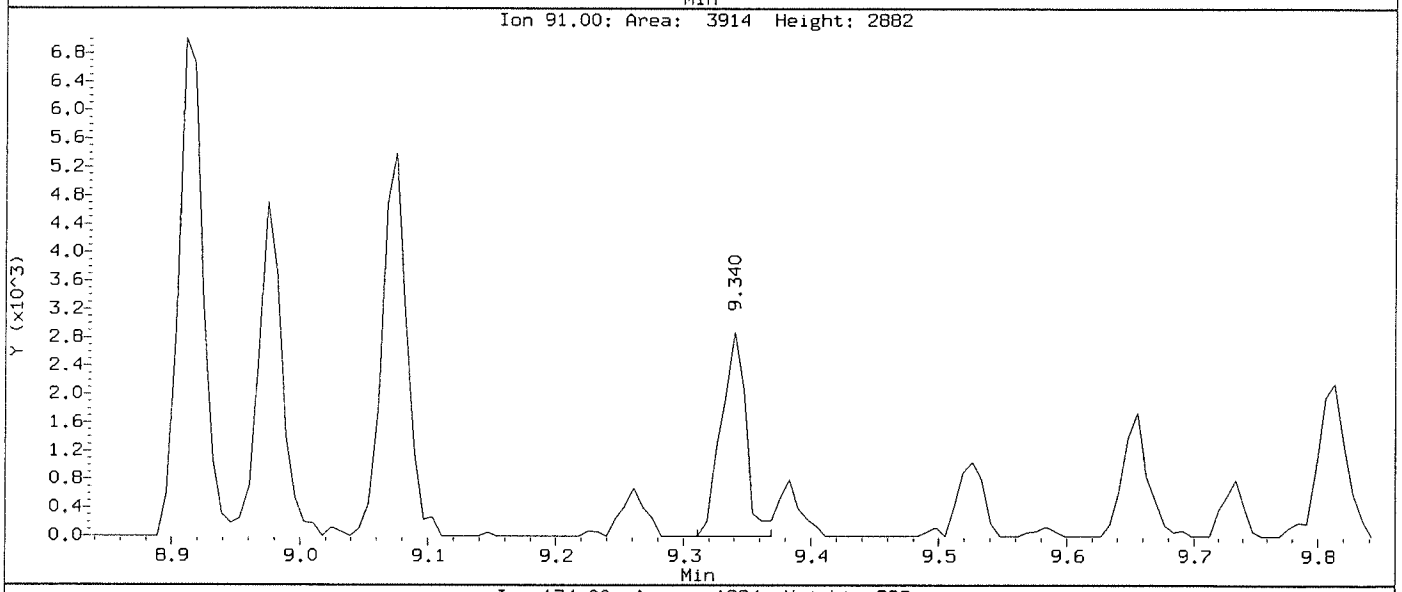


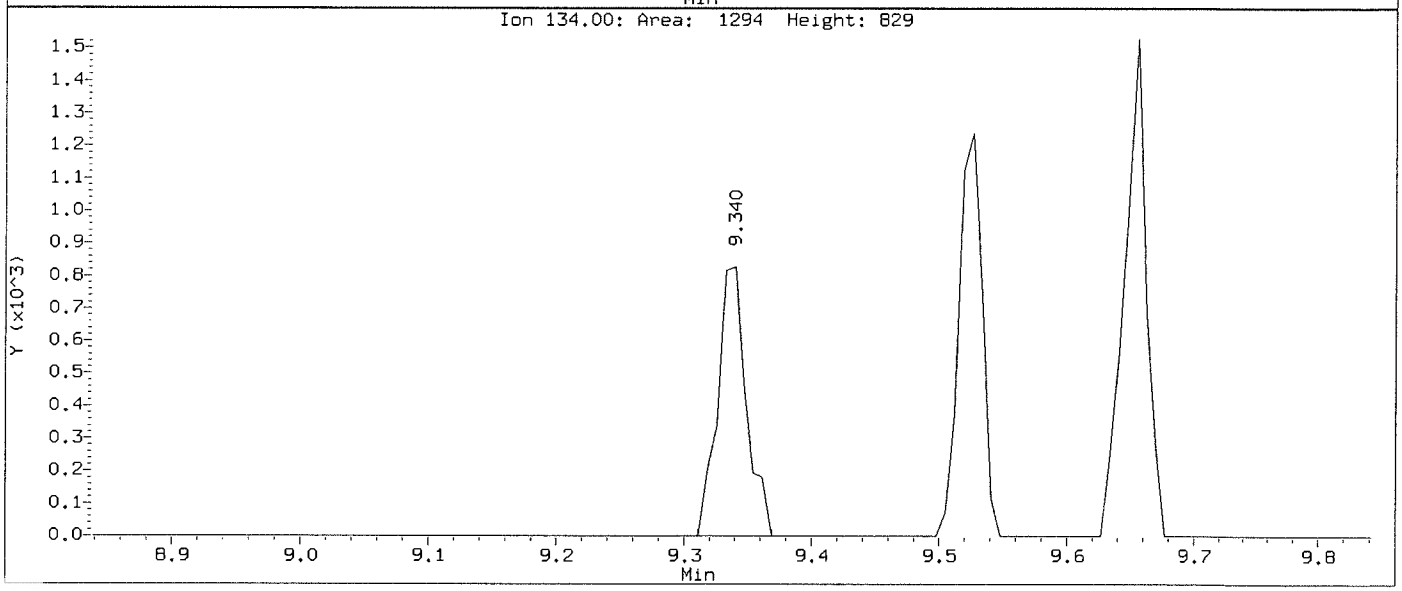


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: tert-Butylbenzene
CAS Number: 98-06-6

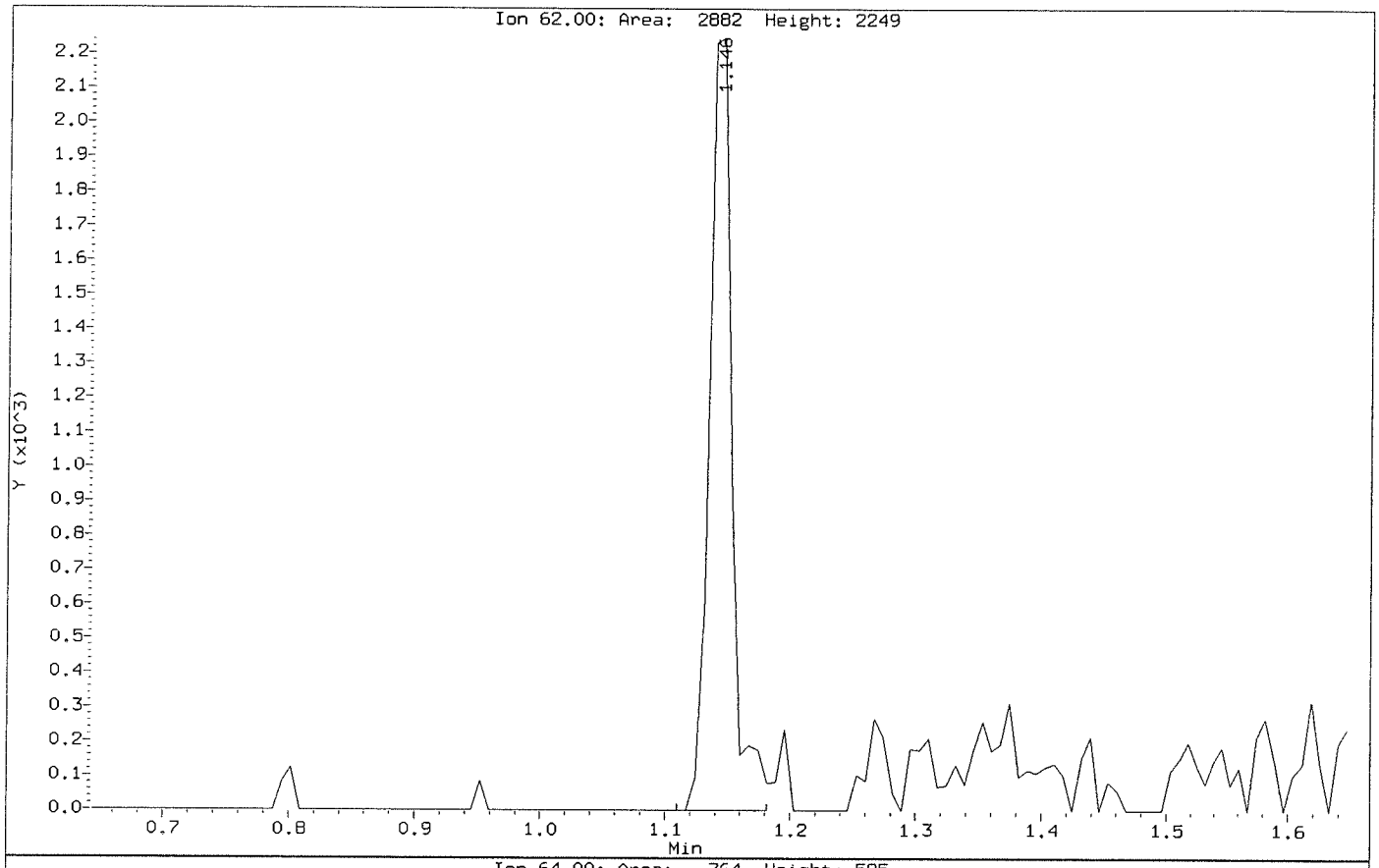


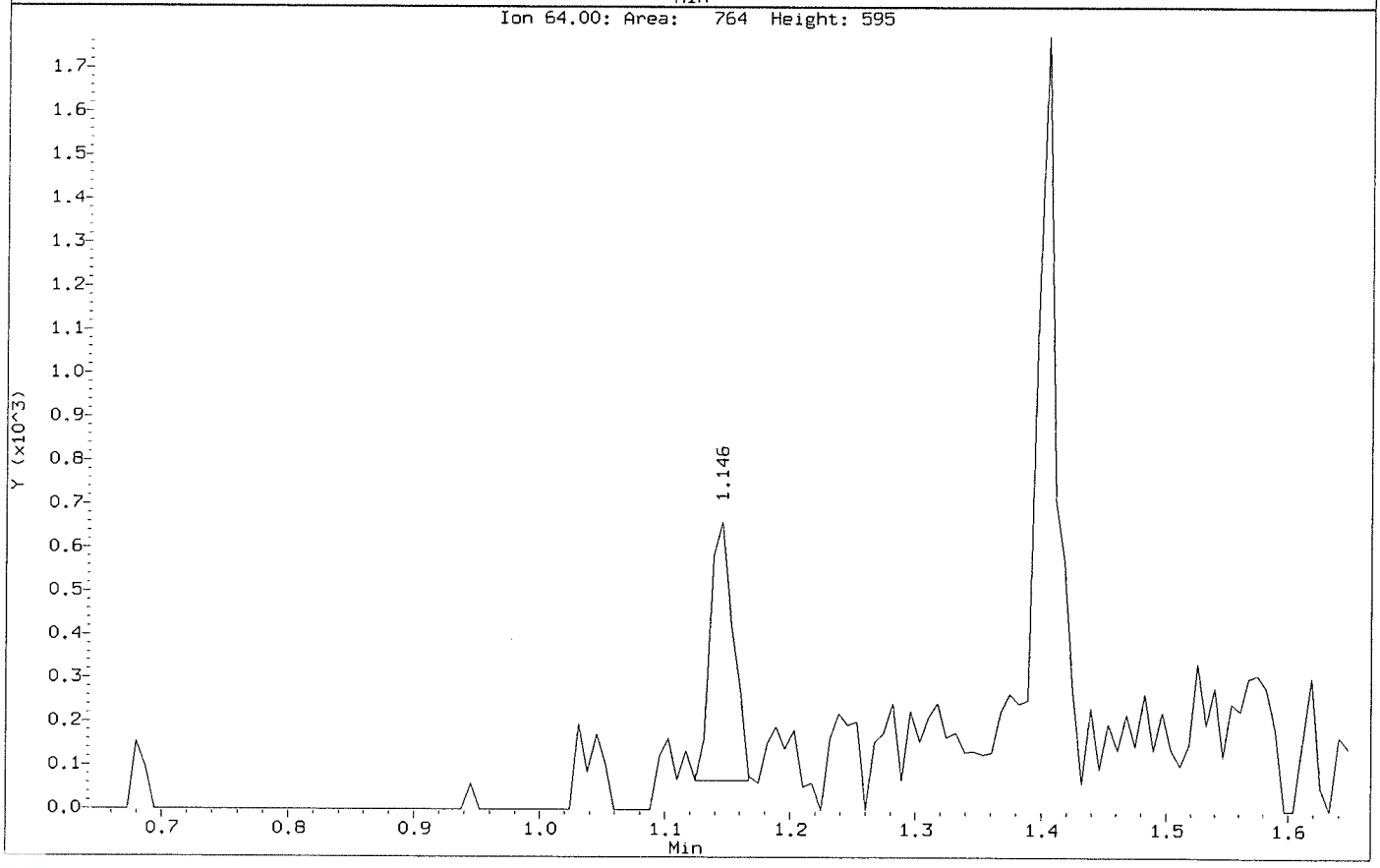




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

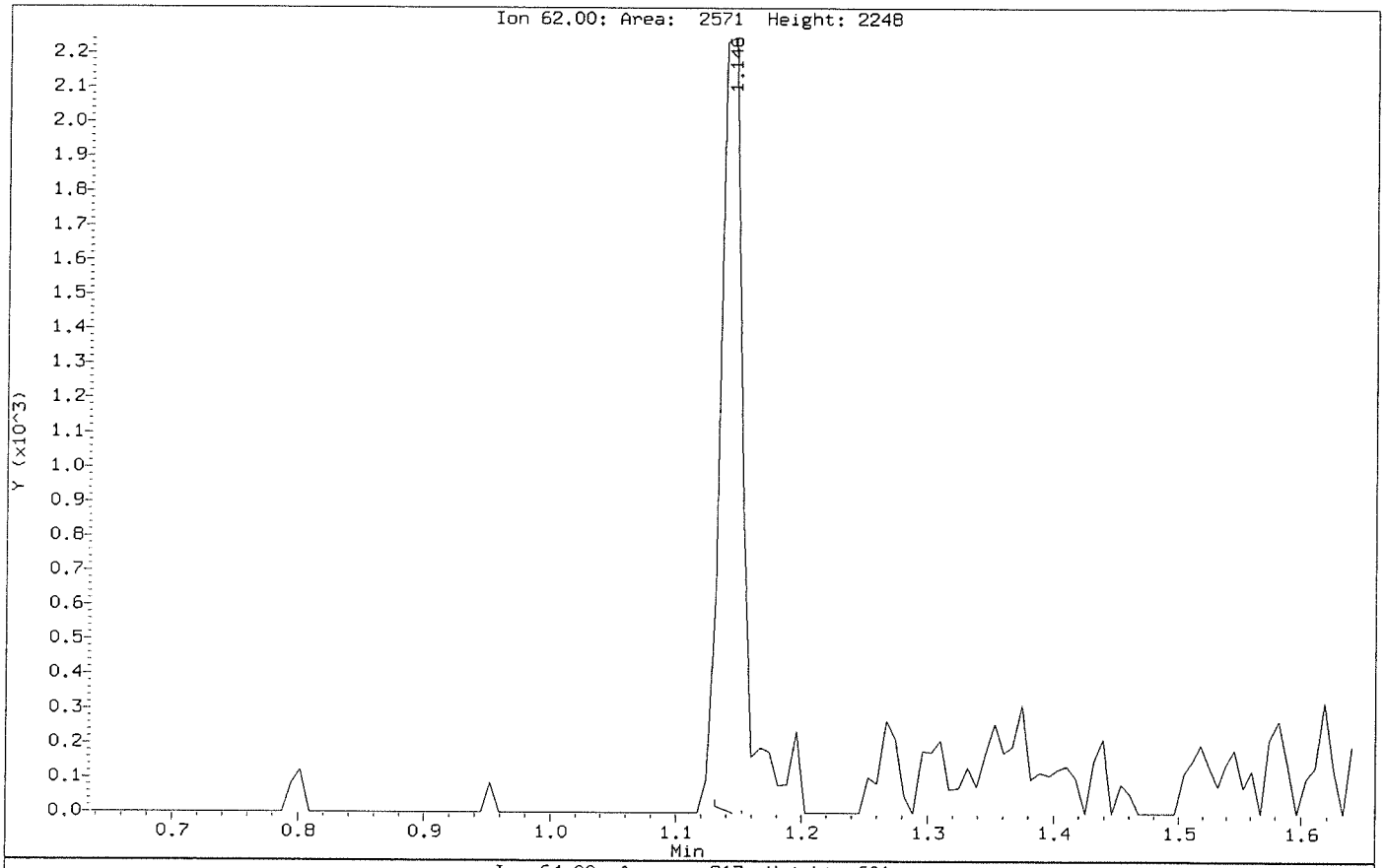
Compound: Vinyl Chloride
CAS Number: 75-01-4

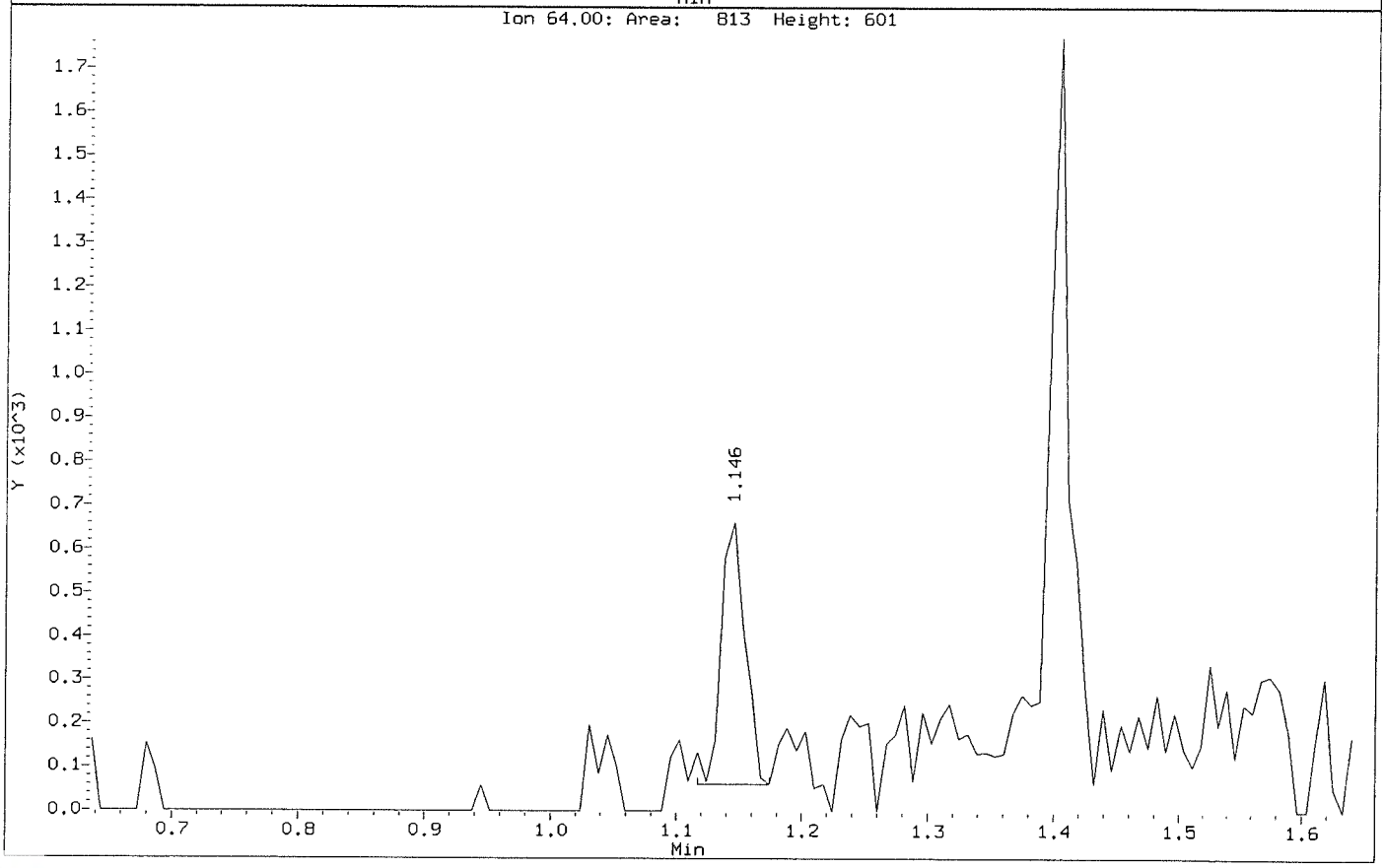




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120303.D
Injection Date: 03-DEC-2020 11:22
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Vinyl Chloride
CAS Number: 75-01-4





ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 03-DEC-2020 12:04
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 11:22 Cal File: X120303.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

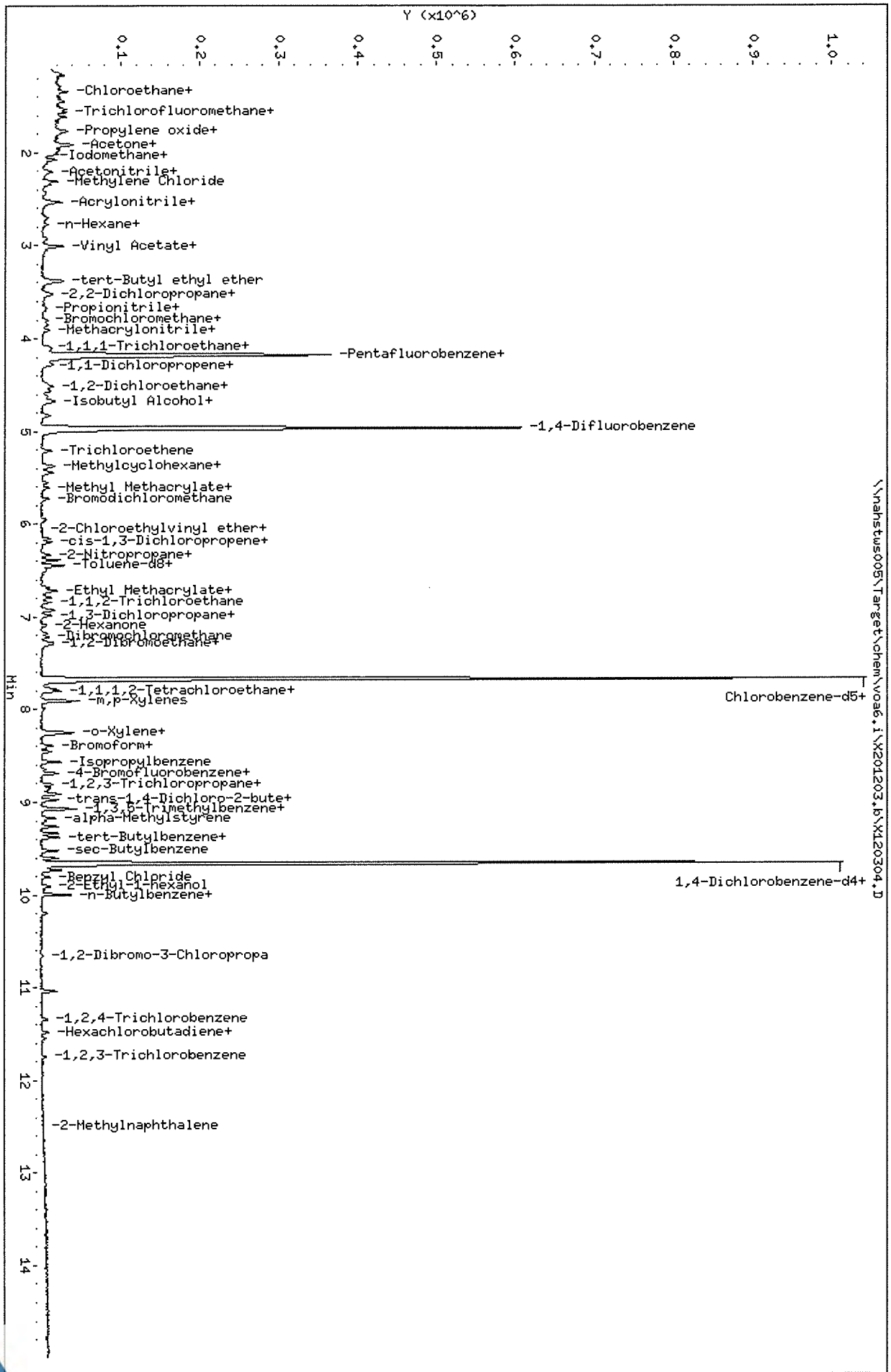
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	261739	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	475546	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	435056	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	197290	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	3334	1.00000	0.78(a)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	5576	1.00000	0.49(a)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	12569	1.00000	1.47(a)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	5900	1.00000	1.18(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	3416	1.00000	1.08(a)
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	4828	1.00000	0.88(a)
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	4259	1.00000	1.06(aM)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	2767	1.00000	0.99(a)
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	6721	1.00000	1.06(a)
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	3938	1.00000	0.99(a)
32 1,1-Dichloropropene	75	4.275	4.275	(0.860)	4817	1.00000	1.04(a)
93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	1277	1.00000	1.22(a)
71 1,2,3-Trichloropropane	75	8.860	8.860	(0.917)	4854	1.00000	1.06(a)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	1709	1.00000	0.92(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	10278	1.00000	0.95(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	469	1.00000	0.82(aM)
57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	3562	1.00000	1.06(a)
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	5377	1.00000	0.94(a)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D Page 2
Report Date: 22-Dec-2020 16:32

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	5508	1.00000	1.02(a)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	3986	1.00000	1.11(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	10524	1.00000	0.95(a)
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	6202	1.00000	1.02(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	5222	1.00000	0.95(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	6618	1.00000	1.08(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	5972	1.00000	1.08(a)
24	2-Butanone	43	3.581	3.581	(0.856)	2133	2.00000	1.74(aM)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	9185	1.00000	0.97(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	4327	2.00000	1.98(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	11720	1.00000	1.01(a)
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	10981	1.00000	1.01(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	6518	2.00000	2.04(a)
10	Acetone	43	1.976	1.976	(0.473)	7661	2.00000	(a)
37	Benzene	78	4.519	4.519	(0.909)	13626	1.00000	1.05(a)
74	Bromobenzene	156	8.802	8.802	(0.911)	3517	1.00000	1.00(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	2113	1.00000	1.12(a)
39	Bromodichloromethane	83	5.722	5.722	(1.151)	4922	1.00000	1.00(aM)
66	Bromoform	173	8.416	8.416	(1.097)	1989	1.00000	1.00(Ta)
6	Bromomethane	94	1.338	1.338	(0.320)	4928	1.00000	1.46(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	16756	2.00000	1.93(aM)
34	Carbon Tetrachloride	117	4.261	4.261	(0.857)	2801	1.00000	0.72(a)
59	Chlorobenzene	112	7.692	7.692	(1.003)	9118	1.00000	1.02(a)
7	Chloroethane	64	1.403	1.403	(0.336)	2916	1.00000	0.93(a)
28	Chloroform	83	3.910	3.910	(0.935)	7037	1.00000	1.04(a)
3	Chloromethane	50	1.073	1.073	(0.257)	5480	1.00000	2.23(aM)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	3569	1.00000	0.96(a)
46	cis-1,3-Dichloropropene	75	6.152	6.152	(1.238)	6024	1.00000	0.98(a)
55	Dibromochloromethane	129	7.184	7.184	(0.937)	3496	1.00000	0.99(a)
44	Dibromomethane	93	5.550	5.550	(1.117)	2470	1.00000	1.02(a)
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	3828	1.00000	3.66(a)
61	Ethylbenzene	106	7.800	7.800	(1.017)	4386	1.00000	1.00(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	1259	1.00000	3.17(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	13128	1.00000	0.97(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	10828	2.00000	1.89(a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	3605	1.00000	1.02(a)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	10432	1.00000	2.50(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	14948	1.00000	0.94(a)
92	Naphthalene	128	11.546	11.546	(1.195)	3806	1.00000	1.19(aM)
63	o-Xylene	106	8.244	8.244	(1.075)	5051	1.00000	0.90(a)
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	12535	1.00000	0.98(a)
64	Styrene	104	8.258	8.258	(1.077)	8698	1.00000	0.92(a)
78	tert-Butylbenzene	119	9.332	9.332	(0.966)	8623	1.00000	0.97(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	2879	1.00000	1.18(a)
50	Toluene	91	6.446	6.446	(0.840)	13593	1.00000	1.00(a)
20	trans-1,2-Dichloroethene	96	2.542	2.542	(0.608)	3047	1.00000	0.97(a)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	5081	1.00000	0.95(a)
38	Trichloroethene	130	5.207	5.207	(1.048)	3833	1.00000	1.10(a)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	7812	1.00000	1.03(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	4787	1.00000	1.03(aM)

QC Flag Legend

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

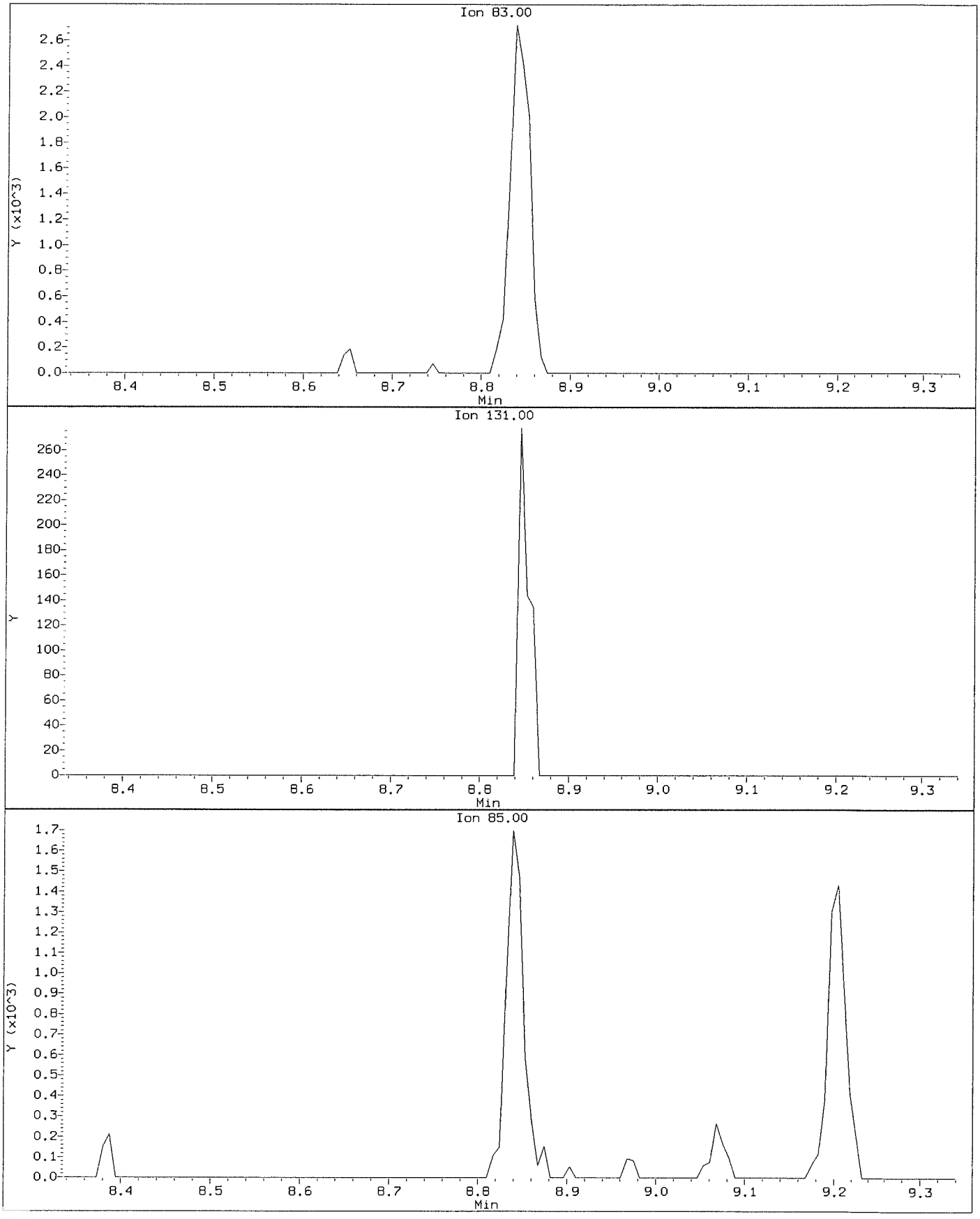


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Date : 03-DEC-2020 12:04
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

\\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

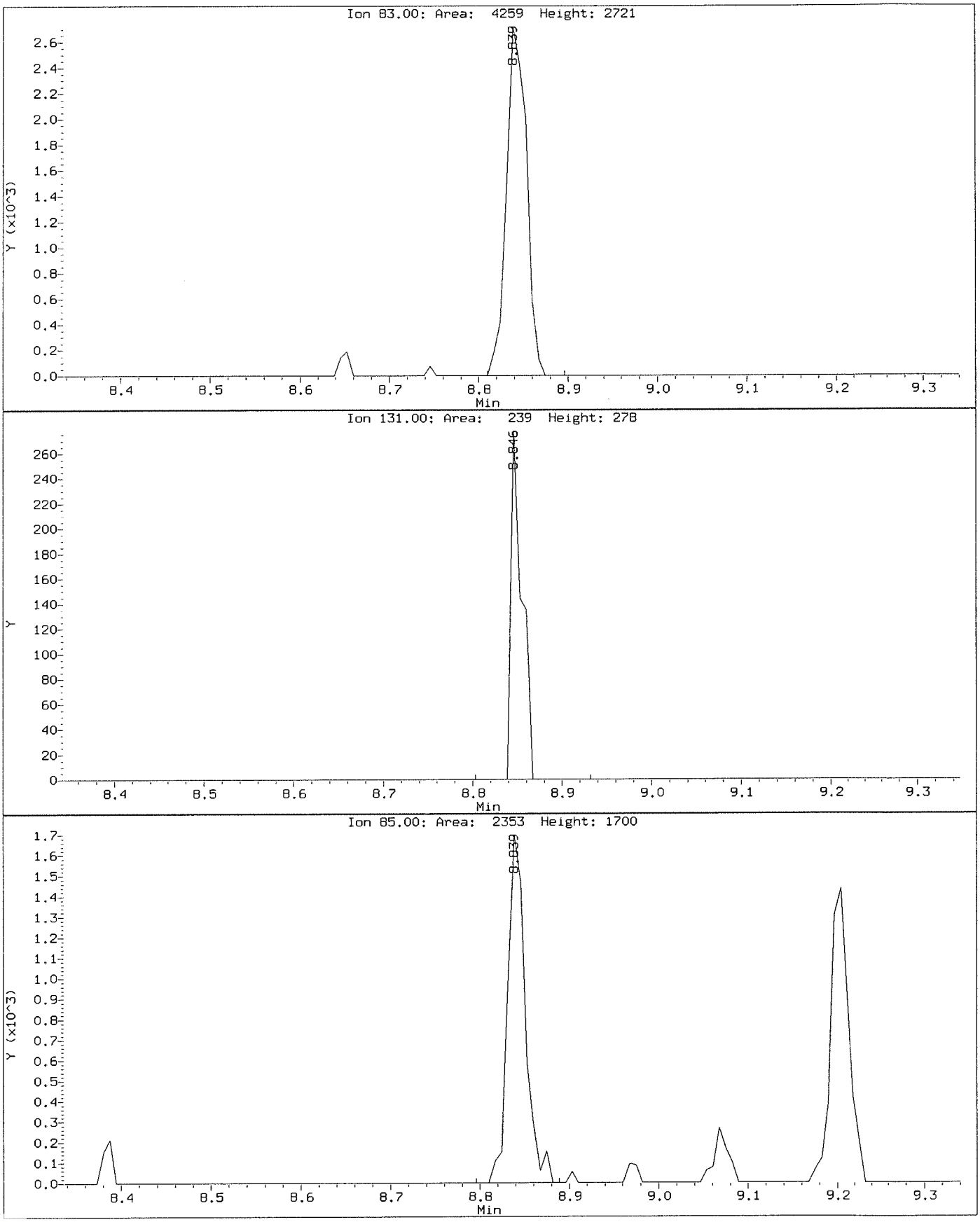
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



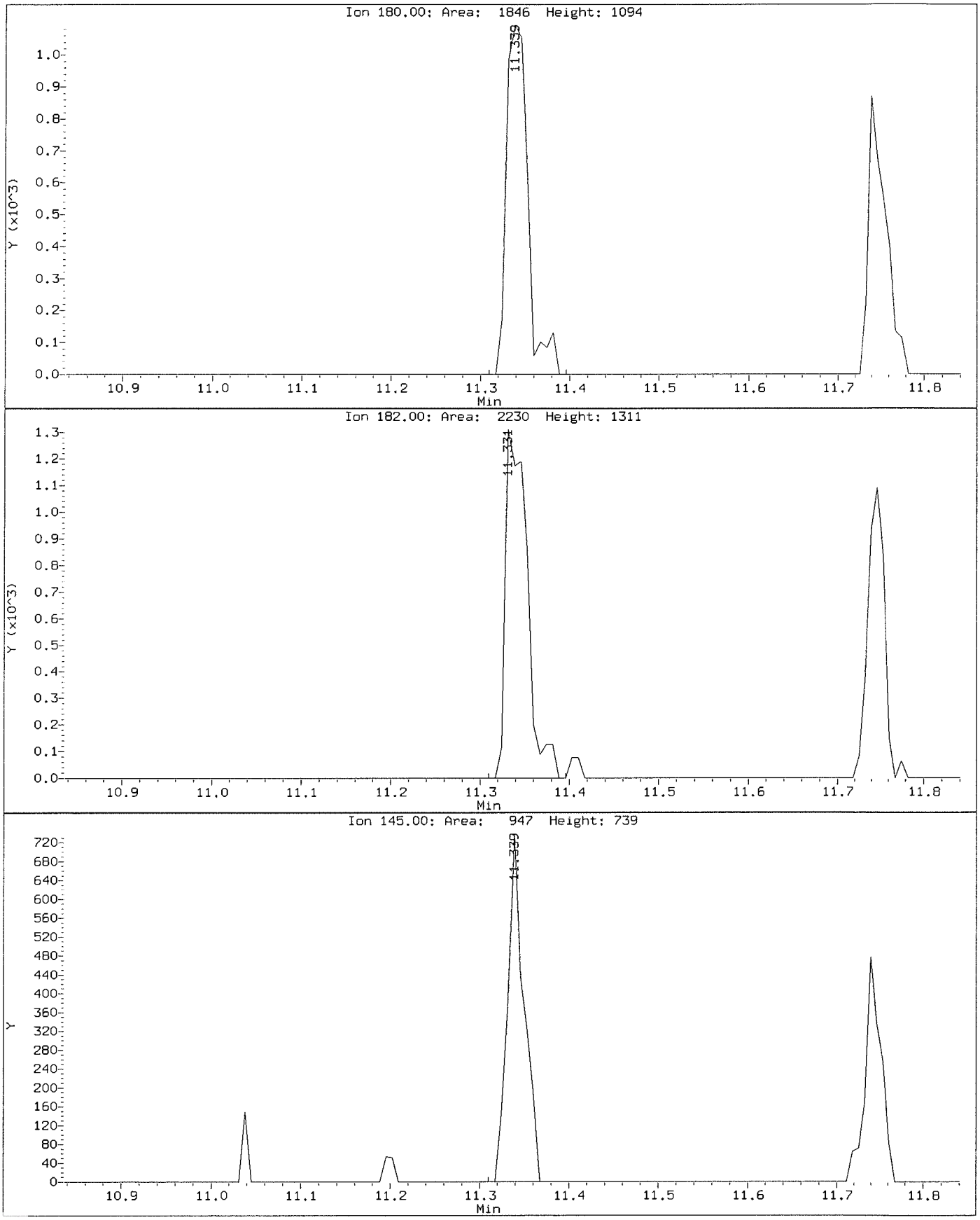
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



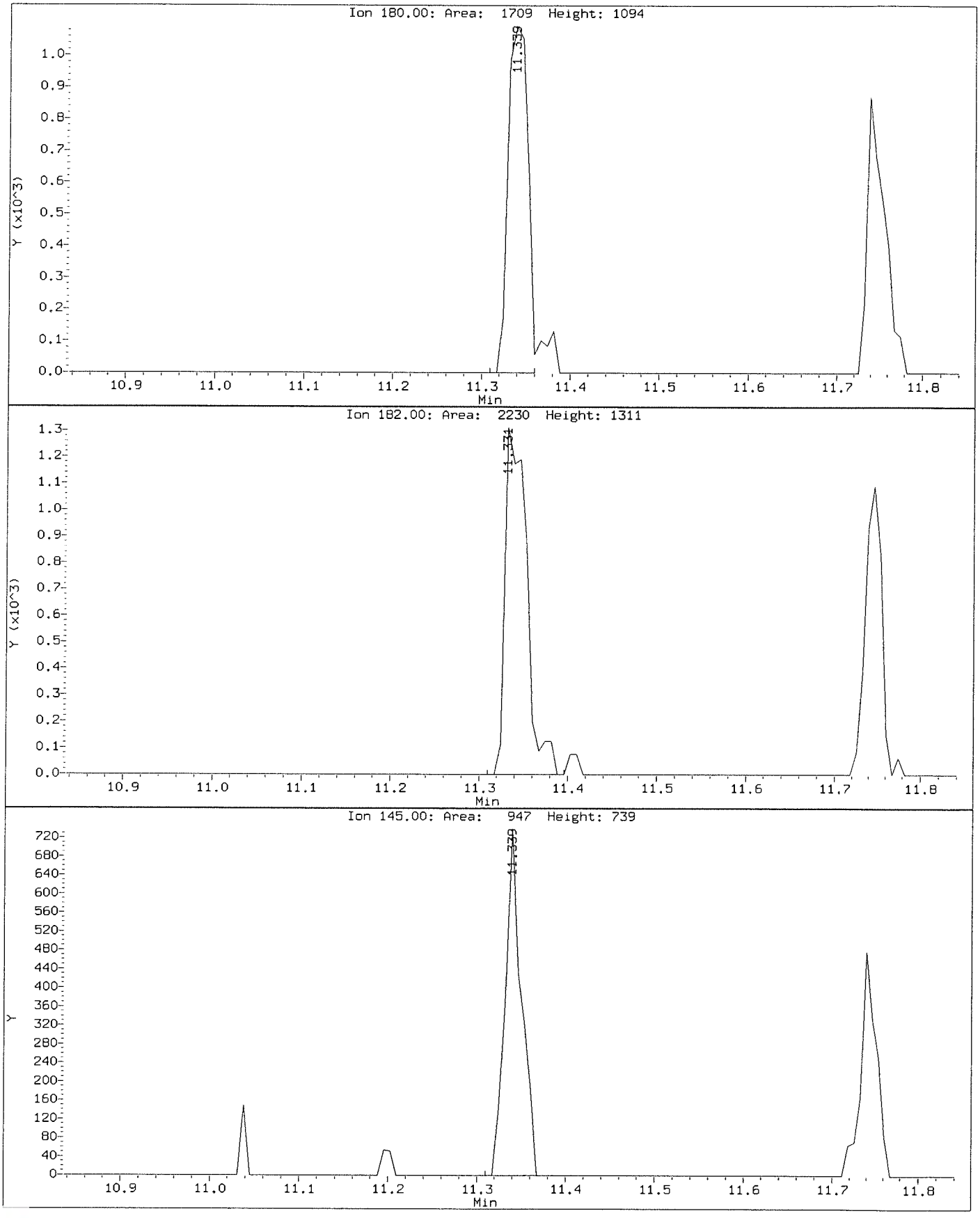
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



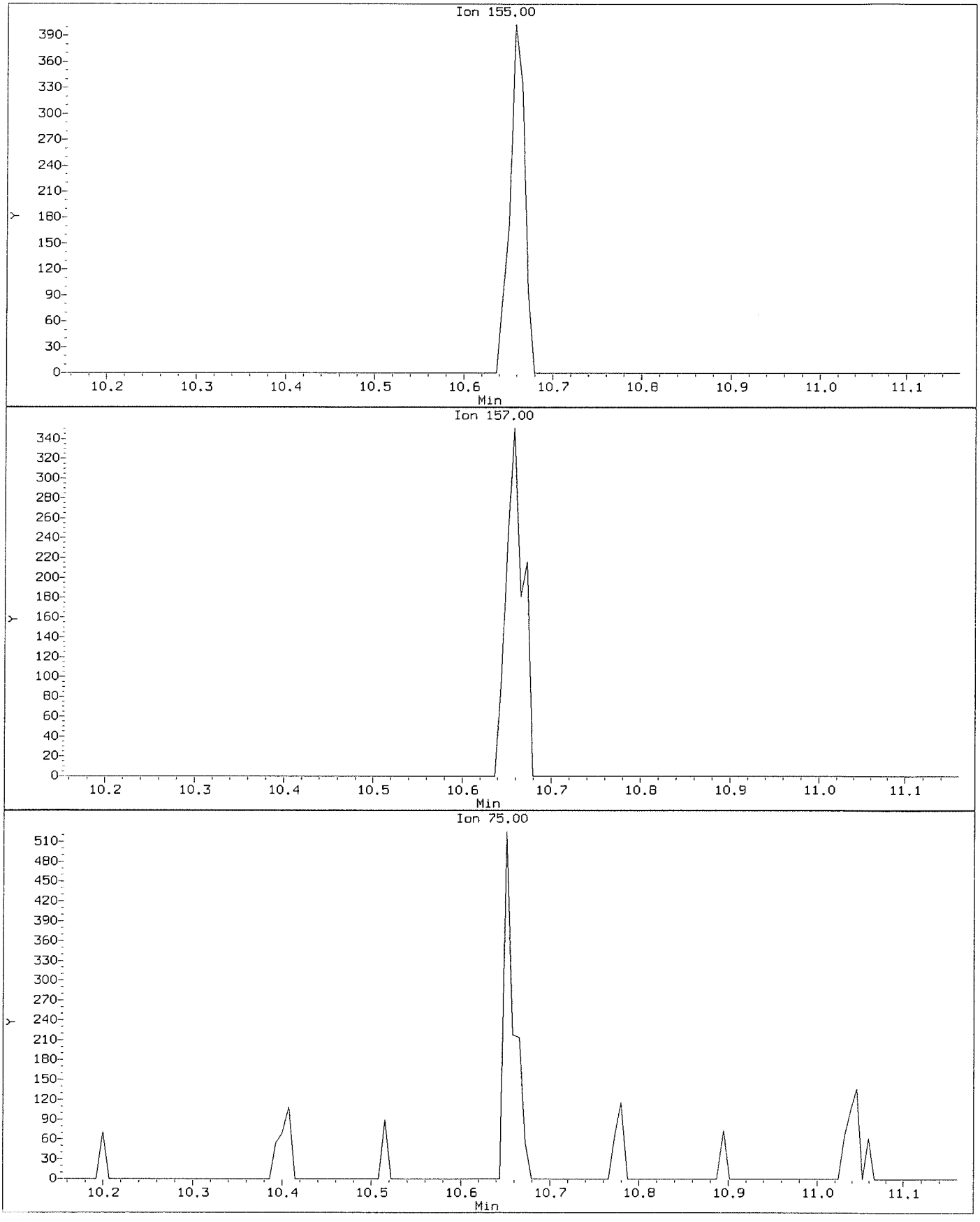
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



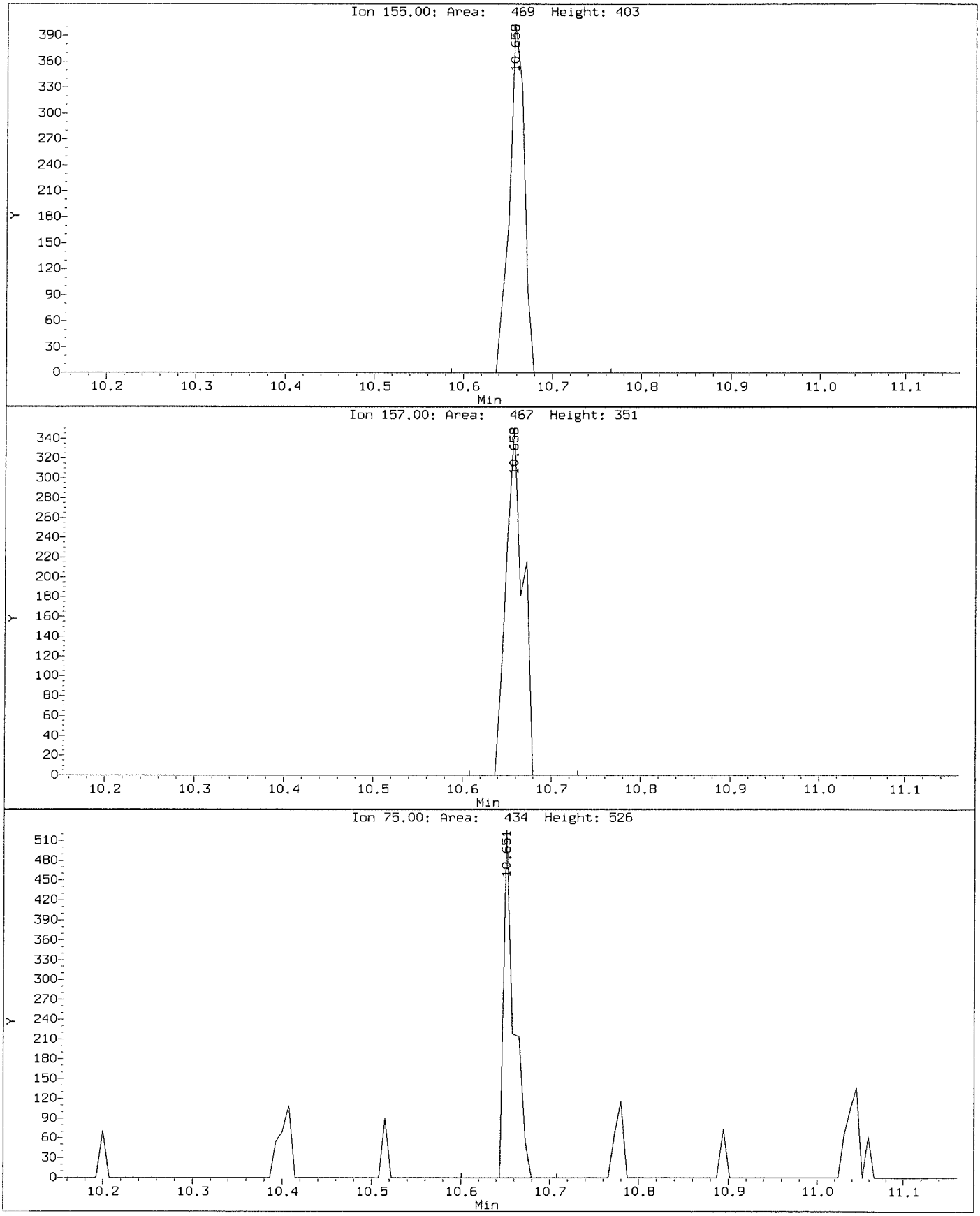
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



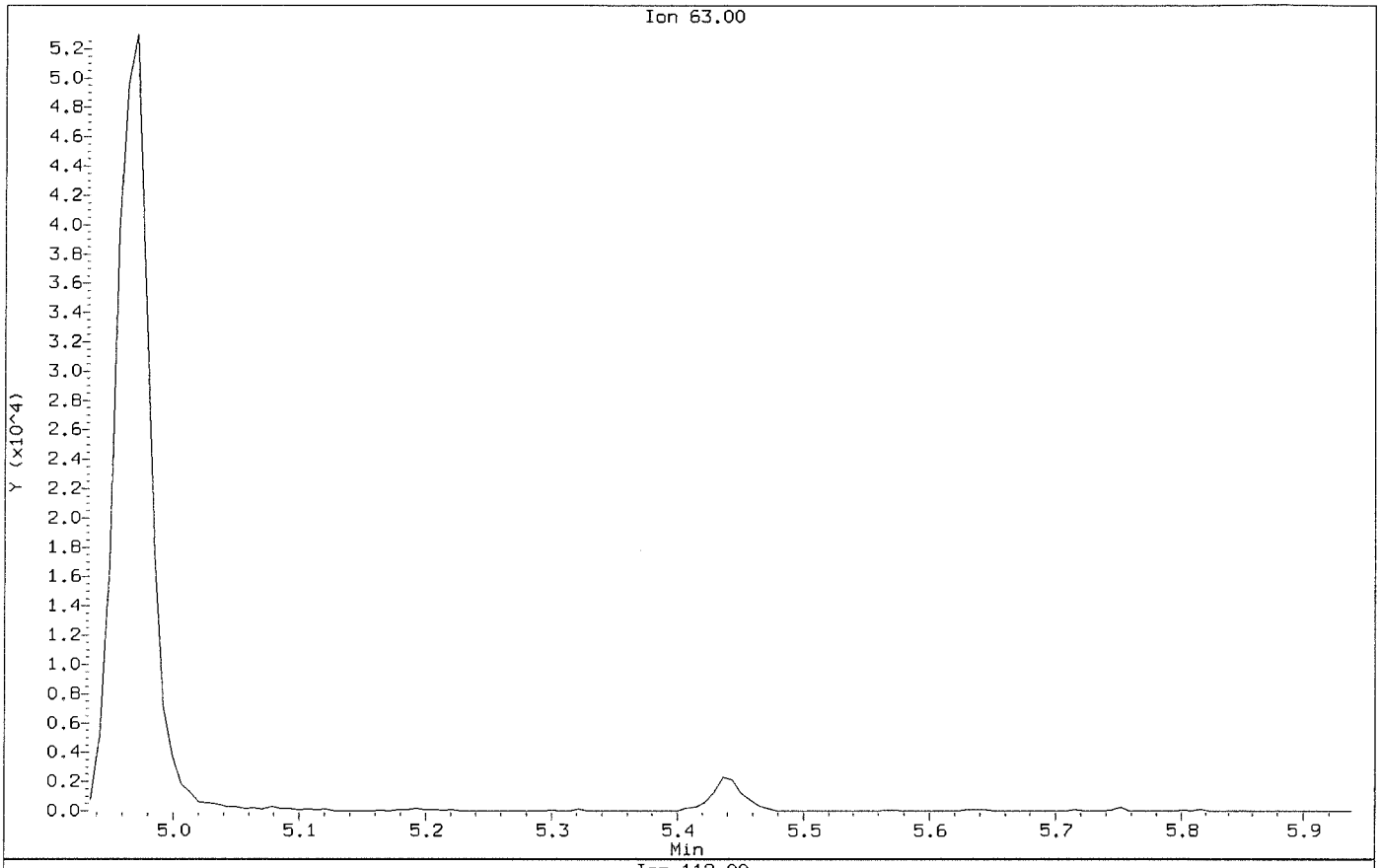
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

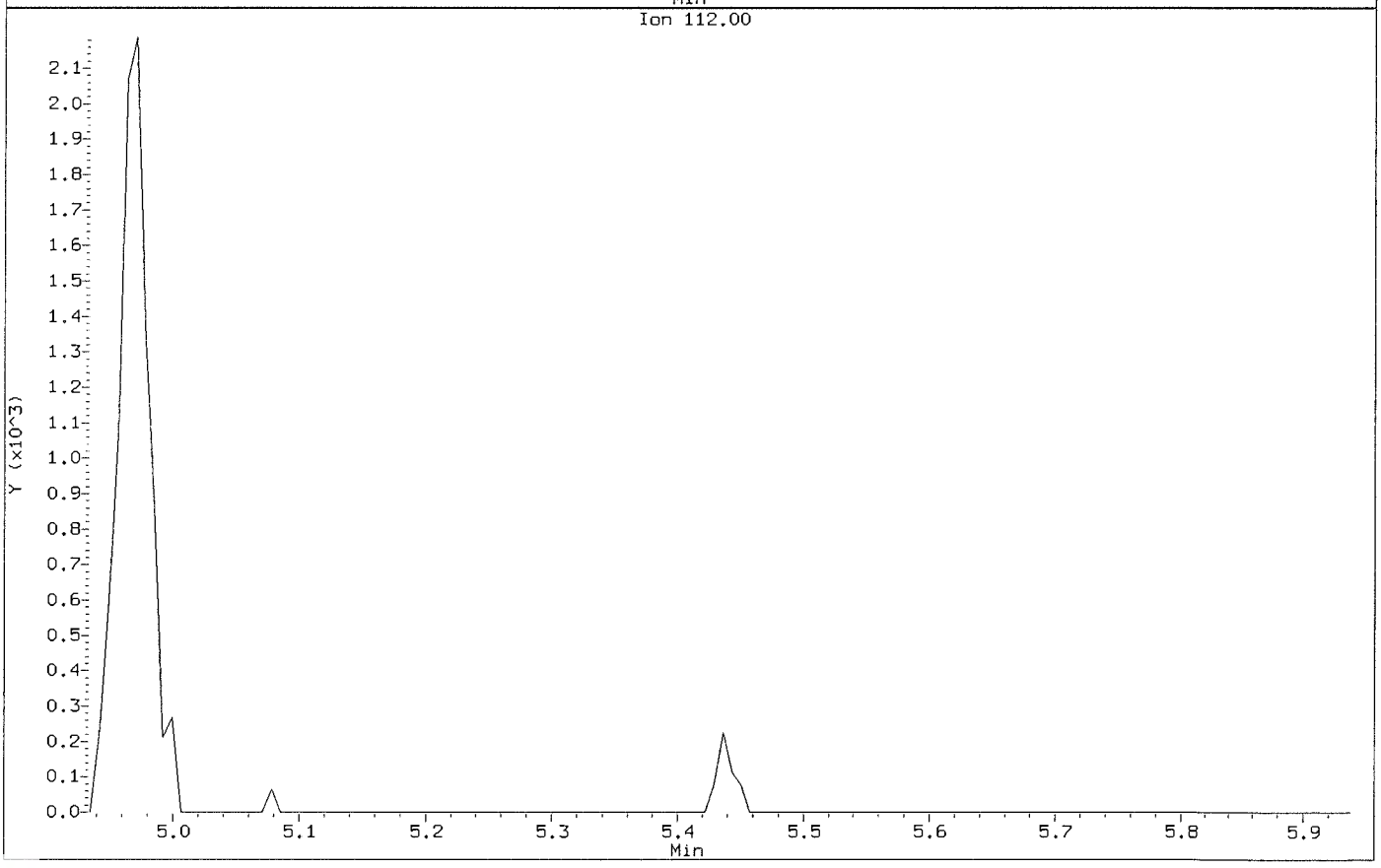
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

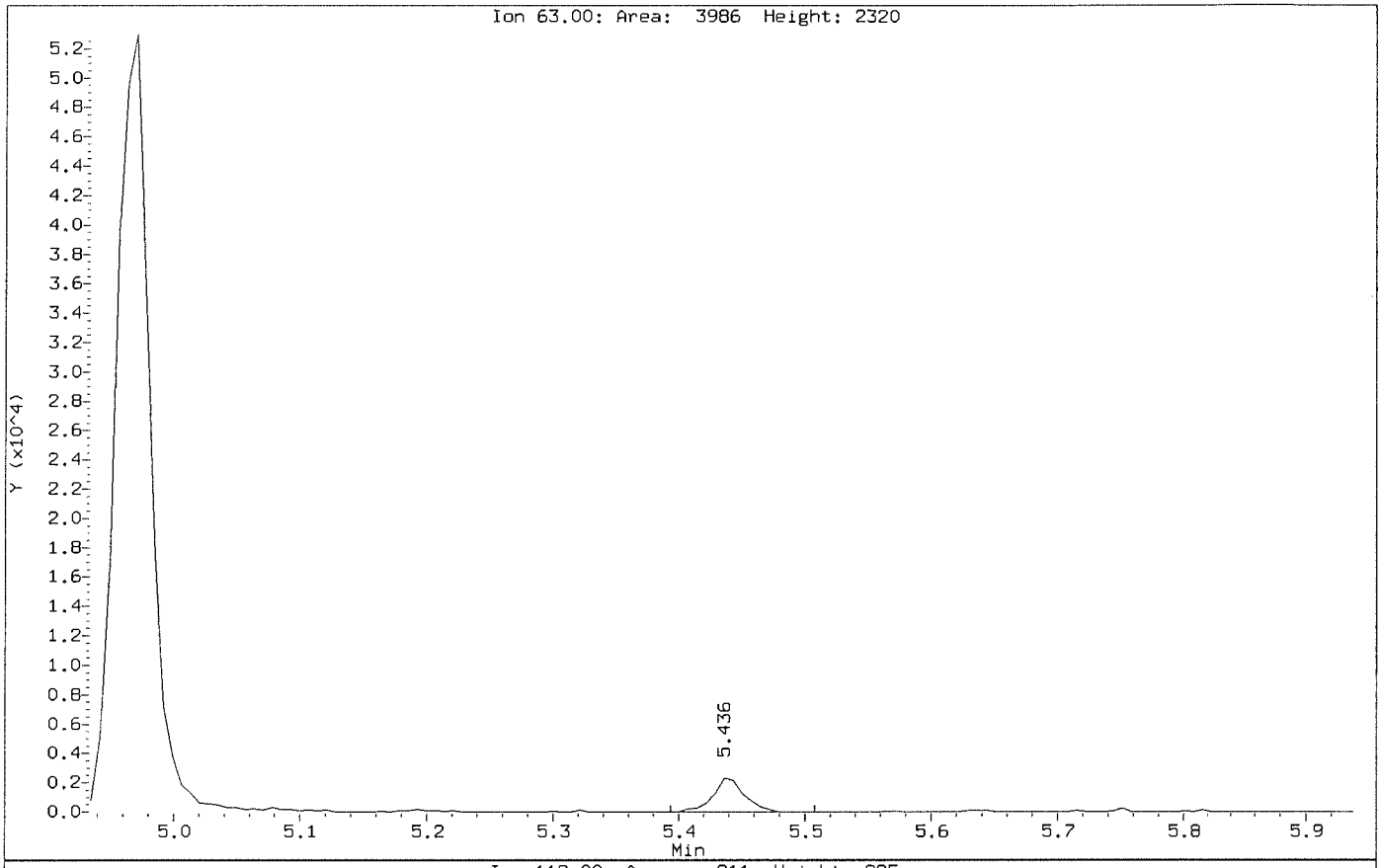
Compound: 1.2-Dichloropropane
CAS Number: 78-87-5

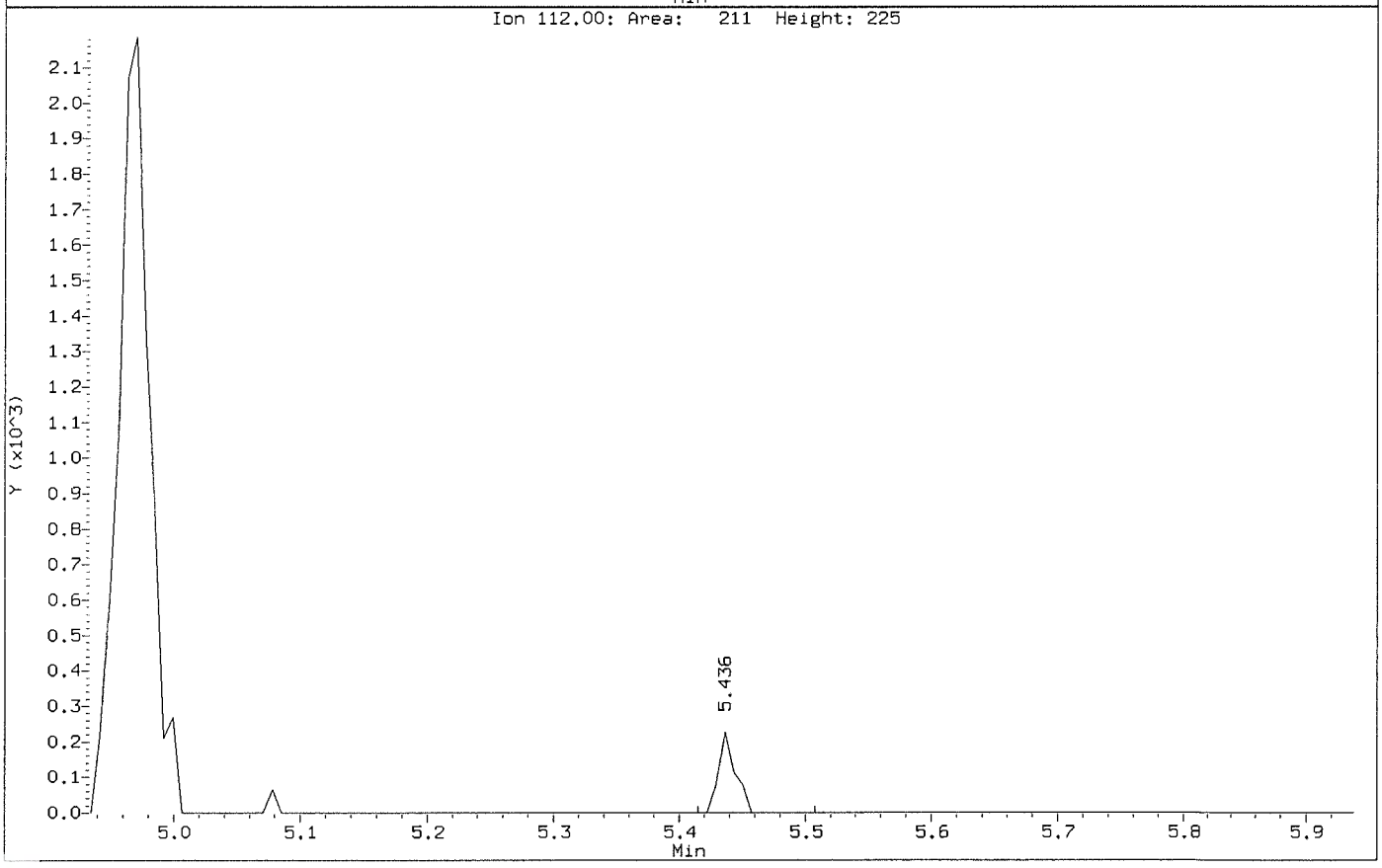




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

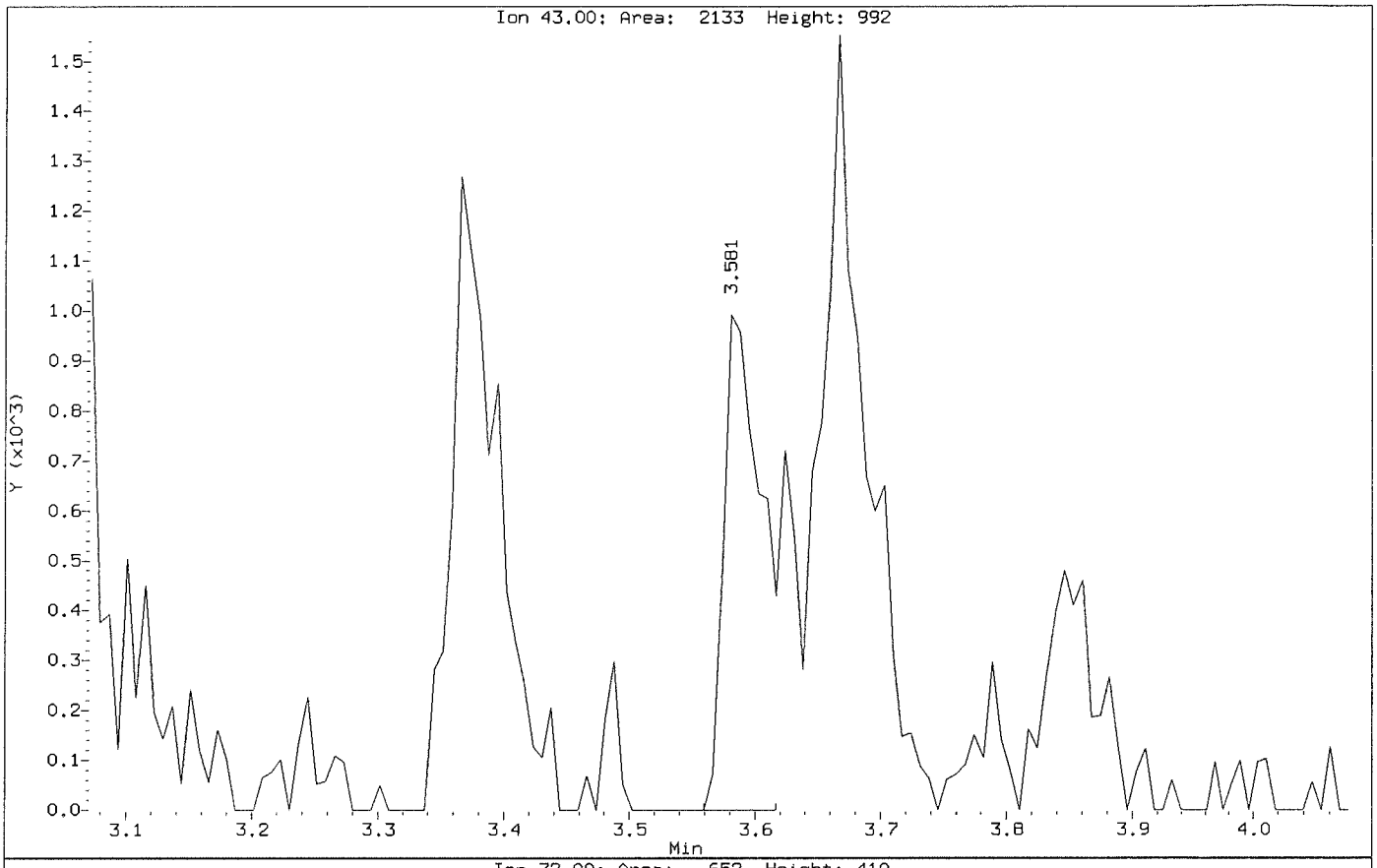
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

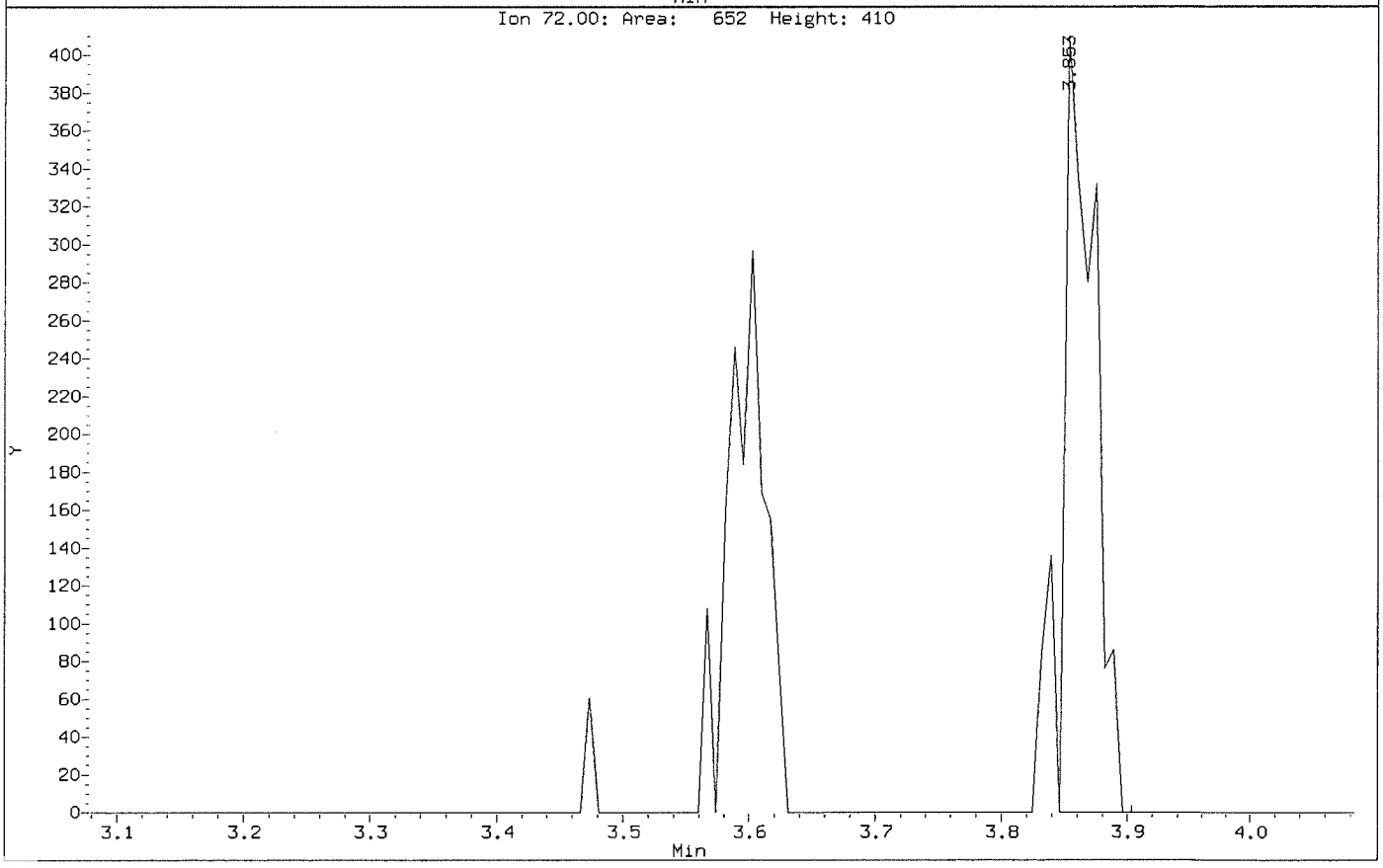




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

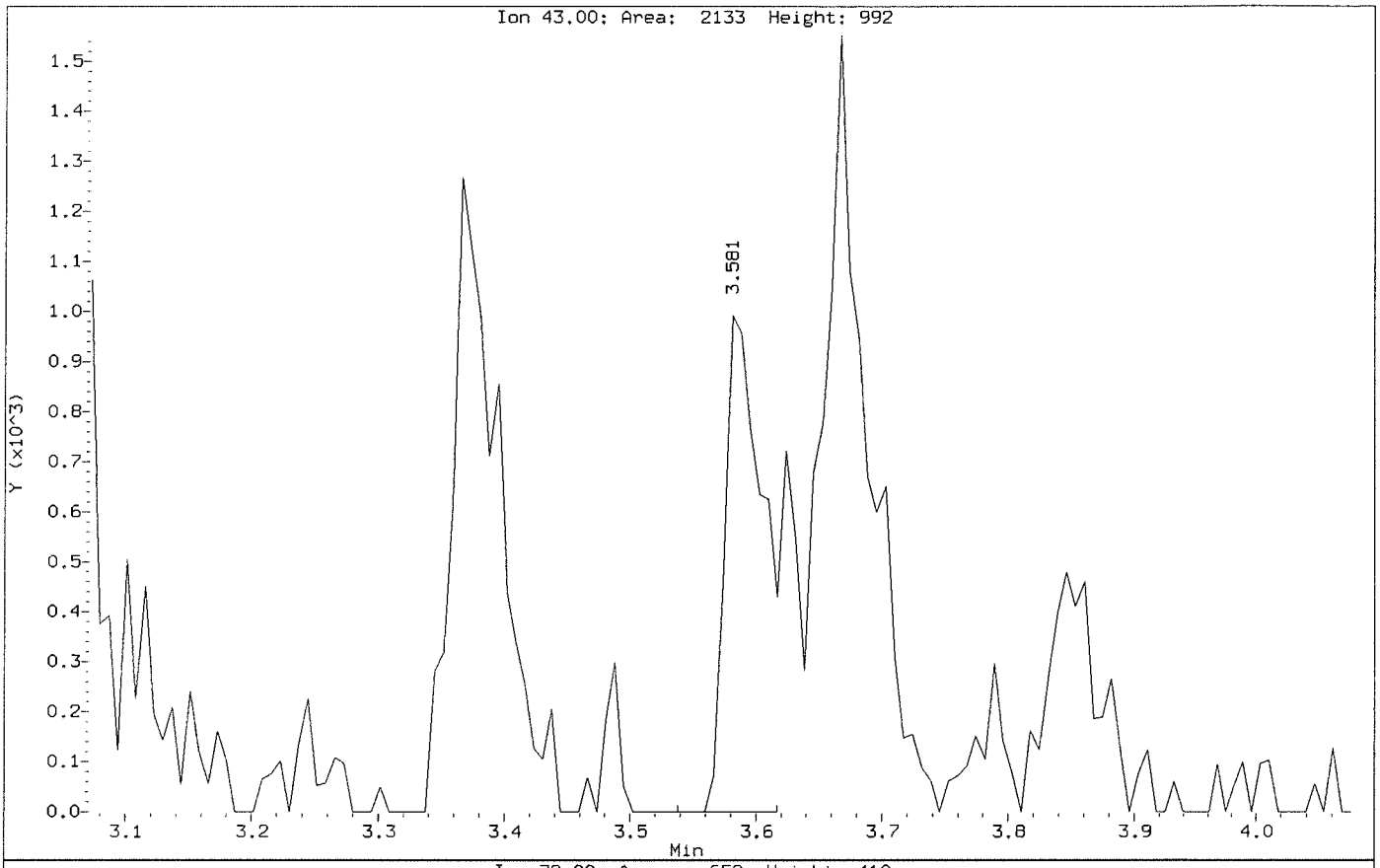
Compound: 2-Butanone
CAS Number: 78-93-3

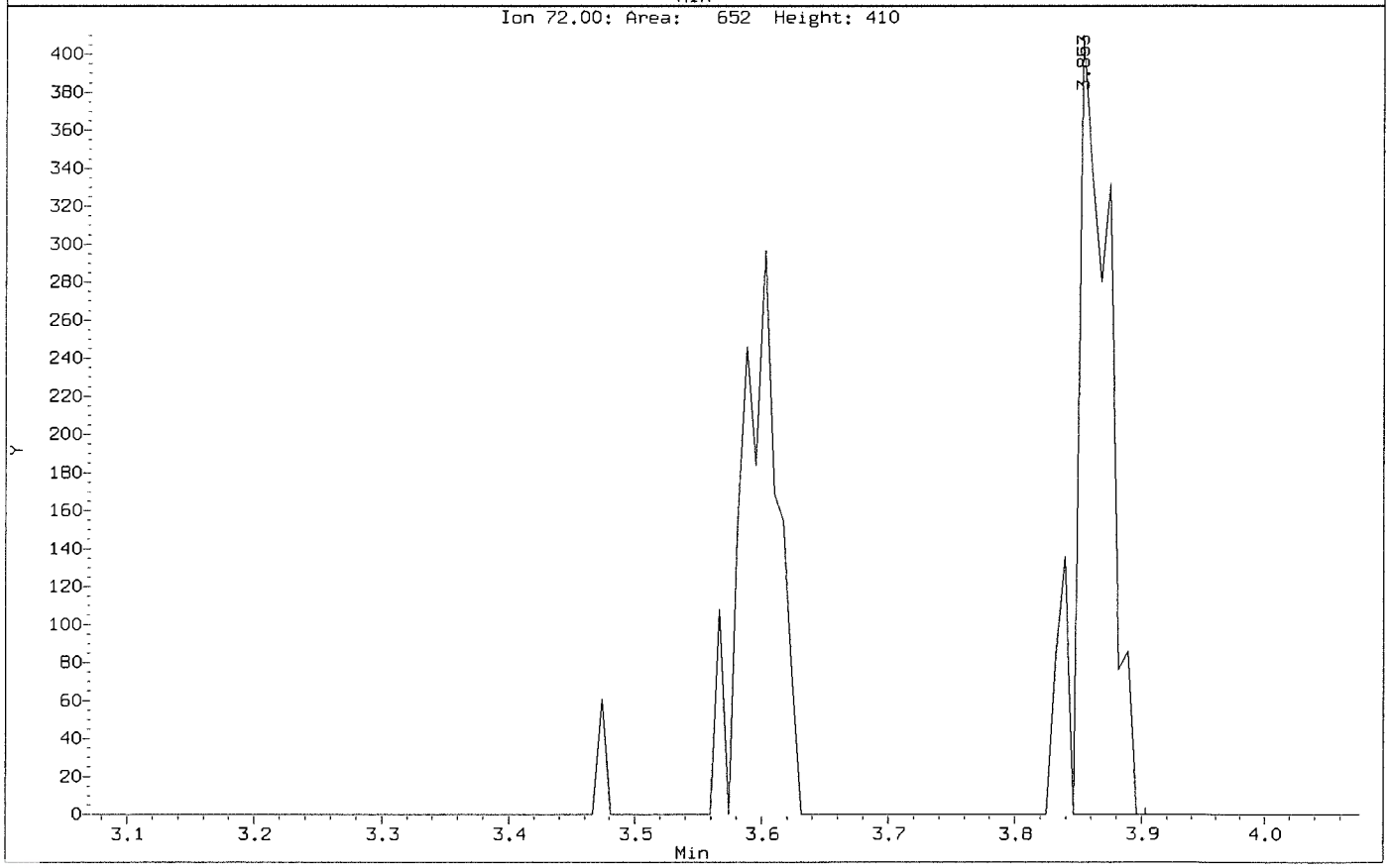




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

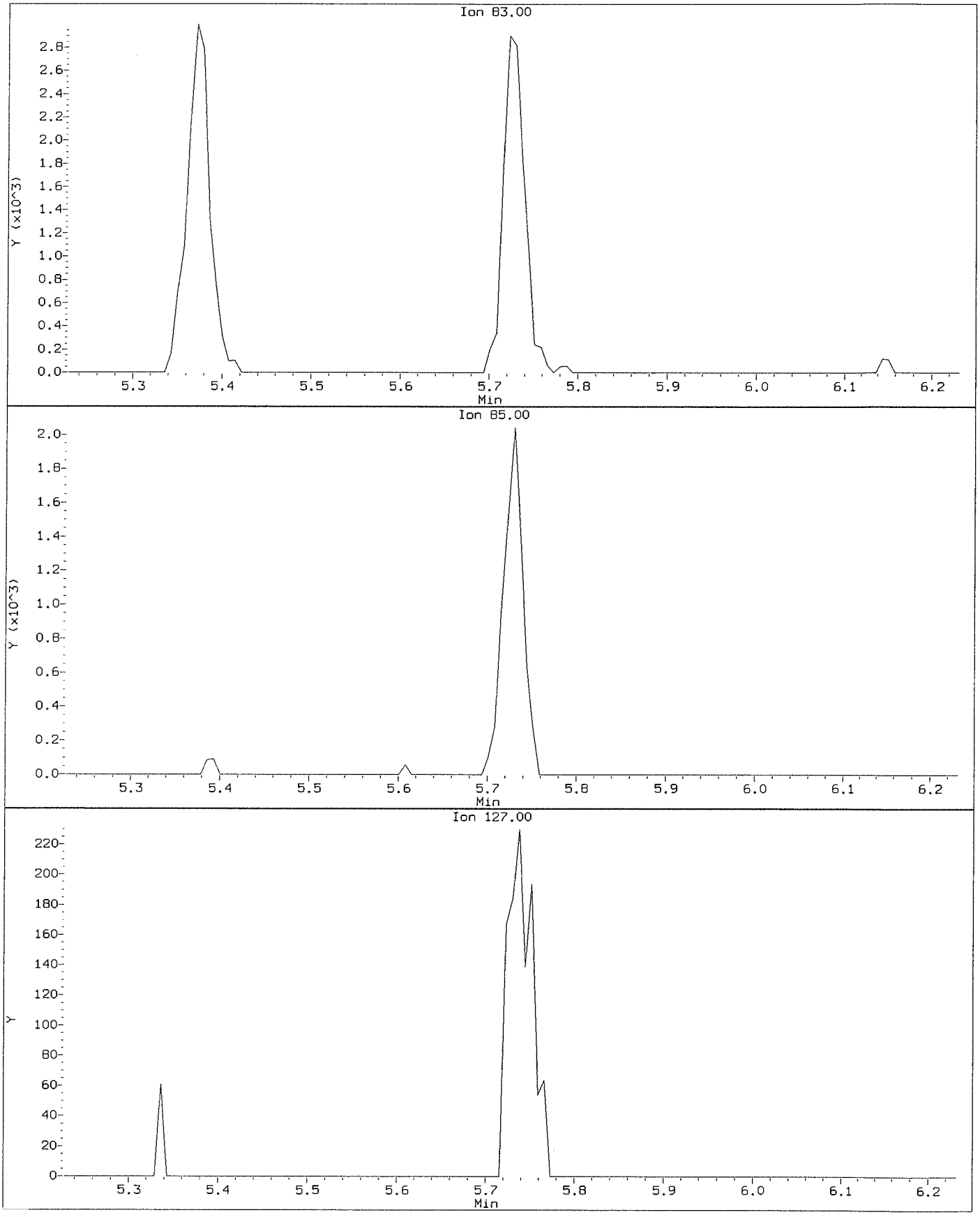
Compound: 2-Butanone
CAS Number: 78-93-3





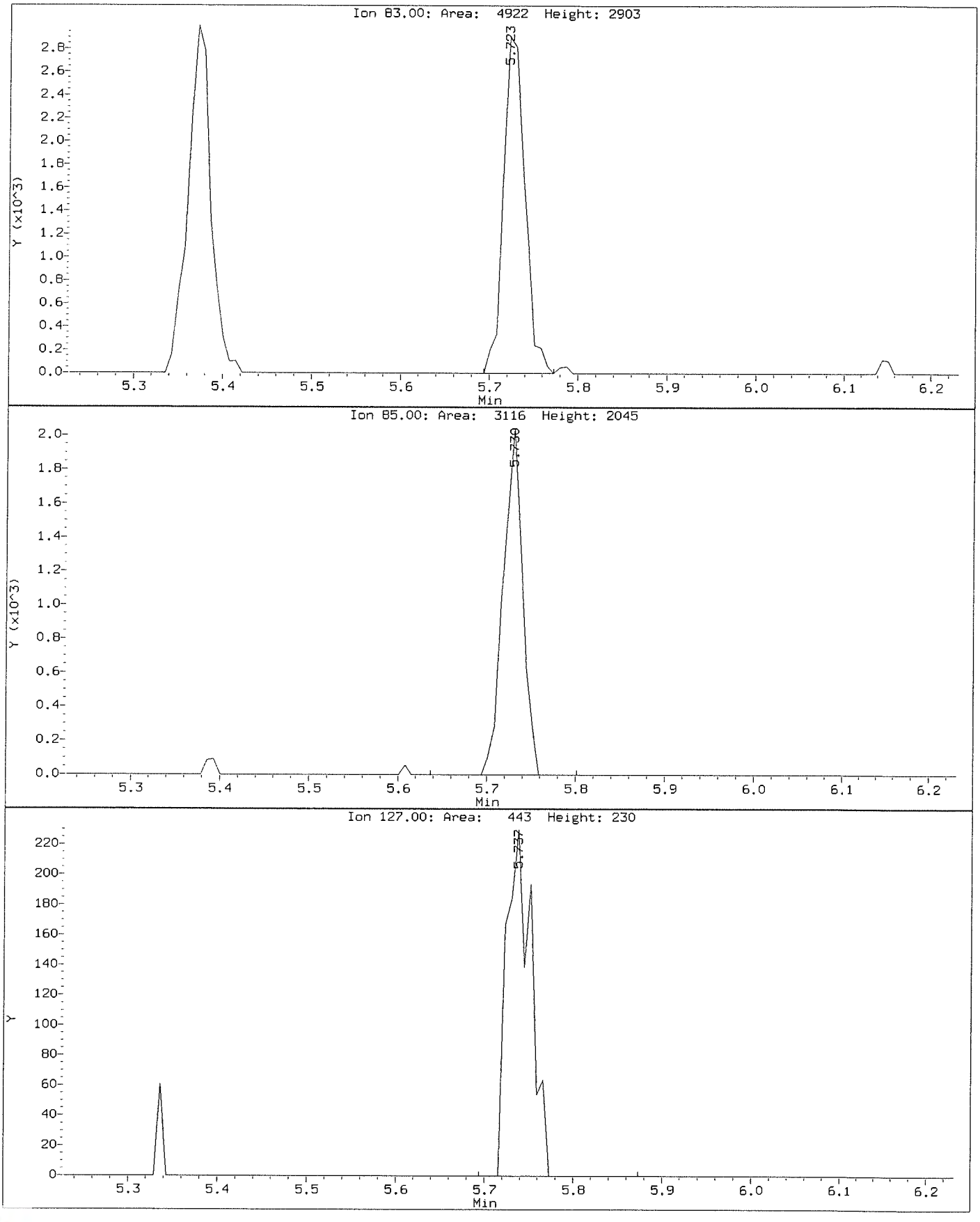
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4



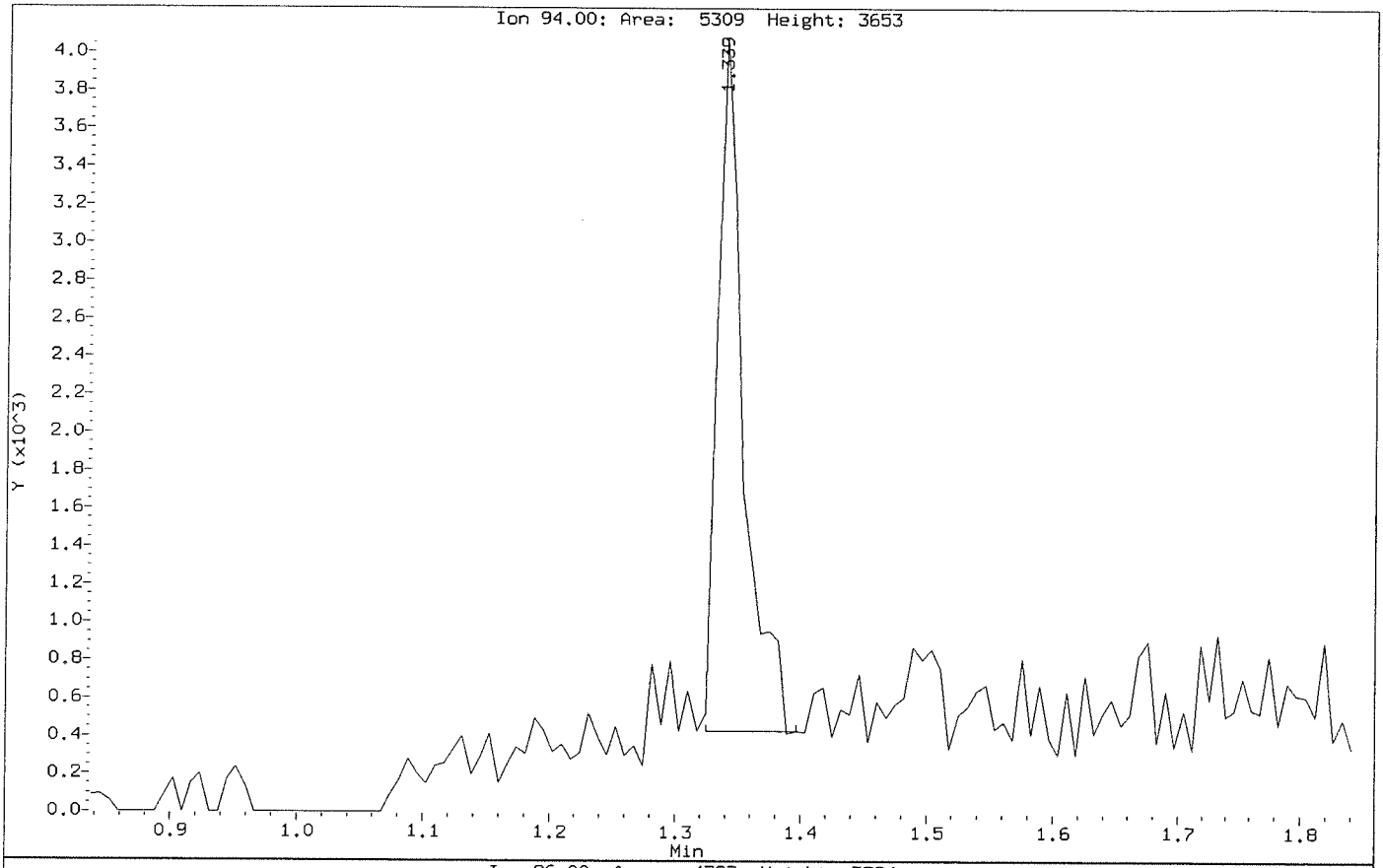
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

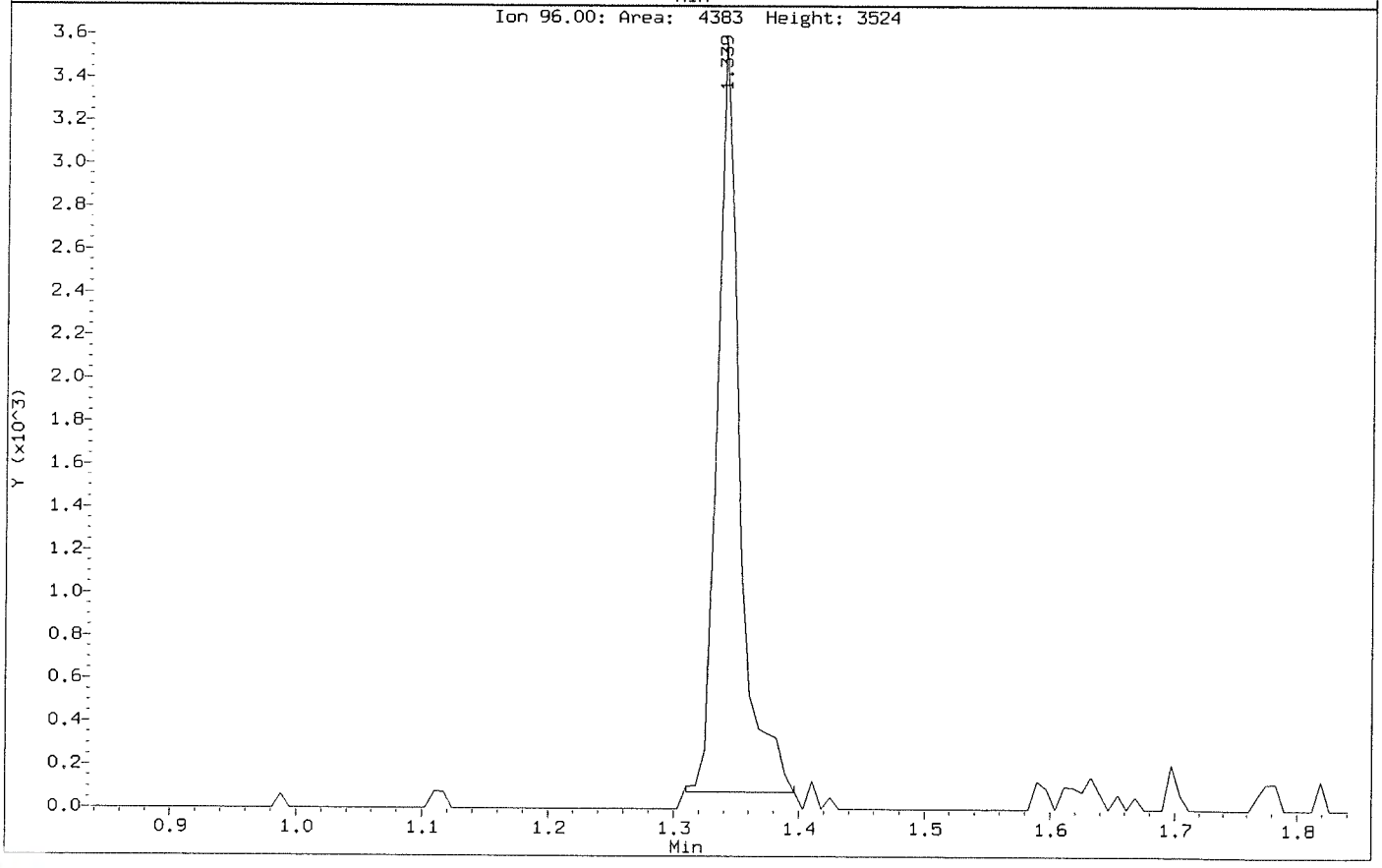
Compound: Bromodichloromethane
CAS Number: 75-27-4



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

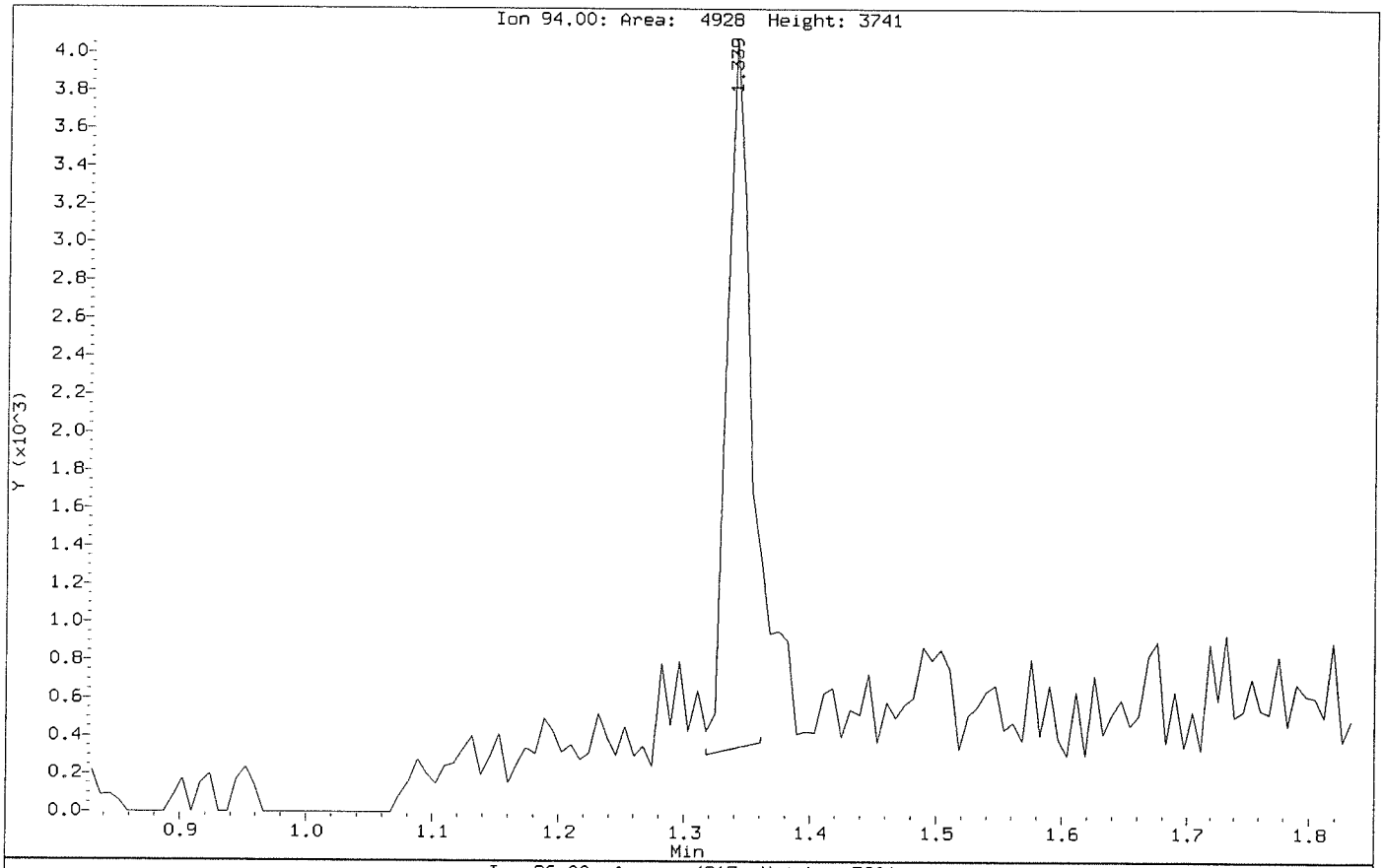
Compound: Bromomethane
CAS Number: 74-83-9

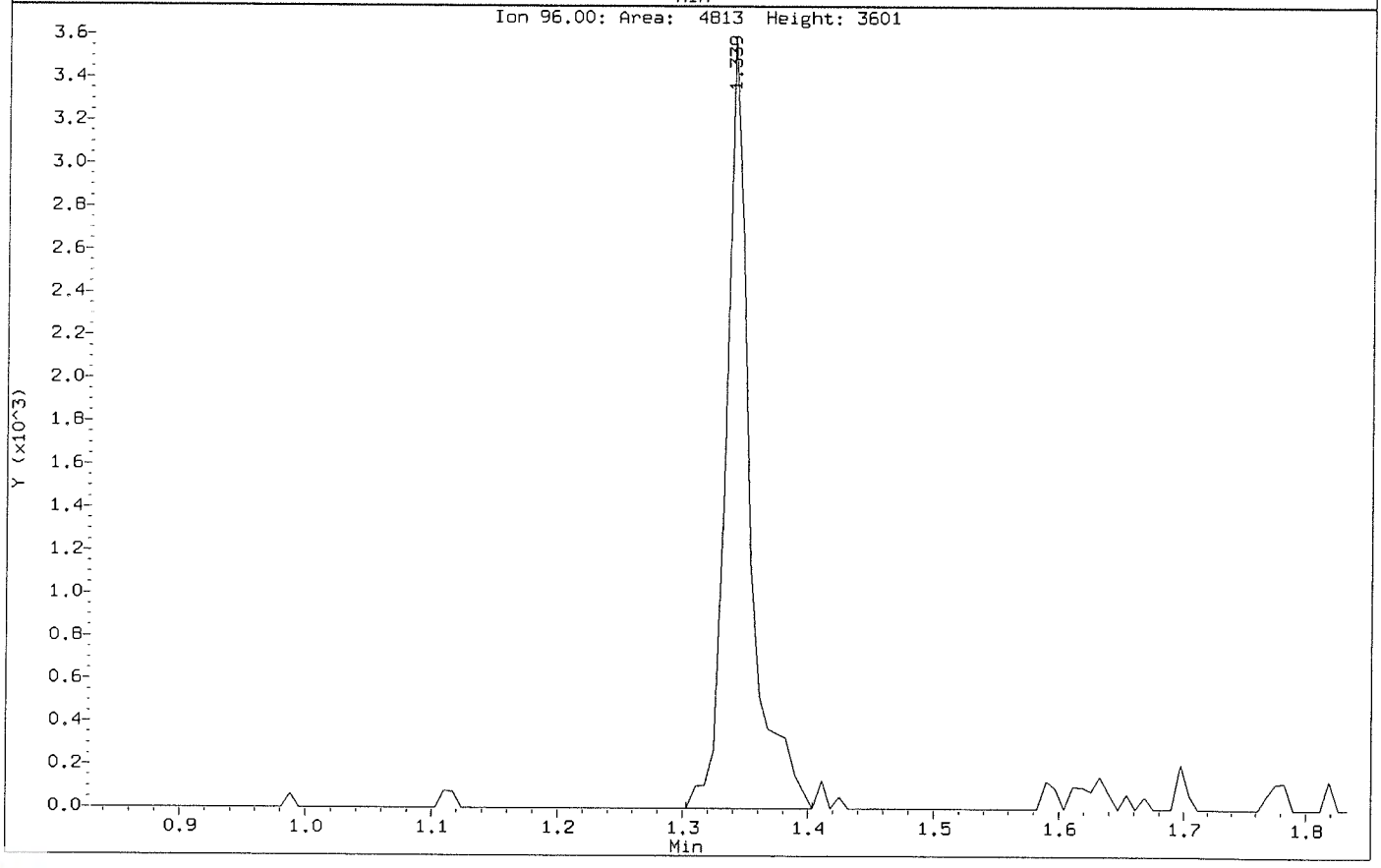




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

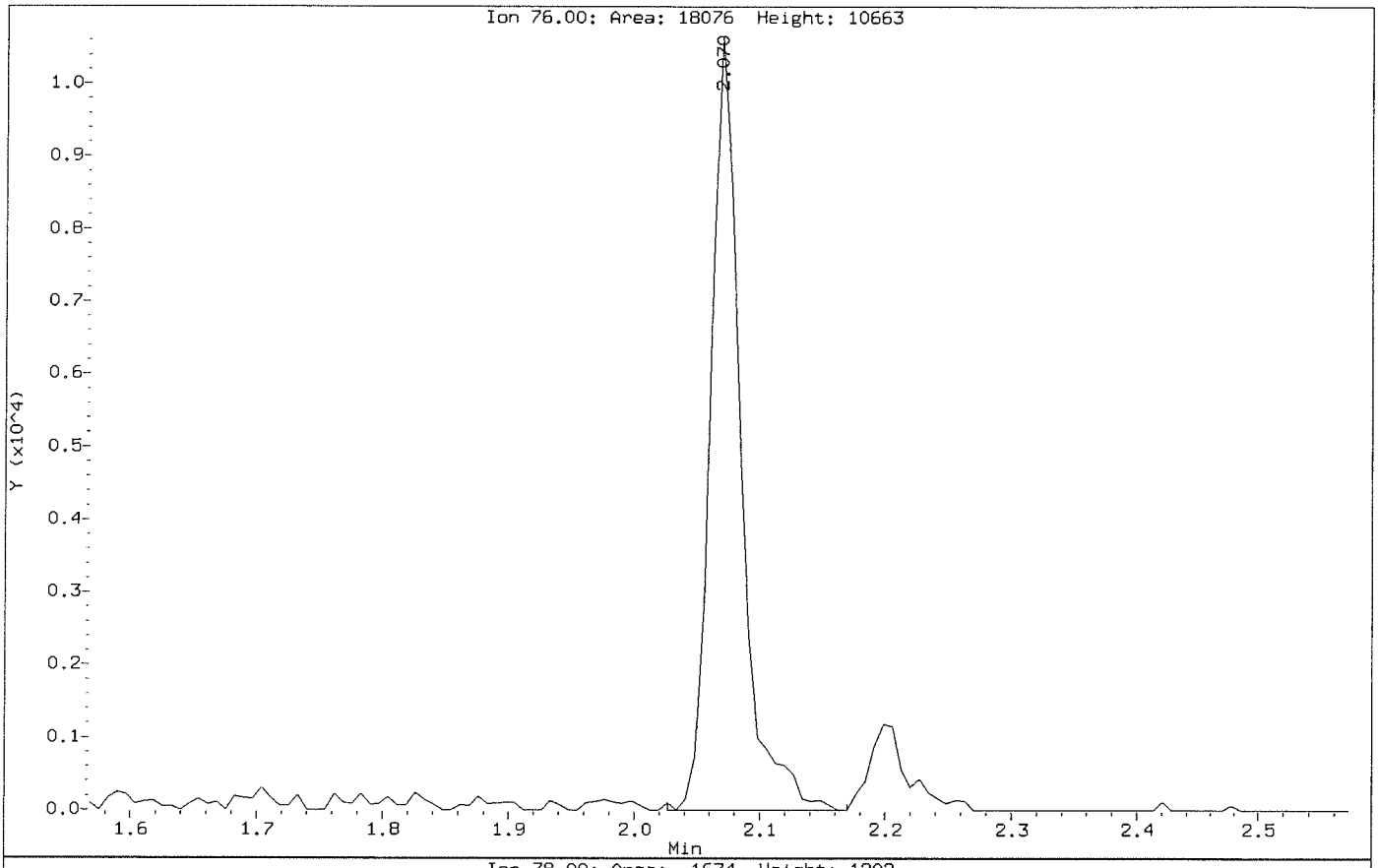
Compound: Bromomethane
CAS Number: 74-83-9

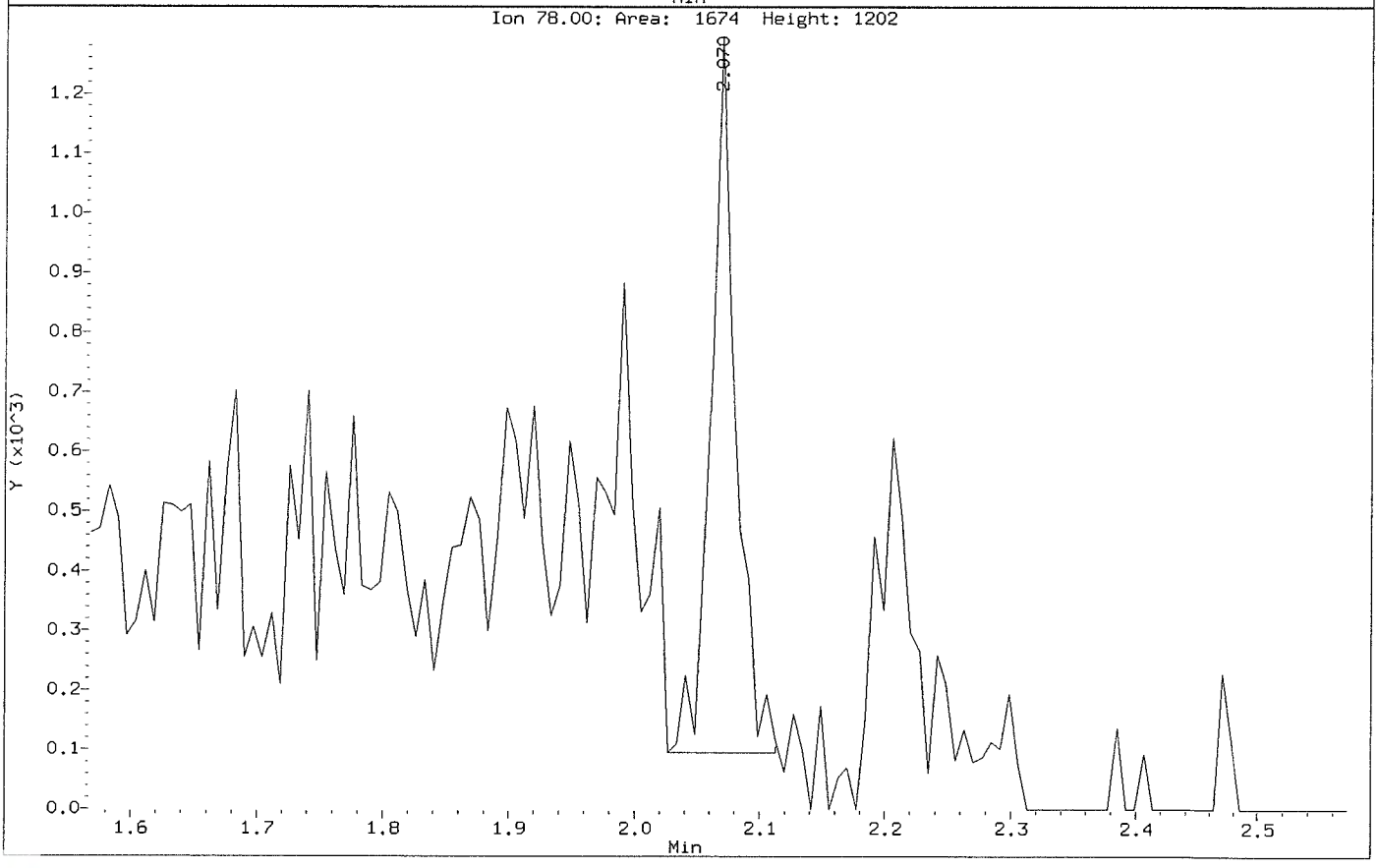




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

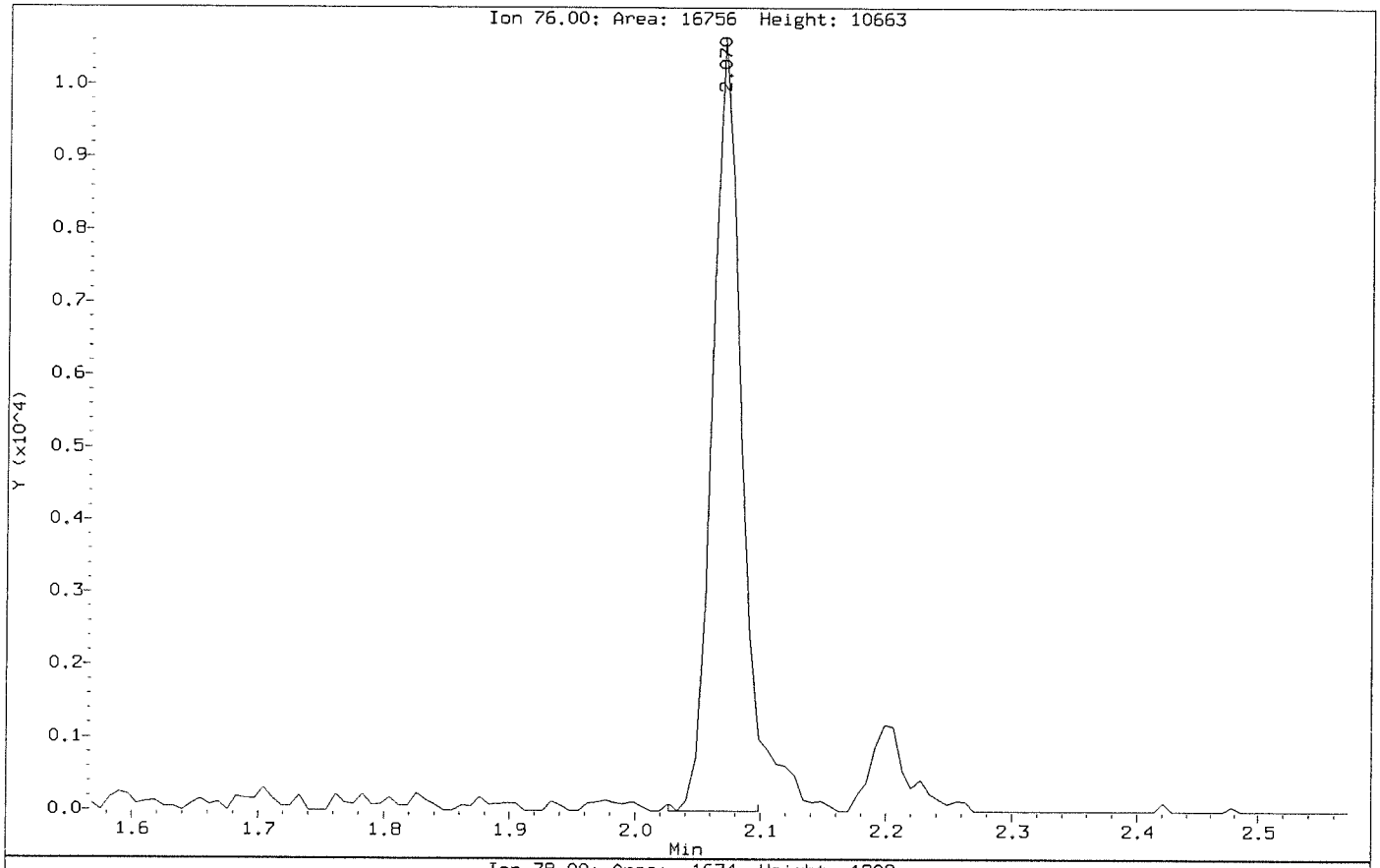
Compound: Carbon Disulfide
CAS Number: 75-15-0

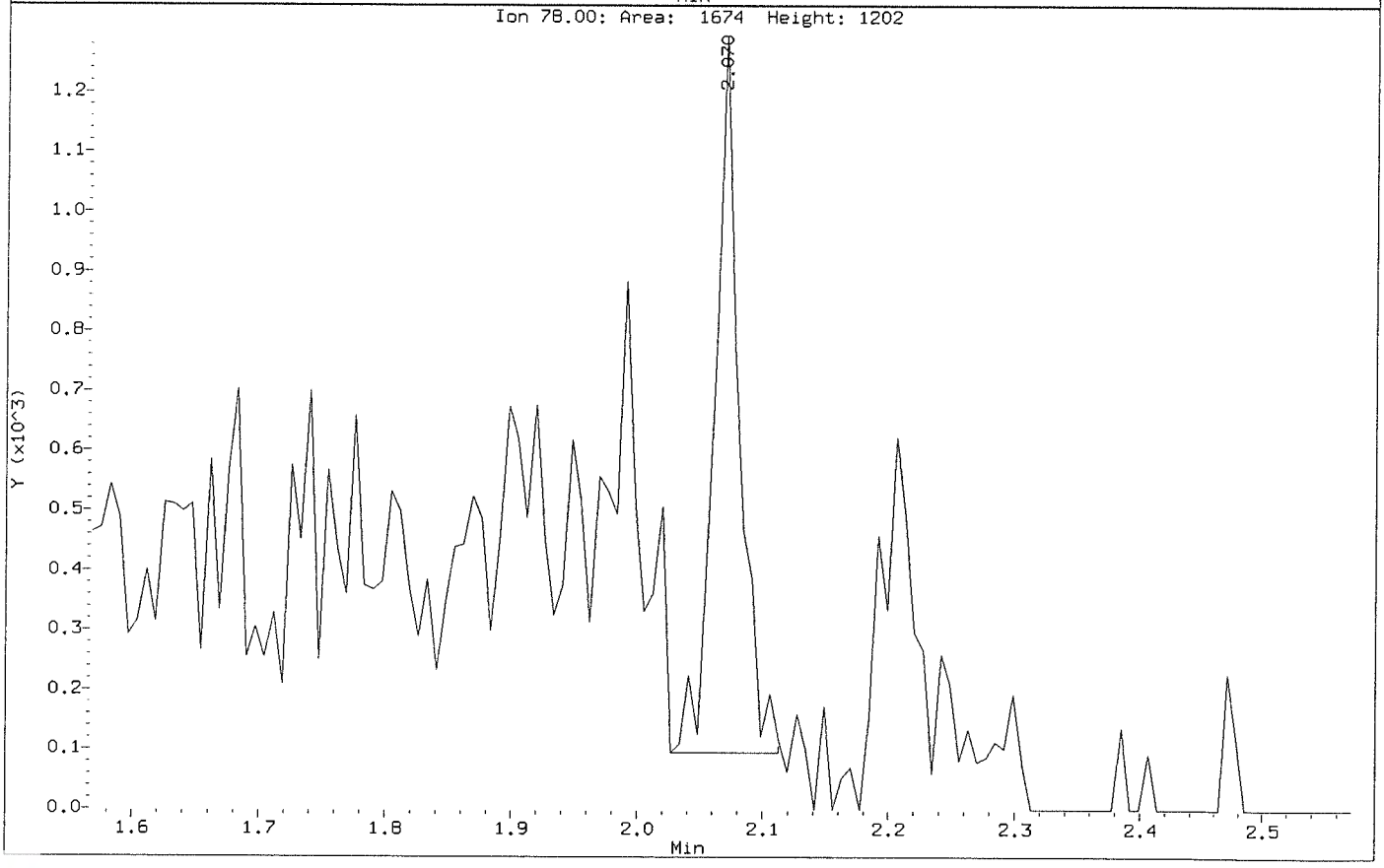




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

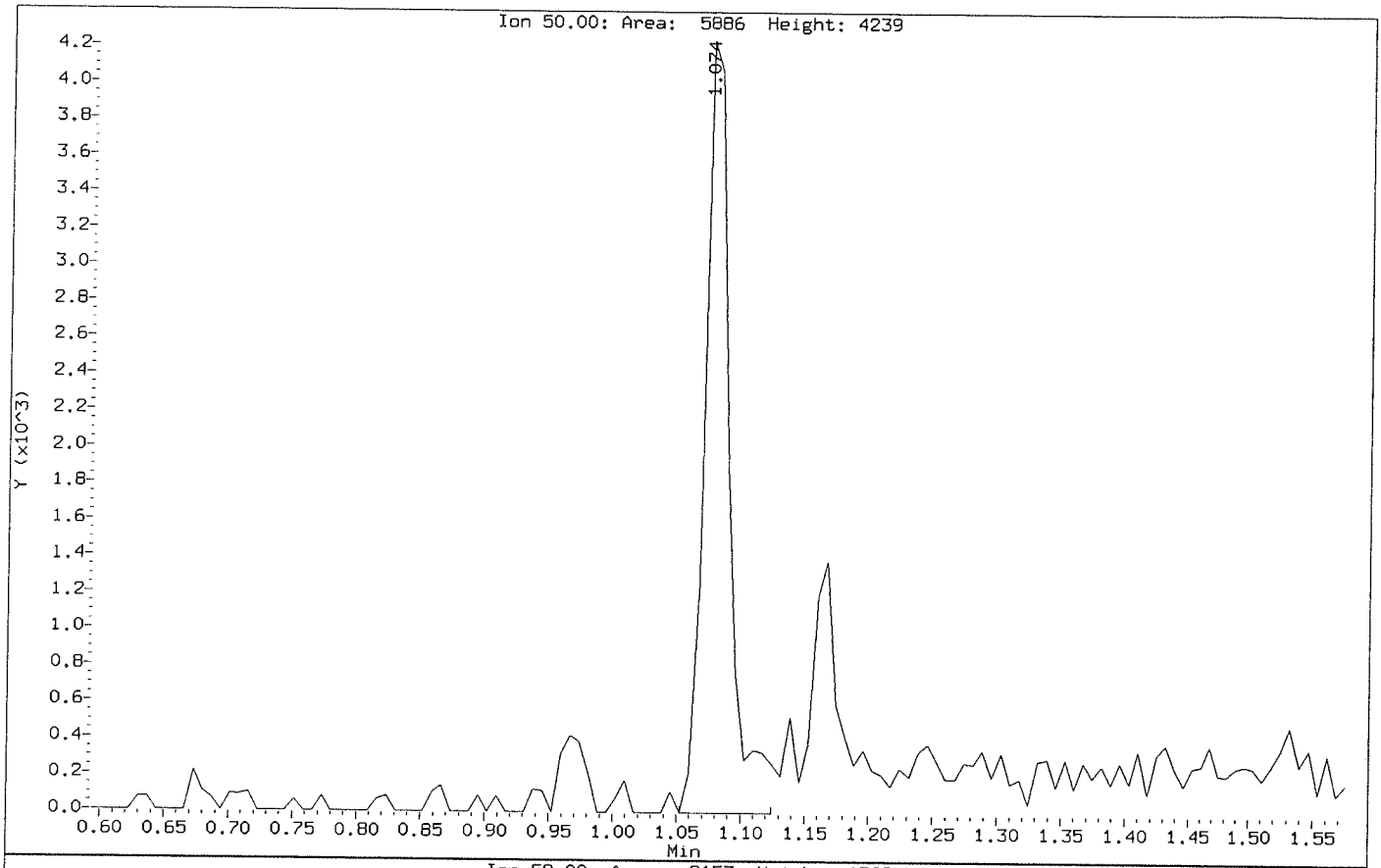
Compound: Carbon Disulfide
CAS Number: 75-15-0

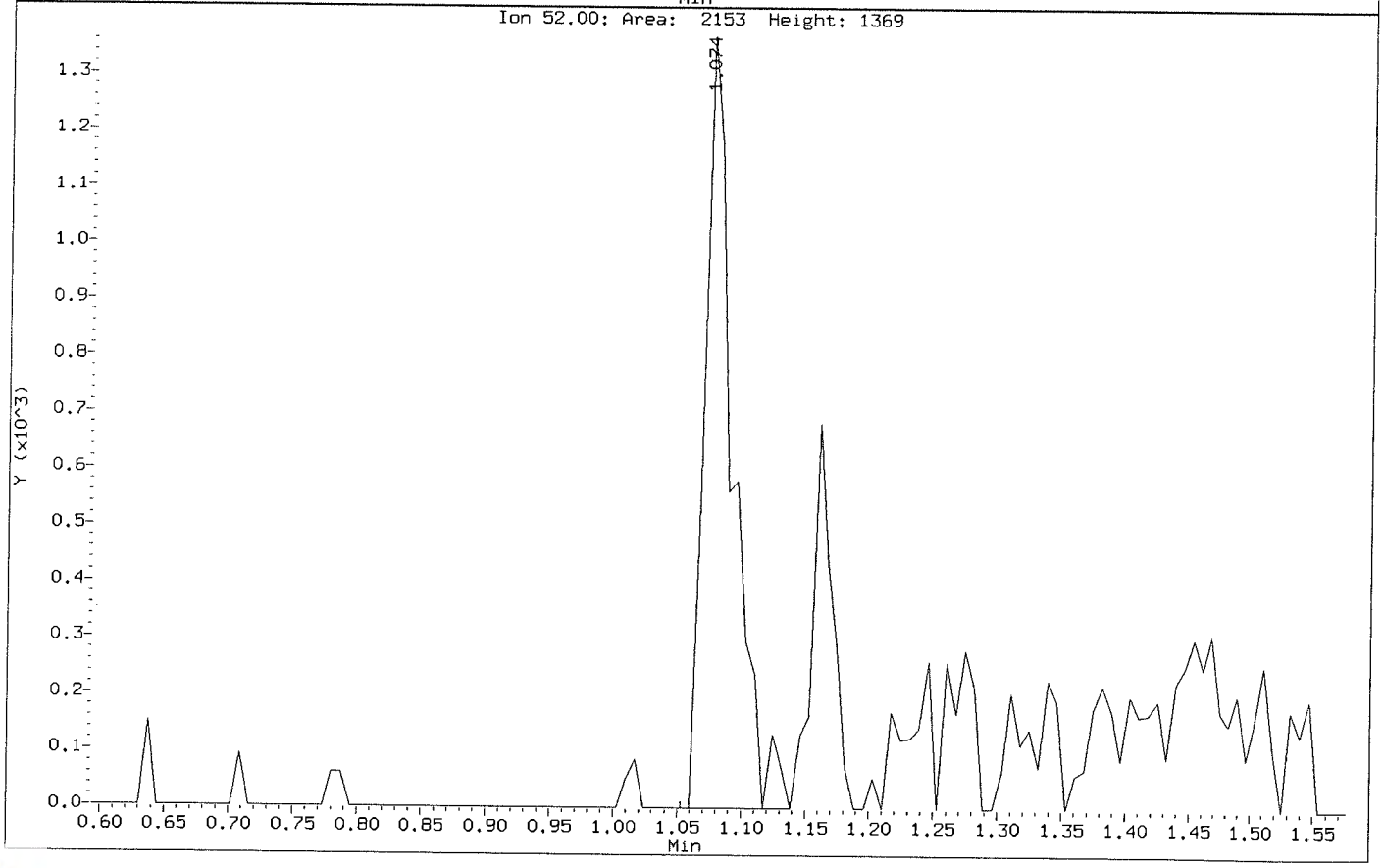




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

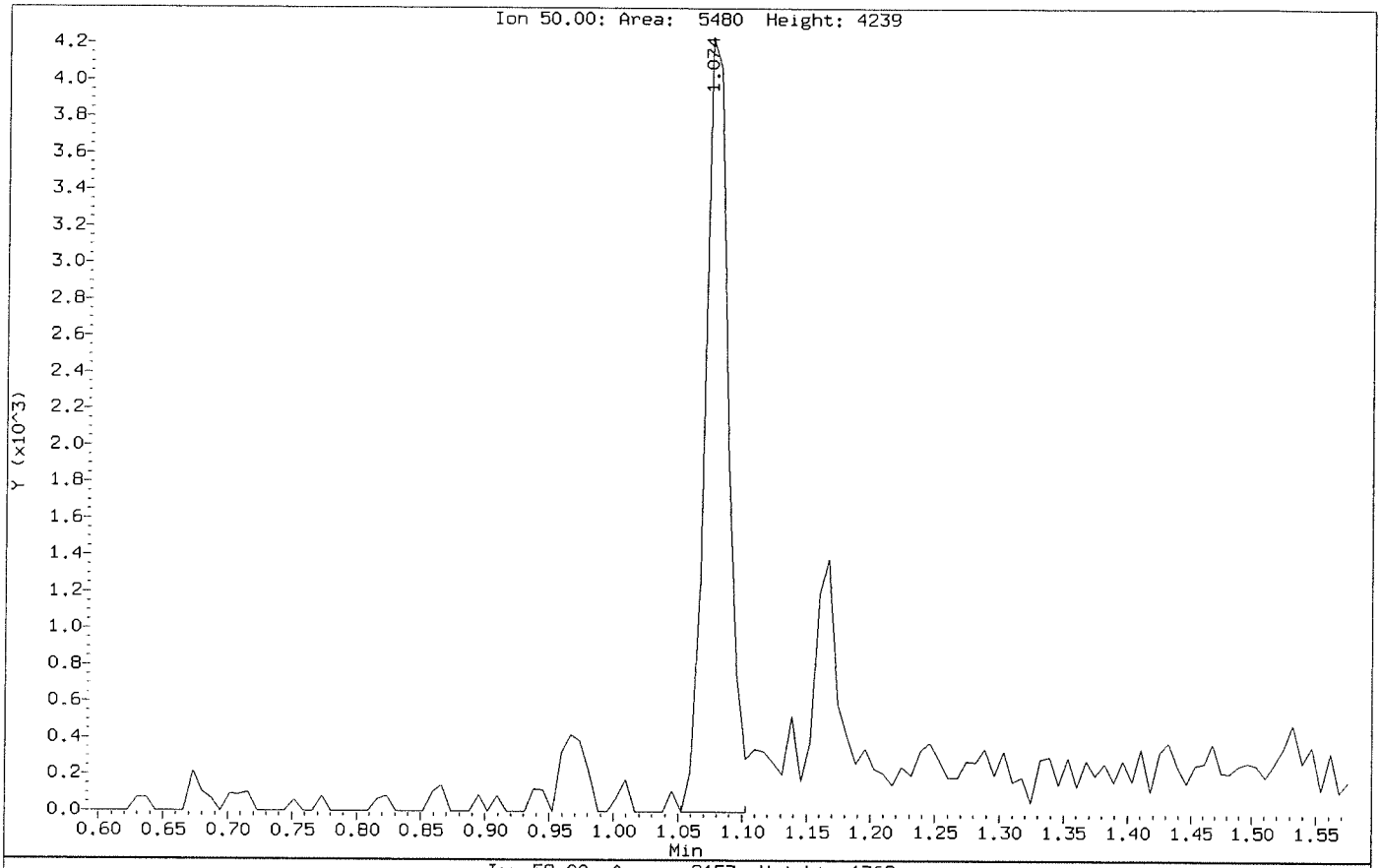
Compound: Chloromethane
CAS Number: 74-87-3

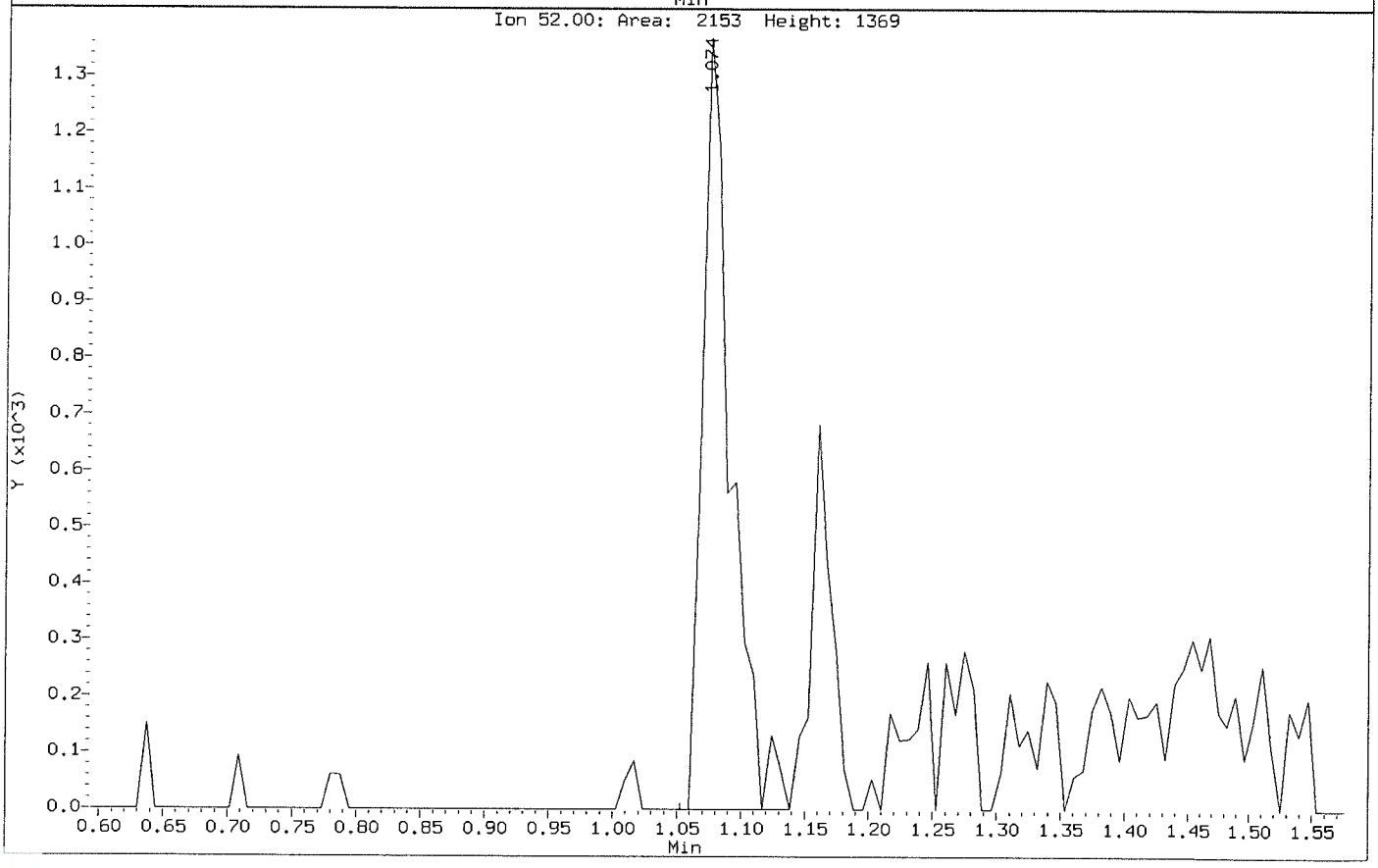




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

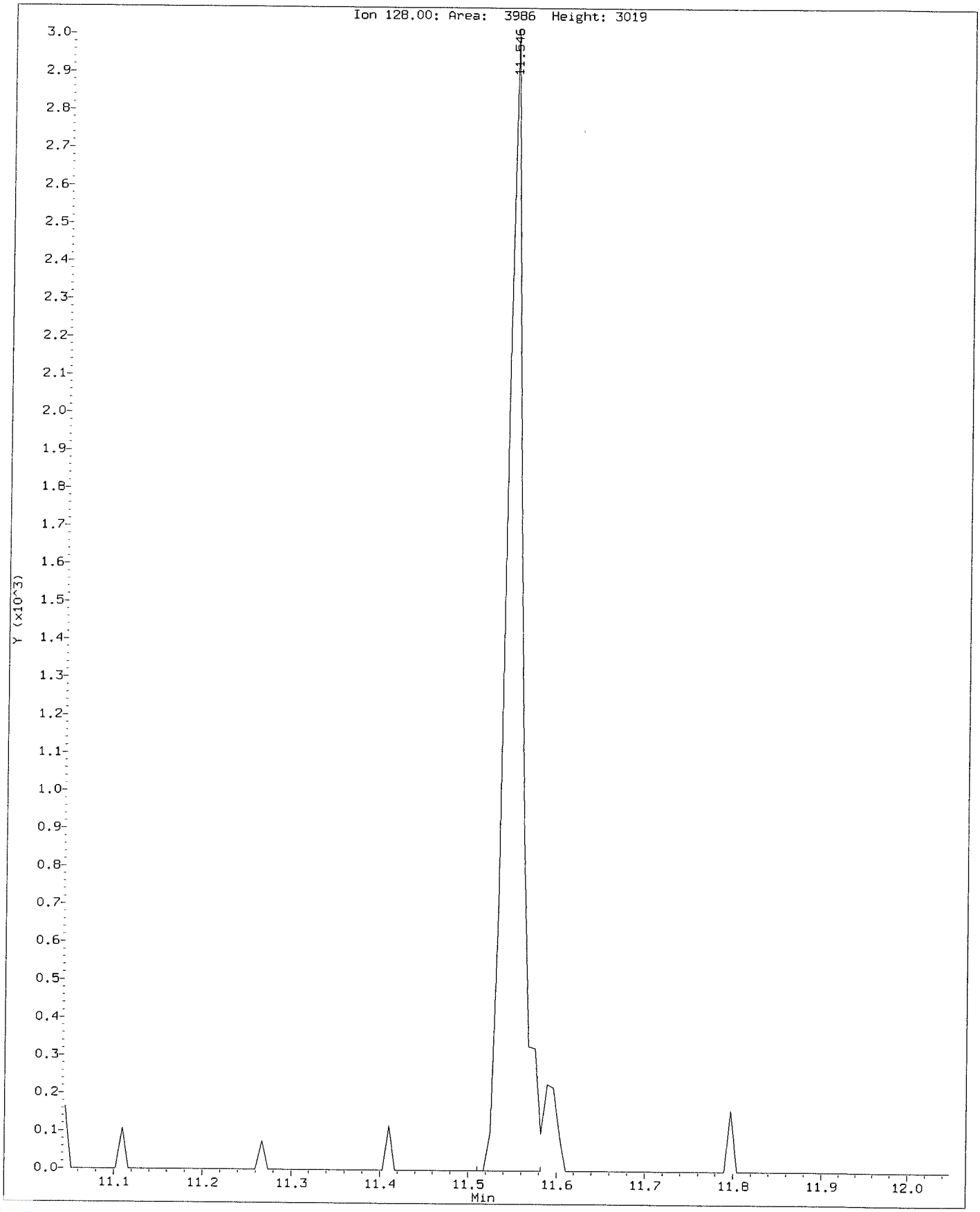
Compound: Chloromethane
CAS Number: 74-87-3





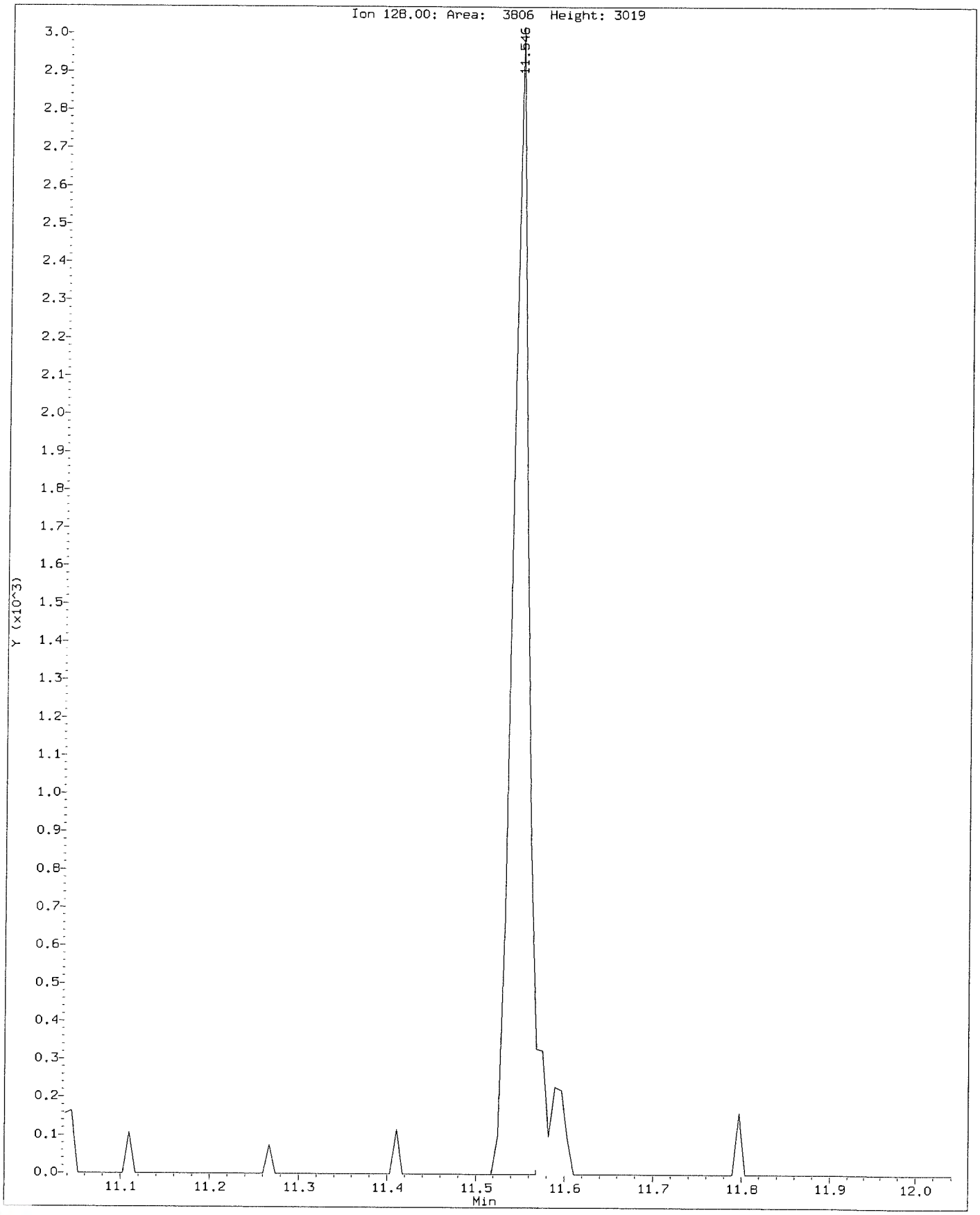
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Naphthalene
CAS Number: 91-20-3



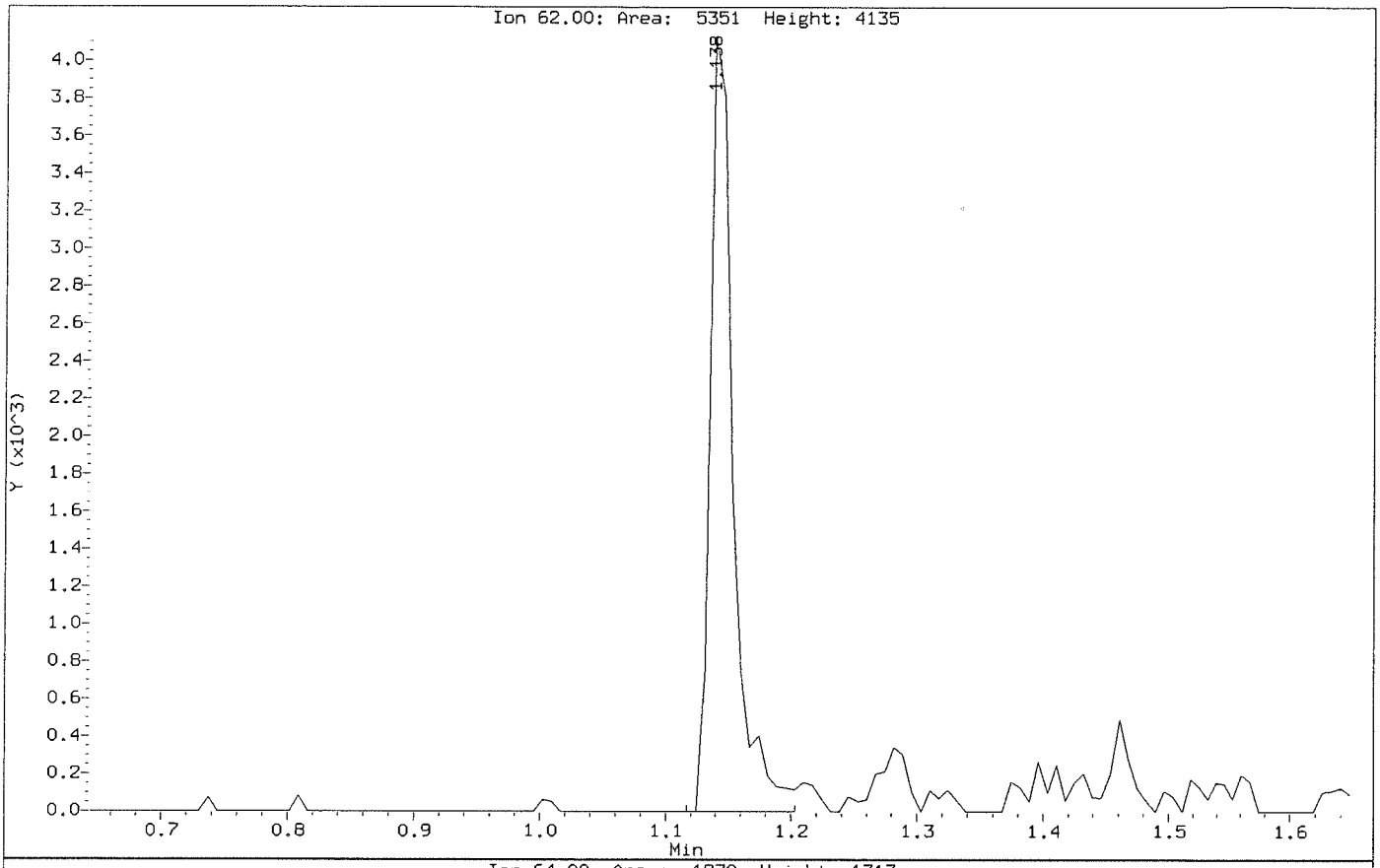
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

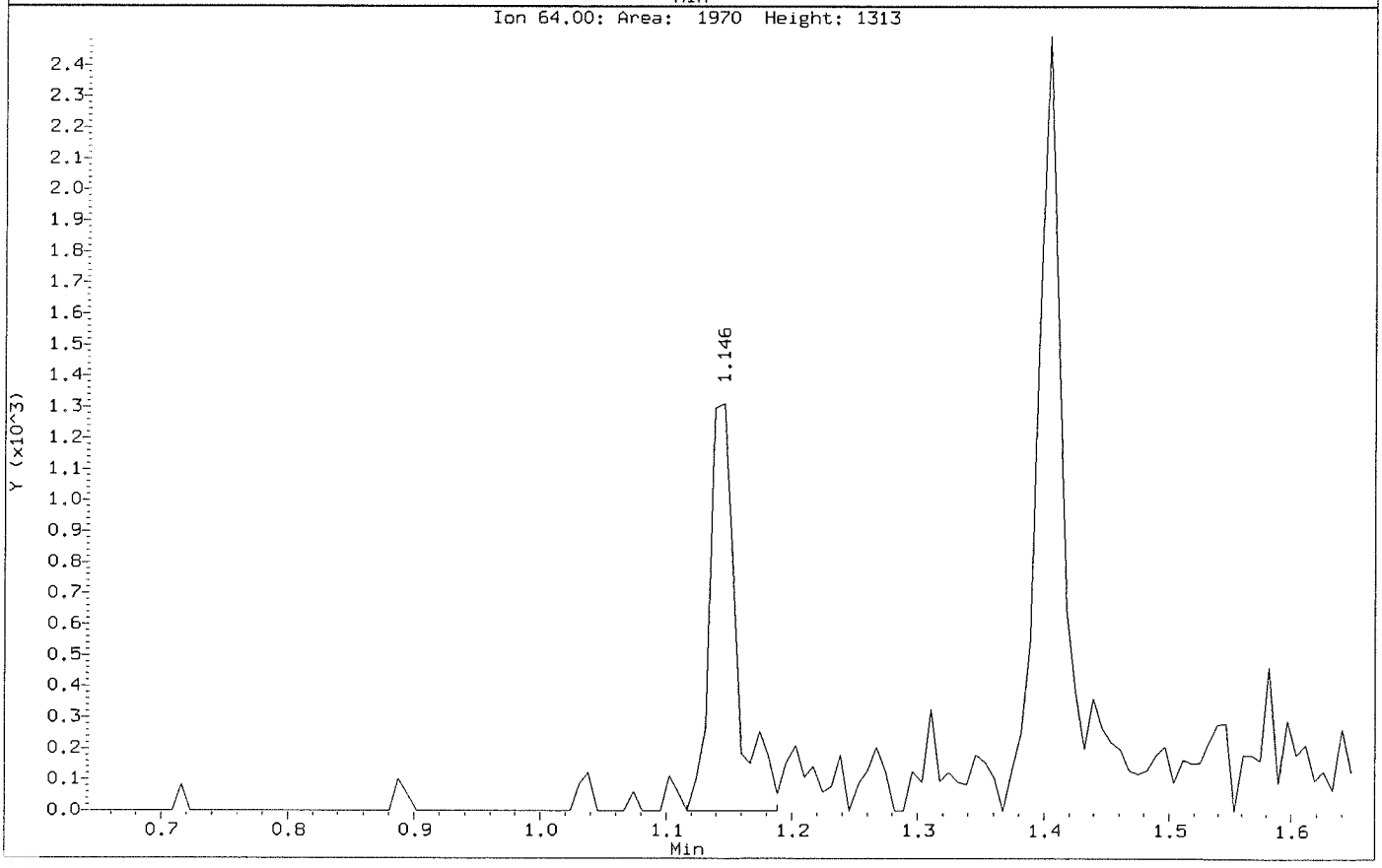
Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

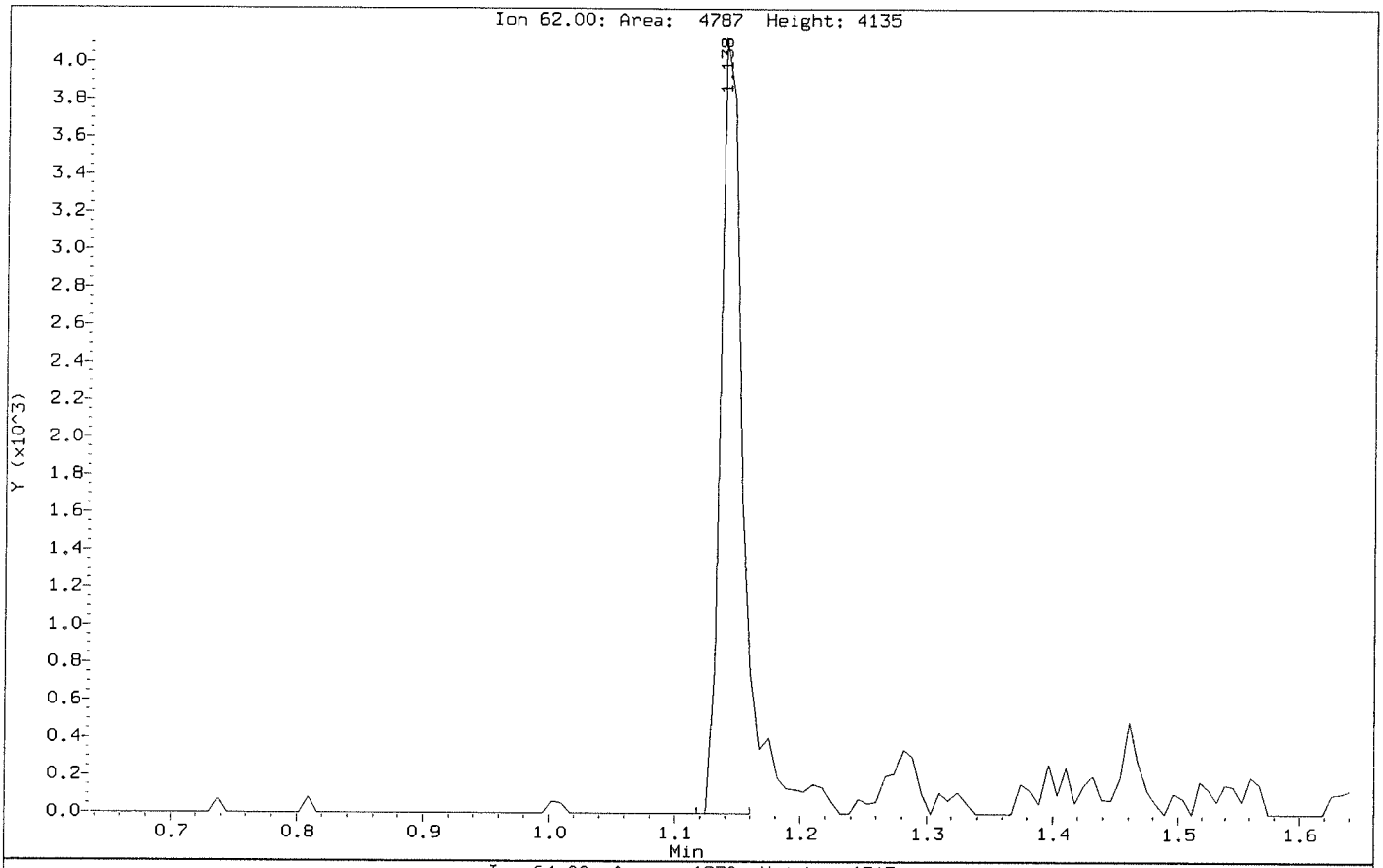
Compound: Vinyl Chloride
CAS Number: 75-01-4

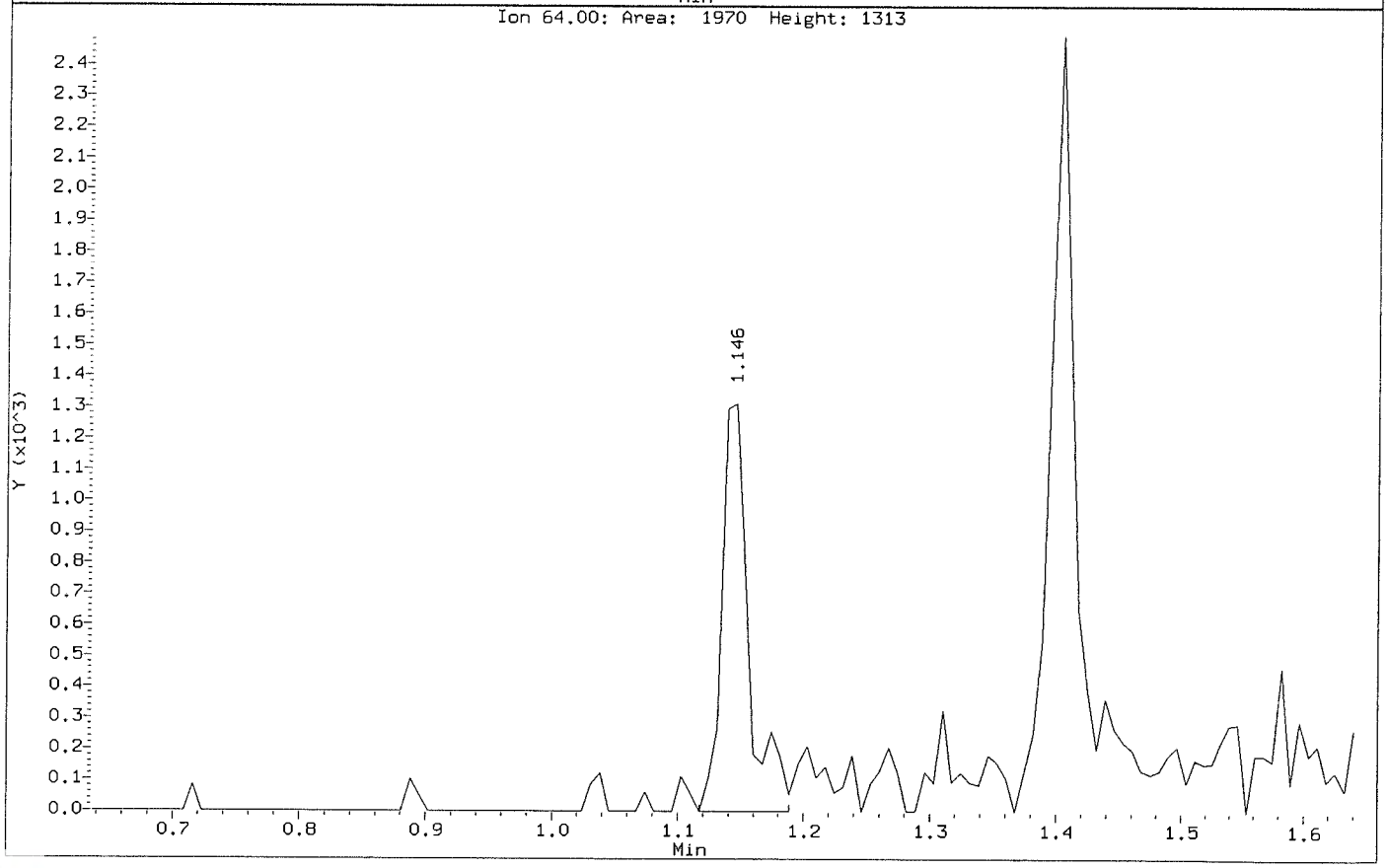




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120304.D
Injection Date: 03-DEC-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 03-DEC-2020 12:25
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 12:04 Cal File: X120304.D
Als bottle: 6 Calibration Sample, Level: 4
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

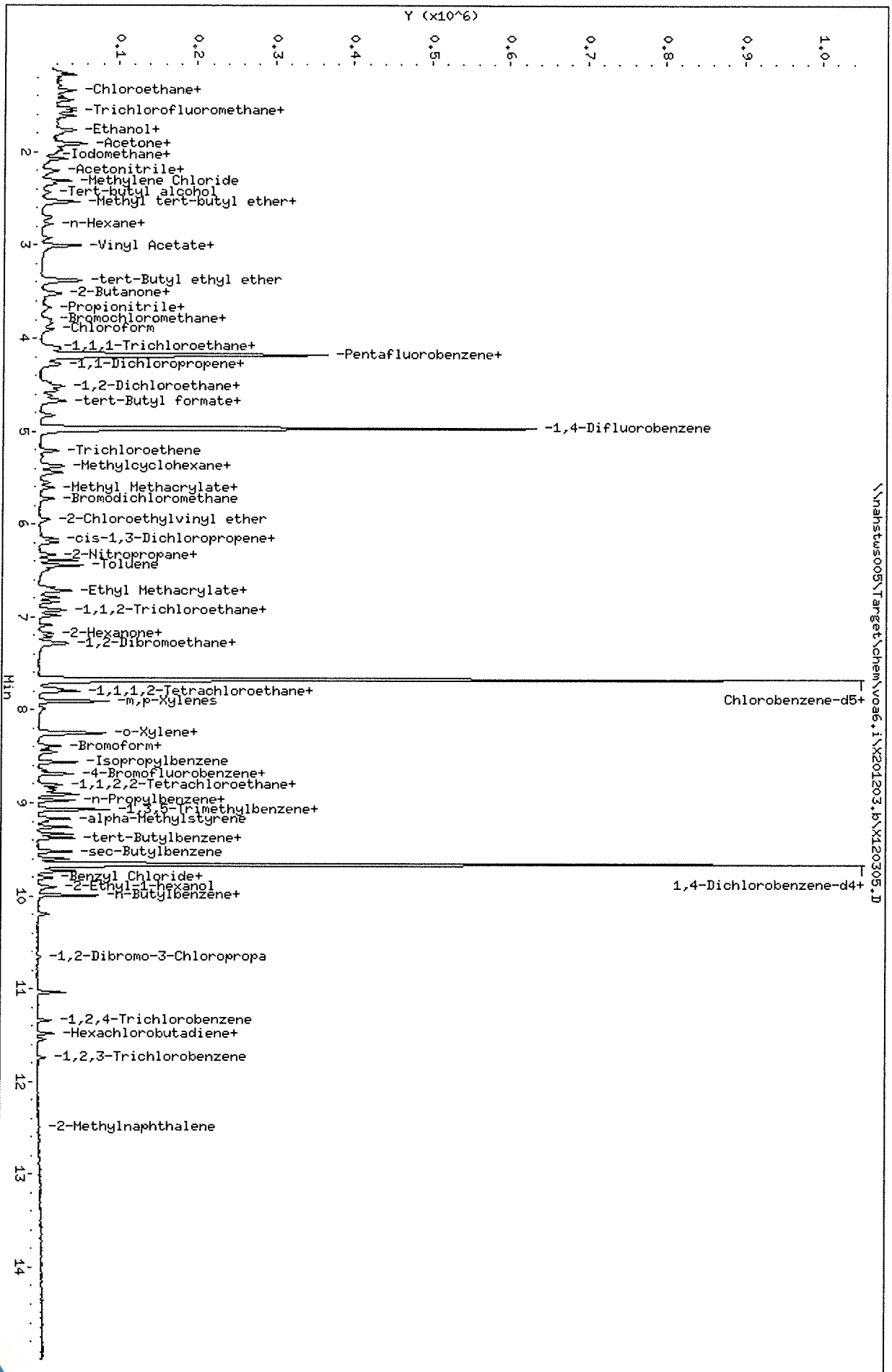
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	266332	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	471771	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	432846	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	198621	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	7182	2.00000	1.85(a)
$	35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	10141	2.00000	1.50(a)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	23817	2.00000	2.45(a)
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	12242	2.00000	2.67(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	5910	2.00000	1.88(a)
	31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	11072	2.00000	1.99(a)
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	8560	2.00000	2.12(a)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	5641	2.00000	2.04(a)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	11965	2.00000	1.87(a)
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	7786	2.00000	1.92(a)
	32 1,1-Dichloropropene	75	4.283	4.283	(0.863)	9379	2.00000	2.05(a)
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	2368	2.00000	2.24(a)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	9130	2.00000	1.99(a)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	4136	2.00000	2.21(a)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	19505	2.00000	1.80(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.651	10.651	(1.102)	853	2.00000	2.04(a)
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	5966	2.00000	1.79(a)
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	11368	2.00000	1.97(a)

Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D Page 2
Report Date: 22-Dec-2020 16:32

	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	(0.919)	11513	2.00000	2.15(a)
42	1,2-Dichloropropane	63	5.443	5.443	(1.097)	6819	2.00000	1.92(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	20713	2.00000	1.85(a)
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	11987	2.00000	1.95(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	11285	2.00000	2.07(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	13097	2.00000	2.12(a)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	11381	2.00000	2.03(a)
24	2-Butanone	43	3.588	3.588	(0.858)	6004	4.00000	4.84(a)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	18403	2.00000	1.94(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	9842	4.00000	4.54(a)
77	4-Chlorotoluene	91	9.067	9.067	(0.938)	20448	2.00000	1.75(a)
82	p-Isopropyltoluene	119	9.648	9.648	(0.999)	21455	2.00000	1.97(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	13373	4.00000	4.22(a)
10	Acetone	43	1.976	1.976	(0.473)	10587	4.00000	2.38(a)
37	Benzene	78	4.512	4.512	(0.909)	25517	2.00000	1.98(a)
74	Bromobenzene	156	8.810	8.810	(0.912)	6765	2.00000	1.92(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	4102	2.00000	2.14(a)
39	Bromodichloromethane	83	5.729	5.729	(1.154)	8831	2.00000	1.81(a)
66	Bromoform	173	8.416	8.416	(1.097)	3608	2.00000	1.82(Ta)
6	Bromomethane	94	1.339	1.339	(0.320)	9968	2.00000	2.65(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	35038	4.00000	3.97(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.860)	7282	2.00000	1.90(a)
59	Chlorobenzene	112	7.692	7.692	(1.003)	18160	2.00000	2.04(a)
7	Chloroethane	64	1.403	1.403	(0.336)	6620	2.00000	2.09(a)
28	Chloroform	83	3.910	3.910	(0.935)	13281	2.00000	1.93(a)
3	Chloromethane	50	1.074	1.074	(0.257)	10331	2.00000	3.11(a)
27	cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	7737	2.00000	2.06(a)
46	cis-1,3-Dichloropropene	75	6.152	6.152	(1.240)	12019	2.00000	1.98(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	7016	2.00000	1.99(a)
44	Dibromomethane	93	5.558	5.558	(1.120)	4395	2.00000	1.83(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	7432	2.00000	4.52(a)
61	Ethylbenzene	106	7.800	7.800	(1.017)	8337	2.00000	1.91(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	2432	2.00000	4.19(a)
67	Isopropylbenzene	105	8.559	8.559	(1.116)	27024	2.00000	2.01(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	21500	4.00000	3.79(a)
17	Methylene Chloride	84	2.306	2.306	(0.551)	7777	2.00000	2.17(aM)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	19960	2.00000	3.38(a)
73	n-Propylbenzene	91	8.910	8.910	(0.922)	31476	2.00000	1.96(a)
92	Naphthalene	128	11.546	11.546	(1.195)	7186	2.00000	2.24(a)
63	o-Xylene	106	8.244	8.244	(1.075)	10391	2.00000	1.88(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	25074	2.00000	1.96(a)
64	Styrene	104	8.258	8.258	(1.077)	16426	2.00000	1.74(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	17004	2.00000	1.90(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	3902	2.00000	1.61(a)
50	Toluene	91	6.446	6.446	(0.840)	26481	2.00000	1.96(a)
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	6106	2.00000	1.91(a)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	10072	2.00000	1.90(a)
38	Trichloroethene	130	5.214	5.214	(1.051)	6932	2.00000	2.01(a)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	15127	2.00000	1.97(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	9480	2.00000	2.00(aM)

QC Flag Legend

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

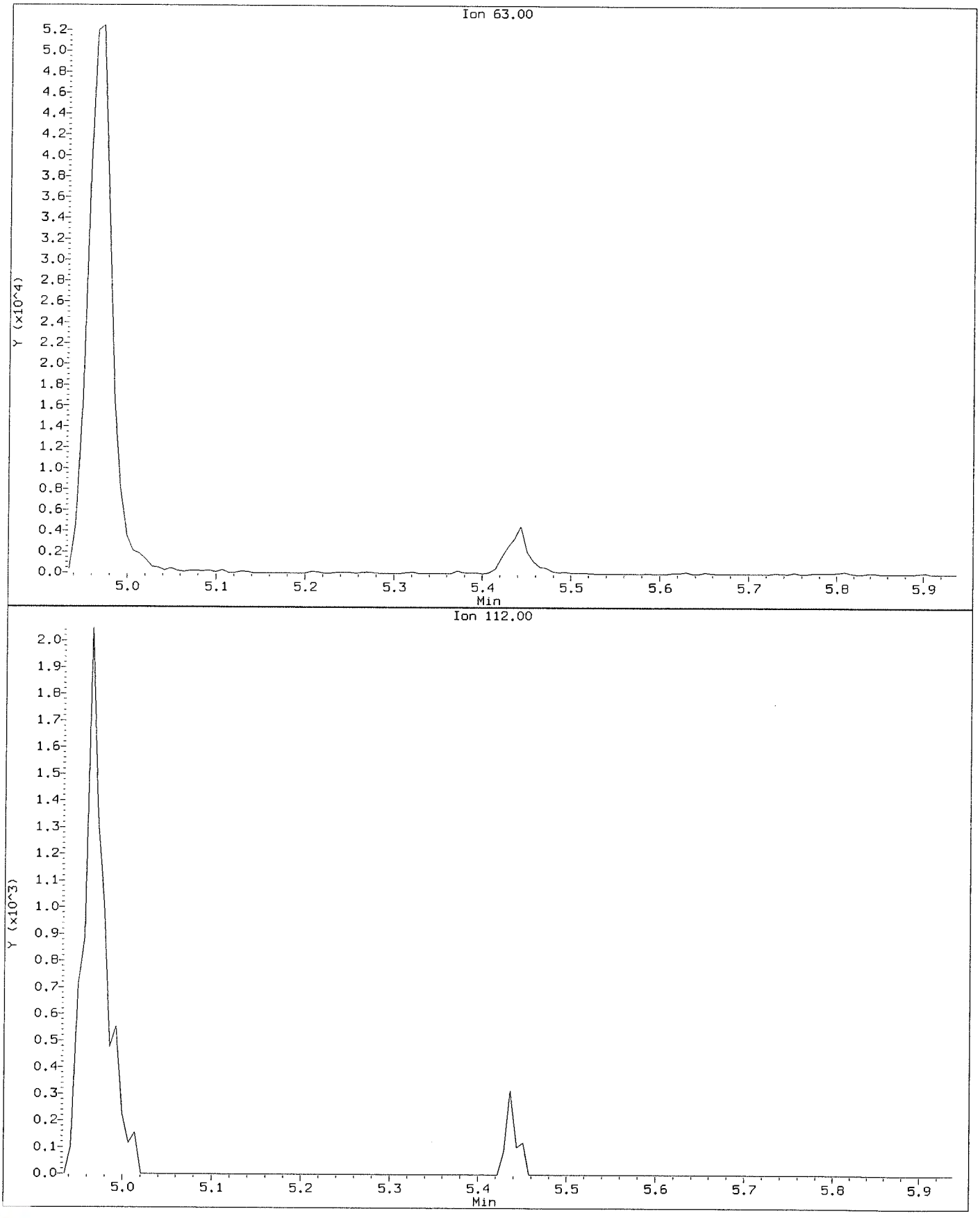


Data File: \\nahstws005\Target\chem\voa6,i\X201203,b\X120305.D
Date : 03-DEC-2020 12:25
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

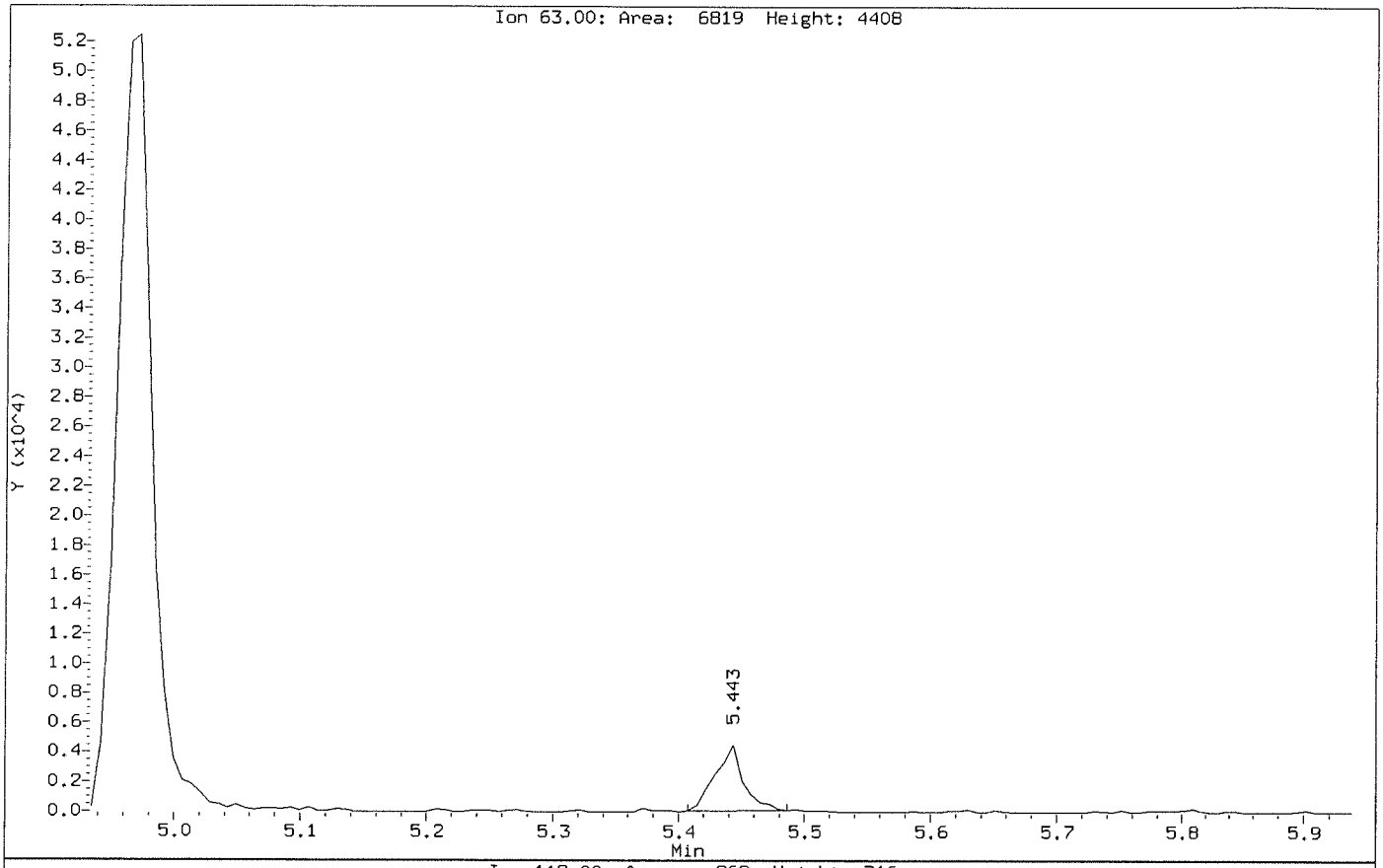
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

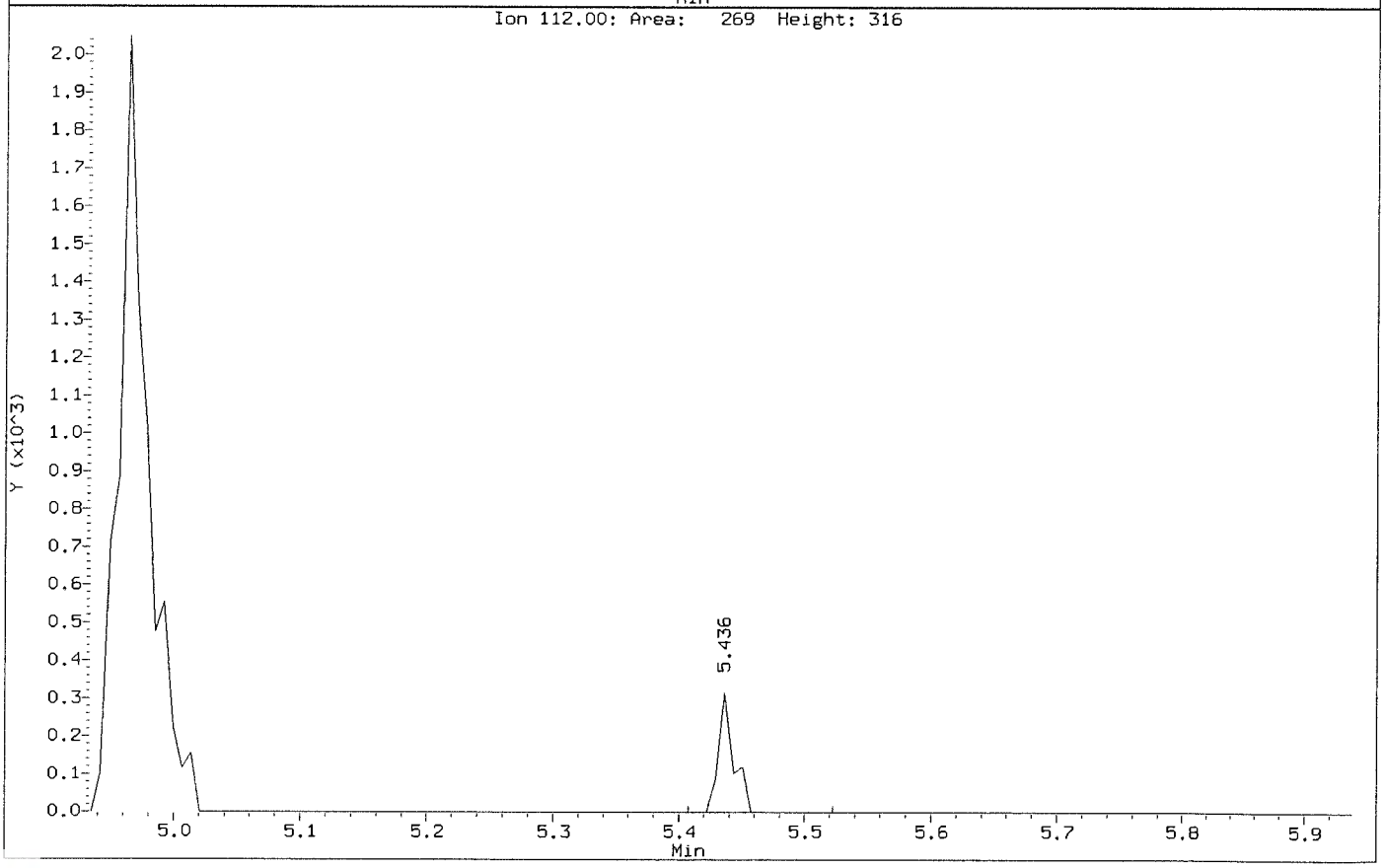
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

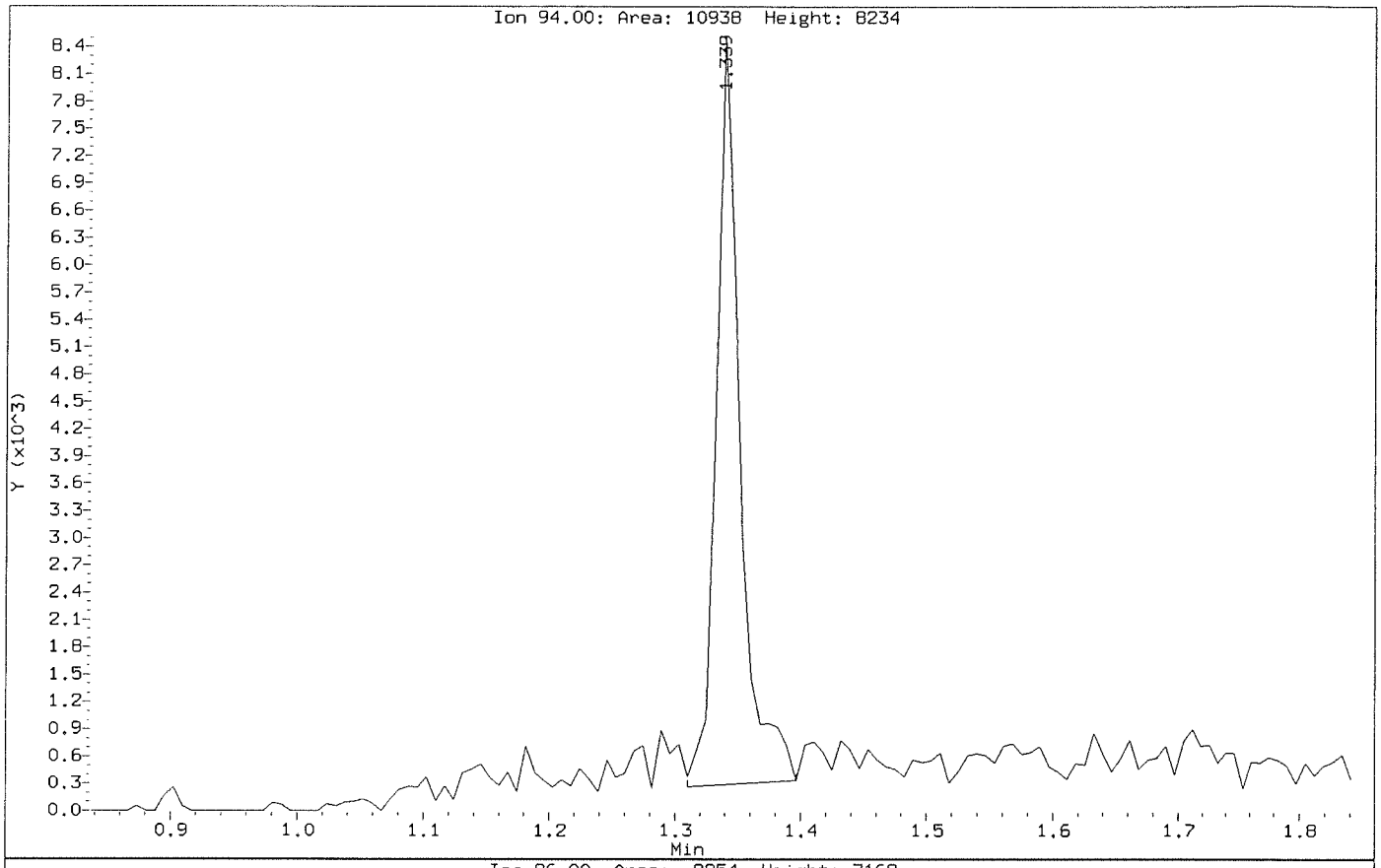
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

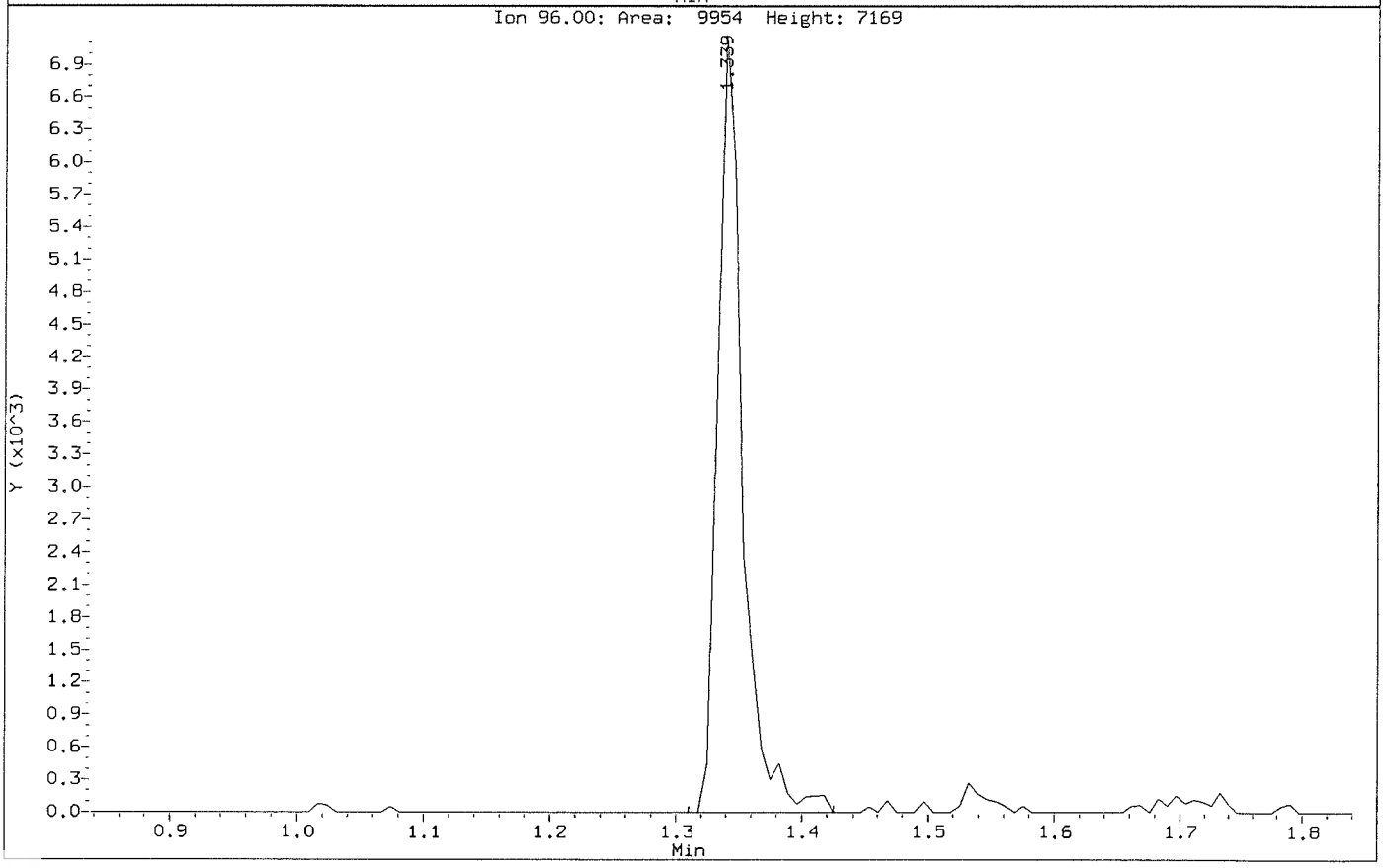




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

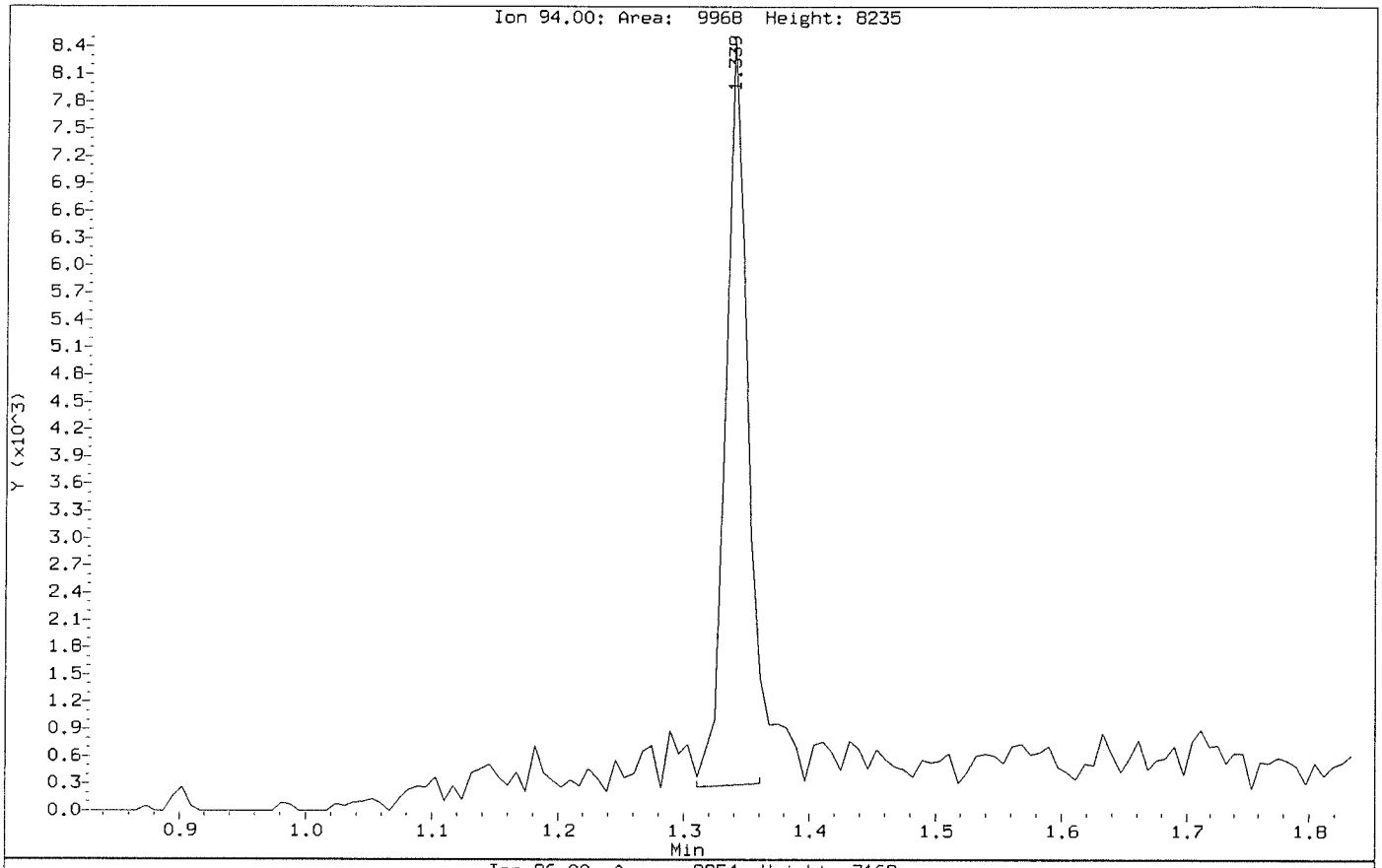
Compound: Bromomethane
CAS Number: 74-83-9

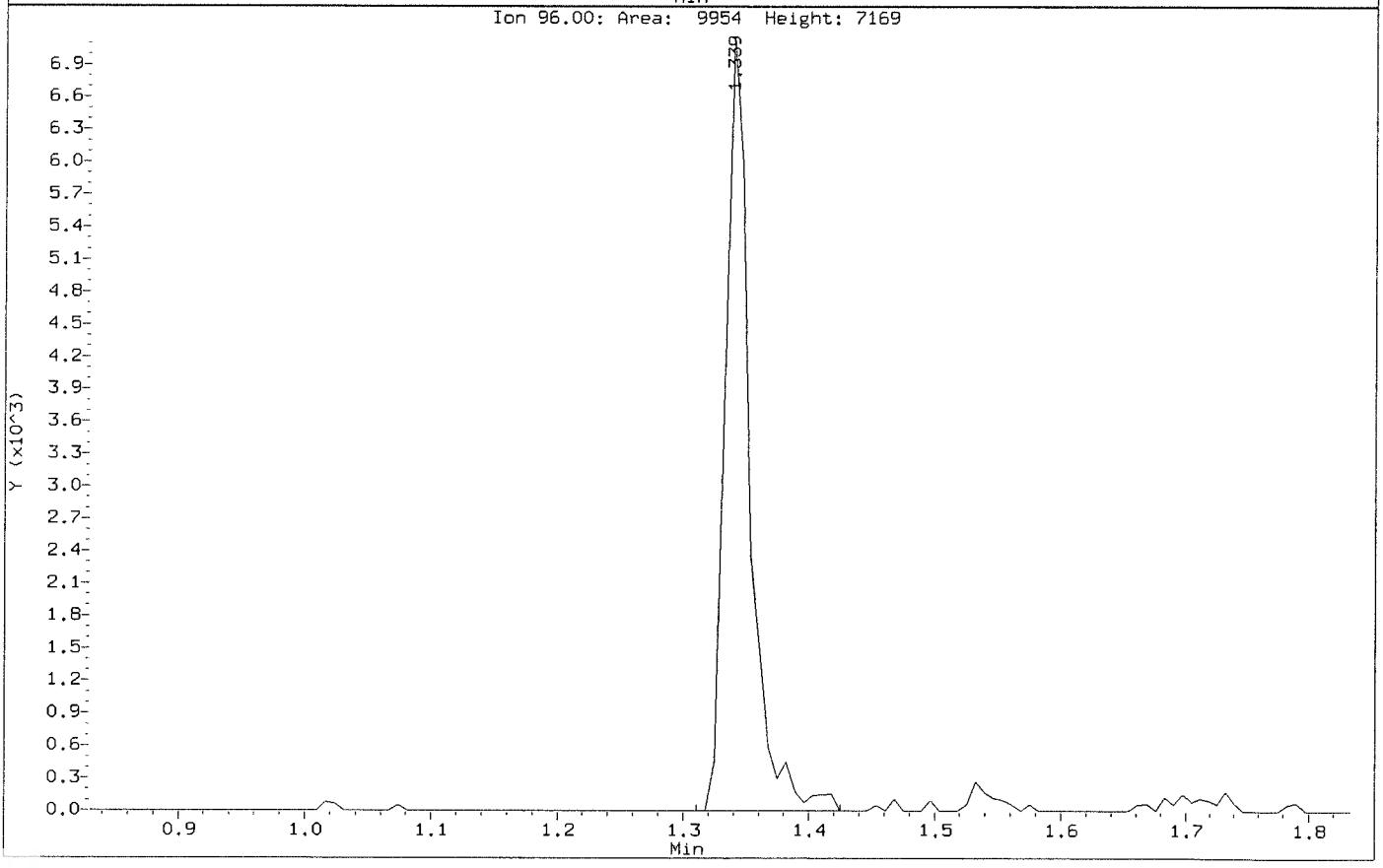




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

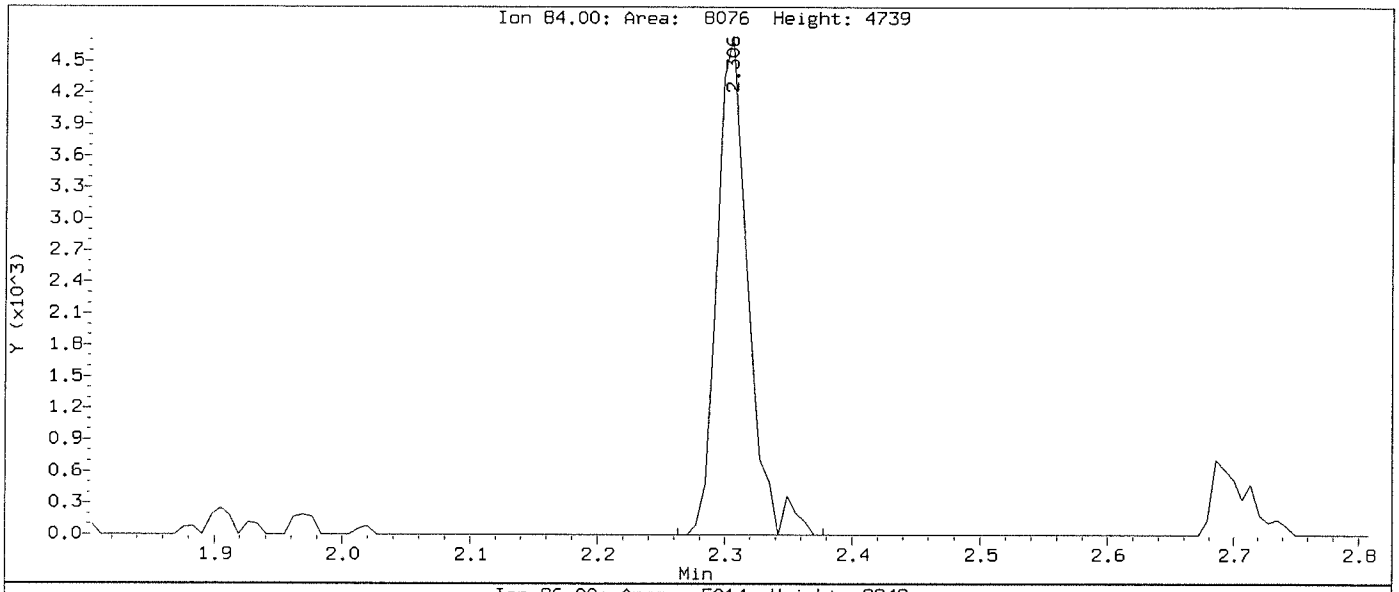
Compound: Bromomethane
CAS Number: 74-83-9

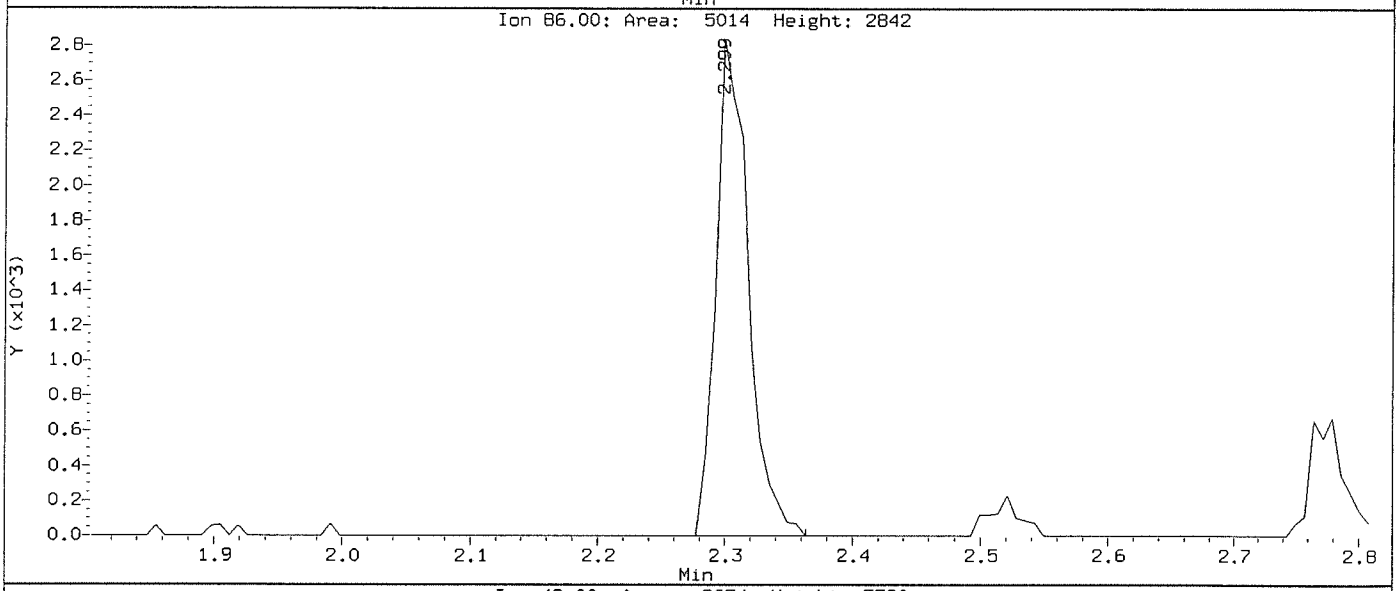


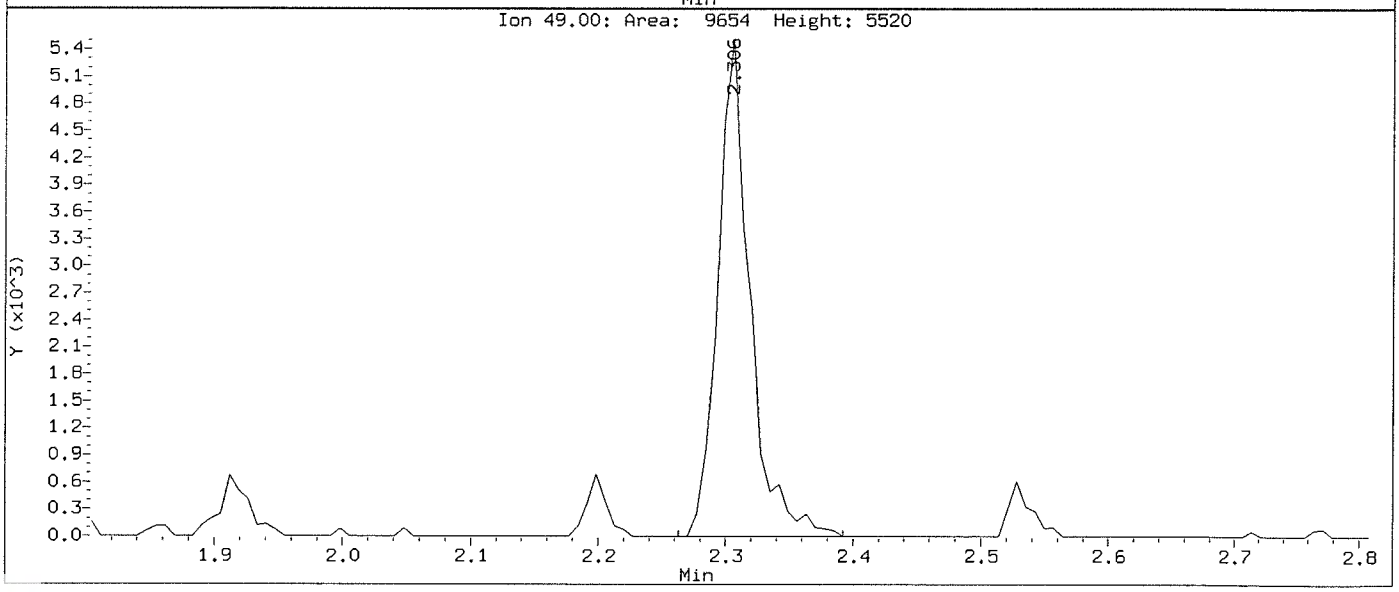


Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Methylene Chloride
CAS Number: 75-09-2

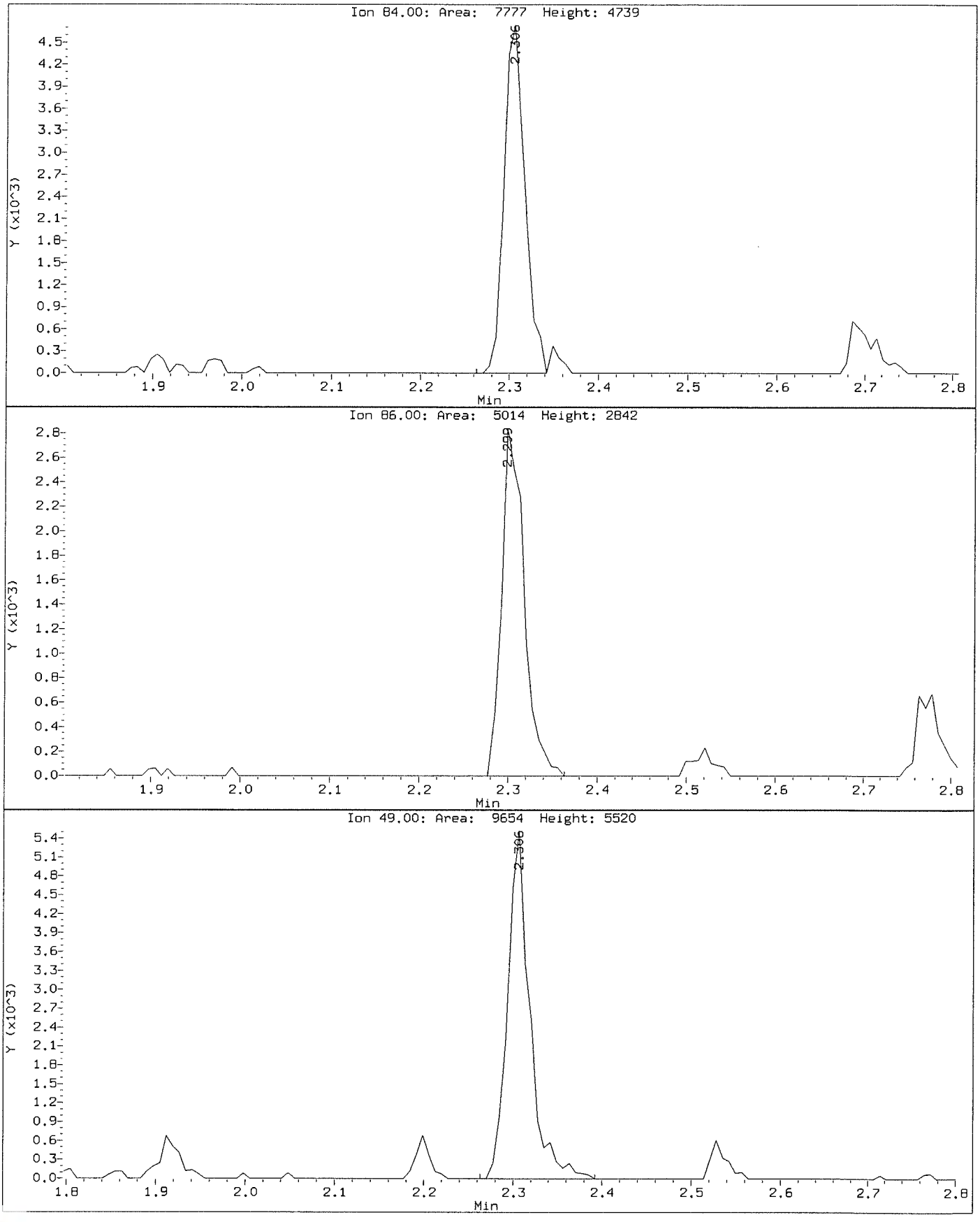






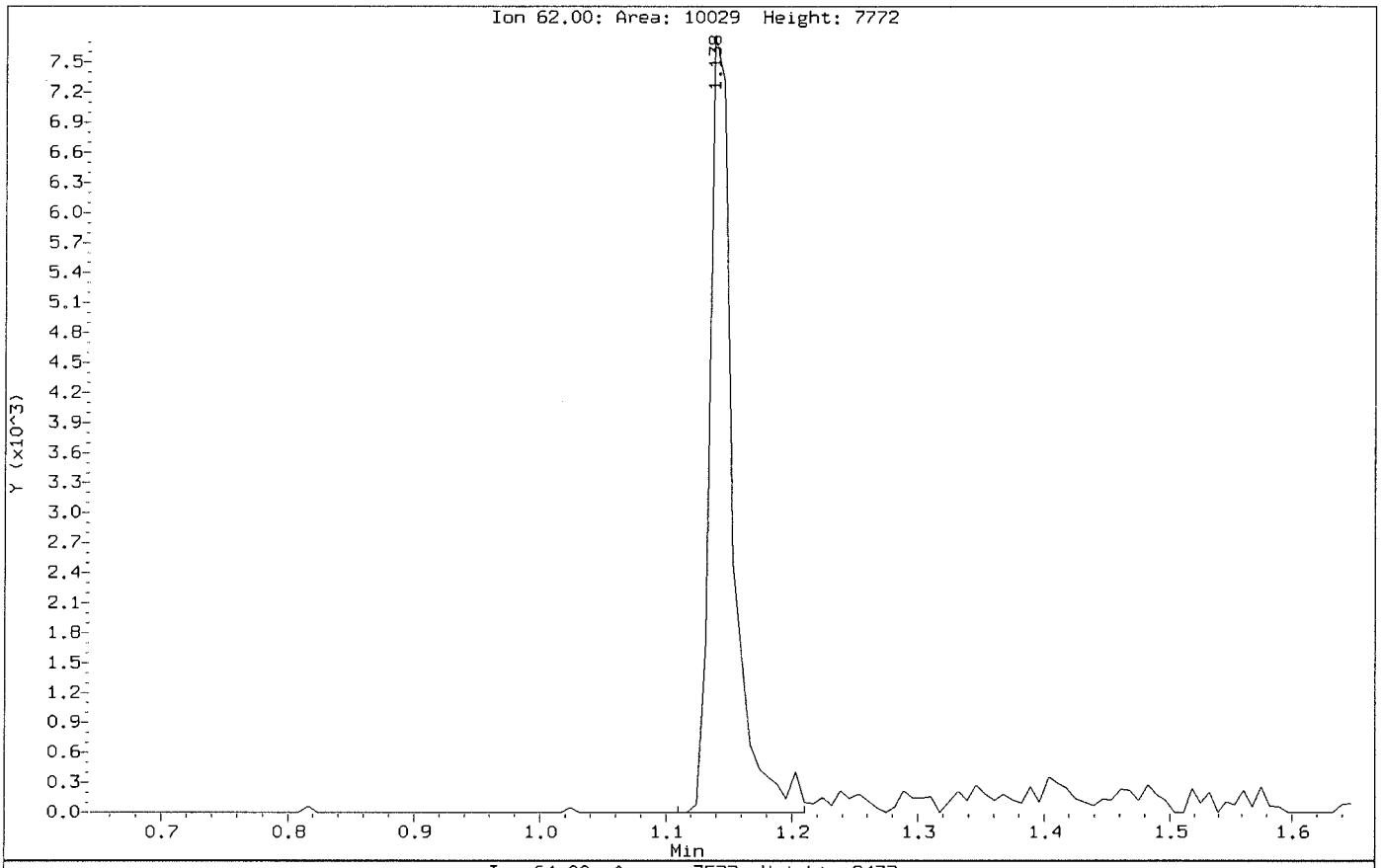
Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

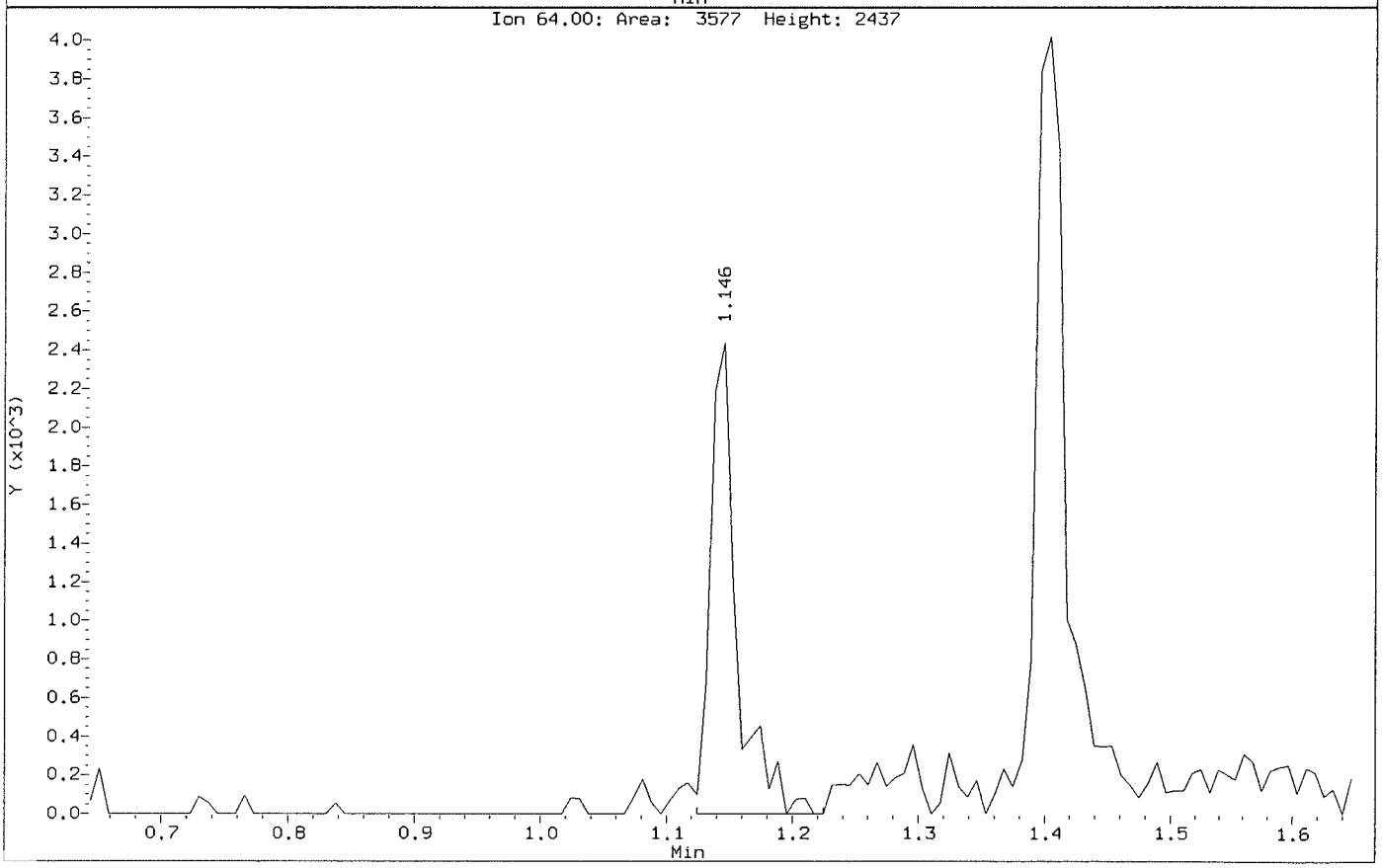
Compound: Methylene Chloride
CAS Number: 75-09-2



Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\Before\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

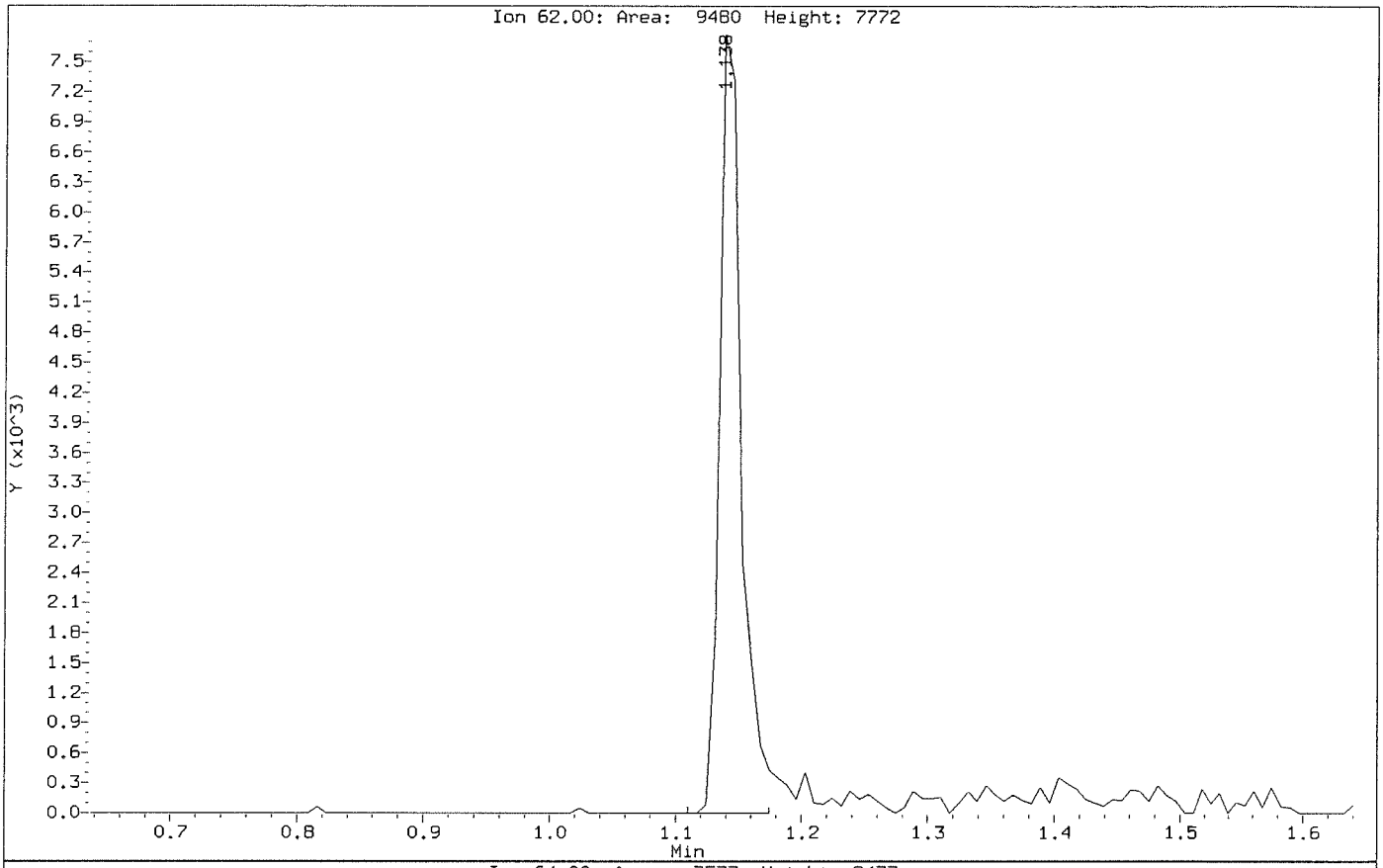
Compound: Vinyl Chloride
CAS Number: 75-01-4

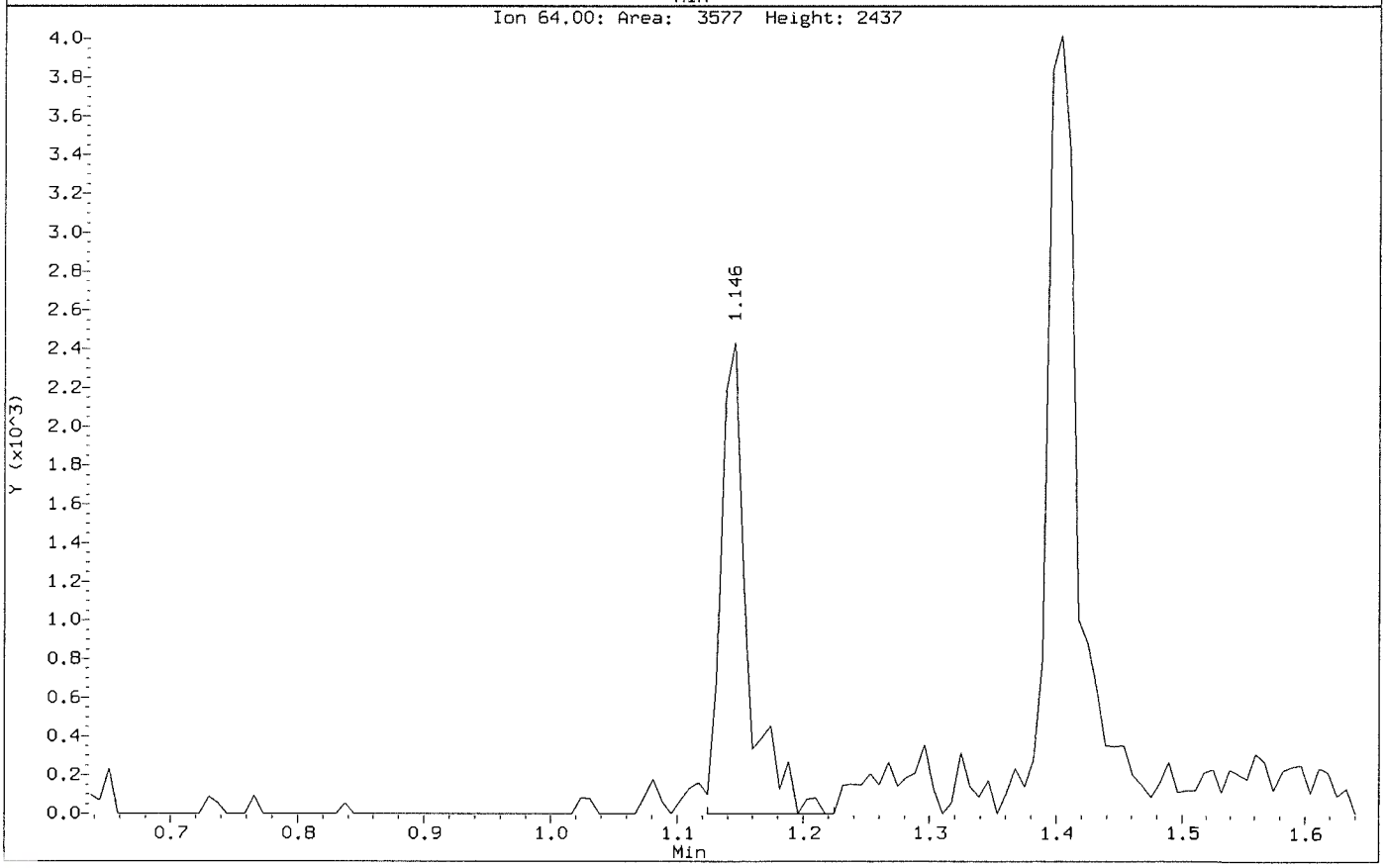




Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120305.D
Injection Date: 03-DEC-2020 12:25
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201203.b\X120306.D Page 1
Report Date: 22-Dec-2020 16:32

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201203.b\X120306.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 03-DEC-2020 12:46
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\X201203.b\8260W.m
Meth Date : 22-Dec-2020 16:32 voa6.i Quant Type: ISTD
Cal Date : 03-DEC-2020 12:25 Cal File: X120305.D
Als bottle: 7 Calibration Sample, Level: 5
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)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	258334	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	453298	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	428727	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	192609	50.0000	
$	30 Dibromofluoromethane	113	4.104	4.104	(0.981)	19795	5.00000	5.57
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	24355	5.00000	4.89(a)
$	48 Toluene-d8	98	6.389	6.389	(0.833)	60361	5.00000	5.69
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	23638	5.00000	5.39
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	14196	5.00000	4.56(a)
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	22803	5.00000	4.24(a)
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	19313	5.00000	4.94(a)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	13757	5.00000	5.04
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	31393	5.00000	5.05
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	18189	5.00000	4.63(a)
	32 1,1-Dichloropropene	75	4.283	4.283	(0.863)	21853	5.00000	4.98(a)
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	4817	5.00000	4.71(a)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	22365	5.00000	5.04
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	8007	5.00000	4.42(a)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	45469	5.00000	4.34(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	1406	5.00000	3.95(a)
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	17060	5.00000	5.16
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	23973	5.00000	4.29(a)